



Spur Gears

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

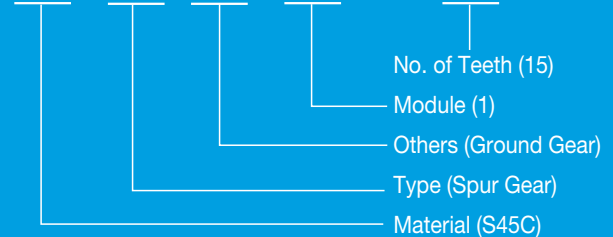
Other Products

Catalog Number of Stock Gears

The Catalog Number for KHK stock gears is based on the simple formula listed below. Please order KHK gears by specifying the Catalog Numbers.

(Example) Spur Gears

K S S G 1 - 15



Material

S	S45C
M	SCM415
SU	SUS303
P	MC901
N	MC602-ST
D	DURACON
BS	Free-Cutting Brass C3604
L	SMF5040

Type

S	Spur Gears
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Other Information

A	Hubless Spur Gears
G	Ground Spur Gears
L	Fairloc® Hub Gears
R	Ring Gears
S	Pinion Shafts
U	Plastic Gears with Steel Core
Y	Thin Face Gears

Feature Icons

	RoHS Compliant Product		Stainless Product
	Re-machinable Product		Resin Product
	Finished Product		Copper Alloy Product
	Heat Treated Product		Injection Molded Product
	Ground Gear		Black Oxide Coated Product

KMSGA • KMSGB Ground Spur Gears m1 ~ 4 Page 38 RoHS	KSSGS Ground Spur Pinion Shafts m1.5 ~ 3 Page 50 RoHS	KSSG Ground Spur Gears m0.5 ~ 6 Page 52 RoHS
KSSS Spur Pinion Shafts m0.5 ~ 3 Page 106 RoHS	KSS Steel Spur Gears m0.5 ~ 10 Page 108 RoHS	KSSA Steel Hubless Spur Gears m1 ~ 5 Page 200 RoHS
KSSY Steel Thin Face Spur Gears m0.8, 1 Page 206 RoHS	KSSAY Steel Hubless Thin Face Spur Gears m1 Page 210 RoHS	KSSAY/K Spur Gears with Built-In Clamps m0.8, 1 Page 212 RoHS
KLS Sintered Metal Spur Gears m0.5, 0.8 Page 216 RoHS	KSUS • KSUSA Stainless Steel Spur Gears m1 ~ 4 Page 218 RoHS	KSUSL Stainless Steel Fairloc® Hub Spur Gears m0.5 ~ 1 Page 266 RoHS
KDSL Acetal Fairloc® Hub Spur Gears m0.5 ~ 1 Page 270 RoHS	KNSU Plastic Spur Gears with Steel Core m1 ~ 3 Page 274 RoHS	KPU Plastic Spur Gears with Stainless Steel Core m1 ~ 2 Page 280 RoHS
KPS • KPSA Plastic Spur Gears m1 ~ 3 Page 282 RoHS	KSUKB Stainless Steel Hubs Ø30 ~ 100 Page 334 RoHS	KDS Injection Molded Spur Gears m0.5 ~ 1 Page 336 RoHS
KBB Sintered Metal Bushings Ø5 ~ 8 Page 338 RoHS	KBSS Brass Spur Gears m0.5 ~ 1 Page 340 RoHS	KSSR Steel Ring Gears (Spur Gears) m2 ~ 3 Page 346 RoHS



Spur Gears

Characteristics



To meet your requirements, KHK stock gears are made in a variety of types, materials, configurations, modules and numbers of teeth. We also offer products that allow secondary operations to be performed on the bores, shafts, outside diameters, keyways and set screws. The following table lists the main features.

Catalog No.	Module	Material	Heat Treatment	Tooth Surface Finish	Precision JIS B 1702-1:1998	Secondary Operations	Features
KMSGA • KMSGB	1 ~ 4	SCM415	Carburized	Ground	N5	×	High strength, abrasion-resistant and compact.
KSSGS	1.5 ~ 3	S45C	Thermal refined • Gear teeth induction hardened	Ground	N7	△	Ground shaft pinions that allow modification of shafts to fit your bearings.
KSSG	0.5 ~ 6	S45C	Gear teeth induction hardened NOTE 1	Ground	N7	△	Although heat treatment is applied to tooth area, secondary operations can be added. Finished products for J Series are also available.
KSSS	0.5 ~ 3	S45C	Thermal refined NOTE 2	Cut	N8 NOTE 3	○	For the SS series, Shaft-Pinions with a small number of teeth (10 to 13 teeth) are available.
KSS	0.5 ~ 10	S45C	—	Cut	N8 NOTE 3	○	A low priced, general usage gear with a large selection of modules and number of teeth. Finished products for J Series are also available.
KSSA	1 ~ 5	S45C	—	Cut	N8	○	Hubless gears for lighter and more compact applications.
KSSY	0.8, 1	S45C	—	Cut	N8 NOTE 3	○	Narrower face gears for light-duty applications.
KSSAY	1	S45C	—	Cut	N8	○	Hubless and narrow faces for even lighter and more compact gears.
KSSAY/K	0.8, 1	S45C	—	Cut	N8 NOTE 3	△	Compact sized gears can be clamped to the shafts without a hub.
KLS	0.5, 0.8	SMF5040 (Equiv. to S45C)	—	Sintered	N8 NOTE 3	○	Low cost due to elimination of machining and reduction in wasted material.
KSUS • KSUSA	1 ~ 4	SUS303	—	Cut	N8	○	Stainless steel gears for more rust resistance. Finished products for J Series are also available.
KSUSL	0.5 ~ 1	SUS303	—	Cut	N8 NOTE 3	△	Fine-pitch gears with rust resistance, able to clamp to shafts without any keys or set screws.
KDSL	0.5 ~ 1	Acetal (SUS303)	—	Cut	N10 NOTE 3	△	Fine-pitch gears can be used without lubrication, easily clamp to shafts without any keys or set screws.
KNSU	1 ~ 3	MC602ST (S45C)	—	Cut	N9	○	Nylon teeth with steel hubs that can have keyways and set screws added.
KPU	1 ~ 2	MC901 (SUS303)	—	Cut	N9	○	Nylon teeth with stainless steel hubs for rust-resistance.
KPS • KPSA	1 ~ 3	MC901	—	Cut	N9	○	Possible to operate without lubrication. Suitable for food processing machines. Finished products for J Series are also available.
KDS	0.5 ~ 1	Duracon (M90-44)	—	Injection Molded	Equiv. to N12	△	Low cost, mass-produced products suitable for light-duty office machines.
KBSS	0.5 ~ 1	Free-cutting Brass (C3604)	—	Cut	N8 NOTE 3	○	Small module brass spur gears suitable for mating with DS gears.
KSSR	2 ~ 3	S45C	—	Cut	N9	○	Allows large gear ratios. Can also be used as segment gears and corner racks.

[NOTE 1] Products with module less than 0.8 are thermal refined, without gear teeth hardened.

[NOTE 2] SA-shaped products with module less than 1 have no material thermal refinement treatment.

[NOTE 3] For products which are smaller than module 0.8, the accuracy grade is equivalent to the value shown.

○ Possible △ Partly possible × Not possible

- By chamfering the corners of the top land, gear noise is reduced, and the chances of damage due to handling and transportation are decreased. All KHK gears larger than m1.5 have their teeth chamfered.
- Black colored products are KHK stock gears that have black oxide coating for rust resistance; this 'blackness' is a product characteristic of KHK stock gears.

Selection Hints



Please select the most suitable products by carefully considering the characteristics of items and contents of the product tables. It is also important to read all applicable "CAUTION" notes before the final selection. Use of catalog numbers when ordering will simplify and expedite the processing of your order.

1. Caution in selecting the mating Gears

- ① Basically, all spur gears, internal gears and racks can be paired as long as the module matches. Products with different materials, tooth widths, or methods of cutting the teeth can be mated.
- ② When using a pinion with an internal gear with a small difference in the numbers of teeth, there are possibilities for involute interference, trochoid interference and/or trimming interference. See the internal gear interference portion of the technical section to avoid problems in assembling these items. (Page 367)

2. Caution in Selecting Gears Based on Gear Strength

The gear strength values shown in the product pages were computed by assuming a certain application environment. Therefore, they should be used as reference only. We recommend that each user computes his own values by applying the actual usage conditions. Also, KSUSL Fairloc® hub spur gears, KDSL Fairloc® hub spur gears and KSSAY/K spur gears with built-in clamps need additional considerations of the starting torque.

The table below contains the assumptions established for various products in order to compute gear strengths.

Calculation of Bending Strength of Gears

Item \ Catalog No.	KMSGA KMSGB	KSSGS	KSSG	KSSS, KSS, KSSA KSSY, KSSAY KSSAY/K KSSR	KSUS KSUSA KSUSL KLS	KBSS	KNSU	KPU KPS KPSA	KDSL KDS
Formula <small>NOTE 1</small>	Formula of spur and helical gears on bending strength (JGMA401-01)						The Lewis formula		
No. of teeth of mating gears	Same number of teeth (30 for KSSGS, KSSS, KSSR)								
Rotation	600rpm			100rpm			100rpm		
Durability	Over 10 ⁷ cycles								
Impact from motor	Uniform load						Allowable Bending Stress (kgf/mm ²)		
Impact from load	Uniform load						1.38 (40°C with No Lubrication)	1.15 (40°C with No Lubrication)	m 0.5 4.0 m 0.8 4.0 m 1.0 3.5 (40°C with Grease Lubrication)
Direction of load	Bidirectional								
Allowable bending stress at root σ_{Flim} (kgf/mm ²) <small>NOTE 1</small>	47	24.5	19 (24.5) <small>NOTE 3</small>	19 (24.5) <small>NOTE 4</small>	10.5	4			
Safety factor S_F	1.2								

Calculation of Surface Durability (Except where it is common with Bending Strength)

Formula <small>NOTE 1</small>	Formula of spur and helical gears on surface durability (JGMA402-01)					
Kinematic viscosity of lubricant	100cSt (50° C)					
Gear support	Symmetric support by bearings <small>NOTE 5</small>					
Allowable Hertz stress σ_{Hlim} (kgf/mm ²)	166	99	90 (62.5) <small>NOTE 3</small>	49 (62.5) <small>NOTE 4</small>	41.3	—
Safety factor S_H	1.15					

(NOTE 1) JGMA (Japanese Gear Manufacturers' Association), "MC Nylon Technical Data" of Nippon Polypenco Limited and "Duracon Gear" of Polyplastic Co.

The units for rotational speed (rpm) and the load (kgf/mm²) were matched to the units needed in the equation.

(NOTE 2) The allowable bending stress at the root σ_{Flim} is calculated from JGMA401-01, and set to 2/3 of the value in the consideration of the use of planetary, idler, or other gear systems, loaded in both directions.

(NOTE 3) For KSSG Ground Spur Gears, with module 0.8 or less, thermal refining is applied. Allowable bending stress and allowable hertz stress are referred to as the value shown in the parentheses.

(NOTE 4) For KSSS Spur Pinion Shafts, with module over 1.5, tooth induction hardening is not applied. Allowable bending stress and allowable hertz stress are referred to as the value shown in the parentheses.

(NOTE 5) KSSS Spur Pinion Shafts with module 1.0 or less (KSA configuration) are set to cantilever support as it is a single shaft type.

Definition of bending strength by JGMA 401-01 (1974)

The allowable bending strength of a gear is defined as the allowable tangential force at the pitch circle based on the mutually allowable root stress of two meshing gears under load.



Example of the failure due to insufficient bending strength.

Definition of surface durability by JGMA 402-01 (1975)

The surface durability of a gear is defined as the allowable tangential force at the pitch circle, which permits the force to be transmitted safely without incurring surface failure.



Example of the defacement due to insufficient surface durability.



Spur Gears

Application Hints



In order to use KHK stock gears safely, carefully read the Application Hints before proceeding. If there are questions or if you require clarification, please contact our technical department or your nearest distributor.

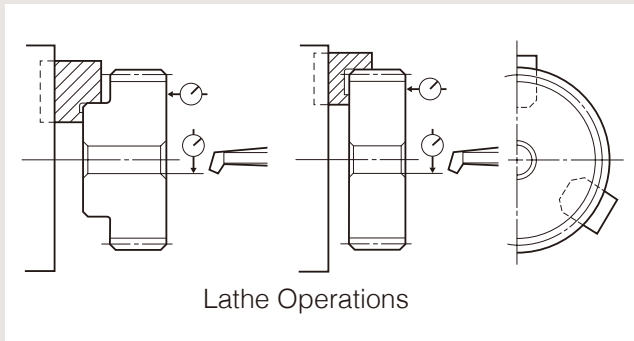
QTC METRIC GEARS

PHONE: 516-437-6700 FAX: 516-328-3343

E-mail: qtcsupport@qtcgears.com

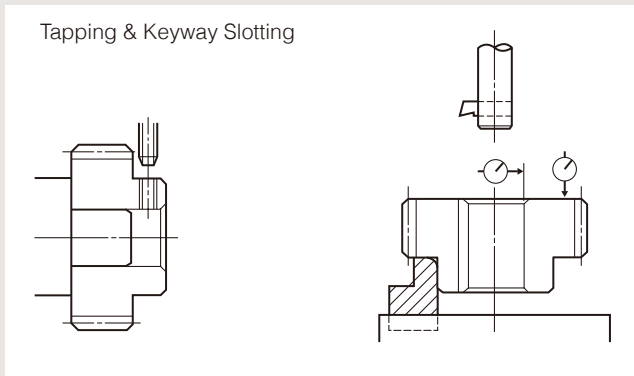
1. Caution on Performing Secondary Operations

- ① If you are re boring, it is important to pay special attention to locating the center in order to avoid runout.
- ② The reference datum for gear cutting is the bore. Therefore, use the bore for locating the center. If it is too difficult to do for small bores, the alternative is to use one spot on the bore and the runout of the side surface.
- ③ If the rework requires using scroll chucks, we recommend the use of new or rebored jaws for improved precision. If chucking by the teeth, please apply the pressure carefully to avoid crushing the teeth which will lead to noisy gears.



- ④ The maximum bore size is dictated by the requirement that the strength of the hub is to be higher than that of the gear teeth. The maximum bore size should be 60% to 70% of the hub diameter (or teeth root diameter), and 50% to 60% for keyway applied modifications.
- ⑤ In order to avoid stress concentration, leave radii on the keyway corners.

Tapping & Keyway Slotting



- ⑥ To avoid problems of reduced gear precision and other manufacturing difficulties, do not attempt to machine the gears to reduce face widths.
- ⑦ If you apply induction hardening on gear teeth, please be aware of potential thermal stress cracks. Also, note that the precision

grade of the product declines by 1 or 2 grades, as deformation of the material may occur. If you require tolerance for bore or other parts, machining is necessary after heat treatment.

Heat Treatment

If you apply induction hardening to the gear teeth of S45C products, you need to designate the hardness and where to apply the heat treatment. Below is an example of common specifications and KHK's specifications for hardening:

- Common Specifications for Heat Treatment
Area: Tooth surface, or, Tooth surface and Tooth root
Hardness: Within 10 HRC in the range from 45 to 60 HRC. (e.g. 48 - 58 HRC)

- KHK's Specifications for Heat Treatment
Area: Tooth surface, or, Tooth surface and Tooth root
Hardness: From 50 to 60 HRC.

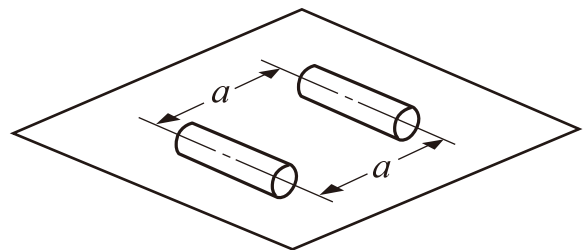
*Hardness and Depth of Gear-teeth Induction Hardening

The hardening method and the state of hardened teeth area are varied depending on the size of gears. Since different hardening treatment is applied in accordance with the module and number of teeth, the hardness level you designate is referred to as the hardness of the reference diameter. For some of our products, there may be a case that the hardness at tooth tip / root may not be equal to the hardness you designated.

As to the effective case depth for S45C, it is specified by JIS, as "The distance from the surface of the case to the area with hardness HV450". The case depth differs from area to area of a tooth.

2. Points of Caution in Assembling

- ① KHK stock spur gears are designed to give the proper backlash when assembled using center distance given by the formula below (center distance tolerance of H7 - H8). Backlash may be adjusted by changing the center distance of mating gears. For more information, please consult the technical section on gear backlash (page 56).



$$a = m(Z_1 + Z_2)/2$$

where

a : Center Distance

m : Module

Z_1 : No. of teeth of pinion

Z_2 : No. of teeth of gear

② The table below indicates the tolerance on the total length of KHK stock spur gears. Please refer to this data when designing gear boxes or other components.

■ Overall Length Tolerance for Spur and Helical Gears

Overall Length(mm)	Tolerance
Under 30	0 -0.10
Over 30 Under 100	0 -0.15
Over 100	0 -0.20

[Note] Following products are excluded from this table: Spur pinion shafts, Injection molded spur gears, Fairloc® hub spur gears, and MC nylon products.

③ Spur gears produce no thrust forces, however, be sure to fasten them firmly with stepped shafts or collars to prevent shifting toward the shaft. Keyways are generally used in fastening gears to a shaft, and they should be secured by applying drilled holes for set screws, or applying flats to the shaft, in case of fastening only with set screws. There are also methods of secure settings using a MACHALOCK, a Posi-Lock, or a Shupanring, which are parts for the engaging the hole and the axis.

④ Verify that the two shafts are parallel. Incorrect assembly will lead to uneven teeth contact which will cause noise and wear. (After assembly, the gear mesh can be checked by applying a contact pattern compound and rotating the gears.)

■ Test example: Abrasion occurred on KSSG3-30 due to poor edge contact (only 30% with proper contact).



Poor tooth contact and pitting

In this example, the gear oil used is equivalent to the JIS gear oil category 2, No. 3. The design conditions were load torque at 278 rpm, 42.5 kg/m (12 kW), 1.5 times the allowable bending strength, and 3 times the allowable surface durability torque. The pitting occurred on the poor tooth contact area after 60 hours of continuous operation.

Application Examples



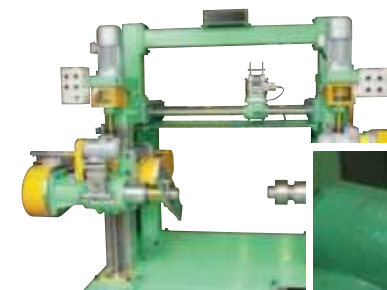
Full-automatic Forming Machine by Jey Machine Co. KSSA and KSS Spur Gears are used for stirring devices.



Takashima High-Speed Wire Straightening & Cutting Machines by Takashima Sangyo Co., Ltd. KSS Spur Gears are used at the feeder.



Automatic Packing Machine by New Max. KSS Spur Gears, segment shaped by secondary operation, are used at the crimping device.



Electric Wire Winder by Sakuma Tekko KK. KSS Spur Gears are used at the stopper of handgrip.

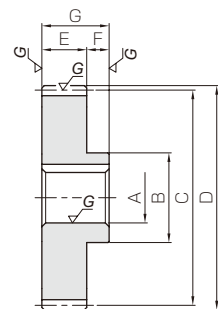




- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998) JIS grade 1 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Overall carburizing
Tooth hardness	55 ~ 60HRC



S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	H	I
KMSGA1-18	m1	18	S1	8	15	18	20	10	5	15	—	—
KMSGA1-20 KMSGB1-20**		20	S1	8 10	17	20	22	10	5	15	—	—
KMSGA1-24 KMSGB1-24		24	S1	10 12	20	24	26	10	5	15	—	—
KMSGA1-25 KMSGB1-25		25	S1	10 12	20	25	27	10	5	15	—	—
KMSGA1-30 KMSGB1-30		30	S1	10 12	25	30	32	10	5	15	—	—
KMSGA1-35 KMSGB1-35		35	S1	10 15	25	35	37	10	5	15	—	—
KMSGA1-36 KMSGB1-36		36	S1	12 15	25	36	38	10	5	15	—	—
KMSGA1-40 KMSGB1-40		40	S1	12 15	30	40	42	10	5	15	—	—
KMSGA1-45 KMSGB1-45		45	S1	12 15	30	45	47	10	5	15	—	—
KMSGA1-48 KMSGB1-48		48	S1	12 15	30	48	50	10	5	15	—	—
KMSGA1-50 KMSGB1-50		50	S1	12 15	35	50	52	10	5	15	—	—
KMSGA1-55 KMSGB1-55		55	S1	15 20	40	55	57	10	10	20	—	—
KMSGA1-60 KMSGB1-60		60	S1	15 20	40	60	62	10	10	20	—	—
KMSGA1-70 KMSGB1-70		70	S1	20 25	45	70	72	10	10	20	—	—
KMSGA1-80 KMSGB1-80		80	S1	20 25	45	80	82	10	10	20	—	—
KMSGA1-100 KMSGB1-100		100	S1	20 25	45	100	102	10	10	20	—	—

- [Caution on Product Characteristics]
- ① Although the dimensions of the keyway are made to the JIS (Js9) tolerance, there may be some deviations due to the effects of the heat treatment.
 - ② The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
 - ④ Products marked with "***" have a small amount of material between the corner of the keyway and the tooth root. This mode of failure must be considered when selecting these gears.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

*Please see book one for additional products in these modules.

Spur
GearsHelical
GearsInternal
Gears

Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products

Keyway WidthxDepth	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
3 x 1.4	12.1	6.37	1.24	0.65	0.08~0.16	0.020	KMSGGA1-18
3 x 1.4 4 x 1.8	14.2	8.04	1.45	0.82	0.08~0.16	0.027 0.023	KMSGGA1-20 KMSGGB1-20**
4 x 1.8 4 x 1.8	18.5	12.0	1.88	1.22	0.08~0.16	0.038 0.034	KMSGGA1-24 KMSGGB1-24
4 x 1.8 4 x 1.8	19.6	13.1	2.00	1.33	0.08~0.16	0.041 0.037	KMSGGA1-25 KMSGGB1-25
4 x 1.8 4 x 1.8	25.1	19.0	2.56	1.94	0.08~0.16	0.065 0.061	KMSGGA1-30 KMSGGB1-30
4 x 1.8 5 x 2.3	30.7	26.2	3.13	2.67	0.08~0.16	0.085 0.073	KMSGGA1-35 KMSGGB1-35
4 x 1.8 5 x 2.3	31.9	27.8	3.25	2.84	0.08~0.16	0.085 0.077	KMSGGA1-36 KMSGGB1-36
4 x 1.8 5 x 2.3	36.5	34.6	3.72	3.53	0.08~0.16	0.11 0.10	KMSGGA1-40 KMSGGB1-40
4 x 1.8 5 x 2.3	42.3	44.3	4.31	4.51	0.08~0.16	0.14 0.13	KMSGGA1-45 KMSGGB1-45
4 x 1.8 5 x 2.3	45.8	50.6	4.67	5.16	0.08~0.16	0.16 0.15	KMSGGA1-48 KMSGGB1-48
4 x 1.8 5 x 2.3	48.1	55.1	4.91	5.62	0.08~0.16	0.18 0.17	KMSGGA1-50 KMSGGB1-50
5 x 2.3 6 x 2.8	54.0	67.3	5.51	6.86	0.10~0.18	0.26 0.23	KMSGGA1-55 KMSGGB1-55
5 x 2.3 6 x 2.8	59.9	80.6	6.11	8.22	0.10~0.18	0.29 0.27	KMSGGA1-60 KMSGGB1-60
6 x 2.8 8 x 3.3	71.9	111	7.33	11.4	0.10~0.18	0.37 0.35	KMSGGA1-70 KMSGGB1-70
6 x 2.8 8 x 3.3	83.9	147	8.55	15.0	0.10~0.18	0.47 0.44	KMSGGA1-80 KMSGGB1-80
6 x 2.8 8 x 3.3	103	224	10.5	22.8	0.10~0.18	0.69 0.66	KMSGGA1-100 KMSGGB1-100

[Caution on Secondary Operations] ① No secondary operations can be performed on these precision finished gears due to the applied carburizing process.

For products which are different in specifications, such as bore size, we accept custom-made gear orders and provide a price quote.

KGCU-S Spur Gear Kit



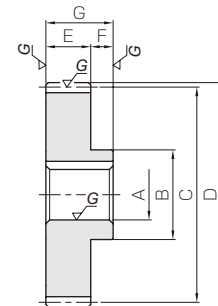
Installment : Parallel axes gears
(Two-stage)
Gear Type : Spur Gears
Gears : 2 units of KSS1.5-16
2 units of KPS1.5-22
Gear Ratio : 1.89
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.





Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998) JIS grade 1 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Overall carburizing
Tooth hardness	55 ~ 60HRC



S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	H	I
KMSGA1.5-15**	m1.5	15	S1	10	18	22.5	25.5	15	10	25	—	—
KMSGA1.5-18 KMSGB1.5-18		18	S1	10 12	22	27	30	15	10	25	—	—
KMSGA1.5-20 KMSGB1.5-20		20	S1	12 15	25	30	33	15	10	25	—	—
KMSGA1.5-24 KMSGB1.5-24		24	S1	12 15	28	36	39	15	10	25	—	—
KMSGA1.5-25 KMSGB1.5-25		25	S1	14 16	30	37.5	40.5	15	10	25	—	—
KMSGA1.5-30 KMSGB1.5-30		30	S1	15 18	30	45	48	15	10	25	—	—
KMSGA1.5-35 KMSGB1.5-35		35	S1	15 18	32	52.5	55.5	15	10	25	—	—
KMSGA1.5-36 KMSGB1.5-36		36	S1	15 18	32	54	57	15	10	25	—	—
KMSGA1.5-40 KMSGB1.5-40		40	S1	16 20	35	60	63	15	10	25	—	—
KMSGA1.5-45 KMSGB1.5-45		45	S1	16 20	40	67.5	70.5	15	10	25	—	—
KMSGA1.5-48 KMSGB1.5-48		48	S1	16 20	40	72	75	15	10	25	—	—
KMSGA1.5-50 KMSGB1.5-50		50	S1	18 22	40	75	78	15	10	25	—	—
KMSGA1.5-55 KMSGB1.5-55		55	S1	20 25	45	82.5	85.5	15	10	25	—	—
KMSGA1.5-60 KMSGB1.5-60		60	S1	20 25	45	90	93	15	10	25	—	—
KMSGA1.5-70 KMSGB1.5-70		70	S1	20 25	45	105	108	15	10	25	—	—
KMSGA1.5-80 KMSGB1.5-80		80	S1	20 25	45	120	123	15	10	25	—	—
KMSGA1.5-100 KMSGB1.5-100		100	S1	25 30	50	150	153	15	10	25	—	—

- [Caution on Product Characteristics]
- ① Although the dimensions of the keyway are made to the JIS (Js9) tolerance, there may be some deviations due to the effects of the heat treatment.
 - ② The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
 - ④ Products marked with “**” have a small amount of material between the corner of the keyway and the tooth root. This mode of failure must be considered when selecting these gears.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

*Please see book one for additional products in these modules.



Keyway WidthxDepth	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
4 x 1.8	30.8	14.8	3.15	1.51	0.08~0.16	0.050	KMSGA1.5-15**
4 x 1.8 4 x 1.8	41.0	22.1	4.18	2.26	0.08~0.16	0.080 0.074	KMSGA1.5-18 KMSGB1.5-18
4 x 1.8 5 x 2.3	48.0	27.9	4.89	2.84	0.08~0.16	0.098 0.085	KMSGA1.5-20 KMSGB1.5-20
4 x 1.8 5 x 2.3	62.4	41.5	6.36	4.24	0.08~0.16	0.14 0.13	KMSGA1.5-24 KMSGB1.5-24
5 x 2.3 5 x 2.3	66.0	45.4	6.73	4.63	0.08~0.16	0.15 0.14	KMSGA1.5-25 KMSGB1.5-25
5 x 2.3 6 x 2.8	84.7	66.4	8.63	6.77	0.08~0.16	0.21 0.19	KMSGA1.5-30 KMSGB1.5-30
5 x 2.3 6 x 2.8	104	91.5	10.6	9.34	0.10~0.18	0.28 0.26	KMSGA1.5-35 KMSGB1.5-35
5 x 2.3 6 x 2.8	108	97.1	11.0	9.90	0.10~0.18	0.30 0.28	KMSGA1.5-36 KMSGB1.5-36
5 x 2.3 6 x 2.8	123	121	12.6	12.3	0.10~0.18	0.37 0.34	KMSGA1.5-40 KMSGB1.5-40
5 x 2.3 6 x 2.8	143	155	14.5	15.8	0.10~0.18	0.48 0.46	KMSGA1.5-45 KMSGB1.5-45
5 x 2.3 6 x 2.8	155	177	15.8	18.1	0.10~0.18	0.54 0.51	KMSGA1.5-48 KMSGB1.5-48
6 x 2.8 6 x 2.8	162	193	16.6	19.7	0.10~0.18	0.57 0.54	KMSGA1.5-50 KMSGB1.5-50
6 x 2.8 8 x 3.3	182	236	18.6	24.0	0.10~0.18	0.69 0.65	KMSGA1.5-55 KMSGB1.5-55
6 x 2.8 8 x 3.3	202	283	20.6	28.8	0.10~0.18	0.81 0.77	KMSGA1.5-60 KMSGB1.5-60
6 x 2.8 8 x 3.3	231	372	23.6	38.0	0.12~0.20	1.08 1.04	KMSGA1.5-70 KMSGB1.5-70
6 x 2.8 8 x 3.3	270	494	27.5	50.3	0.12~0.20	1.39 1.36	KMSGA1.5-80 KMSGB1.5-80
8 x 3.3 8 x 3.3	347	787	35.4	80.2	0.12~0.20	2.13 2.09	KMSGA1.5-100 KMSGB1.5-100

[Caution on Secondary Operations] ① No secondary operations can be performed on these precision finished gears due to the applied carburizing process.
For products which are different in specifications, such as bore size, we accept custom-made gear orders and provide a price quote.

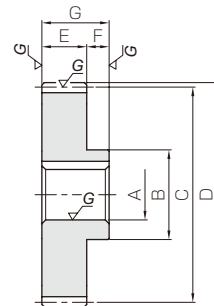
Spur
GearsHelical
GearsInternal
Gears

Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products



Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998) JIS grade 1 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Overall carburizing
Tooth hardness	55 ~ 60HRC

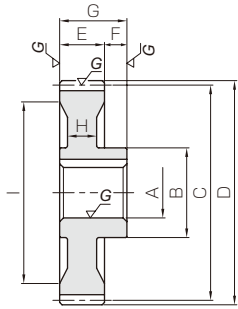


S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	H	I
KMSGA2-15 KMSGB2-15**	m2	15	S1	12 15	24	30	34	20	10	30	—	—
KMSGA2-18 KMSGB2-18		18	S1	12 15	30	36	40	20	10	30	—	—
KMSGA2-20 KMSGB2-20		20	S1	15 18	32	40	44	20	10	30	—	—
KMSGA2-24 KMSGB2-24		24	S1	15 18	35	48	52	20	10	30	—	—
KMSGA2-25 KMSGB2-25		25	S1	16 20	35	50	54	20	10	30	—	—
KMSGA2-30 KMSGB2-30		30	S1	18 22	40	60	64	20	10	30	—	—
KMSGA2-35 KMSGB2-35		35	S1	18 22	40	70	74	20	10	30	—	—
KMSGA2-36 KMSGB2-36		36	S1	18 22	40	72	76	20	10	30	—	—
KMSGA2-40 KMSGB2-40		40	S1	20 25	45	80	84	20	10	30	—	—
KMSGA2-45 KMSGB2-45		45	S1	20 25	45	90	94	20	10	30	—	—
KMSGA2-48 KMSGB2-48		48	S1	22 28	50	96	100	20	10	30	—	—
KMSGA2-50 KMSGB2-50		50	S1	22 28	50	100	104	20	10	30	—	—
KMSGA2-55 KMSGB2-55		55	S1	25 30	55	110	114	20	10	30	—	—
KMSGA2-60 KMSGB2-60		60	S1	25 30	55	120	124	20	10	30	—	—
KMSGA2-70 KMSGB2-70		70	S1	25 30	55	140	144	20	10	30	—	—
KMSGA2-80 KMSGB2-80		80	S2	30 35	60	160	164	20	10	30	13	144
KMSGA2-100 KMSGB2-100		100	S2	35 40	80	200	204	20	10	30	13	174

- [Caution on Product Characteristics]
- ① Although the dimensions of the keyway are made to the JIS (Js9) tolerance, there may be some deviations due to the effects of the heat treatment.
 - ② The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
 - ④ Products marked with “**” have a small amount of material between the corner of the keyway and the tooth root. This mode of failure must be considered when selecting these gears.

*Please see book one for additional products in these modules.



S2

Keyway WidthxDepth	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
4 x 1.8 5 x 2.3	73.1	35.7	7.46	3.64	0.10~0.20	0.12 0.10	KMSGA2-15 KMSGB2-15**
4 x 1.8 5 x 2.3	97.2	53.5	9.91	5.46	0.10~0.20	0.19 0.17	KMSGA2-18 KMSGB2-18
5 x 2.3 6 x 2.8	114	67.6	11.6	6.89	0.10~0.20	0.22 0.20	KMSGA2-20 KMSGB2-20
5 x 2.3 6 x 2.8	148	101	15.1	10.3	0.10~0.20	0.32 0.30	KMSGA2-24 KMSGB2-24
5 x 2.3 6 x 2.8	157	110	16.0	11.2	0.10~0.20	0.33 0.31	KMSGA2-25 KMSGB2-25
6 x 2.8 6 x 2.8	201	161	20.5	16.5	0.12~0.22	0.48 0.45	KMSGA2-30 KMSGB2-30
6 x 2.8 6 x 2.8	246	223	25.1	22.7	0.12~0.22	0.64 0.61	KMSGA2-35 KMSGB2-35
6 x 2.8 6 x 2.8	255	236	26.0	24.1	0.12~0.22	0.67 0.64	KMSGA2-36 KMSGB2-36
6 x 2.8 8 x 3.3	292	294	29.7	30.0	0.12~0.22	0.84 0.79	KMSGA2-40 KMSGB2-40
6 x 2.8 8 x 3.3	338	377	34.5	38.4	0.12~0.22	1.05 1.00	KMSGA2-45 KMSGB2-45
6 x 2.8 8 x 3.3	349	411	35.6	41.9	0.12~0.22	1.20 1.14	KMSGA2-48 KMSGB2-48
6 x 2.8 8 x 3.3	367	448	37.4	45.7	0.12~0.22	1.29 1.24	KMSGA2-50 KMSGB2-50
8 x 3.3 8 x 3.3	412	548	42.0	55.8	0.14~0.24	1.56 1.51	KMSGA2-55 KMSGB2-55
8 x 3.3 8 x 3.3	457	658	46.6	67.1	0.14~0.24	1.84 1.79	KMSGA2-60 KMSGB2-60
8 x 3.3 8 x 3.3	547	909	55.8	92.7	0.14~0.24	2.48 2.43	KMSGA2-70 KMSGB2-70
8 x 3.3 10 x 3.3	610	1150	62.2	117	0.14~0.24	2.55 2.49	KMSGA2-80 KMSGB2-80
10 x 3.3 12 x 3.3	785	1820	80.1	186	0.14~0.24	4.16 4.09	KMSGA2-100 KMSGB2-100

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Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

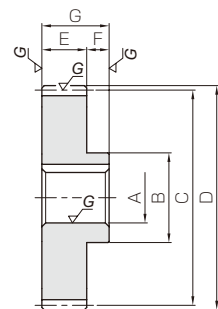
Bevel Gearboxes

Other Products





Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998) JIS grade 1 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Overall carburizing
Tooth hardness	55 ~ 60HRC

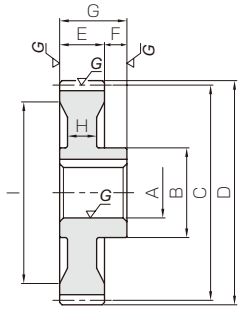


S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	H	I
KMSGA2.5-15 KMSGB2.5-15**	m2.5	15	S1	15 18	30	37.5	42.5	25	12	37	—	—
KMSGA2.5-18 KMSGB2.5-18		18	S1	18 20	38	45	50	25	12	37	—	—
KMSGA2.5-20 KMSGB2.5-20		20	S1	18 22	40	50	55	25	12	37	—	—
KMSGA2.5-24 KMSGB2.5-24		24	S1	18 22	40	60	65	25	12	37	—	—
KMSGA2.5-25 KMSGB2.5-25		25	S1	20 25	45	62.5	67.5	25	12	37	—	—
KMSGA2.5-30 KMSGB2.5-30		30	S1	22 28	50	75	80	25	12	37	—	—
KMSGA2.5-35 KMSGB2.5-35		35	S1	25 30	55	87.5	92.5	25	12	37	—	—
KMSGA2.5-36 KMSGB2.5-36		36	S1	25 30	55	90	95	25	12	37	—	—
KMSGA2.5-40 KMSGB2.5-40		40	S1	25 32	55	100	105	25	12	37	—	—
KMSGA2.5-45 KMSGB2.5-45		45	S1	30 35	60	112.5	117.5	25	12	37	—	—
KMSGA2.5-48 KMSGB2.5-48		48	S1	30 35	60	120	125	25	12	37	—	—
KMSGA2.5-50 KMSGB2.5-50		50	S1	30 35	60	125	130	25	12	37	—	—
KMSGA2.5-55 KMSGB2.5-55		55	S1	30 40	70	137.5	142.5	25	12	37	—	—
KMSGA2.5-60 KMSGB2.5-60		60	S1	30 40	70	150	155	25	12	37	—	—
KMSGA2.5-70 KMSGB2.5-70		70	S2	40 50	85	175	180	25	12	37	17	150

- [Caution on Product Characteristics]
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 - ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
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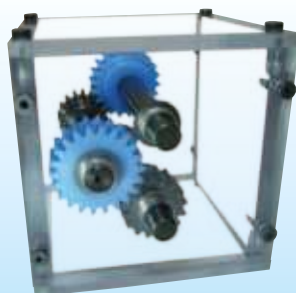


S2

Keyway WidthxDepth	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
5 x 2.3 6 x 2.8	143	71.0	14.6	7.24	0.10~0.20	0.23 0.20	KMSG A2.5-15 KMSG B2.5-15**
6 x 2.8 6 x 2.8	190	107	19.4	10.9	0.10~0.20	0.34 0.32	KMSG A2.5-18 KMSG B2.5-18
6 x 2.8 6 x 2.8	222	134	22.7	13.7	0.10~0.20	0.42 0.39	KMSG A2.5-20 KMSG B2.5-20
6 x 2.8 6 x 2.8	289	201	29.4	20.5	0.12~0.22	0.59 0.56	KMSG A2.5-24 KMSG B2.5-24
6 x 2.8 8 x 3.3	306	220	31.2	22.4	0.12~0.22	0.66 0.60	KMSG A2.5-25 KMSG B2.5-25
6 x 2.8 8 x 3.3	392	322	40.0	32.8	0.12~0.22	0.94 0.87	KMSG A2.5-30 KMSG B2.5-30
8 x 3.3 8 x 3.3	480	444	49.0	45.3	0.12~0.22	1.25 1.19	KMSG A2.5-35 KMSG B2.5-35
8 x 3.3 8 x 3.3	498	471	50.8	48.0	0.12~0.22	1.32 1.26	KMSG A2.5-36 KMSG B2.5-36
8 x 3.3 10 x 3.3	543	560	55.3	57.1	0.12~0.22	1.61 1.52	KMSG A2.5-40 KMSG B2.5-40
8 x 3.3 10 x 3.3	629	718	64.1	73.2	0.14~0.24	2.00 1.93	KMSG A2.5-45 KMSG B2.5-45
8 x 3.3 10 x 3.3	681	823	69.5	83.9	0.14~0.24	2.27 2.20	KMSG A2.5-48 KMSG B2.5-48
8 x 3.3 10 x 3.3	716	897	73.0	91.5	0.14~0.24	2.46 2.39	KMSG A2.5-50 KMSG B2.5-50
8 x 3.3 12 x 3.3	804	1090	82.0	112	0.14~0.24	3.06 2.90	KMSG A2.5-55 KMSG B2.5-55
8 x 3.3 12 x 3.3	892	1310	90.9	134	0.14~0.24	3.62 3.45	KMSG A2.5-60 KMSG B2.5-60
12 x 3.3 14 x 3.8	1020	1730	104	176	0.14~0.24	4.24 4.03	KMSG A2.5-70 KMSG B2.5-70

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KGCU-S Spur Gear Kit

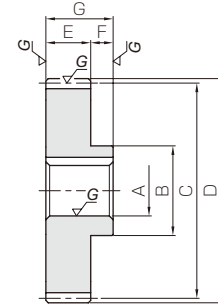


Installment : Parallel axes gears
(Two-stage)
Gear Type : Spur Gears
Gears : 2 units of KSS1.5-16
2 units of KPS1.5-22
Gear Ratio : 1.89
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998) JIS grade 1 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Overall carburizing
Tooth hardness	55 ~ 60HRC

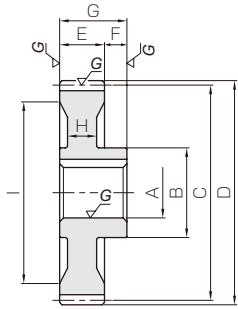


S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	H	I
KMSGA3-15 KMSGB3-15**	m3	15	S1	18 22	36	45	51	30	15	45	—	—
KMSGA3-18 KMSGB3-18		18	S1	20 25	45	54	60	30	15	45	—	—
KMSGA3-20 KMSGB3-20		20	S1	20 25	45	60	66	30	15	45	—	—
KMSGA3-24 KMSGB3-24		24	S1	20 25	45	72	78	30	15	45	—	—
KMSGA3-25 KMSGB3-25		25	S1	25 30	55	75	81	30	15	45	—	—
KMSGA3-30 KMSGB3-30		30	S1	28 35	60	90	96	30	15	45	—	—
KMSGA3-35 KMSGB3-35		35	S1	30 35	60	105	111	30	15	45	—	—
KMSGA3-36 KMSGB3-36		36	S1	30 35	60	108	114	30	15	45	—	—
KMSGA3-40 KMSGB3-40		40	S1	30 40	70	120	126	30	15	45	—	—
KMSGA3-45 KMSGB3-45		45	S1	30 40	70	135	141	30	15	45	—	—
KMSGA3-48 KMSGB3-48		48	S1	35 40	70	144	150	30	15	45	—	—
KMSGA3-50 KMSGB3-50		50	S2	32 40	70	150	156	30	15	45	20	126
KMSGA3-55 KMSGB3-55		55	S2	35 40	70	165	171	30	15	45	20	140
KMSGA3-60 KMSGB3-60		60	S2	35 45	80	180	186	30	15	45	20	156

- [Caution on Product Characteristics]
- ① Although the dimensions of the keyway are made to the JIS (Js9) tolerance, there may be some deviations due to the effects of the heat treatment.
 - ② The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
 - ④ Products marked with “**” have a small amount of material between the corner of the keyway and the tooth root. This mode of failure must be considered when selecting these gears.

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S2

Keyway WidthxDepth	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
6 x 2.8 6 x 2.8	247	124	25.2	12.7	0.10~0.20	0.40 0.35	KMSGA3-15 KMSGB3-15**
6 x 2.8 8 x 3.3	328	187	33.4	19.1	0.12~0.22	0.61 0.54	KMSGA3-18 KMSGB3-18
6 x 2.8 8 x 3.3	384	236	39.1	24.1	0.12~0.22	0.74 0.67	KMSGA3-20 KMSGB3-20
6 x 2.8 8 x 3.3	499	353	50.9	36.0	0.12~0.22	1.03 0.96	KMSGA3-24 KMSGB3-24
8 x 3.3 10 x 3.3	528	386	53.9	39.3	0.12~0.22	1.14 1.06	KMSGA3-25 KMSGB3-25
8 x 3.3 10 x 3.3	677	565	69.1	57.7	0.12~0.22	1.60 1.48	KMSGA3-30 KMSGB3-30
8 x 3.3 10 x 3.3	790	745	80.6	75.9	0.14~0.24	2.11 2.02	KMSGA3-35 KMSGB3-35
8 x 3.3 10 x 3.3	820	790	83.6	80.6	0.14~0.24	2.23 2.14	KMSGA3-36 KMSGB3-36
8 x 3.3 12 x 3.3	938	988	95.6	101	0.14~0.24	2.86 2.66	KMSGA3-40 KMSGB3-40
8 x 3.3 12 x 3.3	1090	1260	111	129	0.14~0.24	3.57 3.37	KMSGA3-45 KMSGB3-45
10 x 3.3 12 x 3.3	1180	1450	120	147	0.14~0.24	3.94 3.83	KMSGA3-48 KMSGB3-48
10 x 3.3 12 x 3.3	1240	1570	126	161	0.14~0.24	3.79 3.62	KMSGA3-50 KMSGB3-50
10 x 3.3 12 x 3.3	1330	1830	135	187	0.14~0.24	4.39 4.29	KMSGA3-55 KMSGB3-55
10 x 3.3 14 x 3.8	1470	2200	150	224	0.14~0.24	5.31 5.08	KMSGA3-60 KMSGB3-60

[Caution on Secondary Operations] ① No secondary operations can be performed on these precision finished gears due to the applied carburizing process.
For products which are different in specifications, such as bore size,
we accept custom-made gear orders and provide a price quote.

Spur
GearsHelical
GearsInternal
Gears

Racks

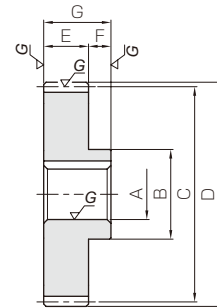
CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



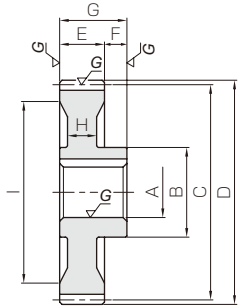
Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998) JIS grade 1 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Overall carburizing
Tooth hardness	55 ~ 60HRC



Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F		G	H
KMSGA4-15 KMSGB4-15**	m4	15	S1	25 30	48	60	68	40	20	60	—	—
KMSGA4-18 KMSGB4-18		18	S1	25 30	50	72	80	40	20	60	—	—
KMSGA4-20 KMSGB4-20		20	S1	28 32	60	80	88	40	20	60	—	—
KMSGA4-24 KMSGB4-24		24	S1	28 32	60	96	104	40	20	60	—	—
KMSGA4-25 KMSGB4-25		25	S1	30 35	60	100	108	40	20	60	—	—
KMSGA4-30 KMSGB4-30		30	S1	35 40	70	120	128	40	20	60	—	—
KMSGA4-35 KMSGB4-35		35	S1	35 40	70	140	148	40	20	60	—	—
KMSGA4-36 KMSGB4-36		36	S1	35 40	70	144	152	40	20	60	—	—
KMSGA4-40 KMSGB4-40		40	S1	40 45	80	160	168	40	20	60	—	—
KMSGA4-45 KMSGB4-45		45	S1	40 45	80	180	188	40	20	60	—	—
KMSGA4-48 KMSGB4-48		48	S2	40 45	80	192	200	40	20	60	26	160
KMSGA4-50 KMSGB4-50		50	S2	40 50	85	200	208	40	20	60	26	168

- [Caution on Product Characteristics]
- ① Although the dimensions of the keyway are made to the JIS (Js9) tolerance, there may be some deviations due to the effects of the heat treatment.
 - ② The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
 - ④ Products marked with “**” have a small amount of material between the corner of the keyway and the tooth root. This mode of failure must be considered when selecting these gears.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



S2

Keyway WidthxDepth	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
8 x 3.3 8 x 3.3	585	302	59.7	30.8	0.14~0.24	0.93 0.83	KMSGA4-15 KMSGB4-15**
8 x 3.3 8 x 3.3	777	455	79.3	46.4	0.14~0.24	1.34 1.24	KMSGA4-18 KMSGB4-18
8 x 3.3 10 x 3.3	910	574	92.8	58.6	0.14~0.24	1.72 1.63	KMSGA4-20 KMSGB4-20
8 x 3.3 10 x 3.3	1130	819	115	83.5	0.14~0.24	2.41 2.32	KMSGA4-24 KMSGB4-24
8 x 3.3 10 x 3.3	1190	896	122	91.4	0.14~0.24	2.56 2.44	KMSGA4-25 KMSGB4-25
10 x 3.3 12 x 3.3	1530	1320	156	134	0.16~0.26	3.69 3.54	KMSGA4-30 KMSGB4-30
10 x 3.3 12 x 3.3	1870	1820	191	185	0.16~0.26	4.97 4.83	KMSGA4-35 KMSGB4-35
10 x 3.3 12 x 3.3	1940	1930	198	197	0.16~0.26	5.25 5.11	KMSGA4-36 KMSGB4-36
12 x 3.3 14 x 3.8	2120	2290	216	234	0.16~0.26	6.49 6.33	KMSGA4-40 KMSGB4-40
12 x 3.3 14 x 3.8	2460	2930	251	299	0.16~0.26	8.17 8.01	KMSGA4-45 KMSGB4-45
12 x 3.3 14 x 3.8	2660	3350	272	342	0.16~0.26	7.97 7.81	KMSGA4-48 KMSGB4-48
12 x 3.3 14 x 3.8	2800	3650	285	372	0.16~0.26	8.71 8.37	KMSGA4-50 KMSGB4-50

[Caution on Secondary Operations] ① No secondary operations can be performed on these precision finished gears due to the applied carburizing process.
For products which are different in specifications, such as bore size, we accept custom-made gear orders and provide a price quote.

- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

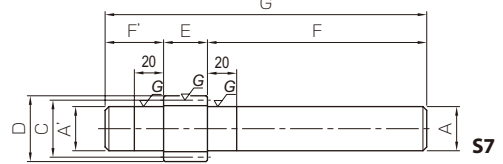




- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998) JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Thermally refined, tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC



Catalog No.	Module	No. of teeth	Profile shift coefficient	Shape	Shaft dia. (L)	Shaft length (L)	Pitch dia.	Outside dia.	Face width	Shaft dia. (R)	Shaft length (R)	Total length
					A'	F'	C	D	E	A	F	G
KSSGS1.5-10	m1.5	10	+0.5	S7	12.2	25	15	19.35	15	12.2	100	140
KSSGS1.5-11		11	+0.5	S7	13.7	25	16.5	20.85	15	13.7	100	140
KSSGS1.5-12		12	0	S7	13.7	25	18	21	15	13.7	100	140
KSSGS1.5-13		13	0	S7	15.2	25	19.5	22.5	15	15.2	100	140
KSSGS2-10	m2	10	+0.5	S7	16.2	30	20	25.8	20	16.2	120	170
KSSGS2-11		11	+0.5	S7	18.2	30	22	27.8	20	18.2	120	170
KSSGS2-12		12	0	S7	18.2	30	24	28	20	18.2	120	170
KSSGS2-13		13	0	S7	20.2	30	26	30	20	20.2	120	170
KSSGS2.5-10	m2.5	10	+0.5	S7	20.2	35	25	32.25	25	20.2	135	195
KSSGS2.5-11		11	+0.5	S7	22.7	35	27.5	34.75	25	22.7	135	195
KSSGS2.5-12		12	0	S7	22.7	35	30	35	25	22.7	135	195
KSSGS2.5-13		13	0	S7	25.2	35	32.5	37.5	25	25.2	135	195
KSSGS3-10	m3	10	+0.5	S7	24.2	40	30	38.7	30	24.2	150	220
KSSGS3-11		11	+0.5	S7	27.2	40	33	41.7	30	27.2	150	220
KSSGS3-12		12	0	S7	27.2	40	36	42	30	27.2	150	220
KSSGS3-13		13	0	S7	30.2	40	39	45	30	30.2	150	220

- [Caution on Product Characteristics]
- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ② 10- and 11-tooth gears with a pitch of module 1.5 or greater are profile shifted gears ($x = +0.5$). Please refer to the below tables for calculating the center distance when assembled.
 - ③ The backlash values shown in the table are the theoretical values for the normal direction for a pair of identical SSG Spur Gears with 30 teeth in mesh.

Center Distance of Stock Spur Gears Meshing with Profile Shifted Spur Gears

The table on the right shows the center distance of the spur gears ($x=0$) which can be meshed with profile shifted spur gears ($x=+0.5$) with module 1. Multiply by the actual module to determine your center distance.

***Please see book one for additional products in these modules.**

Center distance when gear has 12 to 30 teeth (unit : mm)

No. of teeth(x=0)	No. of teeth(x=+0.5)	
	10	11
12	11.4410	11.9428
13	11.9428	12.4446
14	12.4446	12.9462
15	12.9462	13.4477
16	13.4477	13.9492
17	13.9492	14.4505
18	14.4505	14.9518
19	14.9518	15.4530
20	15.4530	15.9542
21	15.9542	16.4553
22	16.4553	16.9564
23	16.9564	17.4574
24	17.4574	17.9583
25	17.9583	18.4592
26	18.4592	18.9601
27	18.9601	19.4610
28	19.4610	19.9618
29	19.9618	20.4625
30	20.4625	20.9633

Center distance when gear has 32 to 62 teeth (unit : mm)

No. of teeth(x=0)	No. of teeth(x=+0.5)	
	10	11
32	21.4640	21.9647
34	22.4653	22.9660
35	22.9660	23.4666
36	23.4666	23.9671
38	24.4677	24.9683
40	25.4688	25.9693
42	26.4698	26.9703
44	27.4707	27.9712
45	27.9712	28.4716
46	28.4716	28.9721
48	29.4725	29.9729
50	30.4733	30.9736
52	31.4740	31.9744
54	32.4747	32.9750
55	32.9750	33.4754
56	33.4754	33.9757
58	34.4760	34.9763
60	35.4766	35.9769
62	36.4772	36.9774



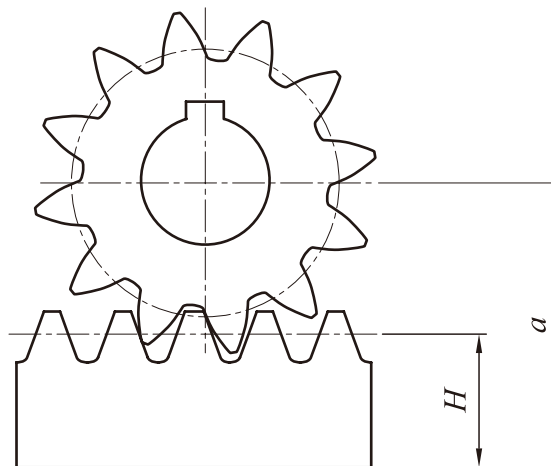
Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
12.7	3.76	1.30	0.38	0.08~0.16	0.14	KSSGS1.5-10 KSSGS1.5-11 KSSGS1.5-12 KSSGS1.5-13
14.5	4.61	1.48	0.47	0.08~0.16	0.17	
9.97	4.70	1.02	0.48	0.08~0.16	0.17	
12.1	5.51	1.23	0.56	0.08~0.16	0.21	
30.2	9.07	3.08	0.93	0.11~0.21	0.30	KSSGS2-10 KSSGS2-11 KSSGS2-12 KSSGS2-13
34.3	11.0	3.50	1.12	0.11~0.21	0.38	
23.6	11.3	2.41	1.15	0.11~0.21	0.38	
28.6	13.3	2.92	1.35	0.11~0.21	0.46	
58.9	17.9	6.01	1.83	0.11~0.21	0.54	KSSGS2.5-10 KSSGS2.5-11 KSSGS2.5-12 KSSGS2.5-13
67.1	22.0	6.84	2.24	0.11~0.21	0.68	
46.2	22.4	4.71	2.28	0.11~0.21	0.68	
46.6	21.9	4.75	2.23	0.11~0.21	0.83	
102	31.3	10.4	3.19	0.11~0.21	0.89	KSSGS3-10 KSSGS3-11 KSSGS3-12 KSSGS3-13
96.6	31.9	9.85	3.26	0.11~0.21	1.11	
66.5	32.6	6.78	3.32	0.11~0.21	1.11	
80.4	38.3	8.20	3.91	0.11~0.21	1.35	

- [Caution on Secondary Operations] ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm). Use carbide tools for the modification of the shaft area near the bottom land.
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

Center distance when gear has 64 to 200 teeth (unit : mm)

No. of teeth(x=0)	No. of teeth(x=+0.5)	
	10	11
64	37.4777	37.9780
65	37.9780	38.4782
66	38.4782	38.9785
68	39.4787	39.9790
70	40.4792	40.9794
72	41.4796	41.9799
75	42.9803	43.4805
76	43.4805	43.9807
80	45.4813	45.9814
84	47.4820	47.9822
85	47.9822	48.4823
88	49.4826	49.9828
90	50.4830	50.9831
95	52.9837	53.4838
100	55.4844	55.9845
120	65.4866	65.9867
150	80.4890	80.9890
200	105.4915	105.9915

Assembly distance of a profile shifted gear and the meshing rack



$$a = \frac{zm}{2} + H + xm$$

Where
a : Assembly Distance
H : Height of pitch line of rack
m : Module
z : No. of Teeth
x : Profile Shift Coefficient





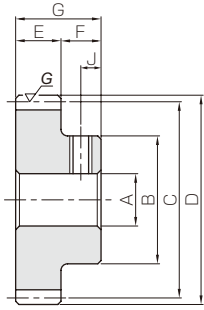
Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998) JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Thermally refined*
Tooth hardness	200 ~ 270HB

*Tooth areas, where size is less than 0.8 module, without quenching treatment.

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway		
				AH7	B	C	D	E	F	G	WidthxDepth		
KSSG0.5-30A KSSG0.5-30B KSSG0.5-32A KSSG0.5-34A KSSG0.5-35A KSSG0.5-36A KSSG0.5-38A KSSG0.5-40A KSSG0.5-40B KSSG0.5-50A KSSG0.5-50B KSSG0.5-60A KSSG0.5-60B KSSG0.5-70A KSSG0.5-70B KSSG0.5-80A KSSG0.5-80B	m0.5	30	S1T	5	13	15	16	5	7	12	—		
		32	S1T	5	14	16	17	5	7	12	—		
		34	S1T	5	15	17	18	5	7	12	—		
		35	S1T	5	15	17.5	18.5	5	7	12	—		
		36	S1T	5	16	18	19	5	7	12	—		
		38	S1T	5	16	19	20	5	7	12	—		
		40	S1T	5	18	20	21	5	7	12	—		
		50	S1T	5	22	25	26	5	7	12	—		
		60	S1T	6	28	30	31	5	7	12	—		
		70	S1T	6	28	35	36	5	7	12	—		
		80	S1T	6	28	40	41	5	7	12	—		
		80	S1T	8	28	40	41	5	7	12	—		
		KSSG0.8-20A KSSG0.8-20B KSSG0.8-21A KSSG0.8-22A KSSG0.8-23A KSSG0.8-24A KSSG0.8-24B KSSG0.8-25A KSSG0.8-25B KSSG0.8-26A KSSG0.8-27A KSSG0.8-28A KSSG0.8-29A KSSG0.8-30A KSSG0.8-30B KSSG0.8-30C KSSG0.8-32A KSSG0.8-34A KSSG0.8-35A KSSG0.8-36A KSSG0.8-38A KSSG0.8-40A KSSG0.8-40B KSSG0.8-50A KSSG0.8-50B KSSG0.8-60A KSSG0.8-60B KSSG0.8-70A KSSG0.8-70B KSSG0.8-80A KSSG0.8-80B	m0.8	20	S1T	5	13	16	17.6	8	8	16	—
				20	S1T	6	13	16	17.6	8	8	16	—
				21	S1T	6	14	16.8	18.4	8	8	16	—
				22	S1T	6	15	17.6	19.2	8	8	16	—
23	S1T			6	15	18.4	20	8	8	16	—		
24	S1T			5	16	19.2	20.8	8	8	16	—		
24	S1T			6	16	19.2	20.8	8	8	16	—		
25	S1T			5	16	20	21.6	8	8	16	—		
25	S1T			6	16	20	21.6	8	8	16	—		
26	S1T			6	18	20.8	22.4	8	8	16	—		
27	S1T			6	18	21.6	23.2	8	8	16	—		
28	S1T			6	18	22.4	24	8	8	16	—		
29	S1T			6	20	23.2	24.8	8	8	16	—		
30	S1T			5	20	24	25.6	8	8	16	—		
30	S1T			6	20	24	25.6	8	8	16	—		
30	S1T			8	20	24	25.6	8	8	16	—		
32	S1T			6	22	25.6	27.2	8	8	16	—		
34	S1T			6	22	27.2	28.8	8	8	16	—		
35	S1T			6	25	28	29.6	8	8	16	—		
36	S1T			6	25	28.8	30.4	8	8	16	—		
38	S1T	6	25	30.4	32	8	8	16	—				
40	S1T	6	28	32	33.6	8	8	16	—				
40	S1T	8	28	32	33.6	8	8	16	—				
50	S1T	6	28	40	41.6	8	8	16	—				
50	S1T	8	28	40	41.6	8	8	16	—				
60	S1T	6	28	48	49.6	8	8	16	—				
60	S1T	8	28	48	49.6	8	8	16	—				
70	S1T	6	28	56	57.6	8	8	16	—				
70	S1T	8	28	56	57.6	8	8	16	—				
80	S1T	6	28	64	65.6	8	8	16	—				
80	S1T	8	28	64	65.6	8	8	16	—				

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ The use of set screws for fastening S1T shaped gears to a shaft is a method only applicable to light load usage. Please use dowel pins for secure fastening.



S1T

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	3.5	1.63	0.29	0.17	0.030	0~0.08	0.012	KSSG0.5-30A
M4	3.5							0.011
M4	3.5	1.78	0.34	0.18	0.035	0~0.08	0.014	KSSG0.5-32A
M4	3.5	1.93	0.39	0.20	0.039	0~0.08	0.016	KSSG0.5-34A
M4	3.5	2.00	0.41	0.20	0.042	0~0.08	0.017	KSSG0.5-35A
M4	3.5	2.08	0.44	0.21	0.045	0~0.08	0.019	KSSG0.5-36A
M4	3.5	2.23	0.49	0.23	0.050	0~0.08	0.020	KSSG0.5-38A
M4	3.5	2.38	0.55	0.24	0.056	0~0.08	0.024	KSSG0.5-40A
M4	3.5						0.023	KSSG0.5-40B
M4	3.5	3.14	0.89	0.32	0.091	0~0.08	0.038	KSSG0.5-50A
M4	3.5						0.037	KSSG0.5-50B
M4	3.5	3.91	1.32	0.40	0.13	0~0.08	0.058	KSSG0.5-60A
M5	3.5						0.056	KSSG0.5-60B
M4	3.5	3.90	1.53	0.40	0.16	0~0.08	0.068	KSSG0.5-70A
M5	3.5						0.066	KSSG0.5-70B
M4	3.5	4.55	2.04	0.46	0.21	0~0.08	0.080	KSSG0.5-80A
M5	3.5						0.077	KSSG0.5-80B
M4	4	3.79	0.53	0.39	0.054	0~0.08	0.018	KSSG0.8-20A
M4	4						0.017	KSSG0.8-20B
M4	4	4.08	0.59	0.42	0.060	0~0.08	0.020	KSSG0.8-21A
M4	4	4.36	0.66	0.44	0.067	0~0.08	0.022	KSSG0.8-22A
M4	4	4.64	0.73	0.47	0.074	0~0.08	0.024	KSSG0.8-23A
M4	4	4.93	0.80	0.50	0.082	0~0.08	0.028	KSSG0.8-24A
M4	4						0.027	KSSG0.8-24B
M4	4	5.22	0.88	0.53	0.090	0~0.08	0.029	KSSG0.8-25A
M4	4						0.028	KSSG0.8-25B
M4	4	5.51	0.96	0.56	0.098	0~0.08	0.033	KSSG0.8-26A
M4	4	5.81	1.04	0.59	0.11	0~0.08	0.035	KSSG0.8-27A
M4	4	6.10	1.12	0.62	0.11	0~0.08	0.037	KSSG0.8-28A
M4	4	6.40	1.21	0.65	0.12	0~0.08	0.042	KSSG0.8-29A
M4	4	6.70	1.30	0.68	0.13	0~0.08	0.045	KSSG0.8-30A
M4	4						0.044	KSSG0.8-30B
M5	4						0.041	KSSG0.8-30C
M4	4	7.29	1.50	0.74	0.15	0~0.08	0.052	KSSG0.8-32A
M4	4	7.90	1.71	0.81	0.17	0~0.08	0.056	KSSG0.8-34A
M4	4	8.20	1.82	0.84	0.19	0~0.08	0.065	KSSG0.8-35A
M4	4	8.51	1.93	0.87	0.20	0~0.08	0.067	KSSG0.8-36A
M4	4	9.12	2.17	0.93	0.22	0~0.08	0.072	KSSG0.8-38A
M4	4	8.11	2.02	0.83	0.21	0~0.08	0.085	KSSG0.8-40A
M5	4						0.082	KSSG0.8-40B
M4	4	10.7	3.26	1.09	0.33	0~0.08	0.11	KSSG0.8-50A
M5	4						0.11	KSSG0.8-50B
M4	4	13.3	4.83	1.36	0.49	0~0.08	0.15	KSSG0.8-60A
M5	4						0.14	KSSG0.8-60B
M4	4	16.0	6.73	1.63	0.69	0~0.08	0.19	KSSG0.8-70A
M5	4						0.19	KSSG0.8-70B
M4	4	18.7	8.97	1.90	0.91	0~0.08	0.24	KSSG0.8-80A
M5	4						0.23	KSSG0.8-80B

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

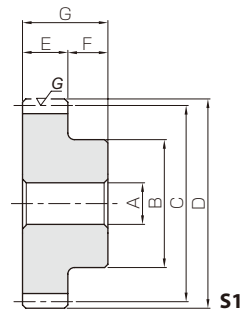
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998) JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

*The precision grade of J Series products is equivalent to the value shown in the table.

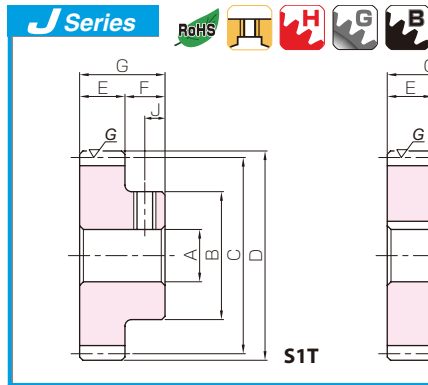


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG1-15 ● KSSG1-15 J6	<i>m1</i>	15	S1 S1T	6 6	12	15	17	8	10	18	—
KSSG1-16 ● KSSG1-16 J6		16	S1 S1T	6 6	13	16	18	8	10	18	—
KSSG1-17 ● KSSG1-17 J6 ● KSSG1-17 J8		17	S1 S1T S1T	6 6 8	14	17	19	8	10	18	—
KSSG1-18 ● KSSG1-18 J6 ● KSSG1-18 J8		18	S1 S1T S1T	6 6 8	15	18	20	8	10	18	—
KSSG1-19 ● KSSG1-19 J6 ● KSSG1-19 J8		19	S1 S1T S1T	6 6 8	16	19	21	8	10	18	—
KSSG1-20 ● KSSG1-20 J6 ● KSSG1-20 J8		20	S1 S1T S1T	6 6 8	17	20	22	8	10	18	—
KSSG1-21 ● KSSG1-21 J8 ● KSSG1-21 J10		21	S1 S1T S1K	8 8 10	18	21	23	8	10	18	— — 4 x 1.8
KSSG1-22 ● KSSG1-22 J8 ● KSSG1-22 J10		22	S1 S1T S1K	8 8 10	18	22	24	8	10	18	— — 4 x 1.8
KSSG1-23 ● KSSG1-23 J8 ● KSSG1-23 J10 ● KSSG1-23 J12		23	S1 S1T S1K S1K	8 8 10 12	20	23	25	8	10	18	— — 4 x 1.8 4 x 1.8
KSSG1-24 ● KSSG1-24 J8 ● KSSG1-24 J10 ● KSSG1-24 J12		24	S1 S1T S1K S1K	8 8 10 12	20	24	26	8	10	18	— — 4 x 1.8 4 x 1.8
KSSG1-25 ● KSSG1-25 J8 ● KSSG1-25 J10 ● KSSG1-25 J12		25	S1 S1T S1K S1K	8 8 10 12	20	25	27	8	10	18	— — 4 x 1.8 4 x 1.8
KSSG1-26 ● KSSG1-26 J8 ● KSSG1-26 J10 ● KSSG1-26 J12		26	S1 S1T S1K S1K	8 8 10 12	20	26	28	8	10	18	— — 4 x 1.8 4 x 1.8
KSSG1-27 ● KSSG1-27 J8 ● KSSG1-27 J10 ● KSSG1-27 J12		27	S1 S1T S1K S1K	8 8 10 12	20	27	29	8	10	18	— — 4 x 1.8 4 x 1.8
KSSG1-28 ● KSSG1-28 J8 ● KSSG1-28 J10 ● KSSG1-28 J12		28	S1 S1T S1K S1K	8 8 10 12	20	28	30	8	10	18	— — 4 x 1.8 4 x 1.8
KSSG1-29 ● KSSG1-29 J8 ● KSSG1-29 J10 ● KSSG1-29 J12 ● KSSG1-29 J14 ● KSSG1-29 J15		29	S1 S1T S1K S1K S1K S1K	8 8 10 12 14 15	25	29	31	8	10	18	— — 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3

No. of Teeth available

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100	120
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	2.96	1.03	0.30	0.11	0.08~0.16	0.016 0.015	KSSG1-15 ● KSSG1-15 J6
—	—	3.28	1.19	0.33	0.12	0.08~0.16	0.019 0.018	KSSG1-16 ● KSSG1-16 J6
—	—	3.60	1.36	0.37	0.14	0.08~0.16	0.022 0.022 0.018	KSSG1-17 ● KSSG1-17 J6 ● KSSG1-17 J8
—	—	3.93	1.54	0.40	0.16	0.08~0.16	0.026 0.025 0.022	KSSG1-18 ● KSSG1-18 J6 ● KSSG1-18 J8
—	—	4.26	1.73	0.43	0.18	0.08~0.16	0.030 0.029 0.025	KSSG1-19 ● KSSG1-19 J6 ● KSSG1-19 J8
—	—	4.60	1.94	0.47	0.20	0.08~0.16	0.034 0.033 0.029	KSSG1-20 ● KSSG1-20 J6 ● KSSG1-20 J8
—	—	4.94	2.14	0.50	0.22	0.08~0.16	0.035 0.033 0.029	KSSG1-21 ● KSSG1-21 J8 ● KSSG1-21 J10
—	—	5.28	2.36	0.54	0.24	0.08~0.16	0.037 0.035 0.031	KSSG1-22 ● KSSG1-22 J8 ● KSSG1-22 J10
—	—	5.63	2.59	0.57	0.26	0.08~0.16	0.044 0.042 0.038 0.033	KSSG1-23 ● KSSG1-23 J8 ● KSSG1-23 J10 ● KSSG1-23 J12
—	—	5.98	2.83	0.61	0.29	0.08~0.16	0.046 0.044 0.040 0.036	KSSG1-24 ● KSSG1-24 J8 ● KSSG1-24 J10 ● KSSG1-24 J12
—	—	6.33	3.07	0.65	0.31	0.08~0.16	0.048 0.047 0.043 0.038	KSSG1-25 ● KSSG1-25 J8 ● KSSG1-25 J10 ● KSSG1-25 J12
—	—	6.68	3.33	0.68	0.34	0.08~0.16	0.051 0.049 0.045 0.041	KSSG1-26 ● KSSG1-26 J8 ● KSSG1-26 J10 ● KSSG1-26 J12
—	—	7.04	3.60	0.72	0.37	0.08~0.16	0.054 0.052 0.048 0.043	KSSG1-27 ● KSSG1-27 J8 ● KSSG1-27 J10 ● KSSG1-27 J12
—	—	7.39	3.89	0.75	0.40	0.08~0.16	0.056 0.055 0.051 0.046	KSSG1-28 ● KSSG1-28 J8 ● KSSG1-28 J10 ● KSSG1-28 J12
—	—	7.75	4.18	0.79	0.43	0.08~0.16	0.073 0.071 0.067 0.062 0.056 0.053	KSSG1-29 ● KSSG1-29 J8 ● KSSG1-29 J10 ● KSSG1-29 J12 ● KSSG1-29 J14 ● KSSG1-29 J15

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).

② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Areas of products which have been re-worked will not be black oxide coated.

⑤ For products having a tapped hole, a set screw is included.

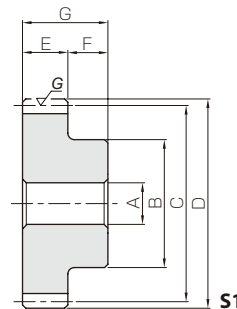
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998) JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

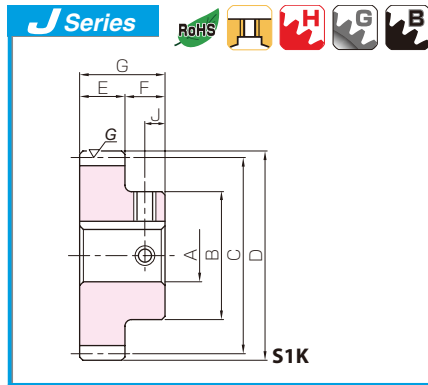


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway		
				AH7	B	C	D	E	F	G	WidthxDepth		
KSSG1-30 ● KSSG1-30 J10 ● KSSG1-30 J12 ● KSSG1-30 J14 ● KSSG1-30 J15	m1	30	S1	10							—		
			S1K	10							4 x 1.8		
			S1K	12	25	30	32	8	10	18	4 x 1.8		
			S1K	14							5 x 2.3		
			S1K	15							5 x 2.3		
		KSSG1-32 ● KSSG1-32 J10 ● KSSG1-32 J12 ● KSSG1-32 J14 ● KSSG1-32 J15	32	S1	10								—
				S1K	10							4 x 1.8	
				S1K	12	25	32	34	8	10	18	4 x 1.8	
				S1K	14							5 x 2.3	
				S1K	15							5 x 2.3	
		KSSG1-34 ● KSSG1-34 J10 ● KSSG1-34 J12 ● KSSG1-34 J14 ● KSSG1-34 J15	34	S1	10								—
				S1K	10							4 x 1.8	
S1K	12			25	34	36	8	10	18	4 x 1.8			
S1K	14									5 x 2.3			
S1K	15									5 x 2.3			
KSSG1-35 ● KSSG1-35 J10 ● KSSG1-35 J12 ● KSSG1-35 J14 ● KSSG1-35 J15	35	S1	10								—		
		S1K	10							4 x 1.8			
		S1K	12	25	35	37	8	10	18	4 x 1.8			
		S1K	14							5 x 2.3			
		S1K	15							5 x 2.3			
KSSG1-36 ● KSSG1-36 J10 ● KSSG1-36 J12 ● KSSG1-36 J14 ● KSSG1-36 J15	36	S1	10								—		
		S1K	10							4 x 1.8			
		S1K	12	25	36	38	8	10	18	4 x 1.8			
		S1K	14							5 x 2.3			
		S1K	15							5 x 2.3			
KSSG1-38 ● KSSG1-38 J10 ● KSSG1-38 J12 ● KSSG1-38 J14 ● KSSG1-38 J15 ● KSSG1-38 J16 ● KSSG1-38 J17 ● KSSG1-38 J18	38	S1	10								—		
		S1K	10							4 x 1.8			
		S1K	12							4 x 1.8			
		S1K	14							5 x 2.3			
		S1K	15	30	38	40	8	10	18	5 x 2.3			
		S1K	16							5 x 2.3			
		S1K	17							5 x 2.3			
		S1K	18							6 x 2.8			
KSSG1-40 ● KSSG1-40 J10 ● KSSG1-40 J12 ● KSSG1-40 J14 ● KSSG1-40 J15 ● KSSG1-40 J16 ● KSSG1-40 J17 ● KSSG1-40 J18	40	S1	10								—		
		S1K	10							4 x 1.8			
		S1K	12							4 x 1.8			
		S1K	14							5 x 2.3			
		S1K	15	30	40	42	8	10	18	5 x 2.3			
		S1K	16							5 x 2.3			
		S1K	17							5 x 2.3			
		S1K	18							6 x 2.8			
KSSG1-42 ● KSSG1-42 J10 ● KSSG1-42 J12 ● KSSG1-42 J14 ● KSSG1-42 J15 ● KSSG1-42 J16 ● KSSG1-42 J17 ● KSSG1-42 J18	42	S1	10								—		
		S1K	10							4 x 1.8			
		S1K	12							4 x 1.8			
		S1K	14							5 x 2.3			
		S1K	15	30	42	44	8	10	18	5 x 2.3			
		S1K	16							5 x 2.3			
		S1K	17							5 x 2.3			
		S1K	18							6 x 2.8			
KSSG1-44 ● KSSG1-44 J10 ● KSSG1-44 J12 ● KSSG1-44 J14 ● KSSG1-44 J15 ● KSSG1-44 J16 ● KSSG1-44 J17 ● KSSG1-44 J18	44	S1	10								—		
		S1K	10							4 x 1.8			
		S1K	12							4 x 1.8			
		S1K	14							5 x 2.3			
		S1K	15	30	44	46	8	10	18	5 x 2.3			
		S1K	16							5 x 2.3			
		S1K	17							5 x 2.3			
		S1K	18							6 x 2.8			

No. of Teeth available

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100	120
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	—	—
M4	5	8.11	4.48	0.83	0.46	0.08~0.16	0.072 0.070 0.065 0.059 0.056	KSSG1-30 ●KSSG1-30 J10 ●KSSG1-30 J12 ●KSSG1-30 J14 ●KSSG1-30 J15
M4	5							
M4	5							
M4	5							
M4	5	7.37	4.27	0.75	0.43	0.08~0.16	0.078 0.076 0.071 0.065 0.062	KSSG1-32 ●KSSG1-32 J10 ●KSSG1-32 J12 ●KSSG1-32 J14 ●KSSG1-32 J15
M4	5							
M4	5							
M4	5							
M4	5	7.98	4.84	0.81	0.49	0.08~0.16	0.084 0.083 0.078 0.072 0.069	KSSG1-34 ●KSSG1-34 J10 ●KSSG1-34 J12 ●KSSG1-34 J14 ●KSSG1-34 J15
M4	5							
M4	5							
M4	5							
M4	5	8.28	5.14	0.84	0.52	0.08~0.16	0.088 0.086 0.081 0.075 0.072	KSSG1-35 ●KSSG1-35 J10 ●KSSG1-35 J12 ●KSSG1-35 J14 ●KSSG1-35 J15
M4	5							
M4	5							
M4	5							
M4	5	8.59	5.45	0.88	0.56	0.08~0.16	0.091 0.089 0.085 0.079 0.075	KSSG1-36 ●KSSG1-36 J10 ●KSSG1-36 J12 ●KSSG1-36 J14 ●KSSG1-36 J15
M4	5							
M4	5							
M4	5							
M4	5	9.21	6.10	0.94	0.62	0.08~0.16	0.12 0.11 0.11 0.10 0.099 0.096 0.092 0.087	KSSG1-38 ●KSSG1-38 J10 ●KSSG1-38 J12 ●KSSG1-38 J14 ●KSSG1-38 J15 ●KSSG1-38 J16 ●KSSG1-38 J17 ●KSSG1-38 J18
M4	5							
M4	5							
M4	5							
M4	5							
M5	5							
M4	5	9.83	6.79	1.00	0.69	0.08~0.16	0.12 0.12 0.12 0.11 0.11 0.10 0.10 0.10	KSSG1-40 ●KSSG1-40 J10 ●KSSG1-40 J12 ●KSSG1-40 J14 ●KSSG1-40 J15 ●KSSG1-40 J16 ●KSSG1-40 J17 ●KSSG1-40 J18
M4	5							
M4	5							
M4	5							
M4	5							
M5	5							
M4	5	10.5	7.51	1.07	0.77	0.08~0.16	0.13 0.13 0.12 0.12 0.12 0.11 0.11 0.10	KSSG1-42 ●KSSG1-42 J10 ●KSSG1-42 J12 ●KSSG1-42 J14 ●KSSG1-42 J15 ●KSSG1-42 J16 ●KSSG1-42 J17 ●KSSG1-42 J18
M4	5							
M4	5							
M4	5							
M4	5							
M5	5							
M4	5	11.1	8.28	1.13	0.84	0.08~0.16	0.14 0.14 0.13 0.13 0.12 0.12 0.12 0.11	KSSG1-44 ●KSSG1-44 J10 ●KSSG1-44 J12 ●KSSG1-44 J14 ●KSSG1-44 J15 ●KSSG1-44 J16 ●KSSG1-44 J17 ●KSSG1-44 J18
M4	5							
M4	5							
M4	5							
M4	5							
M5	5							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been reworked will not be black oxide coated.
- ⑤ For products having a tapped hole, a set screw is included.

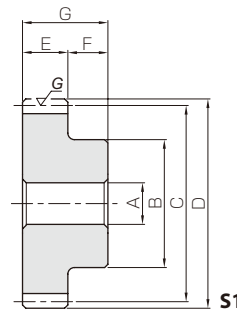
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

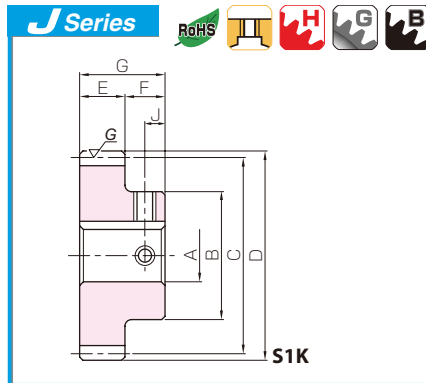


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. <small>●: J Series (Available-on-request)</small>	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSSG1-45	m1	45	S1	10	30	45	47	8	10	18	—
●KSSG1-45 J10			S1K	10							4 x 1.8
●KSSG1-45 J12			S1K	12							4 x 1.8
●KSSG1-45 J14			S1K	14							5 x 2.3
●KSSG1-45 J15			S1K	15							5 x 2.3
●KSSG1-45 J16			S1K	16							5 x 2.3
●KSSG1-45 J17			S1K	17							5 x 2.3
●KSSG1-45 J18			S1K	18							6 x 2.8
KSSG1-48		48	S1	10	30	48	50	8	10	18	—
●KSSG1-48 J10			S1K	10							4 x 1.8
●KSSG1-48 J12			S1K	12							4 x 1.8
●KSSG1-48 J14			S1K	14							5 x 2.3
●KSSG1-48 J15			S1K	15							5 x 2.3
●KSSG1-48 J16			S1K	16							5 x 2.3
●KSSG1-48 J17			S1K	17							5 x 2.3
●KSSG1-48 J18			S1K	18							6 x 2.8
KSSG1-50		50	S1	12	35	50	52	8	10	18	—
●KSSG1-50 J12			S1K	12							4 x 1.8
●KSSG1-50 J14	S1K		14	5 x 2.3							
●KSSG1-50 J15	S1K		15	5 x 2.3							
●KSSG1-50 J16	S1K		16	5 x 2.3							
●KSSG1-50 J17	S1K		17	5 x 2.3							
●KSSG1-50 J18	S1K		18	6 x 2.8							
●KSSG1-50 J19	S1K		19	6 x 2.8							
●KSSG1-50 J20	S1K	20	6 x 2.8								
KSSG1-55	55	S1	12	35	55	57	8	10	18	—	
●KSSG1-55 J12		S1K	12							4 x 1.8	
●KSSG1-55 J14		S1K	14							5 x 2.3	
●KSSG1-55 J15		S1K	15							5 x 2.3	
●KSSG1-55 J16		S1K	16							5 x 2.3	
●KSSG1-55 J17		S1K	17							5 x 2.3	
●KSSG1-55 J18		S1K	18							6 x 2.8	
●KSSG1-55 J19		S1K	19							6 x 2.8	
●KSSG1-55 J20	S1K	20	6 x 2.8								
KSSG1-56	56	S1	12	35	56	58	8	10	18	—	
●KSSG1-56 J12		S1K	12							4 x 1.8	
●KSSG1-56 J14		S1K	14							5 x 2.3	
●KSSG1-56 J15		S1K	15							5 x 2.3	
●KSSG1-56 J16		S1K	16							5 x 2.3	
●KSSG1-56 J17		S1K	17							5 x 2.3	
●KSSG1-56 J18		S1K	18							6 x 2.8	
●KSSG1-56 J19		S1K	19							6 x 2.8	
●KSSG1-56 J20	S1K	20	6 x 2.8								
KSSG1-60	60	S1	12	40	60	62	8	10	18	—	
●KSSG1-60 J12		S1K	12							4 x 1.8	
●KSSG1-60 J14		S1K	14							5 x 2.3	
●KSSG1-60 J15		S1K	15							5 x 2.3	
●KSSG1-60 J16		S1K	16							5 x 2.3	
●KSSG1-60 J17		S1K	17							5 x 2.3	
●KSSG1-60 J18		S1K	18							6 x 2.8	
●KSSG1-60 J19		S1K	19							6 x 2.8	
●KSSG1-60 J20		S1K	20							6 x 2.8	
●KSSG1-60 J22		S1K	22							6 x 2.8	

No. of Teeth available

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100	120
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw Size	J	Allowable torque(N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
		Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.14	KSSG1-45
M4	5						0.14	● KSSG1-45 J10
M4	5						0.14	● KSSG1-45 J12
M4	5	11.4	8.67	1.16	0.88	0.08~0.16	0.13	● KSSG1-45 J14
M4	5						0.13	● KSSG1-45 J15
M4	5						0.12	● KSSG1-45 J16
M4	5						0.12	● KSSG1-45 J17
M5	5						0.12	● KSSG1-45 J18
—	—						0.16	KSSG1-48
M4	5						0.16	● KSSG1-48 J10
M4	5						0.15	● KSSG1-48 J12
M4	5	12.3	9.92	1.26	1.01	0.08~0.16	0.14	● KSSG1-48 J14
M4	5						0.14	● KSSG1-48 J15
M4	5						0.14	● KSSG1-48 J16
M4	5						0.14	● KSSG1-48 J17
M5	5						0.13	● KSSG1-48 J18
—	—						0.18	KSSG1-50
M4	5						0.18	● KSSG1-50 J12
M4	5						0.17	● KSSG1-50 J14
M4	5	13.0	10.8	1.32	1.10	0.08~0.16	0.17	● KSSG1-50 J15
M4	5						0.17	● KSSG1-50 J16
M4	5						0.16	● KSSG1-50 J17
M5	5						0.16	● KSSG1-50 J18
M5	5						0.15	● KSSG1-50 J19
M5	5						0.15	● KSSG1-50 J20
—	—						0.21	KSSG1-55
M4	5						0.21	● KSSG1-55 J12
M4	5						0.20	● KSSG1-55 J14
M4	5	14.6	13.2	1.48	1.34	0.10~0.18	0.20	● KSSG1-55 J15
M4	5						0.19	● KSSG1-55 J16
M4	5						0.19	● KSSG1-55 J17
M5	5						0.18	● KSSG1-55 J18
M5	5						0.18	● KSSG1-55 J19
M5	5						0.18	● KSSG1-55 J20
—	—						0.21	KSSG1-56
M4	5						0.21	● KSSG1-56 J12
M4	5						0.21	● KSSG1-56 J14
M4	5	14.9	13.7	1.52	1.40	0.10~0.18	0.20	● KSSG1-56 J15
M4	5						0.20	● KSSG1-56 J16
M4	5						0.20	● KSSG1-56 J17
M5	5						0.19	● KSSG1-56 J18
M5	5						0.19	● KSSG1-56 J19
M5	5						0.18	● KSSG1-56 J20
—	—						0.26	KSSG1-60
M4	5						0.26	● KSSG1-60 J12
M4	5						0.25	● KSSG1-60 J14
M4	5	16.2	15.8	1.65	1.61	0.10~0.18	0.25	● KSSG1-60 J15
M4	5						0.24	● KSSG1-60 J16
M4	5						0.24	● KSSG1-60 J17
M5	5						0.24	● KSSG1-60 J18
M5	5						0.23	● KSSG1-60 J19
M5	5						0.23	● KSSG1-60 J20
M5	5						0.22	● KSSG1-60 J22

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ For products having a tapped hole, a set screw is included.

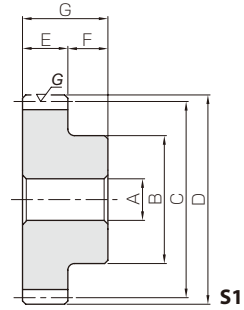
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

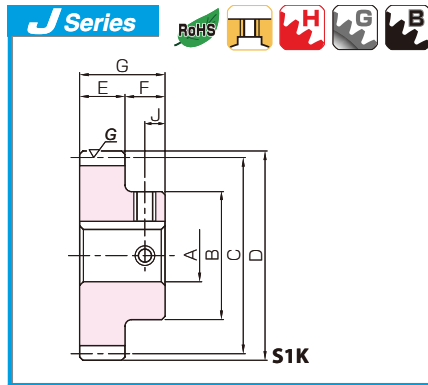


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSSG1-64 ●KSSG1-64 J12 ●KSSG1-64 J14 ●KSSG1-64 J15 ●KSSG1-64 J16 ●KSSG1-64 J17 ●KSSG1-64 J18 ●KSSG1-64 J19 ●KSSG1-64 J20 ●KSSG1-64 J22	m1	64	S1	12	40	64	66	8	10	18	—
			S1K	12							4 x 1.8
			S1K	14							5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
KSSG1-70 ●KSSG1-70 J12 ●KSSG1-70 J14 ●KSSG1-70 J15 ●KSSG1-70 J16 ●KSSG1-70 J17 ●KSSG1-70 J18 ●KSSG1-70 J19 ●KSSG1-70 J20 ●KSSG1-70 J22	m1	70	S1	12	40	70	72	8	10	18	—
			S1K	12							4 x 1.8
			S1K	14							5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
KSSG1-75 ●KSSG1-75 J12 ●KSSG1-75 J14 ●KSSG1-75 J15 ●KSSG1-75 J16 ●KSSG1-75 J17 ●KSSG1-75 J18 ●KSSG1-75 J19 ●KSSG1-75 J20 ●KSSG1-75 J22	m1	75	S1	12	40	75	77	8	10	18	—
			S1K	12							4 x 1.8
			S1K	14							5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
KSSG1-80 ●KSSG1-80 J15 ●KSSG1-80 J16 ●KSSG1-80 J17 ●KSSG1-80 J18 ●KSSG1-80 J19 ●KSSG1-80 J20 ●KSSG1-80 J22 ●KSSG1-80 J25 ●KSSG1-80 J28 ●KSSG1-80 J30	m1	80	S1	15	50	80	82	8	10	18	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
S1K	30	8 x 3.3									
KSSG1-90 ●KSSG1-90 J15 ●KSSG1-90 J16 ●KSSG1-90 J17 ●KSSG1-90 J18 ●KSSG1-90 J19 ●KSSG1-90 J20 ●KSSG1-90 J22 ●KSSG1-90 J25 ●KSSG1-90 J28 ●KSSG1-90 J30	m1	90	S1	15	50	90	92	8	10	18	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
S1K	30	8 x 3.3									

No. of Teeth available

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100	120
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw Size	J	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
		Bending strength	Surface durability	Bending strength	Surface durability			
—	—	17.4	18.1	1.78	1.84	0.10~0.18	0.28	KSSG1-64
M4	5							● KSSG1-64 J12
M4	5							● KSSG1-64 J14
M4	5							● KSSG1-64 J15
M4	5							● KSSG1-64 J16
M4	5							● KSSG1-64 J17
M5	5							● KSSG1-64 J18
M5	5							● KSSG1-64 J19
M5	5							● KSSG1-64 J20
M5	5	● KSSG1-64 J22						
—	—	19.4	21.8	1.97	2.22	0.10~0.18	0.32	KSSG1-70
M4	5							● KSSG1-70 J12
M4	5							● KSSG1-70 J14
M4	5							● KSSG1-70 J15
M4	5							● KSSG1-70 J16
M4	5							● KSSG1-70 J17
M5	5							● KSSG1-70 J18
M5	5							● KSSG1-70 J19
M5	5							● KSSG1-70 J20
M5	5	● KSSG1-70 J22						
—	—	21.0	25.2	2.14	2.57	0.10~0.18	0.36	KSSG1-75
M4	5							● KSSG1-75 J12
M4	5							● KSSG1-75 J14
M4	5							● KSSG1-75 J15
M4	5							● KSSG1-75 J16
M4	5							● KSSG1-75 J17
M5	5							● KSSG1-75 J18
M5	5							● KSSG1-75 J19
M5	5							● KSSG1-75 J20
M5	5	● KSSG1-75 J22						
—	—	22.6	28.8	2.30	2.94	0.10~0.18	0.44	KSSG1-80
M4*	5							● KSSG1-80 J15
M4*	5							● KSSG1-80 J16
M4*	5							● KSSG1-80 J17
M5	5							● KSSG1-80 J18
M5	5							● KSSG1-80 J19
M5	5							● KSSG1-80 J20
M5	5							● KSSG1-80 J22
M6	5							● KSSG1-80 J25
M6	5	● KSSG1-80 J28						
M6	5	● KSSG1-80 J30						
—	—	25.8	36.9	2.64	3.77	0.10~0.18	0.53	KSSG1-90
M4*	5							● KSSG1-90 J15
M4*	5							● KSSG1-90 J16
M4*	5							● KSSG1-90 J17
M5	5							● KSSG1-90 J18
M5	5							● KSSG1-90 J19
M5	5							● KSSG1-90 J20
M5	5							● KSSG1-90 J22
M6	5							● KSSG1-90 J25
M6	5							● KSSG1-90 J28
M6	5							● KSSG1-90 J30

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

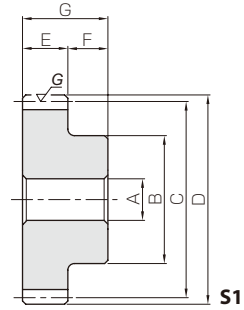
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

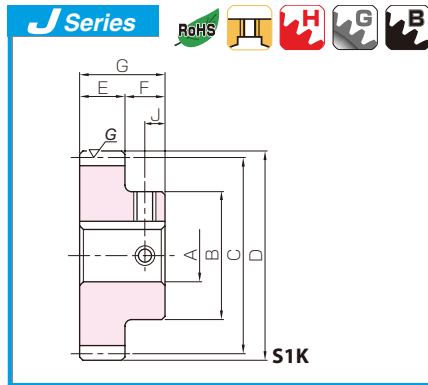
Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG1-100 ● KSSG1-100 J15 ● KSSG1-100 J16 ● KSSG1-100 J17 ● KSSG1-100 J18 ● KSSG1-100 J19 ● KSSG1-100 J20 ● KSSG1-100 J22 ● KSSG1-100 J25 ● KSSG1-100 J28 ● KSSG1-100 J30	m1	100	S1	15	50	100	102	8	10	18	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
S1K	30	8 x 3.3									
KSSG1-120 ● KSSG1-120 J15 ● KSSG1-120 J16 ● KSSG1-120 J17 ● KSSG1-120 J18 ● KSSG1-120 J19 ● KSSG1-120 J20 ● KSSG1-120 J22 ● KSSG1-120 J25 ● KSSG1-120 J28 ● KSSG1-120 J30	m1	120	S1	15	50	120	122	8	10	18	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
S1K	30	8 x 3.3									

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

No. of Teeth available

15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100	120
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque(kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.62	KSSG1-100
M4*	5						0.62	● KSSG1-100 J15
M4*	5						0.61	● KSSG1-100 J16
M4*	5						0.61	● KSSG1-100 J17
M5	5						0.61	● KSSG1-100 J18
M5	5	26.9	42.5	2.74	4.34	0.10~0.18	0.60	● KSSG1-100 J19
M5	5						0.60	● KSSG1-100 J20
M5	5						0.59	● KSSG1-100 J22
M6	5						0.57	● KSSG1-100 J25
M6	5						0.55	● KSSG1-100 J28
M6	5						0.54	● KSSG1-100 J30
—	—						0.84	KSSG1-120
M4*	5						0.83	● KSSG1-120 J15
M4*	5						0.83	● KSSG1-120 J16
M4*	5						0.83	● KSSG1-120 J17
M5	5	32.9	62.5	3.36	6.37	0.12~0.20	0.82	● KSSG1-120 J18
M5	5						0.82	● KSSG1-120 J19
M5	5						0.81	● KSSG1-120 J20
M5	5						0.81	● KSSG1-120 J22
M6	5						0.79	● KSSG1-120 J25
M6	5						0.77	● KSSG1-120 J28
M6	5						0.76	● KSSG1-120 J30

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

KGCU-S Spur Gear Kit



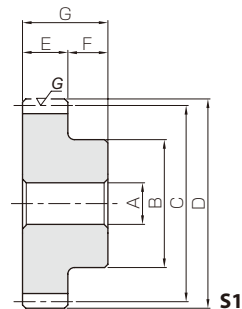
Installment : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

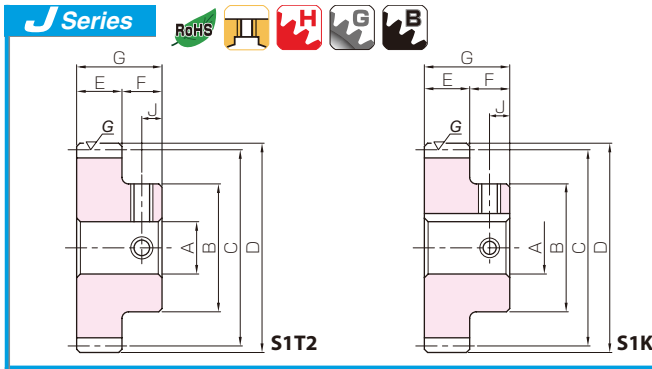


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG1.5-14 ● KSSG1.5-14 J10 KSSG1.5-15 ● KSSG1.5-15 J10 KSSG1.5-16 ● KSSG1.5-16 J10 KSSG1.5-17 ● KSSG1.5-17 J10 ● KSSG1.5-17 J12 KSSG1.5-18 ● KSSG1.5-18 J10 ● KSSG1.5-18 J12 KSSG1.5-19 ● KSSG1.5-19 J10 ● KSSG1.5-19 J12 KSSG1.5-20 ● KSSG1.5-20 J10 ● KSSG1.5-20 J12 ● KSSG1.5-20 J14 KSSG1.5-21 ● KSSG1.5-21 J10 ● KSSG1.5-21 J12 ● KSSG1.5-21 J14 ● KSSG1.5-21 J15 KSSG1.5-22 ● KSSG1.5-22 J12 ● KSSG1.5-22 J14 ● KSSG1.5-22 J15 KSSG1.5-23 ● KSSG1.5-23 J12 ● KSSG1.5-23 J14 ● KSSG1.5-23 J15 ● KSSG1.5-23 J16 KSSG1.5-24 ● KSSG1.5-24 J12 ● KSSG1.5-24 J14 ● KSSG1.5-24 J15 ● KSSG1.5-24 J16 KSSG1.5-25 ● KSSG1.5-25 J12 ● KSSG1.5-25 J14 ● KSSG1.5-25 J15 ● KSSG1.5-25 J16 ● KSSG1.5-25 J17 ● KSSG1.5-25 J18 KSSG1.5-26 ● KSSG1.5-26 J12 ● KSSG1.5-26 J14 ● KSSG1.5-26 J15 ● KSSG1.5-26 J16 ● KSSG1.5-26 J17 ● KSSG1.5-26 J18	m1.5	14	S1 S1T2	10 10	17	21	24	15	14	29	— —
		15	S1 S1T2	10 10	18	22.5	25.5	15	14	29	— 4 x 1.8
		16	S1 S1K	10 10	20	24	27	15	14	29	— 4 x 1.8
		17	S1 S1K S1K	10 10 12	21	25.5	28.5	15	14	29	— 4 x 1.8 4 x 1.8
		18	S1 S1K S1K	10 10 12	22	27	30	15	14	29	— 4 x 1.8 4 x 1.8
		19	S1 S1K S1K	10 10 12	23	28.5	31.5	15	14	29	— 4 x 1.8 4 x 1.8
		20	S1 S1K S1K S1K	10 10 12 14	24	30	33	15	14	29	— 4 x 1.8 4 x 1.8 5 x 2.3
		21	S1 S1K S1K S1K S1K	10 10 12 14 15	25	31.5	34.5	15	14	29	— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3
		22	S1 S1K S1K S1K	12 12 14 15	26	33	36	15	14	29	— 4 x 1.8 5 x 2.3 5 x 2.3
		23	S1 S1K S1K S1K S1K	12 12 14 15 16	27	34.5	37.5	15	14	29	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3
		24	S1 S1K S1K S1K S1K	12 12 14 15 16	28	36	39	15	14	29	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3
		25	S1 S1K S1K S1K S1K S1K	12 12 14 15 16 17 18	30	37.5	40.5	15	14	29	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8
		26	S1 S1K S1K S1K S1K S1K	12 12 14 15 16 17 18	32	39	42	15	14	29	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	11.1	3.73	1.13	0.38	0.08~0.16	0.048 0.046	KSSG1.5-14 ●KSSG1.5-14 J10
M4	7	12.5	4.35	1.27	0.44	0.08~0.16	0.057 0.055	KSSG1.5-15 ●KSSG1.5-15 J10
—	—	13.8	5.02	1.41	0.51	0.08~0.16	0.070 0.068	KSSG1.5-16 ●KSSG1.5-16 J10
M4	7	15.2	5.74	1.55	0.58	0.08~0.16	0.080 0.078 0.070	KSSG1.5-17 ●KSSG1.5-17 J10 ●KSSG1.5-17 J12
—	—	16.6	6.51	1.69	0.66	0.08~0.16	0.091 0.089 0.081	KSSG1.5-18 ●KSSG1.5-18 J10 ●KSSG1.5-18 J12
M4	7	18.0	7.33	1.83	0.75	0.08~0.16	0.10 0.10 0.093	KSSG1.5-19 ●KSSG1.5-19 J10 ●KSSG1.5-19 J12
—	—	19.4	8.20	1.98	0.84	0.08~0.16	0.12 0.11 0.10 0.095	KSSG1.5-20 ●KSSG1.5-20 J10 ●KSSG1.5-20 J12 ●KSSG1.5-20 J14
M4	7	20.8	9.12	2.12	0.93	0.08~0.16	0.13	KSSG1.5-21
M4	7						0.13	●KSSG1.5-21 J10
M4	7						0.12	●KSSG1.5-21 J12
M4	7						0.11	●KSSG1.5-21 J14
M4	7						0.10	●KSSG1.5-21 J15
—	—	18.6	8.41	1.89	0.86	0.08~0.16	0.13	KSSG1.5-22
M4	7						0.13	●KSSG1.5-22 J12
M4	7						0.12	●KSSG1.5-22 J14
M4	7						0.12	●KSSG1.5-22 J15
—	—	19.8	9.27	2.02	0.95	0.08~0.16	0.15	KSSG1.5-23
M4	7						0.14	●KSSG1.5-23 J12
M4	7						0.13	●KSSG1.5-23 J14
M4	7						0.13	●KSSG1.5-23 J15
M4	7						0.12	●KSSG1.5-23 J16
—	—	21.0	10.2	2.14	1.04	0.08~0.16	0.16	KSSG1.5-24
M4	7						0.16	●KSSG1.5-24 J12
M4	7						0.15	●KSSG1.5-24 J14
M4	7						0.14	●KSSG1.5-24 J15
M4	7						0.14	●KSSG1.5-24 J16
—	—	22.2	11.1	2.27	1.13	0.08~0.16	0.18	KSSG1.5-25
M4	7						0.18	●KSSG1.5-25 J12
M4	7						0.17	●KSSG1.5-25 J14
M4	7						0.16	●KSSG1.5-25 J15
M4	7						0.16	●KSSG1.5-25 J16
M4	7						0.15	●KSSG1.5-25 J17
M5	7	0.15	●KSSG1.5-25 J18					
—	—	23.5	12.1	2.39	1.23	0.08~0.16	0.20	KSSG1.5-26
M4	7						0.20	●KSSG1.5-26 J12
M4	7						0.19	●KSSG1.5-26 J14
M4	7						0.19	●KSSG1.5-26 J15
M4	7						0.18	●KSSG1.5-26 J16
M4	7						0.17	●KSSG1.5-26 J17
M5	7	0.17	●KSSG1.5-26 J18					

*Please see book one for additional products in these modules.



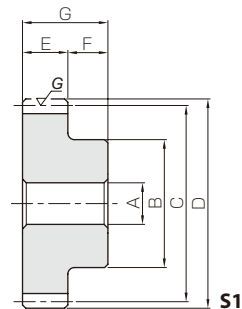


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

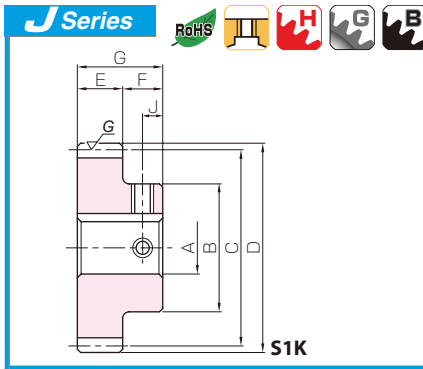
* The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway									
				A _{H7}	B	C	D	E	F	G	WidthxDepth									
KSSG1.5-27 ●KSSG1.5-27 J15 ●KSSG1.5-27 J16 ●KSSG1.5-27 J17 ●KSSG1.5-27 J18 ●KSSG1.5-27 J19 ●KSSG1.5-27 J20	m1.5	27	S1	15	34	40.5	43.5	15	14	29	—									
			S1K	15							5 x 2.3									
			S1K	16							5 x 2.3									
			S1K	17							5 x 2.3									
			S1K	18							6 x 2.8									
			S1K	19							6 x 2.8									
			S1K	20							6 x 2.8									
			KSSG1.5-28 ●KSSG1.5-28 J15 ●KSSG1.5-28 J16 ●KSSG1.5-28 J17 ●KSSG1.5-28 J18 ●KSSG1.5-28 J19 ●KSSG1.5-28 J20	m1.5							28	S1	15	36	42	45	15	14	29	—
												S1K	15							5 x 2.3
												S1K	16							5 x 2.3
S1K	17	5 x 2.3																		
S1K	18	6 x 2.8																		
S1K	19	6 x 2.8																		
S1K	20	6 x 2.8																		
KSSG1.5-29 ●KSSG1.5-29 J15 ●KSSG1.5-29 J16 ●KSSG1.5-29 J17 ●KSSG1.5-29 J18 ●KSSG1.5-29 J19 ●KSSG1.5-29 J20 ●KSSG1.5-29 J22	m1.5	29			S1	15	37	43.5	46.5	15		14	29							—
					S1K	15														5 x 2.3
					S1K	16														5 x 2.3
			S1K	17	5 x 2.3															
			S1K	18	6 x 2.8															
			S1K	19	6 x 2.8															
			S1K	20	6 x 2.8															
			S1K	22	6 x 2.8															
			KSSG1.5-30 ●KSSG1.5-30 J15 ●KSSG1.5-30 J16 ●KSSG1.5-30 J17 ●KSSG1.5-30 J18 ●KSSG1.5-30 J19 ●KSSG1.5-30 J20 ●KSSG1.5-30 J22	m1.5	30	S1					15			38	45	48	15	14	29	—
						S1K					15									5 x 2.3
S1K	16	5 x 2.3																		
S1K	17	5 x 2.3																		
S1K	18	6 x 2.8																		
S1K	19	6 x 2.8																		
S1K	20	6 x 2.8																		
S1K	22	6 x 2.8																		
KSSG1.5-32 ●KSSG1.5-32 J15 ●KSSG1.5-32 J16 ●KSSG1.5-32 J17 ●KSSG1.5-32 J18 ●KSSG1.5-32 J19 ●KSSG1.5-32 J20 ●KSSG1.5-32 J22	m1.5	32				S1	15	40	48	51	15	14	29							—
						S1K	15													5 x 2.3
			S1K	16	5 x 2.3															
			S1K	17	5 x 2.3															
			S1K	18	6 x 2.8															
			S1K	19	6 x 2.8															
			S1K	20	6 x 2.8															
			S1K	22	6 x 2.8															
			KSSG1.5-34 ●KSSG1.5-34 J15 ●KSSG1.5-34 J16 ●KSSG1.5-34 J17 ●KSSG1.5-34 J18 ●KSSG1.5-34 J19 ●KSSG1.5-34 J20 ●KSSG1.5-34 J22 ●KSSG1.5-34 J25	m1.5	34	S1	15							42	51	54	15	14	29	—
						S1K	15													5 x 2.3
S1K	16	5 x 2.3																		
S1K	17	5 x 2.3																		
S1K	18	6 x 2.8																		
S1K	19	6 x 2.8																		
S1K	20	6 x 2.8																		
S1K	22	6 x 2.8																		
S1K	25	8 x 3.3																		
KSSG1.5-35 ●KSSG1.5-35 J15 ●KSSG1.5-35 J16 ●KSSG1.5-35 J17 ●KSSG1.5-35 J18 ●KSSG1.5-35 J19 ●KSSG1.5-35 J20 ●KSSG1.5-35 J22 ●KSSG1.5-35 J25	m1.5	35				S1	15	42	52.5	55.5	15	14	29							—
			S1K	15	5 x 2.3															
			S1K	16	5 x 2.3															
			S1K	17	5 x 2.3															
			S1K	18	6 x 2.8															
			S1K	19	6 x 2.8															
			S1K	20	6 x 2.8															
			S1K	22	6 x 2.8															
			S1K	25	8 x 3.3															

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	24.7	13.1	2.52	1.33	0.08~0.16	0.21 0.21 0.20 0.20 0.19 0.18 0.18	KSSG1.5-27 ●KSSG1.5-27 J15 ●KSSG1.5-27 J16 ●KSSG1.5-27 J17 ●KSSG1.5-27 J18 ●KSSG1.5-27 J19 ●KSSG1.5-27 J20
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
—	—	26.0	14.1	2.65	1.44	0.08~0.16	0.23 0.23 0.22 0.21 0.21 0.20	KSSG1.5-28 ●KSSG1.5-28 J15 ●KSSG1.5-28 J16 ●KSSG1.5-28 J17 ●KSSG1.5-28 J18 ●KSSG1.5-28 J19 ●KSSG1.5-28 J20
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
—	—	27.3	15.2	2.78	1.55	0.08~0.16	0.25 0.25 0.24 0.24 0.23 0.22 0.22 0.20	KSSG1.5-29 ●KSSG1.5-29 J15 ●KSSG1.5-29 J16 ●KSSG1.5-29 J17 ●KSSG1.5-29 J18 ●KSSG1.5-29 J19 ●KSSG1.5-29 J20 ●KSSG1.5-29 J22
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
—	—	28.5	16.3	2.91	1.66	0.08~0.16	0.27 0.27 0.26 0.26 0.25 0.24 0.24 0.22	KSSG1.5-30 ●KSSG1.5-30 J15 ●KSSG1.5-30 J16 ●KSSG1.5-30 J17 ●KSSG1.5-30 J18 ●KSSG1.5-30 J19 ●KSSG1.5-30 J20 ●KSSG1.5-30 J22
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
—	—	31.1	18.6	3.17	1.90	0.08~0.16	0.31 0.31 0.30 0.30 0.29 0.28 0.27 0.26	KSSG1.5-32 ●KSSG1.5-32 J15 ●KSSG1.5-32 J16 ●KSSG1.5-32 J17 ●KSSG1.5-32 J18 ●KSSG1.5-32 J19 ●KSSG1.5-32 J20 ●KSSG1.5-32 J22
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
—	—	33.6	21.1	3.43	2.15	0.10~0.18	0.35 0.35 0.34 0.34 0.33 0.32 0.32 0.32 0.30 0.27	KSSG1.5-34 ●KSSG1.5-34 J15 ●KSSG1.5-34 J16 ●KSSG1.5-34 J17 ●KSSG1.5-34 J18 ●KSSG1.5-34 J19 ●KSSG1.5-34 J20 ●KSSG1.5-34 J22 ●KSSG1.5-34 J25
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
—	—	34.9	22.4	3.56	2.29	0.10~0.18	0.37 0.36 0.36 0.35 0.34 0.34 0.33 0.31 0.29	KSSG1.5-35 ●KSSG1.5-35 J15 ●KSSG1.5-35 J16 ●KSSG1.5-35 J17 ●KSSG1.5-35 J18 ●KSSG1.5-35 J19 ●KSSG1.5-35 J20 ●KSSG1.5-35 J22 ●KSSG1.5-35 J25
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ For products having a tapped hole, a set screw is included.

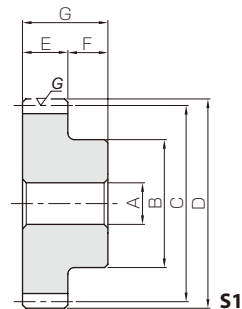
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

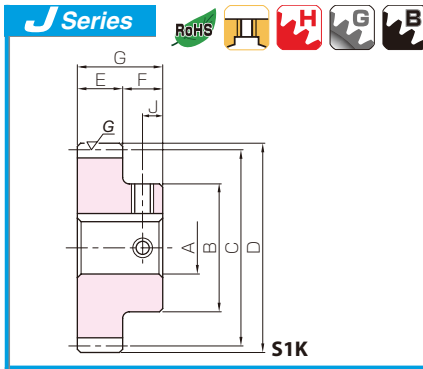


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG1.5-36	m1.5	36	S1	15	45	54	57	15	14	29	—
●KSSG1.5-36 J15			S1K	15							5 x 2.3
●KSSG1.5-36 J16			S1K	16							5 x 2.3
●KSSG1.5-36 J17			S1K	17							5 x 2.3
●KSSG1.5-36 J18			S1K	18							6 x 2.8
●KSSG1.5-36 J19			S1K	19							6 x 2.8
●KSSG1.5-36 J20			S1K	20							6 x 2.8
●KSSG1.5-36 J22			S1K	22							6 x 2.8
●KSSG1.5-36 J25			S1K	25							8 x 3.3
KSSG1.5-38		38	S1	15	45	57	60	15	14	29	—
●KSSG1.5-38 J15			S1K	15							5 x 2.3
●KSSG1.5-38 J16			S1K	16							5 x 2.3
●KSSG1.5-38 J17			S1K	17							5 x 2.3
●KSSG1.5-38 J18			S1K	18							6 x 2.8
●KSSG1.5-38 J19			S1K	19							6 x 2.8
●KSSG1.5-38 J20			S1K	20							6 x 2.8
●KSSG1.5-38 J22			S1K	22							6 x 2.8
●KSSG1.5-38 J25			S1K	25							8 x 3.3
KSSG1.5-40		40	S1	15	50	60	63	15	14	29	—
●KSSG1.5-40 J15			S1K	15							5 x 2.3
●KSSG1.5-40 J16			S1K	16							5 x 2.3
●KSSG1.5-40 J17			S1K	17							5 x 2.3
●KSSG1.5-40 J18			S1K	18							6 x 2.8
●KSSG1.5-40 J19			S1K	19							6 x 2.8
●KSSG1.5-40 J20			S1K	20							6 x 2.8
●KSSG1.5-40 J22	S1K		22	6 x 2.8							
●KSSG1.5-40 J25	S1K		25	8 x 3.3							
●KSSG1.5-40 J28	S1K	28	8 x 3.3								
●KSSG1.5-40 J30	S1K	30	8 x 3.3								
KSSG1.5-42	42	S1	15	50	63	66	15	14	29	—	
●KSSG1.5-42 J15		S1K	15							5 x 2.3	
●KSSG1.5-42 J16		S1K	16							5 x 2.3	
●KSSG1.5-42 J17		S1K	17							5 x 2.3	
●KSSG1.5-42 J18		S1K	18							6 x 2.8	
●KSSG1.5-42 J19		S1K	19							6 x 2.8	
●KSSG1.5-42 J20		S1K	20							6 x 2.8	
●KSSG1.5-42 J22		S1K	22							6 x 2.8	
●KSSG1.5-42 J25		S1K	25							8 x 3.3	
●KSSG1.5-42 J28	S1K	28	8 x 3.3								
●KSSG1.5-42 J30	S1K	30	8 x 3.3								
KSSG1.5-44	44	S1	15	50	66	69	15	14	29	—	
●KSSG1.5-44 J15		S1K	15							5 x 2.3	
●KSSG1.5-44 J16		S1K	16							5 x 2.3	
●KSSG1.5-44 J17		S1K	17							5 x 2.3	
●KSSG1.5-44 J18		S1K	18							6 x 2.8	
●KSSG1.5-44 J19		S1K	19							6 x 2.8	
●KSSG1.5-44 J20		S1K	20							6 x 2.8	
●KSSG1.5-44 J22		S1K	22							6 x 2.8	
●KSSG1.5-44 J25		S1K	25							8 x 3.3	
●KSSG1.5-44 J28	S1K	28	8 x 3.3								
●KSSG1.5-44 J30	S1K	30	8 x 3.3								

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.40	KSSG1.5-36
M4*	7						0.40	● KSSG1.5-36 J15
M4*	7						0.39	● KSSG1.5-36 J16
M4	7						0.39	● KSSG1.5-36 J17
M5	7	36.2	23.8	3.70	2.43	0.10~0.18	0.38	● KSSG1.5-36 J18
M5	7						0.37	● KSSG1.5-36 J19
M5	7						0.37	● KSSG1.5-36 J20
M5	7						0.35	● KSSG1.5-36 J22
M6	7						0.32	● KSSG1.5-36 J25
—	—						0.44	KSSG1.5-38
M4*	7						0.43	● KSSG1.5-38 J15
M4*	7						0.42	● KSSG1.5-38 J16
M4	7						0.42	● KSSG1.5-38 J17
M5	7	38.8	26.6	3.96	2.71	0.10~0.18	0.41	● KSSG1.5-38 J18
M5	7						0.40	● KSSG1.5-38 J19
M5	7						0.40	● KSSG1.5-38 J20
M5	7						0.38	● KSSG1.5-38 J22
M6	7						0.36	● KSSG1.5-38 J25
—	—						0.51	KSSG1.5-40
M4*	7						0.50	● KSSG1.5-40 J15
M4*	7						0.50	● KSSG1.5-40 J16
M4*	7						0.49	● KSSG1.5-40 J17
M5	7	41.5	29.6	4.23	3.02	0.10~0.18	0.48	● KSSG1.5-40 J18
M5	7						0.48	● KSSG1.5-40 J19
M5	7						0.47	● KSSG1.5-40 J20
M5	7						0.46	● KSSG1.5-40 J22
M6	7						0.43	● KSSG1.5-40 J25
M6	7						0.40	● KSSG1.5-40 J28
M6	7						0.38	● KSSG1.5-40 J30
—	—						0.54	KSSG1.5-42
M4*	7						0.53	● KSSG1.5-42 J15
M4*	7						0.53	● KSSG1.5-42 J16
M4*	7						0.52	● KSSG1.5-42 J17
M5	7	44.1	32.8	4.50	3.35	0.10~0.18	0.52	● KSSG1.5-42 J18
M5	7						0.51	● KSSG1.5-42 J19
M5	7						0.50	● KSSG1.5-42 J20
M5	7						0.49	● KSSG1.5-42 J22
M6	7						0.46	● KSSG1.5-42 J25
M6	7						0.43	● KSSG1.5-42 J28
M6	7						0.41	● KSSG1.5-42 J30
—	—						0.58	KSSG1.5-44
M4*	7						0.57	● KSSG1.5-44 J15
M4*	7						0.57	● KSSG1.5-44 J16
M4*	7						0.56	● KSSG1.5-44 J17
M5	7	46.7	36.2	4.77	3.69	0.10~0.18	0.55	● KSSG1.5-44 J18
M5	7						0.55	● KSSG1.5-44 J19
M5	7						0.54	● KSSG1.5-44 J20
M5	7						0.53	● KSSG1.5-44 J22
M6	7						0.50	● KSSG1.5-44 J25
M6	7						0.47	● KSSG1.5-44 J28
M6	7						0.45	● KSSG1.5-44 J30

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

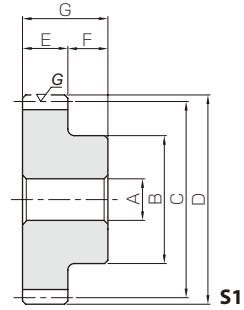
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

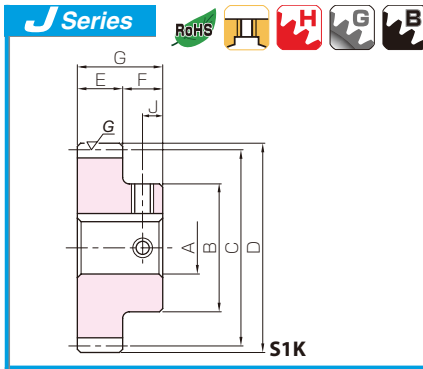


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway		
				AH7	B	C	D	E	F	G	WidthxDepth		
KSSG1.5-45 ●KSSG1.5-45 J18 ●KSSG1.5-45 J19 ●KSSG1.5-45 J20 ●KSSG1.5-45 J22 ●KSSG1.5-45 J25 ●KSSG1.5-45 J28 ●KSSG1.5-45 J30	m1.5	48	S1	18	50	72	75	15	14	29	—		
			S1K	18							6 x 2.8		
			S1K	19							6 x 2.8		
			S1K	20							6 x 2.8		
			S1K	22							6 x 2.8		
			S1K	25							8 x 3.3		
		S1K	28	8 x 3.3									
		S1K	30	8 x 3.3									
		KSSG1.5-48 ●KSSG1.5-48 J18 ●KSSG1.5-48 J19 ●KSSG1.5-48 J20 ●KSSG1.5-48 J22 ●KSSG1.5-48 J25 ●KSSG1.5-48 J28 ●KSSG1.5-48 J30	50	50	S1	18	60	75	78	15	14	29	—
					S1K	18							6 x 2.8
					S1K	19							6 x 2.8
					S1K	20							6 x 2.8
S1K	22				6 x 2.8								
S1K	25				8 x 3.3								
S1K	28	8 x 3.3											
S1K	30	8 x 3.3											
KSSG1.5-50 ●KSSG1.5-50 J18 ●KSSG1.5-50 J19 ●KSSG1.5-50 J20 ●KSSG1.5-50 J22 ●KSSG1.5-50 J25 ●KSSG1.5-50 J28 ●KSSG1.5-50 J30 ●KSSG1.5-50 J32 ●KSSG1.5-50 J35	55	55	S1	18	60	82.5	85.5	15	14	29	—		
			S1K	18							6 x 2.8		
			S1K	19							6 x 2.8		
			S1K	20							6 x 2.8		
			S1K	22							6 x 2.8		
			S1K	25							8 x 3.3		
S1K	28	8 x 3.3											
S1K	30	8 x 3.3											
S1K	32	10 x 3.3											
S1K	35	10 x 3.3											
KSSG1.5-55 ●KSSG1.5-55 J18 ●KSSG1.5-55 J19 ●KSSG1.5-55 J20 ●KSSG1.5-55 J22 ●KSSG1.5-55 J25 ●KSSG1.5-55 J28 ●KSSG1.5-55 J30 ●KSSG1.5-55 J32 ●KSSG1.5-55 J35	56	56	S1	18	60	84	87	15	14	29	—		
			S1K	18							6 x 2.8		
			S1K	19							6 x 2.8		
			S1K	20							6 x 2.8		
			S1K	22							6 x 2.8		
			S1K	25							8 x 3.3		
S1K	28	8 x 3.3											
S1K	30	8 x 3.3											
S1K	32	10 x 3.3											
S1K	35	10 x 3.3											
KSSG1.5-60 ●KSSG1.5-60 J20 ●KSSG1.5-60 J22 ●KSSG1.5-60 J25 ●KSSG1.5-60 J28 ●KSSG1.5-60 J30 ●KSSG1.5-60 J32 ●KSSG1.5-60 J35	60	60	S1	20	60	90	93	15	14	29	—		
			S1K	20							6 x 2.8		
			S1K	22							6 x 2.8		
			S1K	25							8 x 3.3		
			S1K	28							8 x 3.3		
			S1K	30							8 x 3.3		
S1K	32	10 x 3.3											
S1K	35	10 x 3.3											

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)					
Size	J	Bending strength	Surface durability	Bending strength	Surface durability								
—	—						0.58	KSSG1.5-45					
M5	7						0.57	● KSSG1.5-45 J18					
M5	7						0.57	● KSSG1.5-45 J19					
M5	7	48.1	37.9	4.90	3.86	0.10~0.18	0.56	● KSSG1.5-45 J20					
M5	7						0.54	● KSSG1.5-45 J22					
M6	7						0.52	● KSSG1.5-45 J25					
M6	7						0.49	● KSSG1.5-45 J28					
M6	7						0.47	● KSSG1.5-45 J30					
—	—											0.64	KSSG1.5-48
M5	7	52.0	43.4	5.31	4.42	0.10~0.18	0.63	● KSSG1.5-48 J18					
M5	7						0.62	● KSSG1.5-48 J19					
M5	7						0.62	● KSSG1.5-48 J20					
M5	7						0.60	● KSSG1.5-48 J22					
M6	7						0.57	● KSSG1.5-48 J25					
M6	7						0.55	● KSSG1.5-48 J28					
M6	7						0.53	● KSSG1.5-48 J30					
—	—											0.77	KSSG1.5-50
M5*	7	54.7	47.2	5.58	4.82	0.10~0.18	0.76	● KSSG1.5-50 J18					
M5*	7						0.76	● KSSG1.5-50 J19					
M5*	7						0.75	● KSSG1.5-50 J20					
M5*	7						0.73	● KSSG1.5-50 J22					
M6	7						0.71	● KSSG1.5-50 J25					
M6	7						0.68	● KSSG1.5-50 J28					
M6	7						0.66	● KSSG1.5-50 J30					
M8	7						0.63	● KSSG1.5-50 J32					
M8	7						0.60	● KSSG1.5-50 J35					
—	—											0.88	KSSG1.5-55
M5*	7	61.4	57.7	6.26	5.88	0.10~0.18	0.87	● KSSG1.5-55 J18					
M5*	7						0.86	● KSSG1.5-55 J19					
M5*	7						0.86	● KSSG1.5-55 J20					
M5*	7						0.84	● KSSG1.5-55 J22					
M6	7						0.82	● KSSG1.5-55 J25					
M6	7						0.79	● KSSG1.5-55 J28					
M6	7						0.77	● KSSG1.5-55 J30					
M8	7						0.74	● KSSG1.5-55 J32					
M8	7						0.71	● KSSG1.5-55 J35					
—	—											0.91	KSSG1.5-56
M5*	7						62.8	59.9	6.40	6.11	0.10~0.18	0.89	● KSSG1.5-56 J18
M5*	7											0.89	● KSSG1.5-56 J19
M5*	7	0.88	● KSSG1.5-56 J20										
M5*	7	0.87	● KSSG1.5-56 J22										
M6	7	0.84	● KSSG1.5-56 J25										
M6	7	0.81	● KSSG1.5-56 J28										
M6	7	0.79	● KSSG1.5-56 J30										
M8	7	0.77	● KSSG1.5-56 J32										
M8	7	0.73	● KSSG1.5-56 J35										
—	—											0.99	KSSG1.5-60
M5*	7	68.1	69.2	6.95	7.06	0.10~0.18						0.98	● KSSG1.5-60 J20
M5*	7											0.96	● KSSG1.5-60 J22
M6	7											0.94	● KSSG1.5-60 J25
M6	7											0.91	● KSSG1.5-60 J28
M6	7						0.89	● KSSG1.5-60 J30					
M8	7						0.86	● KSSG1.5-60 J32					
M8	7						0.83	● KSSG1.5-60 J35					

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been reworked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

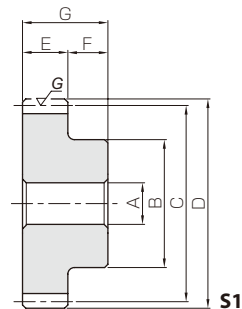
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

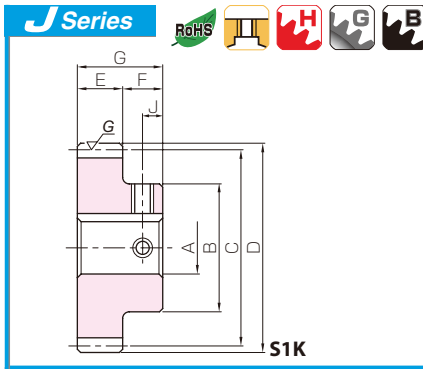


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG1.5-64	m1.5	64	S1	20	60	96	99	15	14	29	—
●KSSG1.5-64 J20			S1K	20							6 x 2.8
●KSSG1.5-64 J22			S1K	22							6 x 2.8
●KSSG1.5-64 J25			S1K	25							8 x 3.3
●KSSG1.5-64 J28			S1K	28							8 x 3.3
●KSSG1.5-64 J30			S1K	30							8 x 3.3
●KSSG1.5-64 J32			S1K	32							10 x 3.3
●KSSG1.5-64 J35			S1K	35							10 x 3.3
KSSG1.5-70		70	S1	20	60	105	108	15	14	29	—
●KSSG1.5-70 J20			S1K	20							6 x 2.8
●KSSG1.5-70 J22			S1K	22							6 x 2.8
●KSSG1.5-70 J25			S1K	25							8 x 3.3
●KSSG1.5-70 J28			S1K	28							8 x 3.3
●KSSG1.5-70 J30			S1K	30							8 x 3.3
●KSSG1.5-70 J32			S1K	32							10 x 3.3
●KSSG1.5-70 J35			S1K	35							10 x 3.3
KSSG1.5-75		75	S1	20	60	112.5	115.5	15	14	29	—
●KSSG1.5-75 J20			S1K	20							6 x 2.8
●KSSG1.5-75 J22			S1K	22							6 x 2.8
●KSSG1.5-75 J25			S1K	25							8 x 3.3
●KSSG1.5-75 J28			S1K	28							8 x 3.3
●KSSG1.5-75 J30			S1K	30							8 x 3.3
●KSSG1.5-75 J32			S1K	32							10 x 3.3
●KSSG1.5-75 J35			S1K	35							10 x 3.3
KSSG1.5-80		80	S1	20	70	120	123	15	14	29	—
●KSSG1.5-80 J20			S1K	20							6 x 2.8
●KSSG1.5-80 J22			S1K	22							6 x 2.8
●KSSG1.5-80 J25			S1K	25							8 x 3.3
●KSSG1.5-80 J28			S1K	28							8 x 3.3
●KSSG1.5-80 J30			S1K	30							8 x 3.3
●KSSG1.5-80 J32			S1K	32							10 x 3.3
●KSSG1.5-80 J35			S1K	35							10 x 3.3
●KSSG1.5-80 J40		S1K	40	12 x 3.3							
KSSG1.5-90		90	S1	20	70	135	138	15	14	29	—
●KSSG1.5-90 J20			S1K	20							6 x 2.8
●KSSG1.5-90 J22			S1K	22							6 x 2.8
●KSSG1.5-90 J25			S1K	25							8 x 3.3
●KSSG1.5-90 J28			S1K	28							8 x 3.3
●KSSG1.5-90 J30			S1K	30							8 x 3.3
●KSSG1.5-90 J32			S1K	32							10 x 3.3
●KSSG1.5-90 J35			S1K	35							10 x 3.3
●KSSG1.5-90 J40		S1K	40	12 x 3.3							
KSSG1.5-100		100	S1	20	70	150	153	15	14	29	—
●KSSG1.5-100 J20			S1K	20							6 x 2.8
●KSSG1.5-100 J22			S1K	22							6 x 2.8
●KSSG1.5-100 J25			S1K	25							8 x 3.3
●KSSG1.5-100 J28			S1K	28							8 x 3.3
●KSSG1.5-100 J30			S1K	30							8 x 3.3
●KSSG1.5-100 J32			S1K	32							10 x 3.3
●KSSG1.5-100 J35			S1K	35							10 x 3.3
●KSSG1.5-100 J40		S1K	40	12 x 3.3							

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—							KSSG1.5-64
M5*	7						1.09	●KSSG1.5-64 J20
M5*	7						1.08	●KSSG1.5-64 J22
M6	7						1.07	●KSSG1.5-64 J25
M6	7	67.9	73.2	6.92	7.46	0.10~0.18	1.04	●KSSG1.5-64 J28
M6	7						1.01	●KSSG1.5-64 J30
M8	7						0.99	●KSSG1.5-64 J32
M8	7						0.97	●KSSG1.5-64 J35
							0.93	
—	—							KSSG1.5-70
M5*	7						1.26	●KSSG1.5-70 J20
M5*	7						1.25	●KSSG1.5-70 J22
M6	7	75.4	88.4	7.69	9.01	0.12~0.20	1.23	●KSSG1.5-70 J25
M6	7						1.21	●KSSG1.5-70 J28
M6	7						1.18	●KSSG1.5-70 J30
M8	7						1.16	●KSSG1.5-70 J32
M8	7						1.13	●KSSG1.5-70 J35
							1.10	
—	—							KSSG1.5-75
M5*	7						1.41	●KSSG1.5-75 J20
M5*	7						1.40	●KSSG1.5-75 J22
M6	7	81.7	102	8.33	10.4	0.12~0.20	1.38	●KSSG1.5-75 J25
M6	7						1.36	●KSSG1.5-75 J28
M6	7						1.33	●KSSG1.5-75 J30
M8	7						1.31	●KSSG1.5-75 J32
M8	7						1.28	●KSSG1.5-75 J35
							1.25	
—	—							KSSG1.5-80
M5*	7						1.68	●KSSG1.5-80 J20
M5*	7						1.67	●KSSG1.5-80 J22
M6*	7	88.0	117	8.97	12.0	0.12~0.20	1.65	●KSSG1.5-80 J25
M6*	7						1.63	●KSSG1.5-80 J28
M6	7						1.60	●KSSG1.5-80 J30
M8	7						1.58	●KSSG1.5-80 J32
M8	7						1.55	●KSSG1.5-80 J35
M8	7						1.52	●KSSG1.5-80 J40
							1.45	
—	—							KSSG1.5-90
M5*	7						2.04	●KSSG1.5-90 J20
M5*	7						2.02	●KSSG1.5-90 J22
M6*	7	101	150	10.3	15.3	0.12~0.20	2.01	●KSSG1.5-90 J25
M6*	7						1.98	●KSSG1.5-90 J28
M6	7						1.95	●KSSG1.5-90 J30
M6	7						1.94	●KSSG1.5-90 J32
M8	7						1.91	●KSSG1.5-90 J35
M8	7						1.87	●KSSG1.5-90 J40
							1.81	
—	—							KSSG1.5-100
M5*	7						2.43	●KSSG1.5-100 J20
M5*	7						2.42	●KSSG1.5-100 J22
M6*	7	113	187	11.6	19.1	0.12~0.20	2.40	●KSSG1.5-100 J25
M6*	7						2.38	●KSSG1.5-100 J28
M6	7						2.35	●KSSG1.5-100 J30
M6	7						2.33	●KSSG1.5-100 J32
M8	7						2.30	●KSSG1.5-100 J35
M8	7						2.27	●KSSG1.5-100 J40
M8	7						2.20	

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
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- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

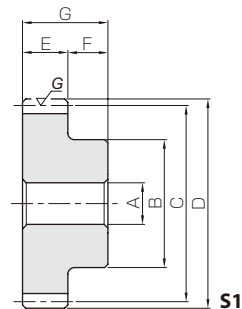
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

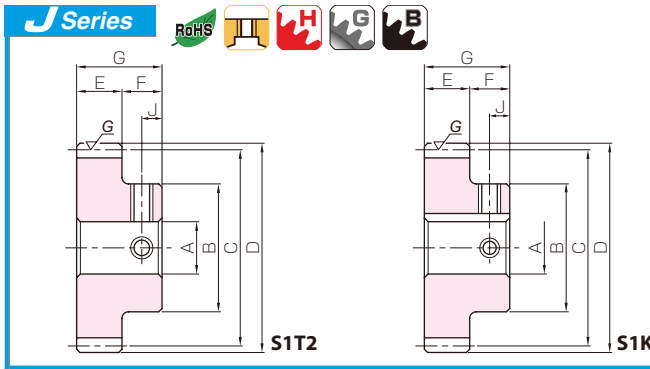


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG2-14 ● KSSG2-14 J12 KSSG2-15 ● KSSG2-15 J12 KSSG2-16 ● KSSG2-16 J12 ● KSSG2-16 J14 KSSG2-17 ● KSSG2-17 J12 ● KSSG2-17 J14 ● KSSG2-17 J15 ● KSSG2-17 J16 KSSG2-18 ● KSSG2-18 J12 ● KSSG2-18 J14 ● KSSG2-18 J15 ● KSSG2-18 J16 ● KSSG2-18 J17 KSSG2-19 ● KSSG2-19 J12 ● KSSG2-19 J14 ● KSSG2-19 J15 ● KSSG2-19 J16 ● KSSG2-19 J17 ● KSSG2-19 J18 KSSG2-20 ● KSSG2-20 J15 ● KSSG2-20 J16 ● KSSG2-20 J17 ● KSSG2-20 J18 KSSG2-21 ● KSSG2-21 J15 ● KSSG2-21 J16 ● KSSG2-21 J17 ● KSSG2-21 J18 ● KSSG2-21 J19 ● KSSG2-21 J20 KSSG2-22 ● KSSG2-22 J15 ● KSSG2-22 J16 ● KSSG2-22 J17 ● KSSG2-22 J18 ● KSSG2-22 J19 ● KSSG2-22 J20 KSSG2-23 ● KSSG2-23 J15 ● KSSG2-23 J16 ● KSSG2-23 J17 ● KSSG2-23 J18 ● KSSG2-23 J19 ● KSSG2-23 J20 ● KSSG2-23 J22	m2	14	S1 S1T2	12 12	22	28	32	20	16	36	— 4 x 1.8
		15	S1 S1K	12 12	24	30	34	20	16	36	— 4 x 1.8
		16	S1 S1K S1K	12 12 14	26	32	36	20	16	36	— 4 x 1.8 5 x 2.3
		17	S1 S1K S1K S1K S1K	12 12 14 15 16	28	34	38	20	16	36	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3
		18	S1 S1K S1K S1K S1K S1K	12 12 14 15 16 17	30	36	40	20	16	36	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3
		19	S1 S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18	31	38	42	20	16	36	— 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8
		20	S1 S1K S1K S1K S1K	15 15 16 17 18	32	40	44	20	16	36	— 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8
		21	S1 S1K S1K S1K S1K S1K S1K	15 15 16 17 18 19 20	34	42	46	20	16	36	— 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8
		22	S1 S1K S1K S1K S1K S1K S1K	15 15 16 17 18 19 20	36	44	48	20	16	36	— 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8
		23	S1 S1K S1K S1K S1K S1K S1K S1K	15 15 16 17 18 19 20 22	37	46	50	20	16	36	— 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	26.3	9.01	2.69	0.92	0.10~0.20	0.11 0.11	KSSG2-14 ● KSSG2-14 J12
—	—	29.6	10.5	3.01	1.07	0.10~0.20	0.14 0.13	KSSG2-15 ● KSSG2-15 J12
—	—	27.3	10.1	2.78	1.03	0.10~0.20	0.16	KSSG2-16
M4	8						0.16	● KSSG2-16 J12
M4	8						0.15	● KSSG2-16 J14
—	—	30.0	11.6	3.06	1.18	0.10~0.20	0.19	KSSG2-17
M4	8						0.18	● KSSG2-17 J12
M4	8						0.17	● KSSG2-17 J14
M4	8						0.17	● KSSG2-17 J15
M4	8						0.16	● KSSG2-17 J16
—	—	32.7	13.1	3.34	1.34	0.10~0.20	0.22	KSSG2-18
M4	8						0.21	● KSSG2-18 J12
M4	8						0.20	● KSSG2-18 J14
M4	8						0.19	● KSSG2-18 J15
M4	8						0.19	● KSSG2-18 J16
M4	8						0.18	● KSSG2-18 J17
—	—	35.5	14.8	3.62	1.51	0.10~0.20	0.24	KSSG2-19
M4	8						0.24	● KSSG2-19 J12
M4	8						0.23	● KSSG2-19 J14
M4	8						0.22	● KSSG2-19 J15
M4	8						0.21	● KSSG2-19 J16
M4	8						0.21	● KSSG2-19 J17
M5	8						0.20	● KSSG2-19 J18
—	—	38.3	16.6	3.91	1.69	0.10~0.20	0.25	KSSG2-20
M4	8						0.24	● KSSG2-20 J15
M4	8						0.24	● KSSG2-20 J16
M4	8						0.26	● KSSG2-20 J17
M5	8						0.22	● KSSG2-20 J18
—	—	41.1	18.4	4.20	1.88	0.10~0.20	0.28	KSSG2-21
M4	8						0.28	● KSSG2-21 J15
M4	8						0.27	● KSSG2-21 J16
M4	8						0.26	● KSSG2-21 J17
M5	8						0.25	● KSSG2-21 J18
M5	8						0.25	● KSSG2-21 J19
M5	8						0.24	● KSSG2-21 J20
—	—	44.0	20.4	4.49	2.08	0.10~0.20	0.32	KSSG2-22
M4	8						0.31	● KSSG2-22 J15
M4	8						0.31	● KSSG2-22 J16
M4	8						0.30	● KSSG2-22 J17
M5	8						0.29	● KSSG2-22 J18
M5	8						0.28	● KSSG2-22 J19
M5	8	0.27	● KSSG2-22 J20					
—	—	46.9	22.5	4.78	2.30	0.10~0.20	0.35	KSSG2-23
M4	8						0.34	● KSSG2-23 J15
M4	8						0.33	● KSSG2-23 J16
M4	8						0.33	● KSSG2-23 J17
M5	8						0.32	● KSSG2-23 J18
M5	8						0.31	● KSSG2-23 J19
M5	8						0.30	● KSSG2-23 J20
M5	8						0.28	● KSSG2-23 J22

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usages. For secure fastening, please use dowel pins, in combination.

*Please see book one for additional products in these modules.



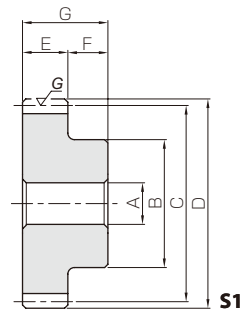


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

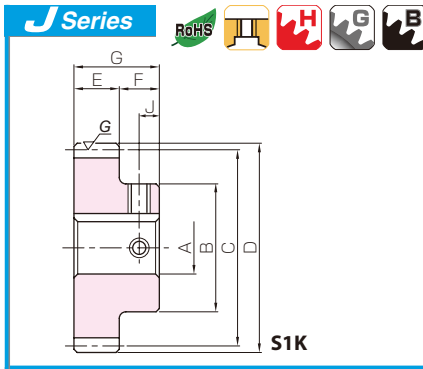
* The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG2-24 ●KSSG2-24 J15 ●KSSG2-24 J16 ●KSSG2-24 J17 ●KSSG2-24 J18 ●KSSG2-24 J19 ●KSSG2-24 J20 ●KSSG2-24 J22	m2	24	S1	15	38	48	52	20	16	36	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
KSSG2-25 ●KSSG2-25 J15 ●KSSG2-25 J16 ●KSSG2-25 J17 ●KSSG2-25 J18 ●KSSG2-25 J19 ●KSSG2-25 J20 ●KSSG2-25 J22	m2	25	S1	15	40	50	54	20	16	36	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
KSSG2-26 ●KSSG2-26 J15 ●KSSG2-26 J16 ●KSSG2-26 J17 ●KSSG2-26 J18 ●KSSG2-26 J19 ●KSSG2-26 J20 ●KSSG2-26 J22 ●KSSG2-26 J25	m2	26	S1	15	42	52	56	20	16	36	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
KSSG2-27 ●KSSG2-27 J15 ●KSSG2-27 J16 ●KSSG2-27 J17 ●KSSG2-27 J18 ●KSSG2-27 J19 ●KSSG2-27 J20 ●KSSG2-27 J22 ●KSSG2-27 J25	m2	27	S1	15	44	54	58	20	16	36	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
KSSG2-28 ●KSSG2-28 J15 ●KSSG2-28 J16 ●KSSG2-28 J17 ●KSSG2-28 J18 ●KSSG2-28 J19 ●KSSG2-28 J20 ●KSSG2-28 J22 ●KSSG2-28 J25	m2	28	S1	15	45	56	60	20	16	36	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
KSSG2-29 ●KSSG2-29 J15 ●KSSG2-29 J16 ●KSSG2-29 J17 ●KSSG2-29 J18 ●KSSG2-29 J19 ●KSSG2-29 J20 ●KSSG2-29 J22 ●KSSG2-29 J25 ●KSSG2-29 J28	m2	29	S1	15	48	58	62	20	16	36	—
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
KSSG2-30 ●KSSG2-30 J18 ●KSSG2-30 J19 ●KSSG2-30 J20 ●KSSG2-30 J22 ●KSSG2-30 J25 ●KSSG2-30 J28 ●KSSG2-30 J30	m2	30	S1	18	50	60	64	20	16	36	—
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	49.8	24.7	5.08	2.52	0.10~0.20	0.38	KSSG2-24 ●KSSG2-24 J15 ●KSSG2-24 J16 ●KSSG2-24 J17 ●KSSG2-24 J18 ●KSSG2-24 J19 ●KSSG2-24 J20 ●KSSG2-24 J22
M4	8							
M4	8							
M4	8							
M5	8							
M5	8							
M5	8							
—	—	52.7	27.0	5.38	2.75	0.10~0.20	0.42	KSSG2-25 ●KSSG2-25 J15 ●KSSG2-25 J16 ●KSSG2-25 J17 ●KSSG2-25 J18 ●KSSG2-25 J19 ●KSSG2-25 J20 ●KSSG2-25 J22
M4	8							
M4	8							
M4	8							
M5	8							
M5	8							
M5	8							
—	—	55.7	29.3	5.68	2.99	0.12~0.22	0.46	KSSG2-26 ●KSSG2-26 J15 ●KSSG2-26 J16 ●KSSG2-26 J17 ●KSSG2-26 J18 ●KSSG2-26 J19 ●KSSG2-26 J20 ●KSSG2-26 J22 ●KSSG2-26 J25
M4	8							
M4	8							
M4	8							
M5	8							
M5	8							
M5	8							
M5	8							
M6	8							
—	—	58.6	31.7	5.98	3.23	0.12~0.22	0.50	KSSG2-27 ●KSSG2-27 J15 ●KSSG2-27 J16 ●KSSG2-27 J17 ●KSSG2-27 J18 ●KSSG2-27 J19 ●KSSG2-27 J20 ●KSSG2-27 J22 ●KSSG2-27 J25
M4*	8							
M4	8							
M4	8							
M5	8							
M5	8							
M5	8							
M5	8							
M6	8							
—	—	61.6	34.2	6.28	3.49	0.12~0.22	0.54	KSSG2-28 ●KSSG2-28 J15 ●KSSG2-28 J16 ●KSSG2-28 J17 ●KSSG2-28 J18 ●KSSG2-28 J19 ●KSSG2-28 J20 ●KSSG2-28 J22 ●KSSG2-28 J25
M4*	8							
M4*	8							
M4	8							
M5	8							
M5	8							
M5	8							
M5	8							
M6	8							
—	—	64.6	36.8	6.59	3.75	0.12~0.22	0.59	KSSG2-29 ●KSSG2-29 J15 ●KSSG2-29 J16 ●KSSG2-29 J17 ●KSSG2-29 J18 ●KSSG2-29 J19 ●KSSG2-29 J20 ●KSSG2-29 J22 ●KSSG2-29 J25 ●KSSG2-29 J28
M4*	8							
M4*	8							
M4*	8							
M5	8							
M5	8							
M5	8							
M5	8							
M6	8							
—	—	67.6	39.5	6.89	4.03	0.12~0.22	0.62	KSSG2-30 ●KSSG2-30 J18 ●KSSG2-30 J19 ●KSSG2-30 J20 ●KSSG2-30 J22 ●KSSG2-30 J25 ●KSSG2-30 J28 ●KSSG2-30 J30
M5	8							
M5	8							
M5	8							
M5	8							
M5	8							
M6	8							
M6	8							

[Caution on Product Characteristics]

- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- Areas of products which have been re-worked will not be black oxide coated.
- For products having a tapped hole, a set screw is included.

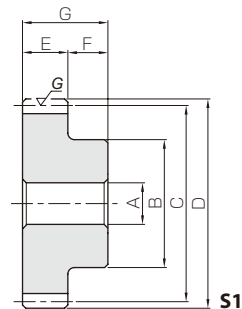
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

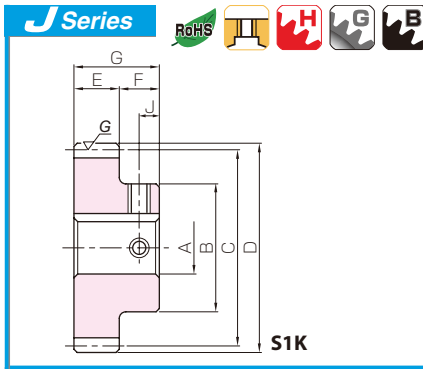


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway								
				A _{H7}	B	C	D	E	F	G	WidthxDepth								
KSSG2-32 ●KSSG2-32 J18 ●KSSG2-32 J19 ●KSSG2-32 J20 ●KSSG2-32 J22 ●KSSG2-32 J25 ●KSSG2-32 J28 ●KSSG2-32 J30	m2	32	S1	18	50	64	68	20	16	36	—								
			S1K	18							6 x 2.8								
			S1K	19							6 x 2.8								
			S1K	20							6 x 2.8								
			S1K	22							6 x 2.8								
			S1K	25							8 x 3.3								
			S1K	28							8 x 3.3								
			S1K	30							8 x 3.3								
			KSSG2-34 ●KSSG2-34 J18 ●KSSG2-34 J19 ●KSSG2-34 J20 ●KSSG2-34 J22 ●KSSG2-34 J25 ●KSSG2-34 J28 ●KSSG2-34 J30	34							S1	18	50	68	72	20	16	36	—
											S1K	18							6 x 2.8
S1K	19	6 x 2.8																	
S1K	20	6 x 2.8																	
S1K	22	6 x 2.8																	
S1K	25	8 x 3.3																	
S1K	28	8 x 3.3																	
KSSG2-35 ●KSSG2-35 J18 ●KSSG2-35 J19 ●KSSG2-35 J20 ●KSSG2-35 J22 ●KSSG2-35 J25 ●KSSG2-35 J28 ●KSSG2-35 J30	35	S1	18	50	70	74	20	16	36	—									
		S1K	18							6 x 2.8									
		S1K	19							6 x 2.8									
		S1K	20							6 x 2.8									
		S1K	22							6 x 2.8									
		S1K	25							8 x 3.3									
KSSG2-36 ●KSSG2-36 J18 ●KSSG2-36 J19 ●KSSG2-36 J20 ●KSSG2-36 J22 ●KSSG2-36 J25 ●KSSG2-36 J28 ●KSSG2-36 J30	36	S1	18	50	72	76	20	16	36	—									
		S1K	18							6 x 2.8									
		S1K	19							6 x 2.8									
		S1K	20							6 x 2.8									
		S1K	22							6 x 2.8									
		S1K	25							8 x 3.3									
KSSG2-38 ●KSSG2-38 J18 ●KSSG2-38 J19 ●KSSG2-38 J20 ●KSSG2-38 J22 ●KSSG2-38 J25 ●KSSG2-38 J28 ●KSSG2-38 J30	38	S1	18	50	76	80	20	16	36	—									
		S1K	18							6 x 2.8									
		S1K	19							6 x 2.8									
		S1K	20							6 x 2.8									
		S1K	22							6 x 2.8									
		S1K	25							8 x 3.3									
KSSG2-40 ●KSSG2-40 J20 ●KSSG2-40 J22 ●KSSG2-40 J25 ●KSSG2-40 J28 ●KSSG2-40 J30 ●KSSG2-40 J32 ●KSSG2-40 J35	40	S1	20	60	80	84	20	16	36	—									
		S1K	20							6 x 2.8									
		S1K	22							6 x 2.8									
		S1K	25							8 x 3.3									
		S1K	28							8 x 3.3									
		S1K	30							8 x 3.3									
		S1K	32							10 x 3.3									
		S1K	35							10 x 3.3									

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.68	KSSG2-32
M5	8	73.7	45.2	7.51	4.61	0.12~0.22	0.67	●KSSG2-32 J18
M5	8						0.66	●KSSG2-32 J19
M5	8						0.66	●KSSG2-32 J20
M5	8						0.64	●KSSG2-32 J22
M6	8						0.60	●KSSG2-32 J25
M6	8						0.57	●KSSG2-32 J28
M6	8						0.54	●KSSG2-32 J30
—	—						0.74	KSSG2-34
M5	8	79.8	51.3	8.13	5.23	0.12~0.22	0.74	●KSSG2-34 J18
M5	8						0.73	●KSSG2-34 J19
M5	8						0.72	●KSSG2-34 J20
M5	8						0.70	●KSSG2-34 J22
M6	8						0.67	●KSSG2-34 J25
M6	8						0.63	●KSSG2-34 J28
M6	8						0.61	●KSSG2-34 J30
—	—						0.78	KSSG2-35
M5	8	82.8	54.5	8.45	5.56	0.12~0.22	0.77	●KSSG2-35 J18
M5	8						0.76	●KSSG2-35 J19
M5	8						0.75	●KSSG2-35 J20
M5	8						0.74	●KSSG2-35 J22
M6	8						0.70	●KSSG2-35 J25
M6	8						0.67	●KSSG2-35 J28
M6	8						0.64	●KSSG2-35 J30
—	—						0.81	KSSG2-36
M5	8	85.9	57.8	8.76	5.90	0.12~0.22	0.81	●KSSG2-36 J18
M5	8						0.80	●KSSG2-36 J19
M5	8						0.79	●KSSG2-36 J20
M5	8						0.77	●KSSG2-36 J22
M6	8						0.74	●KSSG2-36 J25
M6	8						0.70	●KSSG2-36 J28
M6	8						0.68	●KSSG2-36 J30
—	—						0.89	KSSG2-38
M5	8	92.1	64.8	9.39	6.60	0.12~0.22	0.88	●KSSG2-38 J18
M5	8						0.87	●KSSG2-38 J19
M5	8						0.86	●KSSG2-38 J20
M5	8						0.84	●KSSG2-38 J22
M6	8						0.81	●KSSG2-38 J25
M6	8						0.77	●KSSG2-38 J28
M6	8						0.75	●KSSG2-38 J30
—	—						1.06	KSSG2-40
M5*	8	98.3	72.1	10.0	7.35	0.12~0.22	1.04	●KSSG2-40 J20
M5*	8						1.03	●KSSG2-40 J22
M6	8						0.99	●KSSG2-40 J25
M6	8						0.96	●KSSG2-40 J28
M6	8						0.93	●KSSG2-40 J30
M8	8						0.90	●KSSG2-40 J32
M8	8						0.86	●KSSG2-40 J35

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
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- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

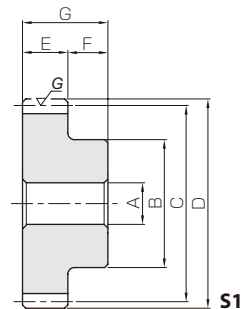
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

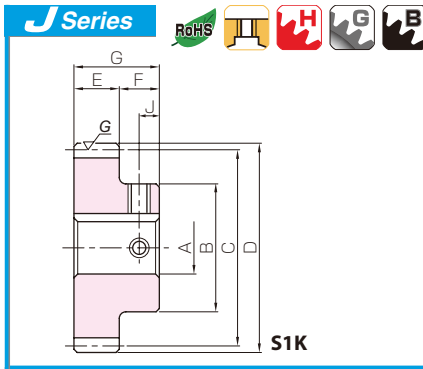


- Spur Gears
- Helical Gears
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- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG2-42 ●KSSG2-42 J20 ●KSSG2-42 J22 ●KSSG2-42 J25 ●KSSG2-42 J28 ●KSSG2-42 J30 ●KSSG2-42 J32 ●KSSG2-42 J35	m2	42	S1	20	60	84	88	20	16	36	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
S1K	35	10 x 3.3									
KSSG2-44 ●KSSG2-44 J20 ●KSSG2-44 J22 ●KSSG2-44 J25 ●KSSG2-44 J28 ●KSSG2-44 J30 ●KSSG2-44 J32 ●KSSG2-44 J35	m2	44	S1	20	60	88	92	20	16	36	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
S1K	35	10 x 3.3									
KSSG2-45 ●KSSG2-45 J20 ●KSSG2-45 J22 ●KSSG2-45 J25 ●KSSG2-45 J28 ●KSSG2-45 J30 ●KSSG2-45 J32 ●KSSG2-45 J35	m2	45	S1	20	60	90	94	20	16	36	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
S1K	35	10 x 3.3									
KSSG2-48 ●KSSG2-48 J20 ●KSSG2-48 J22 ●KSSG2-48 J25 ●KSSG2-48 J28 ●KSSG2-48 J30 ●KSSG2-48 J32 ●KSSG2-48 J35	m2	48	S1	20	60	96	100	20	16	36	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
S1K	35	10 x 3.3									
KSSG2-50 ●KSSG2-50 J25 ●KSSG2-50 J28 ●KSSG2-50 J30 ●KSSG2-50 J32 ●KSSG2-50 J35	m2	50	S1	25	60	100	104	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			KSSG2-55 ●KSSG2-55 J25 ●KSSG2-55 J28 ●KSSG2-55 J30 ●KSSG2-55 J32 ●KSSG2-55 J35	m2							55
S1K	25	8 x 3.3									
S1K	28	8 x 3.3									
S1K	30	8 x 3.3									
S1K	32	10 x 3.3									
S1K	35	10 x 3.3									
KSSG2-56 ●KSSG2-56 J25 ●KSSG2-56 J28 ●KSSG2-56 J30 ●KSSG2-56 J32 ●KSSG2-56 J35	m2	56			S1	25	60	112	116	20	
			S1K	25	8 x 3.3						
			S1K	28	8 x 3.3						
			S1K	30	8 x 3.3						
			S1K	32	10 x 3.3						
			S1K	35	10 x 3.3						

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been reworked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						1.14	KSSG2-42
M5*	8						1.12	● KSSG2-42 J20
M5*	8						1.11	● KSSG2-42 J22
M6	8	105	79.9	10.7	8.15	0.12~0.22	1.07	● KSSG2-42 J25
M6	8						1.04	● KSSG2-42 J28
M6	8						1.01	● KSSG2-42 J30
M8	8						0.98	● KSSG2-42 J32
M8	8						0.94	● KSSG2-42 J35
—	—							
M5*	8						1.21	● KSSG2-44 J20
M5*	8						1.19	● KSSG2-44 J22
M6	8	111	88.1	11.3	8.98	0.12~0.22	1.16	● KSSG2-44 J25
M6	8						1.12	● KSSG2-44 J28
M6	8						1.10	● KSSG2-44 J30
M8	8						1.07	● KSSG2-44 J32
M8	8						1.02	● KSSG2-44 J35
—	—							
M5*	8						1.25	● KSSG2-45 J20
M5*	8						1.24	● KSSG2-45 J22
M6	8	114	92.3	11.6	9.41	0.12~0.22	1.20	● KSSG2-45 J25
M6	8						1.17	● KSSG2-45 J28
M6	8						1.14	● KSSG2-45 J30
M8	8						1.11	● KSSG2-45 J32
M8	8						1.07	● KSSG2-45 J35
—	—							
M5*	8						1.39	● KSSG2-48 J20
M5*	8						1.37	● KSSG2-48 J22
M6	8	114	97.6	11.6	9.95	0.12~0.22	1.34	● KSSG2-48 J25
M6	8						1.31	● KSSG2-48 J28
M6	8						1.28	● KSSG2-48 J30
M8	8						1.25	● KSSG2-48 J32
M8	8						1.20	● KSSG2-48 J35
—	—							
M6	8						1.44	● KSSG2-50 J25
M6	8	120	106	12.2	10.8	0.12~0.22	1.40	● KSSG2-50 J28
M6	8						1.38	● KSSG2-50 J30
M8	8						1.34	● KSSG2-50 J32
M8	8						1.30	● KSSG2-50 J35
—	—							
M6	8						1.70	● KSSG2-55 J25
M6	8	134	130	13.7	13.3	0.14~0.24	1.66	● KSSG2-55 J28
M6	8						1.64	● KSSG2-55 J30
M8	8						1.60	● KSSG2-55 J32
M8	8						1.56	● KSSG2-55 J35
—	—							
M6	8						1.75	● KSSG2-56 J25
M6	8	137	135	14.0	13.8	0.14~0.24	1.72	● KSSG2-56 J28
M6	8						1.69	● KSSG2-56 J30
M8	8						1.66	● KSSG2-56 J32
M8	8						1.61	● KSSG2-56 J35

*Please see book one for additional products in these modules.



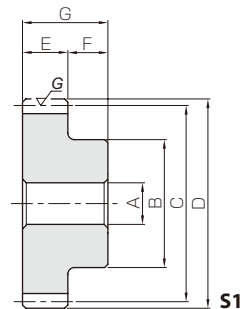


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

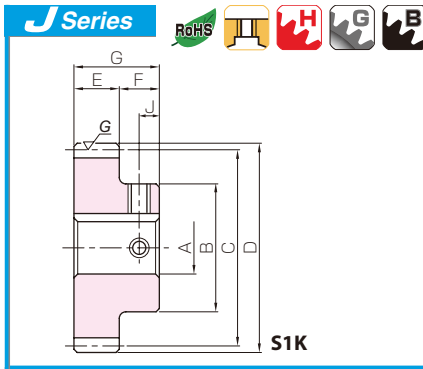
* The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG2-60 ● KSSG2-60 J25 ● KSSG2-60 J28 ● KSSG2-60 J30 ● KSSG2-60 J32 ● KSSG2-60 J35	m2	60	S1	25	65	120	124	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
KSSG2-64 ● KSSG2-64 J25 ● KSSG2-64 J28 ● KSSG2-64 J30 ● KSSG2-64 J32 ● KSSG2-64 J35	m2	64	S1	25	65	128	132	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
KSSG2-70 ● KSSG2-70 J25 ● KSSG2-70 J28 ● KSSG2-70 J30 ● KSSG2-70 J32 ● KSSG2-70 J35 ● KSSG2-70 J40	m2	70	S1	25	70	140	144	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
KSSG2-75 ● KSSG2-75 J25 ● KSSG2-75 J28 ● KSSG2-75 J30 ● KSSG2-75 J32 ● KSSG2-75 J35 ● KSSG2-75 J40	m2	75	S1	25	70	150	154	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
KSSG2-80 ● KSSG2-80 J25 ● KSSG2-80 J28 ● KSSG2-80 J30 ● KSSG2-80 J32 ● KSSG2-80 J35 ● KSSG2-80 J40 ● KSSG2-80 J45	m2	80	S1	25	80	160	164	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
KSSG2-90 ● KSSG2-90 J25 ● KSSG2-90 J28 ● KSSG2-90 J30 ● KSSG2-90 J32 ● KSSG2-90 J35 ● KSSG2-90 J40 ● KSSG2-90 J45	m2	90	S1	25	80	180	184	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
KSSG2-100 ● KSSG2-100 J25 ● KSSG2-100 J28 ● KSSG2-100 J30 ● KSSG2-100 J32 ● KSSG2-100 J35 ● KSSG2-100 J40 ● KSSG2-100 J45	m2	100	S1	25	80	200	204	20	16	36	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
S1K	40	12 x 3.3									
S1K	45	14 x 3.8									

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	149	156	15.2	15.9	0.14~0.24	2.05	KSSG2-60
M6	8							●KSSG2-60 J25
M6	8							●KSSG2-60 J28
M6	8							●KSSG2-60 J30
M8	8							●KSSG2-60 J32
M8	8	●KSSG2-60 J35						
—	—	161	179	16.4	18.3	0.14~0.24	2.30	KSSG2-64
M6	8							●KSSG2-64 J25
M6	8							●KSSG2-64 J28
M6	8							●KSSG2-64 J30
M8	8							●KSSG2-64 J32
M8	8	●KSSG2-64 J35						
—	—	179	216	18.2	22.0	0.14~0.24	2.76	KSSG2-70
M6*	8							●KSSG2-70 J25
M6*	8							●KSSG2-70 J28
M6	8							●KSSG2-70 J30
M8	8							●KSSG2-70 J32
M8	8	●KSSG2-70 J35						
M8	8	●KSSG2-70 J40						
—	—	194	249	19.7	25.4	0.14~0.24	3.12	KSSG2-75
M6*	8							●KSSG2-75 J25
M6*	8							●KSSG2-75 J28
M6	8							●KSSG2-75 J30
M8	8							●KSSG2-75 J32
M8	8	●KSSG2-75 J35						
M8	8	●KSSG2-75 J40						
—	—	194	265	19.8	27.0	0.14~0.24	3.65	KSSG2-80
M6*	8							●KSSG2-80 J25
M6*	8							●KSSG2-80 J28
M6*	8							●KSSG2-80 J30
M8	8							●KSSG2-80 J32
M8	8	●KSSG2-80 J35						
M8	8	●KSSG2-80 J40						
M10	8	●KSSG2-80 J45						
—	—	222	338	22.6	34.5	0.14~0.24	4.49	KSSG2-90
M6*	8							●KSSG2-90 J25
M6*	8							●KSSG2-90 J28
M6*	8							●KSSG2-90 J30
M8	8							●KSSG2-90 J32
M8	8	●KSSG2-90 J35						
M8	8	●KSSG2-90 J40						
M10	8	●KSSG2-90 J45						
—	—	250	421	25.4	43.0	0.14~0.24	5.42	KSSG2-100
M6*	8							●KSSG2-100 J25
M6*	8							●KSSG2-100 J28
M6*	8							●KSSG2-100 J30
M8	8							●KSSG2-100 J32
M8	8	●KSSG2-100 J35						
M8	8	●KSSG2-100 J40						
M10	8	●KSSG2-100 J45						

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

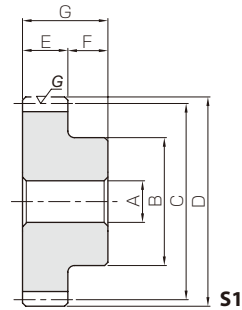
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

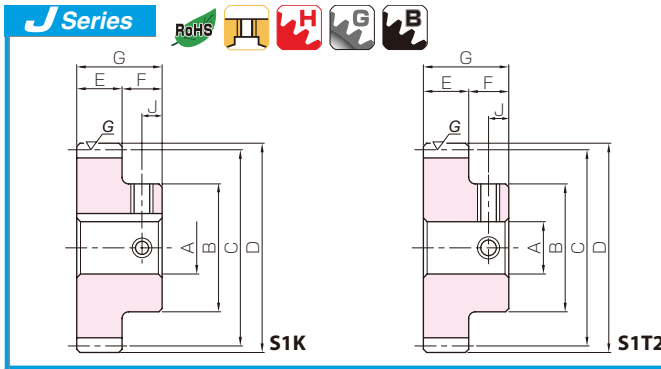


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- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
m2.5		14	S1	15	28	35	40	25	18	43	—
			S1T2	15							5 x 2.3
		15	S1	15	30	37.5	42.5	25	18	43	—
			S1K	15							5 x 2.3
		16	S1K	16	32	40	45	25	18	43	—
			S1K	15							5 x 2.3
		17	S1K	16	35	42.5	47.5	25	18	43	—
			S1K	17							5 x 2.3
		18	S1K	17	38	45	50	25	18	43	—
			S1K	18							5 x 2.3
		19	S1K	18	39	47.5	52.5	25	18	43	—
			S1K	19							5 x 2.3
		20	S1K	19	40	50	55	25	18	43	—
			S1K	20							6 x 2.8
		21	S1K	20	42	52.5	57.5	25	18	43	—
			S1K	22							6 x 2.8
		22	S1K	22	44	55	60	25	18	43	—
			S1K	25							6 x 2.8

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	42.9	14.9	4.37	1.52	0.10~0.20	0.22	KSSG2.5-14
M4	9						0.21	● KSSG2.5-14 J15
—	—	48.1	17.4	4.91	1.77	0.10~0.20	0.26	KSSG2.5-15
M4	9						0.25	● KSSG2.5-15 J15
M4	9						0.24	● KSSG2.5-15 J16
—	—	53.3	20.1	5.44	2.05	0.10~0.20	0.30	KSSG2.5-16
M4	9						0.30	● KSSG2.5-16 J15
M4	9						0.29	● KSSG2.5-16 J16
M4	9						0.28	● KSSG2.5-16 J17
M5	9						0.27	● KSSG2.5-16 J18
—	—	58.6	23.0	5.97	2.34	0.10~0.20	0.35	KSSG2.5-17
M4	9						0.35	● KSSG2.5-17 J15
M4	9						0.34	● KSSG2.5-17 J16
M4	9						0.33	● KSSG2.5-17 J17
M5	9						0.32	● KSSG2.5-17 J18
M5	9						0.31	● KSSG2.5-17 J19
M5	9						0.30	● KSSG2.5-17 J20
—	—	63.9	26.1	6.52	2.66	0.10~0.20	0.41	KSSG2.5-18
M4	9						0.41	● KSSG2.5-18 J15
M4	9						0.40	● KSSG2.5-18 J16
M4	9						0.39	● KSSG2.5-18 J17
M5	9						0.38	● KSSG2.5-18 J18
M5	9						0.37	● KSSG2.5-18 J19
M5	9						0.36	● KSSG2.5-18 J20
M5	9						0.34	● KSSG2.5-18 J22
—	—	69.4	29.4	7.07	3.00	0.10~0.20	0.46	KSSG2.5-19
M4	9						0.45	● KSSG2.5-19 J15
M4	9						0.44	● KSSG2.5-19 J16
M4	9						0.44	● KSSG2.5-19 J17
M5	9						0.42	● KSSG2.5-19 J18
M5	9						0.41	● KSSG2.5-19 J19
M5	9						0.40	● KSSG2.5-19 J20
M5	9						0.38	● KSSG2.5-19 J22
—	—	74.8	32.9	7.63	3.36	0.10~0.20	0.48	KSSG2.5-20
M5	9						0.47	● KSSG2.5-20 J18
M5	9						0.46	● KSSG2.5-20 J19
M5	9						0.45	● KSSG2.5-20 J20
M5	9						0.43	● KSSG2.5-20 J22
—	—	80.4	36.7	8.20	3.74	0.12~0.22	0.53	KSSG2.5-21
M5	9						0.53	● KSSG2.5-21 J18
M5	9						0.52	● KSSG2.5-21 J19
M5	9						0.51	● KSSG2.5-21 J20
M5	9						0.48	● KSSG2.5-21 J22
M6	9						0.44	● KSSG2.5-21 J25
—	—	86.0	40.6	8.77	4.14	0.12~0.22	0.60	KSSG2.5-22
M5	9						0.59	● KSSG2.5-22 J18
M5	9						0.58	● KSSG2.5-22 J19
M5	9						0.57	● KSSG2.5-22 J20
M5	9						0.55	● KSSG2.5-22 J22
M6	9						0.50	● KSSG2.5-22 J25

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been reworked will not be black oxide coated.
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usages. For secure fastening, please use dowel pins, in combination.

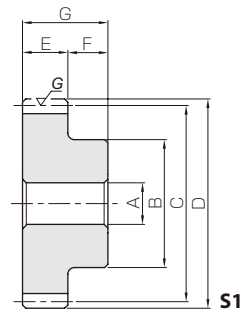
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

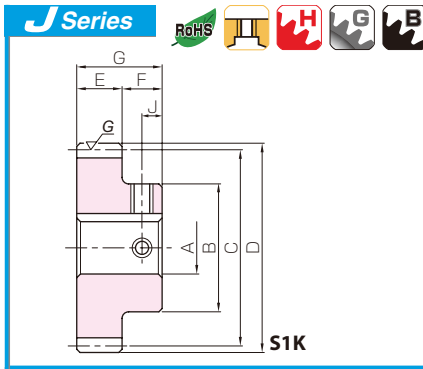


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG2.5-23 ● KSSG2.5-23 J18 ● KSSG2.5-23 J19 ● KSSG2.5-23 J20 ● KSSG2.5-23 J22 ● KSSG2.5-23 J25	m2.5	23	S1	18	46	57.5	62.5	25	18	43	—
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
KSSG2.5-24 ● KSSG2.5-24 J18 ● KSSG2.5-24 J19 ● KSSG2.5-24 J20 ● KSSG2.5-24 J22 ● KSSG2.5-24 J25 ● KSSG2.5-24 J28	m2.5	24	S1	18	48	60	65	25	18	43	—
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
S1K	28	8 x 3.3									
KSSG2.5-25 ● KSSG2.5-25 J20 ● KSSG2.5-25 J22 ● KSSG2.5-25 J25 ● KSSG2.5-25 J28 ● KSSG2.5-25 J30	m2.5	25	S1	20	50	62.5	67.5	25	18	43	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
KSSG2.5-26 ● KSSG2.5-26 J20 ● KSSG2.5-26 J22 ● KSSG2.5-26 J25 ● KSSG2.5-26 J28 ● KSSG2.5-26 J30 ● KSSG2.5-26 J32	m2.5	26	S1	20	54	65	70	25	18	43	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
S1K	32	10 x 3.3									
KSSG2.5-27 ● KSSG2.5-27 J20 ● KSSG2.5-27 J22 ● KSSG2.5-27 J25 ● KSSG2.5-27 J28 ● KSSG2.5-27 J30 ● KSSG2.5-27 J32	m2.5	27	S1	20	56	67.5	72.5	25	18	43	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
S1K	32	10 x 3.3									
S1K	35	10 x 3.3									
KSSG2.5-28 ● KSSG2.5-28 J20 ● KSSG2.5-28 J22 ● KSSG2.5-28 J25 ● KSSG2.5-28 J28 ● KSSG2.5-28 J30 ● KSSG2.5-28 J32 ● KSSG2.5-28 J35	m2.5	28	S1	20	60	70	75	25	18	43	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
S1K	32	10 x 3.3									
S1K	35	10 x 3.3									
KSSG2.5-29 ● KSSG2.5-29 J20 ● KSSG2.5-29 J22 ● KSSG2.5-29 J25 ● KSSG2.5-29 J28 ● KSSG2.5-29 J30 ● KSSG2.5-29 J32 ● KSSG2.5-29 J35	m2.5	29	S1	20	60	72.5	77.5	25	18	43	—
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
S1K	32	10 x 3.3									
S1K	35	10 x 3.3									

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	91.6	44.8	9.34	4.57	0.12~0.22	0.66	KSSG2.5-23
M5	9							●KSSG2.5-23 J18
M5	9							●KSSG2.5-23 J19
M5	9							●KSSG2.5-23 J20
M5	9							●KSSG2.5-23 J22
M6	9							●KSSG2.5-23 J25
—	—	97.3	49.2	9.92	5.02	0.12~0.22	0.72	KSSG2.5-24
M5	9							●KSSG2.5-24 J18
M5	9							●KSSG2.5-24 J19
M5	9							●KSSG2.5-24 J20
M5	9							●KSSG2.5-24 J22
M6	9							●KSSG2.5-24 J25
—	—	103	53.8	10.5	5.48	0.12~0.22	0.77	KSSG2.5-25
M5	9							●KSSG2.5-25 J20
M5	9							●KSSG2.5-25 J22
M6	9							●KSSG2.5-25 J25
M6	9							●KSSG2.5-25 J28
M6	9							●KSSG2.5-25 J30
—	—	109	58.4	11.1	5.95	0.12~0.22	0.87	KSSG2.5-26
M5	9							●KSSG2.5-26 J20
M5	9							●KSSG2.5-26 J22
M6	9							●KSSG2.5-26 J25
M6	9							●KSSG2.5-26 J28
M8	9							●KSSG2.5-26 J30
—	—	115	63.2	11.7	6.44	0.12~0.22	0.94	KSSG2.5-27
M5*	9							●KSSG2.5-27 J20
M5	9							●KSSG2.5-27 J22
M6	9							●KSSG2.5-27 J25
M6	9							●KSSG2.5-27 J28
M8	9							●KSSG2.5-27 J32
—	—	120	68.2	12.3	6.95	0.12~0.22	1.05	KSSG2.5-28
M5*	9							●KSSG2.5-28 J20
M5*	9							●KSSG2.5-28 J22
M6	9							●KSSG2.5-28 J25
M6	9							●KSSG2.5-28 J28
M8	9							●KSSG2.5-28 J32
—	—	126	73.3	12.9	7.48	0.12~0.22	1.10	KSSG2.5-29
M5*	9							●KSSG2.5-29 J20
M5*	9							●KSSG2.5-29 J22
M6	9							●KSSG2.5-29 J25
M6	9							●KSSG2.5-29 J28
M8	9							●KSSG2.5-29 J32

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been reworked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

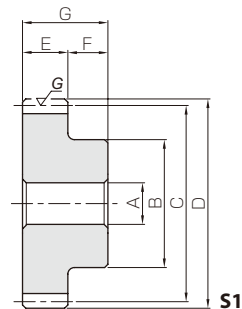
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

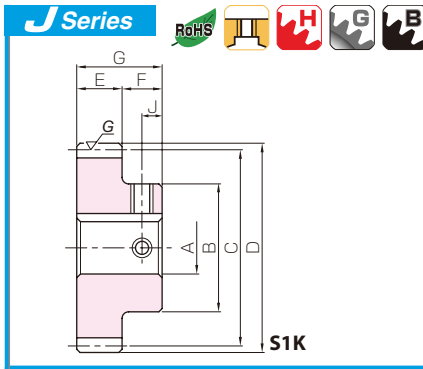


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway								
				A _{H7}	B	C	D	E	F	G	WidthxDepth								
KSSG2.5-30 ● KSSG2.5-30 J20 ● KSSG2.5-30 J22 ● KSSG2.5-30 J25 ● KSSG2.5-30 J28 ● KSSG2.5-30 J30 ● KSSG2.5-30 J32 ● KSSG2.5-30 J35	m2.5	30	S1	20	65	75	80	25	18	43	—								
			S1K	20							6 x 2.8								
			S1K	22							6 x 2.8								
			S1K	25							8 x 3.3								
			S1K	28							8 x 3.3								
			S1K	30							8 x 3.3								
			S1K	32							10 x 3.3								
			S1K	35							10 x 3.3								
			KSSG2.5-32 ● KSSG2.5-32 J20 ● KSSG2.5-32 J22 ● KSSG2.5-32 J25 ● KSSG2.5-32 J28 ● KSSG2.5-32 J30 ● KSSG2.5-32 J32 ● KSSG2.5-32 J35 ● KSSG2.5-32 J40	32							S1	20	70	80	85	25	18	43	—
											S1K	20							6 x 2.8
S1K	22	6 x 2.8																	
S1K	25	8 x 3.3																	
S1K	28	8 x 3.3																	
S1K	30	8 x 3.3																	
S1K	32	10 x 3.3																	
S1K	35	10 x 3.3																	
S1K	40	12 x 3.3																	
KSSG2.5-34 ● KSSG2.5-34 J20 ● KSSG2.5-34 J22 ● KSSG2.5-34 J25 ● KSSG2.5-34 J28 ● KSSG2.5-34 J30 ● KSSG2.5-34 J32 ● KSSG2.5-34 J35 ● KSSG2.5-34 J40	34	S1			20	70	85	90	25	18	43	—							
		S1K	20	6 x 2.8															
		S1K	22	6 x 2.8															
		S1K	25	8 x 3.3															
		S1K	28	8 x 3.3															
		S1K	30	8 x 3.3															
		S1K	32	10 x 3.3															
		S1K	35	10 x 3.3															
		S1K	40	12 x 3.3															
		KSSG2.5-35 ● KSSG2.5-35 J20 ● KSSG2.5-35 J22 ● KSSG2.5-35 J25 ● KSSG2.5-35 J28 ● KSSG2.5-35 J30 ● KSSG2.5-35 J32 ● KSSG2.5-35 J35 ● KSSG2.5-35 J40	35	S1	20							70	87.5	92.5	25	18	43	—	
S1K	20			6 x 2.8															
S1K	22			6 x 2.8															
S1K	25			8 x 3.3															
S1K	28			8 x 3.3															
S1K	30			8 x 3.3															
S1K	32			10 x 3.3															
S1K	35			10 x 3.3															
S1K	40			12 x 3.3															
KSSG2.5-36 ● KSSG2.5-36 J20 ● KSSG2.5-36 J22 ● KSSG2.5-36 J25 ● KSSG2.5-36 J28 ● KSSG2.5-36 J30 ● KSSG2.5-36 J32 ● KSSG2.5-36 J35 ● KSSG2.5-36 J40	36			S1	20	70	90	95	25	18	43							—	
		S1K	20	6 x 2.8															
		S1K	22	6 x 2.8															
		S1K	25	8 x 3.3															
		S1K	28	8 x 3.3															
		S1K	30	8 x 3.3															
		S1K	32	10 x 3.3															
		S1K	35	10 x 3.3															
		S1K	40	12 x 3.3															
		KSSG2.5-38 ● KSSG2.5-38 J20 ● KSSG2.5-38 J22 ● KSSG2.5-38 J25 ● KSSG2.5-38 J28 ● KSSG2.5-38 J30 ● KSSG2.5-38 J32 ● KSSG2.5-38 J35 ● KSSG2.5-38 J40	38	S1	20							70	95	100	25	18	43	—	
S1K	20			6 x 2.8															
S1K	22			6 x 2.8															
S1K	25			8 x 3.3															
S1K	28			8 x 3.3															
S1K	30			8 x 3.3															
S1K	32			10 x 3.3															
S1K	35			10 x 3.3															
S1K	40			12 x 3.3															

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	132	78.7	13.5	8.03	0.12~0.22	1.23 1.22 1.19 1.16 1.11 1.08 1.05 0.99	KSSG2.5-30 ● KSSG2.5-30 J20 ● KSSG2.5-30 J22 ● KSSG2.5-30 J25 ● KSSG2.5-30 J28 ● KSSG2.5-30 J30 ● KSSG2.5-30 J32 ● KSSG2.5-30 J35
M5*	9							
M5*	9							
M6	9							
M6	9							
M6	9							
M8	9							
M8	9							
—	—	144	90.1	14.7	9.19	0.12~0.22	1.42 1.41 1.39 1.35 1.31 1.28 1.24 1.19 1.09	KSSG2.5-32 ● KSSG2.5-32 J20 ● KSSG2.5-32 J22 ● KSSG2.5-32 J25 ● KSSG2.5-32 J28 ● KSSG2.5-32 J30 ● KSSG2.5-32 J32 ● KSSG2.5-32 J35 ● KSSG2.5-32 J40
M5*	9							
M5*	9							
M6*	9							
M6*	9							
M6	9							
M8	9							
M8	9							
—	—	156	102	15.9	10.4	0.12~0.22	1.55 1.53 1.51 1.47 1.43 1.40 1.36 1.31 1.21	KSSG2.5-34 ● KSSG2.5-34 J20 ● KSSG2.5-34 J22 ● KSSG2.5-34 J25 ● KSSG2.5-34 J28 ● KSSG2.5-34 J30 ● KSSG2.5-34 J32 ● KSSG2.5-34 J35 ● KSSG2.5-34 J40
M5*	9							
M5*	9							
M6*	9							
M6*	9							
M6	9							
M8	9							
M8	9							
—	—	162	109	16.5	11.1	0.12~0.22	1.62 1.60 1.58 1.54 1.50 1.47 1.43 1.38 1.28	KSSG2.5-35 ● KSSG2.5-35 J20 ● KSSG2.5-35 J22 ● KSSG2.5-35 J25 ● KSSG2.5-35 J28 ● KSSG2.5-35 J30 ● KSSG2.5-35 J32 ● KSSG2.5-35 J35 ● KSSG2.5-35 J40
M5*	9							
M5*	9							
M6*	9							
M6*	9							
M6	9							
M8	9							
M8	9							
—	—	168	115	17.1	11.8	0.12~0.22	1.69 1.67 1.65 1.61 1.57 1.54 1.50 1.45 1.35	KSSG2.5-36 ● KSSG2.5-36 J20 ● KSSG2.5-36 J22 ● KSSG2.5-36 J25 ● KSSG2.5-36 J28 ● KSSG2.5-36 J30 ● KSSG2.5-36 J32 ● KSSG2.5-36 J35 ● KSSG2.5-36 J40
M5*	9							
M5*	9							
M6*	9							
M6*	9							
M6	9							
M8	9							
M8	9							
—	—	180	129	18.3	13.2	0.12~0.22	1.83 1.81 1.79 1.75 1.71 1.68 1.64 1.59 1.49	KSSG2.5-38 ● KSSG2.5-38 J20 ● KSSG2.5-38 J22 ● KSSG2.5-38 J25 ● KSSG2.5-38 J28 ● KSSG2.5-38 J30 ● KSSG2.5-38 J32 ● KSSG2.5-38 J35 ● KSSG2.5-38 J40
M5*	9							
M5*	9							
M6*	9							
M6*	9							
M6	9							
M8	9							
M8	9							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

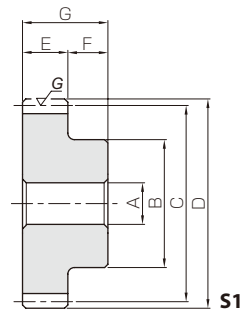
- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.



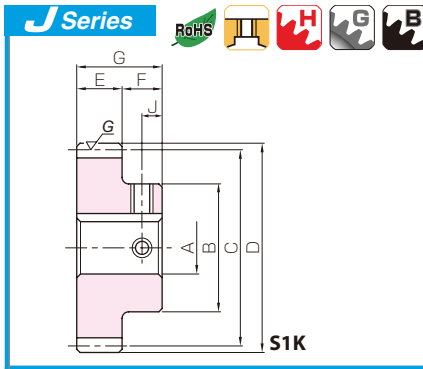
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway	
				A _{H7}	B	C	D	E	F	G	WidthxDepth	
KSSG2.5-40 ●KSSG2.5-40 J25 ●KSSG2.5-40 J28 ●KSSG2.5-40 J30 ●KSSG2.5-40 J32 ●KSSG2.5-40 J35 ●KSSG2.5-40 J40	m2.5	40	S1	25	70	100	105	25	18	43	—	
			S1K	25							8 x 3.3	
			S1K	28							8 x 3.3	
			S1K	30							8 x 3.3	
			S1K	32							10 x 3.3	
			S1K	35							10 x 3.3	
		S1K	40	12 x 3.3								
		KSSG2.5-42 ●KSSG2.5-42 J25 ●KSSG2.5-42 J28 ●KSSG2.5-42 J30 ●KSSG2.5-42 J32 ●KSSG2.5-42 J35 ●KSSG2.5-42 J40 ●KSSG2.5-42 J45	42	S1	25	75	105	110	25	18	43	—
				S1K	25							8 x 3.3
				S1K	28							8 x 3.3
				S1K	30							8 x 3.3
				S1K	32							10 x 3.3
S1K	35			10 x 3.3								
S1K	40	12 x 3.3										
S1K	45	14 x 3.8										
KSSG2.5-44 ●KSSG2.5-44 J25 ●KSSG2.5-44 J28 ●KSSG2.5-44 J30 ●KSSG2.5-44 J32 ●KSSG2.5-44 J35 ●KSSG2.5-44 J40 ●KSSG2.5-44 J45	44	S1	25	75	110	115	25	18	43	—		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
		S1K	32							10 x 3.3		
		S1K	35							10 x 3.3		
S1K	40	12 x 3.3										
S1K	45	14 x 3.8										
KSSG2.5-45 ●KSSG2.5-45 J25 ●KSSG2.5-45 J28 ●KSSG2.5-45 J30 ●KSSG2.5-45 J32 ●KSSG2.5-45 J35 ●KSSG2.5-45 J40 ●KSSG2.5-45 J45	45	S1	25	75	112.5	117.5	25	18	43	—		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
		S1K	32							10 x 3.3		
		S1K	35							10 x 3.3		
S1K	40	12 x 3.3										
S1K	45	14 x 3.8										
KSSG2.5-48 ●KSSG2.5-48 J25 ●KSSG2.5-48 J28 ●KSSG2.5-48 J30 ●KSSG2.5-48 J32 ●KSSG2.5-48 J35 ●KSSG2.5-48 J40 ●KSSG2.5-48 J45	48	S1	25	75	120	125	25	18	43	—		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
		S1K	32							10 x 3.3		
		S1K	35							10 x 3.3		
S1K	40	12 x 3.3										
S1K	45	14 x 3.8										
KSSG2.5-50 ●KSSG2.5-50 J25 ●KSSG2.5-50 J28 ●KSSG2.5-50 J30 ●KSSG2.5-50 J32 ●KSSG2.5-50 J35 ●KSSG2.5-50 J40 ●KSSG2.5-50 J45	50	S1	25	80	125	130	25	18	43	—		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
		S1K	32							10 x 3.3		
		S1K	35							10 x 3.3		
S1K	40	12 x 3.3										
S1K	45	14 x 3.8										

*Please see book one for additional products in these modules.

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						1.92	KSSG2.5-40
M6*	9						1.90	● KSSG2.5-40 J25
M6*	9						1.86	● KSSG2.5-40 J28
M6	9	177	133	18.1	13.6	0.12~0.22	1.83	● KSSG2.5-40 J30
M8	9						1.79	● KSSG2.5-40 J32
M8	9						1.74	● KSSG2.5-40 J35
M8	9						1.64	● KSSG2.5-40 J40
—	—						2.16	KSSG2.5-42
M6*	9						2.14	● KSSG2.5-42 J25
M6*	9						2.10	● KSSG2.5-42 J28
M6*	9	188	147	19.2	15.0	0.14~0.24	2.07	● KSSG2.5-42 J30
M8	9						2.03	● KSSG2.5-42 J32
M8	9						1.98	● KSSG2.5-42 J35
M8	9						1.88	● KSSG2.5-42 J40
M10	9						1.76	● KSSG2.5-42 J45
—	—						2.32	KSSG2.5-44
M6*	9						2.30	● KSSG2.5-44 J25
M6*	9						2.26	● KSSG2.5-44 J28
M6*	9	200	163	20.4	16.6	0.14~0.24	2.23	● KSSG2.5-44 J30
M8	9						2.20	● KSSG2.5-44 J32
M8	9						2.14	● KSSG2.5-44 J35
M8	9						2.04	● KSSG2.5-44 J40
M10	9						1.92	● KSSG2.5-44 J45
—	—						2.41	KSSG2.5-45
M6*	9						2.39	● KSSG2.5-45 J25
M6*	9						2.35	● KSSG2.5-45 J28
M6*	9	205	170	20.9	17.4	0.14~0.24	2.32	● KSSG2.5-45 J30
M8	9						2.28	● KSSG2.5-45 J32
M8	9						2.23	● KSSG2.5-45 J35
M8	9						2.13	● KSSG2.5-45 J40
M10	9						2.01	● KSSG2.5-45 J45
—	—						2.68	KSSG2.5-48
M6*	9						2.66	● KSSG2.5-48 J25
M6*	9						2.62	● KSSG2.5-48 J28
M6*	9	222	195	22.7	19.9	0.14~0.24	2.59	● KSSG2.5-48 J30
M8	9						2.55	● KSSG2.5-48 J32
M8	9						2.50	● KSSG2.5-48 J35
M8	9						2.40	● KSSG2.5-48 J40
M10	9						2.28	● KSSG2.5-48 J45
—	—						2.95	KSSG2.5-50
M6*	9						2.93	● KSSG2.5-50 J25
M6*	9						2.89	● KSSG2.5-50 J28
M6*	9	234	213	23.8	21.7	0.14~0.24	2.86	● KSSG2.5-50 J30
M8	9						2.82	● KSSG2.5-50 J32
M8	9						2.77	● KSSG2.5-50 J35
M8	9						2.67	● KSSG2.5-50 J40
M10	9						2.55	● KSSG2.5-50 J45

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).

② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

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⑤ Areas of products which have been re-worked will not be black oxide coated.

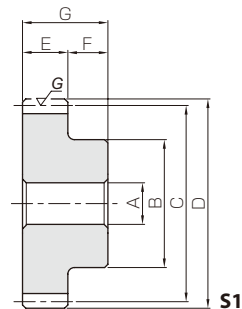
⑥ For products having a tapped hole, a set screw is included.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

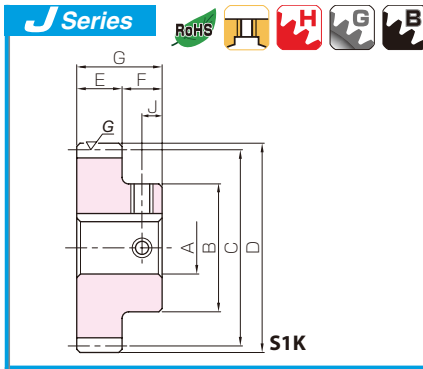


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway									
				A _{H7}	B	C	D	E	F	G	WidthxDepth									
KSSG2.5-55 ●KSSG2.5-55 J25 ●KSSG2.5-55 J28 ●KSSG2.5-55 J30 ●KSSG2.5-55 J32 ●KSSG2.5-55 J35 ●KSSG2.5-55 J40 ●KSSG2.5-55 J45	m2.5	55	S1	25	80	137.5	142.5	25	18	43	—									
			S1K	25							8 x 3.3									
			S1K	28							8 x 3.3									
			S1K	30							8 x 3.3									
			S1K	32							10 x 3.3									
			S1K	35							10 x 3.3									
			S1K	40							12 x 3.3									
			S1K	45							14 x 3.8									
			KSSG2.5-56 ●KSSG2.5-56 J25 ●KSSG2.5-56 J28 ●KSSG2.5-56 J30 ●KSSG2.5-56 J32 ●KSSG2.5-56 J35 ●KSSG2.5-56 J40 ●KSSG2.5-56 J45	m2.5							56	S1	25	80	140	145	25	18	43	—
												S1K	25							8 x 3.3
S1K	28	8 x 3.3																		
S1K	30	8 x 3.3																		
S1K	32	10 x 3.3																		
S1K	35	10 x 3.3																		
S1K	40	12 x 3.3																		
S1K	45	14 x 3.8																		
KSSG2.5-60 ●KSSG2.5-60 J25 ●KSSG2.5-60 J28 ●KSSG2.5-60 J30 ●KSSG2.5-60 J32 ●KSSG2.5-60 J35 ●KSSG2.5-60 J40 ●KSSG2.5-60 J45	m2.5	60			S1	25	80	150	155	25		18	43							—
					S1K	25														8 x 3.3
			S1K	28	8 x 3.3															
			S1K	30	8 x 3.3															
			S1K	32	10 x 3.3															
			S1K	35	10 x 3.3															
			S1K	40	12 x 3.3															
			S1K	45	14 x 3.8															
			KSSG2.5-70 ●KSSG2.5-70 J25 ●KSSG2.5-70 J28 ●KSSG2.5-70 J30 ●KSSG2.5-70 J32 ●KSSG2.5-70 J35 ●KSSG2.5-70 J40 ●KSSG2.5-70 J45	m2.5	70	S1					25			80	175	180	25	18	43	—
						S1K					25									8 x 3.3
S1K	28	8 x 3.3																		
S1K	30	8 x 3.3																		
S1K	32	10 x 3.3																		
S1K	35	10 x 3.3																		
S1K	40	12 x 3.3																		
S1K	45	14 x 3.8																		
KSSG2.5-75 ●KSSG2.5-75 J25 ●KSSG2.5-75 J28 ●KSSG2.5-75 J30 ●KSSG2.5-75 J32 ●KSSG2.5-75 J35 ●KSSG2.5-75 J40 ●KSSG2.5-75 J45 ●KSSG2.5-75 J50	m2.5	75				S1	25	90	187.5	192.5	25	18	43							—
						S1K	25													8 x 3.3
			S1K	28	8 x 3.3															
			S1K	30	8 x 3.3															
			S1K	32	10 x 3.3															
			S1K	35	10 x 3.3															
			S1K	40	12 x 3.3															
			S1K	45	14 x 3.8															
			S1K	50	14 x 3.8															
			KSSG2.5-80 ●KSSG2.5-80 J25 ●KSSG2.5-80 J28 ●KSSG2.5-80 J30 ●KSSG2.5-80 J32 ●KSSG2.5-80 J35 ●KSSG2.5-80 J40 ●KSSG2.5-80 J45 ●KSSG2.5-80 J50	m2.5	80	S1	25							90	200	205	25	18	43	—
S1K	25	8 x 3.3																		
S1K	28	8 x 3.3																		
S1K	30	8 x 3.3																		
S1K	32	10 x 3.3																		
S1K	35	10 x 3.3																		
S1K	40	12 x 3.3																		
S1K	45	14 x 3.8																		
S1K	50	14 x 3.8																		

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						3.46	KSSG2.5-55
M6*	9						3.44	● KSSG2.5-55 J25
M6*	9						3.40	● KSSG2.5-55 J28
M6*	9						3.37	● KSSG2.5-55 J30
M8	9	262	260	26.8	26.5	0.14~0.24	3.33	● KSSG2.5-55 J32
M8	9						3.28	● KSSG2.5-55 J35
M8	9						3.18	● KSSG2.5-55 J40
M10	9						3.06	● KSSG2.5-55 J45
—	—						3.57	KSSG2.5-56
M6*	9						3.54	● KSSG2.5-56 J25
M6*	9						3.50	● KSSG2.5-56 J28
M6*	9	268	270	27.3	27.5	0.14~0.24	3.47	● KSSG2.5-56 J30
M8	9						3.44	● KSSG2.5-56 J32
M8	9						3.38	● KSSG2.5-56 J35
M8	9						3.28	● KSSG2.5-56 J40
M10	9						3.16	● KSSG2.5-56 J45
—	—						4.01	KSSG2.5-60
M6*	9						3.99	● KSSG2.5-60 J25
M6*	9						3.95	● KSSG2.5-60 J28
M6*	9	291	311	29.7	31.8	0.14~0.24	3.92	● KSSG2.5-60 J30
M8	9						3.88	● KSSG2.5-60 J32
M8	9						3.83	● KSSG2.5-60 J35
M8	9						3.73	● KSSG2.5-60 J40
M10	9						3.61	● KSSG2.5-60 J45
—	—						5.26	KSSG2.5-70
M6*	9						5.24	● KSSG2.5-70 J25
M6*	9						5.20	● KSSG2.5-70 J28
M6*	9	324	399	33.1	40.7	0.14~0.24	5.17	● KSSG2.5-70 J30
M8	9						5.13	● KSSG2.5-70 J32
M8	9						5.08	● KSSG2.5-70 J35
M8	9						4.98	● KSSG2.5-70 J40
M10	9						4.86	● KSSG2.5-70 J45
—	—						6.15	KSSG2.5-75
M6*	9						6.13	● KSSG2.5-75 J25
M6*	9						6.08	● KSSG2.5-75 J28
M6*	9	351	461	35.8	47.0	0.14~0.24	6.05	● KSSG2.5-75 J30
M8*	9						6.01	● KSSG2.5-75 J32
M8*	9						5.96	● KSSG2.5-75 J35
M8	9						5.87	● KSSG2.5-75 J40
M10	9						5.74	● KSSG2.5-75 J45
M10	9						5.62	● KSSG2.5-75 J50
—	—						6.90	KSSG2.5-80
M6*	9						6.87	● KSSG2.5-80 J25
M6*	9						6.83	● KSSG2.5-80 J28
M6*	9	378	527	38.6	53.7	0.14~0.24	6.80	● KSSG2.5-80 J30
M8*	9						6.76	● KSSG2.5-80 J32
M8*	9						6.71	● KSSG2.5-80 J35
M8	9						6.61	● KSSG2.5-80 J40
M10	9						6.49	● KSSG2.5-80 J45
M10	9						6.37	● KSSG2.5-80 J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
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[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been reworked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

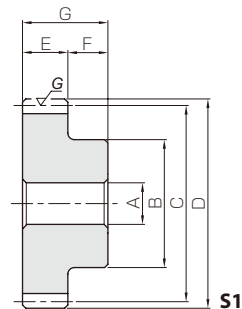
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

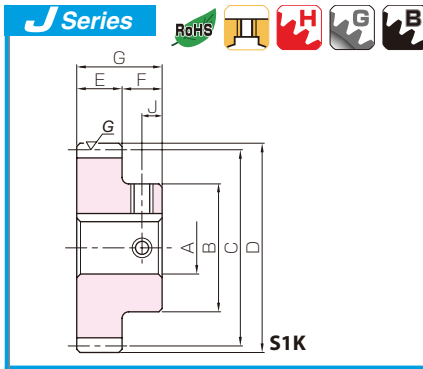


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG3-14	m3	14	S1	16	34	42	48	30	20	50	—
●KSSG3-14 J16			S1K	16							5 x 2.3
●KSSG3-14 J17			S1K	17							5 x 2.3
KSSG3-15		15	S1	16	36	45	51	30	20	50	—
●KSSG3-15 J16			S1K	16							5 x 2.3
●KSSG3-15 J17			S1K	17							5 x 2.3
●KSSG3-15 J18		S1K	18	6 x 2.8							
●KSSG3-15 J19		S1K	19	6 x 2.8							
KSSG3-16		16	S1	16	38	48	54	30	20	50	—
●KSSG3-16 J16			S1K	16							5 x 2.3
●KSSG3-16 J17			S1K	17							5 x 2.3
●KSSG3-16 J18			S1K	18							6 x 2.8
●KSSG3-16 J19			S1K	19							6 x 2.8
●KSSG3-16 J20			S1K	20							6 x 2.8
●KSSG3-16 J22		S1K	22	6 x 2.8							
KSSG3-17		17	S1	16	37	51	57	30	20	50	—
●KSSG3-17 J16			S1K	16							5 x 2.3
●KSSG3-17 J17			S1K	17							5 x 2.3
●KSSG3-17 J18			S1K	18							6 x 2.8
●KSSG3-17 J19			S1K	19							6 x 2.8
●KSSG3-17 J20			S1K	20							6 x 2.8
●KSSG3-17 J22	S1K	22	6 x 2.8								
KSSG3-18	18	S1	16	40	54	60	30	20	50	—	
●KSSG3-18 J16		S1K	16							5 x 2.3	
●KSSG3-18 J17		S1K	17							5 x 2.3	
●KSSG3-18 J18		S1K	18							6 x 2.8	
●KSSG3-18 J19		S1K	19							6 x 2.8	
●KSSG3-18 J20		S1K	20							6 x 2.8	
●KSSG3-18 J22	S1K	22	6 x 2.8								
KSSG3-19	19	S1	16	45	57	63	30	20	50	—	
●KSSG3-19 J16		S1K	16							5 x 2.3	
●KSSG3-19 J17		S1K	17							5 x 2.3	
●KSSG3-19 J18		S1K	18							6 x 2.8	
●KSSG3-19 J19		S1K	19							6 x 2.8	
●KSSG3-19 J20		S1K	20							6 x 2.8	
●KSSG3-19 J22	S1K	22	6 x 2.8								
●KSSG3-19 J25	S1K	25	8 x 3.3								
KSSG3-20	20	S1	20	50	60	66	30	20	50	—	
●KSSG3-20 J20		S1K	20							6 x 2.8	
●KSSG3-20 J22		S1K	22							6 x 2.8	
●KSSG3-20 J25		S1K	25							8 x 3.3	
●KSSG3-20 J28		S1K	28							8 x 3.3	
●KSSG3-20 J30		S1K	30							8 x 3.3	
KSSG3-21	21	S1	20	52	63	69	30	20	50	—	
●KSSG3-21 J20		S1K	20							6 x 2.8	
●KSSG3-21 J22		S1K	22							6 x 2.8	
●KSSG3-21 J25		S1K	25							8 x 3.3	
●KSSG3-21 J28		S1K	28							8 x 3.3	
●KSSG3-21 J30		S1K	30							8 x 3.3	

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	74.1	26.1	7.55	2.66	0.10~0.20	0.39	KSSG3-14
M4	10							
M4	10	83.1	30.5	8.48	3.11	0.10~0.20	0.37	●KSSG3-14 J16 ●KSSG3-14 J17
—	—							
M4	10	92.1	35.2	9.39	3.59	0.10~0.20	0.45	KSSG3-15
M4	10							
M5	10	101	40.3	10.3	4.11	0.12~0.22	0.44	●KSSG3-15 J16 ●KSSG3-15 J17 ●KSSG3-15 J18 ●KSSG3-15 J19
M5	10							
M5	10	110	45.8	11.3	4.67	0.12~0.22	0.42	KSSG3-16
M5	10							
M5	10	120	51.6	12.2	5.26	0.12~0.22	0.52	●KSSG3-16 J16 ●KSSG3-16 J17 ●KSSG3-16 J18 ●KSSG3-16 J19 ●KSSG3-16 J20 ●KSSG3-16 J22
M5	10							
M5	10	129	57.8	13.2	5.90	0.12~0.22	0.50	KSSG3-17
M5	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.53	●KSSG3-17 J16 ●KSSG3-17 J17 ●KSSG3-17 J18 ●KSSG3-17 J19 ●KSSG3-17 J20 ●KSSG3-17 J22
M6	10							
M6	10	120	51.6	12.2	5.26	0.12~0.22	0.49	KSSG3-18
M6	10							
M6	10	129	57.8	13.2	5.90	0.12~0.22	0.65	●KSSG3-18 J16 ●KSSG3-18 J17 ●KSSG3-18 J18 ●KSSG3-18 J19 ●KSSG3-18 J20 ●KSSG3-18 J22
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.63	KSSG3-19
M6	10							
M6	10	120	51.6	12.2	5.26	0.12~0.22	0.61	●KSSG3-19 J16 ●KSSG3-19 J17 ●KSSG3-19 J18 ●KSSG3-19 J19 ●KSSG3-19 J20 ●KSSG3-19 J22 ●KSSG3-19 J25
M6	10							
M6	10	129	57.8	13.2	5.90	0.12~0.22	0.58	KSSG3-20
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.72	●KSSG3-20 J20 ●KSSG3-20 J22 ●KSSG3-20 J25 ●KSSG3-20 J28 ●KSSG3-20 J30
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.68	KSSG3-21
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.84	●KSSG3-21 J20 ●KSSG3-21 J22 ●KSSG3-21 J25 ●KSSG3-21 J28 ●KSSG3-21 J30
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.82	KSSG3-21
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.93	●KSSG3-21 J20 ●KSSG3-21 J22 ●KSSG3-21 J25 ●KSSG3-21 J28 ●KSSG3-21 J30
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.91	KSSG3-21
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.86	●KSSG3-21 J20 ●KSSG3-21 J22 ●KSSG3-21 J25 ●KSSG3-21 J28 ●KSSG3-21 J30
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.81	KSSG3-21
M6	10							
M6	10	139	64.4	14.2	6.57	0.12~0.22	0.78	●KSSG3-21 J20 ●KSSG3-21 J22 ●KSSG3-21 J25 ●KSSG3-21 J28 ●KSSG3-21 J30
M6	10							

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).

② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order.

② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.



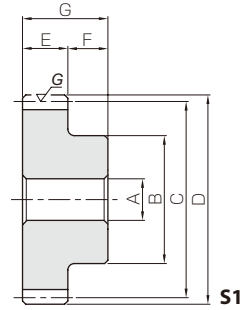


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

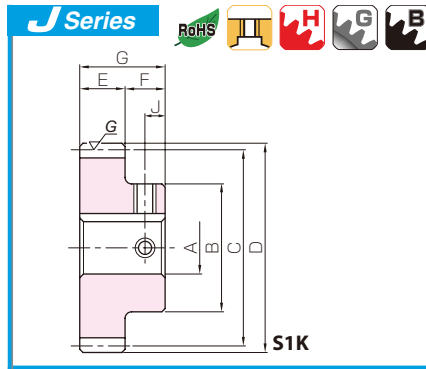
* The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway	
				A _{H7}	B	C	D	E	F	G	WidthxDepth	
KSSG3-22 ●KSSG3-22 J20 ●KSSG3-22 J22 ●KSSG3-22 J25 ●KSSG3-22 J28 ●KSSG3-22 J30 ●KSSG3-22 J32	m3	22	S1	20	54	66	72	30	20	50	—	
			S1K	20							6 x 2.8	
			S1K	22							6 x 2.8	
			S1K	25							8 x 3.3	
			S1K	28							8 x 3.3	
			S1K	30							8 x 3.3	
		S1K	32	10 x 3.3								
		KSSG3-23 ●KSSG3-23 J20 ●KSSG3-23 J22 ●KSSG3-23 J25 ●KSSG3-23 J28 ●KSSG3-23 J30 ●KSSG3-23 J32	23	S1	20	56	69	75	30	20	50	—
				S1K	20							6 x 2.8
				S1K	22							6 x 2.8
S1K	25			8 x 3.3								
S1K	28			8 x 3.3								
S1K	30			8 x 3.3								
S1K	32	10 x 3.3										
KSSG3-24 ●KSSG3-24 J20 ●KSSG3-24 J22 ●KSSG3-24 J25 ●KSSG3-24 J28 ●KSSG3-24 J30 ●KSSG3-24 J32	24	S1	20	58	72	78	30	20	50	—		
		S1K	20							6 x 2.8		
		S1K	22							6 x 2.8		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
S1K	32	10 x 3.3										
KSSG3-25 ●KSSG3-25 J20 ●KSSG3-25 J22 ●KSSG3-25 J25 ●KSSG3-25 J28 ●KSSG3-25 J30 ●KSSG3-25 J32 ●KSSG3-25 J35	25	S1	20	60	75	81	30	20	50	—		
		S1K	20							6 x 2.8		
		S1K	22							6 x 2.8		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
S1K	32	10 x 3.3										
S1K	35	10 x 3.3										
KSSG3-26 ●KSSG3-26 J20 ●KSSG3-26 J22 ●KSSG3-26 J25 ●KSSG3-26 J28 ●KSSG3-26 J30 ●KSSG3-26 J32 ●KSSG3-26 J35	26	S1	20	62	78	84	30	20	50	—		
		S1K	20							6 x 2.8		
		S1K	22							6 x 2.8		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
S1K	32	10 x 3.3										
S1K	35	10 x 3.3										
KSSG3-27 ●KSSG3-27 J20 ●KSSG3-27 J22 ●KSSG3-27 J25 ●KSSG3-27 J28 ●KSSG3-27 J30 ●KSSG3-27 J32 ●KSSG3-27 J35	27	S1	20	65	81	87	30	20	50	—		
		S1K	20							6 x 2.8		
		S1K	22							6 x 2.8		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
S1K	32	10 x 3.3										
S1K	35	10 x 3.3										
KSSG3-28 ●KSSG3-28 J20 ●KSSG3-28 J22 ●KSSG3-28 J25 ●KSSG3-28 J28 ●KSSG3-28 J30 ●KSSG3-28 J32 ●KSSG3-28 J35 ●KSSG3-28 J40	28	S1	20	70	84	90	30	20	50	—		
		S1K	20							6 x 2.8		
		S1K	22							6 x 2.8		
		S1K	25							8 x 3.3		
		S1K	28							8 x 3.3		
		S1K	30							8 x 3.3		
		S1K	32							10 x 3.3		
		S1K	35							10 x 3.3		
		S1K	40							12 x 3.3		

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	149	71.3	15.1	7.28	0.12~0.22	1.04 1.03 1.01 0.96 0.91 0.87 0.83	KSSG3-22 ●KSSG3-22 J20 ●KSSG3-22 J22 ●KSSG3-22 J25 ●KSSG3-22 J28 ●KSSG3-22 J30 ●KSSG3-22 J32
M5	10							
M5	10							
M6	10							
M6	10							
M6	10							
M8	10							
—	—	158	78.7	16.1	8.02	0.12~0.22	1.14 1.13 1.11 1.06 1.01 0.98 0.93	KSSG3-23 ●KSSG3-23 J20 ●KSSG3-23 J22 ●KSSG3-23 J25 ●KSSG3-23 J28 ●KSSG3-23 J30 ●KSSG3-23 J32
M5*	10							
M5	10							
M6	10							
M6	10							
M6	10							
M8	10							
—	—	168	86.4	17.1	8.81	0.12~0.22	1.25 1.21 1.19 1.14 1.09 1.05 1.01	KSSG3-24 ●KSSG3-24 J20 ●KSSG3-24 J22 ●KSSG3-24 J25 ●KSSG3-24 J28 ●KSSG3-24 J30 ●KSSG3-24 J32
M5*	10							
M5	10							
M6	10							
M6	10							
M6	10							
M8	10							
—	—	178	94.5	18.1	9.64	0.12~0.22	1.36 1.35 1.32 1.28 1.23 1.19 1.15 1.09	KSSG3-25 ●KSSG3-25 J20 ●KSSG3-25 J22 ●KSSG3-25 J25 ●KSSG3-25 J28 ●KSSG3-25 J30 ●KSSG3-25 J32 ●KSSG3-25 J35
M5*	10							
M5*	10							
M6	10							
M6	10							
M6	10							
M8	10							
—	—	188	103	19.2	10.5	0.12~0.22	1.48 1.46 1.44 1.39 1.34 1.31 1.26 1.20	KSSG3-26 ●KSSG3-26 J20 ●KSSG3-26 J22 ●KSSG3-26 J25 ●KSSG3-26 J28 ●KSSG3-26 J30 ●KSSG3-26 J32 ●KSSG3-26 J35
M5*	10							
M5*	10							
M6	10							
M6	10							
M6	10							
M8	10							
—	—	198	111	20.2	11.3	0.12~0.22	1.61 1.60 1.57 1.53 1.48 1.44 1.40 1.34	KSSG3-27 ●KSSG3-27 J20 ●KSSG3-27 J22 ●KSSG3-27 J25 ●KSSG3-27 J28 ●KSSG3-27 J30 ●KSSG3-27 J32 ●KSSG3-27 J35
M5*	10							
M5*	10							
M6	10							
M6	10							
M6	10							
M8	10							
—	—	208	120	21.2	12.2	0.12~0.22	1.79 1.77 1.74 1.70 1.65 1.62 1.57 1.51 1.39	KSSG3-28 ●KSSG3-28 J20 ●KSSG3-28 J22 ●KSSG3-28 J25 ●KSSG3-28 J28 ●KSSG3-28 J30 ●KSSG3-28 J32 ●KSSG3-28 J35 ●KSSG3-28 J40
M5*	10							
M5*	10							
M6*	10							
M6*	10							
M6	10							
M8	10							
M8	10							
M8	10							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

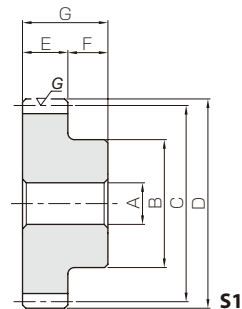
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

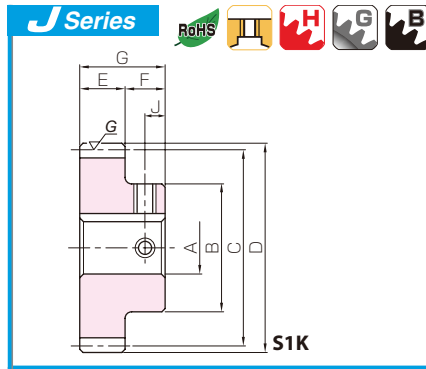


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
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- Worm Gear Pair
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- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway	
				A _{H7}	B	C	D	E	F	G	WidthxDepth	
KSSG3-29 ●KSSG3-29 J20 ●KSSG3-29 J22 ●KSSG3-29 J25 ●KSSG3-29 J28 ●KSSG3-29 J30 ●KSSG3-29 J32 ●KSSG3-29 J35 ●KSSG3-29 J40	m3	29	S1	20							—	
			S1K	20								6 x 2.8
			S1K	22								6 x 2.8
			S1K	25								8 x 3.3
			S1K	28	70	87	93	30	20	50		8 x 3.3
			S1K	30								8 x 3.3
			S1K	32								10 x 3.3
			S1K	35								10 x 3.3
			S1K	40								12 x 3.3
KSSG3-30 ●KSSG3-30 J25 ●KSSG3-30 J28 ●KSSG3-30 J30 ●KSSG3-30 J32 ●KSSG3-30 J35 ●KSSG3-30 J40 ●KSSG3-30 J45	m3	30	S1	25							—	
			S1K	25								8 x 3.3
			S1K	28								8 x 3.3
			S1K	30								8 x 3.3
			S1K	32	75	90	96	30	20	50		10 x 3.3
			S1K	35								10 x 3.3
			S1K	40								12 x 3.3
			S1K	45								14 x 3.8
			KSSG3-32 ●KSSG3-32 J25 ●KSSG3-32 J28 ●KSSG3-32 J30 ●KSSG3-32 J32 ●KSSG3-32 J35 ●KSSG3-32 J40 ●KSSG3-32 J45	m3	32	S1	25					
S1K	25											8 x 3.3
S1K	28											8 x 3.3
S1K	30											8 x 3.3
S1K	32	75				96	102	30	20	50		10 x 3.3
S1K	35											10 x 3.3
S1K	40											12 x 3.3
S1K	45											14 x 3.8
KSSG3-34 ●KSSG3-34 J25 ●KSSG3-34 J28 ●KSSG3-34 J30 ●KSSG3-34 J32 ●KSSG3-34 J35 ●KSSG3-34 J40 ●KSSG3-34 J45	m3	34				S1	25					
			S1K	25								8 x 3.3
			S1K	28								8 x 3.3
			S1K	30								8 x 3.3
			S1K	32	75	102	108	30	20	50		10 x 3.3
			S1K	35								10 x 3.3
			S1K	40								12 x 3.3
			S1K	45								14 x 3.8
			KSSG3-35 ●KSSG3-35 J25 ●KSSG3-35 J28 ●KSSG3-35 J30 ●KSSG3-35 J32 ●KSSG3-35 J35 ●KSSG3-35 J40 ●KSSG3-35 J45	m3	35	S1	25					
S1K	25											8 x 3.3
S1K	28											8 x 3.3
S1K	30											8 x 3.3
S1K	32	80				105	111	30	20	50		10 x 3.3
S1K	35											10 x 3.3
S1K	40											12 x 3.3
S1K	45											14 x 3.8
KSSG3-36 ●KSSG3-36 J25 ●KSSG3-36 J28 ●KSSG3-36 J30 ●KSSG3-36 J32 ●KSSG3-36 J35 ●KSSG3-36 J40 ●KSSG3-36 J45	m3	36				S1	25					
			S1K	25								8 x 3.3
			S1K	28								8 x 3.3v
			S1K	30								8 x 3.3
			S1K	32	80	108	114	30	20	50		10 x 3.3
			S1K	35								10 x 3.3
			S1K	40								12 x 3.3
			S1K	45								14 x 3.8

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)					
Size	J	Bending strength	Surface durability	Bending strength	Surface durability								
—	—						1.88	KSSG3-29					
M5*	10						1.86	● KSSG3-29 J20					
M5*	10						1.84	● KSSG3-29 J22					
M6*	10						1.79	● KSSG3-29 J25					
M6*	10	218	129	22.2	13.2	0.12~0.22	1.74	● KSSG3-29 J28					
M6	10						1.71	● KSSG3-29 J30					
M8	10						1.67	● KSSG3-29 J32					
M8	10						1.60	● KSSG3-29 J35					
M8	10						1.49	● KSSG3-29 J40					
—	—											2.00	KSSG3-30
M6*	10						228	138	23.3	14.1	0.12~0.22	1.98	● KSSG3-30 J25
M6*	10											1.93	● KSSG3-30 J28
M6*	10	1.90	● KSSG3-30 J30										
M8	10	1.85	● KSSG3-30 J32										
M8	10	1.79	● KSSG3-30 J35										
M8	10	1.68	● KSSG3-30 J40										
M10	10	1.54	● KSSG3-30 J45										
—	—											2.21	KSSG3-32
M6*	10	229	146	23.4	14.9	0.12~0.22	2.18	● KSSG3-32 J25					
M6*	10						2.14	● KSSG3-32 J28					
M6*	10						2.10	● KSSG3-32 J30					
M8	10						2.06	● KSSG3-32 J32					
M8	10						2.00	● KSSG3-32 J35					
M8	10						1.88	● KSSG3-32 J40					
M10	10						1.74	● KSSG3-32 J45					
—	—											2.43	KSSG3-34
M6*	10	248	166	25.3	17.0	0.14~0.24	2.40	● KSSG3-34 J25					
M6*	10						2.36	● KSSG3-34 J28					
M6*	10						2.32	● KSSG3-34 J30					
M8	10						2.28	● KSSG3-34 J32					
M8	10						2.22	● KSSG3-34 J35					
M8	10						2.10	● KSSG3-34 J40					
M10	10						1.96	● KSSG3-34 J45					
—	—											2.64	KSSG3-35
M6*	10	258	177	26.3	18.0	0.14~0.24	2.61	● KSSG3-35 J25					
M6*	10						2.56	● KSSG3-35 J28					
M6*	10						2.53	● KSSG3-35 J30					
M8	10						2.49	● KSSG3-35 J32					
M8	10						2.43	● KSSG3-35 J35					
M8	10						2.31	● KSSG3-35 J40					
M10	10						2.17	● KSSG3-35 J45					
—	—											2.75	KSSG3-36
M6*	10	268	188	27.3	19.1	0.14~0.24	2.73	● KSSG3-36 J25					
M6*	10						2.68	● KSSG3-36 J28					
M6*	10						2.65	● KSSG3-36 J30					
M8	10						2.61	● KSSG3-36 J32					
M8	10						2.54	● KSSG3-36 J35					
M8	10						2.43	● KSSG3-36 J40					
M10	10						2.29	● KSSG3-36 J45					

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).

② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

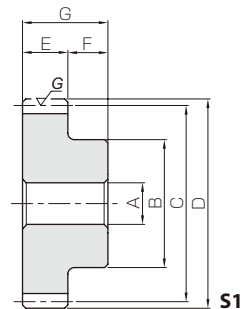
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

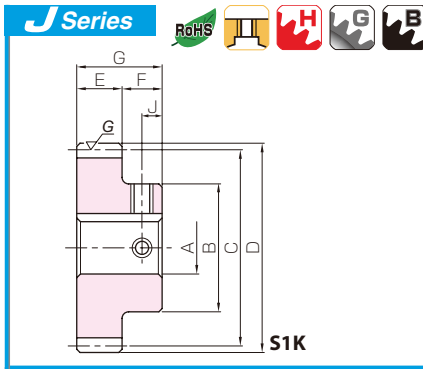


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG3-38 ●KSSG3-38 J25 ●KSSG3-38 J28 ●KSSG3-38 J30 ●KSSG3-38 J32 ●KSSG3-38 J35 ●KSSG3-38 J40 ●KSSG3-38 J45	m3	38	S1	25	80	114	120	30	20	50	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSSG3-40 ●KSSG3-40 J25 ●KSSG3-40 J28 ●KSSG3-40 J30 ●KSSG3-40 J32 ●KSSG3-40 J35 ●KSSG3-40 J40 ●KSSG3-40 J45	m3	40	S1	25	80	120	126	30	20	50	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSSG3-42 ●KSSG3-42 J25 ●KSSG3-42 J28 ●KSSG3-42 J30 ●KSSG3-42 J32 ●KSSG3-42 J35 ●KSSG3-42 J40 ●KSSG3-42 J45	m3	42	S1	25	80	126	132	30	20	50	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSSG3-44 ●KSSG3-44 J25 ●KSSG3-44 J28 ●KSSG3-44 J30 ●KSSG3-44 J32 ●KSSG3-44 J35 ●KSSG3-44 J40 ●KSSG3-44 J45	m3	44	S1	25	80	132	138	30	20	50	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSSG3-45 ●KSSG3-45 J25 ●KSSG3-45 J28 ●KSSG3-45 J30 ●KSSG3-45 J32 ●KSSG3-45 J35 ●KSSG3-45 J40 ●KSSG3-45 J45	m3	45	S1	25	80	135	141	30	20	50	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSSG3-48 ●KSSG3-48 J25 ●KSSG3-48 J28 ●KSSG3-48 J30 ●KSSG3-48 J32 ●KSSG3-48 J35 ●KSSG3-48 J40 ●KSSG3-48 J45 ●KSSG3-48 J50	m3	48	S1	25	85	144	150	30	20	50	—
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
S1K	50	14 x 3.8									

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Ground Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	287	210	29.2	21.4	0.14~0.24	3.00 2.98 2.93 2.89 2.85 2.79 2.67 2.54	KSSG3-38
M6*	10							●KSSG3-38 J25
M6*	10							●KSSG3-38 J28
M6*	10							●KSSG3-38 J30
M8	10							●KSSG3-38 J32
M8	10							●KSSG3-38 J35
M8	10							●KSSG3-38 J40
M10	10	●KSSG3-38 J45						
—	—	306	234	31.2	23.9	0.14~0.24	3.26 3.24 3.19 3.15 3.11 3.05 2.93 2.80	KSSG3-40
M6*	10							●KSSG3-40 J25
M6*	10							●KSSG3-40 J28
M6*	10							●KSSG3-40 J30
M8	10							●KSSG3-40 J32
M8	10							●KSSG3-40 J35
M8	10							●KSSG3-40 J40
M10	10	●KSSG3-40 J45						
—	—	326	260	33.2	26.5	0.14~0.24	3.53 3.51 3.46 3.43 3.38 3.32 3.21 3.07	KSSG3-42
M6*	10							●KSSG3-42 J25
M6*	10							●KSSG3-42 J28
M6*	10							●KSSG3-42 J30
M8	10							●KSSG3-42 J32
M8	10							●KSSG3-42 J35
M8	10							●KSSG3-42 J40
M10	10	●KSSG3-42 J45						
—	—	345	286	35.2	29.2	0.14~0.24	3.82 3.80 3.75 3.71 3.67 3.61 3.49 3.35	KSSG3-44
M6*	10							●KSSG3-44 J25
M6*	10							●KSSG3-44 J28
M6*	10							●KSSG3-44 J30
M8	10							●KSSG3-44 J32
M8	10							●KSSG3-44 J35
M8	10							●KSSG3-44 J40
M10	10	●KSSG3-44 J45						
—	—	355	300	36.2	30.6	0.14~0.24	3.97 3.94 3.90 3.86 3.82 3.76 3.64 3.50	KSSG3-45
M6*	10							●KSSG3-45 J25
M6*	10							●KSSG3-45 J28
M6*	10							●KSSG3-45 J30
M8	10							●KSSG3-45 J32
M8	10							●KSSG3-45 J35
M8	10							●KSSG3-45 J40
M10	10	●KSSG3-45 J45						
—	—	384	343	39.2	35.0	0.14~0.24	4.53 4.51 4.46 4.42 4.38 4.32 4.21 4.07 3.92	KSSG3-48
M6*	10							●KSSG3-48 J25
M6*	10							●KSSG3-48 J28
M6*	10							●KSSG3-48 J30
M8*	10							●KSSG3-48 J32
M8	10							●KSSG3-48 J35
M8	10							●KSSG3-48 J40
M10	10							●KSSG3-48 J45
M10	10							●KSSG3-48 J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

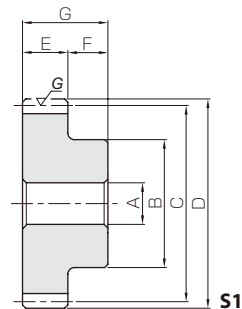
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998)* JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC

* The precision grade of J Series products is equivalent to the value shown in the table.

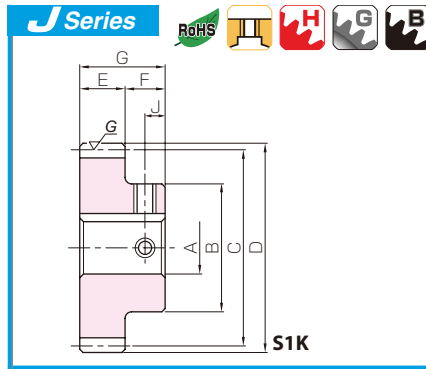


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	WidthxDepth
KSSG3-50 ●KSSG3-50 J30 ●KSSG3-50 J32 ●KSSG3-50 J35 ●KSSG3-50 J40 ●KSSG3-50 J45 ●KSSG3-50 J50	m3	50	S1	30	85	150	156	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSSG3-55 ●KSSG3-55 J30 ●KSSG3-55 J32 ●KSSG3-55 J35 ●KSSG3-55 J40 ●KSSG3-55 J45 ●KSSG3-55 J50	m3	55	S1	30	90	165	171	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSSG3-56 ●KSSG3-56 J30 ●KSSG3-56 J32 ●KSSG3-56 J35 ●KSSG3-56 J40 ●KSSG3-56 J45 ●KSSG3-56 J50	m3	56	S1	30	90	168	174	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSSG3-60 ●KSSG3-60 J30 ●KSSG3-60 J32 ●KSSG3-60 J35 ●KSSG3-60 J40 ●KSSG3-60 J45 ●KSSG3-60 J50	m3	60	S1	30	100	180	186	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSSG3-70 ●KSSG3-70 J30 ●KSSG3-70 J32 ●KSSG3-70 J35 ●KSSG3-70 J40 ●KSSG3-70 J45 ●KSSG3-70 J50	m3	70	S1	30	100	210	216	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSSG3-75 ●KSSG3-75 J30 ●KSSG3-75 J32 ●KSSG3-75 J35 ●KSSG3-75 J40 ●KSSG3-75 J45 ●KSSG3-75 J50	m3	75	S1	30	100	225	231	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSSG3-80 ●KSSG3-80 J30 ●KSSG3-80 J32 ●KSSG3-80 J35 ●KSSG3-80 J40 ●KSSG3-80 J45 ●KSSG3-80 J50	m3	80	S1	30	100	240	246	30	20	50	—
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									

No. of Teeth available

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	48	50	55	56	60	70	75	80
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Ground Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	4.78	KSSG3-50
M6*	10	—	—	—	—	—	4.75	●KSSG3-50 J30
M8*	10	—	—	—	—	—	4.71	●KSSG3-50 J32
M8	10	404	374	41.2	38.1	0.14~0.24	4.65	●KSSG3-50 J35
M8	10	—	—	—	—	—	4.53	●KSSG3-50 J40
M10	10	—	—	—	—	—	4.39	●KSSG3-50 J45
M10	10	—	—	—	—	—	4.25	●KSSG3-50 J50
—	—	—	—	—	—	—	5.76	KSSG3-55
M6*	10	—	—	—	—	—	5.73	●KSSG3-55 J30
M8*	10	—	—	—	—	—	5.68	●KSSG3-55 J32
M8*	10	421	423	42.9	43.2	0.14~0.24	5.62	●KSSG3-55 J35
M8	10	—	—	—	—	—	5.51	●KSSG3-55 J40
M10	10	—	—	—	—	—	5.37	●KSSG3-55 J45
M10	10	—	—	—	—	—	5.23	●KSSG3-55 J50
—	—	—	—	—	—	—	5.94	KSSG3-56
M6*	10	—	—	—	—	—	5.92	●KSSG3-56 J30
M8*	10	—	—	—	—	—	5.87	●KSSG3-56 J32
M8*	10	430	439	43.9	44.8	0.14~0.24	5.81	●KSSG3-56 J35
M8	10	—	—	—	—	—	5.70	●KSSG3-56 J40
M10	10	—	—	—	—	—	5.56	●KSSG3-56 J45
M10	10	—	—	—	—	—	5.41	●KSSG3-56 J50
—	—	—	—	—	—	—	6.95	KSSG3-60
M6*	10	—	—	—	—	—	6.92	●KSSG3-60 J30
M8*	10	—	—	—	—	—	6.87	●KSSG3-60 J32
M8*	10	467	508	47.6	51.8	0.14~0.24	6.81	●KSSG3-60 J35
M8*	10	—	—	—	—	—	6.69	●KSSG3-60 J40
M10	10	—	—	—	—	—	6.56	●KSSG3-60 J45
M10	10	—	—	—	—	—	6.41	●KSSG3-60 J50
—	—	—	—	—	—	—	9.11	KSSG3-70
M6*	10	—	—	—	—	—	9.08	●KSSG3-70 J30
M8*	10	—	—	—	—	—	9.03	●KSSG3-70 J32
M8*	10	560	699	57.1	71.3	0.14~0.24	8.97	●KSSG3-70 J35
M8*	10	—	—	—	—	—	8.86	●KSSG3-70 J40
M10	10	—	—	—	—	—	8.72	●KSSG3-70 J45
M10	10	—	—	—	—	—	8.58	●KSSG3-70 J50
—	—	—	—	—	—	—	10.3	KSSG3-75
M6*	10	—	—	—	—	—	10.3	●KSSG3-75 J30
M8*	10	—	—	—	—	—	10.2	●KSSG3-75 J32
M8*	10	607	806	61.9	82.2	0.14~0.24	10.2	●KSSG3-75 J35
M8*	10	—	—	—	—	—	10.1	●KSSG3-75 J40
M10	10	—	—	—	—	—	9.93	●KSSG3-75 J45
M10	10	—	—	—	—	—	9.78	●KSSG3-75 J50
—	—	—	—	—	—	—	11.6	KSSG3-80
M6*	10	—	—	—	—	—	11.6	●KSSG3-80 J30
M8*	10	—	—	—	—	—	11.5	●KSSG3-80 J32
M8*	10	654	921	66.7	93.9	0.14~0.24	11.5	●KSSG3-80 J35
M8*	10	—	—	—	—	—	11.4	●KSSG3-80 J40
M10	10	—	—	—	—	—	11.2	●KSSG3-80 J45
M10	10	—	—	—	—	—	11.1	●KSSG3-80 J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.

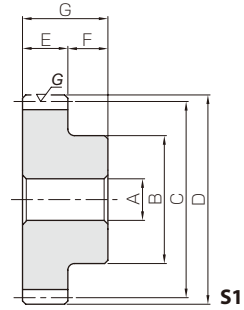




- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N7 (JIS B1702-1: 1998) JIS grade 3 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Tooth surfaces induction hardened
Tooth hardness	50 ~ 60HRC



Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				AH7	B	C	D	E	F	G
KSSG4-14	m4	14	S1	20	40	56	64	40	25	65
KSSG4-15		15	S1	20	45	60	68	40	25	65
KSSG4-16		16	S1	20	50	64	72	40	25	65
KSSG4-18		18	S1	20	60	72	80	40	25	65
KSSG4-20		20	S1	20	65	80	88	40	25	65
KSSG4-22		22	S1	20	70	88	96	40	25	65
KSSG4-24		24	S1	20	75	96	104	40	25	65
KSSG4-25		25	S1	20	80	100	108	40	25	65
KSSG4-28		28	S1	20	85	112	120	40	25	65
KSSG4-30		30	S1	20	90	120	128	40	25	65
KSSG4-32		32	S1	25	90	128	136	40	25	65
KSSG4-35		35	S1	25	90	140	148	40	25	65
KSSG4-36		36	S1	25	90	144	152	40	25	65
KSSG4-40		40	S1	25	90	160	168	40	25	65
KSSG4-42		42	S1	25	90	168	176	40	25	65
KSSG4-44		44	S1	30	90	176	184	40	25	65
KSSG4-45		45	S1	30	90	180	188	40	25	65
KSSG4-48		48	S1	30	100	192	200	40	25	65
KSSG4-50		50	S1	30	100	200	208	40	25	65
KSSG4-55		55	S1	30	100	220	228	40	25	65
KSSG4-56	56	S1	30	110	224	232	40	25	65	
KSSG4-60	60	S1	30	110	240	248	40	25	65	
KSSG5-20	m5	20	S1	25	82	100	110	50	25	75
KSSG5-25		25	S1	25	105	125	135	50	25	75
KSSG5-30		30	S1	25	120	150	160	50	25	75
KSSG6-20	m6	20	S1	25	100	120	132	60	28	88
KSSG6-25		25	S1	30	125	150	162	60	28	88
KSSG6-30		30	S1	30	150	180	192	60	28	88

- [Caution on Product Characteristics]
- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

Spur
GearsHelical
GearsInternal
Gears

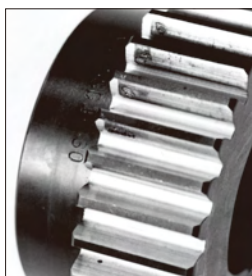
Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products

Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
176	63.4	17.9	6.47	0.14~0.24	0.86	KSSG4-14
197	74.1	20.1	7.55	0.14~0.24	1.04	KSSG4-15
218	85.6	22.3	8.73	0.14~0.24	1.24	KSSG4-16
262	111	26.7	11.4	0.14~0.24	1.67	KSSG4-18
307	141	31.3	14.3	0.14~0.24	2.07	KSSG4-20
352	174	35.9	17.7	0.14~0.24	2.50	KSSG4-22
368	194	37.5	19.8	0.14~0.24	2.98	KSSG4-24
389	213	39.7	21.7	0.14~0.24	3.29	KSSG4-25
455	270	46.4	27.5	0.16~0.26	4.05	KSSG4-28
499	313	50.9	31.9	0.16~0.26	4.64	KSSG4-30
544	358	55.5	36.5	0.16~0.26	5.04	KSSG4-32
612	432	62.4	44.0	0.16~0.26	5.83	KSSG4-35
634	458	64.7	46.7	0.16~0.26	6.11	KSSG4-36
674	529	68.7	54.0	0.16~0.26	7.31	KSSG4-40
717	586	73.1	59.7	0.16~0.26	7.96	KSSG4-42
760	646	77.5	65.8	0.16~0.26	8.53	KSSG4-44
781	677	79.6	69.0	0.16~0.26	8.88	KSSG4-45
846	774	86.3	79.0	0.16~0.26	10.3	KSSG4-48
889	842	90.7	85.9	0.16~0.26	11.0	KSSG4-50
998	1030	102	105	0.16~0.26	13.1	KSSG4-55
1020	1060	104	109	0.16~0.26	13.9	KSSG4-56
1110	1230	113	125	0.16~0.26	15.7	KSSG4-60
553	259	56.4	26.5	0.14~0.26	3.83	KSSG5-20
760	426	77.5	43.4	0.18~0.30	6.23	KSSG5-25
975	623	99.4	63.5	0.18~0.30	8.87	KSSG5-30
955	457	97.4	46.6	0.18~0.30	6.71	KSSG6-20
1310	747	134	76.2	0.18~0.30	10.5	KSSG6-25
1560	1020	160	104	0.18~0.30	15.4	KSSG6-30

[Caution on Secondary Operations]

- ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).
- ② Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.



■ **Poor tooth contact occurred on KSSG3-30
(Approx. 30% of the proper gear contact)**

Gear Oil (Equivalent to JIS gear oil category 2 and No. 3)

The design conditions are load torque at 278 rpm, of 417N·m (12 kW), 1.5 times the allowable bending strength, and 3 times the allowable surface durability torque. The pitting occurs on the poor tooth contact area after only 60 hours of continuous operation.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
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- Bevel Gears
- Screw Gears
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- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	Thermal refined **
Tooth hardness	200 ~ 270HB**



* The precision grade of products with a module less than 0.8 is equivalent to the value shown in the table.
**Items with the shape SA are not thermally refined and have a hardness of less than (194HB).

SA

Catalog No.	Module	No. of teeth	Profile shift coefficient	Shape	Shaft dia. (L)		Pitch dia. C	Outside dia. D	Face width E	Shaft dia. (R)		Total length G
					A'	F'				A	F	
KSSS0.5-10	m0.5	10	0	SA	—	—	5	6	7	6	38	45
KSSS0.5-11		11	0	SA	—	—	5.5	6.5	7	6.5	38	45
KSSS0.5-12		12	0	SA	—	—	6	7	7	7	38	45
KSSS0.5-13		13	0	SA	—	—	6.5	7.5	7	7.5	38	45
KSSS0.8-10	m0.8	10	0	SA	—	—	8	9.6	10	9.6	60	70
KSSS0.8-11		11	0	SA	—	—	8.8	10.4	10	10.4	60	70
KSSS0.8-12		12	0	SA	—	—	9.6	11.2	10	11.2	60	70
KSSS0.8-13		13	0	SA	—	—	10.4	12	10	12	60	70
KSSS1-10	m1	10	0	SA	—	—	10	12	12	12	78	90
KSSS1-11		11	0	SA	—	—	11	13	12	13	78	90
KSSS1-12		12	0	SA	—	—	12	14	12	14	78	90
KSSS1-13		13	0	SA	—	—	13	15	12	15	78	90
KSSS1.5-10	m1.5	10	+0.5	SB	12.2	25	15	19.35	15	12.2	100	140
KSSS1.5-11		11	+0.5	SB	13.7	25	16.5	20.85	15	13.7	100	140
KSSS1.5-12		12	0	SB	13.7	25	18	21	15	13.7	100	140
KSSS1.5-13		13	0	SB	15.2	25	19.5	22.5	15	15.2	100	140
KSSS2-10	m2	10	+0.5	SB	16.2	30	20	25.8	20	16.2	120	170
KSSS2-11		11	+0.5	SB	18.2	30	22	27.8	20	18.2	120	170
KSSS2-12		12	0	SB	18.2	30	24	28	20	18.2	120	170
KSSS2-13		13	0	SB	20.2	30	26	30	20	20.2	120	170
KSSS2.5-10	m2.5	10	+0.5	SB	20.2	35	25	32.25	25	20.2	135	195
KSSS2.5-11		11	+0.5	SB	22.7	35	27.5	34.75	25	22.7	135	195
KSSS2.5-12		12	0	SB	22.7	35	30	35	25	22.7	135	195
KSSS2.5-13		13	0	SB	25.2	35	32.5	37.5	25	25.2	135	195
KSSS3-10	m3	10	+0.5	SB	24.2	40	30	38.7	30	24.2	150	220
KSSS3-11		11	+0.5	SB	27.2	40	33	41.7	30	27.2	150	220
KSSS3-12		12	0	SB	27.2	40	36	42	30	27.2	150	220
KSSS3-13		13	0	SB	30.2	40	39	45	30	30.2	150	220

Center distance of Stock Spur Gears Meshing with Profile Shifted Spur Gears

The table on the right shows the center distance of the spur gears (x=0) which can be meshed with profile shifted spur gears (x=+0.5) with module 1. Multiply by the actual module to determine your center distance.

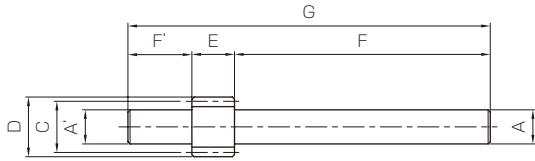
*** Please see book one for additional products in these modules.**

Center distance when gear has 12 to 30 teeth (unit : mm)

No. of teeth(x=0)	No. of teeth(x=+0.5)	
	10	11
12	11.4410	11.9428
13	11.9428	12.4446
14	12.4446	12.9462
15	12.9462	13.4477
16	13.4477	13.9492
17	13.9492	14.4505
18	14.4505	14.9518
19	14.9518	15.4530
20	15.4530	15.9542
21	15.9542	16.4553
22	16.4553	16.9564
23	16.9564	17.4574
24	17.4574	17.9583
25	17.9583	18.4592
26	18.4592	18.9601
27	18.9601	19.4610
28	19.4610	19.9618
29	19.9618	20.4625
30	20.4625	20.9633

Center distance when gear has 32 to 62 teeth (unit : mm)

No. of teeth(x=0)	No. of teeth(x=+0.5)	
	10	11
32	21.4640	21.9647
34	22.4653	22.9660
35	22.9660	23.4666
36	23.4666	23.9671
38	24.4677	24.9683
40	25.4688	25.9693
42	26.4698	26.9703
44	27.4707	27.9712
45	27.9712	28.4716
46	28.4716	28.9721
48	29.4725	29.9729
50	30.4733	30.9736
52	31.4740	31.9744
54	32.4747	32.9750
55	32.9750	33.4754
56	33.4754	33.9757
58	34.4760	34.9763
60	35.4766	35.9769
62	36.4772	36.9774



SB

Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
0.20	0.0077	0.021	0.0008	0 ~0.10	0.0095	KSSS0.5-10
0.26	0.0094	0.026	0.0010	0 ~0.10	0.011	KSSS0.5-11
0.32	0.011	0.032	0.0011	0 ~0.10	0.013	KSSS0.5-12
0.38	0.013	0.039	0.0014	0 ~0.10	0.015	KSSS0.5-13
0.83	0.032	0.084	0.0032	0 ~0.10	0.038	KSSS0.8-10
1.05	0.039	0.11	0.0040	0 ~0.10	0.045	KSSS0.8-11
1.29	0.047	0.13	0.0048	0 ~0.10	0.052	KSSS0.8-12
1.56	0.055	0.16	0.0056	0 ~0.10	0.060	KSSS0.8-13
1.62	0.063	0.16	0.0064	0.09~0.20	0.077	KSSS1-10
2.04	0.077	0.21	0.0078	0.09~0.20	0.090	KSSS1-11
2.52	0.092	0.26	0.0094	0.09~0.20	0.10	KSSS1-12
3.05	0.11	0.31	0.011	0.09~0.20	0.12	KSSS1-13
12.7	0.71	1.30	0.073	0.10~0.23	0.14	KSSS1.5-10
14.5	0.88	1.48	0.089	0.11~0.24	0.17	KSSS1.5-11
9.97	0.89	1.02	0.091	0.11~0.24	0.17	KSSS1.5-12
12.1	1.05	1.23	0.11	0.11~0.24	0.21	KSSS1.5-13
30.2	1.75	3.08	0.18	0.12~0.26	0.30	KSSS2-10
34.3	2.14	3.50	0.22	0.13~0.28	0.38	KSSS2-11
23.6	2.18	2.41	0.22	0.13~0.28	0.38	KSSS2-12
28.6	2.57	2.92	0.26	0.13~0.28	0.46	KSSS2-13
58.9	3.50	6.01	0.36	0.14~0.29	0.54	KSSS2.5-10
67.1	4.29	6.84	0.44	0.15~0.31	0.68	KSSS2.5-11
46.2	4.37	4.71	0.45	0.15~0.31	0.68	KSSS2.5-12
55.9	5.13	5.70	0.52	0.15~0.31	0.83	KSSS2.5-13
102	6.15	10.4	0.63	0.15~0.32	0.89	KSSS3-10
116	7.54	11.8	0.77	0.16~0.35	1.11	KSSS3-11
79.8	7.68	8.14	0.78	0.16~0.35	1.11	KSSS3-12
96.5	9.02	9.84	0.92	0.16~0.35	1.35	KSSS3-13

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② 10- and 11-tooth gears with a pitch of module 1.5 or greater are profile shifted gears (x = +0.5). Please refer to the tables below for calculating the center distance when assembled.
- ③ The backlash values shown in the table are the theoretical values for the normal direction for a pair of identical KSS Spur Gears with 30 teeth in mesh.

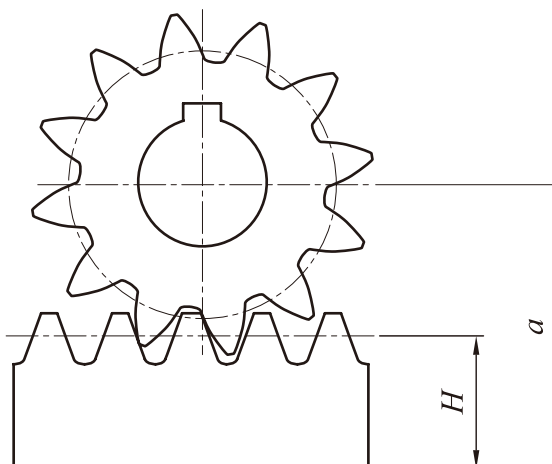
[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Center distance when gear has 64 to 200 teeth (unit : mm)

No. of teeth(x=0)	No. of teeth(x=+0.5)	10	11
64		37.4777	37.9780
65		37.9780	38.4782
66		38.4782	38.9785
68		39.4787	39.9790
70		40.4792	40.9794
72		41.4796	41.9799
75		42.9803	43.4805
76		43.4805	43.9807
80		45.4813	45.9814
84		47.4820	47.9822
85		47.9822	48.4823
88		49.4826	49.9828
90		50.4830	50.9831
95		52.9837	53.4838
100		55.4844	55.9845
120		65.4866	65.9867
150		80.4890	80.9890
200		105.4915	105.9915

Assembly distance of profile shifted gear and the meshing rack



$$a = \frac{zm}{2} + H + xm$$

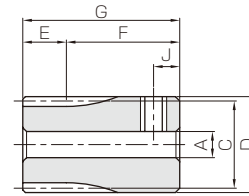
Where

- a : Assembly Distance
- H : Height of pitch line of rack
- m : Module
- z : No. of Teeth
- x : Profile Shift Coefficient





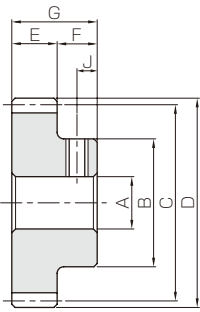
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.

S3T

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	Width×Depth
KSS0.5-15A	m0.5	15	S3T	3	8.5	7.5	8.5	5	11	16	—
KSS0.5-16A		16	S3T	3	9	8	9	5	11	16	—
KSS0.5-17A		17	S3T	3	9.5	8.5	9.5	5	11	16	—
KSS0.5-18A		18	S3T	4	10	9	10	5	11	16	—
KSS0.5-19A		19	S3T	4	10.5	9.5	10.5	5	11	16	—
KSS0.5-20A		20	S3T	3	11	10	11	5	11	16	—
KSS0.5-20B			S3T	4	11	10	11	5	11	16	—
KSS0.5-21A		21	S3T	4	11.5	10.5	11.5	5	11	16	—
KSS0.5-22A		22	S3T	4	12	11	12	5	11	16	—
KSS0.5-23A		23	S3T	4	12.5	11.5	12.5	5	11	16	—
KSS0.5-24A		24	S3T	4	13	12	13	5	11	16	—
KSS0.5-24B			S3T	5	13	12	13	5	11	16	—
KSS0.5-25A		25	S3T	4	13.5	12.5	13.5	5	11	16	—
KSS0.5-25B			S3T	5	13.5	12.5	13.5	5	11	16	—
KSS0.5-26A		26	S3T	4	14	13	14	5	11	16	—
KSS0.5-27A		27	S3T	4	14.5	13.5	14.5	5	11	16	—
KSS0.5-28A		28	S1T	4	12	14	15	5	7	12	—
KSS0.5-29A		29	S1T	4	12	14.5	15.5	5	7	12	—
KSS0.5-30A		30	S1T	4	13	15	16	5	7	12	—
KSS0.5-30B			S1T	5	13	15	16	5	7	12	—
KSS0.5-30C			S1T	6	13	15	16	5	7	12	—
KSS0.5-32A		32	S1T	5	14	16	17	5	7	12	—
KSS0.5-34A		34	S1T	5	15	17	18	5	7	12	—
KSS0.5-35A		35	S1T	5	15	17.5	18.5	5	7	12	—
KSS0.5-36A		36	S1T	5	16	18	19	5	7	12	—
KSS0.5-38A		38	S1T	5	16	19	20	5	7	12	—
KSS0.5-40A		40	S1T	5	18	20	21	5	7	12	—
KSS0.5-40B			S1T	6	18	20	21	5	7	12	—
KSS0.5-42A		42	S1T	5	18	21	22	5	7	12	—
KSS0.5-44A		44	S1T	5	20	22	23	5	7	12	—
KSS0.5-45A		45	S1T	5	20	22.5	23.5	5	7	12	—
KSS0.5-46A		46	S1T	5	20	23	24	5	7	12	—
KSS0.5-48A		48	S1T	5	22	24	25	5	7	12	—
KSS0.5-50A		50	S1T	5	22	25	26	5	7	12	—
KSS0.5-50B			S1T	6	22	25	26	5	7	12	—
KSS0.5-52A		52	S1T	5	22	26	27	5	7	12	—
KSS0.5-54A		54	S1T	5	25	27	28	5	7	12	—
KSS0.5-55A		55	S1T	5	25	27.5	28.5	5	7	12	—
KSS0.5-56A		56	S1T	5	25	28	29	5	7	12	—
KSS0.5-58A		58	S1T	5	25	29	30	5	7	12	—
KSS0.5-60A		60	S1T	6	28	30	31	5	7	12	—
KSS0.5-60B			S1T	8	28	30	31	5	7	12	—
KSS0.5-62A		62	S1T	6	28	31	32	5	7	12	—
KSS0.5-64A		64	S1T	6	28	32	33	5	7	12	—
KSS0.5-65A		65	S1T	6	28	32.5	33.5	5	7	12	—
KSS0.5-66A		66	S1T	6	28	33	34	5	7	12	—
KSS0.5-68A		68	S1T	6	28	34	35	5	7	12	—
KSS0.5-70A		70	S1T	6	28	35	36	5	7	12	—
KSS0.5-70B			S1T	8	28	35	36	5	7	12	—
KSS0.5-72A		72	S1T	6	28	36	37	5	7	12	—



S1T

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M3	2.5	0.46	0.022	0.047	0.0022	0~0.10	0.0056	KSS0.5-15A
M3	2.5	0.51	0.025	0.052	0.0025	0~0.10	0.0064	KSS0.5-16A
M3	2.5	0.56	0.028	0.057	0.0029	0~0.10	0.0073	KSS0.5-17A
M3	2.5	0.61	0.032	0.063	0.0033	0~0.10	0.0076	KSS0.5-18A
M3	2.5	0.67	0.036	0.068	0.0036	0~0.10	0.0085	KSS0.5-19A
M3	2.5	0.72	0.040	0.073	0.0041	0~0.10	0.010	KSS0.5-20A
M3	2.5						0.0095	KSS0.5-20B
M3	2.5	0.77	0.044	0.079	0.0045	0~0.10	0.011	KSS0.5-21A
M3	2.5	0.83	0.049	0.084	0.0050	0~0.10	0.012	KSS0.5-22A
M3	2.5	0.88	0.054	0.090	0.0055	0~0.10	0.013	KSS0.5-23A
M3	2.5	0.93	0.059	0.095	0.0060	0~0.10	0.014	KSS0.5-24A
M4	3						0.013	KSS0.5-24B
M3	2.5	0.99	0.064	0.10	0.0065	0~0.10	0.015	KSS0.5-25A
M4	3						0.014	KSS0.5-25B
M3	2.5	1.04	0.069	0.11	0.0071	0~0.10	0.017	KSS0.5-26A
M3	2.5	1.10	0.075	0.11	0.0076	0~0.10	0.018	KSS0.5-27A
M3	3.5	1.16	0.081	0.12	0.0082	0~0.10	0.011	KSS0.5-28A
M3	3.5	1.21	0.087	0.12	0.0088	0~0.10	0.011	KSS0.5-29A
M3	3.5	1.27	0.093	0.13	0.0095	0~0.10	0.013	KSS0.5-30A
M4	3.5						0.012	KSS0.5-30B
M4	3.5						0.011	KSS0.5-30C
M4	3.5	1.38	0.11	0.14	0.011	0~0.10	0.014	KSS0.5-32A
M4	3.5	1.50	0.12	0.15	0.012	0~0.10	0.016	KSS0.5-34A
M4	3.5	1.55	0.13	0.16	0.013	0~0.10	0.017	KSS0.5-35A
M4	3.5	1.61	0.14	0.16	0.014	0~0.10	0.019	KSS0.5-36A
M4	3.5	1.73	0.15	0.18	0.015	0~0.10	0.020	KSS0.5-38A
M4	3.5	1.84	0.17	0.19	0.017	0~0.10	0.024	KSS0.5-40A
M4	3.5						0.023	KSS0.5-40B
M4	3.5	1.96	0.19	0.20	0.019	0~0.10	0.025	KSS0.5-42A
M4	3.5	2.08	0.20	0.21	0.021	0~0.10	0.030	KSS0.5-44A
M4	3.5	2.14	0.21	0.22	0.022	0~0.10	0.030	KSS0.5-45A
M4	3.5	2.19	0.22	0.22	0.023	0~0.10	0.031	KSS0.5-46A
M4	3.5	2.31	0.25	0.24	0.025	0~0.10	0.036	KSS0.5-48A
M4	3.5	2.43	0.27	0.25	0.027	0~0.10	0.038	KSS0.5-50A
M4	3.5						0.037	KSS0.5-50B
M4	3.5	2.55	0.29	0.26	0.030	0~0.10	0.039	KSS0.5-52A
M4	3.5	2.67	0.32	0.27	0.032	0~0.10	0.047	KSS0.5-54A
M4	3.5	2.73	0.33	0.28	0.033	0~0.10	0.048	KSS0.5-55A
M4	3.5	2.79	0.34	0.28	0.035	0~0.10	0.048	KSS0.5-56A
M4	3.5	2.91	0.37	0.30	0.037	0~0.10	0.050	KSS0.5-58A
M4	3.5	3.03	0.39	0.31	0.040	0~0.10	0.058	KSS0.5-60A
M5	3.5						0.055	KSS0.5-60B
M4	3.5	3.15	0.42	0.32	0.043	0~0.10	0.060	KSS0.5-62A
M4	3.5	3.27	0.45	0.33	0.046	0~0.10	0.062	KSS0.5-64A
M4	3.5	3.33	0.47	0.34	0.048	0~0.10	0.063	KSS0.5-65A
M4	3.5	3.39	0.48	0.35	0.049	0~0.10	0.064	KSS0.5-66A
M4	3.5	3.51	0.51	0.36	0.052	0~0.10	0.066	KSS0.5-68A
M4	3.5	3.63	0.55	0.37	0.056	0~0.10	0.068	KSS0.5-70A
M5	3.5						0.065	KSS0.5-70B
M4	3.5	3.75	0.58	0.38	0.059	0~0.10	0.070	KSS0.5-72A

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- ④ If the bore size is less than $\varnothing 4$, the tolerance is H8. If the bore size is $\varnothing 5$ or $\varnothing 6$, and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- ⑤ The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

* **Please see book one for additional products in these modules.**

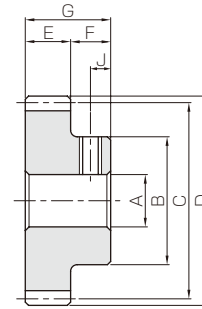


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S1T

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	Width×Depth
KSS0.5-75A	m0.5	75	S1T	6	28	37.5	38.5	5	7	12	—
KSS0.5-76A		76	S1T	6	28	38	39	5	7	12	—
KSS0.5-80A		80	S1T	6	28	40	41	5	7	12	—
KSS0.5-80B			S1T	8	28	40	41	5	7	12	—
KSS0.5-84A		84	S1T	8	28	42	43	5	7	12	—
KSS0.5-85A		85	S1T	8	28	42.5	43.5	5	7	12	—
KSS0.5-88A		88	S1T	8	28	44	45	5	7	12	—
KSS0.5-90A		90	S1T	8	28	45	46	5	7	12	—
KSS0.5-95A		95	S1T	8	28	47.5	48.5	5	7	12	—
KSS0.5-96A		96	S1T	8	28	48	49	5	7	12	—
KSS0.5-100A		100	S1T	8	28	50	51	5	7	12	—
KSS0.5-105A		105	S1T	8	28	52.5	53.5	5	7	12	—
KSS0.5-110A		110	S1T	8	28	55	56	5	7	12	—
KSS0.5-115A		115	S1T	8	28	57.5	58.5	5	7	12	—
KSS0.5-120A		120	S1T	8	28	60	61	5	7	12	—

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

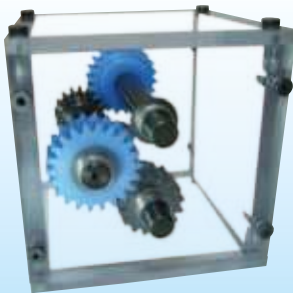
Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	3.5	3.93	0.63	0.40	0.064	0~0.10	0.074	KSS0.5-75A
M4	3.5	3.99	0.65	0.41	0.066	0~0.10	0.075	KSS0.5-76A
M4	3.5	4.24	0.72	0.43	0.074	0~0.10	0.079	KSS0.5-80A
M5	3.5							KSS0.5-80B
M5	3.5	4.48	0.80	0.46	0.082	0~0.10	0.082	KSS0.5-84A
M5	3.5	4.54	0.82	0.46	0.084	0~0.10	0.083	KSS0.5-85A
M5	3.5	4.72	0.89	0.48	0.090	0~0.10	0.087	KSS0.5-88A
M5	3.5	4.85	0.93	0.49	0.095	0~0.10	0.090	KSS0.5-90A
M5	3.5	5.15	1.04	0.53	0.11	0~0.10	0.097	KSS0.5-95A
M5	3.5	5.21	1.06	0.53	0.11	0~0.10	0.099	KSS0.5-96A
M5	3.5	5.46	1.16	0.56	0.12	0~0.10	0.10	KSS0.5-100A
M5	3.5	5.76	1.28	0.59	0.13	0~0.10	0.11	KSS0.5-105A
M5	3.5	6.07	1.42	0.62	0.14	0~0.10	0.12	KSS0.5-110A
M5	3.5	6.38	1.56	0.65	0.16	0~0.10	0.13	KSS0.5-115A
M5	3.5	6.68	1.70	0.68	0.17	0~0.10	0.14	KSS0.5-120A

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- ④ If the bore size is less than $\varnothing 4$, the tolerance is H8. If the bore size is $\varnothing 5$ or $\varnothing 6$, and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- ⑤ The use of S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

KGCU-S Spur Gear Kit

Installment : Parallel axes gears
(Two-stage)
Gear Type : Spur Gears
Gears : 2 units of KSS1.5-16
2 units of KPS1.5-22
Gear Ratio : 1.89
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

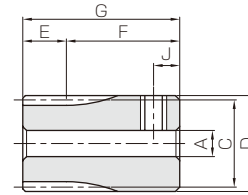
Worm Gear Pair

Bevel Gearboxes

Other Products



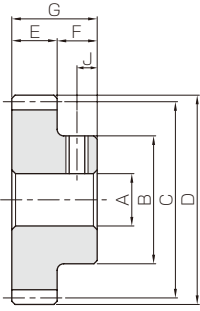
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.

S3T

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSS0.8-15A	m0.8	15	S3T	5	13.6	12	13.6	8	14	22	—
KSS0.8-16A		16	S3T	5	14.4	12.8	14.4	8	14	22	—
KSS0.8-17A		17	S3T	5	15.2	13.6	15.2	8	14	22	—
KSS0.8-18A		18	S3T	5	16	14.4	16	8	14	22	—
KSS0.8-19A		19	S1T	5	12	15.2	16.8	8	8	16	—
KSS0.8-20A		20	S1T	5	13	16	17.6	8	8	16	—
KSS0.8-20B			S1T	6	13	16	17.6	8	8	16	—
KSS0.8-21A		21	S1T	6	14	16.8	18.4	8	8	16	—
KSS0.8-22A		22	S1T	6	15	17.6	19.2	8	8	16	—
KSS0.8-23A		23	S1T	6	15	18.4	20	8	8	16	—
KSS0.8-24A		24	S1T	5	16	19.2	20.8	8	8	16	—
KSS0.8-24B			S1T	6	16	19.2	20.8	8	8	16	—
KSS0.8-25A		25	S1T	5	16	20	21.6	8	8	16	—
KSS0.8-25B			S1T	6	16	20	21.6	8	8	16	—
KSS0.8-26A		26	S1T	6	18	20.8	22.4	8	8	16	—
KSS0.8-27A		27	S1T	6	18	21.6	23.2	8	8	16	—
KSS0.8-28A		28	S1T	6	18	22.4	24	8	8	16	—
KSS0.8-29A		29	S1T	6	20	23.2	24.8	8	8	16	—
KSS0.8-30A		30	S1T	5	20	24	25.6	8	8	16	—
KSS0.8-30B			S1T	6	20	24	25.6	8	8	16	—
KSS0.8-30C			S1T	8	20	24	25.6	8	8	16	—
KSS0.8-32A		32	S1T	6	22	25.6	27.2	8	8	16	—
KSS0.8-34A		34	S1T	6	22	27.2	28.8	8	8	16	—
KSS0.8-35A		35	S1T	6	25	28	29.6	8	8	16	—
KSS0.8-36A		36	S1T	6	25	28.8	30.4	8	8	16	—
KSS0.8-38A		38	S1T	6	25	30.4	32	8	8	16	—
KSS0.8-40A		40	S1T	6	28	32	33.6	8	8	16	—
KSS0.8-40B			S1T	8	28	32	33.6	8	8	16	—
KSS0.8-42A		42	S1T	6	28	33.6	35.2	8	8	16	—
KSS0.8-44A		44	S1T	6	28	35.2	36.8	8	8	16	—
KSS0.8-45A		45	S1T	6	28	36	37.6	8	8	16	—
KSS0.8-46A		46	S1T	6	28	36.8	38.4	8	8	16	—
KSS0.8-48A		48	S1T	6	28	38.4	40	8	8	16	—
KSS0.8-50A		50	S1T	6	28	40	41.6	8	8	16	—
KSS0.8-50B			S1T	8	28	40	41.6	8	8	16	—
KSS0.8-52A		52	S1T	6	28	41.6	43.2	8	8	16	—
KSS0.8-54A		54	S1T	6	28	43.2	44.8	8	8	16	—
KSS0.8-55A		55	S1T	6	28	44	45.6	8	8	16	—
KSS0.8-56A		56	S1T	6	28	44.8	46.4	8	8	16	—
KSS0.8-58A		58	S1T	6	28	46.4	48	8	8	16	—
KSS0.8-60A		60	S1T	6	28	48	49.6	8	8	16	—
KSS0.8-60B			S1T	8	28	48	49.6	8	8	16	—
KSS0.8-62A		62	S1T	6	28	49.6	51.2	8	8	16	—
KSS0.8-64A		64	S1T	6	28	51.2	52.8	8	8	16	—
KSS0.8-65A		65	S1T	6	28	52	53.6	8	8	16	—
KSS0.8-66A		66	S1T	6	28	52.8	54.4	8	8	16	—
KSS0.8-68A		68	S1T	6	28	54.4	56	8	8	16	—
KSS0.8-70A		70	S1T	6	28	56	57.6	8	8	16	—
KSS0.8-70B			S1T	8	28	56	57.6	8	8	16	—
KSS0.8-72A		72	S1T	6	28	57.6	59.2	8	8	16	—



S1T

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	3.5	1.89	0.088	0.19	0.0090	0~0.10	0.019	KSS0.8-15A
M4	3.5	2.10	0.10	0.21	0.010	0~0.10	0.022	KSS0.8-16A
M4	3.5	2.30	0.12	0.23	0.012	0~0.10	0.025	KSS0.8-17A
M4	3.5	2.51	0.13	0.26	0.013	0~0.10	0.028	KSS0.8-18A
M4	4	2.73	0.15	0.28	0.015	0~0.10	0.016	KSS0.8-19A
M4	4	2.94	0.17	0.30	0.017	0~0.10	0.018	KSS0.8-20A
M4	4						0.017	KSS0.8-20B
M4	4	3.16	0.18	0.32	0.019	0~0.10	0.020	KSS0.8-21A
M4	4	3.38	0.20	0.34	0.021	0~0.10	0.022	KSS0.8-22A
M4	4	3.60	0.22	0.37	0.023	0~0.10	0.024	KSS0.8-23A
M4	4	3.82	0.25	0.39	0.025	0~0.10	0.028	KSS0.8-24A
M4	4						0.027	KSS0.8-24B
M4	4	4.05	0.27	0.41	0.027	0~0.10	0.029	KSS0.8-25A
M4	4						0.028	KSS0.8-25B
M4	4	4.28	0.29	0.44	0.030	0~0.10	0.033	KSS0.8-26A
M4	4	4.50	0.31	0.46	0.032	0~0.10	0.035	KSS0.8-27A
M4	4	4.73	0.34	0.48	0.035	0~0.10	0.037	KSS0.8-28A
M4	4	4.96	0.37	0.51	0.037	0~0.10	0.042	KSS0.8-29A
M4	4	5.19	0.39	0.53	0.040	0~0.10	0.045	KSS0.8-30A
M4	4						0.044	KSS0.8-30B
M5	4	0.041	KSS0.8-30C					
M4	4	5.66	0.45	0.58	0.046	0~0.10	0.052	KSS0.8-32A
M4	4	6.13	0.51	0.62	0.052	0~0.10	0.056	KSS0.8-34A
M4	4	6.36	0.55	0.65	0.056	0~0.10	0.065	KSS0.8-35A
M4	4	6.60	0.58	0.67	0.059	0~0.10	0.067	KSS0.8-36A
M4	4	7.07	0.65	0.72	0.066	0~0.10	0.072	KSS0.8-38A
M4	4	7.55	0.72	0.77	0.074	0~0.10	0.085	KSS0.8-40A
M5	4						0.081	KSS0.8-40B
M4	4	8.03	0.80	0.82	0.082	0~0.10	0.090	KSS0.8-42A
M4	4	8.51	0.88	0.87	0.090	0~0.10	0.095	KSS0.8-44A
M4	4	8.75	0.93	0.89	0.095	0~0.10	0.098	KSS0.8-45A
M4	4	8.99	0.97	0.92	0.099	0~0.10	0.10	KSS0.8-46A
M4	4	9.47	1.06	0.97	0.11	0~0.10	0.11	KSS0.8-48A
M4	4	9.96	1.16	1.02	0.12	0~0.10	0.11	KSS0.8-50A
M5	4						0.11	KSS0.8-50B
M4	4	10.4	1.26	1.07	0.13	0~0.10	0.12	KSS0.8-52A
M4	4	10.9	1.36	1.12	0.14	0~0.10	0.13	KSS0.8-54A
M4	4	11.2	1.42	1.14	0.14	0~0.10	0.13	KSS0.8-55A
M4	4	11.4	1.47	1.16	0.15	0~0.10	0.13	KSS0.8-56A
M4	4	11.9	1.59	1.21	0.16	0~0.10	0.14	KSS0.8-58A
M4	4	12.4	1.70	1.26	0.17	0~0.10	0.15	KSS0.8-60A
M5	4						0.14	KSS0.8-60B
M4	4	12.9	1.82	1.32	0.19	0~0.10	0.16	KSS0.8-62A
M4	4	13.4	1.95	1.37	0.20	0~0.10	0.16	KSS0.8-64A
M4	4	13.6	2.01	1.39	0.21	0~0.10	0.17	KSS0.8-65A
M4	4	13.9	2.08	1.42	0.21	0~0.10	0.17	KSS0.8-66A
M4	4	14.4	2.22	1.47	0.23	0~0.10	0.18	KSS0.8-68A
M4	4	14.9	2.35	1.52	0.24	0~0.10	0.19	KSS0.8-70A
M5	4						0.19	KSS0.8-70B
M4	4	15.4	2.50	1.57	0.25	0~0.10	0.20	KSS0.8-72A

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- If the bore size is less than $\varnothing 4$, the tolerance is H8. If the bore size is $\varnothing 5$ or $\varnothing 6$, and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

*** Please see book one for additional products in these modules.**

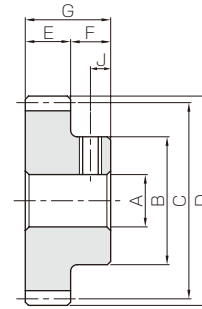


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S1T

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	Width×Depth
KSS0.8-75A	m0.8	75	S1T	6	28	60	61.6	8	8	16	—
KSS0.8-76A		76	S1T	6	28	60.8	62.4	8	8	16	—
KSS0.8-80A		80	S1T	6	28	64	65.6	8	8	16	—
KSS0.8-80B				8							
KSS0.8-84A		84	S1T	8	28	67.2	68.8	8	8	16	—
KSS0.8-85A		85	S1T	8	28	68	69.6	8	8	16	—
KSS0.8-88A		88	S1T	8	28	70.4	72	8	8	16	—
KSS0.8-90A		90	S1T	8	28	72	73.6	8	8	16	—
KSS0.8-95A		95	S1T	8	28	76	77.6	8	8	16	—
KSS0.8-96A		96	S1T	8	28	76.8	78.4	8	8	16	—
KSS0.8-100A		100	S1T	8	28	80	81.6	8	8	16	—
KSS0.8-105A		105	S1T	8	28	84	85.6	8	8	16	—
KSS0.8-110A		110	S1T	8	28	88	89.6	8	8	16	—
KSS0.8-115A		115	S1T	8	28	92	93.6	8	8	16	—
KSS0.8-120A		120	S1T	8	28	96	97.6	8	8	16	—

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

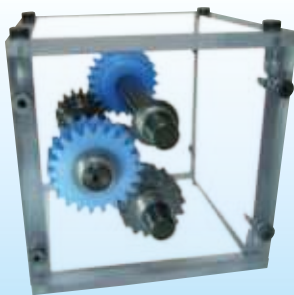
Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	4	16.1	2.72	1.64	0.28	0~0.10	0.21	KSS0.8-75A
M4	4	16.4	2.80	1.67	0.29	0~0.10	0.22	KSS0.8-76A
M4	4	17.4	3.11	1.77	0.32	0~0.10	0.24	KSS0.8-80A
M5	4						0.23	KSS0.8-80B
M5	4	18.4	3.45	1.87	0.35	0~0.10	0.25	KSS0.8-84A
M5	4	18.6	3.54	1.90	0.36	0~0.10	0.26	KSS0.8-85A
M5	4	19.4	3.80	1.97	0.39	0~0.10	0.28	KSS0.8-88A
M5	4	19.9	3.99	2.02	0.41	0~0.10	0.29	KSS0.8-90A
M5	4	21.1	4.47	2.15	0.46	0~0.10	0.32	KSS0.8-95A
M5	4	21.4	4.57	2.18	0.47	0~0.10	0.32	KSS0.8-96A
M5	4	22.4	4.98	2.28	0.51	0~0.10	0.35	KSS0.8-100A
M5	4	23.6	5.52	2.41	0.56	0~0.10	0.38	KSS0.8-105A
M5	4	24.9	6.09	2.54	0.62	0~0.10	0.41	KSS0.8-110A
M5	4	26.1	6.69	2.66	0.68	0~0.10	0.45	KSS0.8-115A
M5	4	27.4	7.32	2.79	0.75	0~0.10	0.49	KSS0.8-120A

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- ④ If the bore size is less than $\varnothing 4$, the tolerance is H8. If the bore size is $\varnothing 5$ or $\varnothing 6$, and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- ⑤ The use of S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

KGCU-S Spur Gear Kit

Installment : Parallel axes gears
(Two-stage)
Gear Type : Spur Gears
Gears : 2 units of KSS1.5-16
2 units of KPS1.5-22
Gear Ratio : 1.89
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

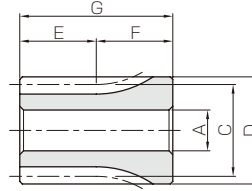
Other Products



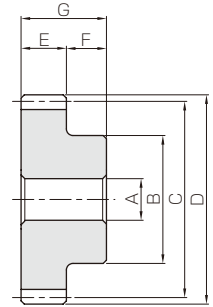
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

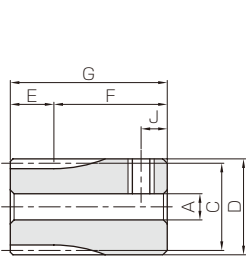


S3

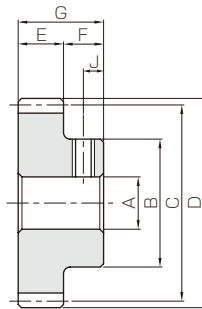


S1

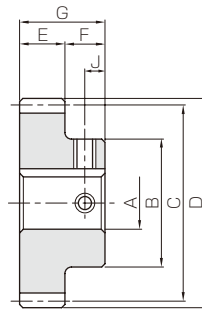
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway	
				A _{H7}	B	C	D	E	F	G	Width×Depth	
KSS1-15	m1	15	S3	8	17	15	17	10	20	30	—	
KSS1-15A			S3T	5							—	
KSS1-15B			S3T	6							—	
KSS1-16		16	S3	8	18	16	18	10	20	30	—	
KSS1-16A			S3T	5							—	
KSS1-16B			S3T	6							—	
KSS1-17		17	S3	8	19	17	19	10	20	30	—	
KSS1-17A				S3T							8	—
KSS1-18		18	S3	8	20	18	20	10	20	30	—	
KSS1-18A				S3T							6	—
KSS1-18B				S3T							8	—
KSS1-19		19	S3	8	21	19	21	10	20	30	—	
KSS1-19A				S3T							8	—
KSS1-20		20	S1	8	16	20	22	10	10	20	—	
KSS1-20A				S1T							5	—
KSS1-20B				S1T							6	—
KSS1-20C				S1T							8	—
KSS1-21		21	S1	8	17	21	23	10	10	20	—	
KSS1-21A				S1T							8	—
KSS1-22		22	S1	8	18	22	24	10	10	20	—	
KSS1-22A				S1T							8	—
KSS1-23		23	S1	8	18	23	25	10	10	20	—	
KSS1-23A				S1T							8	—
KSS1-24		24	S1	8	20	24	26	10	10	20	—	
KSS1-24A				S1T							6	—
KSS1-24B				S1T							8	—
KSS1-24C				S1K							10	4 x 1.8
KSS1-25		25	S1	8	20	25	27	10	10	20	—	
KSS1-25A				S1T							6	—
KSS1-25B				S1T							8	—
KSS1-25C				S1K							10	4 x 1.8
KSS1-26		26	S1	8	22	26	28	10	10	20	—	
KSS1-26A	S1T			8							—	
KSS1-26B	S1K			10							4 x 1.8	
KSS1-27	27	S1	8	22	27	29	10	10	20	—		
KSS1-27A			S1T							8	—	
KSS1-28	28	S1	8	22	28	30	10	10	20	—		
KSS1-28A			S1T							8	—	
KSS1-28B			S1K							10	4 x 1.8	
KSS1-29	29	S1	8	24	29	31	10	10	20	—		
KSS1-29A			S1T							8	—	
KSS1-30	30	S1	10	25	30	32	10	10	20	—		
KSS1-30A			S1T							6	—	
KSS1-30B			S1T							8	—	
KSS1-30C			S1K							10	4 x 1.8	
KSS1-30D			S1K							12	4 x 1.8	
KSS1-32	32	S1	10	26	32	34	10	10	20	—		
KSS1-32A			S1T							8	—	
KSS1-32B			S1K							10	4 x 1.8	
KSS1-32C			S1K							12	4 x 1.8	



S3T



S1T



S1K

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	3.69	0.17	0.38	0.018	0.08~0.18	0.038	KSS1-15 KSS1-15A KSS1-15B
M4	4							
M4	4	4.09	0.2	0.42	0.021	0.08~0.18	0.044 0.051 0.049	KSS1-16 KSS1-16A KSS1-16B
M4	4							
—	—	4.5	0.23	0.46	0.023	0.08~0.18	0.050 0.050	KSS1-17 KSS1-17A
M5	4							
—	—	4.91	0.26	0.5	0.027	0.08~0.18	0.057 0.062 0.057	KSS1-18 KSS1-18A KSS1-18B
M4	4							
M5	4	5.33	0.29	0.54	0.030	0.08~0.18	0.065 0.064	KSS1-19 KSS1-19A
M5	4							
—	—	5.75	0.33	0.59	0.033	0.08~0.18	0.033 0.037 0.036 0.032	KSS1-20 KSS1-20A KSS1-20B KSS1-20C
M4	5							
M4	5	6.17	0.36	0.63	0.037	0.08~0.18	0.037 0.036	KSS1-21 KSS1-21A
M5	5							
—	—	6.6	0.4	0.67	0.041	0.08~0.18	0.042 0.041	KSS1-22 KSS1-22A
M5	5							
—	—	7.03	0.45	0.72	0.045	0.08~0.18	0.045 0.044	KSS1-23 KSS1-23A
M5	5							
—	—	7.47	0.49	0.76	0.050	0.08~0.18	0.052 0.055 0.051 0.046	KSS1-24 KSS1-24A KSS1-24B KSS1-24C
M4	5							
M5	5	7.91	0.54	0.81	0.055	0.08~0.18	0.055 0.058 0.054 0.049	KSS1-25 KSS1-25A KSS1-25B KSS1-25C
M4	5							
M4	5	8.35	0.58	0.85	0.059	0.08~0.18	0.064 0.063 0.057	KSS1-26 KSS1-26A KSS1-26B
M5	5							
—	—	8.79	0.63	0.9	0.064	0.08~0.18	0.067 0.066	KSS1-27 KSS1-27A
M5	5							
—	—	9.24	0.68	0.94	0.070	0.08~0.18	0.070 0.069 0.064	KSS1-28 KSS1-28A KSS1-28B
M5	5							
M4	5	9.69	0.73	0.99	0.075	0.08~0.18	0.079 0.078	KSS1-29 KSS1-29A
M5	5							
—	—	10.1	0.79	1.03	0.081	0.08~0.18	0.082 0.089 0.085 0.080 0.075	KSS1-30 KSS1-30A KSS1-30B KSS1-30C KSS1-30D
M4	5							
M5	5	11.1	0.90	1.13	0.092	0.08~0.18	0.092 0.096 0.091 0.085	KSS1-32 KSS1-32A KSS1-32B KSS1-32C
M4	5							
M4	5							

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- If the bore size is less than $\varnothing 4$, the tolerance is H8. If the bore size is $\varnothing 5$ or $\varnothing 6$, and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

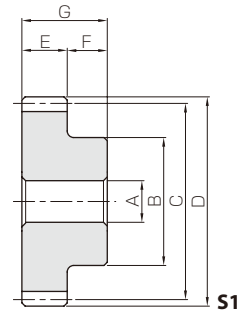
[Caution on Secondary Operations]

- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

* Please see book one for additional products in these modules.



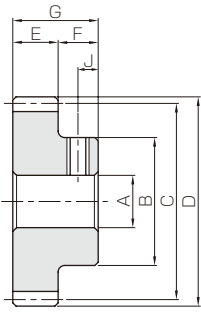
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



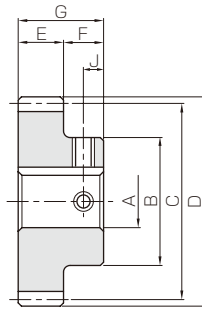
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSS1-34 KSS1-34A	m1	34	S1	10	26	34	36	10	10	20	—
S1K			10	4 x 1.8							
KSS1-35 KSS1-35A KSS1-35B		35	S1	10	26	35	37	10	10	20	—
S1K			10	4 x 1.8							
KSS1-36 KSS1-36A KSS1-36B		36	S1	10	28	36	38	10	10	20	—
S1K			10	4 x 1.8							
KSS1-38 KSS1-38A		38	S1	10	32	38	40	10	10	20	—
S1K			10	4 x 1.8							
KSS1-40 KSS1-40A KSS1-40B KSS1-40C		40	S1	10	35	40	42	10	10	20	—
S1T			8	—							
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
KSS1-42 KSS1-42A		42	S1	10	35	42	44	10	10	20	—
S1K			10	4 x 1.8							
KSS1-44 KSS1-44A		44	S1	10	35	44	46	10	10	20	—
S1K			10	4 x 1.8							
KSS1-45 KSS1-45A KSS1-45B KSS1-45C		45	S1	10	35	45	47	10	10	20	—
S1T			8	—							
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
KSS1-46 KSS1-46A		46	S1	10	35	46	48	10	10	20	—
S1K			10	4 x 1.8							
KSS1-48 KSS1-48A KSS1-48B		48	S1	10	35	48	50	10	10	20	—
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
KSS1-50 KSS1-50A KSS1-50B KSS1-50C		50	S1	10	35	50	52	10	10	20	—
S1T			8	—							
S1K			10	4 x 1.8							
S1K	12		4 x 1.8								
KSS1-52 KSS1-52A	52	S1	10	35	52	54	10	10	20	—	
S1K		10	4 x 1.8								
KSS1-54 KSS1-54A	54	S1	10	35	54	56	10	10	20	—	
S1K		10	4 x 1.8								
KSS1-55 KSS1-55A	55	S1	10	35	55	57	10	10	20	—	
S1K		10	4 x 1.8								
KSS1-56 KSS1-56A KSS1-56B	56	S1	10	35	56	58	10	10	20	—	
S1K		10	4 x 1.8								
S1K		12	4 x 1.8								
KSS1-58 KSS1-58A	58	S1	10	35	58	60	10	10	20	—	
S1K		10	4 x 1.8								
KSS1-60 KSS1-60A KSS1-60B KSS1-60C	60	S1	10	35	60	62	10	10	20	—	
S1K		10	4 x 1.8								
S1K		12	4 x 1.8								
S1K		15	5 x 2.3								
KSS1-62 KSS1-62A	62	S1	10	40	62	64	10	10	20	—	
S1K		12	4 x 1.8								
KSS1-64 KSS1-64A	64	S1	10	40	64	66	10	10	20	—	
S1K		12	4 x 1.8								

*Please see book one for additional products in these modules.



S1T



S1K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	12.0	1.03	1.22	0.10	0.08~0.18	0.10 0.099	KSS1-34 KSS1-34A
M4	5	12.4	1.09	1.27	0.11	0.08~0.18	0.10 0.10 0.098	KSS1-35 KSS1-35A KSS1-35B
—	—	12.9	1.16	1.31	0.12	0.08~0.18	0.12 0.11 0.11	KSS1-36 KSS1-36A KSS1-36B
M4	5	13.8	1.30	1.41	0.13	0.08~0.18	0.14 0.14	KSS1-38 KSS1-38A
—	—	14.7	1.45	1.50	0.15	0.08~0.18	0.16 0.16 0.16 0.15	KSS1-40 KSS1-40A KSS1-40B KSS1-40C
M4	5	15.7	1.61	1.60	0.16	0.08~0.18	0.17 0.17	KSS1-42 KSS1-42A
—	—	16.6	1.77	1.69	0.18	0.08~0.18	0.18 0.18	KSS1-44 KSS1-44A
—	—	17.1	1.86	1.74	0.19	0.08~0.18	0.19 0.19 0.19 0.18	KSS1-45 KSS1-45A KSS1-45B KSS1-45C
M5	5	17.6	1.95	1.79	0.20	0.08~0.18	0.19 0.19	KSS1-46 KSS1-46A
M4	5	18.5	2.13	1.89	0.22	0.08~0.18	0.21 0.20 0.20	KSS1-48 KSS1-48A KSS1-48B
—	—	19.5	2.32	1.98	0.24	0.08~0.18	0.22 0.22 0.21 0.21	KSS1-50 KSS1-50A KSS1-50B KSS1-50C
M5	5	20.4	2.52	2.08	0.26	0.08~0.18	0.23 0.23	KSS1-52 KSS1-52A
M4	5	21.4	2.73	2.18	0.28	0.08~0.18	0.24 0.24	KSS1-54 KSS1-54A
—	—	21.8	2.83	2.23	0.29	0.08~0.18	0.25 0.25	KSS1-55 KSS1-55A
—	—	22.3	2.94	2.28	0.30	0.08~0.18	0.26 0.25 0.25	KSS1-56 KSS1-56A KSS1-56B
M4	5	23.3	3.17	2.37	0.32	0.08~0.18	0.27 0.27	KSS1-58 KSS1-58A
—	—	24.2	3.40	2.47	0.35	0.08~0.18	0.29 0.28 0.28 0.27	KSS1-60 KSS1-60A KSS1-60B KSS1-60C
M4	5	25.2	3.64	2.57	0.37	0.08~0.18	0.32 0.32	KSS1-62 KSS1-62A
—	—	26.2	3.89	2.67	0.40	0.08~0.18	0.34 0.33	KSS1-64 KSS1-64A

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- ④ The use of S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

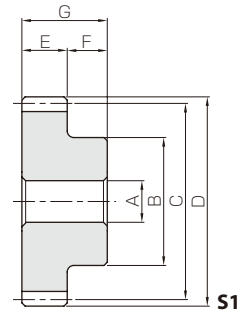
Bevel Gearboxes

Other Products





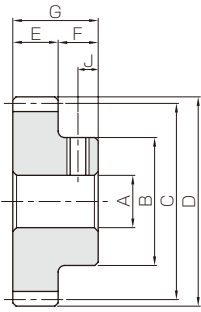
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



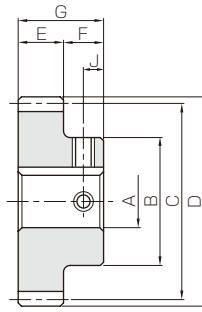
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	Width×Depth
KSS1-65 KSS1-65A	m1	65	S1	10	40	65	67	10	10	20	—
S1K			12	4 x 1.8							
KSS1-66 KSS1-66A		66	S1	10	40	66	68	10	10	20	—
S1K			12	4 x 1.8							
KSS1-68 KSS1-68A		68	S1	10	40	68	70	10	10	20	—
S1K			12	4 x 1.8							
KSS1-70 KSS1-70A KSS1-70B KSS1-70C		70	S1	10	40	70	72	10	10	20	—
S1K			12	4 x 1.8							
S1K			15	5 x 2.3							
S1K			18	6 x 2.8							
KSS1-72 KSS1-72A KSS1-72B KSS1-72C		72	S1	10	40	72	74	10	10	20	—
S1K			12	4 x 1.8							
S1K			15	5 x 2.3							
S1K			18	6 x 2.8							
KSS1-75 KSS1-75A		75	S1	10	40	75	77	10	10	20	—
S1K			12	4 x 1.8							
KSS1-76 KSS1-76A		76	S1	10	40	76	78	10	10	20	—
S1K			12	4 x 1.8							
KSS1-80 KSS1-80A KSS1-80B KSS1-80C		80	S1	10	40	80	82	10	10	20	—
S1K			12	4 x 1.8							
S1K	15		5 x 2.3								
S1K	18		6 x 2.8								
KSS1-84 KSS1-84A	84	S1	10	40	84	86	10	10	20	—	
S1K		12	4 x 1.8								
KSS1-85 KSS1-85A	85	S1	10	40	85	87	10	10	20	—	
S1K		12	4 x 1.8								
KSS1-88 KSS1-88A	88	S1	10	40	88	90	10	10	20	—	
S1K		12	4 x 1.8								
KSS1-90 KSS1-90A KSS1-90B KSS1-90C	90	S1	10	40	90	92	10	10	20	—	
S1K		12	4 x 1.8								
S1K		15	5 x 2.3								
S1K		18	6 x 2.8								
KSS1-95 KSS1-95A	95	S1	10	40	95	97	10	10	20	—	
S1K		12	4 x 1.8								
KSS1-96 KSS1-96A	96	S1	10	40	96	98	10	10	20	—	
S1K		12	4 x 1.8								
KSS1-100 KSS1-100A KSS1-100B KSS1-100C	100	S1	10	40	100	102	10	10	20	—	
S1K		12	4 x 1.8								
S1K		15	5 x 2.3								
S1K		18	6 x 2.8								
KSS1-110 KSS1-110A	110	S1	15	50	110	112	10	10	20	—	
S1K		15	40	5 x 2.3							
KSS1-120 KSS1-120A KSS1-120B	120	S1	15	50	120	122	10	10	20	—	
S1K		15	40	5 x 2.3							
S1K		18	40	6 x 2.8							
KSS1-150	150	S1	20	120	150	152	10	10	20	—	
KSS1-200	200	S1	20	160	200	202	10	10	20	—	

*Please see book one for additional products in these modules.



S1T



S1K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	26.6	4.02	2.72	0.41	0.08~0.18	0.35 0.34	KSS1-65 KSS1-65A
M4	5	27.1	4.15	2.77	0.42	0.08~0.18	0.35 0.35	KSS1-66 KSS1-66A
—	—	28.1	4.42	2.86	0.45	0.08~0.18	0.37 0.36	KSS1-68 KSS1-68A
—	—	29.1	4.70	2.96	0.48	0.08~0.18	0.39	KSS1-70
M4	5						0.38	KSS1-70A
M4	5						0.37	KSS1-70B
M5	5	0.36	KSS1-70C					
—	—	30.0	4.98	3.06	0.51	0.08~0.18	0.41	KSS1-72
M4	5						0.40	KSS1-72A
M4	5						0.39	KSS1-72B
M5	5						0.37	KSS1-72C
—	—	31.5	5.43	3.21	0.55	0.08~0.18	0.43 0.42	KSS1-75 KSS1-75A
M4	5	32.0	5.59	3.26	0.57	0.08~0.18	0.44 0.43	KSS1-76 KSS1-76A
—	—	33.9	6.23	3.46	0.63	0.08~0.18	0.48	KSS1-80
M4	5						0.47	KSS1-80A
M4	5						0.46	KSS1-80B
M5	5						0.45	KSS1-80C
—	—	35.8	6.90	3.66	0.7	0.08~0.18	0.52 0.51	KSS1-84 KSS1-84A
M4	5	36.3	7.08	3.71	0.72	0.08~0.18	0.53 0.52	KSS1-85 KSS1-85A
—	—	37.8	7.62	3.85	0.78	0.08~0.18	0.56 0.56	KSS1-88 KSS1-88A
M4	5	38.8	7.98	3.95	0.81	0.08~0.18	0.59	KSS1-90
M4	5						0.58	KSS1-90A
M4	5						0.57	KSS1-90B
M5	5						0.55	KSS1-90C
—	—	41.2	8.95	4.20	0.91	0.08~0.18	0.64 0.63	KSS1-95 KSS1-95A
M4	5	41.7	9.15	4.25	0.93	0.08~0.18	0.65 0.65	KSS1-96 KSS1-96A
—	—	43.7	9.97	4.45	1.02	0.08~0.18	0.70	KSS1-100
M4	5						0.69	KSS1-100A
M4	5						0.68	KSS1-100B
M5	5						0.67	KSS1-100C
—	—	48.6	12.2	4.95	1.24	0.08~0.18	0.87 0.81	KSS1-110 KSS1-110A
M4	5	53.5	14.7	5.45	1.50	0.08~0.18	1.01	KSS1-120
M4	5						0.95	KSS1-120A
M5	5						0.94	KSS1-120B
—	—	68.2	23.6	6.96	2.41	0.08~0.18	2.23	KSS1-150
—	—	71.5	33.6	7.29	3.42	0.08~0.18	4.00	KSS1-200

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- ④ The use of S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

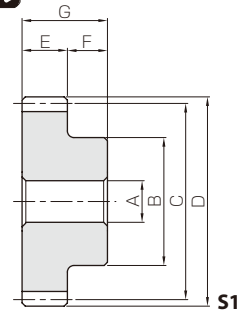
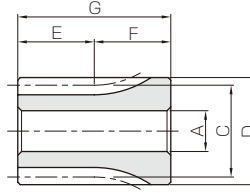
Worm Gear Pair

Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



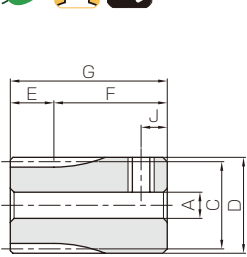
S3

S1

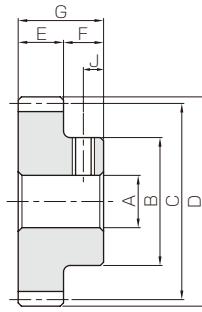
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway	
				AH7	B	C	D	E	F	G	H	I	Width×Depth	
KSS1.5-12 KSS1.5-12A	m1.5	12	S3	8	21	18	21	15	15	30	—	—	—	
S3T			6	—										
KSS1.5-13 KSS1.5-13A		13	S3	8	22.5	19.5	22.5	15	15	30	—	—	—	
S3T			6	—										
KSS1.5-14 KSS1.5-14A KSS1.5-14B		14	14	S1	8	16	21	24	15	10	25	—	—	—
S1T				6	—									
S1T				8	—									
KSS1.5-15 KSS1.5-15A KSS1.5-15B		15	15	S1	8	18	22.5	25.5	15	10	25	—	—	—
S1T				6	—									
S1T				8	—									
KSS1.5-16 KSS1.5-16A KSS1.5-16B		16	16	S1	8	20	24	27	15	10	25	—	—	—
S1T				6	—									
S1T				8	—									
KSS1.5-17 KSS1.5-17A		17	17	S1	8	21	25.5	28.5	15	10	25	—	—	—
S1T				8	—									
KSS1.5-18 KSS1.5-18A KSS1.5-18B		18	18	S1	8	22	27	30	15	10	25	—	—	—
S1T				8	—									
S1K				10	4 x 1.8									
KSS1.5-19 KSS1.5-19A		19	19	S1	8	23	28.5	31.5	15	10	25	—	—	—
S1T				8	—									
KSS1.5-20 KSS1.5-20A KSS1.5-20B KSS1.5-20C		20	20	S1	8	24	30	33	15	10	25	—	—	—
S1T				6	—									
S1T				8	—									
S1K				10	4 x 1.8									
KSS1.5-21 KSS1.5-21A KSS1.5-21B		21	21	S1	8	25	31.5	34.5	15	10	25	—	—	—
S1T				8	—									
S1K				10	4 x 1.8									
KSS1.5-22 KSS1.5-22A		22	22	S1	8	26	33	36	15	10	25	—	—	—
S1K				10	4 x 1.8									
KSS1.5-23 KSS1.5-23A		23	23	S1	8	27	34.5	37.5	15	10	25	—	—	—
S1K	10			4 x 1.8										
KSS1.5-24 KSS1.5-24A KSS1.5-24B KSS1.5-24C	24	24	S1	8	28	36	39	15	10	25	—	—	—	
S1T			8	—										
S1K			10	4 x 1.8										
S1K			12	4 x 1.8										
KSS1.5-25 KSS1.5-25A KSS1.5-25B KSS1.5-25C	25	25	S1	8	30	37.5	40.5	15	10	25	—	—	—	
S1T			8	—										
S1K			10	4 x 1.8										
S1K			12	4 x 1.8										
KSS1.5-26 KSS1.5-26A	26	26	S1	10	32	39	42	15	10	25	—	—	—	
S1K			12	4 x 1.8										
KSS1.5-27 KSS1.5-27A	27	27	S1	10	34	40.5	43.5	15	10	25	—	—	—	
S1K			12	4 x 1.8										
KSS1.5-28 KSS1.5-28A	28	28	S1	10	36	42	45	15	10	25	—	—	—	
S1K			12	4 x 1.8										
KSS1.5-29 KSS1.5-29A	29	29	S1	10	37	43.5	46.5	15	10	25	—	—	—	
S1K			12	4 x 1.8										
KSS1.5-30 KSS1.5-30A KSS1.5-30B KSS1.5-30C KSS1.5-30D	30	30	S1	10	38	45	48	15	10	25	—	—	—	
S1K			10	4 x 1.8										
S1K			12	4 x 1.8										
S1K			15	5 x 2.3										
S1K			16	5 x 2.3										

No. of Teeth available

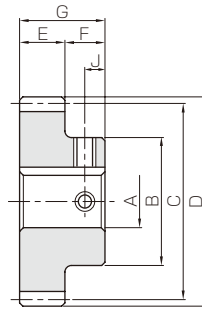
Steel Spur Gears



S3T



S1T



S1K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	6.86	0.36	0.70	0.037	0.10~0.22	0.059 0.063	KSS1.5-12 KSS1.5-12A
M4	4	8.84	0.44	0.90	0.045	0.10~0.22	0.070 0.075	KSS1.5-13 KSS1.5-13A
—	—	11.1	0.52	1.13	0.053	0.10~0.22	0.047 0.051 0.046	KSS1.5-14 KSS1.5-14A KSS1.5-14B
M4	5	12.5	0.60	1.27	0.062	0.10~0.22	0.057 0.061 0.056	KSS1.5-15 KSS1.5-15A KSS1.5-15B
M4	5	13.8	0.70	1.41	0.071	0.10~0.22	0.068 0.072 0.067	KSS1.5-16 KSS1.5-16A KSS1.5-16B
M5	5	15.2	0.80	1.55	0.082	0.10~0.22	0.077 0.077	KSS1.5-17 KSS1.5-17A
M5	5	16.6	0.91	1.69	0.093	0.10~0.22	0.087 0.086 0.080	KSS1.5-18 KSS1.5-18A KSS1.5-18B
M5	5	18.0	1.03	1.83	0.11	0.10~0.22	0.098 0.097	KSS1.5-19 KSS1.5-19A
M4	5	19.4	1.15	1.98	0.12	0.10~0.22	0.11	KSS1.5-20 KSS1.5-20A KSS1.5-20B KSS1.5-20C
M5	5						0.11	
M4	5						0.10	
M5	5	20.8	1.29	2.12	0.13	0.12~0.26	0.12 0.12 0.11	KSS1.5-21 KSS1.5-21A KSS1.5-21B
M4	5	22.3	1.43	2.27	0.15	0.12~0.26	0.13 0.12	KSS1.5-22 KSS1.5-22A
M4	5	23.7	1.58	2.42	0.16	0.12~0.26	0.15 0.14	KSS1.5-23 KSS1.5-23A
M5	5	25.2	1.73	2.57	0.18	0.12~0.26	0.16	KSS1.5-24 KSS1.5-24A KSS1.5-24B KSS1.5-24C
M4	5						0.16	
M4	5						0.15 0.14	
M5	5	26.7	1.90	2.72	0.19	0.12~0.26	0.18	KSS1.5-25 KSS1.5-25A KSS1.5-25B KSS1.5-25C
M4	5						0.17	
M4	5						0.16	
M4	5	28.2	2.06	2.87	0.21	0.12~0.26	0.19 0.18	KSS1.5-26 KSS1.5-26A
M4	5	29.7	2.23	3.03	0.23	0.12~0.26	0.21 0.20	KSS1.5-27 KSS1.5-27A
M4	5	31.2	2.41	3.18	0.25	0.12~0.26	0.23 0.22	KSS1.5-28 KSS1.5-28A
M4	5	32.7	2.60	3.34	0.26	0.12~0.26	0.24 0.23	KSS1.5-29 KSS1.5-29A
M4	5	34.2	2.79	3.49	0.28	0.12~0.26	0.26	KSS1.5-30 KSS1.5-30A KSS1.5-30B KSS1.5-30C KSS1.5-30D
M4	5						0.26	
M4	5						0.25	
M4	5						0.24 0.23	

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction for a pair of identical gears in mesh.
- ④ The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

*Please see book one for additional products in these modules.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products



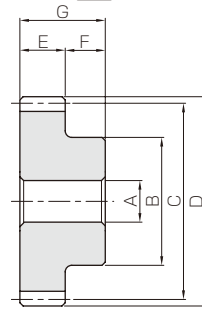
KSS Steel Spur Gears

Module 1.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S1

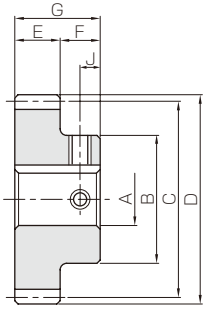
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway	
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth	
KSS1.5-32 KSS1.5-32A KSS1.5-32B KSS1.5-32C KSS1.5-32D	m1.5	32	S1	10	40	48	51	15	10	25	—	—	—	
			S1K	10	38								4 x 1.8	
			S1K	12	38								4 x 1.8	
			S1K	15	38								5 x 2.3	
KSS1.5-34 KSS1.5-34A	34	S1	10	40	51	54	15	10	25	—	—	—	4 x 1.8	
		S1K	12	38	—	—	—	—	—	—	—	—	—	
KSS1.5-35 KSS1.5-35A	35	S1	10	42	52.5	55.5	15	10	25	—	—	—	—	4 x 1.8
		S1K	12	40	—	—	—	—	—	—	—	—	—	—
KSS1.5-36 KSS1.5-36A	36	S1	10	45	54	57	15	10	25	—	—	—	—	4 x 1.8
		S1K	12	40	—	—	—	—	—	—	—	—	—	—
KSS1.5-38 KSS1.5-38A	38	S1	12	45	57	60	15	10	25	—	—	—	—	5 x 2.3
		S1K	15	40	—	—	—	—	—	—	—	—	—	—
KSS1.5-40 KSS1.5-40A KSS1.5-40B KSS1.5-40C	40	40	S1	12	45	60	63	15	10	25	—	—	—	—
			S1K	12	40									4 x 1.8
			S1K	15	40									5 x 2.3
			S1K	16	40									5 x 2.3
KSS1.5-42 ●KSS1.5-42 J12 ●KSS1.5-42 J14 ●KSS1.5-42 J15 ●KSS1.5-42 J16 ●KSS1.5-42 J17 ●KSS1.5-42 J18 ●KSS1.5-42 J19 ●KSS1.5-42 J20 ●KSS1.5-42 J22 ●KSS1.5-42 J25	42	42	S1	12	45	63	66	15	10	25	—	—	—	—
			S1K	12										4 x 1.8
			S1K	14										5 x 2.3
			S1K	15										5 x 2.3
			S1K	16										5 x 2.3
			S1K	17										5 x 2.3
			S1K	18										6 x 2.8
			S1K	19										6 x 2.8
			S1K	20										6 x 2.8
			S1K	22										6 x 2.8
S1K	25	8 x 3.3												
KSS1.5-44 ●KSS1.5-44 J12 ●KSS1.5-44 J14 ●KSS1.5-44 J15 ●KSS1.5-44 J16 ●KSS1.5-44 J17 ●KSS1.5-44 J18 ●KSS1.5-44 J19 ●KSS1.5-44 J20 ●KSS1.5-44 J22 ●KSS1.5-44 J25	44	44	S1	12	45	66	69	15	10	25	—	—	—	—
			S1K	12										4 x 1.8
			S1K	14										5 x 2.3
			S1K	15										5 x 2.3
			S1K	16										5 x 2.3
			S1K	17										5 x 2.3
			S1K	18										6 x 2.8
			S1K	19										6 x 2.8
			S1K	20										6 x 2.8
			S1K	22										6 x 2.8
S1K	25	8 x 3.3												
KSS1.5-45 ●KSS1.5-45 J12 ●KSS1.5-45 J14 ●KSS1.5-45 J15 ●KSS1.5-45 J16 ●KSS1.5-45 J17 ●KSS1.5-45 J18 ●KSS1.5-45 J19 ●KSS1.5-45 J20 ●KSS1.5-45 J22 ●KSS1.5-45 J25	45	45	S1	12	45	67.5	70.5	15	10	25	—	—	—	—
			S1K	12										4 x 1.8
			S1K	14										5 x 2.3
			S1K	15										5 x 2.3
			S1K	16										5 x 2.3
			S1K	17										5 x 2.3
			S1K	18										6 x 2.8
			S1K	19										6 x 2.8
			S1K	20										6 x 2.8
			S1K	22										6 x 2.8
S1K	25	8 x 3.3												

No. of Teeth available

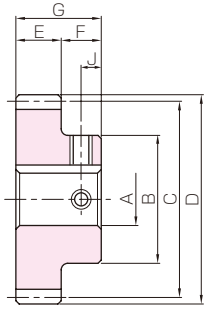
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150	200
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Steel Spur Gears



S1K



S1K



[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	37.3	3.19	3.80	0.33	0.12~0.26	0.30	KSS1.5-32
M4	5							KSS1.5-32A
M4	5							KSS1.5-32B
M4	5							KSS1.5-32C KSS1.5-32D
—	—	40.4	3.63	4.12	0.37	0.12~0.26	0.32	KSS1.5-34
M4	5							KSS1.5-34A
—	—	41.9	3.85	4.28	0.39	0.12~0.26	0.35	KSS1.5-35
M4	5							KSS1.5-35A
—	—	43.5	4.09	4.43	0.42	0.12~0.26	0.38	KSS1.5-36
M4	5							KSS1.5-36A
—	—	46.6	4.58	4.75	0.47	0.12~0.26	0.40	KSS1.5-38
M4	5							KSS1.5-38A
—	—	49.8	5.10	5.07	0.52	0.12~0.26	0.44	KSS1.5-40
M4	5							KSS1.5-40A
M4	5							KSS1.5-40B
M4	5							KSS1.5-40C
—	—	52.9	5.65	5.40	0.58	0.14~0.32	0.47	KSS1.5-42
M4*	5							● KSS1.5-42 J12
M4*	5							● KSS1.5-42 J14
M4*	5							● KSS1.5-42 J15
M4*	5							● KSS1.5-42 J16
M4	5							● KSS1.5-42 J17
M5	5							● KSS1.5-42 J18
M5	5							● KSS1.5-42 J19
M5	5							● KSS1.5-42 J20
M5	5							● KSS1.5-42 J22
M6	5	● KSS1.5-42 J25						
—	—	56.1	6.23	5.72	0.64	0.14~0.32	0.51	KSS1.5-44
M4*	5							● KSS1.5-44 J12
M4*	5							● KSS1.5-44 J14
M4*	5							● KSS1.5-44 J15
M4*	5							● KSS1.5-44 J16
M4	5							● KSS1.5-44 J17
M5	5							● KSS1.5-44 J18
M5	5							● KSS1.5-44 J19
M5	5							● KSS1.5-44 J20
M5	5							● KSS1.5-44 J22
M6	5	● KSS1.5-44 J25						
—	—	57.7	6.53	5.88	0.67	0.14~0.32	0.52	KSS1.5-45
M4*	5							● KSS1.5-45 J12
M4*	5							● KSS1.5-45 J14
M4*	5							● KSS1.5-45 J15
M4*	5							● KSS1.5-45 J16
M4	5							● KSS1.5-45 J17
M5	5							● KSS1.5-45 J18
M5	5							● KSS1.5-45 J19
M5	5							● KSS1.5-45 J20
M5	5							● KSS1.5-45 J22
M6	5	● KSS1.5-45 J25						

*Please see book one for additional products in these modules.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

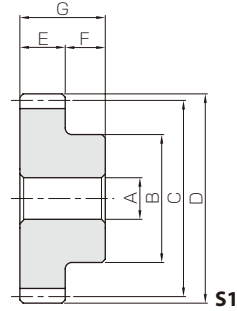


KSS Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



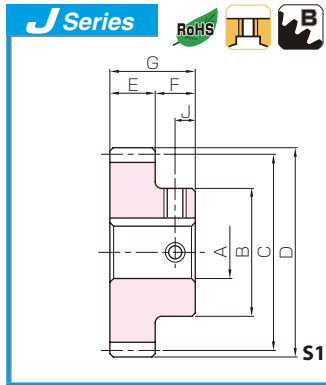
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth
KSS1.5-46 ● KSS1.5-46 J12 ● KSS1.5-46 J14 ● KSS1.5-46 J15 ● KSS1.5-46 J16 ● KSS1.5-46 J17 ● KSS1.5-46 J18 ● KSS1.5-46 J19 ● KSS1.5-46 J20 ● KSS1.5-46 J22 ● KSS1.5-46 J25	m1.5	46	S1	12	45	69	72	15	10	25	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
S1K	25	8 x 3.3											
KSS1.5-48 ● KSS1.5-48 J12 ● KSS1.5-48 J14 ● KSS1.5-48 J15 ● KSS1.5-48 J16 ● KSS1.5-48 J17 ● KSS1.5-48 J18 ● KSS1.5-48 J19 ● KSS1.5-48 J20 ● KSS1.5-48 J22 ● KSS1.5-48 J25	m1.5	48	S1	12	45	72	75	15	10	25	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
S1K	25	8 x 3.3											
KSS1.5-50 ● KSS1.5-50 J12 ● KSS1.5-50 J14 ● KSS1.5-50 J15 ● KSS1.5-50 J16 ● KSS1.5-50 J17 ● KSS1.5-50 J18 ● KSS1.5-50 J19 ● KSS1.5-50 J20 ● KSS1.5-50 J22 ● KSS1.5-50 J25	m1.5	50	S1	12	45	75	78	15	10	25	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
S1K	25	8 x 3.3											
KSS1.5-52 ● KSS1.5-52 J15 ● KSS1.5-52 J16 ● KSS1.5-52 J17 ● KSS1.5-52 J18 ● KSS1.5-52 J19 ● KSS1.5-52 J20 ● KSS1.5-52 J22 ● KSS1.5-52 J25 ● KSS1.5-52 J28 ● KSS1.5-52 J30	m1.5	52	S1	15	50	78	81	15	10	25	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
S1K	30	8 x 3.3											
KSS1.5-54 ● KSS1.5-54 J15 ● KSS1.5-54 J16 ● KSS1.5-54 J17 ● KSS1.5-54 J18 ● KSS1.5-54 J19 ● KSS1.5-54 J20 ● KSS1.5-54 J22 ● KSS1.5-54 J25 ● KSS1.5-54 J28 ● KSS1.5-54 J30	m1.5	54	S1	15	50	81	84	15	10	25	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
S1K	30	8 x 3.3											

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150	200
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	59.3	6.83	6.04	0.70	0.14~0.32	0.54	KSS1.5-46 ●KSS1.5-46 J12 ●KSS1.5-46 J14 ●KSS1.5-46 J15 ●KSS1.5-46 J16 ●KSS1.5-46 J17 ●KSS1.5-46 J18 ●KSS1.5-46 J19 ●KSS1.5-46 J20 ●KSS1.5-46 J22 ●KSS1.5-46 J25
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4	5							
M5	5							
M5	5							
M5	5							
M6	5							
—	—	62.4	7.47	6.37	0.76	0.14~0.32	0.58	KSS1.5-48 ●KSS1.5-48 J12 ●KSS1.5-48 J14 ●KSS1.5-48 J15 ●KSS1.5-48 J16 ●KSS1.5-48 J17 ●KSS1.5-48 J18 ●KSS1.5-48 J19 ●KSS1.5-48 J20 ●KSS1.5-48 J22 ●KSS1.5-48 J25
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4	5							
M5	5							
M5	5							
M5	5							
M6	5							
—	—	65.7	8.15	6.69	0.83	0.14~0.32	0.62	KSS1.5-50 ●KSS1.5-50 J12 ●KSS1.5-50 J14 ●KSS1.5-50 J15 ●KSS1.5-50 J16 ●KSS1.5-50 J17 ●KSS1.5-50 J18 ●KSS1.5-50 J19 ●KSS1.5-50 J20 ●KSS1.5-50 J22 ●KSS1.5-50 J25
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4	5							
M5	5							
M5	5							
M5	5							
M6	5							
—	—	68.9	8.85	7.02	0.90	0.14~0.32	0.68	KSS1.5-52 ●KSS1.5-52 J15 ●KSS1.5-52 J16 ●KSS1.5-52 J17 ●KSS1.5-52 J18 ●KSS1.5-52 J19 ●KSS1.5-52 J20 ●KSS1.5-52 J22 ●KSS1.5-52 J25 ●KSS1.5-52 J28 ●KSS1.5-52 J30
M4*	5							
M4*	5							
M4*	5							
M5	5							
M5	5							
M5	5							
M5	5							
M6	5							
M6	5							
—	—	72.1	9.59	7.35	0.98	0.14~0.32	0.73	KSS1.5-54 ●KSS1.5-54 J15 ●KSS1.5-54 J16 ●KSS1.5-54 J17 ●KSS1.5-54 J18 ●KSS1.5-54 J19 ●KSS1.5-54 J20 ●KSS1.5-54 J22 ●KSS1.5-54 J25 ●KSS1.5-54 J28 ●KSS1.5-54 J30
M4*	5							
M4*	5							
M4*	5							
M5	5							
M5	5							
M5	5							
M5	5							
M6	5							
M6	5							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.



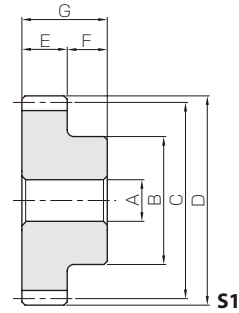


KSS Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

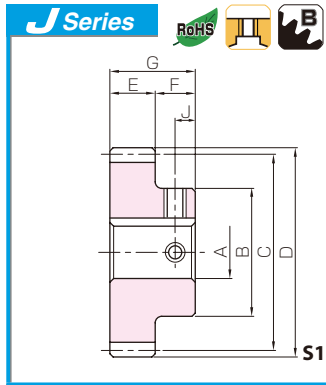


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS1.5-55 ● KSS1.5-55 J15 ● KSS1.5-55 J16 ● KSS1.5-55 J17 ● KSS1.5-55 J18 ● KSS1.5-55 J19 ● KSS1.5-55 J20 ● KSS1.5-55 J22 ● KSS1.5-55 J25 ● KSS1.5-55 J28 ● KSS1.5-55 J30	m1.5	55	S1	15	50	82.5	85.5	15	10	25	—	—	—
			S1K	15									5 × 2.3
			S1K	16									5 × 2.3
			S1K	17									5 × 2.3
			S1K	18									6 × 2.8
			S1K	19									6 × 2.8
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
S1K	30	8 × 3.3											
KSS1.5-56 ● KSS1.5-56 J15 ● KSS1.5-56 J16 ● KSS1.5-56 J17 ● KSS1.5-56 J18 ● KSS1.5-56 J19 ● KSS1.5-56 J20 ● KSS1.5-56 J22 ● KSS1.5-56 J25 ● KSS1.5-56 J28 ● KSS1.5-56 J30	m1.5	56	S1	15	50	84	87	15	10	25	—	—	—
			S1K	15									5 × 2.3
			S1K	16									5 × 2.3
			S1K	17									5 × 2.3
			S1K	18									6 × 2.8
			S1K	19									6 × 2.8
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
S1K	30	8 × 3.3											
KSS1.5-58 ● KSS1.5-58 J15 ● KSS1.5-58 J16 ● KSS1.5-58 J17 ● KSS1.5-58 J18 ● KSS1.5-58 J19 ● KSS1.5-58 J20 ● KSS1.5-58 J22 ● KSS1.5-58 J25 ● KSS1.5-58 J28 ● KSS1.5-58 J30	m1.5	58	S1	15	50	87	90	15	10	25	—	—	—
			S1K	15									5 × 2.3
			S1K	16									5 × 2.3
			S1K	17									5 × 2.3
			S1K	18									6 × 2.8
			S1K	19									6 × 2.8
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
S1K	30	8 × 3.3											
KSS1.5-60 ● KSS1.5-60 J15 ● KSS1.5-60 J16 ● KSS1.5-60 J17 ● KSS1.5-60 J18 ● KSS1.5-60 J19 ● KSS1.5-60 J20 ● KSS1.5-60 J22 ● KSS1.5-60 J25 ● KSS1.5-60 J28 ● KSS1.5-60 J30	m1.5	60	S1	15	50	90	93	15	10	25	—	—	—
			S1K	15									5 × 2.3
			S1K	16									5 × 2.3
			S1K	17									5 × 2.3
			S1K	18									6 × 2.8
			S1K	19									6 × 2.8
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
S1K	30	8 × 3.3											
KSS1.5-62 ● KSS1.5-62 J15 ● KSS1.5-62 J16 ● KSS1.5-62 J17 ● KSS1.5-62 J18 ● KSS1.5-62 J19 ● KSS1.5-62 J20 ● KSS1.5-62 J22 ● KSS1.5-62 J25 ● KSS1.5-62 J28 ● KSS1.5-62 J30 ● KSS1.5-62 J32	m1.5	62	S1	15	55	93	96	15	10	25	—	—	—
			S1K	15									5 × 2.3
			S1K	16									5 × 2.3
			S1K	17									5 × 2.3
			S1K	18									6 × 2.8
			S1K	19									6 × 2.8
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
S1K	30	8 × 3.3											
S1K	32	10 × 3.3											

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150	200
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	73.7	9.96	7.51	1.02	0.14~0.32	0.75	KSS1.5-55 ●KSS1.5-55 J15 ●KSS1.5-55 J16 ●KSS1.5-55 J17 ●KSS1.5-55 J18 ●KSS1.5-55 J19 ●KSS1.5-55 J20 ●KSS1.5-55 J22 ●KSS1.5-55 J25 ●KSS1.5-55 J28 ●KSS1.5-55 J30
M4*	5							
M4*	5							
M4*	5							
M5	5							
M5	5							
M5	5							
M5	5							
M6	5							
M6	5							
—	—	75.3	10.4	7.68	1.06	0.14~0.32	0.77	KSS1.5-56 ●KSS1.5-56 J15 ●KSS1.5-56 J16 ●KSS1.5-56 J17 ●KSS1.5-56 J18 ●KSS1.5-56 J19 ●KSS1.5-56 J20 ●KSS1.5-56 J22 ●KSS1.5-56 J25 ●KSS1.5-56 J28 ●KSS1.5-56 J30
M4*	5							
M4*	5							
M4*	5							
M5	5							
M5	5							
M5	5							
M5	5							
M6	5							
M6	5							
—	—	78.5	11.2	8.01	1.14	0.14~0.32	0.82	KSS1.5-58 ●KSS1.5-58 J15 ●KSS1.5-58 J16 ●KSS1.5-58 J17 ●KSS1.5-58 J18 ●KSS1.5-58 J19 ●KSS1.5-58 J20 ●KSS1.5-58 J22 ●KSS1.5-58 J25 ●KSS1.5-58 J28 ●KSS1.5-58 J30
M4*	5							
M4*	5							
M4*	5							
M5	5							
M5	5							
M5	5							
M5	5							
M6	5							
M6	5							
—	—	81.8	12.0	8.34	1.22	0.14~0.32	0.87	KSS1.5-60 ●KSS1.5-60 J15 ●KSS1.5-60 J16 ●KSS1.5-60 J17 ●KSS1.5-60 J18 ●KSS1.5-60 J19 ●KSS1.5-60 J20 ●KSS1.5-60 J22 ●KSS1.5-60 J25 ●KSS1.5-60 J28 ●KSS1.5-60 J30
M4*	5							
M4*	5							
M4*	5							
M5	5							
M5	5							
M5	5							
M5	5							
M6	5							
M6	5							
—	—	85.0	12.8	8.67	1.31	0.14~0.32	0.95	KSS1.5-62 ●KSS1.5-62 J15 ●KSS1.5-62 J16 ●KSS1.5-62 J17 ●KSS1.5-62 J18 ●KSS1.5-62 J19 ●KSS1.5-62 J20 ●KSS1.5-62 J22 ●KSS1.5-62 J25 ●KSS1.5-62 J28 ●KSS1.5-62 J30 ●KSS1.5-62 J32
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M8	5							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

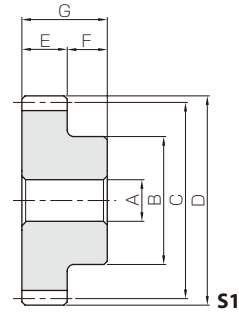
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

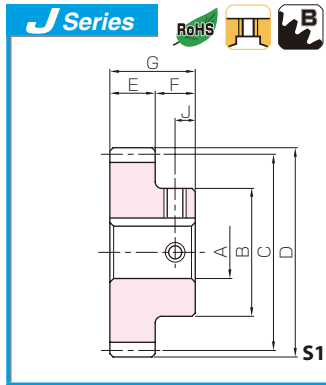


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway		
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth		
KSS1.5-64 ● KSS1.5-64 J15 ● KSS1.5-64 J16 ● KSS1.5-64 J17 ● KSS1.5-64 J18 ● KSS1.5-64 J19 ● KSS1.5-64 J20 ● KSS1.5-64 J22 ● KSS1.5-64 J25 ● KSS1.5-64 J28 ● KSS1.5-64 J30 ● KSS1.5-64 J32	m1.5	64	S1	15									—		
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19	55	96	99	15	10	25	—	—			6 x 2.8
			S1K	20											6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			KSS1.5-65 ● KSS1.5-65 J15 ● KSS1.5-65 J16 ● KSS1.5-65 J17 ● KSS1.5-65 J18 ● KSS1.5-65 J19 ● KSS1.5-65 J20 ● KSS1.5-65 J22 ● KSS1.5-65 J25 ● KSS1.5-65 J28 ● KSS1.5-65 J30 ● KSS1.5-65 J32	m1.5	65	S1	15								
S1K	15														5 x 2.3
S1K	16														5 x 2.3
S1K	17														5 x 2.3
S1K	18														6 x 2.8
S1K	19	55				97.5	100.5	15	10	25	—	—			6 x 2.8
S1K	20														6 x 2.8
S1K	22														6 x 2.8
S1K	25														8 x 3.3
S1K	28														8 x 3.3
S1K	30														8 x 3.3
S1K	32														10 x 3.3
KSS1.5-66 ● KSS1.5-66 J15 ● KSS1.5-66 J16 ● KSS1.5-66 J17 ● KSS1.5-66 J18 ● KSS1.5-66 J19 ● KSS1.5-66 J20 ● KSS1.5-66 J22 ● KSS1.5-66 J25 ● KSS1.5-66 J28 ● KSS1.5-66 J30 ● KSS1.5-66 J32	m1.5	66				S1	15								
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19	55	99	102	15	10	25	—	—			6 x 2.8
			S1K	20											6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			KSS1.5-68 ● KSS1.5-68 J15 ● KSS1.5-68 J16 ● KSS1.5-68 J17 ● KSS1.5-68 J18 ● KSS1.5-68 J19 ● KSS1.5-68 J20 ● KSS1.5-68 J22 ● KSS1.5-68 J25 ● KSS1.5-68 J28 ● KSS1.5-68 J30 ● KSS1.5-68 J32	m1.5	68	S1	15								
S1K	15														5 x 2.3
S1K	16														5 x 2.3
S1K	17														5 x 2.3
S1K	18														6 x 2.8
S1K	19	55				102	105	15	10	25	—	—			6 x 2.8
S1K	20														6 x 2.8
S1K	22														6 x 2.8
S1K	25														8 x 3.3
S1K	28														8 x 3.3
S1K	30														8 x 3.3
S1K	32														10 x 3.3

*Please see book one for additional products in these modules.

No. of Teeth available



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	88.3	13.7	9.00	1.40	0.14~0.32	1.00	KSS1.5-64
M4*	5							●KSS1.5-64 J15
M4*	5							●KSS1.5-64 J16
M4*	5							●KSS1.5-64 J17
M5*	5							●KSS1.5-64 J18
M5*	5							●KSS1.5-64 J19
M5*	5							●KSS1.5-64 J20
M5	5							●KSS1.5-64 J22
M6	5							●KSS1.5-64 J25
M6	5							●KSS1.5-64 J28
M6	5	●KSS1.5-64 J30						
M8	5	●KSS1.5-64 J32						
—	—	89.9	14.2	9.17	1.45	0.14~0.32	1.03	KSS1.5-65
M4*	5							●KSS1.5-65 J15
M4*	5							●KSS1.5-65 J16
M4*	5							●KSS1.5-65 J17
M5*	5							●KSS1.5-65 J18
M5*	5							●KSS1.5-65 J19
M5*	5							●KSS1.5-65 J20
M5	5							●KSS1.5-65 J22
M6	5							●KSS1.5-65 J25
M6	5							●KSS1.5-65 J28
M6	5	●KSS1.5-65 J30						
M8	5	●KSS1.5-65 J32						
—	—	91.5	14.6	9.33	1.49	0.14~0.32	1.06	KSS1.5-66
M4*	5							●KSS1.5-66 J15
M4*	5							●KSS1.5-66 J16
M4*	5							●KSS1.5-66 J17
M5*	5							●KSS1.5-66 J18
M5*	5							●KSS1.5-66 J19
M5*	5							●KSS1.5-66 J20
M5	5							●KSS1.5-66 J22
M6	5							●KSS1.5-66 J25
M6	5							●KSS1.5-66 J28
M6	5	●KSS1.5-66 J30						
M8	5	●KSS1.5-66 J32						
—	—	94.8	15.6	9.66	1.59	0.14~0.32	1.11	KSS1.5-68
M4*	5							●KSS1.5-68 J15
M4*	5							●KSS1.5-68 J16
M4*	5							●KSS1.5-68 J17
M5*	5							●KSS1.5-68 J18
M5*	5							●KSS1.5-68 J19
M5*	5							●KSS1.5-68 J20
M5	5							●KSS1.5-68 J22
M6	5							●KSS1.5-68 J25
M6	5							●KSS1.5-68 J28
M6	5	●KSS1.5-68 J30						
M8	5	●KSS1.5-68 J32						

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.



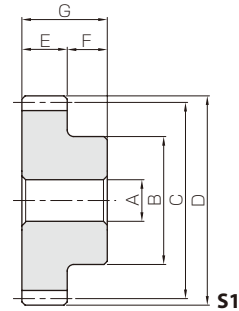


KSS Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

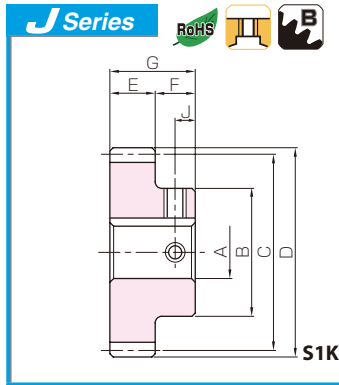


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS1.5-70	m1.5	70	S1	15	55	105	108	15	10	25	—	—	—
●KSS1.5-70 J15			S1K	15									5 × 2.3
●KSS1.5-70 J16			S1K	16									5 × 2.3
●KSS1.5-70 J17			S1K	17									5 × 2.3
●KSS1.5-70 J18			S1K	18									6 × 2.8
●KSS1.5-70 J19			S1K	19									6 × 2.8
●KSS1.5-70 J20			S1K	20									6 × 2.8
●KSS1.5-70 J22			S1K	22									6 × 2.8
●KSS1.5-70 J25			S1K	25									8 × 3.3
●KSS1.5-70 J28			S1K	28									8 × 3.3
●KSS1.5-70 J30		S1K	30	8 × 3.3									
●KSS1.5-70 J32		S1K	32	10 × 3.3									
KSS1.5-72		72	S1	15	55	108	111	15	10	25	—	—	—
●KSS1.5-72 J15			S1K	15									5 × 2.3
●KSS1.5-72 J16			S1K	16									5 × 2.3
●KSS1.5-72 J17			S1K	17									5 × 2.3
●KSS1.5-72 J18			S1K	18									6 × 2.8
●KSS1.5-72 J19			S1K	19									6 × 2.8
●KSS1.5-72 J20			S1K	20									6 × 2.8
●KSS1.5-72 J22			S1K	22									6 × 2.8
●KSS1.5-72 J25			S1K	25									8 × 3.3
●KSS1.5-72 J28			S1K	28									8 × 3.3
●KSS1.5-72 J30		S1K	30	8 × 3.3									
●KSS1.5-72 J32		S1K	32	10 × 3.3									
KSS1.5-75		75	S1	15	60	112.5	115.5	15	10	25	—	—	—
●KSS1.5-75 J15			S1K	15									5 × 2.3
●KSS1.5-75 J16			S1K	16									5 × 2.3
●KSS1.5-75 J17			S1K	17									5 × 2.3
●KSS1.5-75 J18			S1K	18									6 × 2.8
●KSS1.5-75 J19			S1K	19									6 × 2.8
●KSS1.5-75 J20			S1K	20									6 × 2.8
●KSS1.5-75 J22			S1K	22									6 × 2.8
●KSS1.5-75 J25	S1K		25	8 × 3.3									
●KSS1.5-75 J28	S1K		28	8 × 3.3									
●KSS1.5-75 J30	S1K	30	8 × 3.3										
●KSS1.5-75 J32	S1K	32	10 × 3.3										
●KSS1.5-75 J35	S1K	35	10 × 3.3										
KSS1.5-76	76	S1	15	60	114	117	15	10	25	—	—	—	
●KSS1.5-76 J15		S1K	15									5 × 2.3	
●KSS1.5-76 J16		S1K	16									5 × 2.3	
●KSS1.5-76 J17		S1K	17									5 × 2.3	
●KSS1.5-76 J18		S1K	18									6 × 2.8	
●KSS1.5-76 J19		S1K	19									6 × 2.8	
●KSS1.5-76 J20		S1K	20									6 × 2.8	
●KSS1.5-76 J22		S1K	22									6 × 2.8	
●KSS1.5-76 J25		S1K	25									8 × 3.3	
●KSS1.5-76 J28		S1K	28									8 × 3.3	
●KSS1.5-76 J30	S1K	30	8 × 3.3										
●KSS1.5-76 J32	S1K	32	10 × 3.3										
●KSS1.5-76 J35	S1K	35	10 × 3.3										

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150	200
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	98.0	16.6	10.0	1.69	0.14~0.32	1.17 1.16 1.16 1.15 1.15 1.14 1.14 1.12 1.10 1.08 1.06 1.04	KSS1.5-70 ●KSS1.5-70 J15 ●KSS1.5-70 J16 ●KSS1.5-70 J17 ●KSS1.5-70 J18 ●KSS1.5-70 J19 ●KSS1.5-70 J20 ●KSS1.5-70 J22 ●KSS1.5-70 J25 ●KSS1.5-70 J28 ●KSS1.5-70 J30 ●KSS1.5-70 J32
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M8	5							
—	—							
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M8	5							
—	—	106	19.2	10.8	1.95	0.14~0.32	1.36 1.35 1.34 1.34 1.33 1.33 1.33 1.32 1.31 1.29 1.26 1.24 1.22 1.19	KSS1.5-75 ●KSS1.5-75 J15 ●KSS1.5-75 J16 ●KSS1.5-75 J17 ●KSS1.5-75 J18 ●KSS1.5-75 J19 ●KSS1.5-75 J20 ●KSS1.5-75 J22 ●KSS1.5-75 J25 ●KSS1.5-75 J28 ●KSS1.5-75 J30 ●KSS1.5-75 J32 ●KSS1.5-75 J35
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
—	—	108	19.7	11.0	2.01	0.14~0.32	1.39 1.38 1.37 1.37 1.36 1.36 1.35 1.34 1.32 1.29 1.28 1.25 1.22	KSS1.5-76 ●KSS1.5-76 J15 ●KSS1.5-76 J16 ●KSS1.5-76 J17 ●KSS1.5-76 J18 ●KSS1.5-76 J19 ●KSS1.5-76 J20 ●KSS1.5-76 J22 ●KSS1.5-76 J25 ●KSS1.5-76 J28 ●KSS1.5-76 J30 ●KSS1.5-76 J32 ●KSS1.5-76 J35
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).

⑤ Areas of products which have been reworked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.



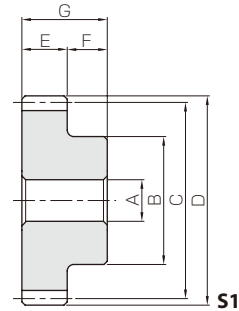


KSS Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

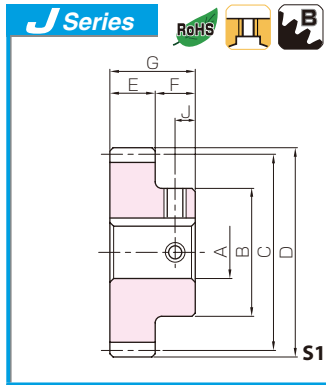


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway									
				AH7	B	C	D	E	F	G	H	I	Width×Depth									
KSS1.5-80	m1.5	80	S1	15	60	120	123	15	10	25	—	—	—									
●KSS1.5-80 J15			S1K	15									5 x 2.3									
●KSS1.5-80 J16			S1K	16									5 x 2.3									
●KSS1.5-80 J17			S1K	17									5 x 2.3									
●KSS1.5-80 J18			S1K	18									6 x 2.8									
●KSS1.5-80 J19			S1K	19									6 x 2.8									
●KSS1.5-80 J20			S1K	20									6 x 2.8									
●KSS1.5-80 J22			S1K	22									6 x 2.8									
●KSS1.5-80 J25			S1K	25									8 x 3.3									
●KSS1.5-80 J28			S1K	28									8 x 3.3									
●KSS1.5-80 J30			S1K	30									8 x 3.3									
●KSS1.5-80 J32			S1K	32									10 x 3.3									
●KSS1.5-80 J35			S1K	35									10 x 3.3									
KSS1.5-84			84	S1									15	60	126	129	15	10	25	—	—	—
●KSS1.5-84 J15				S1K									15									5 x 2.3
●KSS1.5-84 J16		S1K		16	5 x 2.3																	
●KSS1.5-84 J17		S1K		17	5 x 2.3																	
●KSS1.5-84 J18		S1K		18	6 x 2.8																	
●KSS1.5-84 J19		S1K		19	6 x 2.8																	
●KSS1.5-84 J20		S1K		20	6 x 2.8																	
●KSS1.5-84 J22		S1K		22	6 x 2.8																	
●KSS1.5-84 J25		S1K		25	8 x 3.3																	
●KSS1.5-84 J28		S1K		28	8 x 3.3																	
●KSS1.5-84 J30		S1K		30	8 x 3.3																	
●KSS1.5-84 J32		S1K		32	10 x 3.3																	
●KSS1.5-84 J35		S1K		35	10 x 3.3																	
KSS1.5-85		85		S1	15	60	127.5	130.5	15	10	25	—	—									—
●KSS1.5-85 J15				S1K	15																	5 x 2.3
●KSS1.5-85 J16			S1K	16	5 x 2.3																	
●KSS1.5-85 J17			S1K	17	5 x 2.3																	
●KSS1.5-85 J18			S1K	18	6 x 2.8																	
●KSS1.5-85 J19			S1K	19	6 x 2.8																	
●KSS1.5-85 J20			S1K	20	6 x 2.8																	
●KSS1.5-85 J22			S1K	22	6 x 2.8																	
●KSS1.5-85 J25			S1K	25	8 x 3.3																	
●KSS1.5-85 J28	S1K		28	8 x 3.3																		
●KSS1.5-85 J30	S1K		30	8 x 3.3																		
●KSS1.5-85 J32	S1K		32	10 x 3.3																		
●KSS1.5-85 J35	S1K		35	10 x 3.3																		
KSS1.5-88	88		S1	15	60									132	135	15	10	25	—	—	—	
●KSS1.5-88 J15			S1K	15																	5 x 2.3	
●KSS1.5-88 J16		S1K	16	5 x 2.3																		
●KSS1.5-88 J17		S1K	17	5 x 2.3																		
●KSS1.5-88 J18		S1K	18	6 x 2.8																		
●KSS1.5-88 J19		S1K	19	6 x 2.8																		
●KSS1.5-88 J20		S1K	20	6 x 2.8																		
●KSS1.5-88 J22		S1K	22	6 x 2.8																		
●KSS1.5-88 J25		S1K	25	8 x 3.3																		
●KSS1.5-88 J28		S1K	28	8 x 3.3																		
●KSS1.5-88 J30		S1K	30	8 x 3.3																		
●KSS1.5-88 J32		S1K	32	10 x 3.3																		
●KSS1.5-88 J35		S1K	35	10 x 3.3																		

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150	200
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	114	22.0	11.7	2.24	0.14~0.32	1.52 ●KSS1.5-80 ●KSS1.5-80 J15 ●KSS1.5-80 J16 ●KSS1.5-80 J17 ●KSS1.5-80 J18 ●KSS1.5-80 J19 ●KSS1.5-80 J20 ●KSS1.5-80 J22 ●KSS1.5-80 J25 ●KSS1.5-80 J28 ●KSS1.5-80 J30 ●KSS1.5-80 J32 ●KSS1.5-80 J35	
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
—	—							121
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
—	—	123	25.1	12.5	2.56	0.18~0.38	1.69 ●KSS1.5-85 ●KSS1.5-85 J15 ●KSS1.5-85 J16 ●KSS1.5-85 J17 ●KSS1.5-85 J18 ●KSS1.5-85 J19 ●KSS1.5-85 J20 ●KSS1.5-85 J22 ●KSS1.5-85 J25 ●KSS1.5-85 J28 ●KSS1.5-85 J30 ●KSS1.5-85 J32 ●KSS1.5-85 J35	
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
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M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.





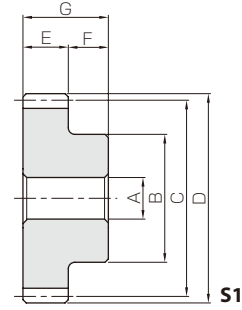
KSS Steel Spur Gears

Module 1.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



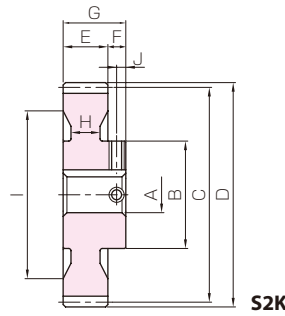
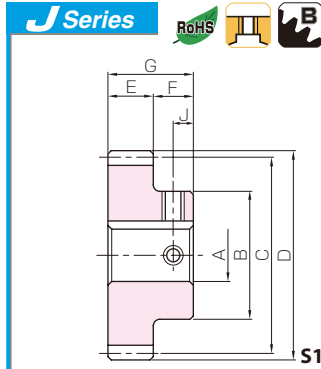
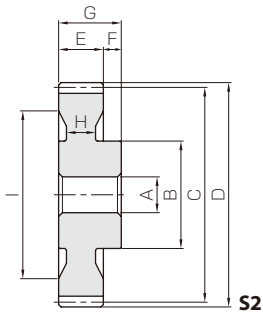
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway										
				AH7	B	C	D	E	F	G	H	I	Width×Depth										
KSS1.5-90	m1.5	90	S1	15	60	135	138	15	10	25	—	—	—										
●KSS1.5-90 J15			S1K	15									5 x 2.3										
●KSS1.5-90 J16			S1K	16									5 x 2.3										
●KSS1.5-90 J17			S1K	17									5 x 2.3										
●KSS1.5-90 J18			S1K	18									6 x 2.8										
●KSS1.5-90 J19			S1K	19									6 x 2.8										
●KSS1.5-90 J20			S1K	20									6 x 2.8										
●KSS1.5-90 J22			S1K	22									6 x 2.8										
●KSS1.5-90 J25			S1K	25									8 x 3.3										
●KSS1.5-90 J28			S1K	28									8 x 3.3										
●KSS1.5-90 J30			S1K	30									8 x 3.3										
●KSS1.5-90 J32			S1K	32									10 x 3.3										
●KSS1.5-90 J35			S1K	35									10 x 3.3										
KSS1.5-95			m1.5	95									S1	15	60	142.5	145.5	15	10	25	—	—	—
●KSS1.5-95 J15													S1K	15									5 x 2.3
●KSS1.5-95 J16	S1K	16			5 x 2.3																		
●KSS1.5-95 J17	S1K	17			5 x 2.3																		
●KSS1.5-95 J18	S1K	18			6 x 2.8																		
●KSS1.5-95 J19	S1K	19			6 x 2.8																		
●KSS1.5-95 J20	S1K	20			6 x 2.8																		
●KSS1.5-95 J22	S1K	22			6 x 2.8																		
●KSS1.5-95 J25	S1K	25			8 x 3.3																		
●KSS1.5-95 J28	S1K	28			8 x 3.3																		
●KSS1.5-95 J30	S1K	30			8 x 3.3																		
●KSS1.5-95 J32	S1K	32			10 x 3.3																		
●KSS1.5-95 J35	S1K	35			10 x 3.3																		
KSS1.5-100	m1.5	100			S2	15	60	150	153	15	10	25	9	125									—
●KSS1.5-100 J15					S2K	15																	5 x 2.3
●KSS1.5-100 J16			S2K	16	5 x 2.3																		
●KSS1.5-100 J17			S2K	17	5 x 2.3																		
●KSS1.5-100 J18			S2K	18	6 x 2.8																		
●KSS1.5-100 J19			S2K	19	6 x 2.8																		
●KSS1.5-100 J20			S2K	20	6 x 2.8																		
●KSS1.5-100 J22			S2K	22	6 x 2.8																		
●KSS1.5-100 J25			S2K	25	8 x 3.3																		
●KSS1.5-100 J28			S2K	28	8 x 3.3																		
●KSS1.5-100 J30			S2K	30	8 x 3.3																		
●KSS1.5-100 J32			S2K	32	10 x 3.3																		
●KSS1.5-100 J35			S2K	35	10 x 3.3																		
KSS1.5-120			m1.5	120	S2	15									70	180	183	15	10	25	10	153	—
●KSS1.5-120 J15					S2K	15																	5 x 2.3
●KSS1.5-120 J16	S2K	16			5 x 2.3																		
●KSS1.5-120 J17	S2K	17			5 x 2.3																		
●KSS1.5-120 J18	S2K	18			6 x 2.8																		
●KSS1.5-120 J19	S2K	19			6 x 2.8																		
●KSS1.5-120 J20	S2K	20			6 x 2.8																		
●KSS1.5-120 J22	S2K	22			6 x 2.8																		
●KSS1.5-120 J25	S2K	25			8 x 3.3																		
●KSS1.5-120 J28	S2K	28			8 x 3.3																		
●KSS1.5-120 J30	S2K	30			8 x 3.3																		
●KSS1.5-120 J32	S2K	32			10 x 3.3																		
●KSS1.5-120 J35	S2K	35			10 x 3.3																		
KSS1.5-150		150			S1	20	180	225	228	15	10	25	—	—									—
KSS1.5-200		200			S1	25	240	300	303	15	10	25	—	—									—

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150	200
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	131	28.3	13.3	2.89	0.18~0.38	1.87 1.86 1.86 1.85 1.85 1.84 1.84 1.82 1.80 1.78 1.76 1.74 1.71	KSS1.5-90 ●KSS1.5-90 J15 ●KSS1.5-90 J16 ●KSS1.5-90 J17 ●KSS1.5-90 J18 ●KSS1.5-90 J19 ●KSS1.5-90 J20 ●KSS1.5-90 J22 ●KSS1.5-90 J25 ●KSS1.5-90 J28 ●KSS1.5-90 J30 ●KSS1.5-90 J32 ●KSS1.5-90 J35
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
—	—	139	31.8	14.2	3.24	0.18~0.38	2.07 2.05 2.05 2.05 2.04 2.03 2.03 2.02 1.99 1.97 1.95 1.93 1.90	KSS1.5-95 ●KSS1.5-95 J15 ●KSS1.5-95 J16 ●KSS1.5-95 J17 ●KSS1.5-95 J18 ●KSS1.5-95 J19 ●KSS1.5-95 J20 ●KSS1.5-95 J22 ●KSS1.5-95 J25 ●KSS1.5-95 J28 ●KSS1.5-95 J30 ●KSS1.5-95 J32 ●KSS1.5-95 J35
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
—	—	147	35.5	15.0	3.62	0.18~0.38	1.88 1.87 1.86 1.86 1.85 1.84 1.84 1.84 1.83 1.80 1.78 1.76 1.74 1.71	KSS1.5-100 ●KSS1.5-100 J15 ●KSS1.5-100 J16 ●KSS1.5-100 J17 ●KSS1.5-100 J18 ●KSS1.5-100 J19 ●KSS1.5-100 J20 ●KSS1.5-100 J22 ●KSS1.5-100 J25 ●KSS1.5-100 J28 ●KSS1.5-100 J30 ●KSS1.5-100 J32 ●KSS1.5-100 J35
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M6	5							
M8	5							
M8	5							
—	—	180	52.3	18.4	5.33	0.18~0.38	2.74 2.72 2.72 2.72 2.71 2.70 2.70 2.69 2.66 2.66 2.64 2.62 2.60 2.57	KSS1.5-120 ●KSS1.5-120 J15 ●KSS1.5-120 J16 ●KSS1.5-120 J17 ●KSS1.5-120 J18 ●KSS1.5-120 J19 ●KSS1.5-120 J20 ●KSS1.5-120 J22 ●KSS1.5-120 J25 ●KSS1.5-120 J28 ●KSS1.5-120 J30 ●KSS1.5-120 J32 ●KSS1.5-120 J35
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M6*	5							
M6*	5							
M6*	5							
M8	5							
M8	5							
—	—	192	70.3	19.6	7.17	0.18~0.38	6.62	KSS1.5-150
—	—	261	131	26.7	13.3	0.22~0.46	11.8	KSS1.5-200

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

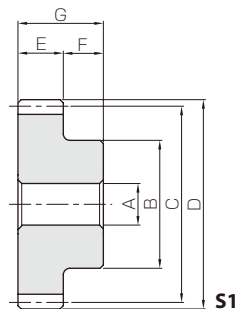
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



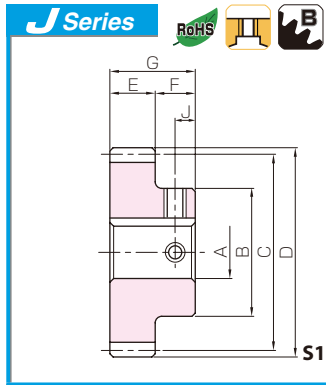
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2-12 ●KSS2-12 J10	m2	12	S1 S1T2	10 10	18	24	28	20	10	30	—	—	—
KSS2-13 ●KSS2-13 J10		13	S1 S1T2	10 10	20	26	30	20	10	30	—	—	4 x 1.8
KSS2-14 ●KSS2-14 J10		14	S1 S1K	10 10	20	28	32	20	10	30	—	—	4 x 1.8
KSS2-15 ●KSS2-15 J12		15	S1 S1K	12 12	24	30	34	20	10	30	—	—	4 x 1.8
KSS2-16 ●KSS2-16 J12 ●KSS2-16 J14		16	S1 S1K S1K	12 12 14	26	32	36	20	10	30	—	—	4 x 1.8 5 x 2.3
KSS2-17 ●KSS2-17 J12 ●KSS2-17 J14 ●KSS2-17 J15 ●KSS2-17 J16		17	S1 S1K S1K S1K S1K	12 12 14 15 16	28	34	38	20	10	30	—	—	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3
KSS2-18 ●KSS2-18 J12 ●KSS2-18 J14 ●KSS2-18 J15 ●KSS2-18 J16 ●KSS2-18 J17		18	S1 S1K S1K S1K S1K S1K	12 12 14 15 16 17	30	36	40	20	10	30	—	—	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3
KSS2-19 ●KSS2-19 J12 ●KSS2-19 J14 ●KSS2-19 J15 ●KSS2-19 J16 ●KSS2-19 J17 ●KSS2-19 J18		19	S1 S1K S1K S1K S1K S1K	12 12 14 15 16 17 18	31	38	42	20	10	30	—	—	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8
KSS2-20 ●KSS2-20 J12 ●KSS2-20 J14 ●KSS2-20 J15 ●KSS2-20 J16 ●KSS2-20 J17 ●KSS2-20 J18 ●KSS2-20 J19		20	S1 S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18 19	32	40	44	20	10	30	—	—	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8
KSS2-21 ●KSS2-21 J12 ●KSS2-21 J14 ●KSS2-21 J15 ●KSS2-21 J16 ●KSS2-21 J17 ●KSS2-21 J18 ●KSS2-21 J19 ●KSS2-21 J20		21	S1 S1K S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18 19 20	34	42	46	20	10	30	—	—	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	16.3	0.88	1.66	0.090	0.12~0.26	0.073 0.071	KSS2-12 ● KSS2-12 J10
—	—	21.0	1.07	2.14	0.11	0.12~0.26	0.090 0.087	KSS2-13 ● KSS2-13 J10
—	—	26.3	1.26	2.69	0.13	0.12~0.26	0.10 0.10	KSS2-14 ● KSS2-14 J10
—	—	29.6	1.48	3.01	0.15	0.12~0.26	0.12 0.12	KSS2-15 ● KSS2-15 J12
—	—	32.7	1.71	3.34	0.17	0.12~0.26	0.14 0.14	KSS2-16 ● KSS2-16 J12 ● KSS2-16 J14
M4	5	36.0	1.96	3.67	0.20	0.12~0.26	0.16	KSS2-17 ● KSS2-17 J12 ● KSS2-17 J14 ● KSS2-17 J15 ● KSS2-17 J16
M4	5						0.16	
M4	5						0.15	
M4	5						0.14	
—	—	39.3	2.23	4.01	0.23	0.12~0.26	0.19	KSS2-18 ● KSS2-18 J12 ● KSS2-18 J14 ● KSS2-18 J15 ● KSS2-18 J16 ● KSS2-18 J17
M4	5						0.19	
M4	5						0.18	
M4	5						0.17	
M4	5						0.16	
—	—	42.6	2.52	4.35	0.26	0.12~0.26	0.21	KSS2-19 ● KSS2-19 J12 ● KSS2-19 J14 ● KSS2-19 J15 ● KSS2-19 J16 ● KSS2-19 J17 ● KSS2-19 J18
M4	5						0.21	
M4	5						0.20	
M4	5						0.19	
M4	5						0.19	
M4	5						0.18	
M5	5	0.17						
—	—	46.0	2.83	4.69	0.29	0.12~0.26	0.23	KSS2-20 ● KSS2-20 J12 ● KSS2-20 J14 ● KSS2-20 J15 ● KSS2-20 J16 ● KSS2-20 J17 ● KSS2-20 J18 ● KSS2-20 J19
M4	5						0.23	
M4	5						0.22	
M4	5						0.22	
M4	5						0.21	
M4	5						0.20	
M5	5						0.20	
M5	5	0.19						
—	—	49.4	3.15	5.04	0.32	0.14~0.30	0.26	KSS2-21 ● KSS2-21 J12 ● KSS2-21 J14 ● KSS2-21 J15 ● KSS2-21 J16 ● KSS2-21 J17 ● KSS2-21 J18 ● KSS2-21 J19 ● KSS2-21 J20
M4	5						0.26	
M4	5						0.25	
M4	5						0.24	
M4	5						0.24	
M4	5						0.23	
M5	5						0.22	
M5	5						0.22	
M5	5						0.21	

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Areas of products which have been re-worked will not be black oxide coated.

⑤ For products having a tapped hole, a set screw is included.

⑥ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.



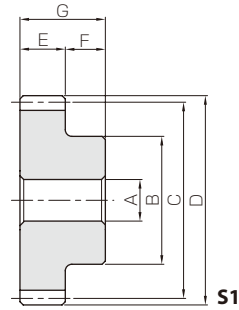
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

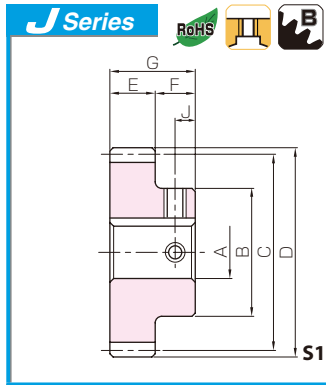


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2-22 ●KSS2-22 J12 ●KSS2-22 J14 ●KSS2-22 J15 ●KSS2-22 J16 ●KSS2-22 J17 ●KSS2-22 J18 ●KSS2-22 J19 ●KSS2-22 J20	m2	22	S1	12	36	44	48	20	10	30	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	20									6 x 2.8
KSS2-23 ●KSS2-23 J12 ●KSS2-23 J14 ●KSS2-23 J15 ●KSS2-23 J16 ●KSS2-23 J17 ●KSS2-23 J18 ●KSS2-23 J19 ●KSS2-23 J20 ●KSS2-23 J22	m2	23	S1	12	37	46	50	20	10	30	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
KSS2-24 ●KSS2-24 J12 ●KSS2-24 J14 ●KSS2-24 J15 ●KSS2-24 J16 ●KSS2-24 J17 ●KSS2-24 J18 ●KSS2-24 J19 ●KSS2-24 J20 ●KSS2-24 J22	m2	24	S1	12	38	48	52	20	10	30	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
KSS2-25 ●KSS2-25 J12 ●KSS2-25 J14 ●KSS2-25 J15 ●KSS2-25 J16 ●KSS2-25 J17 ●KSS2-25 J18 ●KSS2-25 J19 ●KSS2-25 J20 ●KSS2-25 J22	m2	25	S1	12	40	50	54	20	10	30	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
KSS2-26 ●KSS2-26 J12 ●KSS2-26 J14 ●KSS2-26 J15 ●KSS2-26 J16 ●KSS2-26 J17 ●KSS2-26 J18 ●KSS2-26 J19 ●KSS2-26 J20 ●KSS2-26 J22 ●KSS2-26 J25	m2	26	S1	12	42	52	56	20	10	30	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	25									8 x 3.3

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.29	KSS2-22
M4	5						0.29	● KSS2-22 J12
M4	5						0.28	● KSS2-22 J14
M4	5						0.27	● KSS2-22 J15
M4	5	52.8	3.50	5.39	0.36	0.14~0.30	0.27	● KSS2-22 J16
M4	5						0.26	● KSS2-22 J17
M5	5						0.25	● KSS2-22 J18
M5	5						0.25	● KSS2-22 J19
M5	5						0.24	● KSS2-22 J20
—	—						0.32	KSS2-23
M4	5						0.32	● KSS2-23 J12
M4	5						0.31	● KSS2-23 J14
M4	5						0.30	● KSS2-23 J15
M4	5	56.3	3.86	5.74	0.39	0.14~0.30	0.29	● KSS2-23 J16
M4	5						0.29	● KSS2-23 J17
M5	5						0.28	● KSS2-23 J18
M5	5						0.27	● KSS2-23 J19
M5	5						0.27	● KSS2-23 J20
M5	5						0.25	● KSS2-23 J22
—	—						0.35	KSS2-24
M4	5						0.34	● KSS2-24 J12
M4	5						0.33	● KSS2-24 J14
M4	5						0.33	● KSS2-24 J15
M4	5	59.8	4.24	6.09	0.43	0.14~0.30	0.32	● KSS2-24 J16
M4	5						0.32	● KSS2-24 J17
M5	5						0.31	● KSS2-24 J18
M5	5						0.30	● KSS2-24 J19
M5	5						0.29	● KSS2-24 J20
M5	5						0.28	● KSS2-24 J22
—	—						0.38	KSS2-25
M4	5						0.38	● KSS2-25 J12
M4	5						0.37	● KSS2-25 J14
M4	5						0.36	● KSS2-25 J15
M4	5	63.3	4.64	6.45	0.47	0.14~0.30	0.36	● KSS2-25 J16
M4	5						0.35	● KSS2-25 J17
M5	5						0.34	● KSS2-25 J18
M5	5						0.33	● KSS2-25 J19
M5	5						0.33	● KSS2-25 J20
M5	5						0.31	● KSS2-25 J22
—	—						0.42	KSS2-26
M4*	5						0.41	● KSS2-26 J12
M4	5						0.40	● KSS2-26 J14
M4	5						0.40	● KSS2-26 J15
M4	5						0.39	● KSS2-26 J16
M4	5	66.8	5.04	6.81	0.51	0.14~0.30	0.38	● KSS2-26 J17
M5	5						0.38	● KSS2-26 J18
M5	5						0.37	● KSS2-26 J19
M5	5						0.36	● KSS2-26 J20
M5	5						0.35	● KSS2-26 J22
M6	5						0.32	● KSS2-26 J25

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.





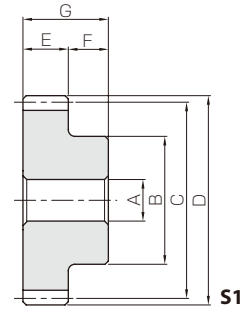
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

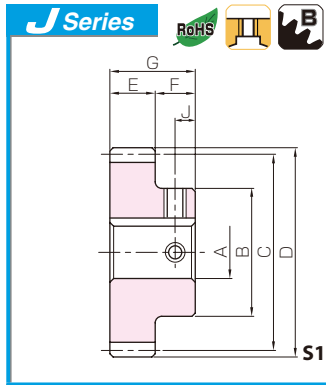


Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway										
				AH7	B	C	D	E	F	G	H	I	Width×Depth										
KS2-27	m2	27	S1	12	45	54	58	20	10	30	—	—	—										
●KS2-27 J12			S1K	12									4 x 1.8										
●KS2-27 J14			S1K	14									5 x 2.3										
●KS2-27 J15			S1K	15									5 x 2.3										
●KS2-27 J16			S1K	16									5 x 2.3										
●KS2-27 J17			S1K	17									5 x 2.3										
●KS2-27 J18			S1K	18									6 x 2.8										
●KS2-27 J19			S1K	19									6 x 2.8										
●KS2-27 J20			S1K	20									6 x 2.8										
●KSS2-27 J22			S1K	22									6 x 2.8										
●KSS2-27 J25			S1K	25									8 x 3.3										
KSS2-28			m2	28									S1	12	45	56	60	20	10	30	—	—	—
●KSS2-28 J12													S1K	12									4 x 1.8
●KSS2-28 J14													S1K	14									5 x 2.3
●KSS2-28 J15													S1K	15									5 x 2.3
●KSS2-28 J16	S1K	16			5 x 2.3																		
●KSS2-28 J17	S1K	17			5 x 2.3																		
●KSS2-28 J18	S1K	18			6 x 2.8																		
●KSS2-28 J19	S1K	19			6 x 2.8																		
●KSS2-28 J20	S1K	20			6 x 2.8																		
●KSS2-28 J22	S1K	22			6 x 2.8																		
●KSS2-28 J25	S1K	25			8 x 3.3																		
KSS2-29	m2	29			S1	12	47	58	62	20	10	30	—	—									—
●KSS2-29 J12					S1K	12																	4 x 1.8
●KSS2-29 J14					S1K	14																	5 x 2.3
●KSS2-29 J15					S1K	15																	5 x 2.3
●KSS2-29 J16			S1K	16	5 x 2.3																		
●KSS2-29 J17			S1K	17	5 x 2.3																		
●KSS2-29 J18			S1K	18	6 x 2.8																		
●KSS2-29 J19			S1K	19	6 x 2.8																		
●KSS2-29 J20			S1K	20	6 x 2.8																		
●KSS2-29 J22			S1K	22	6 x 2.8																		
●KSS2-29 J25			S1K	25	8 x 3.3																		
●KSS2-29 J28			S1K	28	8 x 3.3																		
KSS2-30			m2	30	S1	12									50	60	64	20	10	30	—	—	—
●KSS2-30 J12					S1K	12																	4 x 1.8
●KSS2-30 J14					S1K	14																	5 x 2.3
●KSS2-30 J15	S1K	15			5 x 2.3																		
●KSS2-30 J16	S1K	16			5 x 2.3																		
●KSS2-30 J17	S1K	17			5 x 2.3																		
●KSS2-30 J18	S1K	18			6 x 2.8																		
●KSS2-30 J19	S1K	19			6 x 2.8																		
●KSS2-30 J20	S1K	20			6 x 2.8																		
●KSS2-30 J22	S1K	22			6 x 2.8																		
●KSS2-30 J25	S1K	25			8 x 3.3																		
●KSS2-30 J28	S1K	28			8 x 3.3																		
●KSS2-30 J30	S1K	30			8 x 3.3																		

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	70.4	5.45	7.17	0.56	0.14~0.30	0.46	KSS2-27
M4*	5							●KSS2-27 J12
M4*	5							●KSS2-27 J14
M4*	5							●KSS2-27 J15
M4*	5							●KSS2-27 J16
M4	5							●KSS2-27 J17
M5	5							●KSS2-27 J18
M5	5							●KSS2-27 J19
M5	5							●KSS2-27 J20
M5	5							●KSS2-27 J22
M6	5	●KSS2-27 J25						
—	—	73.9	5.89	7.54	0.60	0.14~0.30	0.48	KSS2-28
M4*	5							●KSS2-28 J12
M4*	5							●KSS2-28 J14
M4*	5							●KSS2-28 J15
M4*	5							●KSS2-28 J16
M4	5							●KSS2-28 J17
M5	5							●KSS2-28 J18
M5	5							●KSS2-28 J19
M5	5							●KSS2-28 J20
M5	5							●KSS2-28 J22
M6	5	●KSS2-28 J25						
—	—	77.5	6.33	7.91	0.65	0.14~0.30	0.52	KSS2-29
M4*	5							●KSS2-29 J12
M4*	5							●KSS2-29 J14
M4*	5							●KSS2-29 J15
M4*	5							●KSS2-29 J16
M4*	5							●KSS2-29 J17
M5	5							●KSS2-29 J18
M5	5							●KSS2-29 J19
M5	5							●KSS2-29 J20
M5	5							●KSS2-29 J22
M6	5	●KSS2-29 J25						
M6	5	●KSS2-29 J28						
M6	5	●KSS2-29 J28						
—	—	81.1	6.80	8.27	0.69	0.14~0.30	0.57	KSS2-30
M4*	5							●KSS2-30 J12
M4*	5							●KSS2-30 J14
M4*	5							●KSS2-30 J15
M4*	5							●KSS2-30 J16
M4*	5							●KSS2-30 J17
M5	5							●KSS2-30 J18
M5	5							●KSS2-30 J19
M5	5							●KSS2-30 J20
M5	5							●KSS2-30 J22
M6	5	●KSS2-30 J25						
M6	5	●KSS2-30 J28						
M6	5	●KSS2-30 J30						

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

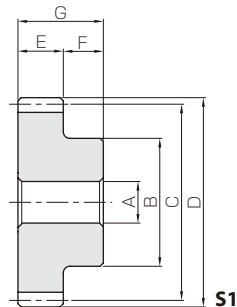
- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑥ For products having a tapped hole, a set screw is included.





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

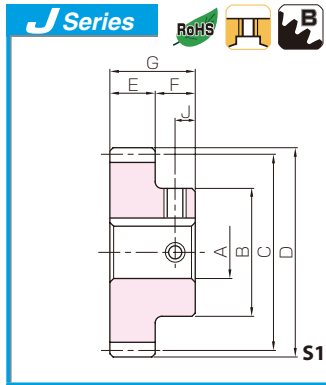
*The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway										
				AH7	B	C	D	E	F	G	H	I	Width×Depth										
KSS2-32	m2	32	S1	12	50	64	68	20	10	30	—	—	—										
●KSS2-32 J12			S1K	12									4 x 1.8										
●KSS2-32 J14			S1K	14									5 x 2.3										
●KSS2-32 J15			S1K	15									5 x 2.3										
●KSS2-32 J16			S1K	16									5 x 2.3										
●KSS2-32 J17			S1K	17									5 x 2.3										
●KSS2-32 J18			S1K	18									6 x 2.8										
●KSS2-32 J19			S1K	19									6 x 2.8										
●KSS2-32 J20			S1K	20									6 x 2.8										
●KSS2-32 J22			S1K	22									6 x 2.8										
●KSS2-32 J25			S1K	25									8 x 3.3										
●KSS2-32 J28			S1K	28									8 x 3.3										
●KSS2-32 J30			S1K	30									8 x 3.3										
KSS2-34			m2	34									S1	12	50	68	72	20	10	30	—	—	—
●KSS2-34 J12													S1K	12									4 x 1.8
●KSS2-34 J14													S1K	14									5 x 2.3
●KSS2-34 J15	S1K	15			5 x 2.3																		
●KSS2-34 J16	S1K	16			5 x 2.3																		
●KSS2-34 J17	S1K	17			5 x 2.3																		
●KSS2-34 J18	S1K	18			6 x 2.8																		
●KSS2-34 J19	S1K	19			6 x 2.8																		
●KSS2-34 J20	S1K	20			6 x 2.8																		
●KSS2-34 J22	S1K	22			6 x 2.8																		
●KSS2-34 J25	S1K	25			8 x 3.3																		
●KSS2-34 J28	S1K	28			8 x 3.3																		
●KSS2-34 J30	S1K	30			8 x 3.3																		
KSS2-35	m2	35			S1	12	52	70	74	20	10	30	—	—									—
●KSS2-35 J12					S1K	12																	4 x 1.8
●KSS2-35 J14					S1K	14																	5 x 2.3
●KSS2-35 J15			S1K	15	5 x 2.3																		
●KSS2-35 J16			S1K	16	5 x 2.3																		
●KSS2-35 J17			S1K	17	5 x 2.3																		
●KSS2-35 J18			S1K	18	6 x 2.8																		
●KSS2-35 J19			S1K	19	6 x 2.8																		
●KSS2-35 J20			S1K	20	6 x 2.8																		
●KSS2-35 J22			S1K	22	6 x 2.8																		
●KSS2-35 J25			S1K	25	8 x 3.3																		
●KSS2-35 J28			S1K	28	8 x 3.3																		
●KSS2-35 J30			S1K	30	8 x 3.3																		
KSS2-36			m2	36	S1	12									55	72	76	20	10	30	—	—	—
●KSS2-36 J12					S1K	12																	4 x 1.8
●KSS2-36 J14					S1K	14																	5 x 2.3
●KSS2-36 J15	S1K	15			5 x 2.3																		
●KSS2-36 J16	S1K	16			5 x 2.3																		
●KSS2-36 J17	S1K	17			5 x 2.3																		
●KSS2-36 J18	S1K	18			6 x 2.8																		
●KSS2-36 J19	S1K	19			6 x 2.8																		
●KSS2-36 J20	S1K	20			6 x 2.8																		
●KSS2-36 J22	S1K	22			6 x 2.8																		
●KSS2-36 J25	S1K	25			8 x 3.3																		
●KSS2-36 J28	S1K	28			8 x 3.3																		
●KSS2-36 J30	S1K	30			8 x 3.3																		
●KSS2-36 J32	S1K	32			10 x 3.3																		

*Please see book one for additional products in these modules.

No. of Teeth available



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.63	KSS2-32
M4*	5						0.62	● KSS2-32 J12
M4*	5						0.61	● KSS2-32 J14
M4*	5						0.61	● KSS2-32 J15
M4*	5						0.60	● KSS2-32 J16
M4*	5						0.60	● KSS2-32 J17
M5	5	88.4	7.78	9.01	0.79	0.14~0.30	0.59	● KSS2-32 J18
M5	5						0.59	● KSS2-32 J19
M5	5						0.58	● KSS2-32 J20
M5	5						0.56	● KSS2-32 J22
M6	5						0.53	● KSS2-32 J25
M6	5						0.51	● KSS2-32 J28
M6	5						0.48	● KSS2-32 J30
—	—						0.70	KSS2-34
M4*	5						0.69	● KSS2-34 J12
M4*	5						0.68	● KSS2-34 J14
M4*	5						0.67	● KSS2-34 J15
M4*	5						0.67	● KSS2-34 J16
M4*	5						0.66	● KSS2-34 J17
M5	5	95.7	8.84	9.76	0.90	0.14~0.30	0.66	● KSS2-34 J18
M5	5						0.65	● KSS2-34 J19
M5	5						0.64	● KSS2-34 J20
M5	5						0.63	● KSS2-34 J22
M6	5						0.60	● KSS2-34 J25
M6	5						0.57	● KSS2-34 J28
M6	5						0.55	● KSS2-34 J30
—	—						0.74	KSS2-35
M4*	5						0.74	● KSS2-35 J12
M4*	5						0.73	● KSS2-35 J14
M4*	5						0.72	● KSS2-35 J15
M4*	5						0.72	● KSS2-35 J16
M4*	5						0.71	● KSS2-35 J17
M5	5	99.3	9.39	10.1	0.96	0.14~0.30	0.70	● KSS2-35 J18
M5	5						0.70	● KSS2-35 J19
M5	5						0.69	● KSS2-35 J20
M5	5						0.67	● KSS2-35 J22
M6	5						0.65	● KSS2-35 J25
M6	5						0.62	● KSS2-35 J28
M6	5						0.60	● KSS2-35 J30
—	—						0.80	KSS2-36
M4*	5						0.79	● KSS2-36 J12
M4*	5						0.78	● KSS2-36 J14
M4*	5						0.77	● KSS2-36 J15
M4*	5						0.77	● KSS2-36 J16
M4*	5						0.76	● KSS2-36 J17
M5*	5	103	9.96	10.5	1.02	0.14~0.30	0.76	● KSS2-36 J18
M5*	5						0.75	● KSS2-36 J19
M5*	5						0.74	● KSS2-36 J20
M5	5						0.73	● KSS2-36 J22
M6	5						0.70	● KSS2-36 J25
M6	5						0.67	● KSS2-36 J28
M6	5						0.65	● KSS2-36 J30
M8	5						0.62	● KSS2-36 J32

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Areas of products which have been re-worked will not be black oxide coated.

⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑥ For products having a tapped hole, a set screw is included.



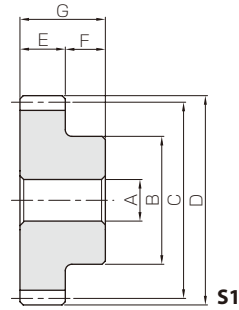
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

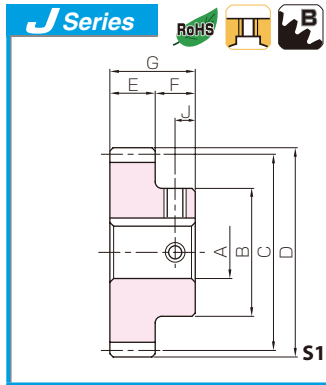


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway									
				AH7	B	C	D	E	F	G	H	I	Width×Depth									
KSS2-38	m2	38	S1	12	55	76	80	20	10	30	—	—	—									
●KSS2-38 J12			S1K	12									4 x 1.8									
●KSS2-38 J14			S1K	14									5 x 2.3									
●KSS2-38 J15			S1K	15									5 x 2.3									
●KSS2-38 J16			S1K	16									5 x 2.3									
●KSS2-38 J17			S1K	17									5 x 2.3									
●KSS2-38 J18			S1K	18									6 x 2.8									
●KSS2-38 J19			S1K	19									6 x 2.8									
●KSS2-38 J20			S1K	20									6 x 2.8									
●KSS2-38 J22			S1K	22									6 x 2.8									
●KSS2-38 J25			S1K	25									8 x 3.3									
●KSS2-38 J28			S1K	28									8 x 3.3									
●KSS2-38 J30			S1K	30									8 x 3.3									
●KSS2-38 J32			S1K	32									10 x 3.3									
KSS2-40			40	55									S1	15	80	84	20	10	30	—	—	—
●KSS2-40 J15													S1K	15								5 x 2.3
●KSS2-40 J16		S1K			16	5 x 2.3																
●KSS2-40 J17		S1K			17	5 x 2.3																
●KSS2-40 J18		S1K			18	6 x 2.8																
●KSS2-40 J19		S1K			19	6 x 2.8																
●KSS2-40 J20		S1K			20	6 x 2.8																
●KSS2-40 J22		S1K			22	6 x 2.8																
●KSS2-40 J25		S1K			25	8 x 3.3																
●KSS2-40 J28		S1K			28	8 x 3.3																
●KSS2-40 J30		S1K			30	8 x 3.3																
●KSS2-40 J32		S1K			32	10 x 3.3																
KSS2-42		42			55	S1	15	84	88	20	10	30	—	—								—
●KSS2-42 J15						S1K	15															5 x 2.3
●KSS2-42 J16						S1K	16															5 x 2.3
●KSS2-42 J17						S1K	17															5 x 2.3
●KSS2-42 J18			S1K	18		6 x 2.8																
●KSS2-42 J19			S1K	19		6 x 2.8																
●KSS2-42 J20	S1K		20	6 x 2.8																		
●KSS2-42 J22	S1K		22	6 x 2.8																		
●KSS2-42 J25	S1K		25	8 x 3.3																		
●KSS2-42 J28	S1K		28	8 x 3.3																		
●KSS2-42 J30	S1K		30	8 x 3.3																		
●KSS2-42 J32	S1K		32	10 x 3.3																		
KSS2-44	44		55	S1		15	88								92	20	10	30	—	—	—	
●KSS2-44 J15				S1K		15															5 x 2.3	
●KSS2-44 J16				S1K		16															5 x 2.3	
●KSS2-44 J17				S1K		17															5 x 2.3	
●KSS2-44 J18		S1K		18	6 x 2.8																	
●KSS2-44 J19		S1K		19	6 x 2.8																	
●KSS2-44 J20		S1K		20	6 x 2.8																	
●KSS2-44 J22		S1K		22	6 x 2.8																	
●KSS2-44 J25		S1K		25	8 x 3.3																	
●KSS2-44 J28		S1K		28	8 x 3.3																	
●KSS2-44 J30		S1K		30	8 x 3.3																	
●KSS2-44 J32		S1K		32	10 x 3.3																	

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	111	11.2	11.3	1.14	0.14~0.30	0.87 0.86 0.85 0.85 0.84 0.84 0.83 0.82 0.82 0.80 0.77 0.74 0.72 0.70	KSS2-38 ●KSS2-38 J12 ●KSS2-38 J14 ●KSS2-38 J15 ●KSS2-38 J16 ●KSS2-38 J17 ●KSS2-38 J18 ●KSS2-38 J19 ●KSS2-38 J20 ●KSS2-38 J22 ●KSS2-38 J25 ●KSS2-38 J28 ●KSS2-38 J30 ●KSS2-38 J32
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M8	5							
—	—	118	12.5	12.0	1.27	0.14~0.30	0.93 0.92 0.92 0.91 0.91 0.90 0.89 0.88 0.85 0.82 0.80 0.77	KSS2-40 ●KSS2-40 J15 ●KSS2-40 J16 ●KSS2-40 J17 ●KSS2-40 J18 ●KSS2-40 J19 ●KSS2-40 J20 ●KSS2-40 J22 ●KSS2-40 J25 ●KSS2-40 J28 ●KSS2-40 J30 ●KSS2-40 J32
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M6	5							
M8	5							
—	—							
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M6	5							
M8	5							
—	—	133	15.2	13.6	1.55	0.18~0.36	1.10 1.09 1.08 1.08 1.07 1.07 1.07 1.06 1.04 1.02 0.99 0.97 0.94	KSS2-44 ●KSS2-44 J15 ●KSS2-44 J16 ●KSS2-44 J17 ●KSS2-44 J18 ●KSS2-44 J19 ●KSS2-44 J20 ●KSS2-44 J22 ●KSS2-44 J25 ●KSS2-44 J28 ●KSS2-44 J30 ●KSS2-44 J32
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5	5							
M6	5							
M6	5							
M6	5							
M6	5							
M8	5							

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Areas of products which have been re-worked will not be black oxide coated.

⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.





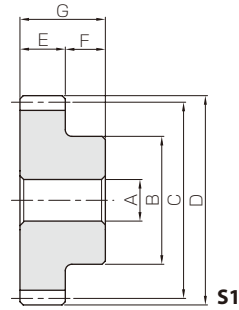
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



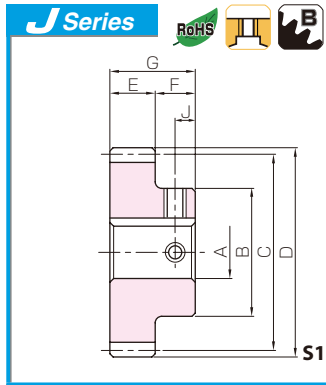
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth
KSS2-45	m2	45	S1	15	55	90	94	20	10	30	—	—	—
●KSS2-45 J15			S1K	15									5 × 2.3
●KSS2-45 J16			S1K	16									5 × 2.3
●KSS2-45 J17			S1K	17									5 × 2.3
●KSS2-45 J18			S1K	18									6 × 2.8
●KSS2-45 J19			S1K	19									6 × 2.8
●KSS2-45 J20			S1K	20									6 × 2.8
●KSS2-45 J22			S1K	22									6 × 2.8
●KSS2-45 J25			S1K	25									8 × 3.3
●KSS2-45 J28			S1K	28									8 × 3.3
●KSS2-45 J30			S1K	30									8 × 3.3
●KSS2-45 J32			S1K	32									10 × 3.3
KSS2-46		46	S1	15	55	92	96	20	10	30	—	—	—
●KSS2-46 J15			S1K	15									5 × 2.3
●KSS2-46 J16			S1K	16									5 × 2.3
●KSS2-46 J17			S1K	17									5 × 2.3
●KSS2-46 J18			S1K	18									6 × 2.8
●KSS2-46 J19			S1K	19									6 × 2.8
●KSS2-46 J20			S1K	20									6 × 2.8
●KSS2-46 J22			S1K	22									6 × 2.8
●KSS2-46 J25			S1K	25									8 × 3.3
●KSS2-46 J28			S1K	28									8 × 3.3
●KSS2-46 J30			S1K	30									8 × 3.3
●KSS2-46 J32			S1K	32									10 × 3.3
KSS2-48		48	S1	15	55	96	100	20	10	30	—	—	—
●KSS2-48 J15			S1K	15									5 × 2.3
●KSS2-48 J16			S1K	16									5 × 2.3
●KSS2-48 J17			S1K	17									5 × 2.3
●KSS2-48 J18			S1K	18									6 × 2.8
●KSS2-48 J19			S1K	19									6 × 2.8
●KSS2-48 J20			S1K	20									6 × 2.8
●KSS2-48 J22			S1K	22									6 × 2.8
●KSS2-48 J25	S1K		25	8 × 3.3									
●KSS2-48 J28	S1K		28	8 × 3.3									
●KSS2-48 J30	S1K		30	8 × 3.3									
●KSS2-48 J32	S1K		32	10 × 3.3									
KSS2-50	50	S1	15	55	100	104	20	10	30	—	—	—	
●KSS2-50 J15		S1K	15									5 × 2.3	
●KSS2-50 J16		S1K	16									5 × 2.3	
●KSS2-50 J17		S1K	17									5 × 2.3	
●KSS2-50 J18		S1K	18									6 × 2.8	
●KSS2-50 J19		S1K	19									6 × 2.8	
●KSS2-50 J20		S1K	20									6 × 2.8	
●KSS2-50 J22		S1K	22									6 × 2.8	
●KSS2-50 J25		S1K	25									8 × 3.3	
●KSS2-50 J28		S1K	28									8 × 3.3	
●KSS2-50 J30		S1K	30									8 × 3.3	
●KSS2-50 J32		S1K	32									10 × 3.3	

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

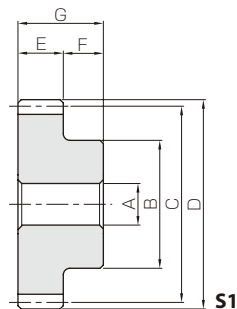
- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑥ For products having a tapped hole, a set screw is included.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)					
Size	J	Bending strength	Surface durability	Bending strength	Surface durability								
—	—						1.14	KSS2-45					
M4*	5						1.13	●KSS2-45 J15					
M4*	5						1.13	●KSS2-45 J16					
M4*	5						1.12	●KSS2-45 J17					
M5*	5						1.12	●KSS2-45 J18					
M5*	5	137	16.0	13.9	1.63	0.18~0.36	1.11	●KSS2-45 J19					
M5*	5						1.10	●KSS2-45 J20					
M5	5						1.09	●KSS2-45 J22					
M6	5						1.06	●KSS2-45 J25					
M6	5						1.03	●KSS2-45 J28					
M6	5						1.01	●KSS2-45 J30					
M8	5						0.98	●KSS2-45 J32					
—	—											1.19	KSS2-46
M4*	5											1.18	●KSS2-46 J15
M4*	5											1.17	●KSS2-46 J16
M4*	5						1.17	●KSS2-46 J17					
M5*	5	140	16.7	14.3	1.71	0.18~0.36	1.16	●KSS2-46 J18					
M5*	5						1.15	●KSS2-46 J19					
M5*	5						1.15	●KSS2-46 J20					
M5	5						1.13	●KSS2-46 J22					
M6	5						1.10	●KSS2-46 J25					
M6	5						1.08	●KSS2-46 J28					
M6	5						1.05	●KSS2-46 J30					
M8	5						1.03	●KSS2-46 J32					
—	—											1.28	KSS2-48
M4*	5											1.27	●KSS2-48 J15
M4*	5						1.27	●KSS2-48 J16					
M4*	5						1.26	●KSS2-48 J17					
M5*	5	148	18.3	15.1	1.87	0.18~0.36	1.25	●KSS2-48 J18					
M5*	5						1.25	●KSS2-48 J19					
M5*	5						1.24	●KSS2-48 J20					
M5	5						1.23	●KSS2-48 J22					
M6	5						1.20	●KSS2-48 J25					
M6	5						1.17	●KSS2-48 J28					
M6	5						1.15	●KSS2-48 J30					
M8	5						1.12	●KSS2-48 J32					
—	—											1.38	KSS2-50
M4*	5											1.37	●KSS2-50 J15
M4*	5						1.36	●KSS2-50 J16					
M4*	5						1.36	●KSS2-50 J17					
M5*	5	156	19.9	15.9	2.03	0.18~0.36	1.35	●KSS2-50 J18					
M5*	5						1.34	●KSS2-50 J19					
M5*	5						1.34	●KSS2-50 J20					
M5	5						1.32	●KSS2-50 J22					
M6	5						1.29	●KSS2-50 J25					
M6	5						1.26	●KSS2-50 J28					
M6	5						1.24	●KSS2-50 J30					
M8	5						1.22	●KSS2-50 J32					



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



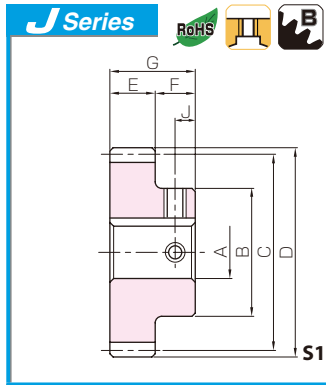
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth
KSS2-52 ● KSS2-52 J15 ● KSS2-52 J16 ● KSS2-52 J17 ● KSS2-52 J18 ● KSS2-52 J19 ● KSS2-52 J20 ● KSS2-52 J22 ● KSS2-52 J25 ● KSS2-52 J28 ● KSS2-52 J30 ● KSS2-52 J32	m2	52	S1	15	55	104	108	20	10	30	—	—	—
S1K			15	5 × 2.3									
S1K			16	5 × 2.3									
S1K			17	5 × 2.3									
S1K			18	6 × 2.8									
S1K			19	6 × 2.8									
S1K			20	6 × 2.8									
S1K			22	6 × 2.8									
S1K			25	8 × 3.3									
S1K			28	8 × 3.3									
S1K			30	8 × 3.3									
S1K			32	10 × 3.3									
KSS2-54 ● KSS2-54 J15 ● KSS2-54 J16 ● KSS2-54 J17 ● KSS2-54 J18 ● KSS2-54 J19 ● KSS2-54 J20 ● KSS2-54 J22 ● KSS2-54 J25 ● KSS2-54 J28 ● KSS2-54 J30 ● KSS2-54 J32		54	S1	15	55	108	112	20	10	30	—	—	—
S1K			15	5 × 2.3									
S1K			16	5 × 2.3									
S1K			17	5 × 2.3									
S1K			18	6 × 2.8									
S1K			19	6 × 2.8									
S1K	20		6 × 2.8										
S1K	22		6 × 2.8										
S1K	25		8 × 3.3										
S1K	28		8 × 3.3										
S1K	30		8 × 3.3										
S1K	32		10 × 3.3										
KSS2-55 ● KSS2-55 J15 ● KSS2-55 J16 ● KSS2-55 J17 ● KSS2-55 J18 ● KSS2-55 J19 ● KSS2-55 J20 ● KSS2-55 J22 ● KSS2-55 J25 ● KSS2-55 J28 ● KSS2-55 J30 ● KSS2-55 J32	55	S1	15	55	110	114	20	10	30	—	—	—	
S1K		15	5 × 2.3										
S1K		16	5 × 2.3										
S1K		17	5 × 2.3										
S1K		18	6 × 2.8										
S1K		19	6 × 2.8										
S1K		20	6 × 2.8										
S1K		22	6 × 2.8										
S1K		25	8 × 3.3										
S1K		28	8 × 3.3										
S1K		30	8 × 3.3										
S1K		32	10 × 3.3										
KSS2-56 ● KSS2-56 J15 ● KSS2-56 J16 ● KSS2-56 J17 ● KSS2-56 J18 ● KSS2-56 J19 ● KSS2-56 J20 ● KSS2-56 J22 ● KSS2-56 J25 ● KSS2-56 J28 ● KSS2-56 J30 ● KSS2-56 J32	56	S1	15	55	112	116	20	10	30	—	—	—	
S1K		15	5 × 2.3										
S1K		16	5 × 2.3										
S1K		17	5 × 2.3										
S1K		18	6 × 2.8										
S1K		19	6 × 2.8										
S1K		20	6 × 2.8										
S1K		22	6 × 2.8										
S1K		25	8 × 3.3										
S1K		28	8 × 3.3										
S1K		30	8 × 3.3										
S1K		32	10 × 3.3										

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑥ For products having a tapped hole, a set screw is included.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)	
Size	J	Bending strength	Surface durability	Bending strength	Surface durability				
—	—	163	21.7	16.6	2.21	0.18~0.36	1.48	KSS2-52	
M4*	5							1.47	●KSS2-52 J15
M4*	5							1.46	●KSS2-52 J16
M4*	5							1.46	●KSS2-52 J17
M5*	5							1.45	●KSS2-52 J18
M5*	5							1.44	●KSS2-52 J19
M5*	5							1.44	●KSS2-52 J20
M5	5							1.42	●KSS2-52 J22
M6	5							1.39	●KSS2-52 J25
M6	5							1.37	●KSS2-52 J28
M6	5	1.34	●KSS2-52 J30						
M8	5	1.32	●KSS2-52 J32						
—	—	171	23.4	17.4	2.39	0.18~0.36	1.58	KSS2-54	
M4*	5							1.57	●KSS2-54 J15
M4*	5							1.57	●KSS2-54 J16
M4*	5							1.56	●KSS2-54 J17
M5*	5							1.56	●KSS2-54 J18
M5*	5							1.55	●KSS2-54 J19
M5*	5							1.54	●KSS2-54 J20
M5	5							1.53	●KSS2-54 J22
M6	5							1.50	●KSS2-54 J25
M6	5							1.47	●KSS2-54 J28
M6	5	1.45	●KSS2-54 J30						
M8	5	1.42	●KSS2-54 J32						
—	—	175	24.4	17.8	2.48	0.18~0.36	1.64	KSS2-55	
M4*	5							1.63	●KSS2-55 J15
M4*	5							1.62	●KSS2-55 J16
M4*	5							1.62	●KSS2-55 J17
M5*	5							1.61	●KSS2-55 J18
M5*	5							1.60	●KSS2-55 J19
M5*	5							1.60	●KSS2-55 J20
M5	5							1.58	●KSS2-55 J22
M6	5							1.55	●KSS2-55 J25
M6	5							1.52	●KSS2-55 J28
M6	5	1.50	●KSS2-55 J30						
M8	5	1.48	●KSS2-55 J32						
—	—	179	25.3	18.2	2.58	0.18~0.36	1.69	KSS2-56	
M4*	5							1.68	●KSS2-56 J15
M4*	5							1.68	●KSS2-56 J16
M4*	5							1.67	●KSS2-56 J17
M5*	5							1.66	●KSS2-56 J18
M5*	5							1.66	●KSS2-56 J19
M5*	5							1.65	●KSS2-56 J20
M5	5							1.64	●KSS2-56 J22
M6	5							1.61	●KSS2-56 J25
M6	5							1.58	●KSS2-56 J28
M6	5	1.56	●KSS2-56 J30						
M8	5	1.53	●KSS2-56 J32						





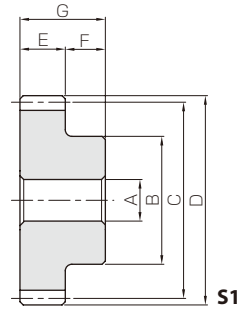
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

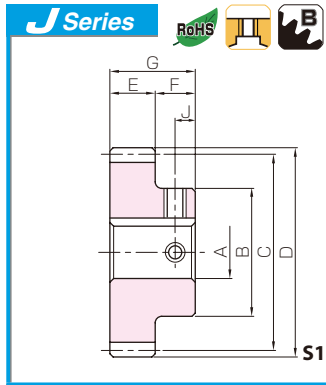


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway									
				AH7	B	C	D	E	F	G	H	I	Width×Depth									
KSS2-58	m2	58	S1	15	60	116	120	20	10	30	—	—	—									
●KSS2-58 J15			S1K	15									5 x 2.3									
●KSS2-58 J16			S1K	16									5 x 2.3									
●KSS2-58 J17			S1K	17									5 x 2.3									
●KSS2-58 J18			S1K	18									6 x 2.8									
●KSS2-58 J19			S1K	19									6 x 2.8									
●KSS2-58 J20			S1K	20									6 x 2.8									
●KSS2-58 J22			S1K	22									6 x 2.8									
●KSS2-58 J25			S1K	25									8 x 3.3									
●KSS2-58 J28			S1K	28									8 x 3.3									
●KSS2-58 J30			S1K	30									8 x 3.3									
●KSS2-58 J32			S1K	32									10 x 3.3									
●KSS2-58 J35			S1K	35									10 x 3.3									
KSS2-60			60	S1									15	60	120	124	20	10	30	—	—	—
●KSS2-60 J15				S1K									15									5 x 2.3
●KSS2-60 J16		S1K		16	5 x 2.3																	
●KSS2-60 J17		S1K		17	5 x 2.3																	
●KSS2-60 J18		S1K		18	6 x 2.8																	
●KSS2-60 J19		S1K		19	6 x 2.8																	
●KSS2-60 J20		S1K		20	6 x 2.8																	
●KSS2-60 J22		S1K		22	6 x 2.8																	
●KSS2-60 J25		S1K		25	8 x 3.3																	
●KSS2-60 J28		S1K		28	8 x 3.3																	
●KSS2-60 J30		S1K		30	8 x 3.3																	
●KSS2-60 J32		S1K		32	10 x 3.3																	
●KSS2-60 J35		S1K		35	10 x 3.3																	
KSS2-62		62		S1	15	60	124	128	20	10	30	—	—									—
●KSS2-62 J15				S1K	15																	5 x 2.3
●KSS2-62 J16			S1K	16	5 x 2.3																	
●KSS2-62 J17			S1K	17	5 x 2.3																	
●KSS2-62 J18			S1K	18	6 x 2.8																	
●KSS2-62 J19			S1K	19	6 x 2.8																	
●KSS2-62 J20			S1K	20	6 x 2.8																	
●KSS2-62 J22			S1K	22	6 x 2.8																	
●KSS2-62 J25			S1K	25	8 x 3.3																	
●KSS2-62 J28	S1K		28	8 x 3.3																		
●KSS2-62 J30	S1K		30	8 x 3.3																		
●KSS2-62 J32	S1K		32	10 x 3.3																		
●KSS2-62 J35	S1K		35	10 x 3.3																		
KSS2-64	64		S1	15	60									128	132	20	10	30	—	—	—	
●KSS2-64 J15			S1K	15																	5 x 2.3	
●KSS2-64 J16		S1K	16	5 x 2.3																		
●KSS2-64 J17		S1K	17	5 x 2.3																		
●KSS2-64 J18		S1K	18	6 x 2.8																		
●KSS2-64 J19		S1K	19	6 x 2.8																		
●KSS2-64 J20		S1K	20	6 x 2.8																		
●KSS2-64 J22		S1K	22	6 x 2.8																		
●KSS2-64 J25		S1K	25	8 x 3.3																		
●KSS2-64 J28		S1K	28	8 x 3.3																		
●KSS2-64 J30		S1K	30	8 x 3.3																		
●KSS2-64 J32		S1K	32	10 x 3.3																		
●KSS2-64 J35		S1K	35	10 x 3.3																		

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						1.84	KSS2-58
M4*	5						1.83	● KSS2-58 J15
M4*	5						1.82	● KSS2-58 J16
M4*	5						1.82	● KSS2-58 J17
M5*	5						1.81	● KSS2-58 J18
M5*	5						1.80	● KSS2-58 J19
M5*	5	186	27.3	19.0	2.78	0.18~0.36	1.80	● KSS2-58 J20
M5*	5						1.78	● KSS2-58 J22
M6	5						1.75	● KSS2-58 J25
M6	5						1.73	● KSS2-58 J28
M6	5						1.70	● KSS2-58 J30
M8	5						1.68	● KSS2-58 J32
M8	5						1.64	● KSS2-58 J35
—	—						1.96	KSS2-60
M4*	5						1.94	● KSS2-60 J15
M4*	5						1.94	● KSS2-60 J16
M4*	5						1.94	● KSS2-60 J17
M5*	5						1.93	● KSS2-60 J18
M5*	5						1.92	● KSS2-60 J19
M5*	5	194	29.3	19.8	2.99	0.18~0.36	1.91	● KSS2-60 J20
M5*	5						1.90	● KSS2-60 J22
M6	5						1.87	● KSS2-60 J25
M6	5						1.84	● KSS2-60 J28
M6	5						1.82	● KSS2-60 J30
M8	5						1.79	● KSS2-60 J32
M8	5						1.76	● KSS2-60 J35
—	—						2.08	KSS2-62
M4*	5						2.06	● KSS2-62 J15
M4*	5						2.06	● KSS2-62 J16
M4*	5						2.05	● KSS2-62 J17
M5*	5						2.05	● KSS2-62 J18
M5*	5						2.04	● KSS2-62 J19
M5*	5	202	31.5	20.6	3.21	0.18~0.36	2.03	● KSS2-62 J20
M5*	5						2.02	● KSS2-62 J22
M6	5						1.99	● KSS2-62 J25
M6	5						1.96	● KSS2-62 J28
M6	5						1.94	● KSS2-62 J30
M8	5						1.91	● KSS2-62 J32
M8	5						1.88	● KSS2-62 J35
—	—						2.20	KSS2-64
M4*	5						2.19	● KSS2-64 J15
M4*	5						2.18	● KSS2-64 J16
M4*	5						2.18	● KSS2-64 J17
M5*	5						2.17	● KSS2-64 J18
M5*	5						2.16	● KSS2-64 J19
M5*	5	209	33.7	21.3	3.44	0.18~0.36	2.16	● KSS2-64 J20
M5*	5						2.14	● KSS2-64 J22
M6	5						2.12	● KSS2-64 J25
M6	5						2.09	● KSS2-64 J28
M6	5						2.07	● KSS2-64 J30
M8	5						2.04	● KSS2-64 J32
M8	5						2.00	● KSS2-64 J35

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.





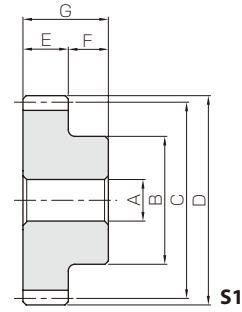
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

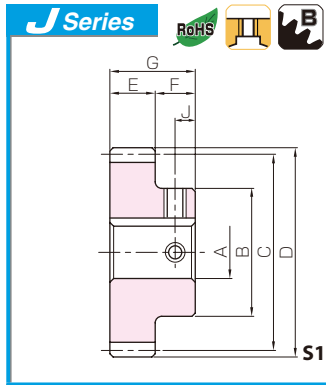


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2-65	m2	65	S1	15	60	130	134	20	10	30	—	—	—
●KSS2-65 J15			S1K	15									5 x 2.3
●KSS2-65 J16			S1K	16									5 x 2.3
●KSS2-65 J17			S1K	17									5 x 2.3
●KSS2-65 J18			S1K	18									6 x 2.8
●KSS2-65 J19			S1K	19									6 x 2.8
●KSS2-65 J20			S1K	20									6 x 2.8
●KSS2-65 J22			S1K	22									6 x 2.8
●KSS2-65 J25			S1K	25									8 x 3.3
●KSS2-65 J28			S1K	28									8 x 3.3
●KSS2-65 J30		S1K	30	8 x 3.3									
●KSS2-65 J32		S1K	32	10 x 3.3									
●KSS2-65 J35		S1K	35	10 x 3.3									
KSS2-66		66	S1	15	60	132	136	20	10	30	—	—	—
●KSS2-66 J15			S1K	15									5 x 2.3
●KSS2-66 J16			S1K	16									5 x 2.3
●KSS2-66 J17			S1K	17									5 x 2.3
●KSS2-66 J18			S1K	18									6 x 2.8
●KSS2-66 J19			S1K	19									6 x 2.8
●KSS2-66 J20			S1K	20									6 x 2.8
●KSS2-66 J22	S1K		22	6 x 2.8									
●KSS2-66 J25	S1K		25	8 x 3.3									
●KSS2-66 J28	S1K		28	8 x 3.3									
●KSS2-66 J30	S1K	30	8 x 3.3										
●KSS2-66 J32	S1K	32	10 x 3.3										
●KSS2-66 J35	S1K	35	10 x 3.3										
KSS2-68	68	S1	15	60	136	140	20	10	30	—	—	—	
●KSS2-68 J15		S1K	15									5 x 2.3	
●KSS2-68 J16		S1K	16									5 x 2.3	
●KSS2-68 J17		S1K	17									5 x 2.3	
●KSS2-68 J18		S1K	18									6 x 2.8	
●KSS2-68 J19		S1K	19									6 x 2.8	
●KSS2-68 J20		S1K	20									6 x 2.8	
●KSS2-68 J22		S1K	22									6 x 2.8	
●KSS2-68 J25		S1K	25									8 x 3.3	
●KSS2-68 J28		S1K	28									8 x 3.3	
●KSS2-68 J30	S1K	30	8 x 3.3										
●KSS2-68 J32	S1K	32	10 x 3.3										
●KSS2-68 J35	S1K	35	10 x 3.3										
KSS2-70	70	S1	15	60	140	144	20	10	30	—	—	—	
●KSS2-70 J15		S1K	15									5 x 2.3	
●KSS2-70 J16		S1K	16									5 x 2.3	
●KSS2-70 J17		S1K	17									5 x 2.3	
●KSS2-70 J18		S1K	18									6 x 2.8	
●KSS2-70 J19		S1K	19									6 x 2.8	
●KSS2-70 J20		S1K	20									6 x 2.8	
●KSS2-70 J22		S1K	22									6 x 2.8	
●KSS2-70 J25		S1K	25									8 x 3.3	
●KSS2-70 J28		S1K	28									8 x 3.3	
●KSS2-70 J30	S1K	30	8 x 3.3										
●KSS2-70 J32	S1K	32	10 x 3.3										
●KSS2-70 J35	S1K	35	10 x 3.3										

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—							
M4*	5						2.26	KSS2-65
M4*	5						2.25	● KSS2-65 J15
M4*	5						2.25	● KSS2-65 J16
M4*	5						2.24	● KSS2-65 J17
M5*	5						2.23	● KSS2-65 J18
M5*	5						2.23	● KSS2-65 J19
M5*	5	213	34.8	21.7	3.55	0.18~0.36	2.22	● KSS2-65 J20
M5*	5						2.21	● KSS2-65 J22
M6	5						2.18	● KSS2-65 J25
M6	5						2.15	● KSS2-65 J28
M6	5						2.13	● KSS2-65 J30
M8	5						2.10	● KSS2-65 J32
M8	5						2.07	● KSS2-65 J35
—	—							
M4*	5						2.33	KSS2-66
M4*	5						2.32	● KSS2-66 J15
M4*	5						2.31	● KSS2-66 J16
M4*	5						2.31	● KSS2-66 J17
M5*	5						2.30	● KSS2-66 J18
M5*	5						2.29	● KSS2-66 J19
M5*	5	217	36.0	22.1	3.67	0.18~0.36	2.29	● KSS2-66 J20
M5*	5						2.27	● KSS2-66 J22
M6	5						2.24	● KSS2-66 J25
M6	5						2.21	● KSS2-66 J28
M6	5						2.19	● KSS2-66 J30
M8	5						2.17	● KSS2-66 J32
M8	5						2.13	● KSS2-66 J35
—	—							
M4*	5						2.46	KSS2-68
M4*	5						2.45	● KSS2-68 J15
M4*	5						2.44	● KSS2-68 J16
M4*	5						2.44	● KSS2-68 J17
M5*	5						2.43	● KSS2-68 J18
M5*	5						2.42	● KSS2-68 J19
M5*	5	225	38.4	22.9	3.91	0.18~0.36	2.42	● KSS2-68 J20
M5*	5						2.40	● KSS2-68 J22
M6	5						2.38	● KSS2-68 J25
M6	5						2.35	● KSS2-68 J28
M6	5						2.33	● KSS2-68 J30
M8	5						2.30	● KSS2-68 J32
M8	5						2.26	● KSS2-68 J35
—	—							
M4*	5						2.60	KSS2-70
M4*	5						2.59	● KSS2-70 J15
M4*	5						2.58	● KSS2-70 J16
M4*	5						2.58	● KSS2-70 J17
M5*	5						2.57	● KSS2-70 J18
M5*	5						2.56	● KSS2-70 J19
M5*	5	232	40.8	23.7	4.16	0.18~0.36	2.55	● KSS2-70 J20
M5*	5						2.54	● KSS2-70 J22
M6	5						2.51	● KSS2-70 J25
M6	5						2.48	● KSS2-70 J28
M6	5						2.46	● KSS2-70 J30
M8	5						2.43	● KSS2-70 J32
M8	5						2.40	● KSS2-70 J35

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Areas of products which have been re-worked will not be black oxide coated.
- ⑤ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑥ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**





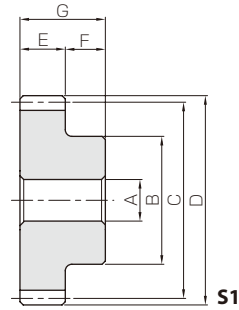
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

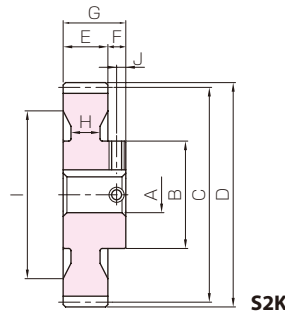
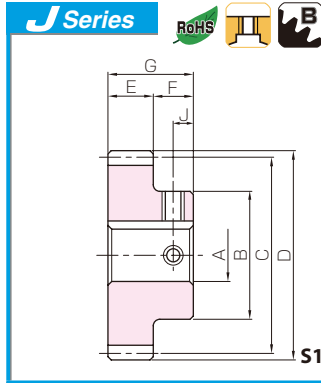
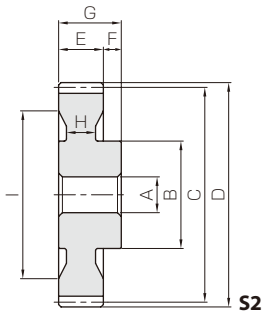
Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway		
				AH7	B	C	D	E	F	G	H	I	WidthxDepth		
KSS2-72 ●KSS2-72 J15 ●KSS2-72 J16 ●KSS2-72 J17 ●KSS2-72 J18 ●KSS2-72 J19 ●KSS2-72 J20 ●KSS2-72 J22 ●KSS2-72 J25 ●KSS2-72 J28 ●KSS2-72 J30 ●KSS2-72 J32 ●KSS2-72 J35	m2	72	S1	15									—		
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19											6 x 2.8
			S1K	20	60	144	148	20	10	30	—	—			6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			S1K	35											10 x 3.3
KSS2-75 ●KSS2-75 J20 ●KSS2-75 J22 ●KSS2-75 J25 ●KSS2-75 J28 ●KSS2-75 J30 ●KSS2-75 J32 ●KSS2-75 J35	m2	75	S1	20									—		
			S1K	20											6 x 2.8
			S1K	22											6 x 2.8
			S1K	25	60	150	154	20	10	30	—	—			8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
S1K	35											10 x 3.3			
KSS2-76 ●KSS2-76 J20 ●KSS2-76 J22 ●KSS2-76 J25 ●KSS2-76 J28 ●KSS2-76 J30 ●KSS2-76 J32 ●KSS2-76 J35	m2	76	S1	20									—		
			S1K	20											6 x 2.8
			S1K	22											6 x 2.8
			S1K	25	60	152	156	20	10	30	—	—			8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
S1K	35											10 x 3.3			
KSS2-80 ●KSS2-80 J20 ●KSS2-80 J22 ●KSS2-80 J25 ●KSS2-80 J28 ●KSS2-80 J30 ●KSS2-80 J32 ●KSS2-80 J35	m2	80	S2	20									—		
			S2K	20											6 x 2.8
			S2K	22											6 x 2.8
			S2K	25	60	160	164	20	10	30	12	136			8 x 3.3
			S2K	28											8 x 3.3
			S2K	30											8 x 3.3
			S2K	32											10 x 3.3
S2K	35											10 x 3.3			
KSS2-84 ●KSS2-84 J20 ●KSS2-84 J22 ●KSS2-84 J25 ●KSS2-84 J28 ●KSS2-84 J30 ●KSS2-84 J32 ●KSS2-84 J35	m2	84	S2	20									—		
			S2K	20											6 x 2.8
			S2K	22											6 x 2.8
			S2K	25	70	168	172	20	10	30	12	140			8 x 3.3
			S2K	28											8 x 3.3
			S2K	30											8 x 3.3
			S2K	32											10 x 3.3
S2K	35											10 x 3.3			

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						2.74	KSS2-72
M4*	5						2.73	● KSS2-72 J15
M4*	5						2.72	● KSS2-72 J16
M4*	5						2.72	● KSS2-72 J17
M5*	5						2.71	● KSS2-72 J18
M5*	5						2.70	● KSS2-72 J19
M5*	5	240	43.3	24.5	4.42	0.18~0.36	2.69	● KSS2-72 J20
M5*	5						2.68	● KSS2-72 J22
M6	5						2.65	● KSS2-72 J25
M6	5						2.62	● KSS2-72 J28
M6	5						2.60	● KSS2-72 J30
M8	5						2.57	● KSS2-72 J32
M8	5						2.54	● KSS2-72 J35
—	—						2.92	KSS2-75
M5*	5						2.91	● KSS2-75 J20
M5*	5						2.90	● KSS2-75 J22
M6	5	252	47.3	25.7	4.82	0.18~0.36	2.87	● KSS2-75 J25
M6	5						2.84	● KSS2-75 J28
M6	5						2.82	● KSS2-75 J30
M8	5						2.79	● KSS2-75 J32
M8	5						2.76	● KSS2-75 J35
—	—						3.00	KSS2-76
M5*	5						2.99	● KSS2-76 J20
M5*	5						2.97	● KSS2-76 J22
M6	5	256	48.6	26.1	4.96	0.18~0.36	2.94	● KSS2-76 J25
M6	5						2.92	● KSS2-76 J28
M6	5						2.89	● KSS2-76 J30
M8	5						2.87	● KSS2-76 J32
M8	5						2.83	● KSS2-76 J35
—	—						2.67	KSS2-80
M5*	5						2.66	● KSS2-80 J20
M5*	5						2.65	● KSS2-80 J22
M6	5	271	54.3	27.7	5.53	0.18~0.36	2.62	● KSS2-80 J25
M6	5						2.59	● KSS2-80 J28
M6	5						2.57	● KSS2-80 J30
M8	5						2.54	● KSS2-80 J32
M8	5						2.50	● KSS2-80 J35
—	—						3.09	KSS2-84
M5*	5						3.07	● KSS2-84 J20
M5*	5						3.06	● KSS2-84 J22
M6*	5	287	60.2	29.2	6.14	0.20~0.44	3.03	● KSS2-84 J25
M6*	5						3.00	● KSS2-84 J28
M6	5						2.98	● KSS2-84 J30
M8	5						2.95	● KSS2-84 J32
M8	5						2.92	● KSS2-84 J35

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.



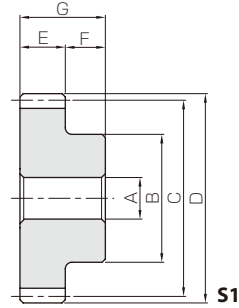
KSS Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

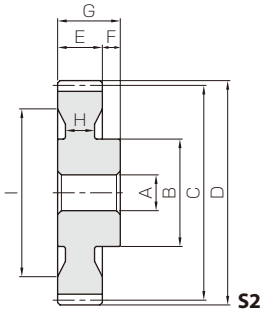
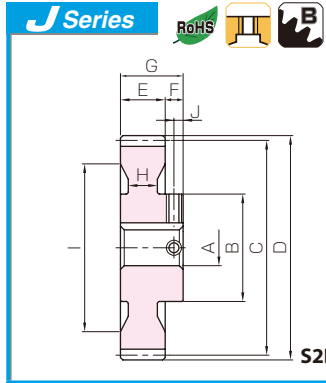
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2-85 ●KSS2-85 J20 ●KSS2-85 J22 ●KSS2-85 J25 ●KSS2-85 J28 ●KSS2-85 J30 ●KSS2-85 J32 ●KSS2-85 J35	m2	85	S2	20	70	170	174	20	10	30	12	146	—
			S2K	20									6 x 2.8
			S2K	22									6 x 2.8
			S2K	25									8 x 3.3
			S2K	28									8 x 3.3
			S2K	30									8 x 3.3
			S2K	32									10 x 3.3
KSS2-88 ●KSS2-88 J20 ●KSS2-88 J22 ●KSS2-88 J25 ●KSS2-88 J28 ●KSS2-88 J30 ●KSS2-88 J32 ●KSS2-88 J35	88	S2	20	70	176	180	20	10	30	12	150	—	
		S2K	20									6 x 2.8	
		S2K	22									6 x 2.8	
		S2K	25									8 x 3.3	
		S2K	28									8 x 3.3	
		S2K	30									8 x 3.3	
		S2K	32									10 x 3.3	
KSS2-90 ●KSS2-90 J20 ●KSS2-90 J22 ●KSS2-90 J25 ●KSS2-90 J28 ●KSS2-90 J30 ●KSS2-90 J32 ●KSS2-90 J35	90	S2	20	70	180	184	20	10	30	12	156	—	
		S2K	20									6 x 2.8	
		S2K	22									6 x 2.8	
		S2K	25									8 x 3.3	
		S2K	28									8 x 3.3	
		S2K	30									8 x 3.3	
		S2K	32									10 x 3.3	
KSS2-95 ●KSS2-95 J20 ●KSS2-95 J22 ●KSS2-95 J25 ●KSS2-95 J28 ●KSS2-95 J30 ●KSS2-95 J32 ●KSS2-95 J35	95	S2	20	70	190	194	20	10	30	12	166	—	
		S2K	20									6 x 2.8	
		S2K	22									6 x 2.8	
		S2K	25									8 x 3.3	
		S2K	28									8 x 3.3	
		S2K	30									8 x 3.3	
		S2K	32									10 x 3.3	
KSS2-100 ●KSS2-100 J20 ●KSS2-100 J22 ●KSS2-100 J25 ●KSS2-100 J28 ●KSS2-100 J30 ●KSS2-100 J32 ●KSS2-100 J35	100	S2	20	70	200	204	20	10	30	12	176	—	
		S2K	20									6 x 2.8	
		S2K	22									6 x 2.8	
		S2K	25									8 x 3.3	
		S2K	28									8 x 3.3	
		S2K	30									8 x 3.3	
		S2K	32									10 x 3.3	
KSS2-120 ●KSS2-120 J20 ●KSS2-120 J22 ●KSS2-120 J25 ●KSS2-120 J28 ●KSS2-120 J30 ●KSS2-120 J32 ●KSS2-120 J35	120	S2	20	90	240	244	20	10	30	12	210	—	
		S2K	20									6 x 2.8	
		S2K	22									6 x 2.8	
		S2K	25									8 x 3.3	
		S2K	28									8 x 3.3	
		S2K	30									8 x 3.3	
		S2K	32									10 x 3.3	
KSS2-150	150	S1	25	240	300	304	20	10	30	—	—	—	

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	84	85	88	90	95	100	120	150
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	291	61.7	29.6	6.30	0.20~0.44	3.09 3.08 3.06 3.03 3.01 2.99 2.96 2.92	KSS2-85
M5*	5							●KSS2-85 J20
M5*	5							●KSS2-85 J22
M6*	5							●KSS2-85 J25
M6*	5							●KSS2-85 J28
M6	5							●KSS2-85 J30
M8	5							●KSS2-85 J32
M8	5							●KSS2-85 J35
—	—	302	66.5	30.8	6.78	0.20~0.44	3.29 3.28 3.26 3.23 3.21 3.19 3.16 3.12	KSS2-88
M5*	5							●KSS2-88 J20
M5*	5							●KSS2-88 J22
M6*	5							●KSS2-88 J25
M6*	5							●KSS2-88 J28
M6	5							●KSS2-88 J30
M8	5							●KSS2-88 J32
M8	5							●KSS2-88 J35
—	—	310	69.7	31.6	7.11	0.20~0.44	3.38 3.37 3.35 3.32 3.30 3.28 3.25 3.21	KSS2-90
M5*	5							●KSS2-90 J20
M5*	5							●KSS2-90 J22
M6*	5							●KSS2-90 J25
M6*	5							●KSS2-90 J28
M6	5							●KSS2-90 J30
M8	5							●KSS2-90 J32
M8	5							●KSS2-90 J35
—	—	330	78.2	33.6	7.97	0.20~0.44	3.69 3.67 3.66 3.63 3.60 3.58 3.55 3.52	KSS2-95
M5*	5							●KSS2-95 J20
M5*	5							●KSS2-95 J22
M6*	5							●KSS2-95 J25
M6*	5							●KSS2-95 J28
M6	5							●KSS2-95 J30
M8	5							●KSS2-95 J32
M8	5							●KSS2-95 J35
—	—	291	72.7	29.7	7.42	0.20~0.44	4.01 3.99 3.98 3.95 3.92 3.90 3.87 3.84	KSS2-100
M5*	5							●KSS2-100 J20
M5*	5							●KSS2-100 J22
M6*	5							●KSS2-100 J25
M6*	5							●KSS2-100 J28
M6	5							●KSS2-100 J30
M8	5							●KSS2-100 J32
M8	5							●KSS2-100 J35
—	—	357	108	36.4	11.0	0.20~0.44	5.91 5.89 5.87 5.84 5.82 5.80 5.76 5.73	KSS2-120
M5*	5							●KSS2-120 J20
M5*	5							●KSS2-120 J22
M6*	5							●KSS2-120 J25
M6*	5							●KSS2-120 J28
M6*	5							●KSS2-120 J30
M8	5							●KSS2-120 J32
M8	5							●KSS2-120 J35
—	—	455	174	46.4	17.7	0.20~0.44	14.5	KSS2-150

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.





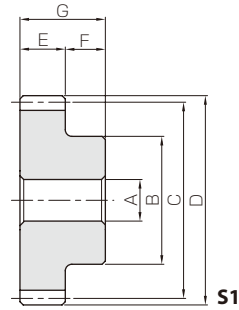
KSS Steel Spur Gears

Module 2.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

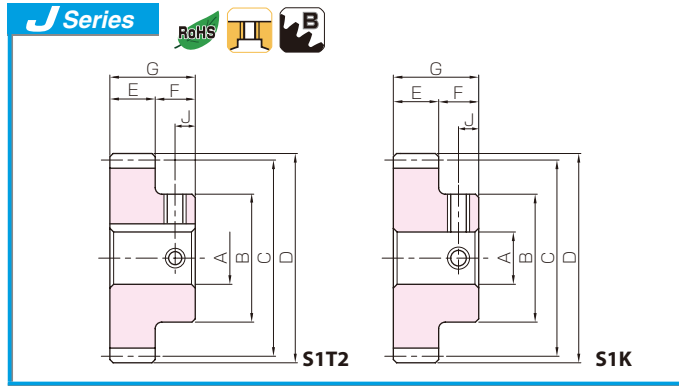
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2.5-12 ●KSS2.5-12 J12	m2.5	12	S1	12	23	30	35	25	12	37	—	—	—
			S1T2	12									4 x 1.8
KSS2.5-13 ●KSS2.5-13 J12		13	S1	12	25	32.5	37.5	25	12	37	—	—	—
			S1K	12									4 x 1.8
KSS2.5-14 ●KSS2.5-14 J12 ●KSS2.5-14 J14		14	S1	12	25	35	40	25	12	37	—	—	—
			S1K	12									4 x 1.8
			S1K	14									5 x 2.3
KSS2.5-15 ●KSS2.5-15 J15 ●KSS2.5-15 J16		15	S1	15	30	37.5	42.5	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
KSS2.5-16 ●KSS2.5-16 J15 ●KSS2.5-16 J16 ●KSS2.5-16 J17 ●KSS2.5-16 J18		16	S1	15	32	40	45	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
KSS2.5-17 ●KSS2.5-17 J15 ●KSS2.5-17 J16 ●KSS2.5-17 J17 ●KSS2.5-17 J18 ●KSS2.5-17 J19 ●KSS2.5-17 J20		17	S1	15	35	42.5	47.5	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
	S1K		19	6 x 2.8									
KSS2.5-18 ●KSS2.5-18 J15 ●KSS2.5-18 J16 ●KSS2.5-18 J17 ●KSS2.5-18 J18 ●KSS2.5-18 J19 ●KSS2.5-18 J20 ●KSS2.5-18 J22	18	S1	15	38	45	50	25	12	37	—	—	—	
		S1K	15									5 x 2.3	
		S1K	16									5 x 2.3	
		S1K	17									5 x 2.3	
		S1K	18									6 x 2.8	
		S1K	19									6 x 2.8	
		S1K	20									6 x 2.8	
S1K	22	6 x 2.8											
KSS2.5-19 ●KSS2.5-19 J15 ●KSS2.5-19 J16 ●KSS2.5-19 J17 ●KSS2.5-19 J18 ●KSS2.5-19 J19 ●KSS2.5-19 J20 ●KSS2.5-19 J22	19	S1	15	39	47.5	52.5	25	12	37	—	—	—	
		S1K	15									5 x 2.3	
		S1K	16									5 x 2.3	
		S1K	17									5 x 2.3	
		S1K	18									6 x 2.8	
		S1K	19									6 x 2.8	
		S1K	20									6 x 2.8	
S1K	22	6 x 2.8											
KSS2.5-20 ●KSS2.5-20 J15 ●KSS2.5-20 J16 ●KSS2.5-20 J17 ●KSS2.5-20 J18 ●KSS2.5-20 J19 ●KSS2.5-20 J20 ●KSS2.5-20 J22	20	S1	15	40	50	55	25	12	37	—	—	—	
		S1K	15									5 x 2.3	
		S1K	16									5 x 2.3	
		S1K	17									5 x 2.3	
		S1K	18									6 x 2.8	
		S1K	19									6 x 2.8	
		S1K	20									6 x 2.8	
S1K	22	6 x 2.8											

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76	80	90	100	120
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).

⑤ Areas of products which have been reworked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

⑦ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	31.8	1.77	3.24	0.18	0.14~0.28	0.15 0.14	KSS2.5-12 ● KSS2.5-12 J12
M4	6	40.9	2.14	4.17	0.22	0.14~0.28	0.18 0.17	KSS2.5-13 ● KSS2.5-13 J12
—	—	51.5	2.53	5.25	0.26	0.14~0.28	0.20 0.20 0.19	KSS2.5-14 ● KSS2.5-14 J12 ● KSS2.5-14 J14
M4	6	57.7	2.96	5.89	0.30	0.14~0.28	0.23 0.23 0.22	KSS2.5-15 ● KSS2.5-15 J15 ● KSS2.5-15 J16
M4	6	64	3.43	6.52	0.35	0.14~0.28	0.27	KSS2.5-16
M4	6						0.27	● KSS2.5-16 J15
M4	6						0.26	● KSS2.5-16 J16
M4	6						0.25	● KSS2.5-16 J17
M5	6						0.24	● KSS2.5-16 J18
—	—	70.3	3.93	7.17	0.40	0.14~0.28	0.32	KSS2.5-17
M4	6						0.31	● KSS2.5-17 J15
M4	6						0.31	● KSS2.5-17 J16
M4	6						0.30	● KSS2.5-17 J17
M5	6						0.29	● KSS2.5-17 J18
M5	6	0.28	● KSS2.5-17 J19					
M5	6	0.27	● KSS2.5-17 J20					
—	—	76.7	4.47	7.82	0.46	0.14~0.28	0.37	KSS2.5-18
M4	6						0.36	● KSS2.5-18 J15
M4	6						0.36	● KSS2.5-18 J16
M4	6						0.35	● KSS2.5-18 J17
M5	6						0.34	● KSS2.5-18 J18
M5	6						0.33	● KSS2.5-18 J19
M5	6						0.32	● KSS2.5-18 J20
M5	6	0.30	● KSS2.5-18 J22					
—	—	83.2	5.05	8.49	0.51	0.14~0.28	0.41	KSS2.5-19
M4	6						0.40	● KSS2.5-19 J15
M4	6						0.40	● KSS2.5-19 J16
M4	6						0.39	● KSS2.5-19 J17
M5	6						0.38	● KSS2.5-19 J18
M5	6						0.37	● KSS2.5-19 J19
M5	6						0.36	● KSS2.5-19 J20
M5	6	0.34	● KSS2.5-19 J22					
—	—	89.8	5.66	9.16	0.58	0.14~0.28	0.45	KSS2.5-20
M4	6						0.45	● KSS2.5-20 J15
M4	6						0.44	● KSS2.5-20 J16
M4	6						0.43	● KSS2.5-20 J17
M5	6						0.42	● KSS2.5-20 J18
M5	6						0.41	● KSS2.5-20 J19
M5	6						0.41	● KSS2.5-20 J20
M5	6	0.39	● KSS2.5-20 J22					





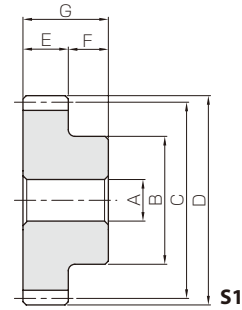
KSS Steel Spur Gears

Module 2.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

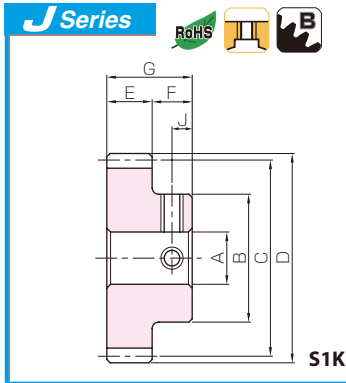


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2.5-21 ● KSS2.5-21 J15 ● KSS2.5-21 J16 ● KSS2.5-21 J17 ● KSS2.5-21 J18 ● KSS2.5-21 J19 ● KSS2.5-21 J20 ● KSS2.5-21 J22 ● KSS2.5-21 J25	m2.5	21	S1	15	42	52.5	57.5	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
KSS2.5-22 ● KSS2.5-22 J15 ● KSS2.5-22 J16 ● KSS2.5-22 J17 ● KSS2.5-22 J18 ● KSS2.5-22 J19 ● KSS2.5-22 J20 ● KSS2.5-22 J22 ● KSS2.5-22 J25	m2.5	22	S1	15	44	55	60	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
KSS2.5-23 ● KSS2.5-23 J15 ● KSS2.5-23 J16 ● KSS2.5-23 J17 ● KSS2.5-23 J18 ● KSS2.5-23 J19 ● KSS2.5-23 J20 ● KSS2.5-23 J22 ● KSS2.5-23 J25	m2.5	23	S1	15	46	57.5	62.5	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
KSS2.5-24 ● KSS2.5-24 J15 ● KSS2.5-24 J16 ● KSS2.5-24 J17 ● KSS2.5-24 J18 ● KSS2.5-24 J19 ● KSS2.5-24 J20 ● KSS2.5-24 J22 ● KSS2.5-24 J25 ● KSS2.5-24 J28	m2.5	24	S1	15	48	60	65	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
S1K	28	8 x 3.3											
KSS2.5-25 ● KSS2.5-25 J15 ● KSS2.5-25 J16 ● KSS2.5-25 J17 ● KSS2.5-25 J18 ● KSS2.5-25 J19 ● KSS2.5-25 J20 ● KSS2.5-25 J22 ● KSS2.5-25 J25 ● KSS2.5-25 J28 ● KSS2.5-25 J30	m2.5	25	S1	15	50	62.5	67.5	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
S1K	28	8 x 3.3											
S1K	30	8 x 3.3											
KSS2.5-26 ● KSS2.5-26 J15 ● KSS2.5-26 J16 ● KSS2.5-26 J17 ● KSS2.5-26 J18 ● KSS2.5-26 J19 ● KSS2.5-26 J20 ● KSS2.5-26 J22 ● KSS2.5-26 J25 ● KSS2.5-26 J28 ● KSS2.5-26 J30 ● KSS2.5-26 J32	m2.5	26	S1	15	55	65	70	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
S1K	28	8 x 3.3											
S1K	30	8 x 3.3											
S1K	32	10 x 3.3											

No. of Teeth available

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	0.50	KSS2.5-21
M4	6	—	—	—	—	—	0.50	●KSS2.5-21 J15
M4	6	—	—	—	—	—	0.49	●KSS2.5-21 J16
M4	6	—	—	—	—	—	0.49	●KSS2.5-21 J17
M5	6	96.4	6.30	9.83	0.64	0.16~0.34	0.47	●KSS2.5-21 J18
M5	6	—	—	—	—	—	0.47	●KSS2.5-21 J19
M5	6	—	—	—	—	—	0.46	●KSS2.5-21 J20
M5	6	—	—	—	—	—	0.44	●KSS2.5-21 J22
M6	6	—	—	—	—	—	0.40	●KSS2.5-21 J25
—	—	—	—	—	—	—	0.56	KSS2.5-22
M4*	6	—	—	—	—	—	0.55	●KSS2.5-22 J15
M4	6	—	—	—	—	—	0.55	●KSS2.5-22 J16
M4	6	—	—	—	—	—	0.54	●KSS2.5-22 J17
M5	6	103	6.99	10.5	0.71	0.16~0.34	0.53	●KSS2.5-22 J18
M5	6	—	—	—	—	—	0.52	●KSS2.5-22 J19
M5	6	—	—	—	—	—	0.51	●KSS2.5-22 J20
M5	6	—	—	—	—	—	0.49	●KSS2.5-22 J22
M6	6	—	—	—	—	—	0.46	●KSS2.5-22 J25
—	—	—	—	—	—	—	0.61	KSS2.5-23
M4*	6	—	—	—	—	—	0.61	●KSS2.5-23 J15
M4*	6	—	—	—	—	—	0.60	●KSS2.5-23 J16
M4*	6	—	—	—	—	—	0.59	●KSS2.5-23 J17
M5	6	110	7.71	11.2	0.79	0.16~0.34	0.58	●KSS2.5-23 J18
M5	6	—	—	—	—	—	0.58	●KSS2.5-23 J19
M5	6	—	—	—	—	—	0.57	●KSS2.5-23 J20
M5	6	—	—	—	—	—	0.55	●KSS2.5-23 J22
M6	6	—	—	—	—	—	0.51	●KSS2.5-23 J25
—	—	—	—	—	—	—	0.67	KSS2.5-24
M4*	6	—	—	—	—	—	0.67	●KSS2.5-24 J15
M4*	6	—	—	—	—	—	0.66	●KSS2.5-24 J16
M4*	6	—	—	—	—	—	0.65	●KSS2.5-24 J17
M5	6	117	8.47	11.9	0.86	0.16~0.34	0.64	●KSS2.5-24 J18
M5	6	—	—	—	—	—	0.64	●KSS2.5-24 J19
M5	6	—	—	—	—	—	0.63	●KSS2.5-24 J20
M5	6	—	—	—	—	—	0.61	●KSS2.5-24 J22
M6	6	—	—	—	—	—	0.57	●KSS2.5-24 J25
M6	6	—	—	—	—	—	0.54	●KSS2.5-24 J28
—	—	—	—	—	—	—	0.74	KSS2.5-25
M4*	6	—	—	—	—	—	0.73	●KSS2.5-25 J15
M4*	6	—	—	—	—	—	0.72	●KSS2.5-25 J16
M4*	6	—	—	—	—	—	0.71	●KSS2.5-25 J17
M5	6	124	9.26	12.6	0.94	0.16~0.34	0.71	●KSS2.5-25 J18
M5	6	—	—	—	—	—	0.70	●KSS2.5-25 J19
M5	6	—	—	—	—	—	0.69	●KSS2.5-25 J20
M5	6	—	—	—	—	—	0.67	●KSS2.5-25 J22
M6	6	—	—	—	—	—	0.63	●KSS2.5-25 J25
M6	6	—	—	—	—	—	0.60	●KSS2.5-25 J28
M6	6	—	—	—	—	—	0.57	●KSS2.5-25 J30
—	—	—	—	—	—	—	0.82	KSS2.5-26
M4*	6	—	—	—	—	—	0.81	●KSS2.5-26 J15
M4*	6	—	—	—	—	—	0.81	●KSS2.5-26 J16
M4*	6	—	—	—	—	—	0.80	●KSS2.5-26 J17
M5*	6	—	—	—	—	—	0.79	●KSS2.5-26 J18
M5*	6	130	10.1	13.3	1.03	0.16~0.34	0.78	●KSS2.5-26 J19
M5*	6	—	—	—	—	—	0.77	●KSS2.5-26 J20
M5	6	—	—	—	—	—	0.76	●KSS2.5-26 J22
M6	6	—	—	—	—	—	0.72	●KSS2.5-26 J25
M6	6	—	—	—	—	—	0.68	●KSS2.5-26 J28
M6	6	—	—	—	—	—	0.66	●KSS2.5-26 J30
M8	6	—	—	—	—	—	0.63	●KSS2.5-26 J32

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**

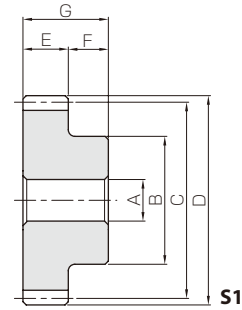


KSS Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

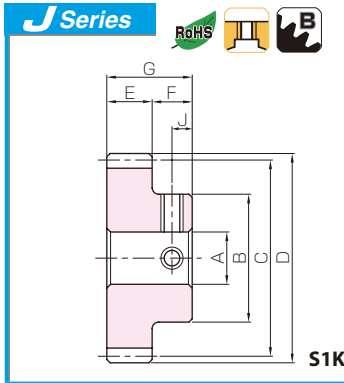


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway		
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth		
KSS2.5-27 ● KSS2.5-27 J15 ● KSS2.5-27 J16 ● KSS2.5-27 J17 ● KSS2.5-27 J18 ● KSS2.5-27 J19 ● KSS2.5-27 J20 ● KSS2.5-27 J22 ● KSS2.5-27 J25 ● KSS2.5-27 J28 ● KSS2.5-27 J30 ● KSS2.5-27 J32 ● KSS2.5-27 J35	m2.5	27	S1	15									—		
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19											6 x 2.8
			S1K	20	60	67.5	72.5	25	12	37	—	—			6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			S1K	35											10 x 3.3
KSS2.5-28 ● KSS2.5-28 J15 ● KSS2.5-28 J16 ● KSS2.5-28 J17 ● KSS2.5-28 J18 ● KSS2.5-28 J19 ● KSS2.5-28 J20 ● KSS2.5-28 J22 ● KSS2.5-28 J25 ● KSS2.5-28 J28 ● KSS2.5-28 J30 ● KSS2.5-28 J32 ● KSS2.5-28 J35	m2.5	28	S1	15									—		
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19											6 x 2.8
			S1K	20	60	70	75	25	12	37	—	—			6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			S1K	35											10 x 3.3
KSS2.5-29 ● KSS2.5-29 J15 ● KSS2.5-29 J16 ● KSS2.5-29 J17 ● KSS2.5-29 J18 ● KSS2.5-29 J19 ● KSS2.5-29 J20 ● KSS2.5-29 J22 ● KSS2.5-29 J25 ● KSS2.5-29 J28 ● KSS2.5-29 J30 ● KSS2.5-29 J32 ● KSS2.5-29 J35	m2.5	29	S1	15									—		
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19											6 x 2.8
			S1K	20	62	72.5	77.5	25	12	37	—	—			6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			S1K	35											10 x 3.3
KSS2.5-30 ● KSS2.5-30 J15 ● KSS2.5-30 J16 ● KSS2.5-30 J17 ● KSS2.5-30 J18 ● KSS2.5-30 J19 ● KSS2.5-30 J20 ● KSS2.5-30 J22 ● KSS2.5-30 J25 ● KSS2.5-30 J28 ● KSS2.5-30 J30 ● KSS2.5-30 J32 ● KSS2.5-30 J35	m2.5	30	S1	15									—		
			S1K	15											5 x 2.3
			S1K	16											5 x 2.3
			S1K	17											5 x 2.3
			S1K	18											6 x 2.8
			S1K	19											6 x 2.8
			S1K	20	65	75	80	25	12	37	—	—			6 x 2.8
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28											8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			S1K	35											10 x 3.3

No. of Teeth available

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						0.92	KSS2.5-27
M4*	6						0.91	● KSS2.5-27 J15
M4*	6						0.90	● KSS2.5-27 J16
M4*	6						0.89	● KSS2.5-27 J17
M5*	6						0.88	● KSS2.5-27 J18
M5*	6						0.87	● KSS2.5-27 J19
M5*	6	137	10.9	14.0	1.11	0.16~0.34	0.87	● KSS2.5-27 J20
M5*	6						0.85	● KSS2.5-27 J22
M6	6						0.81	● KSS2.5-27 J25
M6	6						0.78	● KSS2.5-27 J28
M6	6						0.75	● KSS2.5-27 J30
M8	6						0.72	● KSS2.5-27 J32
M8	6						0.67	● KSS2.5-27 J35
—	—						0.97	KSS2.5-28
M4*	6						0.96	● KSS2.5-28 J15
M4*	6						0.95	● KSS2.5-28 J16
M4*	6						0.94	● KSS2.5-28 J17
M5*	6						0.94	● KSS2.5-28 J18
M5*	6						0.93	● KSS2.5-28 J19
M5*	6	144	11.7	14.7	1.20	0.16~0.34	0.92	● KSS2.5-28 J20
M5*	6						0.90	● KSS2.5-28 J22
M6	6						0.87	● KSS2.5-28 J25
M6	6						0.83	● KSS2.5-28 J28
M6	6						0.80	● KSS2.5-28 J30
M8	6						0.77	● KSS2.5-28 J32
M8	6						0.73	● KSS2.5-28 J35
—	—						1.04	KSS2.5-29
M4*	6						1.03	● KSS2.5-29 J15
M4*	6						1.02	● KSS2.5-29 J16
M4*	6						1.02	● KSS2.5-29 J17
M5*	6						1.01	● KSS2.5-29 J18
M5*	6						1.00	● KSS2.5-29 J19
M5*	6	151	12.6	15.4	1.29	0.16~0.34	0.99	● KSS2.5-29 J20
M5*	6						0.97	● KSS2.5-29 J22
M6	6						0.94	● KSS2.5-29 J25
M6	6						0.90	● KSS2.5-29 J28
M6	6						0.88	● KSS2.5-29 J30
M8	6						0.84	● KSS2.5-29 J32
M8	6						0.80	● KSS2.5-29 J35
—	—						1.13	KSS2.5-30
M4*	6						1.11	● KSS2.5-30 J15
M4*	6						1.11	● KSS2.5-30 J16
M4*	6						1.10	● KSS2.5-30 J17
M5*	6						1.09	● KSS2.5-30 J18
M5*	6						1.08	● KSS2.5-30 J19
M5*	6	159	13.6	16.2	1.39	0.16~0.34	1.07	● KSS2.5-30 J20
M5*	6						1.06	● KSS2.5-30 J22
M6	6						1.02	● KSS2.5-30 J25
M6	6						0.99	● KSS2.5-30 J28
M6	6						0.96	● KSS2.5-30 J30
M8	6						0.93	● KSS2.5-30 J32
M8	6						0.88	● KSS2.5-30 J35





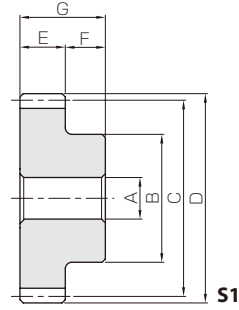
KSS Steel Spur Gears

Module 2.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

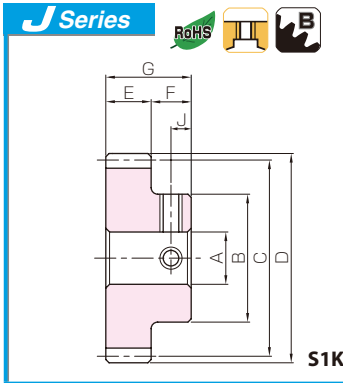


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2.5-32 ● KSS2.5-32 J15 ● KSS2.5-32 J16 ● KSS2.5-32 J17 ● KSS2.5-32 J18 ● KSS2.5-32 J19 ● KSS2.5-32 J20 ● KSS2.5-32 J22 ● KSS2.5-32 J25 ● KSS2.5-32 J28 ● KSS2.5-32 J30 ● KSS2.5-32 J32 ● KSS2.5-32 J35 ● KSS2.5-32 J40	m2.5	32	S1	15	70	80	85	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
KSS2.5-34 ● KSS2.5-34 J15 ● KSS2.5-34 J16 ● KSS2.5-34 J17 ● KSS2.5-34 J18 ● KSS2.5-34 J19 ● KSS2.5-34 J20 ● KSS2.5-34 J22 ● KSS2.5-34 J25 ● KSS2.5-34 J28 ● KSS2.5-34 J30 ● KSS2.5-34 J32 ● KSS2.5-34 J35 ● KSS2.5-34 J40	m2.5	34	S1	15	70	85	90	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
KSS2.5-35 ● KSS2.5-35 J15 ● KSS2.5-35 J16 ● KSS2.5-35 J17 ● KSS2.5-35 J18 ● KSS2.5-35 J19 ● KSS2.5-35 J20 ● KSS2.5-35 J22 ● KSS2.5-35 J25 ● KSS2.5-35 J28 ● KSS2.5-35 J30 ● KSS2.5-35 J32 ● KSS2.5-35 J35 ● KSS2.5-35 J40	m2.5	35	S1	15	70	87.5	92.5	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
KSS2.5-36 ● KSS2.5-36 J15 ● KSS2.5-36 J16 ● KSS2.5-36 J17 ● KSS2.5-36 J18 ● KSS2.5-36 J19 ● KSS2.5-36 J20 ● KSS2.5-36 J22 ● KSS2.5-36 J25 ● KSS2.5-36 J28 ● KSS2.5-36 J30 ● KSS2.5-36 J32 ● KSS2.5-36 J35 ● KSS2.5-36 J40	m2.5	36	S1	15	70	90	95	25	12	37	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
S1K	35	10 x 3.3											
S1K	40	12 x 3.3											

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	173	15.6	17.6	1.59	0.16~0.34	1.30 1.28 1.28 1.27 1.26 1.25 1.24 1.22 1.19 1.15 1.13 1.10 1.05 0.97	KSS2.5-32 ●KSS2.5-32 J15 ●KSS2.5-32 J16 ●KSS2.5-32 J17 ●KSS2.5-32 J18 ●KSS2.5-32 J19 ●KSS2.5-32 J20 ●KSS2.5-32 J22 ●KSS2.5-32 J25 ●KSS2.5-32 J28 ●KSS2.5-32 J30 ●KSS2.5-32 J32 ●KSS2.5-32 J35 ●KSS2.5-32 J40
M4*	6							
M4*	6							
M4*	6							
M5*	6							
M5*	6							
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
—	—	187	17.7	19.1	1.80	0.16~0.34	1.42 1.41 1.40 1.40 1.39 1.38 1.37 1.35 1.32 1.28 1.26 1.22 1.18 1.09	KSS2.5-34 ●KSS2.5-34 J15 ●KSS2.5-34 J16 ●KSS2.5-34 J17 ●KSS2.5-34 J18 ●KSS2.5-34 J19 ●KSS2.5-34 J20 ●KSS2.5-34 J22 ●KSS2.5-34 J25 ●KSS2.5-34 J28 ●KSS2.5-34 J30 ●KSS2.5-34 J32 ●KSS2.5-34 J35 ●KSS2.5-34 J40
M4*	6							
M4*	6							
M4*	6							
M5*	6							
M5*	6							
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
—	—	194	18.8	19.8	1.92	0.16~0.34	1.49 1.48 1.47 1.46 1.45 1.44 1.44 1.44 1.42 1.38 1.35 1.32 1.29 1.24 1.16	KSS2.5-35 ●KSS2.5-35 J15 ●KSS2.5-35 J16 ●KSS2.5-35 J17 ●KSS2.5-35 J18 ●KSS2.5-35 J19 ●KSS2.5-35 J20 ●KSS2.5-35 J22 ●KSS2.5-35 J25 ●KSS2.5-35 J28 ●KSS2.5-35 J30 ●KSS2.5-35 J32 ●KSS2.5-35 J35 ●KSS2.5-35 J40
M4*	6							
M4*	6							
M4*	6							
M5*	6							
M5*	6							
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
—	—	201	20.0	20.5	2.04	0.16~0.34	1.56 1.54 1.54 1.53 1.52 1.51 1.50 1.49 1.45 1.42 1.39 1.36 1.31 1.23	KSS2.5-36 ●KSS2.5-36 J15 ●KSS2.5-36 J16 ●KSS2.5-36 J17 ●KSS2.5-36 J18 ●KSS2.5-36 J19 ●KSS2.5-36 J20 ●KSS2.5-36 J22 ●KSS2.5-36 J25 ●KSS2.5-36 J28 ●KSS2.5-36 J30 ●KSS2.5-36 J32 ●KSS2.5-36 J35 ●KSS2.5-36 J40
M4*	6							
M4*	6							
M4*	6							
M5*	6							
M5*	6							
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been reworked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**



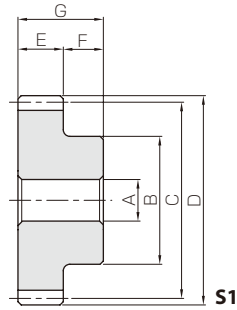


KSS Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



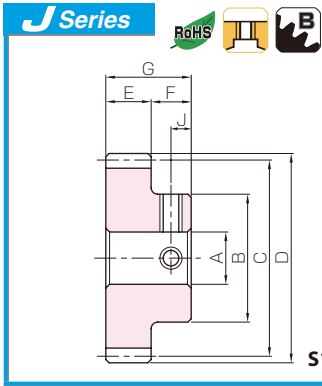
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2.5-38 ● KSS2.5-38 J20 ● KSS2.5-38 J22 ● KSS2.5-38 J25 ● KSS2.5-38 J28 ● KSS2.5-38 J30 ● KSS2.5-38 J32 ● KSS2.5-38 J35 ● KSS2.5-38 J40	m2.5	38	S1	20	70	95	100	25	12	37	—	—	—
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									10 x 3.3
			S1K	40									12 x 3.3
KSS2.5-40 ● KSS2.5-40 J20 ● KSS2.5-40 J22 ● KSS2.5-40 J25 ● KSS2.5-40 J28 ● KSS2.5-40 J30 ● KSS2.5-40 J32 ● KSS2.5-40 J35 ● KSS2.5-40 J40	m2.5	40	S1	20	70	100	105	25	12	37	—	—	—
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									10 x 3.3
			S1K	40									12 x 3.3
KSS2.5-42 ● KSS2.5-42 J20 ● KSS2.5-42 J22 ● KSS2.5-42 J25 ● KSS2.5-42 J28 ● KSS2.5-42 J30 ● KSS2.5-42 J32 ● KSS2.5-42 J35 ● KSS2.5-42 J40	m2.5	42	S1	20	70	105	110	25	12	37	—	—	—
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									10 x 3.3
			S1K	40									12 x 3.3
KSS2.5-44 ● KSS2.5-44 J20 ● KSS2.5-44 J22 ● KSS2.5-44 J25 ● KSS2.5-44 J28 ● KSS2.5-44 J30 ● KSS2.5-44 J32 ● KSS2.5-44 J35 ● KSS2.5-44 J40	m2.5	44	S1	20	70	110	115	25	12	37	—	—	—
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									10 x 3.3
			S1K	40									12 x 3.3
KSS2.5-45 ● KSS2.5-45 J20 ● KSS2.5-45 J22 ● KSS2.5-45 J25 ● KSS2.5-45 J28 ● KSS2.5-45 J30 ● KSS2.5-45 J32 ● KSS2.5-45 J35 ● KSS2.5-45 J40	m2.5	45	S1	20	70	112.5	117.5	25	12	37	—	—	—
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									10 x 3.3
			S1K	40									12 x 3.3
KSS2.5-46 ● KSS2.5-46 J20 ● KSS2.5-46 J22 ● KSS2.5-46 J25 ● KSS2.5-46 J28 ● KSS2.5-46 J30 ● KSS2.5-46 J32 ● KSS2.5-46 J35 ● KSS2.5-46 J40	m2.5	46	S1	20	70	115	120	25	12	37	—	—	—
			S1K	20									6 x 2.8
			S1K	22									6 x 2.8
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									10 x 3.3
			S1K	40									12 x 3.3

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	—	—
M5*	6	216	22.4	22.0	2.28	0.16~0.34	1.66 1.65 1.63 1.59 1.56 1.53 1.50 1.46 1.37	KSS2.5-38 ●KSS2.5-38 J20 ●KSS2.5-38 J22 ●KSS2.5-38 J25 ●KSS2.5-38 J28 ●KSS2.5-38 J30 ●KSS2.5-38 J32 ●KSS2.5-38 J35 ●KSS2.5-38 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
—	—	230	24.9	23.5	2.54	0.16~0.34	1.81 1.80 1.78 1.74 1.71 1.68 1.65 1.61 1.52	KSS2.5-40 ●KSS2.5-40 J20 ●KSS2.5-40 J22 ●KSS2.5-40 J25 ●KSS2.5-40 J28 ●KSS2.5-40 J30 ●KSS2.5-40 J32 ●KSS2.5-40 J35 ●KSS2.5-40 J40
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
—	—	245	27.6	25.0	2.82	0.18~0.40	1.97 1.95 1.94 1.90 1.87 1.84 1.81 1.76 1.68	KSS2.5-42 ●KSS2.5-42 J20 ●KSS2.5-42 J22 ●KSS2.5-42 J25 ●KSS2.5-42 J28 ●KSS2.5-42 J30 ●KSS2.5-42 J32 ●KSS2.5-42 J35 ●KSS2.5-42 J40
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
—	—	260	30.5	26.5	3.11	0.18~0.40	2.14 2.12 2.10 2.07 2.03 2.01 1.97 1.93 1.84	KSS2.5-44 ●KSS2.5-44 J20 ●KSS2.5-44 J22 ●KSS2.5-44 J25 ●KSS2.5-44 J28 ●KSS2.5-44 J30 ●KSS2.5-44 J32 ●KSS2.5-44 J35 ●KSS2.5-44 J40
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
—	—	267	31.9	27.2	3.26	0.18~0.40	2.22 2.21 2.19 2.15 2.12 2.09 2.06 2.02 1.93	KSS2.5-45 ●KSS2.5-45 J20 ●KSS2.5-45 J22 ●KSS2.5-45 J25 ●KSS2.5-45 J28 ●KSS2.5-45 J30 ●KSS2.5-45 J32 ●KSS2.5-45 J35 ●KSS2.5-45 J40
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
—	—	274	33.5	28.0	3.41	0.18~0.40	2.31 2.29 2.28 2.24 2.21 2.18 2.15 2.10 2.02	KSS2.5-46 ●KSS2.5-46 J20 ●KSS2.5-46 J22 ●KSS2.5-46 J25 ●KSS2.5-46 J28 ●KSS2.5-46 J30 ●KSS2.5-46 J32 ●KSS2.5-46 J35 ●KSS2.5-46 J40
M5*	6							
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.



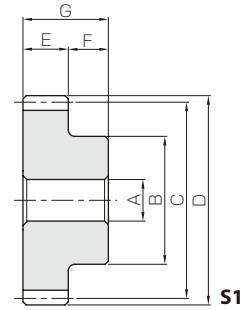
KSS Steel Spur Gears

Module 2.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



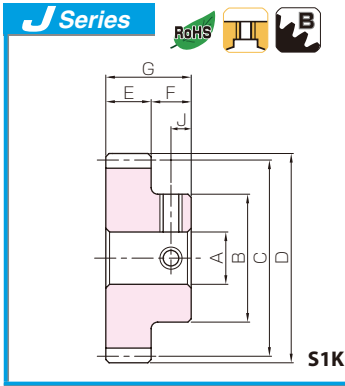
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2.5-48 ●KSS2.5-48 J20 ●KSS2.5-48 J22 ●KSS2.5-48 J25 ●KSS2.5-48 J28 ●KSS2.5-48 J30 ●KSS2.5-48 J32 ●KSS2.5-48 J35 ●KSS2.5-48 J40	m2.5	48	S1	20	70	120	125	25	12	37	—	—	—
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
			S1K	30									8 × 3.3
			S1K	32									10 × 3.3
			S1K	35									10 × 3.3
			S1K	40									12 × 3.3
KSS2.5-50 ●KSS2.5-50 J20 ●KSS2.5-50 J22 ●KSS2.5-50 J25 ●KSS2.5-50 J28 ●KSS2.5-50 J30 ●KSS2.5-50 J32 ●KSS2.5-50 J35 ●KSS2.5-50 J40	m2.5	50	S1	20	70	125	130	25	12	37	—	—	—
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
			S1K	30									8 × 3.3
			S1K	32									10 × 3.3
			S1K	35									10 × 3.3
			S1K	40									12 × 3.3
KSS2.5-52 ●KSS2.5-52 J20 ●KSS2.5-52 J22 ●KSS2.5-52 J25 ●KSS2.5-52 J28 ●KSS2.5-52 J30 ●KSS2.5-52 J32 ●KSS2.5-52 J35 ●KSS2.5-52 J40	m2.5	52	S1	20	70	130	135	25	12	37	—	—	—
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
			S1K	30									8 × 3.3
			S1K	32									10 × 3.3
			S1K	35									10 × 3.3
			S1K	40									12 × 3.3
KSS2.5-54 ●KSS2.5-54 J20 ●KSS2.5-54 J22 ●KSS2.5-54 J25 ●KSS2.5-54 J28 ●KSS2.5-54 J30 ●KSS2.5-54 J32 ●KSS2.5-54 J35 ●KSS2.5-54 J40	m2.5	54	S1	20	70	135	140	25	12	37	—	—	—
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
			S1K	30									8 × 3.3
			S1K	32									10 × 3.3
			S1K	35									10 × 3.3
			S1K	40									12 × 3.3
KSS2.5-55 ●KSS2.5-55 J20 ●KSS2.5-55 J22 ●KSS2.5-55 J25 ●KSS2.5-55 J28 ●KSS2.5-55 J30 ●KSS2.5-55 J32 ●KSS2.5-55 J35 ●KSS2.5-55 J40	m2.5	55	S1	20	70	137.5	142.5	25	12	37	—	—	—
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
			S1K	30									8 × 3.3
			S1K	32									10 × 3.3
			S1K	35									10 × 3.3
			S1K	40									12 × 3.3
KSS2.5-56 ●KSS2.5-56 J20 ●KSS2.5-56 J22 ●KSS2.5-56 J25 ●KSS2.5-56 J28 ●KSS2.5-56 J30 ●KSS2.5-56 J32 ●KSS2.5-56 J35 ●KSS2.5-56 J40	m2.5	56	S1	20	70	140	145	25	12	37	—	—	—
			S1K	20									6 × 2.8
			S1K	22									6 × 2.8
			S1K	25									8 × 3.3
			S1K	28									8 × 3.3
			S1K	30									8 × 3.3
			S1K	32									10 × 3.3
			S1K	35									10 × 3.3
			S1K	40									12 × 3.3

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M5*	6	289	36.7	29.5	3.74	0.18~0.40	2.49	KSS2.5-48 ●KSS2.5-48 J20 ●KSS2.5-48 J22 ●KSS2.5-48 J25 ●KSS2.5-48 J28 ●KSS2.5-48 J30 ●KSS2.5-48 J32 ●KSS2.5-48 J35 ●KSS2.5-48 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
M5*	6	304	40.0	31.0	4.08	0.18~0.40	2.68	KSS2.5-50 ●KSS2.5-50 J20 ●KSS2.5-50 J22 ●KSS2.5-50 J25 ●KSS2.5-50 J28 ●KSS2.5-50 J30 ●KSS2.5-50 J32 ●KSS2.5-50 J35 ●KSS2.5-50 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
M5*	6	319	43.5	32.5	4.44	0.18~0.40	2.88	KSS2.5-52 ●KSS2.5-52 J20 ●KSS2.5-52 J22 ●KSS2.5-52 J25 ●KSS2.5-52 J28 ●KSS2.5-52 J30 ●KSS2.5-52 J32 ●KSS2.5-52 J35 ●KSS2.5-52 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
M5*	6	334	47.2	34.0	4.81	0.18~0.40	3.08	KSS2.5-54 ●KSS2.5-54 J20 ●KSS2.5-54 J22 ●KSS2.5-54 J25 ●KSS2.5-54 J28 ●KSS2.5-54 J30 ●KSS2.5-54 J32 ●KSS2.5-54 J35 ●KSS2.5-54 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
M5*	6	341	49.1	34.8	5.01	0.18~0.40	3.19	KSS2.5-55 ●KSS2.5-55 J20 ●KSS2.5-55 J22 ●KSS2.5-55 J25 ●KSS2.5-55 J28 ●KSS2.5-55 J30 ●KSS2.5-55 J32 ●KSS2.5-55 J35 ●KSS2.5-55 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							
M5*	6	349	51.0	35.6	5.20	0.18~0.40	3.29	KSS2.5-56 ●KSS2.5-56 J20 ●KSS2.5-56 J22 ●KSS2.5-56 J25 ●KSS2.5-56 J28 ●KSS2.5-56 J30 ●KSS2.5-56 J32 ●KSS2.5-56 J35 ●KSS2.5-56 J40
M5*	6							
M6*	6							
M6*	6							
M6	6							
M8	6							
M8	6							
M8	6							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

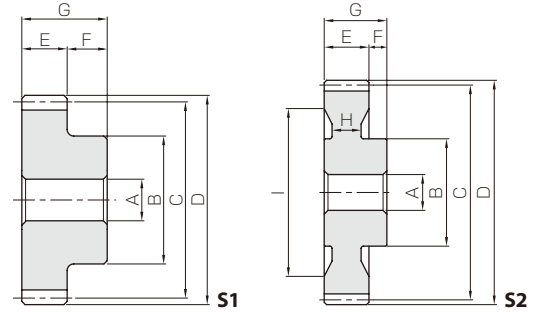
[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

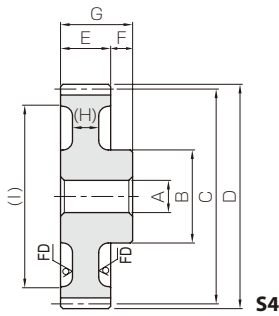


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

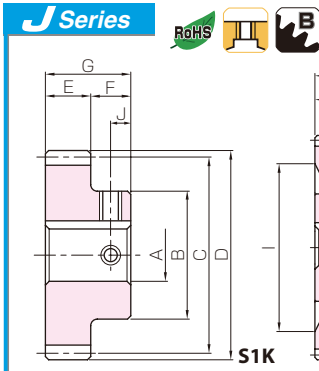
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway		
				AH7	B	C	D	E	F	G	H	I	Width×Depth		
KSS2.5-58 ● KSS2.5-58 J20 ● KSS2.5-58 J22 ● KSS2.5-58 J25 ● KSS2.5-58 J28 ● KSS2.5-58 J30 ● KSS2.5-58 J32 ● KSS2.5-58 J35 ● KSS2.5-58 J40	m2.5	58	S1	20									—		
			S1K	20										6 x 2.8	
			S1K	22											6 x 2.8
			S1K	25											8 x 3.3
			S1K	28	70	145	150	25	12	37	—	—			8 x 3.3
			S1K	30											8 x 3.3
			S1K	32											10 x 3.3
			S1K	35											10 x 3.3
			S1K	40											12 x 3.3
			KSS2.5-60 ● KSS2.5-60 J25 ● KSS2.5-60 J28 ● KSS2.5-60 J30 ● KSS2.5-60 J32 ● KSS2.5-60 J35 ● KSS2.5-60 J40	m2.5	60	S4	25								
S4K	25													8 x 3.3	
S4K	28													8 x 3.3	
S4K	30	70				150	155	25	12	37	(10)	(127)		8 x 3.3	
S4K	32													10 x 3.3	
S4K	35													10 x 3.3	
KSS2.5-62 ● KSS2.5-62 J25 ● KSS2.5-62 J28 ● KSS2.5-62 J30 ● KSS2.5-62 J32 ● KSS2.5-62 J35 ● KSS2.5-62 J40	m2.5	62	S2	25									—		
			S2K	25										8 x 3.3	
			S2K	28										8 x 3.3	
			S2K	30	80	155	160	25	12	37	15	130		8 x 3.3	
			S2K	32										10 x 3.3	
			S2K	35										10 x 3.3	
KSS2.5-64 ● KSS2.5-64 J25 ● KSS2.5-64 J28 ● KSS2.5-64 J30 ● KSS2.5-64 J32 ● KSS2.5-64 J35 ● KSS2.5-64 J40	m2.5	64	S2	25									—		
			S2K	25										8 x 3.3	
			S2K	28										8 x 3.3	
			S2K	30	80	160	165	25	12	37	15	131		8 x 3.3	
			S2K	32										10 x 3.3	
			S2K	35										10 x 3.3	
KSS2.5-65 ● KSS2.5-65 J25 ● KSS2.5-65 J28 ● KSS2.5-65 J30 ● KSS2.5-65 J32 ● KSS2.5-65 J35 ● KSS2.5-65 J40	m2.5	65	S2	25									—		
			S2K	25										8 x 3.3	
			S2K	28										8 x 3.3	
			S2K	30	80	162.5	167.5	25	12	37	15	134		8 x 3.3	
			S2K	32										10 x 3.3	
			S2K	35										10 x 3.3	
KSS2.5-66 ● KSS2.5-66 J25 ● KSS2.5-66 J28 ● KSS2.5-66 J30 ● KSS2.5-66 J32 ● KSS2.5-66 J35 ● KSS2.5-66 J40	m2.5	66	S2	25									—		
			S2K	25										8 x 3.3	
			S2K	28										8 x 3.3	
			S2K	30	80	165	170	25	12	37	15	140		8 x 3.3	
			S2K	32										10 x 3.3	
			S2K	35										10 x 3.3	
KSS2.5-68 ● KSS2.5-68 J25 ● KSS2.5-68 J28 ● KSS2.5-68 J30 ● KSS2.5-68 J32 ● KSS2.5-68 J35 ● KSS2.5-68 J40	m2.5	68	S2	25									—		
			S2K	25										8 x 3.3	
			S2K	28										8 x 3.3	
			S2K	30	80	170	175	25	12	37	15	140		8 x 3.3	
			S2K	32										10 x 3.3	
			S2K	35										10 x 3.3	

No. of Teeth available

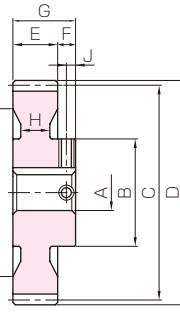
Steel Spur Gears



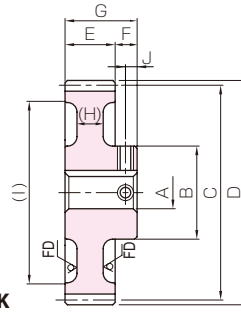
S4



S1K



S2K



S4K



* FD has die-forged finish.

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	3.51	KSS2.5-58
M5*	6	—	—	—	—	—	3.50	● KSS2.5-58 J20
M5*	6	—	—	—	—	—	3.48	● KSS2.5-58 J22
M6*	6	—	—	—	—	—	3.44	● KSS2.5-58 J25
M6*	6	364	55.0	37.1	5.61	0.18~0.40	3.41	● KSS2.5-58 J28
M6	6	—	—	—	—	—	3.38	● KSS2.5-58 J30
M8	6	—	—	—	—	—	3.35	● KSS2.5-58 J32
M8	6	—	—	—	—	—	3.30	● KSS2.5-58 J35
M8	6	—	—	—	—	—	3.22	● KSS2.5-58 J40
—	—	—	—	—	—	—	2.80	KSS2.5-60
M6*	6	—	—	—	—	—	2.78	● KSS2.5-60 J25
M6*	6	—	—	—	—	—	2.75	● KSS2.5-60 J28
M6	6	379	59.1	38.6	6.03	0.18~0.40	2.72	● KSS2.5-60 J30
M8	6	—	—	—	—	—	2.69	● KSS2.5-60 J32
M8	6	—	—	—	—	—	2.64	● KSS2.5-60 J35
M8	6	—	—	—	—	—	2.56	● KSS2.5-60 J40
—	—	—	—	—	—	—	3.54	KSS2.5-62
M6*	6	—	—	—	—	—	3.51	● KSS2.5-62 J25
M6*	6	—	—	—	—	—	3.48	● KSS2.5-62 J28
M6*	6	394	63.4	40.1	6.46	0.18~0.40	3.45	● KSS2.5-62 J30
M8	6	—	—	—	—	—	3.42	● KSS2.5-62 J32
M8	6	—	—	—	—	—	3.38	● KSS2.5-62 J35
M8	6	—	—	—	—	—	3.29	● KSS2.5-62 J40
—	—	—	—	—	—	—	3.76	KSS2.5-64
M6*	6	—	—	—	—	—	3.74	● KSS2.5-64 J25
M6*	6	—	—	—	—	—	3.71	● KSS2.5-64 J28
M6*	6	409	67.8	41.7	6.92	0.18~0.40	3.68	● KSS2.5-64 J30
M8	6	—	—	—	—	—	3.65	● KSS2.5-64 J32
M8	6	—	—	—	—	—	3.60	● KSS2.5-64 J35
M8	6	—	—	—	—	—	3.52	● KSS2.5-64 J40
—	—	—	—	—	—	—	3.84	KSS2.5-65
M6*	6	—	—	—	—	—	3.82	● KSS2.5-65 J25
M6*	6	—	—	—	—	—	3.79	● KSS2.5-65 J28
M6*	6	416	70.1	42.4	7.15	0.18~0.40	3.76	● KSS2.5-65 J30
M8	6	—	—	—	—	—	3.73	● KSS2.5-65 J32
M8	6	—	—	—	—	—	3.68	● KSS2.5-65 J35
M8	6	—	—	—	—	—	3.60	● KSS2.5-65 J40
—	—	—	—	—	—	—	3.87	KSS2.5-66
M6*	6	—	—	—	—	—	3.85	● KSS2.5-66 J25
M6*	6	—	—	—	—	—	3.82	● KSS2.5-66 J28
M6*	6	424	72.4	43.2	7.39	0.18~0.40	3.79	● KSS2.5-66 J30
M8	6	—	—	—	—	—	3.76	● KSS2.5-66 J32
M8	6	—	—	—	—	—	3.72	● KSS2.5-66 J35
M8	6	—	—	—	—	—	3.63	● KSS2.5-66 J40
—	—	—	—	—	—	—	4.13	KSS2.5-68
M6*	6	—	—	—	—	—	4.11	● KSS2.5-68 J25
M6*	6	—	—	—	—	—	4.08	● KSS2.5-68 J28
M6*	6	439	77.2	44.7	7.87	0.18~0.40	4.05	● KSS2.5-68 J30
M8	6	—	—	—	—	—	4.02	● KSS2.5-68 J32
M8	6	—	—	—	—	—	3.97	● KSS2.5-68 J35
M8	6	—	—	—	—	—	3.89	● KSS2.5-68 J40

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

* Please see book one for additional products in these modules.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

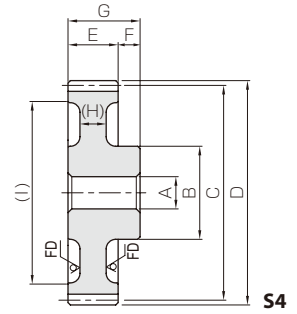
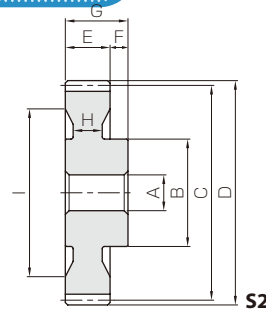
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

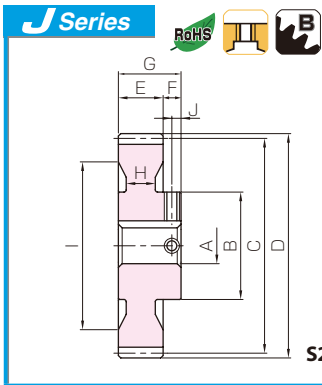


* FD has die-forged finish.

Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS2.5-70	m2.5	70	S2	25	80	175	180	25	12	37	15	146	—
●KSS2.5-70 J25			S2K	25									8 x 3.3
●KSS2.5-70 J28			S2K	28									8 x 3.3
●KSS2.5-70 J30			S2K	30									8 x 3.3
●KSS2.5-70 J32			S2K	32									10 x 3.3
●KSS2.5-70 J35			S2K	35									10 x 3.3
●KSS2.5-70 J40		S2K	40	12 x 3.3									
KSS2.5-72		72	S2	25	80	180	185	25	12	37	15	151	—
●KSS2.5-72 J25			S2K	25									8 x 3.3
●KSS2.5-72 J28			S2K	28									8 x 3.3
●KSS2.5-72 J30			S2K	30									8 x 3.3
●KSS2.5-72 J32			S2K	32									10 x 3.3
●KSS2.5-72 J35			S2K	35									10 x 3.3
●KSS2.5-72 J40		S2K	40	12 x 3.3									
KSS2.5-75		75	S2	25	80	187.5	192.5	25	12	37	15	159	—
●KSS2.5-75 J25			S2K	25									8 x 3.3
●KSS2.5-75 J28			S2K	28									8 x 3.3
●KSS2.5-75 J30			S2K	30									8 x 3.3
●KSS2.5-75 J32			S2K	32									10 x 3.3
●KSS2.5-75 J35			S2K	35									10 x 3.3
●KSS2.5-75 J40		S2K	40	12 x 3.3									
KSS2.5-76		76	S2	25	80	190	195	25	12	37	15	160	—
●KSS2.5-76 J25			S2K	25									8 x 3.3
●KSS2.5-76 J28			S2K	28									8 x 3.3
●KSS2.5-76 J30			S2K	30									8 x 3.3
●KSS2.5-76 J32			S2K	32									10 x 3.3
●KSS2.5-76 J35			S2K	35									10 x 3.3
●KSS2.5-76 J40		S2K	40	12 x 3.3									
KSS2.5-80	80	S4	25	80	200	205	25	12	37	(10)	(177)	—	
●KSS2.5-80 J25		S4K	25									8 x 3.3	
●KSS2.5-80 J28		S4K	28									8 x 3.3	
●KSS2.5-80 J30		S4K	30									8 x 3.3	
●KSS2.5-80 J32		S4K	32									10 x 3.3	
●KSS2.5-80 J35		S4K	35									10 x 3.3	
●KSS2.5-80 J40	S4K	40	12 x 3.3										
KSS2.5-90	90	S4	30	90	225	230	25	12	37	(10)	(202)	—	
●KSS2.5-90 J30		S4K	30									8 x 3.3	
●KSS2.5-90 J32		S4K	32									10 x 3.3	
●KSS2.5-90 J35		S4K	35									10 x 3.3	
●KSS2.5-90 J40		S4K	40									12 x 3.3	
KSS2.5-100		100	S4									30	90
●KSS2.5-100 J30	S4K		30	8 x 3.3									
●KSS2.5-100 J32	S4K		32	10 x 3.3									
●KSS2.5-100 J35	S4K		35	10 x 3.3									
●KSS2.5-100 J40	S4K		40	12 x 3.3									
KSS2.5-120	120		S4	30	100	300	305	25	12	37	(10)	(277)	
●KSS2.5-120 J30		S4K	30	8 x 3.3									
●KSS2.5-120 J32		S4K	32	10 x 3.3									
●KSS2.5-120 J35		S4K	35	10 x 3.3									
●KSS2.5-120 J40		S4K	40	12 x 3.3									

*Please see book one for additional products in these modules.

No. of Teeth available



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—						4.30	KSS2.5-70
M6*	6						4.28	● KSS2.5-70 J25
M6*	6						4.24	● KSS2.5-70 J28
M6*	6	454	82.1	46.3	8.37	0.18~0.4	4.22	● KSS2.5-70 J30
M8	6						4.19	● KSS2.5-70 J32
M8	6						4.14	● KSS2.5-70 J35
M8	6						4.06	● KSS2.5-70 J40
—	—						4.49	KSS2.5-72
M6*	6						4.47	● KSS2.5-72 J25
M6*	6						4.43	● KSS2.5-72 J28
M6*	6	469	87.1	47.8	8.89	0.18~0.4	4.41	● KSS2.5-72 J30
M8	6						4.37	● KSS2.5-72 J32
M8	6						4.33	● KSS2.5-72 J35
M8	6						4.24	● KSS2.5-72 J40
—	—						4.77	KSS2.5-75
M6*	6						4.75	● KSS2.5-75 J25
M6*	6						4.71	● KSS2.5-75 J28
M6*	6	492	95.0	50.1	9.69	0.18~0.4	4.69	● KSS2.5-75 J30
M8	6						4.66	● KSS2.5-75 J32
M8	6						4.61	● KSS2.5-75 J35
M8	6						4.53	● KSS2.5-75 J40
—	—						4.90	KSS2.5-76
M6*	6						4.88	● KSS2.5-76 J25
M6*	6						4.84	● KSS2.5-76 J28
M6*	6	499	97.7	50.9	9.97	0.18~0.4	4.82	● KSS2.5-76 J30
M8	6						4.78	● KSS2.5-76 J32
M8	6						4.74	● KSS2.5-76 J35
M8	6						4.65	● KSS2.5-76 J40
—	—						4.42	KSS2.5-80
M6*	6						4.40	● KSS2.5-80 J25
M6*	6						4.36	● KSS2.5-80 J28
M6*	6	441	90.9	45.0	9.27	0.18~0.4	4.34	● KSS2.5-80 J30
M8	6						4.31	● KSS2.5-80 J32
M8	6						4.26	● KSS2.5-80 J35
M8	6						4.18	● KSS2.5-80 J40
—	—						5.64	KSS2.5-90
M6*	6						5.62	● KSS2.5-90 J30
M8*	6	505	117	51.5	12.0	0.22~0.48	5.58	● KSS2.5-90 J32
M8*	6						5.54	● KSS2.5-90 J35
M8	6						5.46	● KSS2.5-90 J40
—	—						6.78	KSS2.5-100
M6*	6						6.76	● KSS2.5-100 J30
M8*	6	569	147	58.0	15.0	0.22~0.48	6.72	● KSS2.5-100 J32
M8*	6						6.68	● KSS2.5-100 J35
M8	6						6.60	● KSS2.5-100 J40
—	—						9.38	KSS2.5-120
M6*	6						9.35	● KSS2.5-120 J30
M8*	6	696	218	71.0	22.2	0.22~0.48	9.31	● KSS2.5-120 J32
M8*	6						9.27	● KSS2.5-120 J35
M8*	6						9.18	● KSS2.5-120 J40

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.



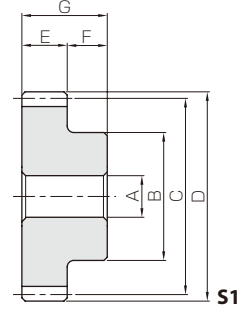
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

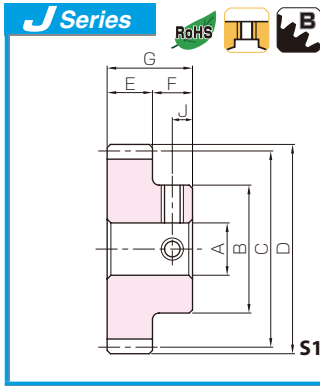
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth
KSS3-12 ●KSS3-12 J15	m3	12	S1	15	28	36	42	30	15	45	—	—	—
			S1T2	15									—
KSS3-13 ●KSS3-13 J15	m3	13	S1	15	30	39	45	30	15	45	—	—	—
			S1K	15									5 x 2.3
KSS3-14 ●KSS3-14 J15 ●KSS3-14 J16 ●KSS3-14 J17	m3	14	S1	15	32	42	48	30	15	45	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
KSS3-15 ●KSS3-15 J15 ●KSS3-15 J16 ●KSS3-15 J17 ●KSS3-15 J18 ●KSS3-15 J19	m3	15	S1	15	36	45	51	30	15	45	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
KSS3-16 ●KSS3-16 J15 ●KSS3-16 J16 ●KSS3-16 J17 ●KSS3-16 J18 ●KSS3-16 J19 ●KSS3-16 J20 ●KSS3-16 J22	m3	16	S1	15	38	48	54	30	15	45	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
KSS3-17 ●KSS3-17 J15 ●KSS3-17 J16 ●KSS3-17 J17 ●KSS3-17 J18 ●KSS3-17 J19 ●KSS3-17 J20 ●KSS3-17 J22	m3	17	S1	15	39	51	57	30	15	45	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
KSS3-18 ●KSS3-18 J15 ●KSS3-18 J16 ●KSS3-18 J17 ●KSS3-18 J18 ●KSS3-18 J19 ●KSS3-18 J20 ●KSS3-18 J22	m3	18	S1	15	40	54	60	30	15	45	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
KSS3-19 ●KSS3-19 J15 ●KSS3-19 J16 ●KSS3-19 J17 ●KSS3-19 J18 ●KSS3-19 J19 ●KSS3-19 J20 ●KSS3-19 J22 ●KSS3-19 J25	m3	19	S1	15	45	57	63	30	15	45	—	—	—
			S1K	15									5 x 2.3
			S1K	16									5 x 2.3
			S1K	17									5 x 2.3
			S1K	18									6 x 2.8
			S1K	19									6 x 2.8
			S1K	20									6 x 2.8
S1K	22	6 x 2.8											
S1K	25	8 x 3.3											

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

⑦ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	54.9	3.12	5.59	0.32	0.14~0.32	0.25	KSS3-12
M4	7.5						0.25	● KSS3-12 J15
—	—	70.7	3.77	7.21	0.38	0.14~0.32	0.30	KSS3-13
M4	7.5						0.30	● KSS3-13 J15
—	—	88.9	4.47	9.07	0.46	0.14~0.32	0.36	KSS3-14
M4	7.5						0.35	● KSS3-14 J15
M4	7.5						0.35	● KSS3-14 J16
M4	7.5						0.34	● KSS3-14 J17
—	—	99.7	5.23	10.2	0.53	0.14~0.32	0.43	KSS3-15
M4	7.5						0.43	● KSS3-15 J15
M4	7.5						0.42	● KSS3-15 J16
M4	7.5						0.41	● KSS3-15 J17
M5	7.5						0.40	● KSS3-15 J18
M5	7.5						0.39	● KSS3-15 J19
—	—	111	6.05	11.3	0.62	0.14~0.32	0.50	KSS3-16
M4	7.5						0.49	● KSS3-16 J15
M4	7.5						0.48	● KSS3-16 J16
M4	7.5						0.47	● KSS3-16 J17
M5	7.5						0.46	● KSS3-16 J18
M5	7.5						0.45	● KSS3-16 J19
M5	7.5						0.44	● KSS3-16 J20
M5	7.5						0.42	● KSS3-16 J22
—	—	122	6.93	12.4	0.71	0.14~0.32	0.56	KSS3-17
M4	7.5						0.55	● KSS3-17 J15
M4	7.5						0.55	● KSS3-17 J16
M4	7.5						0.54	● KSS3-17 J17
M5	7.5						0.52	● KSS3-17 J18
M5	7.5						0.51	● KSS3-17 J19
M5	7.5						0.50	● KSS3-17 J20
M5	7.5						0.48	● KSS3-17 J22
—	—	133	7.87	13.5	0.80	0.14~0.32	0.62	KSS3-18
M4	7.5						0.62	● KSS3-18 J15
M4	7.5						0.61	● KSS3-18 J16
M4	7.5						0.60	● KSS3-18 J17
M5	7.5						0.59	● KSS3-18 J18
M5	7.5						0.58	● KSS3-18 J19
M5	7.5						0.57	● KSS3-18 J20
M5	7.5						0.55	● KSS3-18 J22
—	—	144	8.88	14.7	0.91	0.14~0.32	0.73	KSS3-19
M4*	7.5						0.72	● KSS3-19 J15
M4*	7.5						0.71	● KSS3-19 J16
M4	7.5						0.70	● KSS3-19 J17
M5	7.5						0.69	● KSS3-19 J18
M5	7.5						0.68	● KSS3-19 J19
M5	7.5						0.67	● KSS3-19 J20
M5	7.5						0.65	● KSS3-19 J22
M6	7.5						0.60	● KSS3-19 J25

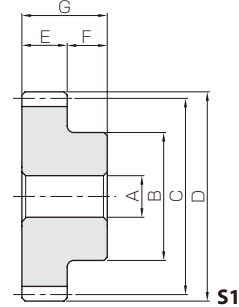


KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

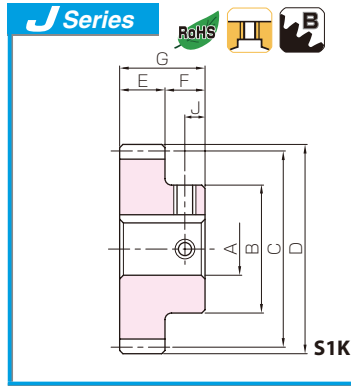


*The precision grade of J Series products is equivalent to the value shown in the table.

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				A _{H7}	B	C	D	E	F	G	H	I	Width×Depth
KSS3-20	m3	20	S1	15	50	60	66	30	15	45	—	—	—
●KSS3-20 J15			S1K	15									5 × 2.3
●KSS3-20 J16			S1K	16									5 × 2.3
●KSS3-20 J17			S1K	17									5 × 2.3
●KSS3-20 J18			S1K	18									6 × 2.8
●KSS3-20 J19			S1K	19									6 × 2.8
●KSS3-20 J20			S1K	20									6 × 2.8
●KSS3-20 J22			S1K	22									6 × 2.8
●KSS3-20 J25			S1K	25									8 × 3.3
●KSS3-20 J28			S1K	28									8 × 3.3
●KSS3-20 J30		S1K	30	8 × 3.3									
KSS3-21		21	S1	15	52	63	69	30	15	45	—	—	—
●KSS3-21 J15			S1K	15									5 × 2.3
●KSS3-21 J16			S1K	16									5 × 2.3
●KSS3-21 J17			S1K	17									5 × 2.3
●KSS3-21 J18			S1K	18									6 × 2.8
●KSS3-21 J19			S1K	19									6 × 2.8
●KSS3-21 J20			S1K	20									6 × 2.8
●KSS3-21 J22			S1K	22									6 × 2.8
●KSS3-21 J25			S1K	25									8 × 3.3
●KSS3-21 J28			S1K	28									8 × 3.3
●KSS3-21 J30		S1K	30	8 × 3.3									
KSS3-22		22	S1	15	54	66	72	30	15	45	—	—	—
●KSS3-22 J15			S1K	15									5 × 2.3
●KSS3-22 J16			S1K	16									5 × 2.3
●KSS3-22 J17			S1K	17									5 × 2.3
●KSS3-22 J18			S1K	18									6 × 2.8
●KSS3-22 J19			S1K	19									6 × 2.8
●KSS3-22 J20			S1K	20									6 × 2.8
●KSS3-22 J22			S1K	22									6 × 2.8
●KSS3-22 J25			S1K	25									8 × 3.3
●KSS3-22 J28			S1K	28									8 × 3.3
●KSS3-22 J30			S1K	30									8 × 3.3
●KSS3-22 J32			S1K	32									10 × 3.3
KSS3-23		23	S1	15	56	69	75	30	15	45	—	—	—
●KSS3-23 J15			S1K	15									5 × 2.3
●KSS3-23 J16	S1K		16	5 × 2.3									
●KSS3-23 J17	S1K		17	5 × 2.3									
●KSS3-23 J18	S1K		18	6 × 2.8									
●KSS3-23 J19	S1K		19	6 × 2.8									
●KSS3-23 J20	S1K		20	6 × 2.8									
●KSS3-23 J22	S1K		22	6 × 2.8									
●KSS3-23 J25	S1K		25	8 × 3.3									
●KSS3-23 J28	S1K		28	8 × 3.3									
●KSS3-23 J30	S1K		30	8 × 3.3									
●KSS3-23 J32	S1K		32	10 × 3.3									
KSS3-24	24	S1	15	58	72	78	30	15	45	—	—	—	
●KSS3-24 J15		S1K	15									5 × 2.3	
●KSS3-24 J16		S1K	16									5 × 2.3	
●KSS3-24 J17		S1K	17									5 × 2.3	
●KSS3-24 J18		S1K	18									6 × 2.8	
●KSS3-24 J19		S1K	19									6 × 2.8	
●KSS3-24 J20		S1K	20									6 × 2.8	
●KSS3-24 J22		S1K	22									6 × 2.8	
●KSS3-24 J25		S1K	25									8 × 3.3	
●KSS3-24 J28		S1K	28									8 × 3.3	
●KSS3-24 J30		S1K	30									8 × 3.3	
●KSS3-24 J32		S1K	32									10 × 3.3	

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

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[Caution on J series]

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② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—							KSS3-20
M4*	7.5	155	9.95	15.8	1.02	0.14~0.32	0.83	●KSS3-20 J15
M4*	7.5							●KSS3-20 J16
M4*	7.5							●KSS3-20 J17
M5	7.5							●KSS3-20 J18
M5	7.5							●KSS3-20 J19
M5	7.5							●KSS3-20 J20
M5	7.5							●KSS3-20 J22
M6	7.5							●KSS3-20 J25
M6	7.5							●KSS3-20 J28
M6	7.5							●KSS3-20 J30
—	—							KSS3-21
M4*	7.5	167	11.1	17.0	1.13	0.18~0.38	0.92	●KSS3-21 J15
M4*	7.5							●KSS3-21 J16
M4*	7.5							●KSS3-21 J17
M5	7.5							●KSS3-21 J18
M5	7.5							●KSS3-21 J19
M5	7.5							●KSS3-21 J20
M5	7.5							●KSS3-21 J22
M6	7.5							●KSS3-21 J25
M6	7.5							●KSS3-21 J28
M6	7.5							●KSS3-21 J30
—	—							KSS3-22
M4*	7.5	178	12.3	18.2	1.25	0.18~0.38	1.01	●KSS3-22 J15
M4*	7.5							●KSS3-22 J16
M4*	7.5							●KSS3-22 J17
M5*	7.5							●KSS3-22 J18
M5*	7.5							●KSS3-22 J19
M5	7.5							●KSS3-22 J20
M5	7.5							●KSS3-22 J22
M6	7.5							●KSS3-22 J25
M6	7.5							●KSS3-22 J28
M6	7.5							●KSS3-22 J30
M8	7.5	●KSS3-22 J32						
—	—							KSS3-23
M4*	7.5	190	13.6	19.4	1.38	0.18~0.38	1.11	●KSS3-23 J15
M4*	7.5							●KSS3-23 J16
M4*	7.5							●KSS3-23 J17
M5*	7.5							●KSS3-23 J18
M5*	7.5							●KSS3-23 J19
M5*	7.5							●KSS3-23 J20
M5	7.5							●KSS3-23 J22
M6	7.5							●KSS3-23 J25
M6	7.5							●KSS3-23 J28
M6	7.5							●KSS3-23 J30
M8	7.5	●KSS3-23 J32						
—	—							KSS3-24
M4*	7.5	202	14.9	20.6	1.52	0.18~0.38	1.21	●KSS3-24 J15
M4*	7.5							●KSS3-24 J16
M4*	7.5							●KSS3-24 J17
M5*	7.5							●KSS3-24 J18
M5*	7.5							●KSS3-24 J19
M5*	7.5							●KSS3-24 J20
M5*	7.5							●KSS3-24 J22
M6	7.5							●KSS3-24 J25
M6	7.5							●KSS3-24 J28
M6	7.5							●KSS3-24 J30
M8	7.5	●KSS3-24 J32						





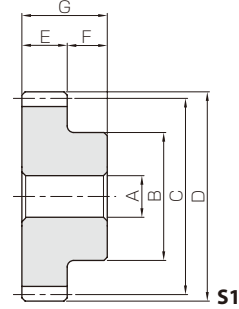
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

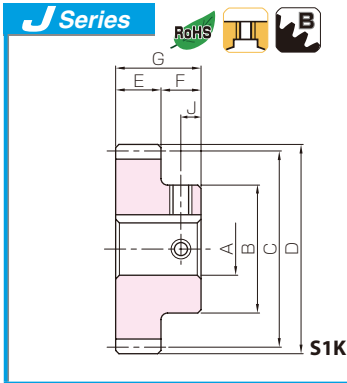


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-25	m3	25	S1	20	60	75	81	30	15	45	—	—	—
●KSS3-25 J20			S1K	20									6 x 2.8
●KSS3-25 J22			S1K	22									6 x 2.8
●KSS3-25 J25			S1K	25									8 x 3.3
●KSS3-25 J28			S1K	28									8 x 3.3
●KSS3-25 J30			S1K	30									8 x 3.3
●KSS3-25 J32			S1K	32									10 x 3.3
●KSS3-25 J35		S1K	35	10 x 3.3									
KSS3-26		26	S1	20	65	78	84	30	15	45	—	—	—
●KSS3-26 J20			S1K	20									6 x 2.8
●KSS3-26 J22			S1K	22									6 x 2.8
●KSS3-26 J25			S1K	25									8 x 3.3
●KSS3-26 J28			S1K	28									8 x 3.3
●KSS3-26 J30			S1K	30									8 x 3.3
●KSS3-26 J32			S1K	32									10 x 3.3
●KSS3-26 J35		S1K	35	10 x 3.3									
KSS3-27		27	S1	20	65	81	87	30	15	45	—	—	—
●KSS3-27 J20			S1K	20									6 x 2.8
●KSS3-27 J22			S1K	22									6 x 2.8
●KSS3-27 J25			S1K	25									8 x 3.3
●KSS3-27 J28			S1K	28									8 x 3.3
●KSS3-27 J30	S1K		30	8 x 3.3									
●KSS3-27 J32	S1K		32	10 x 3.3									
●KSS3-27 J35	S1K	35	10 x 3.3										
KSS3-28	28	S1	20	70	84	90	30	15	45	—	—	—	
●KSS3-28 J20		S1K	20									6 x 2.8	
●KSS3-28 J22		S1K	22									6 x 2.8	
●KSS3-28 J25		S1K	25									8 x 3.3	
●KSS3-28 J28		S1K	28									8 x 3.3	
●KSS3-28 J30		S1K	30									8 x 3.3	
●KSS3-28 J32		S1K	32									10 x 3.3	
●KSS3-28 J35	S1K	35	10 x 3.3										
●KSS3-28 J40	S1K	40	12 x 3.3										
KSS3-29	29	S1	20	70	87	93	30	15	45	—	—	—	
●KSS3-29 J20		S1K	20									6 x 2.8	
●KSS3-29 J22		S1K	22									6 x 2.8	
●KSS3-29 J25		S1K	25									8 x 3.3	
●KSS3-29 J28		S1K	28									8 x 3.3	
●KSS3-29 J30		S1K	30									8 x 3.3	
●KSS3-29 J32		S1K	32									10 x 3.3	
●KSS3-29 J35	S1K	35	10 x 3.3										
●KSS3-29 J40	S1K	40	12 x 3.3										
KSS3-30	30	S1	20	75	90	96	30	15	45	—	—	—	
●KSS3-30 J20		S1K	20									6 x 2.8	
●KSS3-30 J22		S1K	22									6 x 2.8	
●KSS3-30 J25		S1K	25									8 x 3.3	
●KSS3-30 J28		S1K	28									8 x 3.3	
●KSS3-30 J30		S1K	30									8 x 3.3	
●KSS3-30 J32		S1K	32									10 x 3.3	
●KSS3-30 J35	S1K	35	10 x 3.3										
●KSS3-30 J40	S1K	40	12 x 3.3										
●KSS3-30 J45	S1K	45	14 x 3.8										

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	214	16.3	21.8	1.66	0.18~0.38	1.26 1.25 1.23 1.19 1.14 1.11 1.07 1.02	KSS3-25
M5*	7.5							●KSS3-25 J20
M5*	7.5							●KSS3-25 J22
M6	7.5							●KSS3-25 J25
M6	7.5							●KSS3-25 J28
M6	7.5							●KSS3-25 J30
M8	7.5							●KSS3-25 J32
M8	7.5							●KSS3-25 J35
—	—	226	17.7	23.0	1.81	0.18~0.38	1.41 1.39 1.37 1.33 1.28 1.25 1.21 1.16	KSS3-26
M5*	7.5							●KSS3-26 J20
M5*	7.5							●KSS3-26 J22
M6	7.5							●KSS3-26 J25
M6	7.5							●KSS3-26 J28
M6	7.5							●KSS3-26 J30
M8	7.5							●KSS3-26 J32
M8	7.5							●KSS3-26 J35
—	—	237	19.2	24.2	1.96	0.18~0.38	1.49 1.48 1.46 1.42 1.37 1.34 1.30 1.25	KSS3-27
M5*	7.5							●KSS3-27 J20
M5*	7.5							●KSS3-27 J22
M6	7.5							●KSS3-27 J25
M6	7.5							●KSS3-27 J28
M6	7.5							●KSS3-27 J30
M8	7.5							●KSS3-27 J32
M8	7.5							●KSS3-27 J35
—	—	250	20.7	25.4	2.11	0.18~0.38	1.65 1.63 1.61 1.57 1.52 1.49 1.45 1.40 1.29	KSS3-28
M5*	7.5							●KSS3-28 J20
M5*	7.5							●KSS3-28 J22
M6*	7.5							●KSS3-28 J25
M6*	7.5							●KSS3-28 J28
M6	7.5							●KSS3-28 J30
M8	7.5							●KSS3-28 J32
M8	7.5							●KSS3-28 J35
M8	7.5	●KSS3-28 J40						
—	—	262	22.3	26.7	2.27	0.18~0.38	1.74 1.73 1.70 1.66 1.62 1.59 1.55 1.49 1.39	KSS3-29
M5*	7.5							●KSS3-29 J20
M5*	7.5							●KSS3-29 J22
M6*	7.5							●KSS3-29 J25
M6*	7.5							●KSS3-29 J28
M6	7.5							●KSS3-29 J30
M8	7.5							●KSS3-29 J32
M8	7.5							●KSS3-29 J35
M8	7.5	●KSS3-29 J40						
—	—	274	24.0	27.9	2.44	0.18~0.38	1.91 1.89 1.87 1.82 1.78 1.75 1.71 1.66 1.55 1.43	KSS3-30
M5*	7.5							●KSS3-30 J20
M5*	7.5							●KSS3-30 J22
M6*	7.5							●KSS3-30 J25
M6*	7.5							●KSS3-30 J28
M6*	7.5							●KSS3-30 J30
M8	7.5							●KSS3-30 J32
M8	7.5							●KSS3-30 J35
M8	7.5							●KSS3-30 J40
M10	7.5							●KSS3-30 J45

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**





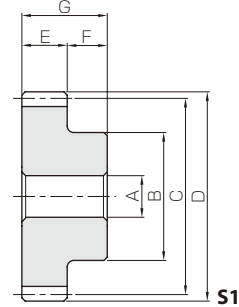
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

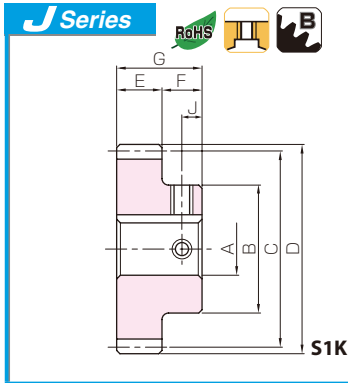


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-32	m3	32	S1	20	75	96	102	30	15	45	—	—	—
● KSS3-32 J20			S1K	20									6 x 2.8
● KSS3-32 J22			S1K	22									6 x 2.8
● KSS3-32 J25			S1K	25									8 x 3.3
● KSS3-32 J28			S1K	28									8 x 3.3
● KSS3-32 J30			S1K	30									8 x 3.3
● KSS3-32 J32			S1K	32									10 x 3.3
● KSS3-32 J35			S1K	35									10 x 3.3
● KSS3-32 J40			S1K	40									12 x 3.3
● KSS3-32 J45			S1K	45									14 x 3.8
KSS3-34		34	S1	20	80	102	108	30	15	45	—	—	—
● KSS3-34 J20			S1K	20									6 x 2.8
● KSS3-34 J22			S1K	22									6 x 2.8
● KSS3-34 J25			S1K	25									8 x 3.3
● KSS3-34 J28			S1K	28									8 x 3.3
● KSS3-34 J30			S1K	30									8 x 3.3
● KSS3-34 J32			S1K	32									10 x 3.3
● KSS3-34 J35			S1K	35									10 x 3.3
● KSS3-34 J40			S1K	40									12 x 3.3
● KSS3-34 J45			S1K	45									14 x 3.8
KSS3-35		35	S1	20	80	105	111	30	15	45	—	—	—
● KSS3-35 J20			S1K	20									6 x 2.8
● KSS3-35 J22			S1K	22									6 x 2.8
● KSS3-35 J25			S1K	25									8 x 3.3
● KSS3-35 J28			S1K	28									8 x 3.3
● KSS3-35 J30			S1K	30									8 x 3.3
● KSS3-35 J32			S1K	32									10 x 3.3
● KSS3-35 J35			S1K	35									10 x 3.3
● KSS3-35 J40			S1K	40									12 x 3.3
● KSS3-35 J45			S1K	45									14 x 3.8
KSS3-36		36	S1	20	80	108	114	30	15	45	—	—	—
● KSS3-36 J20			S1K	20									6 x 2.8
● KSS3-36 J22			S1K	22									6 x 2.8
● KSS3-36 J25			S1K	25									8 x 3.3
● KSS3-36 J28			S1K	28									8 x 3.3
● KSS3-36 J30			S1K	30									8 x 3.3
● KSS3-36 J32			S1K	32									10 x 3.3
● KSS3-36 J35			S1K	35									10 x 3.3
● KSS3-36 J40			S1K	40									12 x 3.3
● KSS3-36 J45			S1K	45									14 x 3.8
KSS3-38		38	S1	25	80	114	120	30	15	45	—	—	—
● KSS3-38 J25			S1K	25									8 x 3.3
● KSS3-38 J28			S1K	28									8 x 3.3
● KSS3-38 J30			S1K	30									8 x 3.3
● KSS3-38 J32			S1K	32									10 x 3.3
● KSS3-38 J35	S1K		35	10 x 3.3									
● KSS3-38 J40	S1K		40	12 x 3.3									
● KSS3-38 J45	S1K	45	14 x 3.8										

*Please see book one for additional products in these modules.

No. of Teeth available



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	298	27.4	30.4	2.80	0.18~0.38	2.11 2.10 2.07 2.03 1.99 1.96 1.92 1.86 1.76 1.63	KSS3-32 ●KSS3-32 J20 ●KSS3-32 J22 ●KSS3-32 J25 ●KSS3-32 J28 ●KSS3-32 J30 ●KSS3-32 J32 ●KSS3-32 J35 ●KSS3-32 J40 ●KSS3-32 J45
M5*	7.5							
M5*	7.5							
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	323	31.2	32.9	3.18	0.18~0.38	2.41 2.38 2.36 2.32 2.28 2.25 2.21 2.15 2.05 1.92	KSS3-34 ●KSS3-34 J20 ●KSS3-34 J22 ●KSS3-34 J25 ●KSS3-34 J28 ●KSS3-34 J30 ●KSS3-34 J32 ●KSS3-34 J35 ●KSS3-34 J40 ●KSS3-34 J45
M5*	7.5							
M5*	7.5							
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	335	33.1	34.2	3.38	0.18~0.38	2.52 2.50 2.48 2.44 2.39 2.36 2.32 2.27 2.16 2.04	KSS3-35 ●KSS3-35 J20 ●KSS3-35 J22 ●KSS3-35 J25 ●KSS3-35 J28 ●KSS3-35 J30 ●KSS3-35 J32 ●KSS3-35 J35 ●KSS3-35 J40 ●KSS3-35 J45
M5*	7.5							
M5*	7.5							
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	348	35.2	35.5	3.59	0.18~0.38	2.64 2.62 2.60 2.55 2.51 2.48 2.44 2.39 2.28 2.16	KSS3-36 ●KSS3-36 J20 ●KSS3-36 J22 ●KSS3-36 J25 ●KSS3-36 J28 ●KSS3-36 J30 ●KSS3-36 J32 ●KSS3-36 J35 ●KSS3-36 J40 ●KSS3-36 J45
M5*	7.5							
M5*	7.5							
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	373	39.4	38.0	4.02	0.18~0.38	2.82 2.80 2.76 2.73 2.69 2.63 2.53 2.40	KSS3-38 ●KSS3-38 J25 ●KSS3-38 J28 ●KSS3-38 J30 ●KSS3-38 J32 ●KSS3-38 J35 ●KSS3-38 J40 ●KSS3-38 J45
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M10	7.5							

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.



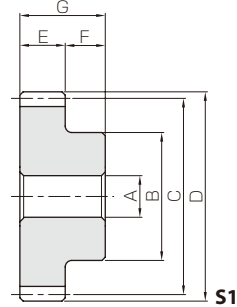
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



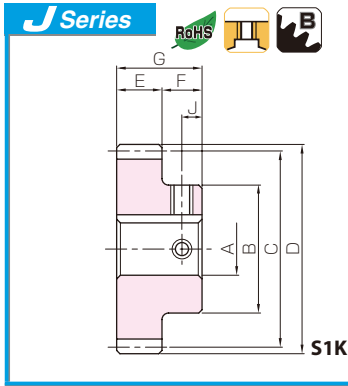
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-40 ● KSS3-40 J25 ● KSS3-40 J28 ● KSS3-40 J30 ● KSS3-40 J32 ● KSS3-40 J35 ● KSS3-40 J40 ● KSS3-40 J45	m3	40	S1	25	80	120	126	30	15	45	—	—	—
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									12 x 3.3
S1K	45	14 x 3.8											
KSS3-42 ● KSS3-42 J25 ● KSS3-42 J28 ● KSS3-42 J30 ● KSS3-42 J32 ● KSS3-42 J35 ● KSS3-42 J40 ● KSS3-42 J45	m3	42	S1	25	80	126	132	30	15	45	—	—	—
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									12 x 3.3
S1K	45	14 x 3.8											
KSS3-44 ● KSS3-44 J25 ● KSS3-44 J28 ● KSS3-44 J30 ● KSS3-44 J32 ● KSS3-44 J35 ● KSS3-44 J40 ● KSS3-44 J45	m3	44	S1	25	80	132	138	30	15	45	—	—	—
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									12 x 3.3
S1K	45	14 x 3.8											
KSS3-45 ● KSS3-45 J25 ● KSS3-45 J28 ● KSS3-45 J30 ● KSS3-45 J32 ● KSS3-45 J35 ● KSS3-45 J40 ● KSS3-45 J45	m3	45	S1	25	80	135	141	30	15	45	—	—	—
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									12 x 3.3
S1K	45	14 x 3.8											
KSS3-46 ● KSS3-46 J25 ● KSS3-46 J28 ● KSS3-46 J30 ● KSS3-46 J32 ● KSS3-46 J35 ● KSS3-46 J40 ● KSS3-46 J45	m3	46	S1	25	80	138	144	30	15	45	—	—	—
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									12 x 3.3
S1K	45	14 x 3.8											
KSS3-48 ● KSS3-48 J25 ● KSS3-48 J28 ● KSS3-48 J30 ● KSS3-48 J32 ● KSS3-48 J35 ● KSS3-48 J40 ● KSS3-48 J45	m3	48	S1	25	80	144	150	30	15	45	—	—	—
			S1K	25									8 x 3.3
			S1K	28									8 x 3.3
			S1K	30									8 x 3.3
			S1K	32									10 x 3.3
			S1K	35									10 x 3.3
			S1K	40									12 x 3.3
S1K	45	14 x 3.8											

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	34	35	36	38	40	42	44	45	46	48	50	52	54	55	56	58	60	62	64	65	66	68	70	72	75	76
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	—	KSS3-40
M6*	7.5	398	44.0	40.6	4.49	0.18~0.38	3.08	● KSS3-40 J25
M6*	7.5							● KSS3-40 J28
M6*	7.5							● KSS3-40 J30
M8	7.5							● KSS3-40 J32
M8	7.5							● KSS3-40 J35
M8	7.5							● KSS3-40 J40
M10	7.5							● KSS3-40 J45
—	—	—	—	—	—	—	—	KSS3-42
M6*	7.5	423	48.9	43.2	4.98	0.20~0.44	3.35	● KSS3-42 J25
M6*	7.5							● KSS3-42 J28
M6*	7.5							● KSS3-42 J30
M8	7.5							● KSS3-42 J32
M8	7.5							● KSS3-42 J35
M8	7.5							● KSS3-42 J40
M10	7.5							● KSS3-42 J45
—	—	—	—	—	—	—	—	KSS3-44
M6*	7.5	449	54.0	45.7	5.50	0.20~0.44	3.64	● KSS3-44 J25
M6*	7.5							● KSS3-44 J28
M6*	7.5							● KSS3-44 J30
M8	7.5							● KSS3-44 J32
M8	7.5							● KSS3-44 J35
M8	7.5							● KSS3-44 J40
M10	7.5							● KSS3-44 J45
—	—	—	—	—	—	—	—	KSS3-45
M6*	7.5	461	56.6	47.0	5.78	0.20~0.44	3.79	● KSS3-45 J25
M6*	7.5							● KSS3-45 J28
M6*	7.5							● KSS3-45 J30
M8	7.5							● KSS3-45 J32
M8	7.5							● KSS3-45 J35
M8	7.5							● KSS3-45 J40
M10	7.5							● KSS3-45 J45
—	—	—	—	—	—	—	—	KSS3-46
M6*	7.5	474	59.4	48.3	6.05	0.20~0.44	3.94	● KSS3-46 J25
M6*	7.5							● KSS3-46 J28
M6*	7.5							● KSS3-46 J30
M8	7.5							● KSS3-46 J32
M8	7.5							● KSS3-46 J35
M8	7.5							● KSS3-46 J40
M10	7.5							● KSS3-46 J45
—	—	—	—	—	—	—	—	KSS3-48
M6*	7.5	500	65.0	50.9	6.63	0.20~0.44	4.25	● KSS3-48 J25
M6*	7.5							● KSS3-48 J28
M6*	7.5							● KSS3-48 J30
M8	7.5							● KSS3-48 J32
M8	7.5							● KSS3-48 J35
M8	7.5							● KSS3-48 J40
M10	7.5							● KSS3-48 J45

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

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- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.



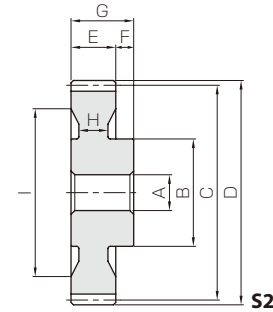
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

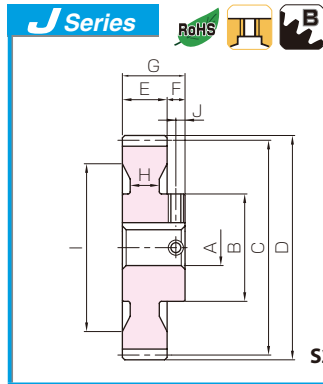


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

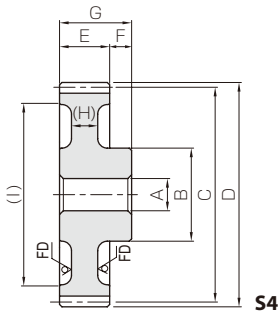
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-50	m3	50	S4	25	80	150	156	30	15	45	(10)	(123)	—
● KSS3-50 J25			S4K	25									8 x 3.3
● KSS3-50 J28			S4K	28									8 x 3.3
● KSS3-50 J30			S4K	30									8 x 3.3
● KSS3-50 J32			S4K	32									10 x 3.3
● KSS3-50 J35			S4K	35									10 x 3.3
● KSS3-50 J40			S4K	40									12 x 3.3
● KSS3-50 J45		S4K	45	14 x 3.8									
KSS3-52		52	S2	25	80	156	162	30	15	45	16	126	—
● KSS3-52 J25			S2K	25									8 x 3.3
● KSS3-52 J28			S2K	28									8 x 3.3
● KSS3-52 J30			S2K	30									8 x 3.3
● KSS3-52 J32			S2K	32									10 x 3.3
● KSS3-52 J35			S2K	35									10 x 3.3
● KSS3-52 J40			S2K	40									12 x 3.3
● KSS3-52 J45		S2K	45	14 x 3.8									
KSS3-54		54	S2	25	80	162	168	30	15	45	16	132	—
● KSS3-54 J25			S2K	25									8 x 3.3
● KSS3-54 J28			S2K	28									8 x 3.3
● KSS3-54 J30			S2K	30									8 x 3.3
● KSS3-54 J32			S2K	32									10 x 3.3
● KSS3-54 J35			S2K	35									10 x 3.3
● KSS3-54 J40			S2K	40									12 x 3.3
● KSS3-54 J45		S2K	45	14 x 3.8									
KSS3-55	55	S2	25	80	165	171	30	15	45	16	131	—	
● KSS3-55 J25		S2K	25									8 x 3.3	
● KSS3-55 J28		S2K	28									8 x 3.3	
● KSS3-55 J30		S2K	30									8 x 3.3	
● KSS3-55 J32		S2K	32									10 x 3.3	
● KSS3-55 J35		S2K	35									10 x 3.3	
● KSS3-55 J40		S2K	40									12 x 3.3	
● KSS3-55 J45	S2K	45	14 x 3.8										
KSS3-56	56	S2	25	80	168	174	30	15	45	16	134	—	
● KSS3-56 J25		S2K	25									8 x 3.3	
● KSS3-56 J28		S2K	28									8 x 3.3	
● KSS3-56 J30		S2K	30									8 x 3.3	
● KSS3-56 J32		S2K	32									10 x 3.3	
● KSS3-56 J35		S2K	35									10 x 3.3	
● KSS3-56 J40		S2K	40									12 x 3.3	
● KSS3-56 J45	S2K	45	14 x 3.8										
KSS3-58	58	S2	25	80	174	180	30	15	45	16	144	—	
● KSS3-58 J25		S2K	25									8 x 3.3	
● KSS3-58 J28		S2K	28									8 x 3.3	
● KSS3-58 J30		S2K	30									8 x 3.3	
● KSS3-58 J32		S2K	32									10 x 3.3	
● KSS3-58 J35		S2K	35									10 x 3.3	
● KSS3-58 J40		S2K	40									12 x 3.3	
● KSS3-58 J45	S2K	45	14 x 3.8										

*Please see book one for additional products in these modules.

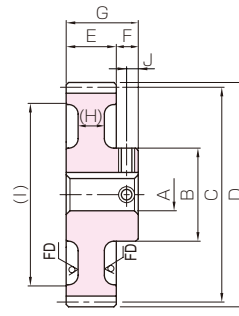
No. of Teeth available



Steel Spur Gears



S4



S4K

* FD has die-forged finish.

* FD has die-forged finish.

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	—	KSS3-50
M6*	7.5	525	70.9	53.6	7.23	0.20~0.44	3.72 3.70 3.65 3.62 3.58 3.53 3.43 3.30	● KSS3-50 J25
M6*	7.5							● KSS3-50 J28
M6*	7.5							● KSS3-50 J30
M8	7.5							● KSS3-50 J32
M8	7.5							● KSS3-50 J35
M8	7.5							● KSS3-50 J40
M10	7.5							● KSS3-50 J45
—	—	—	—	—	—	—	—	KSS3-52
M6*	7.5	551	77.1	56.2	7.86	0.20~0.44	4.38 4.36 4.31 4.28 4.24 4.19 4.08 3.96	● KSS3-52 J25
M6*	7.5							● KSS3-52 J28
M6*	7.5							● KSS3-52 J30
M8	7.5							● KSS3-52 J32
M8	7.5							● KSS3-52 J35
M8	7.5							● KSS3-52 J40
M10	7.5							● KSS3-52 J45
—	—	—	—	—	—	—	—	KSS3-54
M6*	7.5	577	83.6	58.8	8.52	0.20~0.44	4.61 4.59 4.55 4.52 4.48 4.42 4.32 4.19	● KSS3-54 J25
M6*	7.5							● KSS3-54 J28
M6*	7.5							● KSS3-54 J30
M8	7.5							● KSS3-54 J32
M8	7.5							● KSS3-54 J35
M8	7.5							● KSS3-54 J40
M10	7.5							● KSS3-54 J45
—	—	—	—	—	—	—	—	KSS3-55
M6*	7.5	590	86.9	60.1	8.86	0.20~0.44	4.81 4.79 4.75 4.72 4.68 4.62 4.52 4.39	● KSS3-55 J25
M6*	7.5							● KSS3-55 J28
M6*	7.5							● KSS3-55 J30
M8	7.5							● KSS3-55 J32
M8	7.5							● KSS3-55 J35
M8	7.5							● KSS3-55 J40
M10	7.5							● KSS3-55 J45
—	—	—	—	—	—	—	—	KSS3-56
M6*	7.5	602	90.3	61.4	9.21	0.20~0.44	4.94 4.91 4.87 4.84 4.80 4.75 4.64 4.52	● KSS3-56 J25
M6*	7.5							● KSS3-56 J28
M6*	7.5							● KSS3-56 J30
M8	7.5							● KSS3-56 J32
M8	7.5							● KSS3-56 J35
M8	7.5							● KSS3-56 J40
M10	7.5							● KSS3-56 J45
—	—	—	—	—	—	—	—	KSS3-58
M6*	7.5	628	97.3	64.1	9.92	0.20~0.44	5.10 5.08 5.04 5.00 4.97 4.91 4.81 4.68	● KSS3-58 J25
M6*	7.5							● KSS3-58 J28
M6*	7.5							● KSS3-58 J30
M8	7.5							● KSS3-58 J32
M8	7.5							● KSS3-58 J35
M8	7.5							● KSS3-58 J40
M10	7.5							● KSS3-58 J45

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

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- ⑥ For products having a tapped hole, a set screw is included.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products



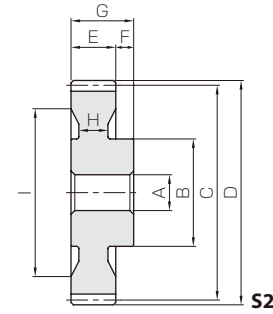
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

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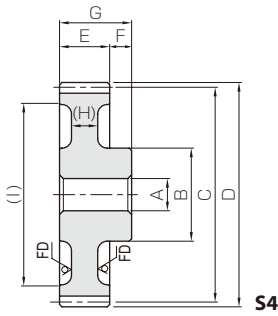
- Spur Gears
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- Miter Gears
- Bevel Gears
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- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-60 ● KSS3-60 J25 ● KSS3-60 J28 ● KSS3-60 J30 ● KSS3-60 J32 ● KSS3-60 J35 ● KSS3-60 J40 ● KSS3-60 J45	m3	60	S4	25	80	180	186	30	15	45	(10)	(153)	—
			S4K	25									8 x 3.3
			S4K	28									8 x 3.3
			S4K	30									8 x 3.3
			S4K	32									10 x 3.3
			S4K	35									10 x 3.3
			S4K	40									12 x 3.3
S4K	45	14 x 3.8											
KSS3-62 ● KSS3-62 J25 ● KSS3-62 J28 ● KSS3-62 J30 ● KSS3-62 J32 ● KSS3-62 J35 ● KSS3-62 J40 ● KSS3-62 J45	62	62	S2	25	80	186	192	30	15	45	16	150	—
			S2K	25									8 x 3.3
			S2K	28									8 x 3.3
			S2K	30									8 x 3.3
			S2K	32									10 x 3.3
			S2K	35									10 x 3.3
			S2K	40									12 x 3.3
S2K	45	14 x 3.8											
KSS3-64 ● KSS3-64 J25 ● KSS3-64 J28 ● KSS3-64 J30 ● KSS3-64 J32 ● KSS3-64 J35 ● KSS3-64 J40 ● KSS3-64 J45	64	64	S2	25	80	192	198	30	15	45	16	158	—
			S2K	25									8 x 3.3
			S2K	28									8 x 3.3
			S2K	30									8 x 3.3
			S2K	32									10 x 3.3
			S2K	35									10 x 3.3
			S2K	40									12 x 3.3
S2K	45	14 x 3.8											
KSS3-65 ● KSS3-65 J25 ● KSS3-65 J28 ● KSS3-65 J30 ● KSS3-65 J32 ● KSS3-65 J35 ● KSS3-65 J40 ● KSS3-65 J45	65	65	S2	25	80	195	201	30	15	45	16	161	—
			S2K	25									8 x 3.3
			S2K	28									8 x 3.3
			S2K	30									8 x 3.3
			S2K	32									10 x 3.3
			S2K	35									10 x 3.3
			S2K	40									12 x 3.3
S2K	45	14 x 3.8											
KSS3-66 ● KSS3-66 J25 ● KSS3-66 J28 ● KSS3-66 J30 ● KSS3-66 J32 ● KSS3-66 J35 ● KSS3-66 J40 ● KSS3-66 J45 ● KSS3-66 J50	66	66	S2	25	90	198	204	30	15	45	16	160	—
			S2K	25									8 x 3.3
			S2K	28									8 x 3.3
			S2K	30									8 x 3.3
			S2K	32									10 x 3.3
			S2K	35									10 x 3.3
			S2K	40									12 x 3.3
S2K	45	14 x 3.8											
S2K	50	14 x 3.8											
KSS3-68 ● KSS3-68 J25 ● KSS3-68 J28 ● KSS3-68 J30 ● KSS3-68 J32 ● KSS3-68 J35 ● KSS3-68 J40 ● KSS3-68 J45 ● KSS3-68 J50	68	68	S2	25	90	204	210	30	15	45	16	170	—
			S2K	25									8 x 3.3
			S2K	28									8 x 3.3
			S2K	30									8 x 3.3
			S2K	32									10 x 3.3
			S2K	35									10 x 3.3
			S2K	40									12 x 3.3
S2K	45	14 x 3.8											
S2K	50	14 x 3.8											

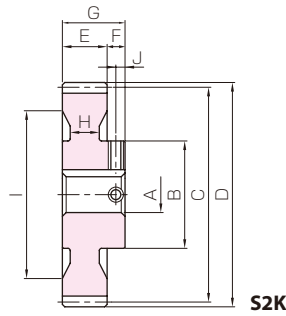
No. of Teeth available



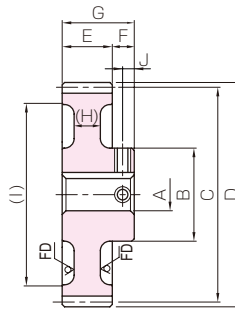
Steel Spur Gears



S4



S2K



S4K

* FD has die-forged finish.



* FD has die-forged finish.

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	654	105	66.7	10.7	0.20~0.44	4.60 4.58 4.53 4.50 4.46 4.41 4.31 4.18	KSS3-60 ●KSS3-60 J25 ●KSS3-60 J28 ●KSS3-60 J30 ●KSS3-60 J32 ●KSS3-60 J35 ●KSS3-60 J40 ●KSS3-60 J45
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	680	112	69.4	11.4	0.20~0.44	5.76 5.74 5.70 5.66 5.63 5.57 5.47 5.34	KSS3-62 ●KSS3-62 J25 ●KSS3-62 J28 ●KSS3-62 J30 ●KSS3-62 J32 ●KSS3-62 J35 ●KSS3-62 J40 ●KSS3-62 J45
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	588	99.9	60.0	10.2	0.20~0.44	5.99 5.96 5.92 5.89 5.85 5.80 5.69 5.57	KSS3-64 ●KSS3-64 J25 ●KSS3-64 J28 ●KSS3-64 J30 ●KSS3-64 J32 ●KSS3-64 J35 ●KSS3-64 J40 ●KSS3-64 J45
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	599	103	61.1	10.5	0.20~0.44	6.13 6.10 6.06 6.03 5.99 5.94 5.83 5.71	KSS3-65 ●KSS3-65 J25 ●KSS3-65 J28 ●KSS3-65 J30 ●KSS3-65 J32 ●KSS3-65 J35 ●KSS3-65 J40 ●KSS3-65 J45
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8	7.5							
M8	7.5							
M8	7.5							
M10	7.5							
—	—	610	107	62.2	10.9	0.20~0.44	6.67 6.65 6.60 6.57 6.53 6.48 6.38 6.25 6.12	KSS3-66 ●KSS3-66 J25 ●KSS3-66 J28 ●KSS3-66 J30 ●KSS3-66 J32 ●KSS3-66 J35 ●KSS3-66 J40 ●KSS3-66 J45 ●KSS3-66 J50
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8*	7.5							
M8*	7.5							
M8	7.5							
M10	7.5							
M10	7.5							
—	—	632	114	64.4	11.6	0.20~0.44	6.86 6.83 6.79 6.76 6.71 6.66 6.56 6.43 6.30	KSS3-68 ●KSS3-68 J25 ●KSS3-68 J28 ●KSS3-68 J30 ●KSS3-68 J32 ●KSS3-68 J35 ●KSS3-68 J40 ●KSS3-68 J45 ●KSS3-68 J50
M6*	7.5							
M6*	7.5							
M6*	7.5							
M8*	7.5							
M8*	7.5							
M8	7.5							
M10	7.5							
M10	7.5							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products



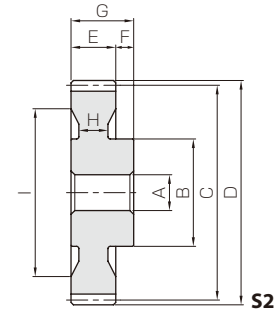
KSS Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



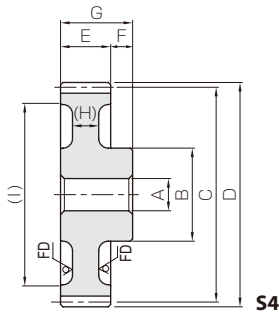
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-70	m3	70	S2	25	90	210	216	30	15	45	16	176	—
●KSS3-70 J25			S2K	25									8 x 3.3
●KSS3-70 J28			S2K	28									8 x 3.3
●KSS3-70 J30			S2K	30									8 x 3.3
●KSS3-70 J32			S2K	32									10 x 3.3
●KSS3-70 J35			S2K	35									10 x 3.3
●KSS3-70 J40			S2K	40									12 x 3.3
●KSS3-70 J45			S2K	45									14 x 3.8
●KSS3-70 J50			S2K	50									14 x 3.8
KSS3-72			72	S2									25
●KSS3-72 J25		S2K		25	8 x 3.3								
●KSS3-72 J28		S2K		28	8 x 3.3								
●KSS3-72 J30		S2K		30	8 x 3.3								
●KSS3-72 J32		S2K		32	10 x 3.3								
●KSS3-72 J35		S2K		35	10 x 3.3								
●KSS3-72 J40		S2K		40	12 x 3.3								
●KSS3-72 J45		S2K		45	14 x 3.8								
●KSS3-72 J50		S2K		50	14 x 3.8								
KSS3-75		75		S2	25	90	225	231	30	15	45	16	190
●KSS3-75 J25			S2K	25	8 x 3.3								
●KSS3-75 J28			S2K	28	8 x 3.3								
●KSS3-75 J30			S2K	30	8 x 3.3								
●KSS3-75 J32			S2K	32	10 x 3.3								
●KSS3-75 J35			S2K	35	10 x 3.3								
●KSS3-75 J40			S2K	40	12 x 3.3								
●KSS3-75 J45			S2K	45	14 x 3.8								
●KSS3-75 J50			S2K	50	14 x 3.8								
KSS3-76			76	S2	25								
●KSS3-76 J25	S2K	25		8 x 3.3									
●KSS3-76 J28	S2K	28		8 x 3.3									
●KSS3-76 J30	S2K	30		8 x 3.3									
●KSS3-76 J32	S2K	32		10 x 3.3									
●KSS3-76 J35	S2K	35		10 x 3.3									
●KSS3-76 J40	S2K	40		12 x 3.3									
●KSS3-76 J45	S2K	45		14 x 3.8									
●KSS3-76 J50	S2K	50		14 x 3.8									
KSS3-80	80	S4		30	90	240	246	30	15	45	(10)	(213)	—
●KSS3-80 J30		S4K	30	8 x 3.3									
●KSS3-80 J32		S4K	32	10 x 3.3									
●KSS3-80 J35		S4K	35	10 x 3.3									
●KSS3-80 J40		S4K	40	12 x 3.3									
●KSS3-80 J45		S4K	45	14 x 3.8									
●KSS3-80 J50	S4K	50	14 x 3.8										
KSS3-90	90	S2	30	100	270	276	30	15	45	16	240	—	
●KSS3-90 J30		S2K	30									8 x 3.3	
●KSS3-90 J32		S2K	32									10 x 3.3	
●KSS3-90 J35		S2K	35									10 x 3.3	
●KSS3-90 J40		S2K	40									12 x 3.3	
●KSS3-90 J45		S2K	45									14 x 3.8	
●KSS3-90 J50	S2K	50	14 x 3.8										

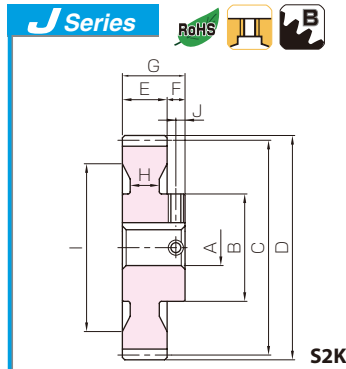
No. of Teeth available



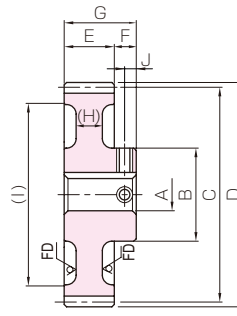
Steel Spur Gears



S4



S2K



S4K

* FD has die-forged finish.



* FD has die-forged finish.

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	—	—	—	—	—	7.15	KSS3-70
M6*	7.5	—	—	—	—	—	7.13	● KSS3-70 J25
M6*	7.5	—	—	—	—	—	7.08	● KSS3-70 J28
M6*	7.5	—	—	—	—	—	7.05	● KSS3-70 J30
M8*	7.5	654	121	66.6	12.4	0.20~0.44	7.01	● KSS3-70 J32
M8*	7.5	—	—	—	—	—	6.96	● KSS3-70 J35
M8	7.5	—	—	—	—	—	6.86	● KSS3-70 J40
M10	7.5	—	—	—	—	—	6.73	● KSS3-70 J45
M10	7.5	—	—	—	—	—	6.60	● KSS3-70 J50
—	—	—	—	—	—	—	7.46	KSS3-72
M6*	7.5	—	—	—	—	—	7.43	● KSS3-72 J25
M6*	7.5	—	—	—	—	—	7.39	● KSS3-72 J28
M6*	7.5	—	—	—	—	—	7.35	● KSS3-72 J30
M8*	7.5	675	129	68.9	13.1	0.20~0.44	7.31	● KSS3-72 J32
M8*	7.5	—	—	—	—	—	7.26	● KSS3-72 J35
M8	7.5	—	—	—	—	—	7.16	● KSS3-72 J40
M10	7.5	—	—	—	—	—	7.03	● KSS3-72 J45
M10	7.5	—	—	—	—	—	6.90	● KSS3-72 J50
—	—	—	—	—	—	—	7.95	KSS3-75
M6*	7.5	—	—	—	—	—	7.92	● KSS3-75 J25
M6*	7.5	—	—	—	—	—	7.88	● KSS3-75 J28
M6*	7.5	—	—	—	—	—	7.85	● KSS3-75 J30
M8*	7.5	708	141	72.2	14.3	0.20~0.44	7.81	● KSS3-75 J32
M8*	7.5	—	—	—	—	—	7.75	● KSS3-75 J35
M8	7.5	—	—	—	—	—	7.65	● KSS3-75 J40
M10	7.5	—	—	—	—	—	7.53	● KSS3-75 J45
M10	7.5	—	—	—	—	—	7.40	● KSS3-75 J50
—	—	—	—	—	—	—	8.20	KSS3-76
M6*	7.5	—	—	—	—	—	8.18	● KSS3-76 J25
M6*	7.5	—	—	—	—	—	8.13	● KSS3-76 J28
M6*	7.5	—	—	—	—	—	8.10	● KSS3-76 J30
M8*	7.5	719	145	73.3	14.8	0.20~0.44	8.06	● KSS3-76 J32
M8*	7.5	—	—	—	—	—	8.00	● KSS3-76 J35
M8	7.5	—	—	—	—	—	7.91	● KSS3-76 J40
M10	7.5	—	—	—	—	—	7.78	● KSS3-76 J45
M10	7.5	—	—	—	—	—	7.65	● KSS3-76 J50
—	—	—	—	—	—	—	6.92	KSS3-80
M6*	7.5	—	—	—	—	—	6.82	● KSS3-80 J30
M8*	7.5	—	—	—	—	—	6.78	● KSS3-80 J32
M8*	7.5	763	162	77.8	16.5	0.20~0.44	6.72	● KSS3-80 J35
M8	7.5	—	—	—	—	—	6.62	● KSS3-80 J40
M10	7.5	—	—	—	—	—	6.49	● KSS3-80 J45
M10	7.5	—	—	—	—	—	6.37	● KSS3-80 J50
—	—	—	—	—	—	—	10.6	KSS3-90
M6*	7.5	—	—	—	—	—	10.6	● KSS3-90 J30
M8*	7.5	—	—	—	—	—	10.5	● KSS3-90 J32
M8*	7.5	872	208	89.0	21.2	0.26~0.52	10.5	● KSS3-90 J35
M8*	7.5	—	—	—	—	—	10.4	● KSS3-90 J40
M10	7.5	—	—	—	—	—	10.2	● KSS3-90 J45
M10	7.5	—	—	—	—	—	10.1	● KSS3-90 J50

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ Areas of products which have been re-worked will not be black oxide coated.

⑥ For products having a tapped hole, a set screw is included.

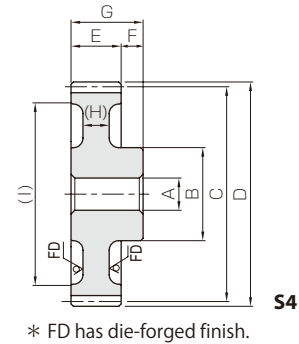
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



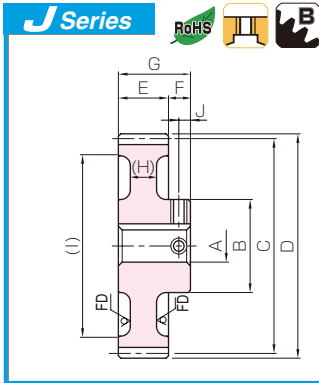
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	Keyway
				AH7	B	C	D	E	F	G	H	I	Width×Depth
KSS3-100	m3	100	S4	30	100	300	306	30	15	45	(10)	(273)	—
● KSS3-100 J30			S4K	30									8 x 3.3
● KSS3-100 J32			S4K	32									10 x 3.3
● KSS3-100 J35			S4K	35									10 x 3.3
● KSS3-100 J40			S4K	40									12 x 3.3
● KSS3-100 J45			S4K	45									14 x 3.8
● KSS3-100 J50		S4K	50	14 x 3.8									
KSS3-120		120	S4	30	130	360	366	30	15	45	(10)	(333)	—
● KSS3-120 J30			S4K	30									8 x 3.3
● KSS3-120 J32			S4K	32									10 x 3.3
● KSS3-120 J35			S4K	35									10 x 3.3
● KSS3-120 J40			S4K	40									12 x 3.3
● KSS3-120 J45			S4K	45									14 x 3.8
● KSS3-120 J50		S4K	50	14 x 3.8									

[Caution on Product Characteristics] ① Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

***Please see book one for additional products in these modules.**

*** For products not categorized in our KHK Stock Gear series', custom gear production services with **short lead times** is available. For details see page VI.**



Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	983	261	100	26.6	0.26~0.52	10.78	KSS3-100
M6*	7.5						10.7	● KSS3-100 J30
M8*	7.5						10.6	● KSS3-100 J32
M8*	7.5						10.6	● KSS3-100 J35
M8*	7.5						10.5	● KSS3-100 J40
M10	7.5						10.3	● KSS3-100 J45
M10	7.5	10.2	● KSS3-100 J50					
—	—	1200	386	123	39.4	0.26~0.52	15.7	KSS3-120
M6*	7.5						15.5	● KSS3-120 J30
M8*	7.5						15.5	● KSS3-120 J32
M8*	7.5						15.4	● KSS3-120 J35
M8*	7.5						15.3	● KSS3-120 J40
M10*	7.5						15.2	● KSS3-120 J45
M10*	7.5	15.1	● KSS3-120 J50					

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ Areas of products which have been re-worked will not be black oxide coated.
- ⑥ For products having a tapped hole, a set screw is included.

KGCU-S Spur Gear Kit



Installment : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.





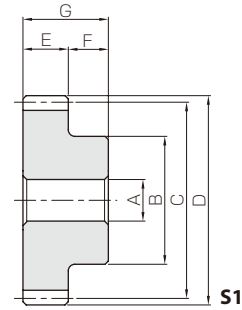
KSS Steel Spur Gears

Module 4



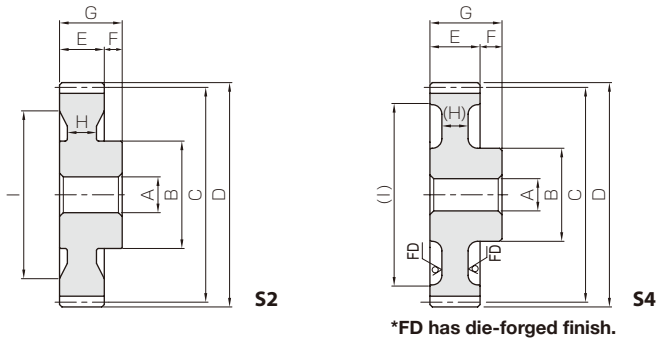
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	(H)	(I)
KSS4-12	m4	12	S1	20	35	48	56	40	20	60	—	—
KSS4-13		13	S1	20	38	52	60	40	20	60	—	—
KSS4-14		14	S1	20	40	56	64	40	20	60	—	—
KSS4-15		15	S1	20	45	60	68	40	20	60	—	—
KSS4-16		16	S1	20	50	64	72	40	20	60	—	—
KSS4-17		17	S1	20	53	68	76	40	20	60	—	—
KSS4-18		18	S1	20	55	72	80	40	20	60	—	—
KSS4-19		19	S1	20	60	76	84	40	20	60	—	—
KSS4-20		20	S1	20	65	80	88	40	20	60	—	—
KSS4-21		21	S1	20	69	84	92	40	20	60	—	—
KSS4-22		22	S1	20	73	88	96	40	20	60	—	—
KSS4-23		23	S1	20	77	92	100	40	20	60	—	—
KSS4-24		24	S1	20	80	96	104	40	20	60	—	—
KSS4-25		25	S1	20	84	100	108	40	20	60	—	—
KSS4-26		26	S1	20	87	104	112	40	20	60	—	—
KSS4-27		27	S1	20	90	108	116	40	20	60	—	—
KSS4-28		28	S1	20	95	112	120	40	20	60	—	—
KSS4-29		29	S1	20	95	116	124	40	20	60	—	—
KSS4-30		30	S1	20	100	120	128	40	20	60	—	—
KSS4-32		32	S1	22	100	128	136	40	16	56	—	—
KSS4-34		34	S1	22	100	136	144	40	16	56	—	—
KSS4-35		35	S1	22	100	140	148	40	16	56	—	—
KSS4-36		36	S1	22	100	144	152	40	16	56	—	—
KSS4-38		38	S1	22	100	152	160	40	16	56	—	—
KSS4-40		40	S1	25	100	160	168	40	16	56	—	—
KSS4-42		42	S1	25	100	168	176	40	16	56	—	—
KSS4-44		44	S1	25	100	176	184	40	16	56	—	—
KSS4-45		45	S1	25	100	180	188	40	16	56	—	—
KSS4-46		46	S1	25	100	184	192	40	16	56	—	—
KSS4-48		48	S2	25	100	192	200	40	16	56	26	150
KSS4-50		50	S4	30	100	200	208	40	16	56	(12)	(168)
KSS4-52		52	S2	30	100	208	216	40	16	56	26	165
KSS4-54		54	S2	30	100	216	224	40	16	56	26	175
KSS4-55		55	S2	30	100	220	228	40	16	56	26	178
KSS4-56		56	S2	30	100	224	232	40	16	56	26	182
KSS4-58		58	S2	30	110	232	240	40	16	56	26	190
KSS4-60		60	S4	30	110	240	248	40	16	56	(12)	(208)
KSS4-62		62	S2	30	110	248	256	40	16	56	20	210
KSS4-64		64	S2	30	110	256	264	40	16	56	16	214
KSS4-65		65	S2	30	110	260	268	40	16	56	16	218
KSS4-66	66	S2	30	120	264	272	40	16	56	16	220	
KSS4-68	68	S2	30	120	272	280	40	16	56	16	225	
KSS4-70	70	S4	30	120	280	288	40	16	56	(12)	(248)	
KSS4-80	80	S4	30	120	320	328	40	16	56	(12)	(288)	



Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
130	7.62	13.3	0.78	0.18~0.38	0.57	KSS4-12
168	9.22	17.1	0.94	0.18~0.38	0.70	KSS4-13
211	10.9	21.5	1.11	0.18~0.38	0.82	KSS4-14
236	12.8	24.1	1.30	0.18~0.38	0.99	KSS4-15
262	14.7	26.7	1.50	0.18~0.38	1.17	KSS4-16
288	16.9	29.4	1.72	0.18~0.38	1.34	KSS4-17
314	19.2	32.0	1.96	0.18~0.38	1.50	KSS4-18
341	21.7	34.8	2.21	0.18~0.38	1.72	KSS4-19
368	24.3	37.5	2.48	0.18~0.38	1.95	KSS4-20
395	27.1	40.3	2.76	0.20~0.44	2.18	KSS4-21
423	30.1	43.1	3.06	0.20~0.44	2.42	KSS4-22
450	33.2	45.9	3.38	0.20~0.44	2.67	KSS4-23
478	36.4	48.8	3.72	0.20~0.44	2.91	KSS4-24
506	39.9	51.6	4.07	0.20~0.44	3.19	KSS4-25
534	43.3	54.5	4.42	0.20~0.44	3.45	KSS4-26
563	46.9	57.4	4.78	0.20~0.44	3.73	KSS4-27
591	50.6	60.3	5.16	0.20~0.44	4.06	KSS4-28
620	54.5	63.2	5.56	0.20~0.44	4.28	KSS4-29
649	58.7	66.2	5.98	0.20~0.44	4.64	KSS4-30
707	67.4	72.1	6.87	0.20~0.44	4.86	KSS4-32
766	76.7	78.1	7.82	0.20~0.44	5.38	KSS4-34
795	81.6	81.1	8.32	0.20~0.44	5.65	KSS4-35
825	86.7	84.1	8.84	0.20~0.44	5.93	KSS4-36
884	97.3	90.1	9.92	0.20~0.44	6.52	KSS4-38
943	109	96.2	11.1	0.20~0.44	7.08	KSS4-40
1000	120	102	12.3	0.24~0.52	7.73	KSS4-42
1060	133	108	13.6	0.24~0.52	8.41	KSS4-44
1090	139	112	14.2	0.24~0.52	8.76	KSS4-45
1120	146	115	14.9	0.24~0.52	9.12	KSS4-46
987	133	101	13.6	0.24~0.52	9.12	KSS4-48
1040	146	106	14.8	0.24~0.52	8.00	KSS4-50
1090	158	111	16.1	0.24~0.52	10.2	KSS4-52
1140	172	116	17.5	0.24~0.52	10.8	KSS4-54
1160	179	119	18.2	0.24~0.52	11.1	KSS4-55
1190	186	121	18.9	0.24~0.52	11.5	KSS4-56
1240	200	127	20.4	0.24~0.52	12.5	KSS4-58
1290	215	132	22	0.24~0.52	10.7	KSS4-60
1340	231	137	23.6	0.24~0.52	13.1	KSS4-62
1390	248	142	25.2	0.24~0.52	13.4	KSS4-64
1420	256	145	26.1	0.24~0.52	13.7	KSS4-65
1450	265	148	27	0.24~0.52	14.7	KSS4-66
1500	282	153	28.8	0.24~0.52	15.5	KSS4-68
1550	300	158	30.6	0.24~0.52	13.6	KSS4-70
1810	400	184	40.8	0.24~0.52	16.3	KSS4-80

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

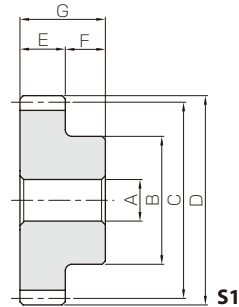
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

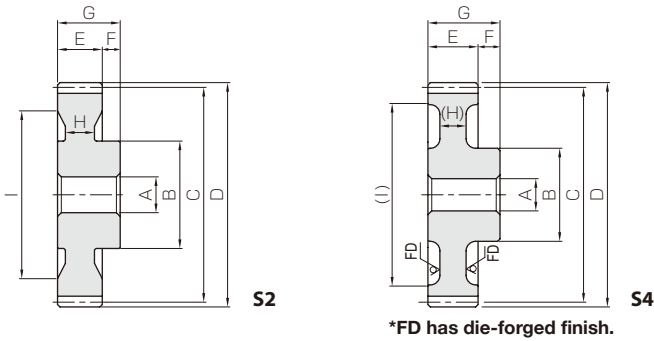
*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	(H)	(I)
KSS5-12	m5	12	S1	22	46	60	70	50	25	75	—	—
KSS5-13		13	S1	22	50	65	75	50	25	75	—	—
KSS5-14		14	S1	22	52	70	80	50	25	75	—	—
KSS5-15		15	S1	22	60	75	85	50	25	75	—	—
KSS5-16		16	S1	22	65	80	90	50	25	75	—	—
KSS5-17		17	S1	22	68	85	95	50	25	75	—	—
KSS5-18		18	S1	22	70	90	100	50	25	75	—	—
KSS5-19		19	S1	22	76	95	105	50	25	75	—	—
KSS5-20		20	S1	22	82	100	110	50	25	75	—	—
KSS5-21		21	S1	25	90	105	115	50	25	75	—	—
KSS5-22		22	S1	25	95	110	120	50	25	75	—	—
KSS5-23		23	S1	25	100	115	125	50	25	75	—	—
KSS5-24		24	S1	25	100	120	130	50	25	75	—	—
KSS5-25		25	S1	25	105	125	135	50	25	75	—	—
KSS5-26		26	S1	25	110	130	140	50	25	75	—	—
KSS5-27		27	S1	25	110	135	145	50	25	75	—	—
KSS5-28		28	S1	25	110	140	150	50	25	75	—	—
KSS5-29		29	S1	25	115	145	155	50	25	75	—	—
KSS5-30		30	S1	25	120	150	160	50	25	75	—	—
KSS5-32		32	S1	30	120	160	170	50	21	71	—	—
KSS5-34		34	S1	30	120	170	180	50	21	71	—	—
KSS5-35		35	S1	30	120	175	185	50	21	71	—	—
KSS5-36		36	S1	30	120	180	190	50	21	71	—	—
KSS5-38		38	S1	30	120	190	200	50	21	71	—	—
KSS5-40		40	S2	30	120	200	210	50	21	71	36	160
KSS5-42		42	S2	30	120	210	220	50	21	71	36	170
KSS5-44		44	S2	30	120	220	230	50	21	71	36	175
KSS5-45		45	S2	30	120	225	235	50	21	71	36	185
KSS5-46		46	S2	30	120	230	240	50	21	71	30	185
KSS5-48		48	S2	30	120	240	250	50	21	71	30	200
KSS5-50		50	S4	30	120	250	260	50	21	71	(16)	(212)
KSS5-52		52	S2	30	130	260	270	50	21	71	30	220
KSS5-54	54	S2	30	130	270	280	50	21	71	30	230	
KSS5-55	55	S2	30	130	275	285	50	21	71	30	235	
KSS5-56	56	S2	30	130	280	290	50	21	71	30	240	
KSS5-58	58	S2	30	130	290	300	50	21	71	30	240	
KSS5-60	60	S4	30	130	300	310	50	21	71	(20)	(260)	

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
254	15.2	25.9	1.55	0.20~0.44	1.21	KSS5-12
327	18.4	33.4	1.88	0.20~0.44	1.46	KSS5-13
412	21.8	42.0	2.22	0.20~0.44	1.70	KSS5-14
462	25.5	47.1	2.60	0.20~0.44	2.07	KSS5-15
512	29.5	52.2	3.01	0.20~0.44	2.40	KSS5-16
562	33.8	57.3	3.45	0.20~0.44	2.72	KSS5-17
614	38.4	62.6	3.92	0.20~0.44	3.03	KSS5-18
666	43.4	67.9	4.42	0.20~0.44	3.45	KSS5-19
718	48.6	73.3	4.96	0.20~0.44	3.90	KSS5-20
772	54.2	78.7	5.53	0.24~0.50	4.36	KSS5-21
825	60.1	84.1	6.13	0.24~0.50	4.83	KSS5-22
879	66.3	89.7	6.77	0.24~0.50	5.33	KSS5-23
934	73.0	95.2	7.45	0.24~0.50	5.69	KSS5-24
989	80.0	101	8.16	0.24~0.50	6.23	KSS5-25
1040	87.1	106	8.88	0.24~0.50	6.79	KSS5-26
1100	94.4	112	9.62	0.24~0.50	7.19	KSS5-27
1160	102	118	10.4	0.24~0.50	7.62	KSS5-28
1210	110	124	11.2	0.24~0.50	8.23	KSS5-29
1270	118	129	12.1	0.24~0.50	8.87	KSS5-30
1380	136	141	13.8	0.24~0.50	9.36	KSS5-32
1500	154	153	15.7	0.24~0.50	10.4	KSS5-34
1550	164	158	16.7	0.24~0.50	10.9	KSS5-35
1610	174	164	17.8	0.24~0.50	11.5	KSS5-36
1730	195	176	19.9	0.24~0.50	12.6	KSS5-38
1540	182	157	18.5	0.24~0.50	13.2	KSS5-40
1630	202	167	20.6	0.28~0.58	14.2	KSS5-42
1730	223	177	22.8	0.28~0.58	15.4	KSS5-44
1780	234	182	23.9	0.28~0.58	15.8	KSS5-45
1830	246	187	25.1	0.28~0.58	16.2	KSS5-46
1930	269	197	27.5	0.28~0.58	17.0	KSS5-48
2030	294	207	30.0	0.28~0.58	15.0	KSS5-50
2130	320	217	32.6	0.28~0.58	19.8	KSS5-52
2220	347	227	35.4	0.28~0.58	20.9	KSS5-54
2270	361	232	36.8	0.28~0.58	21.5	KSS5-55
2320	375	237	38.3	0.28~0.58	22.0	KSS5-56
2420	405	247	41.3	0.28~0.58	23.8	KSS5-58
2520	435	257	44.4	0.28~0.58	21.4	KSS5-60

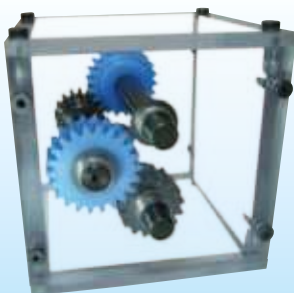
[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

KGCU-S Spur Gear Kit



Installment : Parallel axes gears
(Two-stage)
Gear Type : Spur Gears
Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
Gear Ratio : 1.89
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.





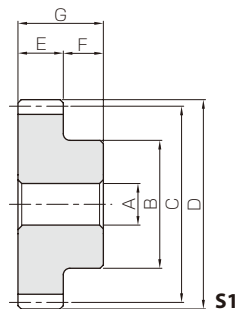
KSS Steel Spur Gears

Module 6, 8, 10



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.	
				A _{H7}	B	C	D	E	F	G	H	I	
KSS6-12	m6	12	S1	25	55	72	84	60	28	88	—	—	
KSS6-13		13	S1	25	58	78	90	60	28	88	—	—	
KSS6-14		14	S1	25	60	84	96	60	28	88	—	—	
KSS6-15		15	S1	25	70	90	102	60	28	88	—	—	
KSS6-16		16	S1	25	75	96	108	60	28	88	—	—	
KSS6-17		17	S1	25	78	102	114	60	28	88	—	—	
KSS6-18		18	S1	25	80	108	120	60	28	88	—	—	
KSS6-19		19	S1	25	90	114	126	60	28	88	—	—	
KSS6-20		20	S1	25	100	120	132	60	28	88	—	—	
KSS6-21		21	S1	28	105	126	138	60	28	88	—	—	
KSS6-22		22	S1	28	110	132	144	60	28	88	—	—	
KSS6-23		23	S1	28	115	138	150	60	28	88	—	—	
KSS6-24		24	S1	28	120	144	156	60	28	88	—	—	
KSS6-25		25	S1	28	125	150	162	60	28	88	—	—	
KSS6-26		26	S1	28	130	156	168	60	28	88	—	—	
KSS6-27		27	S1	28	135	162	174	60	28	88	—	—	
KSS6-28		28	S1	28	140	168	180	60	28	88	—	—	
KSS6-30		30	S1	30	150	180	192	60	28	88	—	—	
KSS6-32		32	S1	30	150	192	204	60	23	83	—	—	
KSS6-34		34	S1	30	150	204	216	60	23	83	—	—	
KSS6-35		35	S1	30	150	210	222	60	23	83	—	—	
KSS6-36		36	S1	30	150	216	228	60	23	83	—	—	
KSS6-38		38	S1	30	150	228	240	60	23	83	—	—	
KSS6-40		40	S1	30	150	240	252	60	23	83	—	—	
KSS6-42		42	S1	40	150	252	264	60	23	83	—	—	
KSS6-44		44	S1	40	150	264	276	60	23	83	—	—	
KSS6-45		45	S1	40	180	270	282	60	23	83	—	—	
KSS6-46		46	S1	40	180	276	288	60	23	83	—	—	
KSS6-48		48	S1	40	180	288	300	60	23	83	—	—	
KSS6-50		50	S1	40	180	300	312	60	23	83	—	—	
KSS8-12	m8	12	S1	28	75	96	112	75	35	110	—	—	
KSS8-13		13	S1	28	80	104	120	75	35	110	—	—	
KSS8-14		14	S1	28	85	112	128	75	35	110	—	—	
KSS8-15		15	S1	28	90	120	136	75	35	110	—	—	
KSS8-16		16	S1	28	100	128	144	75	35	110	—	—	
KSS8-17		17	S1	28	105	136	152	75	35	110	—	—	
KSS8-18		18	S1	28	110	144	160	75	35	110	—	—	
KSS8-19		19	S1	28	120	152	168	75	35	110	—	—	
KSS8-20		20	S1	28	130	160	176	75	35	110	—	—	
KSS8-21		21	S1	30	140	168	184	75	35	110	—	—	
KSS8-22		22	S1	30	150	176	192	75	35	110	—	—	
KSS8-23		23	S1	30	155	184	200	75	35	110	—	—	
KSS8-24		24	S1	30	160	192	208	75	35	110	—	—	
KSS8-25		25	S1	30	170	200	216	75	35	110	—	—	
KSS8-26		26	S1	30	170	208	224	75	35	110	—	—	
KSS8-27		27	S1	30	170	216	232	75	35	110	—	—	
KSS8-28		28	S1	30	180	224	240	75	35	110	—	—	
KSS8-30		30	S1	30	180	240	256	75	35	110	—	—	
KSS10-15		m10	15	S1	30	115	150	170	90	40	130	—	—
KSS10-20			20	S1	30	165	200	220	90	40	130	—	—
KSS10-25			25	S1	40	200	250	270	90	40	130	—	—



Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
439	26.8	44.8	2.73	0.22~0.48	2.10	KSS6-12
566	32.4	57.7	3.31	0.22~0.48	2.49	KSS6-13
711	38.4	72.5	3.92	0.22~0.48	2.89	KSS6-14
798	44.9	81.4	4.58	0.22~0.48	3.50	KSS6-15
884	52	90.2	5.3	0.22~0.48	4.04	KSS6-16
972	59.6	99.1	6.07	0.22~0.48	4.56	KSS6-17
1060	67.7	108	6.9	0.22~0.48	5.08	KSS6-18
1150	76.4	117	7.79	0.22~0.48	5.87	KSS6-19
1240	85.9	127	8.75	0.22~0.48	6.71	KSS6-20
1330	95.9	136	9.78	0.26~0.56	7.35	KSS6-21
1430	107	145	10.9	0.26~0.56	8.11	KSS6-22
1520	118	155	12	0.26~0.56	8.90	KSS6-23
1610	129	165	13.2	0.26~0.56	9.73	KSS6-24
1710	142	174	14.5	0.26~0.56	10.6	KSS6-25
1800	154	184	15.7	0.26~0.56	11.5	KSS6-26
1900	167	194	17	0.26~0.56	12.4	KSS6-27
2000	181	204	18.4	0.26~0.56	13.4	KSS6-28
2190	209	223	21.3	0.26~0.56	15.4	KSS6-30
1990	200	203	20.4	0.26~0.56	16.4	KSS6-32
2150	228	220	23.2	0.26~0.56	18.1	KSS6-34
2240	242	228	24.7	0.26~0.56	19.0	KSS6-35
2320	258	237	26.3	0.26~0.56	20.0	KSS6-36
2490	289	254	29.5	0.26~0.56	22.0	KSS6-38
2650	323	271	33	0.26~0.56	24.0	KSS6-40
2820	359	288	36.6	0.30~0.64	25.9	KSS6-42
2990	397	305	40.5	0.30~0.64	28.2	KSS6-44
3080	416	314	42.5	0.30~0.64	30.7	KSS6-45
3160	436	322	44.5	0.30~0.64	32.0	KSS6-46
3330	478	340	48.8	0.30~0.64	34.5	KSS6-48
3500	522	357	53.2	0.30~0.64	37.1	KSS6-50
975	62.6	99.5	6.39	0.28~0.58	4.94	KSS8-12
1260	75.2	128	7.66	0.28~0.58	5.85	KSS8-13
1580	88.9	161	9.06	0.28~0.58	6.83	KSS8-14
1770	104	181	10.6	0.28~0.58	7.87	KSS8-15
1970	121	200	12.3	0.28~0.58	9.20	KSS8-16
2160	139	220	14.1	0.28~0.58	10.4	KSS8-17
2360	158	240	16.1	0.28~0.58	11.7	KSS8-18
2560	178	261	18.2	0.28~0.58	13.3	KSS8-19
2760	200	281	20.4	0.28~0.58	15.0	KSS8-20
2960	223	302	22.8	0.32~0.66	16.7	KSS8-21
3170	248	323	25.3	0.32~0.66	18.6	KSS8-22
3380	273	344	27.9	0.32~0.66	20.2	KSS8-23
2990	250	305	25.5	0.32~0.66	22.0	KSS8-24
3160	273	323	27.8	0.32~0.66	24.1	KSS8-25
3340	297	341	30.3	0.32~0.66	25.6	KSS8-26
3520	322	359	32.8	0.32~0.66	27.2	KSS8-27
3700	348	377	35.5	0.32~0.66	29.6	KSS8-28
4060	404	414	41.2	0.32~0.66	33.0	KSS8-30
3330	203	339	20.7	0.34~0.68	15.0	KSS10-15
4310	323	440	33	0.34~0.68	28.2	KSS10-20
5930	529	605	54	0.36~0.76	43.3	KSS10-25

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

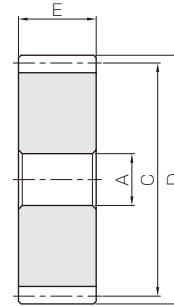
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

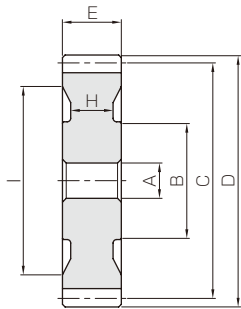


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Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	H	I
KSSA1-20	m1	20	S5	8	—	20	22	10	—	—
KSSA1-24		24	S5	8		24	26	10		
KSSA1-25		25	S5	8		25	27	10		
KSSA1-28		28	S5	8		28	30	10		
KSSA1-30		30	S5	8		30	32	10		
KSSA1-32		32	S5	8	—	32	34	10	—	—
KSSA1-35		35	S5	8		35	37	10		
KSSA1-36		36	S5	8		36	38	10		
KSSA1-40		40	S5	8		40	42	10		
KSSA1-45		45	S5	8		45	47	10		
KSSA1-48		48	S5	8	—	48	50	10	—	—
KSSA1-50		50	S5	10		50	52	10		
KSSA1-55		55	S5	10		55	57	10		
KSSA1-56		56	S5	10		56	58	10		
KSSA1-60		60	S5	10		60	62	10		
KSSA1-70	70	S5	10	—	70	72	10	—	—	
KSSA1-80	80	S5	10		80	82	10			
KSSA1-100	100	S5	10		100	102	10			
KSSA1-120	120	S5	10		120	122	10			
KSSA1.5-20	m1.5	20	S5	10	—	30	33	15	—	—
KSSA1.5-24		24	S5	10		36	39	15		
KSSA1.5-25		25	S5	10		37.5	40.5	15		
KSSA1.5-28		28	S5	10		42	45	15		
KSSA1.5-30		30	S5	10		45	48	15		
KSSA1.5-32		32	S5	10	—	48	51	15	—	—
KSSA1.5-35		35	S5	10		52.5	55.5	15		
KSSA1.5-36		36	S5	10		54	57	15		
KSSA1.5-40		40	S5	15		60	63	15		
KSSA1.5-45		45	S5	15		67.5	70.5	15		
KSSA1.5-48		48	S5	15	—	72	75	15	—	—
KSSA1.5-50		50	S5	15		75	78	15		
KSSA1.5-55		55	S5	15		82.5	85.5	15		
KSSA1.5-56		56	S5	15		84	87	15		
KSSA1.5-60		60	S5	15		90	93	15		
KSSA1.5-70	70	S5	15	—	105	108	15	—	—	
KSSA1.5-80	80	S5	15		120	123	15			
KSSA1.5-100	100	S6	15		70	150	153			15

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



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Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
5.75	0.33	0.59	0.033	0.08~0.18	0.021	KSSA1-20
7.47	0.49	0.76	0.050		0.032	KSSA1-24
7.91	0.54	0.81	0.055		0.035	KSSA1-25
9.24	0.68	0.94	0.070		0.044	KSSA1-28
10.1	0.79	1.03	0.081		0.052	KSSA1-30
11.1	0.90	1.13	0.092	0.08~0.18	0.059	KSSA1-32
12.4	1.09	1.27	0.11		0.072	KSSA1-35
12.9	1.16	1.31	0.12		0.076	KSSA1-36
14.7	1.45	1.50	0.15		0.095	KSSA1-40
17.1	1.86	1.74	0.19		0.12	KSSA1-45
18.5	2.13	1.89	0.22	0.08~0.18	0.14	KSSA1-48
19.5	2.32	1.98	0.24		0.15	KSSA1-50
21.8	2.83	2.23	0.29		0.18	KSSA1-55
22.3	2.94	2.28	0.30		0.19	KSSA1-56
24.2	3.40	2.47	0.35		0.22	KSSA1-60
29.1	4.70	2.96	0.48	0.08~0.18	0.30	KSSA1-70
33.9	6.23	3.46	0.63		0.39	KSSA1-80
43.7	9.97	4.45	1.02		0.61	KSSA1-100
53.5	14.7	5.45	1.50		0.88	KSSA1-120
19.4	1.15	1.98	0.12		0.10~0.22	0.074
25.2	1.73	2.57	0.18	0.12~0.26	0.11	KSSA1.5-24
26.7	1.90	2.72	0.19	0.12~0.26	0.12	KSSA1.5-25
31.2	2.41	3.18	0.25	0.12~0.26	0.15	KSSA1.5-28
34.2	2.79	3.49	0.28	0.12~0.26	0.18	KSSA1.5-30
37.3	3.19	3.80	0.33	0.12~0.26	0.20	KSSA1.5-32
41.9	3.85	4.28	0.39	0.12~0.26	0.25	KSSA1.5-35
43.5	4.09	4.43	0.42	0.12~0.26	0.26	KSSA1.5-36
49.8	5.10	5.07	0.52	0.12~0.26	0.31	KSSA1.5-40
57.7	6.53	5.88	0.67	0.14~0.32	0.40	KSSA1.5-45
62.4	7.47	6.37	0.76	0.14~0.32	0.46	KSSA1.5-48
65.7	8.15	6.69	0.83	0.14~0.32	0.50	KSSA1.5-50
73.7	9.96	7.51	1.02	0.14~0.32	0.61	KSSA1.5-55
75.3	10.4	7.68	1.06	0.14~0.32	0.63	KSSA1.5-56
81.8	12.0	8.34	1.22	0.14~0.32	0.73	KSSA1.5-60
98.0	16.6	10.0	1.69	0.14~0.32	1.00	KSSA1.5-70
114	22.0	11.7	2.24	0.14~0.32	1.31	KSSA1.5-80
147	35.5	15.0	3.62	0.18~0.38	1.72	KSSA1.5-100

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

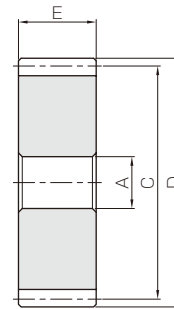


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

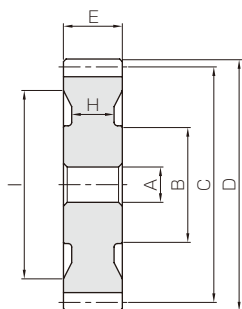
*The precision grade of J Series products is equivalent to the value shown in the table.



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Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	H	I
KSSA2-20	<i>m2</i>	20	S5	12		40	44	20		
KSSA2-24		24	S5	12		48	52	20		
KSSA2-25		25	S5	12	—	50	54	20	—	—
KSSA2-28		28	S5	15		56	60	20		
KSSA2-30		30	S5	15		60	64	20		
KSSA2-32		32	S5	15		64	68	20		
KSSA2-35		35	S5	15		70	74	20		
KSSA2-36		36	S5	15	—	72	76	20	—	—
KSSA2-40		40	S5	18		80	84	20		
KSSA2-45		45	S5	18		90	94	20		
KSSA2-48		48	S5	18		96	100	20		
KSSA2-50		50	S5	18		100	104	20		
KSSA2-55		55	S5	18	—	110	114	20	—	—
KSSA2-56		56	S5	18		112	116	20		
KSSA2-60		60	S5	18		120	124	20		
KSSA2-70		70	S5	18	—	140	144	20	—	—
KSSA2-80	80	S6	18	70	160	164	20	12	136	
KSSA2-100	100	S6	18	90	200	204	20	12	176	
KSSA2.5-20	<i>m2.5</i>	20	S5	15		50	55	25		
KSSA2.5-24		24	S5	15		60	65	25		
KSSA2.5-25		25	S5	15	—	62.5	67.5	25	—	—
KSSA2.5-28		28	S5	18		70	75	25		
KSSA2.5-30		30	S5	18		75	80	25		
KSSA2.5-32		32	S5	18		80	85	25		
KSSA2.5-35		35	S5	18		87.5	92.5	25		
KSSA2.5-36		36	S5	18	—	90	95	25	—	—
KSSA2.5-40		40	S5	22		100	105	25		
KSSA2.5-45		45	S5	22		112.5	117.5	25		
KSSA2.5-48		48	S5	22	—	120	125	25	—	—
KSSA2.5-50		50	S5	22	—	125	130	25	—	—
KSSA2.5-55		55	S5	22	—	137.5	142.5	25	—	—
KSSA2.5-56		56	S5	22	—	140	145	25	—	—
KSSA2.5-60		60	S6	22	70	150	155	25	15	121
KSSA2.5-70		70	S6	22	80	175	180	25	15	146
KSSA2.5-80	80	S6	22	90	200	205	25	15	171	

***Please see book one for additional products in these modules.**



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Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
46.0	2.83	4.69	0.29	0.12~0.26	0.18	KSSA2-20
59.8	4.24	6.09	0.43	0.14~0.30	0.27	KSSA2-24
63.3	4.64	6.45	0.47	0.14~0.30	0.29	KSSA2-25
73.9	5.89	7.54	0.60	0.14~0.30	0.36	KSSA2-28
81.1	6.80	8.27	0.69	0.14~0.30	0.42	KSSA2-30
88.4	7.78	9.01	0.79	0.14~0.30	0.48	KSSA2-32
99.3	9.39	10.1	0.96	0.14~0.30	0.58	KSSA2-35
103	9.96	10.5	1.02	0.14~0.30	0.61	KSSA2-36
118	12.5	12.0	1.27	0.14~0.30	0.75	KSSA2-40
137	16.0	13.9	1.63	0.18~0.36	0.96	KSSA2-45
148	18.3	15.1	1.87	0.18~0.36	1.10	KSSA2-48
156	19.9	15.9	2.03	0.18~0.36	1.19	KSSA2-50
175	24.4	17.8	2.48	0.18~0.36	1.45	KSSA2-55
179	25.3	18.2	2.58	0.18~0.36	1.51	KSSA2-56
194	29.3	19.8	2.99	0.18~0.36	1.74	KSSA2-60
232	40.8	23.7	4.16	0.18~0.36	2.38	KSSA2-70
271	54.3	27.7	5.53	0.18~0.36	2.55	KSSA2-80
291	72.7	29.7	7.42	0.20~0.44	3.90	KSSA2-100
89.8	5.66	9.16	0.58	0.14~0.28	0.35	KSSA2.5-20
117	8.47	11.9	0.86	0.16~0.34	0.52	KSSA2.5-24
124	9.26	12.6	0.94	0.16~0.34	0.57	KSSA2.5-25
144	11.7	14.7	1.20	0.16~0.34	0.71	KSSA2.5-28
159	13.6	16.2	1.39	0.16~0.34	0.82	KSSA2.5-30
173	15.6	17.6	1.59	0.16~0.34	0.94	KSSA2.5-32
194	18.8	19.8	1.92	0.16~0.34	1.13	KSSA2.5-35
201	20.0	20.5	2.04	0.16~0.34	1.20	KSSA2.5-36
230	24.9	23.5	2.54	0.16~0.34	1.47	KSSA2.5-40
267	31.9	27.2	3.26	0.18~0.40	1.88	KSSA2.5-45
289	36.7	29.5	3.74	0.18~0.40	2.14	KSSA2.5-48
304	40.0	31.0	4.08	0.18~0.40	2.33	KSSA2.5-50
341	49.1	34.8	5.01	0.18~0.40	2.84	KSSA2.5-55
349	51.0	35.6	5.20	0.18~0.40	2.95	KSSA2.5-56
379	59.1	38.6	6.03	0.18~0.40	2.93	KSSA2.5-60
454	82.1	46.3	8.37	0.18~0.40	3.89	KSSA2.5-70
441	90.9	45.0	9.27	0.18~0.40	4.99	KSSA2.5-80

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur
GearsHelical
GearsInternal
Gears

Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products

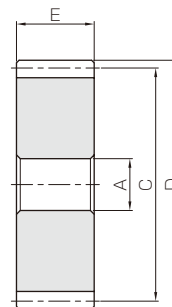


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



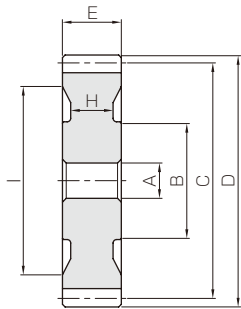
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S5

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	H	I
KSSA3-20	m3	20	S5	15	—	60	66	30	—	—
KSSA3-24		24	S5	15	—	72	78	30	—	—
KSSA3-25		25	S5	15	—	75	81	30	—	—
KSSA3-28		28	S5	20	—	84	90	30	—	—
KSSA3-30		30	S5	20	—	90	96	30	—	—
KSSA3-32		32	S5	20	—	96	102	30	—	—
KSSA3-35		35	S5	20	—	105	111	30	—	—
KSSA3-36		36	S5	20	—	108	114	30	—	—
KSSA3-40		40	S5	25	—	120	126	30	—	—
KSSA3-45		45	S5	25	—	135	141	30	—	—
KSSA3-48		48	S5	25	—	144	150	30	—	—
KSSA3-50		50	S6	25	70	150	156	30	18	116
KSSA3-55		55	S6	25	80	165	171	30	18	131
KSSA3-56		56	S6	25	80	168	174	30	18	134
KSSA3-60		60	S6	25	90	180	186	30	18	146
KSSA3-70	70	S6	25	90	210	216	30	18	176	
KSSA3-80	80	S6	25	90	240	246	30	18	205	
KSSA4-20	m4	20	S5	20	—	80	88	40	—	—
KSSA4-24		24	S5	20	—	96	104	40	—	—
KSSA4-25		25	S5	20	—	100	108	40	—	—
KSSA4-28		28	S5	25	—	112	120	40	—	—
KSSA4-30		30	S5	25	—	120	128	40	—	—
KSSA4-32		32	S5	25	—	128	136	40	—	—
KSSA4-35		35	S5	25	—	140	148	40	—	—
KSSA4-36		36	S5	25	—	144	152	40	—	—
KSSA4-40		40	S6	30	80	160	168	40	26	118
KSSA4-45		45	S6	30	100	180	188	40	26	138
KSSA4-48		48	S6	30	100	192	200	40	26	150
KSSA4-50		50	S6	30	100	200	208	40	26	158
KSSA4-55		55	S6	30	110	220	228	40	26	178
KSSA4-56		56	S6	30	110	224	232	40	26	182
KSSA4-60		60	S6	30	120	240	248	40	26	198
KSSA5-20	m5	20	S5	22	—	100	110	50	—	—
KSSA5-24		24	S5	22	—	120	130	50	—	—
KSSA5-25		25	S5	22	—	125	135	50	—	—
KSSA5-28		28	S5	25	—	140	150	50	—	—
KSSA5-30		30	S5	25	—	150	160	50	—	—
KSSA5-32		32	S5	25	—	160	170	50	—	—
KSSA5-35		35	S5	25	—	175	185	50	—	—
KSSA5-36		36	S5	25	—	180	190	50	—	—
KSSA5-40		40	S6	30	100	200	210	50	36	160
KSSA5-45		45	S6	30	120	225	235	50	36	185
KSSA5-48		48	S6	30	120	240	250	50	36	200
KSSA5-50		50	S6	30	130	250	260	50	36	210



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Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
155	9.95	15.8	1.02	0.14~0.32	0.62	KSSA3-20
202	14.9	20.6	1.52	0.18~0.38	0.92	KSSA3-24
214	16.3	21.8	1.66	0.18~0.38	1.00	KSSA3-25
250	20.7	25.4	2.11	0.18~0.38	1.23	KSSA3-28
274	24.0	27.9	2.44	0.18~0.38	1.42	KSSA3-30
298	27.4	30.4	2.80	0.18~0.38	1.63	KSSA3-32
335	33.1	34.2	3.38	0.18~0.38	1.97	KSSA3-35
348	35.2	35.5	3.59	0.18~0.38	2.08	KSSA3-36
398	44.0	40.6	4.49	0.18~0.38	2.55	KSSA3-40
461	56.6	47	5.78	0.20~0.44	3.26	KSSA3-45
500	65.0	50.9	6.63	0.20~0.44	3.72	KSSA3-48
525	70.9	53.6	7.23	0.20~0.44	3.60	KSSA3-50
590	86.9	60.1	8.86	0.20~0.44	4.34	KSSA3-55
602	90.3	61.4	9.21	0.20~0.44	4.47	KSSA3-56
654	105	66.7	10.7	0.20~0.44	5.14	KSSA3-60
654	121	66.6	12.4	0.20~0.44	6.64	KSSA3-70
763	162	77.8	16.5	0.20~0.44	8.37	KSSA3-80
368	24.3	37.5	2.48	0.18~0.38	1.48	KSSA4-20
478	36.4	48.8	3.72	0.20~0.44	2.17	KSSA4-24
506	39.9	51.6	4.07	0.20~0.44	2.37	KSSA4-25
591	50.6	60.3	5.16	0.20~0.44	2.94	KSSA4-28
649	58.7	66.2	5.98	0.20~0.44	3.40	KSSA4-30
707	67.4	72.1	6.87	0.20~0.44	3.89	KSSA4-32
795	81.6	81.1	8.32	0.20~0.44	4.68	KSSA4-35
825	86.7	84.1	8.84	0.20~0.44	4.96	KSSA4-36
943	109	96.2	11.1	0.20~0.44	5.70	KSSA4-40
1090	139	112	14.2	0.24~0.52	7.29	KSSA4-45
987	133	101	13.6	0.24~0.52	8.12	KSSA4-48
1040	146	106	14.8	0.24~0.52	8.70	KSSA4-50
1160	179	119	18.2	0.24~0.52	10.4	KSSA4-55
1190	186	121	18.9	0.24~0.52	10.7	KSSA4-56
1290	215	132	22.0	0.24~0.52	12.3	KSSA4-60
718	48.6	73.3	4.96	0.20~0.44	2.93	KSSA5-20
934	73.0	95.2	7.45	0.24~0.50	4.29	KSSA5-24
989	80.0	101	8.16	0.24~0.50	4.67	KSSA5-25
1160	102	118	10.4	0.24~0.50	5.85	KSSA5-28
1270	118	129	12.1	0.24~0.50	6.74	KSSA5-30
1380	136	141	13.8	0.24~0.50	7.70	KSSA5-32
1550	164	158	16.7	0.24~0.50	9.25	KSSA5-35
1610	174	164	17.8	0.24~0.50	9.80	KSSA5-36
1540	182	157	18.5	0.24~0.50	11.1	KSSA5-40
1780	234	182	23.9	0.28~0.58	14.0	KSSA5-45
1930	269	197	27.5	0.28~0.58	15.7	KSSA5-48
2030	294	207	30.0	0.28~0.58	17.1	KSSA5-50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products



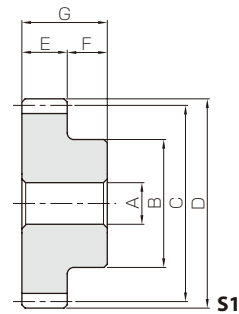
KSSY Steel Thin Face Spur Gears

Module 0.8, 1



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

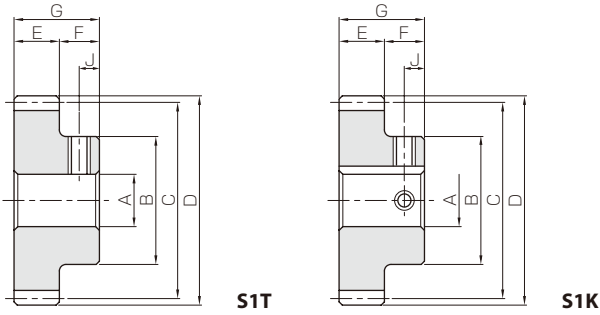
*The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSSY0.8-20 KSSY0.8-20A	m0.8	20	S1 S1T	5 5	13.5	16	17.6	4	8	12	—
KSSY0.8-25 KSSY0.8-25A		25	S1 S1T	5 5	17	20	21.6	4	8	12	—
KSSY0.8-30 KSSY0.8-30A		30	S1 S1T	5 5	20	24	25.6	4	8	12	—
KSSY0.8-40 KSSY0.8-40A		40	S1 S1T	5 6	25	32	33.6	4	8	12	—
KSSY0.8-50 KSSY0.8-50A		50	S1 S1T	5 6	25	40	41.6	4	8	12	—
KSSY1-12 KSSY1-12A	m1	12	S1 S1T	5 5	9	12	14	6	8	14	—
KSSY1-14 KSSY1-14A		14	S1 S1T	5 5	11	14	16	6	8	14	—
KSSY1-15 KSSY1-15A		15	S1 S1T	6 6	12	15	17	6	8	14	—
KSSY1-16 KSSY1-16A		16	S1 S1T	6 6	13	16	18	6	8	14	—
KSSY1-18 KSSY1-18A		18	S1 S1T	6 6	14	18	20	6	8	14	—
KSSY1-20 KSSY1-20A KSSY1-20B		20	S1 S1T S1T	6 6 8	16	20	22	6	8	14	—
KSSY1-24 KSSY1-24A KSSY1-24B		24	S1 S1T S1T	6 6 8	16	24	26	6	8	14	—
KSSY1-25 KSSY1-25A		25	S1 S1T	6 6	16	25	27	6	8	14	—
KSSY1-28 KSSY1-28A		28	S1 S1T	6 6	16	28	30	6	8	14	—
KSSY1-30 KSSY1-30A KSSY1-30B		30	S1 S1T S1T	6 6 8	25	30	32	6	8	14	—
KSSY1-32 KSSY1-32A		32	S1 S1T	6 6	25	32	34	6	8	14	—
KSSY1-35 KSSY1-35A KSSY1-35B		35	S1 S1T S1K	6 8 10	25	35	37	6	8	14	— — 4 x 1.8
KSSY1-36 KSSY1-36A KSSY1-36B		36	S1 S1T S1K	6 8 10	25	36	38	6	8	14	— — 4 x 1.8
KSSY1-40 KSSY1-40A KSSY1-40B		40	S1 S1T S1K	8 8 10	28	40	42	6	8	14	— — 4 x 1.8
KSSY1-45 KSSY1-45A	45	S1 S1T	8 8	28	45	47	6	8	14	—	
KSSY1-48 KSSY1-48A	48	S1 S1T	8 8	28	48	50	6	8	14	—	



Steel Thin Face Spur Gears



Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	4	1.47	0.085	0.15	0.0087	0 ~0.10	0.013 0.013	KSSY0.8-20 KSSY0.8-20A
M4	4	2.03	0.134	0.21	0.014	0 ~0.10	0.022 0.022	KSSY0.8-25 KSSY0.8-25A
M4	4	2.60	0.197	0.27	0.020	0 ~0.10	0.032 0.031	KSSY0.8-30 KSSY0.8-30A
M4	4	3.77	0.362	0.39	0.037	0 ~0.10	0.054 0.053	KSSY0.8-40 KSSY0.8-40A
M4	4	4.98	0.580	0.51	0.059	0 ~0.10	0.068 0.067	KSSY0.8-50 KSSY0.8-50A
M4	4	1.22	0.069	0.12	0.0070	0.08~0.18	0.0072 0.0070	KSSY1-12 KSSY1-12A
M4	4	1.98	0.096	0.20	0.010	0.08~0.18	0.011 0.011	KSSY1-14 KSSY1-14A
M4	4	2.22	0.11	0.23	0.011	0.08~0.18	0.012 0.012	KSSY1-15 KSSY1-15A
M4	4	2.46	0.13	0.25	0.013	0.08~0.18	0.015 0.014	KSSY1-16 KSSY1-16A
M4	4	2.95	0.16	0.30	0.017	0.08~0.18	0.019 0.018	KSSY1-18 KSSY1-18A
M4	4	3.45	0.20	0.35	0.021	0.08~0.18	0.024 0.024 0.021	KSSY1-20 KSSY1-20A KSSY1-20B
M4	4	4.48	0.30	0.46	0.030	0.08~0.18	0.031 0.030 0.028	KSSY1-24 KSSY1-24A KSSY1-24B
M4	4	4.74	0.32	0.48	0.033	0.08~0.18	0.033 0.032	KSSY1-25 KSSY1-25A
M4	4	5.55	0.41	0.57	0.042	0.08~0.18	0.039 0.038	KSSY1-28 KSSY1-28A
M4	4	6.08	0.47	0.62	0.048	0.08~0.18	0.061 0.060 0.057	KSSY1-30 KSSY1-30A KSSY1-30B
M4	4	6.63	0.54	0.68	0.055	0.08~0.18	0.066 0.065	KSSY1-32 KSSY1-32A
M5	4	7.45	0.66	0.76	0.067	0.08~0.18	0.073 0.069 0.066	KSSY1-35 KSSY1-35A KSSY1-35B
M5	4	7.73	0.70	0.79	0.071	0.08~0.18	0.076 0.072 0.069	KSSY1-36 KSSY1-36A KSSY1-36B
M5	4	8.84	0.87	0.90	0.089	0.08~0.18	0.092 0.091 0.088	KSSY1-40 KSSY1-40A KSSY1-40B
M5	4	10.3	1.12	1.05	0.11	0.08~0.18	0.11 0.11	KSSY1-45 KSSY1-45A
M5	4	11.1	1.28	1.13	0.13	0.08~0.18	0.12 0.12	KSSY1-48 KSSY1-48A

[Caution on Product Characteristics]

- ① Keyways are made according to JIS B1301 standards and Js 9 tolerances. For products with a tapped hole, a set screw is include as an accessory.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
- ② When performing secondary operations, be aware of deflection and distortion as the tooth is thin in width; deflection might occur if heat treated.
- ③ Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.

* Please see book one for additional products in these modules.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

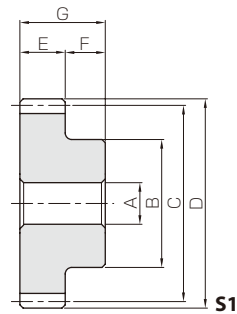
Other Products



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



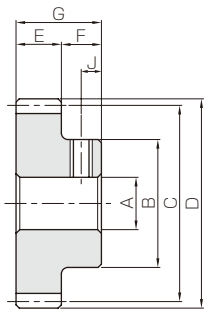
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



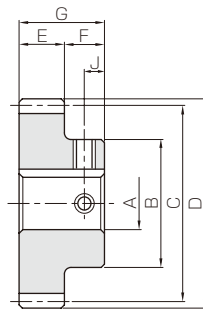
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSSY1-50 KSSY1-50A	m1	50	S1	8	28	50	52	6	8	14	—
S1T			8	—							
KSSY1-55 KSSY1-55A		55	S1	8	28	55	57	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-56 KSSY1-56A		56	S1	8	28	56	58	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-60 KSSY1-60A KSSY1-60B		60	S1	8	35	60	62	6	8	14	—
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
KSSY1-64 KSSY1-64A		64	S1	8	35	64	66	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-65 KSSY1-65A		65	S1	8	35	65	67	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-70 KSSY1-70A		70	S1	8	35	70	72	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-72 KSSY1-72A		72	S1	8	35	72	74	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-75 KSSY1-75A		75	S1	8	35	75	77	6	8	14	—
S1K			10	4 x 1.8							
KSSY1-80 KSSY1-80A		80	S1	10	40	80	82	6	8	14	—
S1K	12		4 x 1.8								
KSSY1-85 KSSY1-85A	85	S1	10	40	85	87	6	8	14	—	
S1K		12	4 x 1.8								
KSSY1-90 KSSY1-90A	90	S1	10	40	90	92	6	8	14	—	
S1K		12	4 x 1.8								
KSSY1-95 KSSY1-95A	95	S1	10	40	95	97	6	8	14	—	
S1K		12	4 x 1.8								
KSSY1-96 KSSY1-96A	96	S1	10	40	96	98	6	8	14	—	
S1K		12	4 x 1.8								
KSSY1-100 KSSY1-100A	100	S1	10	50	100	102	6	8	14	—	
S1K		12	4 x 1.8								
KSSY1-110 KSSY1-110A	110	S1	10	50	110	112	6	8	14	—	
S1K		12	4 x 1.8								
KSSY1-120 KSSY1-120A	120	S1	10	50	120	122	6	8	14	—	
S1K		12	4 x 1.8								

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



S1T



S1K

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
— M5	— 4	11.7	1.39	1.19	0.14	0.08~0.18	0.13 0.12	KSSY1-50 KSSY1-50A
— M4	— 4	13.1	1.70	1.34	0.17	0.08~0.18	0.15 0.14	KSSY1-55 KSSY1-55A
— M4	— 4	13.4	1.77	1.37	0.18	0.08~0.18	0.15 0.14	KSSY1-56 KSSY1-56A
— M4 M4	— 4 4	14.5	2.04	1.48	0.21	0.08~0.18	0.19 0.18 0.18	KSSY1-60 KSSY1-60A KSSY1-60B
— M4	— 4	15.7	2.34	1.60	0.24	0.08~0.18	0.21 0.20	KSSY1-64 KSSY1-64A
— M4	— 4	16.0	2.41	1.63	0.25	0.08~0.18	0.21 0.21	KSSY1-65 KSSY1-65A
— M4	— 4	17.4	2.82	1.78	0.29	0.08~0.18	0.24 0.23	KSSY1-70 KSSY1-70A
— M4	— 4	18.0	2.99	1.84	0.30	0.08~0.18	0.25 0.24	KSSY1-72 KSSY1-72A
— M4	— 4	18.9	3.26	1.93	0.33	0.08~0.18	0.26 0.26	KSSY1-75 KSSY1-75A
— M4	— 4	20.3	3.74	2.07	0.38	0.08~0.18	0.31 0.28	KSSY1-80 KSSY1-80A
— M4	— 4	21.8	4.25	2.22	0.43	0.08~0.18	0.34 0.31	KSSY1-85 KSSY1-85A
— M4	— 4	23.3	4.79	2.37	0.49	0.08~0.18	0.37 0.35	KSSY1-90 KSSY1-90A
— M4	— 4	24.7	5.37	2.52	0.55	0.08~0.18	0.40 0.38	KSSY1-95 KSSY1-95A
— M4	— 4	25.0	5.49	2.55	0.56	0.08~0.18	0.41 0.39	KSSY1-96 KSSY1-96A
— M4	— 4	26.2	5.98	2.67	0.61	0.08~0.18	0.48 0.42	KSSY1-100 KSSY1-100A
— M4	— 4	29.1	7.31	2.97	0.75	0.08~0.18	0.56 0.49	KSSY1-110 KSSY1-110A
— M4	— 4	32.1	8.80	3.27	0.90	0.08~0.18	0.65 0.58	KSSY1-120 KSSY1-120A

[Caution on Product Characteristics]

- ① Keyways are made according to JIS B1301 standards and Js 9 tolerances. For products with a tapped hole, a set screw is include as an accessory.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② When performing secondary operations, be aware of deflection and distortion as the tooth is thin in width; deflection might occur if heat treated.
- ③ Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.

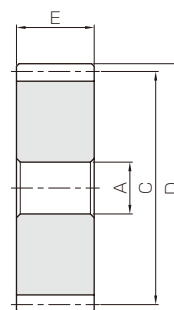
Spur
GearsHelical
GearsInternal
Gears

Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



S5

Catalog No.	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Allowable torque (N·m)		Allowable torque (kgf·m)	
				A _{H7}	C	D	E	Bending strength	Surface durability	Bending strength	Surface durability
KSSAY1-20	m1	20	S5	6	20	22	6	3.45	0.20	0.35	0.021
KSSAY1-24		24	S5	6	24	26	6	4.48	0.30	0.46	0.030
KSSAY1-25		25	S5	6	25	27	6	4.74	0.32	0.48	0.033
KSSAY1-28		28	S5	6	28	30	6	5.55	0.41	0.57	0.042
KSSAY1-30		30	S5	6	30	32	6	6.08	0.47	0.62	0.048
KSSAY1-32		32	S5	6	32	34	6	6.63	0.54	0.68	0.055
KSSAY1-35		35	S5	6	35	37	6	7.45	0.66	0.76	0.067
KSSAY1-36		36	S5	6	36	38	6	7.73	0.70	0.79	0.071
KSSAY1-40		40	S5	6	40	42	6	8.84	0.87	0.90	0.089
KSSAY1-45		45	S5	6	45	47	6	10.3	1.12	1.05	0.11
KSSAY1-48		48	S5	6	48	50	6	11.1	1.28	1.13	0.13
KSSAY1-50		50	S5	8	50	52	6	11.7	1.39	1.19	0.14
KSSAY1-55		55	S5	8	55	57	6	13.1	1.70	1.34	0.17
KSSAY1-56		56	S5	8	56	58	6	13.4	1.77	1.37	0.18
KSSAY1-60		60	S5	8	60	62	6	14.5	2.04	1.48	0.21
KSSAY1-70		70	S5	8	70	72	6	17.4	2.82	1.78	0.29
KSSAY1-80		80	S5	10	80	82	6	20.3	3.74	2.07	0.38
KSSAY1-100		100	S5	10	100	102	6	26.2	5.98	2.67	0.61

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



Backlash (mm)	Weight (kg)	Catalog No.
0.08~0.18	0.013	KSSAY1-20
	0.020	KSSAY1-24
	0.022	KSSAY1-25
	0.028	KSSAY1-28
	0.032	KSSAY1-30
0.08~0.18	0.037	KSSAY1-32
	0.044	KSSAY1-35
	0.047	KSSAY1-36
	0.058	KSSAY1-40
	0.074	KSSAY1-45
0.08~0.18	0.084	KSSAY1-48
	0.090	KSSAY1-50
	0.11	KSSAY1-55
	0.11	KSSAY1-56
	0.13	KSSAY1-60
0.08~0.18	0.18	KSSAY1-70
	0.23	KSSAY1-80
	0.37	KSSAY1-100

[Caution on Product Characteristics]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① When performing secondary operations, be aware of deflection and distortion as the tooth is thin in width; deflection might occur if heat treated.
- ③ Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

KGCU-S Spur Gear Kit

Installment : Parallel axes gears
(Two-stage)

Gear Type : Spur Gears

Gears : 2 units of KSS1.5-16
2 units of KPS1.5-22

Gear Ratio : 1.89

Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

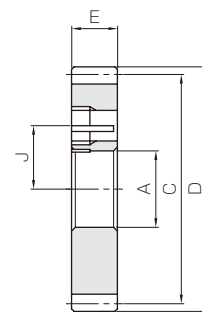
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1988)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

* The gear grade listed is the value before clamping.
The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S5

Catalog No.	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Set Screw		Allowable torque (N·m)	
				A _{H7}	C	D	E	Size	J	Bending strength	Surface durability
KSSAY0.8-28/K6	m0.8	28	S5	6	22.4	24	6	M5	6.3	3.55	0.26
KSSAY0.8-30/K6 /K8		30	S5	6 8	24	25.6	6	M5	6.3 7.3	3.89	0.30
KSSAY0.8-32/K6 /K8		32	S5	6 8	25.6	27.2	6	M5	6.3 7.3	4.24	0.34
KSSAY0.8-35/K6 /K8		35	S5	6 8	28	29.6	6	M5	6.3 7.3	4.77	0.41
KSSAY0.8-36/K6 /K8		36	S5	6 8	28.8	30.4	6	M5	6.3 7.3	4.95	0.43
KSSAY0.8-40/K6 /K8 /K10		40	S5	6 8 10	32	33.6	6	M5	6.3 7.3 8.3	5.66	0.54
KSSAY0.8-45/K6 /K8 /K10		45	S5	6 8 10	36	37.6	6	M5	6.3 7.3 8.3	6.56	0.70
KSSAY0.8-48/K6 /K8 /K10		48	S5	6 8 10	38.4	40	6	M5	6.3 7.3 8.3	7.11	0.80
KSSAY0.8-50/K6 /K8 /K10		50	S5	6 8 10	40	41.6	6	M5	6.3 7.3 8.3	7.47	0.87
KSSAY0.8-55/K6 /K8 /K10		55	S5	6 8 10	44	45.6	6	M5	6.3 7.3 8.3	8.39	1.06
KSSAY0.8-56/K6 /K8 /K10		56	S5	6 8 10	44.8	46.4	6	M5	6.3 7.3 8.3	8.57	1.10
KSSAY0.8-60/K6 /K8 /K10		60	S5	6 8 10	48	49.6	6	M5	6.3 7.3 8.3	9.30	1.28

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ The reference slipping torques shown in the table are experimentally obtained by attaching the gears to shafts with g6 tolerance and 0.4a surface finish.
- ⑤ Do not tighten the clamping screw without inserting a shaft, or the bore will be permanently deformed and will not accept a shaft.



Spur
GearsHelical
GearsInternal
Gears

Racks

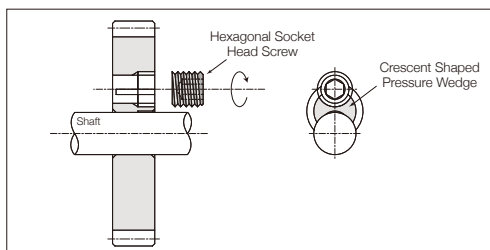
CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products

Allowable torque (kgf-m)		Reference slipping torque (N-m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Screw fastening torque	Ref. slipping torque			
0.36	0.026	2.8	2.4	0 ~ 0.10	0.017	KSSAY0.8-28/K6
0.40	0.030	2.8	2.4 3.7	0 ~ 0.10	0.020 0.019	KSSAY0.8-30/K6 /K8
0.43	0.035	2.8	2.4 3.7	0 ~ 0.10	0.023 0.022	KSSAY0.8-32/K6 /K8
0.49	0.042	2.8	2.4 3.7	0 ~ 0.10	0.028 0.027	KSSAY0.8-35/K6 /K8
0.50	0.044	2.8	2.4 3.7	0 ~ 0.10	0.029 0.028	KSSAY0.8-36/K6 /K8
0.58	0.055	2.8	2.4 3.7 3.9	0 ~ 0.10	0.037 0.036 0.034	KSSAY0.8-40/K6 /K8 /K10
0.67	0.071	2.8	2.4 3.7 3.9	0 ~ 0.10	0.047 0.046 0.044	KSSAY0.8-45/K6 /K8 /K10
0.72	0.081	2.8	2.4 3.7 3.9	0 ~ 0.10	0.053 0.052 0.051	KSSAY0.8-48/K6 /K8 /K10
0.76	0.089	2.8	2.4 3.7 3.9	0 ~ 0.10	0.058 0.057 0.055	KSSAY0.8-50/K6 /K8 /K10
0.86	0.11	2.8	2.4 3.7 3.9	0 ~ 0.10	0.070 0.069 0.068	KSSAY0.8-55/K6 /K8 /K10
0.87	0.11	2.8	2.4 3.7 3.9	0 ~ 0.10	0.073 0.072 0.071	KSSAY0.8-56/K6 /K8 /K10
0.95	0.13	2.8	2.4 3.7 3.9	0 ~ 0.10	0.084 0.083 0.082	KSSAY0.8-60/K6 /K8 /K10

- [Caution on Secondary Operations] ① As these are finished products, avoid performing secondary operations on the bore, with the exception of adding a keyway.
② Perform secondary operations carefully as to not to distort the clamping groove.

How does the K-Clamp work?

The K-Clamp uses a crescent shaped piece, appropriate for the size of the shaft as the pressure wedge to secure the gear on the shaft.



Application Hints

1. The slipping torque is affected by the fitting and clamping surface conditions. Remove as much lubricant as possible, and use the same size shaft as the bore, within h7 tolerances.
2. K-Clamp gears are suitable for relatively small gears in light loads with the bore size ranging between $\varnothing 6$ and $\varnothing 12$ mm. The gear will slip on the shaft when the actual load exceeds the slipping torque. The use of a key in addition to the K-Clamp is recommended for heavier loads or large bores sizes.



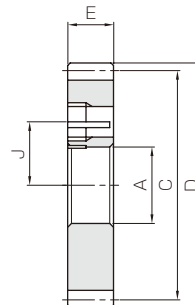


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

* The gear grade listed is the value before clamping. The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S5



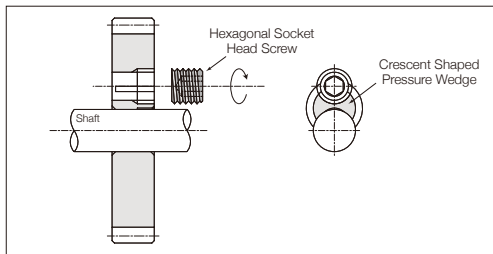
Catalog No.	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Set Screw		Allowable torque (N·m)	
				A _{H7}	C	D	E	Size	J	Bending strength	Surface durability
KSSAY1-24/K6	m1	24	S5	6	24	26	6	M5	6.3	4.48	0.30
KSSAY1-25/K6 /K8		25	S5	6 8	25	27	6	M5	6.3 7.3	4.74	0.32
KSSAY1-28/K6 /K8 /K10		28	S5	6 8 10	28	30	6	M5	6.3 7.3 8.3	5.55	0.41
KSSAY1-30/K6 /K8 /K10		30	S5	6 8 10	30	32	6	M5	6.3 7.3 8.3	6.08	0.47
KSSAY1-32/K6 /K8 /K10		32	S5	6 8 10	32	34	6	M5	6.3 7.3 8.3	6.63	0.54
KSSAY1-35/K6 /K8 /K10		35	S5	6 8 10	35	37	6	M5	6.3 7.3 8.3	7.45	0.66
KSSAY1-36/K6 /K8 /K10		36	S5	6 8 10	36	38	6	M5	6.3 7.3 8.3	7.73	0.70
KSSAY1-40/K6 /K8 /K10		40	S5	6 8 10	40	42	6	M5	6.3 7.3 8.3	8.84	0.87
KSSAY1-45/K6 /K8 /K10		45	S5	6 8 10	45	47	6	M5	6.3 7.3 8.3	10.3	1.12
KSSAY1-48/K6 /K8 /K10		48	S5	6 8 10	48	50	6	M5	6.3 7.3 8.3	11.1	1.28
KSSAY1-50/K8 /K10 /K12		50	S5	8 10 12	50	52	6	M5 M5 M6	7.3 8.3 9.9	11.7	1.39
KSSAY1-55/K8 /K10 /K12		55	S5	8 10 12	55	57	6	M5 M5 M6	7.3 8.3 9.9	13.1	1.70
KSSAY1-56/K8 /K10 /K12		56	S5	8 10 12	56	58	6	M5 M5 M6	7.3 8.3 9.9	13.4	1.77
KSSAY1-60/K8 /K10 /K12		60	S5	8 10 12	60	62	6	M5 M5 M6	7.3 8.3 9.9	14.5	2.04

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ The reference slipping torques shown in the table are experimentally obtained by attaching the gears to shafts with g6 tolerance and 0.4a surface finish.
- ⑤ Do not tighten the clamping screw without inserting a shaft, or the bore will be permanently deformed and will not accept a shaft.

How does the K-Clamp work?

The K-Clamp uses a crescent shaped piece, appropriate for the size of the shaft as the pressure wedge to secure the gear on the shaft.



Application Hints

1. The slipping torque is affected by the fitting and clamping surface conditions. Remove as much lubricant as possible, and use the same size shaft as the bore, within h7 tolerances.
2. K-Clamp gears are suitable for relatively small gears in light loads with the bore size ranging between $\varnothing 6$ and $\varnothing 12$ mm. The gear will slip on the shaft when the actual load exceeds the slipping torque. The use of a key in addition to the K-Clamp is recommended for heavier loads or large bores sizes.



Allowable torque (kgf-m)		Reference slipping torque (N-m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Screw fastening torque	Ref. slipping torque			
0.46	0.030	2.8	2.4	0.08~0.18	0.020	KSSAY1-24/K6
0.48	0.033	2.8	2.4	0.08~0.18	0.022	KSSAY1-25/K6 /K8
		2.8	3.7		0.021	
0.57	0.042	2.8	2.4	0.08~0.18	0.028	KSSAY1-28/K6 /K8 /K10
		2.8	3.7		0.027	
		2.8	3.9		0.025	
0.62	0.048	2.8	2.4	0.08~0.18	0.032	KSSAY1-30/K6 /K8 /K10
		2.8	3.7		0.031	
		2.8	3.9		0.030	
0.68	0.055	2.8	2.4	0.08~0.18	0.037	KSSAY1-32/K6 /K8 /K10
		2.8	3.7		0.036	
		2.8	3.9		0.034	
0.76	0.067	2.8	2.4	0.08~0.18	0.044	KSSAY1-35/K6 /K8 /K10
		2.8	3.7		0.043	
		2.8	3.9		0.042	
0.79	0.071	2.8	2.4	0.08~0.18	0.047	KSSAY1-36/K6 /K8 /K10
		2.8	3.7		0.046	
		2.8	3.9		0.044	
0.90	0.089	2.8	2.4	0.08~0.18	0.058	KSSAY1-40/K6 /K8 /K10
		2.8	3.7		0.057	
		2.8	3.9		0.055	
1.05	0.11	2.8	2.4	0.08~0.18	0.074	KSSAY1-45/K6 /K8 /K10
		2.8	3.7		0.073	
		2.8	3.9		0.071	
1.13	0.13	2.8	2.4	0.08~0.18	0.084	KSSAY1-48/K6 /K8 /K10
		2.8	3.7		0.083	
		2.8	3.9		0.082	
1.19	0.14	2.8	3.7	0.08~0.18	0.090	KSSAY1-50/K8 /K10 /K12
		2.8	3.9		0.089	
		4	6.6		0.087	
1.34	0.17	2.8	3.7	0.08~0.18	0.11	KSSAY1-55/K8 /K10 /K12
		2.8	3.9		0.11	
		4	6.6		0.11	
1.37	0.18	2.8	3.7	0.08~0.18	0.11	KSSAY1-56/K8 /K10 /K12
		2.8	3.9		0.11	
		4	6.6		0.11	
1.48	0.21	2.8	3.7	0.08~0.18	0.13	KSSAY1-60/K8 /K10 /K12
		2.8	3.9		0.13	
		4	6.6		0.13	

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② As these are finished products, avoid performing secondary operations on the bore, with the exception of adding a keyway.
- ③ Perform secondary operations carefully as to not to distort the clamping groove.

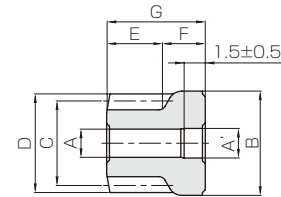


- Spur Gears
- Helical Gears
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- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) * JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SMF5040(Equivalent to S45C)
Heat treatment	—
Tooth hardness	(70 ~ 95HRB)

*The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S3

Catalog No.	Module	No. of teeth	Shape	Bore 1	Bore 2	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness
				A ^{-0.005/-0.020}	A'±0.1	B	C	D	E	F	G	H
KLS0.5-12	m0.5	12	S3	2	2.1	7.4	6	7	4	3	7	—
KLS0.5-16		16	S3	2	2.1	9.4	8	9	4	3	7	
KLS0.5-20		20	S3	3	3.1	11.4	10	11	4	4	8	
KLS0.5-25		25	S1	3	3.1	8.5	12.5	13.5	3	4	7	
KLS0.5-30		30	S1	3	3.1	9	15	16	3	4	7	
KLS0.5-40	m0.5	40	S9	3	3.1	9	20	21	3	4	7	1.5
KLS0.5-50		50	S9	4	4.1	12	25	26	3	5	8	1.5
KLS0.5-60		60	S9	4	4.1	12	30	31	3	5	8	1.5
KLS0.5-70		70	S9	4	4.1	12	35	36	3	5	8	1.5
KLS0.5-80		80	S9	4	4.1	12	40	41	3	5	8	1.5
KLS0.8-12	m0.8	12	S3	3	3.1	11.6	9.6	11.2	5	4	9	—
KLS0.8-16		16	S1	3	3.1	8	12.8	14.4	4	4	8	
KLS0.8-20		20	S1	3	3.1	9	16	17.6	4	4	8	
KLS0.8-25		25	S1	3	3.1	9	20	21.6	4	4	8	
KLS0.8-30		30	S1	4	4.1	12	24	25.6	4	5	9	
KLS0.8-40	m0.8	40	S9	4	4.1	12	32	33.6	4	5	9	2
KLS0.8-50		50	S9	4	4.1	12	40	41.6	4	5	9	2
KLS0.8-60		60	S9	4	4.1	12	48	49.6	4	5	9	2
KLS0.8-70		70	S9	5	5.1	15	56	57.6	4	6	10	2
KLS0.8-80		80	S9	5	5.1	15	64	65.6	4	6	10	2

[Caution on Product Characteristics]

- ① Although the sintering process allows for the inclusion of oil to maintain lubricity, these gears have not been oil impregnated.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ Since the bore is finished with a minus tolerance, you can use a shaft with a force fit

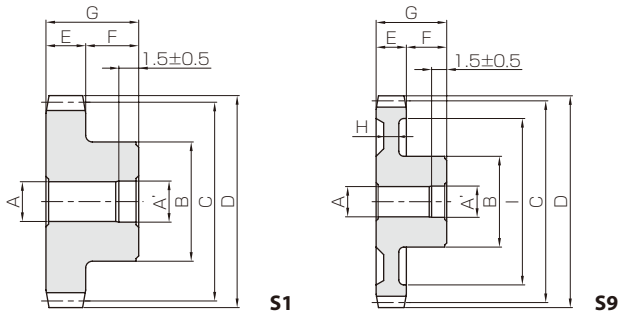
Characteristics of KLS Sintered Steel Spur gears

1. Cost is minimized due to the elimination of machining and reduction in waste material.
2. Reliable, high precision sintered products (JIS N8 Class) maintain precision.
3. Being porous by oil-impregnated sintering, lubrication is maintained.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



Sintered Metal Spur Gears



Web O.D. I	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (g)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
—	0.11	0.0078	0.011	0.0008	0.06~0.16	1.61	KLS0.5-12
	0.23	0.015	0.023	0.0015	0.06~0.16	2.84	KLS0.5-16
	0.32	0.023	0.032	0.0024	0.06~0.16	4.89	KLS0.5-20
	0.33	0.027	0.033	0.0028	0.10~0.20	4.01	KLS0.5-25
	0.42	0.040	0.043	0.0040	0.10~0.20	5.40	KLS0.5-30
16.5	0.61	0.072	0.062	0.0073	0.10~0.20	6.77	KLS0.5-40
21.5	0.81	0.11	0.082	0.012	0.12~0.24	11.5	KLS0.5-50
26.5	1.00	0.17	0.10	0.017	0.12~0.24	14.2	KLS0.5-60
31.5	1.20	0.23	0.12	0.024	0.12~0.24	17.3	KLS0.5-70
36.5	1.41	0.31	0.14	0.032	0.12~0.24	20.8	KLS0.5-80
—	0.36	0.026	0.037	0.0027	0.06~0.16	5.29	KLS0.8-12
	0.58	0.038	0.059	0.0039	0.06~0.16	4.84	KLS0.8-16
	0.81	0.060	0.083	0.0061	0.06~0.16	7.36	KLS0.8-20
	1.12	0.095	0.11	0.0097	0.10~0.20	10.7	KLS0.8-25
	1.43	0.14	0.15	0.014	0.10~0.20	16.6	KLS0.8-30
26.4	2.09	0.26	0.21	0.026	0.10~0.20	20.6	KLS0.8-40
34.4	2.75	0.41	0.28	0.042	0.12~0.24	28.3	KLS0.8-50
42.4	3.43	0.60	0.35	0.062	0.12~0.24	37.4	KLS0.8-60
50.4	4.11	0.84	0.42	0.085	0.12~0.24	52.0	KLS0.8-70
58.4	4.80	1.11	0.49	0.11	0.12~0.24	64.1	KLS0.8-80

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.
- ③ The rust prevention process involves treating the gears with steam (in effect, creating surface oxidation). A black oxide treatment cannot be done on these gears.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

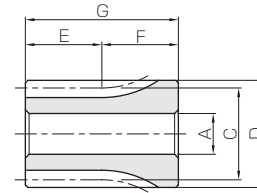
Bevel Gearboxes

Other Products





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1988)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)



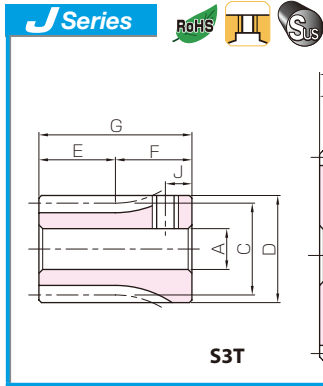
*The precision grade of J Series products is equivalent to the value shown in the table.

S3

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSUS1-15 ●KSUS1-15J8	m1	15	S3 S3T	8 8	17	15	17	10	20	30	—
KSUS1-16 ●KSUS1-16J8		16	S3 S3T	8 8	18	16	18	10	20	30	—
KSUS1-18 ●KSUS1-18J8		18	S3 S3T	8 8	20	18	20	10	20	30	—
KSUS1-20 ●KSUS1-20J8		20	S1 S1T	8 8	16	20	22	10	10	20	—
KSUS1-22 ●KSUS1-22J8		22	S1 S1T	8 8	18	22	24	10	10	20	—
KSUS1-24 ●KSUS1-24J8		24	S1 S1T	8 8	20	24	26	10	10	20	—
KSUS1-25 ●KSUS1-25J8		25	S1 S1T	8 8	20	25	27	10	10	20	—
KSUS1-28 ●KSUS1-28J8 ●KSUS1-28J10 ●KSUS1-28J12		28	S1 S1T S1K S1K	8 8 10 12	23	28	30	10	10	20	— — 4 x 1.8 4 x 1.8
KSUS1-30 ●KSUS1-30J8 ●KSUS1-30J10 ●KSUS1-30J12		30	S1 S1T S1K S1K	8 8 10 12	25	30	32	10	10	20	— — 4 x 1.8 4 x 1.8
KSUS1-32 ●KSUS1-32J8 ●KSUS1-32J10 ●KSUS1-32J12 ●KSUS1-32J14		32	S1 S1T S1K S1K S1K	8 8 10 12 14	26	32	34	10	10	20	— — 4 x 1.8 4 x 1.8 5 x 2.3
KSUS1-35 ●KSUS1-35J8 ●KSUS1-35J10 ●KSUS1-35J12 ●KSUS1-35J14		35	S1 S1T S1K S1K S1K	8 8 10 12 14	26	35	37	10	10	20	— — 4 x 1.8 4 x 1.8 5 x 2.3
KSUS1-36 ●KSUS1-36J8 ●KSUS1-36J10 ●KSUS1-36J12 ●KSUS1-36J14 ●KSUS1-36J15 ●KSUS1-36J16		36	S1 S1T S1K S1K S1K S1K	8 8 10 12 14 15 16	28	36	38	10	10	20	— — 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3
KSUS1-40 ●KSUS1-40J10 ●KSUS1-40J12 ●KSUS1-40J14 ●KSUS1-40J15 ●KSUS1-40J16 ●KSUS1-40J17 ●KSUS1-40J18 ●KSUS1-40J19 ●KSUS1-40J20		40	S1 S1K S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 17 18 19 20	35	40	42	10	10	20	— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8
KSUS1-42 ●KSUS1-42J10 ●KSUS1-42J12 ●KSUS1-42J14 ●KSUS1-42J15 ●KSUS1-42J16 ●KSUS1-42J17 ●KSUS1-42J18 ●KSUS1-42J19 ●KSUS1-42J20		42	S1 S1K S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 17 18 19 20	35	42	44	10	10	20	— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100	120
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	2.04	0.12	0.21	0.013	0.08~0.18	0.037 0.037	KSUS1-15 ● KSUS1-15J8
—	—	2.26	0.14	0.23	0.015	0.08~0.18	0.044 0.043	KSUS1-16 ● KSUS1-16J8
—	—	2.71	0.18	0.28	0.019	0.08~0.18	0.057 0.056	KSUS1-18 ● KSUS1-18J8
—	—	3.18	0.23	0.32	0.024	0.08~0.18	0.032 0.032	KSUS1-20 ● KSUS1-20J8
—	—	3.65	0.29	0.37	0.029	0.08~0.18	0.042 0.041	KSUS1-22 ● KSUS1-22J8
—	—	4.13	0.35	0.42	0.036	0.08~0.18	0.052 0.051	KSUS1-24 ● KSUS1-24J8
—	—	4.37	0.38	0.45	0.039	0.08~0.18	0.055 0.054	KSUS1-25 ● KSUS1-25J8
—	—	5.11	0.48	0.52	0.049	0.08~0.18	0.073 0.071 0.066 0.061	KSUS1-28 ● KSUS1-28J8 ● KSUS1-28J10 ● KSUS1-28J12
—	—	5.6	0.56	0.57	0.057	0.08~0.18	0.086 0.084 0.079 0.073	KSUS1-30 ● KSUS1-30J8 ● KSUS1-30J10 ● KSUS1-30J12
—	—	6.11	0.64	0.62	0.066	0.08~0.18	0.096 0.095 0.089 0.084 0.077	KSUS1-32 ● KSUS1-32J8 ● KSUS1-32J10 ● KSUS1-32J12 ● KSUS1-32J14
—	—	6.87	0.78	0.70	0.079	0.08~0.18	0.11 0.11 0.10 0.096 0.089	KSUS1-35 ● KSUS1-35J8 ● KSUS1-35J10 ● KSUS1-35J12 ● KSUS1-35J14
—	—	7.12	0.82	0.73	0.084	0.08~0.18	0.12 0.12 0.11 0.11 0.11 0.10 0.097 0.093	KSUS1-36 ● KSUS1-36J8 ● KSUS1-36J10 ● KSUS1-36J12 ● KSUS1-36J14 ● KSUS1-36J15 ● KSUS1-36J16
—	—	8.15	1.03	0.83	0.11	0.08~0.18	0.16 0.16 0.15 0.15 0.15 0.14 0.14 0.13 0.13 0.12 0.12	KSUS1-40 ● KSUS1-40J10 ● KSUS1-40J12 ● KSUS1-40J14 ● KSUS1-40J15 ● KSUS1-40J16 ● KSUS1-40J17 ● KSUS1-40J18 ● KSUS1-40J19 ● KSUS1-40J20
—	—	8.66	1.14	0.88	0.12	0.08~0.18	0.17 0.17 0.16 0.16 0.16 0.15 0.15 0.14 0.14 0.13 0.13	KSUS1-42 ● KSUS1-42J10 ● KSUS1-42J12 ● KSUS1-42J14 ● KSUS1-42J15 ● KSUS1-42J16 ● KSUS1-42J17 ● KSUS1-42J18 ● KSUS1-42J19 ● KSUS1-42J20

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

*** Please see book one for additional products in these modules.**





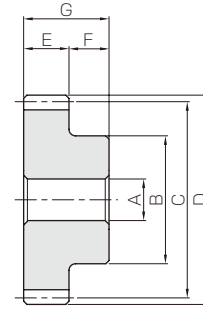
KSUS Stainless Steel Spur Gears

Module 1



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

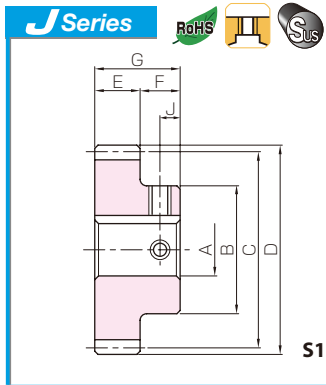


S1

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSUS1-45 ●KSUS1-45J10 ●KSUS1-45J12 ●KSUS1-45J14 ●KSUS1-45J15 ●KSUS1-45J16 ●KSUS1-45J17 ●KSUS1-45J18 ●KSUS1-45J19 ●KSUS1-45J20	m1	45	S1	10	35	45	47	10	10	20	—
			S1K	10							4 × 1.8
			S1K	12							4 × 1.8
			S1K	14							5 × 2.3
			S1K	15							5 × 2.3
			S1K	16							5 × 2.3
			S1K	17							5 × 2.3
			S1K	18							6 × 2.8
			S1K	19							6 × 2.8
			S1K	20							6 × 2.8
KSUS1-48 ●KSUS1-48J10 ●KSUS1-48J12 ●KSUS1-48J14 ●KSUS1-48J15 ●KSUS1-48J16 ●KSUS1-48J17 ●KSUS1-48J18 ●KSUS1-48J19 ●KSUS1-48J20	m1	48	S1	10	35	48	50	10	10	20	—
			S1K	10							4 × 1.8
			S1K	12							4 × 1.8
			S1K	14							5 × 2.3
			S1K	15							5 × 2.3
			S1K	16							5 × 2.3
			S1K	17							5 × 2.3
			S1K	18							6 × 2.8
			S1K	19							6 × 2.8
			S1K	20							6 × 2.8
KSUS1-50 ●KSUS1-50J10 ●KSUS1-50J12 ●KSUS1-50J14 ●KSUS1-50J15 ●KSUS1-50J16 ●KSUS1-50J17 ●KSUS1-50J18 ●KSUS1-50J19 ●KSUS1-50J20	m1	50	S1	10	35	50	52	10	10	20	—
			S1K	10							4 × 1.8
			S1K	12							4 × 1.8
			S1K	14							5 × 2.3
			S1K	15							5 × 2.3
			S1K	16							5 × 2.3
			S1K	17							5 × 2.3
			S1K	18							6 × 2.8
			S1K	19							6 × 2.8
			S1K	20							6 × 2.8
KSUS1-55 ●KSUS1-55J10 ●KSUS1-55J12 ●KSUS1-55J14 ●KSUS1-55J15 ●KSUS1-55J16 ●KSUS1-55J17 ●KSUS1-55J18 ●KSUS1-55J19 ●KSUS1-55J20 ●KSUS1-55J22	m1	55	S1	10	40	55	57	10	10	20	—
			S1K	10							4 × 1.8
			S1K	12							4 × 1.8
			S1K	14							5 × 2.3
			S1K	15							5 × 2.3
			S1K	16							5 × 2.3
			S1K	17							5 × 2.3
			S1K	18							6 × 2.8
			S1K	19							6 × 2.8
			S1K	22							6 × 2.8
KSUS1-56 ●KSUS1-56J10 ●KSUS1-56J12 ●KSUS1-56J14 ●KSUS1-56J15 ●KSUS1-56J16 ●KSUS1-56J17 ●KSUS1-56J18 ●KSUS1-56J19 ●KSUS1-56J20 ●KSUS1-56J22	m1	56	S1	10	40	56	58	10	10	20	—
			S1K	10							4 × 1.8
			S1K	12							4 × 1.8
			S1K	14							5 × 2.3
			S1K	15							5 × 2.3
			S1K	16							5 × 2.3
			S1K	17							5 × 2.3
			S1K	18							6 × 2.8
			S1K	19							6 × 2.8
			S1K	22							6 × 2.8
KSUS1-60 ●KSUS1-60J10 ●KSUS1-60J12 ●KSUS1-60J14 ●KSUS1-60J15 ●KSUS1-60J16 ●KSUS1-60J17 ●KSUS1-60J18 ●KSUS1-60J19 ●KSUS1-60J20 ●KSUS1-60J22	m1	60	S1	10	40	60	62	10	10	20	—
			S1K	10							4 × 1.8
			S1K	12							4 × 1.8
			S1K	14							5 × 2.3
			S1K	15							5 × 2.3
			S1K	16							5 × 2.3
			S1K	17							5 × 2.3
			S1K	18							6 × 2.8
			S1K	19							6 × 2.8
			S1K	22							6 × 2.8

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100	120
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)	
Size	J	Bending strength	Surface durability	Bending strength	Surface durability				
—	—	9.44	1.32	0.96	0.13	0.08~0.18	0.19	KSUS1-45	
M4	5							0.18	●KSUS1-45J10
M4	5							0.18	●KSUS1-45J12
M4	5							0.17	●KSUS1-45J14
M4	5							0.17	●KSUS1-45J15
M4	5							0.16	●KSUS1-45J16
M4	5							0.16	●KSUS1-45J17
M5	5							0.15	●KSUS1-45J18
M5	5							0.15	●KSUS1-45J19
M5	5	0.15	●KSUS1-45J20						
—	—	10.2	1.51	1.04	0.15	0.08~0.18	0.20	KSUS1-48	
M4	5							0.20	●KSUS1-48J10
M4	5							0.20	●KSUS1-48J12
M4	5							0.19	●KSUS1-48J14
M4	5							0.18	●KSUS1-48J15
M4	5							0.18	●KSUS1-48J16
M4	5							0.18	●KSUS1-48J17
M5	5							0.17	●KSUS1-48J18
M5	5							0.17	●KSUS1-48J19
M5	5	0.16	●KSUS1-48J20						
—	—	10.8	1.65	1.10	0.17	0.08~0.18	0.22	KSUS1-50	
M4	5							0.21	●KSUS1-50J10
M4	5							0.21	●KSUS1-50J12
M4	5							0.20	●KSUS1-50J14
M4	5							0.20	●KSUS1-50J15
M4	5							0.19	●KSUS1-50J16
M4	5							0.19	●KSUS1-50J17
M5	5							0.18	●KSUS1-50J18
M5	5							0.18	●KSUS1-50J19
M5	5	0.17	●KSUS1-50J20						
—	—	12.1	2.01	1.23	0.21	0.08~0.18	0.27	KSUS1-55	
M4*	5							0.27	●KSUS1-55J10
M4	5							0.26	●KSUS1-55J12
M4	5							0.25	●KSUS1-55J14
M4	5							0.25	●KSUS1-55J15
M4	5							0.25	●KSUS1-55J16
M4	5							0.24	●KSUS1-55J17
M5	5							0.24	●KSUS1-55J18
M5	5							0.23	●KSUS1-55J19
M5	5	0.23	●KSUS1-55J20						
M5	5	0.22	●KSUS1-55J22						
—	—	12.3	2.09	1.26	0.21	0.08~0.18	0.28	KSUS1-56	
M4*	5							0.27	●KSUS1-56J10
M4	5							0.27	●KSUS1-56J12
M4	5							0.26	●KSUS1-56J14
M4	5							0.26	●KSUS1-56J15
M4	5							0.26	●KSUS1-56J16
M4	5							0.25	●KSUS1-56J17
M5	5							0.25	●KSUS1-56J18
M5	5							0.24	●KSUS1-56J19
M5	5	0.24	●KSUS1-56J20						
M5	5	0.23	●KSUS1-56J22						
—	—	13.4	2.42	1.37	0.25	0.08~0.18	0.31	KSUS1-60	
M4*	5							0.30	●KSUS1-60J10
M4	5							0.30	●KSUS1-60J12
M4	5							0.29	●KSUS1-60J14
M4	5							0.29	●KSUS1-60J15
M4	5							0.28	●KSUS1-60J16
M4	5							0.28	●KSUS1-60J17
M5	5							0.27	●KSUS1-60J18
M5	5							0.27	●KSUS1-60J19
M5	5	0.26	●KSUS1-60J20						
M5	5	0.25	●KSUS1-60J22						

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

*Please see book one for additional products in these modules.





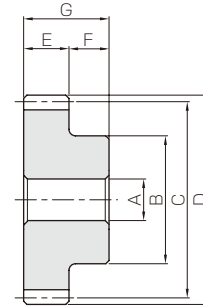
KSUS Stainless Steel Spur Gears

Module 1



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S1

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSUS1-64 ●KSUS1-64J10 ●KSUS1-64J12 ●KSUS1-64J14 ●KSUS1-64J15 ●KSUS1-64J16 ●KSUS1-64J17 ●KSUS1-64J18 ●KSUS1-64J19 ●KSUS1-64J20 ●KSUS1-64J22 ●KSUS1-64J25	m1	64	S1	10	45	64	66	10	10	20	
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K			20	6 x 2.8							
S1K			22	6 x 2.8							
S1K			25	8 x 3.3							
KSUS1-70 ●KSUS1-70J10 ●KSUS1-70J12 ●KSUS1-70J14 ●KSUS1-70J15 ●KSUS1-70J16 ●KSUS1-70J17 ●KSUS1-70J18 ●KSUS1-70J19 ●KSUS1-70J20 ●KSUS1-70J22 ●KSUS1-70J25 ●KSUS1-70J28 ●KSUS1-70J30		70	S1	10	50	70	72	10	10	20	
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K			20	6 x 2.8							
S1K			22	6 x 2.8							
S1K			25	8 x 3.3							
KSUS1-75 ●KSUS1-75J10 ●KSUS1-75J12 ●KSUS1-75J14 ●KSUS1-75J15 ●KSUS1-75J16 ●KSUS1-75J17 ●KSUS1-75J18 ●KSUS1-75J19 ●KSUS1-75J20 ●KSUS1-75J22 ●KSUS1-75J25 ●KSUS1-75J28 ●KSUS1-75J30 ●KSUS1-75J32		75	S1	10	55	75	77	10	10	20	
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K	17		5 x 2.3								
S1K	18		6 x 2.8								
S1K	19		6 x 2.8								
S1K	20		6 x 2.8								
S1K	22		6 x 2.8								
S1K	25		8 x 3.3								
KSUS1-80 ●KSUS1-80J10 ●KSUS1-80J12 ●KSUS1-80J14 ●KSUS1-80J15 ●KSUS1-80J16 ●KSUS1-80J17 ●KSUS1-80J18 ●KSUS1-80J19 ●KSUS1-80J20 ●KSUS1-80J22 ●KSUS1-80J25 ●KSUS1-80J28 ●KSUS1-80J30 ●KSUS1-80J32 ●KSUS1-80J35	80	S1	10	60	80	82	10	10	20		
S1K		10	4 x 1.8								
S1K		12	4 x 1.8								
S1K		14	5 x 2.3								
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		20	6 x 2.8								
S1K		22	6 x 2.8								
S1K		25	8 x 3.3								
S1K	28	8 x 3.3									
S1K	30	8 x 3.3									
S1K	32	10 x 3.3									
S1K	35	10 x 3.3									

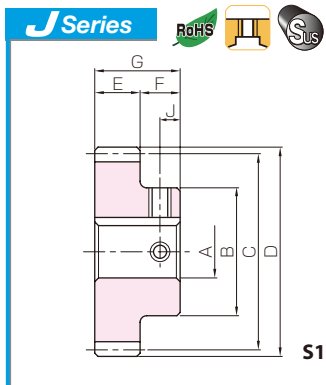
*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100	120
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Stainless Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	5	14.5	2.77	1.47	0.28	0.08~0.18	0.36	KSUS1-64
M4*	5							●KSUS1-64J10
M4*	5							●KSUS1-64J12
M4*	5							●KSUS1-64J14
M4*	5							●KSUS1-64J15
M4*	5							●KSUS1-64J16
M4	5							●KSUS1-64J17
M5	5							●KSUS1-64J18
M5	5							●KSUS1-64J19
M5	5							●KSUS1-64J20
M5	5	●KSUS1-64J22						
M6	5	●KSUS1-64J25						
M4*	5	16.1	3.34	1.64	0.34	0.08~0.18	0.44	KSUS1-70
M4*	5							●KSUS1-70J10
M4*	5							●KSUS1-70J12
M4*	5							●KSUS1-70J14
M4*	5							●KSUS1-70J15
M4*	5							●KSUS1-70J16
M4*	5							●KSUS1-70J17
M5	5							●KSUS1-70J18
M5	5							●KSUS1-70J19
M5	5							●KSUS1-70J20
M5	5							●KSUS1-70J22
M6	5							●KSUS1-70J25
M6	5							●KSUS1-70J28
M6	5							●KSUS1-70J30
M4*	5	17.4	3.86	1.77	0.39	0.08~0.18	0.52	KSUS1-75
M4*	5							●KSUS1-75J10
M4*	5							●KSUS1-75J12
M4*	5							●KSUS1-75J14
M4*	5							●KSUS1-75J15
M4*	5							●KSUS1-75J16
M4*	5							●KSUS1-75J17
M5*	5							●KSUS1-75J18
M5*	5							●KSUS1-75J19
M5*	5							●KSUS1-75J20
M5	5							●KSUS1-75J22
M6	5							●KSUS1-75J25
M6	5							●KSUS1-75J28
M6	5							●KSUS1-75J30
M8	5							●KSUS1-75J32
M4*	5							18.7
M4*	5	●KSUS1-80J10						
M4*	5	●KSUS1-80J12						
M4*	5	●KSUS1-80J14						
M4*	5	●KSUS1-80J15						
M4*	5	●KSUS1-80J16						
M4*	5	●KSUS1-80J17						
M5*	5	●KSUS1-80J18						
M5*	5	●KSUS1-80J19						
M5*	5	●KSUS1-80J20						
M5*	5	●KSUS1-80J22						
M6	5	●KSUS1-80J25						
M6	5	●KSUS1-80J28						
M6	5	●KSUS1-80J30						
M8	5	●KSUS1-80J32						
M8	5	●KSUS1-80J35						

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.





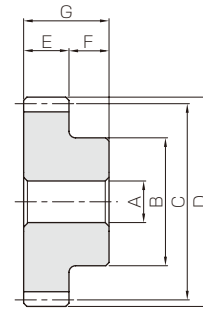
KSUS Stainless Steel Spur Gears

Module 1



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



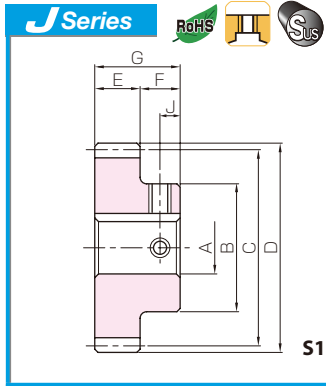
S1

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSUS1-90 ●KSUS1-90J10 ●KSUS1-90J12 ●KSUS1-90J14 ●KSUS1-90J15 ●KSUS1-90J16 ●KSUS1-90J17 ●KSUS1-90J18 ●KSUS1-90J19 ●KSUS1-90J20 ●KSUS1-90J22 ●KSUS1-90J25 ●KSUS1-90J28 ●KSUS1-90J30 ●KSUS1-90J32 ●KSUS1-90J35	m1	90	S1	10	60	90	92	10	10	20	
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K			20	6 x 2.8							
S1K			22	6 x 2.8							
S1K			25	8 x 3.3							
S1K			28	8 x 3.3							
S1K			30	8 x 3.3							
S1K			32	10 x 3.3							
S1K		35	10 x 3.3								
KSUS1-100 ●KSUS1-100J12 ●KSUS1-100J14 ●KSUS1-100J15 ●KSUS1-100J16 ●KSUS1-100J17 ●KSUS1-100J18 ●KSUS1-100J19 ●KSUS1-100J20 ●KSUS1-100J22 ●KSUS1-100J25 ●KSUS1-100J28 ●KSUS1-100J30 ●KSUS1-100J32 ●KSUS1-100J35		100	S1	12	60	100	102	10	10	20	
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K			20	6 x 2.8							
S1K			22	6 x 2.8							
S1K			25	8 x 3.3							
S1K			28	8 x 3.3							
S1K			30	8 x 3.3							
S1K			32	10 x 3.3							
S1K			35	10 x 3.3							
KSUS1-120 ●KSUS1-120J12 ●KSUS1-120J14 ●KSUS1-120J15 ●KSUS1-120J16 ●KSUS1-120J17 ●KSUS1-120J18 ●KSUS1-120J19 ●KSUS1-120J20 ●KSUS1-120J22 ●KSUS1-120J25 ●KSUS1-120J28 ●KSUS1-120J30 ●KSUS1-120J32 ●KSUS1-120J35		120	S1	12	60	120	122	10	10	20	
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K	16		5 x 2.3								
S1K	17		5 x 2.3								
S1K	18		6 x 2.8								
S1K	19		6 x 2.8								
S1K	20		6 x 2.8								
S1K	22		6 x 2.8								
S1K	25		8 x 3.3								
S1K	28		8 x 3.3								
S1K	30		8 x 3.3								
S1K	32		10 x 3.3								
S1K	35		10 x 3.3								

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100	120
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S1K



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	5	21.4	5.67	2.19	0.58	0.08~0.18	0.70 0.70 0.69 0.69 0.68 0.68 0.68 0.67 0.66 0.66 0.65 0.63 0.61 0.60 0.58 0.55	KSUS1-90 ●KSUS1-90J10 ●KSUS1-90J12 ●KSUS1-90J14 ●KSUS1-90J15 ●KSUS1-90J16 ●KSUS1-90J17 ●KSUS1-90J18 ●KSUS1-90J19 ●KSUS1-90J20 ●KSUS1-90J22 ●KSUS1-90J25 ●KSUS1-90J28 ●KSUS1-90J30 ●KSUS1-90J32 ●KSUS1-90J35
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M8	5							
M8	5							
M4*	5	24.1	7.08	2.46	0.72	0.08~0.18	0.82 0.81 0.80 0.80 0.80 0.79 0.78 0.78 0.78 0.77 0.74 0.73 0.71 0.69 0.67	KSUS1-100 ●KSUS1-100J12 ●KSUS1-100J14 ●KSUS1-100J15 ●KSUS1-100J16 ●KSUS1-100J17 ●KSUS1-100J18 ●KSUS1-100J19 ●KSUS1-100J20 ●KSUS1-100J22 ●KSUS1-100J25 ●KSUS1-100J28 ●KSUS1-100J30 ●KSUS1-100J32 ●KSUS1-100J35
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M8	5							
M8	5							
M4*	5	29.6	10.4	3.01	1.06	0.08~0.18	1.09 1.08 1.07 1.07 1.07 1.06 1.05 1.05 1.05 1.04 1.03 1.01 1.00 0.98 0.96 0.94	KSUS1-120 ●KSUS1-120J12 ●KSUS1-120J14 ●KSUS1-120J15 ●KSUS1-120J16 ●KSUS1-120J17 ●KSUS1-120J18 ●KSUS1-120J19 ●KSUS1-120J20 ●KSUS1-120J22 ●KSUS1-120J25 ●KSUS1-120J28 ●KSUS1-120J30 ●KSUS1-120J32 ●KSUS1-120J35
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M4*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M5*	5							
M6	5							
M6	5							
M8	5							
M8	5							

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ For products having a tapped hole, a set screw is included.



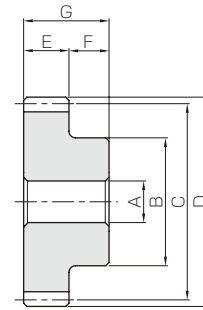
KSUS Stainless Steel Spur Gears

Module 1.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



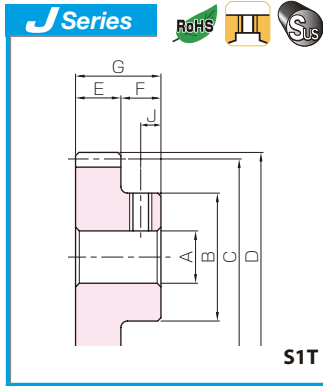
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Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS1.5-15 ● KSUS1.5-15J8	m1.5	15	S1	8	18	22.5	25.5	15	14	29	
S1T			8								
KSUS1.5-16 ● KSUS1.5-16J8		16	S1	8	20	24	27	15	14	29	
S1T			8								
KSUS1.5-18 ● KSUS1.5-18J8 ● KSUS1.5-18J10		18	S1	8	22	27	30	15	14	29	4 x 1.8
S1T			8								
S1K			10								
KSUS1.5-20 ● KSUS1.5-20J8 ● KSUS1.5-20J10 ● KSUS1.5-20J12		20	S1	8	24	30	33	15	14	29	4 x 1.8 4 x 1.8
S1T			8								
S1K			10								
S1K			12								
KSUS1.5-22 ● KSUS1.5-22J8 ● KSUS1.5-22J10 ● KSUS1.5-22J12 ● KSUS1.5-22J14		22	S1	8	26	33	36	15	14	29	4 x 1.8 4 x 1.8 5 x 2.3
S1T			8								
S1K			10								
S1K			12								
S1K	14										
KSUS1.5-24 ● KSUS1.5-24J8 ● KSUS1.5-24J10 ● KSUS1.5-24J12 ● KSUS1.5-24J14 ● KSUS1.5-24J15 ● KSUS1.5-24J16	24	S1	8	28	36	39	15	14	29	4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3	
S1T		8									
S1K		10									
S1K		12									
S1K		14									
S1K		15									
S1K	16										
KSUS1.5-25 ● KSUS1.5-25J8 ● KSUS1.5-25J10 ● KSUS1.5-25J12 ● KSUS1.5-25J14 ● KSUS1.5-25J15 ● KSUS1.5-25J16 ● KSUS1.5-25J17	25	S1	8	30	37.5	40.5	15	14	29	4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3	
S1T		8									
S1K		10									
S1K		12									
S1K		14									
S1K		15									
S1K		16									
S1K	17										
KSUS1.5-28 ● KSUS1.5-28J10 ● KSUS1.5-28J12 ● KSUS1.5-28J14 ● KSUS1.5-28J15 ● KSUS1.5-28J16 ● KSUS1.5-28J17 ● KSUS1.5-28J18 ● KSUS1.5-28J19 ● KSUS1.5-28J20	28	S1	10	36	42	45	15	14	29	4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8	
S1K		10									
S1K		12									
S1K		14									
S1K		15									
S1K		16									
S1K		17									
S1K		18									
S1K		19									
S1K	20										
KSUS1.5-30 ● KSUS1.5-30J10 ● KSUS1.5-30J12 ● KSUS1.5-30J14 ● KSUS1.5-30J15 ● KSUS1.5-30J16 ● KSUS1.5-30J17 ● KSUS1.5-30J18 ● KSUS1.5-30J19 ● KSUS1.5-30J20 ● KSUS1.5-30J22	30	S1	10	38	45	48	15	14	29	4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8	
S1K		10									
S1K		12									
S1K		14									
S1K		15									
S1K		16									
S1K		17									
S1K		18									
S1K		19									
S1K		20									
S1K		22									

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M5	7	6.89	0.43	0.70	0.044	0.10~0.22	0.063 0.062	KSUS1.5-15 ● KSUS1.5-15J8
M5	7	7.63	0.50	0.78	0.051	0.10~0.22	0.076 0.075	KSUS1.5-16 ● KSUS1.5-16J8
M5	7	9.16	0.65	0.93	0.066	0.10~0.22	0.097	KSUS1.5-18 ● KSUS1.5-18J8 ● KSUS1.5-18J10
M4	7						0.096 0.088	
M5	7	10.7	0.82	1.09	0.084	0.10~0.22	0.12	KSUS1.5-20 ● KSUS1.5-20J8 ● KSUS1.5-20J10 ● KSUS1.5-20J12
M4	7						0.12	
M4	7						0.11 0.10	
M5	7	12.3	1.01	1.26	0.10	0.12~0.26	0.15	KSUS1.5-22 ● KSUS1.5-22J8 ● KSUS1.5-22J10 ● KSUS1.5-22J12 ● KSUS1.5-22J14
M4	7						0.15	
M4	7						0.14	
M4	7						0.13 0.12	
M5	7	13.9	1.23	1.42	0.13	0.12~0.26	0.17	KSUS1.5-24 ● KSUS1.5-24J8 ● KSUS1.5-24J10 ● KSUS1.5-24J12 ● KSUS1.5-24J14 ● KSUS1.5-24J15 ● KSUS1.5-24J16
M4	7						0.17	
M4	7						0.17	
M4	7						0.16	
M4	7						0.15	
M4	7						0.14 0.14	
M5	7	14.8	1.35	1.50	0.14	0.12~0.26	0.20	KSUS1.5-25 ● KSUS1.5-25J8 ● KSUS1.5-25J10 ● KSUS1.5-25J12 ● KSUS1.5-25J14 ● KSUS1.5-25J15 ● KSUS1.5-25J16 ● KSUS1.5-25J17
M4	7						0.19	
M4	7						0.19	
M4	7						0.18	
M4	7						0.17	
M4	7						0.16	
M4	7						0.16 0.15	
M4	7	0.15						
M4	7	17.2	1.71	1.76	0.17	0.12~0.26	0.26	KSUS1.5-28 ● KSUS1.5-28J10 ● KSUS1.5-28J12 ● KSUS1.5-28J14 ● KSUS1.5-28J15 ● KSUS1.5-28J16 ● KSUS1.5-28J17 ● KSUS1.5-28J18 ● KSUS1.5-28J19 ● KSUS1.5-28J20
M4	7						0.25	
M4	7						0.24	
M4	7						0.23	
M4	7						0.23	
M4	7						0.22	
M4	7						0.22	
M5	7						0.21	
M5	7						0.20	
M5	7						0.20	
M4	7	18.9	1.98	1.93	0.20	0.12~0.26	0.29	KSUS1.5-30 ● KSUS1.5-30J10 ● KSUS1.5-30J12 ● KSUS1.5-30J14 ● KSUS1.5-30J15 ● KSUS1.5-30J16 ● KSUS1.5-30J17 ● KSUS1.5-30J18 ● KSUS1.5-30J19 ● KSUS1.5-30J20 ● KSUS1.5-30J22
M4	7						0.29	
M4	7						0.28	
M4	7						0.27	
M4	7						0.27	
M4	7						0.26	
M4	7						0.25	
M5	7						0.25	
M5	7						0.24	
M5	7						0.23 0.22	

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

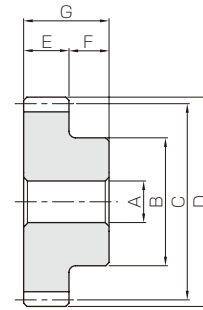
[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ The use of S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



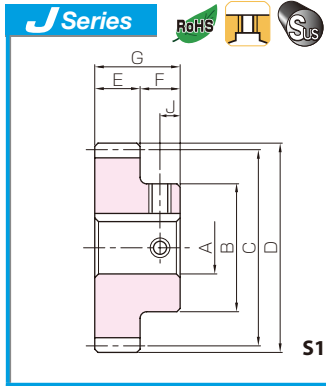
S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS1.5-32 ●KSUS1.5-32J10 ●KSUS1.5-32J12 ●KSUS1.5-32J14 ●KSUS1.5-32J15 ●KSUS1.5-32J16 ●KSUS1.5-32J17 ●KSUS1.5-32J18 ●KSUS1.5-32J19 ●KSUS1.5-32J20 ●KSUS1.5-32J22	m1.5	32	S1	10	40	48	51	15	14	29	
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K			20	6 x 2.8							
S1K		22	6 x 2.8								
KSUS1.5-35 ●KSUS1.5-35J10 ●KSUS1.5-35J12 ●KSUS1.5-35J14 ●KSUS1.5-35J15 ●KSUS1.5-35J16 ●KSUS1.5-35J17 ●KSUS1.5-35J18 ●KSUS1.5-35J19 ●KSUS1.5-35J20 ●KSUS1.5-35J22 ●KSUS1.5-35J25		35	S1	10	42	52.5	55.5	15	14	29	
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
S1K			14	5 x 2.3							
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K			20	6 x 2.8							
S1K		22	6 x 2.8								
S1K		25	8 x 3.3								
KSUS1.5-36 ●KSUS1.5-36J10 ●KSUS1.5-36J12 ●KSUS1.5-36J14 ●KSUS1.5-36J15 ●KSUS1.5-36J16 ●KSUS1.5-36J17 ●KSUS1.5-36J18 ●KSUS1.5-36J19 ●KSUS1.5-36J20 ●KSUS1.5-36J22 ●KSUS1.5-36J25		36	S1	10	45	54	57	15	14	29	
S1K	10		4 x 1.8								
S1K	12		4 x 1.8								
S1K	14		5 x 2.3								
S1K	15		5 x 2.3								
S1K	16		5 x 2.3								
S1K	17		5 x 2.3								
S1K	18		6 x 2.8								
S1K	19		6 x 2.8								
S1K	20		6 x 2.8								
S1K	22	6 x 2.8									
S1K	25	8 x 3.3									
KSUS1.5-40 ●KSUS1.5-40J12 ●KSUS1.5-40J14 ●KSUS1.5-40J15 ●KSUS1.5-40J16 ●KSUS1.5-40J17 ●KSUS1.5-40J18 ●KSUS1.5-40J19 ●KSUS1.5-40J20 ●KSUS1.5-40J22 ●KSUS1.5-40J25	40	S1	12	45	60	63	15	14	29		
S1K		12	4 x 1.8								
S1K		14	5 x 2.3								
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		20	6 x 2.8								
S1K		22	6 x 2.8								
S1K	25	8 x 3.3									
KSUS1.5-42 ●KSUS1.5-42J12 ●KSUS1.5-42J14 ●KSUS1.5-42J15 ●KSUS1.5-42J16 ●KSUS1.5-42J17 ●KSUS1.5-42J18 ●KSUS1.5-42J19 ●KSUS1.5-42J20 ●KSUS1.5-42J22 ●KSUS1.5-42J25	42	S1	12	45	63	66	15	14	29		
S1K		12	4 x 1.8								
S1K		14	5 x 2.3								
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		20	6 x 2.8								
S1K		22	6 x 2.8								
S1K	25	8 x 3.3									

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	7	20.6	2.27	2.10	0.23	0.12~0.26	0.33	KSUS1.5-32 ●KSUS1.5-32J10 ●KSUS1.5-32J12 ●KSUS1.5-32J14 ●KSUS1.5-32J15 ●KSUS1.5-32J16 ●KSUS1.5-32J17 ●KSUS1.5-32J18 ●KSUS1.5-32J19 ●KSUS1.5-32J20 ●KSUS1.5-32J22
M4	7							
M4	7							
M4	7							
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
M5	7							
M4*	7	23.2	2.74	2.36	0.28	0.12~0.26	0.39	KSUS1.5-35 ●KSUS1.5-35J10 ●KSUS1.5-35J12 ●KSUS1.5-35J14 ●KSUS1.5-35J15 ●KSUS1.5-35J16 ●KSUS1.5-35J17 ●KSUS1.5-35J18 ●KSUS1.5-35J19 ●KSUS1.5-35J20 ●KSUS1.5-35J22 ●KSUS1.5-35J25
M4*	7							
M4	7							
M4	7							
M4	7							
M4	7							
M4	7							
M5	7							
M5	7							
M5	7							
M4*	7	24.0	2.91	2.45	0.30	0.12~0.26	0.42	KSUS1.5-36 ●KSUS1.5-36J10 ●KSUS1.5-36J12 ●KSUS1.5-36J14 ●KSUS1.5-36J15 ●KSUS1.5-36J16 ●KSUS1.5-36J17 ●KSUS1.5-36J18 ●KSUS1.5-36J19 ●KSUS1.5-36J20 ●KSUS1.5-36J22 ●KSUS1.5-36J25
M4*	7							
M4*	7							
M4*	7							
M4*	7							
M4	7							
M4	7							
M5	7							
M5	7							
M5	7							
M4*	7	27.5	3.62	2.80	0.37	0.12~0.26	0.48	KSUS1.5-40 ●KSUS1.5-40J12 ●KSUS1.5-40J14 ●KSUS1.5-40J15 ●KSUS1.5-40J16 ●KSUS1.5-40J17 ●KSUS1.5-40J18 ●KSUS1.5-40J19 ●KSUS1.5-40J20 ●KSUS1.5-40J22 ●KSUS1.5-40J25
M4*	7							
M4*	7							
M4*	7							
M4	7							
M4	7							
M5	7							
M5	7							
M5	7							
M5	7							
M4*	7	29.2	4.01	2.98	0.41	0.14~0.32	0.51	KSUS1.5-42 ●KSUS1.5-42J12 ●KSUS1.5-42J14 ●KSUS1.5-42J15 ●KSUS1.5-42J16 ●KSUS1.5-42J17 ●KSUS1.5-42J18 ●KSUS1.5-42J19 ●KSUS1.5-42J20 ●KSUS1.5-42J22 ●KSUS1.5-42J25
M4*	7							
M4*	7							
M4*	7							
M4	7							
M4	7							
M5	7							
M5	7							
M5	7							
M5	7							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.



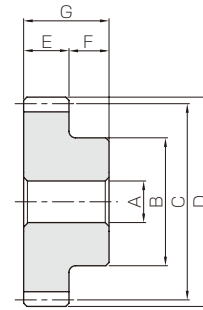
KSUS Stainless Steel Spur Gears

Module 1.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



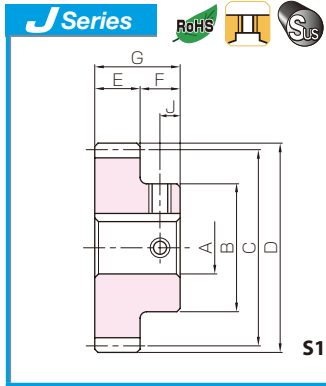
S1

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS1.5-45 ●KSUS1.5-45J12 ●KSUS1.5-45J14 ●KSUS1.5-45J15 ●KSUS1.5-45J16 ●KSUS1.5-45J17 ●KSUS1.5-45J18 ●KSUS1.5-45J19 ●KSUS1.5-45J20 ●KSUS1.5-45J22 ●KSUS1.5-45J25	m1.5	45	S1	12	45	67.5	70.5	15	14	29	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3
			S1K	12							
			S1K	14							
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
S1K	25										
KSUS1.5-48 ●KSUS1.5-48J12 ●KSUS1.5-48J14 ●KSUS1.5-48J15 ●KSUS1.5-48J16 ●KSUS1.5-48J17 ●KSUS1.5-48J18 ●KSUS1.5-48J19 ●KSUS1.5-48J20 ●KSUS1.5-48J22 ●KSUS1.5-48J25	m1.5	48	S1	12	45	72	75	15	14	29	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3
			S1K	12							
			S1K	14							
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
S1K	25										
KSUS1.5-50 ●KSUS1.5-50J12 ●KSUS1.5-50J14 ●KSUS1.5-50J15 ●KSUS1.5-50J16 ●KSUS1.5-50J17 ●KSUS1.5-50J18 ●KSUS1.5-50J19 ●KSUS1.5-50J20 ●KSUS1.5-50J22 ●KSUS1.5-50J25 ●KSUS1.5-50J28 ●KSUS1.5-50J30	m1.5	50	S1	12	50	75	78	15	14	29	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3
			S1K	12							
			S1K	14							
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
S1K	25										
S1K	28										
S1K	30										
KSUS1.5-55 ●KSUS1.5-55J12 ●KSUS1.5-55J14 ●KSUS1.5-55J15 ●KSUS1.5-55J16 ●KSUS1.5-55J17 ●KSUS1.5-55J18 ●KSUS1.5-55J19 ●KSUS1.5-55J20 ●KSUS1.5-55J22 ●KSUS1.5-55J25 ●KSUS1.5-55J28 ●KSUS1.5-55J30 ●KSUS1.5-55J32	m1.5	55	S1	12	55	82.5	85.5	15	14	29	4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3 10 x 3.3
			S1K	12							
			S1K	14							
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
S1K	25										
S1K	28										
S1K	30										
S1K	32										

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	7	31.9	4.64	3.25	0.47	0.14~0.32	0.57	KSUS1.5-45 ●KSUS1.5-45J12 ●KSUS1.5-45J14 ●KSUS1.5-45J15 ●KSUS1.5-45J16 ●KSUS1.5-45J17 ●KSUS1.5-45J18 ●KSUS1.5-45J19 ●KSUS1.5-45J20 ●KSUS1.5-45J22 ●KSUS1.5-45J25
M4*	7							
M4*	7							
M4*	7							
M4	7							
M5	7							
M5	7							
M5	7							
M5	7							
M6	7							
M4*	7	34.5	5.31	3.52	0.54	0.14~0.32	0.62	KSUS1.5-48 ●KSUS1.5-48J12 ●KSUS1.5-48J14 ●KSUS1.5-48J15 ●KSUS1.5-48J16 ●KSUS1.5-48J17 ●KSUS1.5-48J18 ●KSUS1.5-48J19 ●KSUS1.5-48J20 ●KSUS1.5-48J22 ●KSUS1.5-48J25
M4*	7							
M4*	7							
M4*	7							
M4	7							
M5	7							
M5	7							
M5	7							
M5	7							
M6	7							
M4*	7	36.3	5.79	3.70	0.59	0.14~0.32	0.71	KSUS1.5-50 ●KSUS1.5-50J12 ●KSUS1.5-50J14 ●KSUS1.5-50J15 ●KSUS1.5-50J16 ●KSUS1.5-50J17 ●KSUS1.5-50J18 ●KSUS1.5-50J19 ●KSUS1.5-50J20 ●KSUS1.5-50J22 ●KSUS1.5-50J25 ●KSUS1.5-50J28 ●KSUS1.5-50J30
M4*	7							
M4*	7							
M4*	7							
M4*	7							
M5	7							
M5	7							
M5	7							
M5	7							
M6	7							
M4*	7	40.7	7.08	4.15	0.72	0.14~0.32	0.86	KSUS1.5-55 ●KSUS1.5-55J12 ●KSUS1.5-55J14 ●KSUS1.5-55J15 ●KSUS1.5-55J16 ●KSUS1.5-55J17 ●KSUS1.5-55J18 ●KSUS1.5-55J19 ●KSUS1.5-55J20 ●KSUS1.5-55J22 ●KSUS1.5-55J25 ●KSUS1.5-55J28 ●KSUS1.5-55J30 ●KSUS1.5-55J32
M4*	7							
M4*	7							
M4*	7							
M4*	7							
M5*	7							
M5*	7							
M5*	7							
M5	7							
M6	7							
M6	7							
M6	7							
M8	7							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.



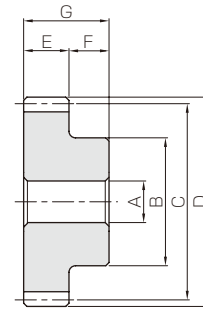
KSUS Stainless Steel Spur Gears

Module 1.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



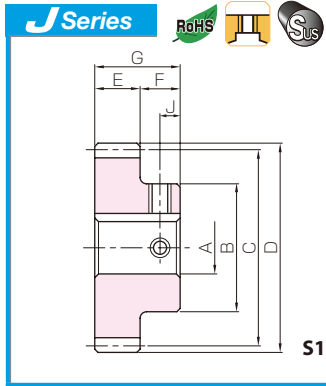
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Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway	
				AH7	B	C	D	E	F	G	WidthxDepth	
KSUS1.5-56	m1.5	56	S1	12	55	84	87	15	14	29	4 x 1.8	
●KSUS1.5-56J12			S1K	12								5 x 2.3
●KSUS1.5-56J14			S1K	14								5 x 2.3
●KSUS1.5-56J15			S1K	15								5 x 2.3
●KSUS1.5-56J16			S1K	16								5 x 2.3
●KSUS1.5-56J17			S1K	17								5 x 2.3
●KSUS1.5-56J18			S1K	18								6 x 2.8
●KSUS1.5-56J19			S1K	19								6 x 2.8
●KSUS1.5-56J20			S1K	20								6 x 2.8
●KSUS1.5-56J22			S1K	22								6 x 2.8
●KSUS1.5-56J25			S1K	25								8 x 3.3
●KSUS1.5-56J28			S1K	28								8 x 3.3
●KSUS1.5-56J30		S1K	30	8 x 3.3								
●KSUS1.5-56J32		S1K	32	10 x 3.3								
KSUS1.5-60		60	S1	15	60	90	93	15	14	29	5 x 2.3	
●KSUS1.5-60J15			S1K	15								5 x 2.3
●KSUS1.5-60J16			S1K	16								5 x 2.3
●KSUS1.5-60J17			S1K	17								5 x 2.3
●KSUS1.5-60J18			S1K	18								6 x 2.8
●KSUS1.5-60J19			S1K	19								6 x 2.8
●KSUS1.5-60J20			S1K	20								6 x 2.8
●KSUS1.5-60J22			S1K	22								6 x 2.8
●KSUS1.5-60J25			S1K	25								8 x 3.3
●KSUS1.5-60J28			S1K	28								8 x 3.3
●KSUS1.5-60J30			S1K	30								8 x 3.3
●KSUS1.5-60J32			S1K	32								10 x 3.3
●KSUS1.5-60J35		S1K	35	10 x 3.3								
KSUS1.5-64		64	S1	15	60	96	99	15	14	29	5 x 2.3	
●KSUS1.5-64J15			S1K	15								5 x 2.3
●KSUS1.5-64J16			S1K	16								5 x 2.3
●KSUS1.5-64J17			S1K	17								5 x 2.3
●KSUS1.5-64J18			S1K	18								6 x 2.8
●KSUS1.5-64J19	S1K		19	6 x 2.8								
●KSUS1.5-64J20	S1K		20	6 x 2.8								
●KSUS1.5-64J22	S1K		22	6 x 2.8								
●KSUS1.5-64J25	S1K		25	8 x 3.3								
●KSUS1.5-64J28	S1K		28	8 x 3.3								
●KSUS1.5-64J30	S1K		30	8 x 3.3								
●KSUS1.5-64J32	S1K		32	10 x 3.3								
●KSUS1.5-64J35	S1K	35	10 x 3.3									
KSUS1.5-70	70	S1	15	70	105	108	15	14	29	5 x 2.3		
●KSUS1.5-70J15		S1K	15								5 x 2.3	
●KSUS1.5-70J16		S1K	16								5 x 2.3	
●KSUS1.5-70J17		S1K	17								5 x 2.3	
●KSUS1.5-70J18		S1K	18								6 x 2.8	
●KSUS1.5-70J19		S1K	19								6 x 2.8	
●KSUS1.5-70J20		S1K	20								6 x 2.8	
●KSUS1.5-70J22		S1K	22								6 x 2.8	
●KSUS1.5-70J25		S1K	25								8 x 3.3	
●KSUS1.5-70J28		S1K	28								8 x 3.3	
●KSUS1.5-70J30		S1K	30								8 x 3.3	
●KSUS1.5-70J32		S1K	32								10 x 3.3	
●KSUS1.5-70J35	S1K	35	10 x 3.3									
●KSUS1.5-70J40	S1K	40	12 x 3.3									

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70	75	80	90	100
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	7	41.6	7.36	4.24	0.75	0.14~0.32	0.88	KSUS1.5-56
M4*	7						0.88	●KSUS1.5-56J12
M4*	7						0.87	●KSUS1.5-56J14
M4*	7						0.86	●KSUS1.5-56J15
M4*	7						0.86	●KSUS1.5-56J16
M4*	7						0.85	●KSUS1.5-56J17
M5*	7						0.84	●KSUS1.5-56J18
M5*	7						0.83	●KSUS1.5-56J19
M5*	7						0.83	●KSUS1.5-56J20
M5	7						0.81	●KSUS1.5-56J22
M6	7						0.78	●KSUS1.5-56J25
M6	7						0.76	●KSUS1.5-56J28
M6	7						0.74	●KSUS1.5-56J30
M8	7						0.71	●KSUS1.5-56J32
M4*	7	45.2	8.51	4.61	0.87	0.14~0.32	1.01	KSUS1.5-60
M4*	7						1.01	●KSUS1.5-60J15
M4*	7						1.00	●KSUS1.5-60J16
M4*	7						1.00	●KSUS1.5-60J17
M5*	7						0.99	●KSUS1.5-60J18
M5*	7						0.98	●KSUS1.5-60J19
M5*	7						0.97	●KSUS1.5-60J20
M5*	7						0.96	●KSUS1.5-60J22
M6	7						0.93	●KSUS1.5-60J25
M6	7						0.90	●KSUS1.5-60J28
M6	7						0.88	●KSUS1.5-60J30
M8	7						0.85	●KSUS1.5-60J32
M8	7						0.82	●KSUS1.5-60J35
M4*	7						48.8	9.75
M4*	7	1.11	●KSUS1.5-64J15					
M4*	7	1.10	●KSUS1.5-64J16					
M4*	7	1.10	●KSUS1.5-64J17					
M5*	7	1.09	●KSUS1.5-64J18					
M5*	7	1.08	●KSUS1.5-64J19					
M5*	7	1.07	●KSUS1.5-64J20					
M5*	7	1.06	●KSUS1.5-64J22					
M6	7	1.03	●KSUS1.5-64J25					
M6	7	1.00	●KSUS1.5-64J28					
M6	7	0.98	●KSUS1.5-64J30					
M8	7	0.96	●KSUS1.5-64J32					
M8	7	0.92	●KSUS1.5-64J35					
M4*	7	54.2	11.8	5.52	1.20	0.14~0.32		
M4*	7						1.39	●KSUS1.5-70J15
M4*	7						1.38	●KSUS1.5-70J16
M4*	7						1.37	●KSUS1.5-70J17
M5*	7						1.36	●KSUS1.5-70J18
M5*	7						1.36	●KSUS1.5-70J19
M5*	7						1.35	●KSUS1.5-70J20
M5*	7						1.34	●KSUS1.5-70J22
M6*	7						1.31	●KSUS1.5-70J25
M6*	7						1.28	●KSUS1.5-70J28
M6	7						1.26	●KSUS1.5-70J30
M8	7						1.23	●KSUS1.5-70J32
M8	7						1.19	●KSUS1.5-70J35
M8	7						1.13	●KSUS1.5-70J40



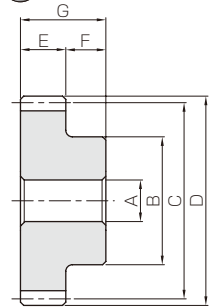


KSUS Stainless Steel Spur Gears



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998)* JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

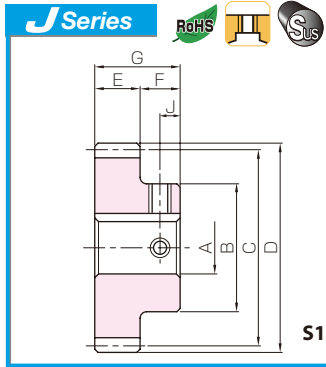
*The precision grade of J Series products is equivalent to the value shown in the table.



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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS1.5-75 ●KSUS1.5-75J15 ●KSUS1.5-75J16 ●KSUS1.5-75J17 ●KSUS1.5-75J18 ●KSUS1.5-75J19 ●KSUS1.5-75J20 ●KSUS1.5-75J22 ●KSUS1.5-75J25 ●KSUS1.5-75J28 ●KSUS1.5-75J30 ●KSUS1.5-75J32 ●KSUS1.5-75J35 ●KSUS1.5-75J40	m1.5	75	S1	15	70	112.5	115.5	15	14	29	5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
KSUS1.5-80 ●KSUS1.5-80J15 ●KSUS1.5-80J16 ●KSUS1.5-80J17 ●KSUS1.5-80J18 ●KSUS1.5-80J19 ●KSUS1.5-80J20 ●KSUS1.5-80J22 ●KSUS1.5-80J25 ●KSUS1.5-80J28 ●KSUS1.5-80J30 ●KSUS1.5-80J32 ●KSUS1.5-80J35 ●KSUS1.5-80J40 ●KSUS1.5-80J45	m1.5	80	S1	15	80	120	123	15	14	29	5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSUS1.5-90 ●KSUS1.5-90J15 ●KSUS1.5-90J16 ●KSUS1.5-90J17 ●KSUS1.5-90J18 ●KSUS1.5-90J19 ●KSUS1.5-90J20 ●KSUS1.5-90J22 ●KSUS1.5-90J25 ●KSUS1.5-90J28 ●KSUS1.5-90J30 ●KSUS1.5-90J32 ●KSUS1.5-90J35 ●KSUS1.5-90J40 ●KSUS1.5-90J45	m1.5	90	S1	15	80	135	138	15	14	29	5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									
KSUS1.5-100 ●KSUS1.5-100J15 ●KSUS1.5-100J16 ●KSUS1.5-100J17 ●KSUS1.5-100J18 ●KSUS1.5-100J19 ●KSUS1.5-100J20 ●KSUS1.5-100J22 ●KSUS1.5-100J25 ●KSUS1.5-100J28 ●KSUS1.5-100J30 ●KSUS1.5-100J32 ●KSUS1.5-100J35 ●KSUS1.5-100J40 ●KSUS1.5-100J45	m1.5	100	S1	15	80	150	153	15	14	29	5 x 2.3
			S1K	15							5 x 2.3
			S1K	16							5 x 2.3
			S1K	17							5 x 2.3
			S1K	18							6 x 2.8
			S1K	19							6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							6 x 2.8
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
S1K	45	14 x 3.8									



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	7	58.7	13.6	5.99	1.39	0.14~0.32	1.54 1.54 1.53 1.52 1.51 1.51 1.50 1.49 1.46 1.43 1.41 1.38 1.34 1.28	KSUS1.5-75 ●KSUS1.5-75J15 ●KSUS1.5-75J16 ●KSUS1.5-75J17 ●KSUS1.5-75J18 ●KSUS1.5-75J19 ●KSUS1.5-75J20 ●KSUS1.5-75J22 ●KSUS1.5-75J25 ●KSUS1.5-75J28 ●KSUS1.5-75J30 ●KSUS1.5-75J32 ●KSUS1.5-75J35 ●KSUS1.5-75J40
M4*	7							
M4*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M6*	7							
M6*	7							
M6	7							
M8	7							
M8	7							
M8	7							
M4*	7	63.2	15.6	6.45	1.59	0.14~0.32	1.83 1.82 1.82 1.81 1.80 1.79 1.79 1.77 1.74 1.72 1.70 1.66 1.63 1.56 1.48	KSUS1.5-80 ●KSUS1.5-80J15 ●KSUS1.5-80J16 ●KSUS1.5-80J17 ●KSUS1.5-80J18 ●KSUS1.5-80J19 ●KSUS1.5-80J20 ●KSUS1.5-80J22 ●KSUS1.5-80J25 ●KSUS1.5-80J28 ●KSUS1.5-80J30 ●KSUS1.5-80J32 ●KSUS1.5-80J35 ●KSUS1.5-80J40 ●KSUS1.5-80J45
M4*	7							
M4*	7							
M4*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M6*	7							
M6*	7							
M6*	7							
M8	7							
M8	7							
M8	7							
M10	7							
M4*	7	72.3	20.1	7.37	2.05	0.18~0.38	2.18 2.17 2.16 2.15 2.15 2.15 2.14 2.12 2.09 2.07 2.05 2.02 1.98 1.91 1.83	KSUS1.5-90 ●KSUS1.5-90J15 ●KSUS1.5-90J16 ●KSUS1.5-90J17 ●KSUS1.5-90J18 ●KSUS1.5-90J19 ●KSUS1.5-90J20 ●KSUS1.5-90J22 ●KSUS1.5-90J25 ●KSUS1.5-90J28 ●KSUS1.5-90J30 ●KSUS1.5-90J32 ●KSUS1.5-90J35 ●KSUS1.5-90J40 ●KSUS1.5-90J45
M4*	7							
M4*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M6*	7							
M6*	7							
M6*	7							
M6*	7							
M8	7							
M8	7							
M8	7							
M10	7							
M4*	7	81.4	25.2	8.30	2.57	0.18~0.38	2.58 2.57 2.56 2.56 2.55 2.54 2.53 2.52 2.49 2.46 2.44 2.41 2.37 2.31 2.22	KSUS1.5-100 ●KSUS1.5-100J15 ●KSUS1.5-100J16 ●KSUS1.5-100J17 ●KSUS1.5-100J18 ●KSUS1.5-100J19 ●KSUS1.5-100J20 ●KSUS1.5-100J22 ●KSUS1.5-100J25 ●KSUS1.5-100J28 ●KSUS1.5-100J30 ●KSUS1.5-100J32 ●KSUS1.5-100J35 ●KSUS1.5-100J40 ●KSUS1.5-100J45
M4*	7							
M4*	7							
M4*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M5*	7							
M6*	7							
M6*	7							
M6*	7							
M6*	7							
M8	7							
M8	7							
M8	7							
M10	7							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**





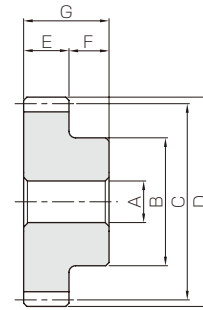
KSUS Stainless Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



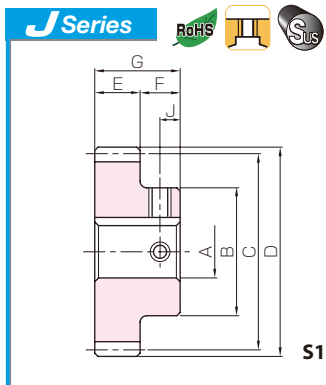
S1

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway						
				AH7	B	C	D	E	F	G	WidthxDepth						
KSUS2-15 ● KSUS2-15J12	m2	15	S1	12	24	30	34	20	16	36	4 x 1.8						
S1K			12														
KSUS2-16 ● KSUS2-16J12		16	S1	12	26	32	36	20	16	36	4 x 1.8						
S1K			12														
KSUS2-18 ● KSUS2-18J12 ● KSUS2-18J14 ● KSUS2-18J15 ● KSUS2-18J16 ● KSUS2-18J17		18	S1	12	30	36	40	20	16	36	4 x 1.8						
S1K			12	5 x 2.3													
S1K			14	5 x 2.3													
S1K			15	5 x 2.3													
S1K			16	5 x 2.3													
S1K			17	5 x 2.3													
KSUS2-20 ● KSUS2-20J12 ● KSUS2-20J14 ● KSUS2-20J15 ● KSUS2-20J16 ● KSUS2-20J17 ● KSUS2-20J18		20	S1	12	32	40	44	20	16	36	4 x 1.8						
S1K			12	5 x 2.3													
S1K			14	5 x 2.3													
S1K			15	5 x 2.3													
S1K			16	5 x 2.3													
S1K	17		5 x 2.3														
S1K	18		6 x 2.8														
KSUS2-22 ● KSUS2-22J12 ● KSUS2-22J14 ● KSUS2-22J15 ● KSUS2-22J16 ● KSUS2-22J17 ● KSUS2-22J18 ● KSUS2-22J19 ● KSUS2-22J20	22	S1	12	36	44	48	20	16	36	4 x 1.8							
S1K		12	5 x 2.3														
S1K		14	5 x 2.3														
S1K		15	5 x 2.3														
S1K		16	5 x 2.3														
S1K		17	5 x 2.3														
S1K		18	6 x 2.8														
S1K		19	6 x 2.8														
S1K		20	6 x 2.8														
KSUS2-24 ● KSUS2-24J12 ● KSUS2-24J14 ● KSUS2-24J15 ● KSUS2-24J16 ● KSUS2-24J17 ● KSUS2-24J18 ● KSUS2-24J19 ● KSUS2-24J20 ● KSUS2-24J22		24	S1							12	38	48	52	20	16	36	4 x 1.8
S1K	12		5 x 2.3														
S1K	14		5 x 2.3														
S1K	15		5 x 2.3														
S1K	16		5 x 2.3														
S1K	17		5 x 2.3														
S1K	18		6 x 2.8														
S1K	19		6 x 2.8														
S1K	20		6 x 2.8														
S1K	22		6 x 2.8														
KSUS2-25 ● KSUS2-25J12 ● KSUS2-25J14 ● KSUS2-25J15 ● KSUS2-25J16 ● KSUS2-25J17 ● KSUS2-25J18 ● KSUS2-25J19 ● KSUS2-25J20 ● KSUS2-25J22	25		S1	12	40	50	54	20	16	36							4 x 1.8
S1K			12	5 x 2.3													
S1K		14	5 x 2.3														
S1K		15	5 x 2.3														
S1K		16	5 x 2.3														
S1K		17	5 x 2.3														
S1K		18	6 x 2.8														
S1K		19	6 x 2.8														
S1K		20	6 x 2.8														
S1K		22	6 x 2.8														
KSUS2-28 ● KSUS2-28J12 ● KSUS2-28J14 ● KSUS2-28J15 ● KSUS2-28J16 ● KSUS2-28J17 ● KSUS2-28J18 ● KSUS2-28J19 ● KSUS2-28J20 ● KSUS2-28J22 ● KSUS2-28J25		28	S1	12							45	56	60	20	16	36	4 x 1.8
S1K			12	5 x 2.3													
S1K	14		5 x 2.3														
S1K	15		5 x 2.3														
S1K	16		5 x 2.3														
S1K	17		5 x 2.3														
S1K	18		6 x 2.8														
S1K	19		6 x 2.8														
S1K	20		6 x 2.8														
S1K	22		6 x 2.8														
S1K	25		8 x 3.3														
KSUS2-30 ● KSUS2-30J12 ● KSUS2-30J14 ● KSUS2-30J15 ● KSUS2-30J16 ● KSUS2-30J17 ● KSUS2-30J18 ● KSUS2-30J19 ● KSUS2-30J20 ● KSUS2-30J22 ● KSUS2-30J25 ● KSUS2-30J28 ● KSUS2-30J30	30		S1	12	50	60	64	20	16	36							4 x 1.8
S1K		12	5 x 2.3														
S1K		14	5 x 2.3														
S1K		15	5 x 2.3														
S1K		16	5 x 2.3														
S1K		17	5 x 2.3														
S1K		18	6 x 2.8														
S1K		19	6 x 2.8														
S1K		20	6 x 2.8														
S1K		22	6 x 2.8														
S1K		25	8 x 3.3														
S1K		28	8 x 3.3														
S1K		30	8 x 3.3														

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70
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Stainless Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	8	16.3	1.05	1.67	0.11	0.12~0.26	0.13 0.13	KSUS2-15 ● KSUS2-15J12
M4	8	18.1	1.22	1.85	0.12	0.12~0.26	0.16 0.16	KSUS2-16 ● KSUS2-16J12
M4 M4 M4 M4 M4	8 8 8 8 8	21.7	1.59	2.21	0.16	0.12~0.26	0.22 0.21 0.20 0.19 0.19	KSUS2-18 ● KSUS2-18J12 ● KSUS2-18J14 ● KSUS2-18J15 ● KSUS2-18J16 ● KSUS2-18J17
M4 M4 M4 M4 M4 M5	8 8 8 8 8 8	25.4	2.01	2.59	0.20	0.12~0.26	0.26 0.26 0.25 0.24 0.24 0.23 0.22	KSUS2-20 ● KSUS2-20J12 ● KSUS2-20J14 ● KSUS2-20J15 ● KSUS2-20J16 ● KSUS2-20J17 ● KSUS2-20J18
M4 M4 M4 M4 M4 M5 M5 M5	8 8 8 8 8 8 8 8	29.2	2.48	2.98	0.25	0.14~0.30	0.33 0.33 0.32 0.31 0.30 0.30 0.29 0.28 0.27	KSUS2-22 ● KSUS2-22J12 ● KSUS2-22J14 ● KSUS2-22J15 ● KSUS2-22J16 ● KSUS2-22J17 ● KSUS2-22J18 ● KSUS2-22J19 ● KSUS2-22J20
M4 M4 M4 M4 M4 M5 M5 M5	8 8 8 8 8 8 8 8	33.0	3.01	3.37	0.31	0.14~0.30	0.39 0.39 0.38 0.37 0.36 0.36 0.34 0.34 0.33 0.31	KSUS2-24 ● KSUS2-24J12 ● KSUS2-24J14 ● KSUS2-24J15 ● KSUS2-24J16 ● KSUS2-24J17 ● KSUS2-24J18 ● KSUS2-24J19 ● KSUS2-24J20 ● KSUS2-24J22
M4 M4 M4 M4 M4 M5 M5 M5 M5	8 8 8 8 8 8 8 8	35.0	3.30	3.57	0.34	0.14~0.30	0.43 0.43 0.41 0.41 0.40 0.39 0.38 0.38 0.37 0.35	KSUS2-25 ● KSUS2-25J12 ● KSUS2-25J14 ● KSUS2-25J15 ● KSUS2-25J16 ● KSUS2-25J17 ● KSUS2-25J18 ● KSUS2-25J19 ● KSUS2-25J20 ● KSUS2-25J22
M4* M4* M4* M4* M4 M5 M5 M5 M5 M6	8 8 8 8 8 8 8 8 8	40.9	4.18	4.17	0.43	0.14~0.30	0.55 0.55 0.53 0.53 0.52 0.51 0.51 0.50 0.49 0.49 0.47 0.43	KSUS2-28 ● KSUS2-28J12 ● KSUS2-28J14 ● KSUS2-28J15 ● KSUS2-28J16 ● KSUS2-28J17 ● KSUS2-28J18 ● KSUS2-28J19 ● KSUS2-28J20 ● KSUS2-28J22 ● KSUS2-28J25
M4* M4* M4* M4* M4* M5 M5 M5 M5 M6 M6 M6	8 8 8 8 8 8 8 8 8	44.8	4.83	4.57	0.49	0.14~0.30	0.65 0.65 0.64 0.63 0.62 0.62 0.61 0.61 0.60 0.59 0.57 0.54 0.50 0.48	KSUS2-30 ● KSUS2-30J12 ● KSUS2-30J14 ● KSUS2-30J15 ● KSUS2-30J16 ● KSUS2-30J17 ● KSUS2-30J18 ● KSUS2-30J19 ● KSUS2-30J20 ● KSUS2-30J22 ● KSUS2-30J25 ● KSUS2-30J28 ● KSUS2-30J30

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

*** Please see book one for additional products in these modules.**





KSUSA Stainless Steel Spur Gears

Module 2

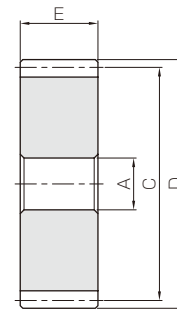


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



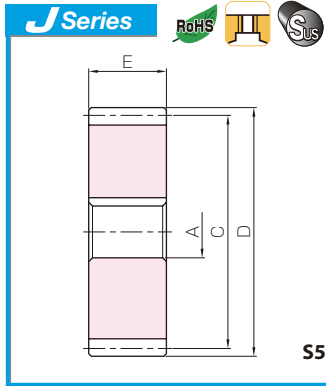
S5

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F		G
KSUSA2-32 ●KSUSA2-32J15 ●KSUSA2-32J16 ●KSUSA2-32J17 ●KSUSA2-32J18 ●KSUSA2-32J19 ●KSUSA2-32J20 ●KSUSA2-32J22 ●KSUSA2-32J25 ●KSUSA2-32J28 ●KSUSA2-32J30	m2	32	S5	15		64	68	20			5 x 2.3
			S5K	15							5 x 2.3
			S5K	16							5 x 2.3
			S5K	17							5 x 2.3
			S5K	18							6 x 2.8
			S5K	19							6 x 2.8
			S5K	20							6 x 2.8
			S5K	22							6 x 2.8
			S5K	25							8 x 3.3
			S5K	28							8 x 3.3
S5K	30	8 x 3.3									
KSUSA2-35 ●KSUSA2-35J15 ●KSUSA2-35J16 ●KSUSA2-35J17 ●KSUSA2-35J18 ●KSUSA2-35J19 ●KSUSA2-35J20 ●KSUSA2-35J22 ●KSUSA2-35J25 ●KSUSA2-35J28 ●KSUSA2-35J30 ●KSUSA2-35J32	m2	35	S5	15		70	74	20			5 x 2.3
			S5K	15							5 x 2.3
			S5K	16							5 x 2.3
			S5K	17							5 x 2.3
			S5K	18							6 x 2.8
			S5K	19							6 x 2.8
			S5K	20							6 x 2.8
			S5K	22							6 x 2.8
			S5K	25							8 x 3.3
			S5K	28							8 x 3.3
S5K	30	8 x 3.3									
S5K	32	10 x 3.3									
KSUSA2-36 ●KSUSA2-36J15 ●KSUSA2-36J16 ●KSUSA2-36J17 ●KSUSA2-36J18 ●KSUSA2-36J19 ●KSUSA2-36J20 ●KSUSA2-36J22 ●KSUSA2-36J25 ●KSUSA2-36J28 ●KSUSA2-36J30 ●KSUSA2-36J32	m2	36	S5	15		72	76	20			5 x 2.3
			S5K	15							5 x 2.3
			S5K	16							5 x 2.3
			S5K	17							5 x 2.3
			S5K	18							6 x 2.8
			S5K	19							6 x 2.8
			S5K	20							6 x 2.8
			S5K	22							6 x 2.8
			S5K	25							8 x 3.3
			S5K	28							8 x 3.3
S5K	30	8 x 3.3									
S5K	32	10 x 3.3									
KSUSA2-40 ●KSUSA2-40J15 ●KSUSA2-40J16 ●KSUSA2-40J17 ●KSUSA2-40J18 ●KSUSA2-40J19 ●KSUSA2-40J20 ●KSUSA2-40J22 ●KSUSA2-40J25 ●KSUSA2-40J28 ●KSUSA2-40J30 ●KSUSA2-40J32 ●KSUSA2-40J35	m2	40	S5	15		80	84	20			5 x 2.3
			S5K	15							5 x 2.3
			S5K	16							5 x 2.3
			S5K	17							5 x 2.3
			S5K	18							6 x 2.8
			S5K	19							6 x 2.8
			S5K	20							6 x 2.8
			S5K	22							6 x 2.8
			S5K	25							8 x 3.3
			S5K	28							8 x 3.3
S5K	30	8 x 3.3									
S5K	32	10 x 3.3									
S5K	35	10 x 3.3									
KSUSA2-42 ●KSUSA2-42J15 ●KSUSA2-42J16 ●KSUSA2-42J17 ●KSUSA2-42J18 ●KSUSA2-42J19 ●KSUSA2-42J20 ●KSUSA2-42J22 ●KSUSA2-42J25 ●KSUSA2-42J28 ●KSUSA2-42J30 ●KSUSA2-42J32 ●KSUSA2-42J35	m2	42	S5	15		84	88	20			5 x 2.3
			S5K	15							5 x 2.3
			S5K	16							5 x 2.3
			S5K	17							5 x 2.3
			S5K	18							6 x 2.8
			S5K	19							6 x 2.8
			S5K	20							6 x 2.8
			S5K	22							6 x 2.8
			S5K	25							8 x 3.3
			S5K	28							8 x 3.3
S5K	30	8 x 3.3									
S5K	32	10 x 3.3									
S5K	35	10 x 3.3									

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

S5K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		48.9	5.53	4.98	0.56	0.14~0.30	0.47 0.47 0.47 0.47 0.46 0.45 0.45 0.44 0.42 0.40 0.39	KSUSA2-32 ●KSUSA2-32J15 ●KSUSA2-32J16 ●KSUSA2-32J17 ●KSUSA2-32J18 ●KSUSA2-32J19 ●KSUSA2-32J20 ●KSUSA2-32J22 ●KSUSA2-32J25 ●KSUSA2-32J28 ●KSUSA2-32J30
		54.9	6.67	5.60	0.68	0.14~0.30	0.57 0.57 0.56 0.56 0.55 0.55 0.54 0.52 0.50 0.49 0.47	KSUSA2-35 ●KSUSA2-35J15 ●KSUSA2-35J16 ●KSUSA2-35J17 ●KSUSA2-35J18 ●KSUSA2-35J19 ●KSUSA2-35J20 ●KSUSA2-35J22 ●KSUSA2-35J25 ●KSUSA2-35J28 ●KSUSA2-35J30 ●KSUSA2-35J32
		57.0	7.08	5.81	0.72	0.14~0.30	0.61 0.61 0.60 0.60 0.59 0.59 0.58 0.57 0.55 0.53 0.52 0.50	KSUSA2-36 ●KSUSA2-36J15 ●KSUSA2-36J16 ●KSUSA2-36J17 ●KSUSA2-36J18 ●KSUSA2-36J19 ●KSUSA2-36J20 ●KSUSA2-36J22 ●KSUSA2-36J25 ●KSUSA2-36J28 ●KSUSA2-36J30 ●KSUSA2-36J32
		65.2	8.85	6.65	0.90	0.14~0.30	0.76 0.75 0.75 0.75 0.74 0.74 0.73 0.72 0.72 0.70 0.68 0.67 0.65 0.63	KSUSA2-40 ●KSUSA2-40J15 ●KSUSA2-40J16 ●KSUSA2-40J17 ●KSUSA2-40J18 ●KSUSA2-40J19 ●KSUSA2-40J20 ●KSUSA2-40J22 ●KSUSA2-40J25 ●KSUSA2-40J28 ●KSUSA2-40J30 ●KSUSA2-40J32 ●KSUSA2-40J35
		69.3	9.81	7.07	1.00	0.18~0.36	0.84 0.84 0.83 0.83 0.82 0.82 0.81 0.80 0.80 0.78 0.76 0.75 0.73 0.71	KSUSA2-42 ●KSUSA2-42J15 ●KSUSA2-42J16 ●KSUSA2-42J17 ●KSUSA2-42J18 ●KSUSA2-42J19 ●KSUSA2-42J20 ●KSUSA2-42J22 ●KSUSA2-42J25 ●KSUSA2-42J28 ●KSUSA2-42J30 ●KSUSA2-42J32 ●KSUSA2-42J35

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.



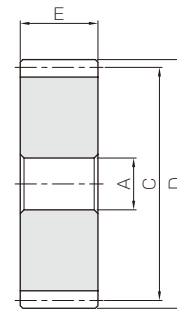
KSUSA Stainless Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



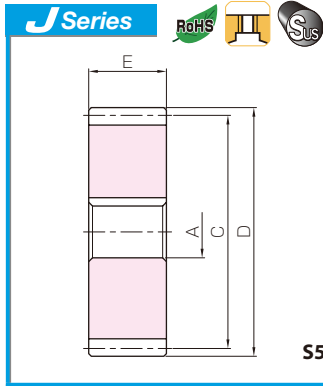
S5

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUSA2-45 ●KSUSA2-45J15 ●KSUSA2-45J16 ●KSUSA2-45J17 ●KSUSA2-45J18 ●KSUSA2-45J19 ●KSUSA2-45J20 ●KSUSA2-45J22 ●KSUSA2-45J25 ●KSUSA2-45J28 ●KSUSA2-45J30 ●KSUSA2-45J32 ●KSUSA2-45J35 ●KSUSA2-45J40	m2	45	S5	15		90	94	20			
S5K			15						5 x 2.3		
S5K			16						5 x 2.3		
S5K			17						5 x 2.3		
S5K			18						6 x 2.8		
S5K			19						6 x 2.8		
S5K			20						6 x 2.8		
S5K			22						6 x 2.8		
S5K			25						8 x 3.3		
S5K			28						8 x 3.3		
S5K			30						8 x 3.3		
S5K			32						10 x 3.3		
S5K			35						10 x 3.3		
S5K			40						12 x 3.3		
KSUSA2-48 ●KSUSA2-48J15 ●KSUSA2-48J16 ●KSUSA2-48J17 ●KSUSA2-48J18 ●KSUSA2-48J19 ●KSUSA2-48J20 ●KSUSA2-48J22 ●KSUSA2-48J25 ●KSUSA2-48J28 ●KSUSA2-48J30 ●KSUSA2-48J32 ●KSUSA2-48J35 ●KSUSA2-48J40 ●KSUSA2-48J45			m2	48	S5				15		96
S5K	15					5 x 2.3					
S5K	16					5 x 2.3					
S5K	17					5 x 2.3					
S5K	18					6 x 2.8					
S5K	19					6 x 2.8					
S5K	20					6 x 2.8					
S5K	22					6 x 2.8					
S5K	25					8 x 3.3					
S5K	28					8 x 3.3					
S5K	30					8 x 3.3					
S5K	32					10 x 3.3					
S5K	35					10 x 3.3					
S5K	40					12 x 3.3					
S5K	45					14 x 3.8					
KSUSA2-50 ●KSUSA2-50J15 ●KSUSA2-50J16 ●KSUSA2-50J17 ●KSUSA2-50J18 ●KSUSA2-50J19 ●KSUSA2-50J20 ●KSUSA2-50J22 ●KSUSA2-50J25 ●KSUSA2-50J28 ●KSUSA2-50J30 ●KSUSA2-50J32 ●KSUSA2-50J35 ●KSUSA2-50J40 ●KSUSA2-50J45	m2	50	S5	15		100	104	20			
S5K			15						5 x 2.3		
S5K			16						5 x 2.3		
S5K			17						5 x 2.3		
S5K			18						6 x 2.8		
S5K			19						6 x 2.8		
S5K			20						6 x 2.8		
S5K			22						6 x 2.8		
S5K			25						8 x 3.3		
S5K			28						8 x 3.3		
S5K			30						8 x 3.3		
S5K			32						10 x 3.3		
S5K			35						10 x 3.3		
S5K			40						12 x 3.3		
S5K			45						14 x 3.8		
KSUSA2-55 ●KSUSA2-55J15 ●KSUSA2-55J16 ●KSUSA2-55J17 ●KSUSA2-55J18 ●KSUSA2-55J19 ●KSUSA2-55J20 ●KSUSA2-55J22 ●KSUSA2-55J25 ●KSUSA2-55J28 ●KSUSA2-55J30 ●KSUSA2-55J32 ●KSUSA2-55J35 ●KSUSA2-55J40 ●KSUSA2-55J45 ●KSUSA2-55J50	m2	55	S5	15		110	114	20			
S5K			15						5 x 2.3		
S5K			16						5 x 2.3		
S5K			17						5 x 2.3		
S5K			18						6 x 2.8		
S5K			19						6 x 2.8		
S5K			20						6 x 2.8		
S5K			22						6 x 2.8		
S5K			25						8 x 3.3		
S5K			28						8 x 3.3		
S5K			30						8 x 3.3		
S5K			32						10 x 3.3		
S5K			35						10 x 3.3		
S5K			40						12 x 3.3		
S5K			45						14 x 3.8		
S5K	50			14 x 3.8							

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64	70
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		75.5	11.4	7.70	1.16	0.18~0.36	0.96 0.96 0.96 0.95 0.95 0.94 0.93 0.91 0.89 0.88 0.86 0.84 0.79	KSUSA2-45 ● KSUSA2-45J15 ● KSUSA2-45J16 ● KSUSA2-45J17 ● KSUSA2-45J18 ● KSUSA2-45J19 ● KSUSA2-45J20 ● KSUSA2-45J22 ● KSUSA2-45J25 ● KSUSA2-45J28 ● KSUSA2-45J30 ● KSUSA2-45J32 ● KSUSA2-45J35 ● KSUSA2-45J40
		81.8	13.0	8.34	1.33	0.18~0.36	1.10 1.10 1.09 1.09 1.08 1.08 1.07 1.05 1.03 1.01 1.00 0.97 0.93 0.87	KSUSA2-48 ● KSUSA2-48J15 ● KSUSA2-48J16 ● KSUSA2-48J17 ● KSUSA2-48J18 ● KSUSA2-48J19 ● KSUSA2-48J20 ● KSUSA2-48J22 ● KSUSA2-48J25 ● KSUSA2-48J28 ● KSUSA2-48J30 ● KSUSA2-48J32 ● KSUSA2-48J35 ● KSUSA2-48J40 ● KSUSA2-48J45
		86.0	14.2	8.77	1.44	0.18~0.36	1.20 1.20 1.19 1.19 1.18 1.18 1.17 1.16 1.14 1.13 1.11 1.09 1.07 1.02 0.97	KSUSA2-50 ● KSUSA2-50J15 ● KSUSA2-50J16 ● KSUSA2-50J17 ● KSUSA2-50J18 ● KSUSA2-50J19 ● KSUSA2-50J20 ● KSUSA2-50J22 ● KSUSA2-50J25 ● KSUSA2-50J28 ● KSUSA2-50J30 ● KSUSA2-50J32 ● KSUSA2-50J35 ● KSUSA2-50J40 ● KSUSA2-50J45
		96.5	17.3	9.84	1.77	0.18~0.36	1.45 1.45 1.45 1.44 1.44 1.43 1.42 1.40 1.38 1.37 1.35 1.33 1.28 1.23 1.17	KSUSA2-55 ● KSUSA2-55J15 ● KSUSA2-55J16 ● KSUSA2-55J17 ● KSUSA2-55J18 ● KSUSA2-55J19 ● KSUSA2-55J20 ● KSUSA2-55J22 ● KSUSA2-55J25 ● KSUSA2-55J28 ● KSUSA2-55J30 ● KSUSA2-55J32 ● KSUSA2-55J35 ● KSUSA2-55J40 ● KSUSA2-55J45 ● KSUSA2-55J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.



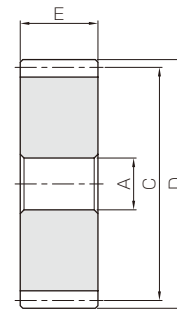
KSUSA Stainless Steel Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

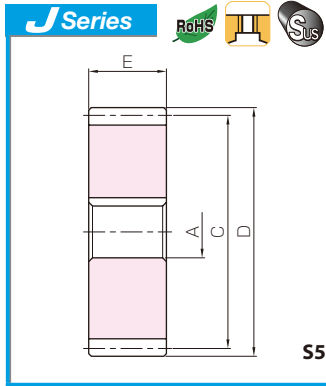
*The precision grade of J Series products is equivalent to the value shown in the table.



S5

- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUSA2-56 ●KSUSA2-56J15 ●KSUSA2-56J16 ●KSUSA2-56J17 ●KSUSA2-56J18 ●KSUSA2-56J19 ●KSUSA2-56J20 ●KSUSA2-56J22 ●KSUSA2-56J25 ●KSUSA2-56J28 ●KSUSA2-56J30 ●KSUSA2-56J32 ●KSUSA2-56J35 ●KSUSA2-56J40 ●KSUSA2-56J45 ●KSUSA2-56J50	m2	56	S5	15		112	116	20			
			S5K	15						5 x 2.3	
			S5K	16						5 x 2.3	
			S5K	17						5 x 2.3	
			S5K	18						6 x 2.8	
			S5K	19						6 x 2.8	
			S5K	20						6 x 2.8	
			S5K	22						6 x 2.8	
			S5K	25						8 x 3.3	
			S5K	28						8 x 3.3	
			S5K	30						8 x 3.3	
			S5K	32						10 x 3.3	
			S5K	35						10 x 3.3	
			S5K	40						12 x 3.3	
			S5K	45						14 x 3.8	
S5K	50			14 x 3.8							
KSUSA2-60 ●KSUSA2-60J15 ●KSUSA2-60J16 ●KSUSA2-60J17 ●KSUSA2-60J18 ●KSUSA2-60J19 ●KSUSA2-60J20 ●KSUSA2-60J22 ●KSUSA2-60J25 ●KSUSA2-60J28 ●KSUSA2-60J30 ●KSUSA2-60J32 ●KSUSA2-60J35 ●KSUSA2-60J40 ●KSUSA2-60J45 ●KSUSA2-60J50	m2	60	S5	15		120	124	20			
			S5K	15						5 x 2.3	
			S5K	16						5 x 2.3	
			S5K	17						5 x 2.3	
			S5K	18						6 x 2.8	
			S5K	19						6 x 2.8	
			S5K	20						6 x 2.8	
			S5K	22						6 x 2.8	
			S5K	25						8 x 3.3	
			S5K	28						8 x 3.3	
			S5K	30						8 x 3.3	
			S5K	32						10 x 3.3	
			S5K	35						10 x 3.3	
			S5K	40						12 x 3.3	
			S5K	45						14 x 3.8	
S5K	50			14 x 3.8							
KSUSA2-64 ●KSUSA2-64J15 ●KSUSA2-64J16 ●KSUSA2-64J17 ●KSUSA2-64J18 ●KSUSA2-64J19 ●KSUSA2-64J20 ●KSUSA2-64J22 ●KSUSA2-64J25 ●KSUSA2-64J28 ●KSUSA2-64J30 ●KSUSA2-64J32 ●KSUSA2-64J35 ●KSUSA2-64J40 ●KSUSA2-64J45 ●KSUSA2-64J50	m2	64	S5	15		128	132	20			
			S5K	15						5 x 2.3	
			S5K	16						5 x 2.3	
			S5K	17						5 x 2.3	
			S5K	18						6 x 2.8	
			S5K	19						6 x 2.8	
			S5K	20						6 x 2.8	
			S5K	22						6 x 2.8	
			S5K	25						8 x 3.3	
			S5K	28						8 x 3.3	
			S5K	30						8 x 3.3	
			S5K	32						10 x 3.3	
			S5K	35						10 x 3.3	
			S5K	40						12 x 3.3	
			S5K	45						14 x 3.8	
S5K	50			14 x 3.8							
KSUSA2-70 ●KSUSA2-70J15 ●KSUSA2-70J16 ●KSUSA2-70J17 ●KSUSA2-70J18 ●KSUSA2-70J19 ●KSUSA2-70J20 ●KSUSA2-70J22 ●KSUSA2-70J25 ●KSUSA2-70J28 ●KSUSA2-70J30 ●KSUSA2-70J32 ●KSUSA2-70J35 ●KSUSA2-70J40 ●KSUSA2-70J45 ●KSUSA2-70J50	m2	70	S5	15		140	144	20			
			S5K	15						5 x 2.3	
			S5K	16						5 x 2.3	
			S5K	17						5 x 2.3	
			S5K	18						6 x 2.8	
			S5K	19						6 x 2.8	
			S5K	20						6 x 2.8	
			S5K	22						6 x 2.8	
			S5K	25						8 x 3.3	
			S5K	28						8 x 3.3	
			S5K	30						8 x 3.3	
			S5K	32						10 x 3.3	
			S5K	35						10 x 3.3	
			S5K	40						12 x 3.3	
			S5K	45						14 x 3.8	
S5K	50			14 x 3.8							



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)															
Size	J	Bending strength	Surface durability	Bending strength	Surface durability																		
		98.7	18.0	10.1	1.83	0.18~0.36	1.51 1.51 1.50 1.50 1.49 1.49 1.49 1.47 1.46 1.44 1.42 1.41 1.38 1.33 1.28 1.22	KSUSA2-56 ●KSUSA2-56J15 ●KSUSA2-56J16 ●KSUSA2-56J17 ●KSUSA2-56J18 ●KSUSA2-56J19 ●KSUSA2-56J20 ●KSUSA2-56J22 ●KSUSA2-56J25 ●KSUSA2-56J28 ●KSUSA2-56J30 ●KSUSA2-56J32 ●KSUSA2-56J35 ●KSUSA2-56J40 ●KSUSA2-56J45 ●KSUSA2-56J50															
							107	20.8	10.9	2.13	0.18~0.36	1.74 1.73 1.73 1.73 1.72 1.72 1.71 1.70 1.68 1.66 1.65 1.63 1.61 1.56 1.51 1.45	KSUSA2-60 ●KSUSA2-60J15 ●KSUSA2-60J16 ●KSUSA2-60J17 ●KSUSA2-60J18 ●KSUSA2-60J19 ●KSUSA2-60J20 ●KSUSA2-60J22 ●KSUSA2-60J25 ●KSUSA2-60J28 ●KSUSA2-60J30 ●KSUSA2-60J32 ●KSUSA2-60J35 ●KSUSA2-60J40 ●KSUSA2-60J45 ●KSUSA2-60J50										
												116	23.9	11.8	2.44	0.18~0.36	1.98 1.98 1.97 1.97 1.97 1.96 1.96 1.96 1.95 1.95 1.93 1.91 1.89 1.88 1.85 1.81 1.75 1.69	KSUSA2-64 ●KSUSA2-64J15 ●KSUSA2-64J16 ●KSUSA2-64J17 ●KSUSA2-64J18 ●KSUSA2-64J19 ●KSUSA2-64J20 ●KSUSA2-64J22 ●KSUSA2-64J25 ●KSUSA2-64J28 ●KSUSA2-64J30 ●KSUSA2-64J32 ●KSUSA2-64J35 ●KSUSA2-64J40 ●KSUSA2-64J45 ●KSUSA2-64J50					
																	128	29.0	13.1	2.96	0.18~0.36	2.37 2.37 2.37 2.36 2.36 2.35 2.35 2.35 2.34 2.32 2.30 2.29 2.27 2.25 2.20 2.15 2.09	KSUSA2-70 ●KSUSA2-70J15 ●KSUSA2-70J16 ●KSUSA2-70J17 ●KSUSA2-70J18 ●KSUSA2-70J19 ●KSUSA2-70J20 ●KSUSA2-70J22 ●KSUSA2-70J25 ●KSUSA2-70J28 ●KSUSA2-70J30 ●KSUSA2-70J32 ●KSUSA2-70J35 ●KSUSA2-70J40 ●KSUSA2-70J45 ●KSUSA2-70J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

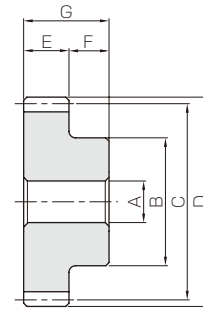
*** Please see book one for additional products in these modules.**





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



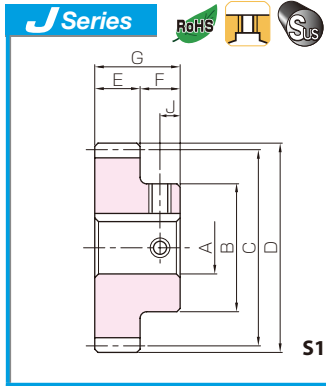
S1

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS2.5-15 ●KSUS2.5-15J15 ●KSUS2.5-15J16	m2.5	15	S1	15	30	37.5	42.5	25	18	43	5 x 2.3
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
KSUS2.5-16 ●KSUS2.5-16J15 ●KSUS2.5-16J16 ●KSUS2.5-16J17		16	S1	15	32	40	45	25	18	43	5 x 2.3
S1K			15	5 x 2.3							
S1K			17	5 x 2.3							
KSUS2.5-18 ●KSUS2.5-18J15 ●KSUS2.5-18J16 ●KSUS2.5-18J17 ●KSUS2.5-18J18 ●KSUS2.5-18J19 ●KSUS2.5-18J20 ●KSUS2.5-18J22		18	S1	15	38	45	50	25	18	43	5 x 2.3
S1K			15	5 x 2.3							
S1K			16	5 x 2.3							
S1K			17	5 x 2.3							
S1K			18	6 x 2.8							
S1K			19	6 x 2.8							
S1K	20		6 x 2.8								
S1K	22	6 x 2.8									
KSUS2.5-20 ●KSUS2.5-20J15 ●KSUS2.5-20J16 ●KSUS2.5-20J17 ●KSUS2.5-20J18 ●KSUS2.5-20J19 ●KSUS2.5-20J20 ●KSUS2.5-20J22	20	S1	15	40	50	55	25	18	43	5 x 2.3	
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		22	6 x 2.8								
KSUS2.5-22 ●KSUS2.5-22J15 ●KSUS2.5-22J16 ●KSUS2.5-22J17 ●KSUS2.5-22J18 ●KSUS2.5-22J19 ●KSUS2.5-22J20 ●KSUS2.5-22J22 ●KSUS2.5-22J25	22	S1	15	44	55	60	25	18	43	5 x 2.3	
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		20	6 x 2.8								
S1K		22	6 x 2.8								
S1K		25	8 x 3.3								
KSUS2.5-24 ●KSUS2.5-24J15 ●KSUS2.5-24J16 ●KSUS2.5-24J17 ●KSUS2.5-24J18 ●KSUS2.5-24J19 ●KSUS2.5-24J20 ●KSUS2.5-24J22 ●KSUS2.5-24J25 ●KSUS2.5-24J28	24	S1	15	48	60	65	25	18	43	5 x 2.3	
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		20	6 x 2.8								
S1K		22	6 x 2.8								
S1K		25	8 x 3.3								
S1K	28	8 x 3.3									
KSUS2.5-25 ●KSUS2.5-25J15 ●KSUS2.5-25J16 ●KSUS2.5-25J17 ●KSUS2.5-25J18 ●KSUS2.5-25J19 ●KSUS2.5-25J20 ●KSUS2.5-25J22 ●KSUS2.5-25J25 ●KSUS2.5-25J28 ●KSUS2.5-25J30	25	S1	15	50	62.5	67.5	25	18	43	5 x 2.3	
S1K		15	5 x 2.3								
S1K		16	5 x 2.3								
S1K		17	5 x 2.3								
S1K		18	6 x 2.8								
S1K		19	6 x 2.8								
S1K		20	6 x 2.8								
S1K		22	6 x 2.8								
S1K		25	8 x 3.3								
S1K		28	8 x 3.3								
S1K		30	8 x 3.3								

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4 M4	9 9	31.9	2.11	3.25	0.21	0.14~0.28	0.26 0.25 0.24	KSUS2.5-15 ● KSUS2.5-15J15 ● KSUS2.5-15J16
M4 M4 M4	9 9 9	35.3	2.44	3.6	0.25	0.14~0.28	0.30 0.29 0.28	KSUS2.5-16 ● KSUS2.5-16J15 ● KSUS2.5-16J16 ● KSUS2.5-16J17
M4 M4 M4 M5 M5 M5 M5	9 9 9 9 9 9 9	42.4	3.18	4.32	0.32	0.14~0.28	0.41 0.40 0.40 0.39 0.38 0.37 0.36 0.33	KSUS2.5-18 ● KSUS2.5-18J15 ● KSUS2.5-18J16 ● KSUS2.5-18J17 ● KSUS2.5-18J18 ● KSUS2.5-18J19 ● KSUS2.5-18J20 ● KSUS2.5-18J22
M4 M4 M4 M5 M5 M5 M5	9 9 9 9 9 9 9	49.6	4.02	5.06	0.41	0.14~0.28	0.50 0.49 0.49 0.48 0.46 0.46 0.45 0.42	KSUS2.5-20 ● KSUS2.5-20J15 ● KSUS2.5-20J16 ● KSUS2.5-20J17 ● KSUS2.5-20J18 ● KSUS2.5-20J19 ● KSUS2.5-20J20 ● KSUS2.5-20J22
M4* M4 M4 M5 M5 M5 M5 M6	9 9 9 9 9 9 9 9	57.0	4.96	5.81	0.51	0.16~0.34	0.62 0.61 0.60 0.59 0.58 0.57 0.56 0.54 0.50	KSUS2.5-22 ● KSUS2.5-22J15 ● KSUS2.5-22J16 ● KSUS2.5-22J17 ● KSUS2.5-22J18 ● KSUS2.5-22J19 ● KSUS2.5-22J20 ● KSUS2.5-22J22 ● KSUS2.5-22J25
M4* M4* M4* M5 M5 M5 M5 M6 M6	9 9 9 9 9 9 9 9 9	64.5	6.01	6.58	0.61	0.16~0.34	0.75 0.74 0.73 0.72 0.71 0.70 0.69 0.67 0.63 0.59	KSUS2.5-24 ● KSUS2.5-24J15 ● KSUS2.5-24J16 ● KSUS2.5-24J17 ● KSUS2.5-24J18 ● KSUS2.5-24J19 ● KSUS2.5-24J20 ● KSUS2.5-24J22 ● KSUS2.5-24J25 ● KSUS2.5-24J28
M4* M4* M4* M5 M5 M5 M5 M6 M6 M6	9 9 9 9 9 9 9 9 9 9	68.3	6.58	6.96	0.67	0.16~0.34	0.81 0.81 0.80 0.79 0.78 0.77 0.77 0.76 0.74 0.69 0.65 0.62	KSUS2.5-25 ● KSUS2.5-25J15 ● KSUS2.5-25J16 ● KSUS2.5-25J17 ● KSUS2.5-25J18 ● KSUS2.5-25J19 ● KSUS2.5-25J20 ● KSUS2.5-25J22 ● KSUS2.5-25J25 ● KSUS2.5-25J28 ● KSUS2.5-25J30

[Caution on Product Characteristics]

① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**

② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.

③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

⑤ For products having a tapped hole, a set screw is included.

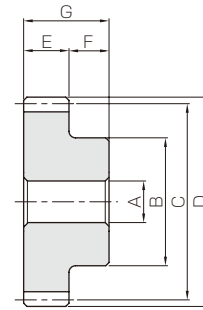


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S1

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS2.5-28 ●KSUS2.5-28J15 ●KSUS2.5-28J16 ●KSUS2.5-28J17 ●KSUS2.5-28J18 ●KSUS2.5-28J19 ●KSUS2.5-28J20 ●KSUS2.5-28J22 ●KSUS2.5-28J25 ●KSUS2.5-28J28 ●KSUS2.5-28J30 ●KSUS2.5-28J32 ●KSUS2.5-28J35	m2.5	28	S1	15	60	70	75	25	18	43	
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
			S1K	25							
			S1K	28							
			S1K	30							
			S1K	32							
			S1K	35							
			KSUS2.5-30 ●KSUS2.5-30J15 ●KSUS2.5-30J16 ●KSUS2.5-30J17 ●KSUS2.5-30J18 ●KSUS2.5-30J19 ●KSUS2.5-30J20 ●KSUS2.5-30J22 ●KSUS2.5-30J25 ●KSUS2.5-30J28 ●KSUS2.5-30J30 ●KSUS2.5-30J32 ●KSUS2.5-30J35	m2.5							30
S1K	15										
S1K	16										
S1K	17										
S1K	18										
S1K	19										
S1K	20										
S1K	22										
S1K	25										
S1K	28										
S1K	30										
S1K	32										
S1K	35										

*Please see book one for additional products in these modules.

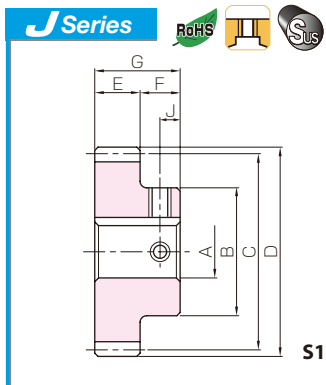
★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64
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Stainless Steel Spur Gears



S1K



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4*	9	79.8	8.34	8.14	0.85	0.16~0.34	1.09	KSUS2.5-28 ●KSUS2.5-28J15 ●KSUS2.5-28J16 ●KSUS2.5-28J17 ●KSUS2.5-28J18 ●KSUS2.5-28J19 ●KSUS2.5-28J20 ●KSUS2.5-28J22 ●KSUS2.5-28J25 ●KSUS2.5-28J28 ●KSUS2.5-28J30 ●KSUS2.5-28J32 ●KSUS2.5-28J35
M4*	9							
M4*	9							
M5*	9							
M5*	9							
M5*	9							
M5*	9							
M6	9							
M6	9							
M6	9							
M6	9							
M8	9							
M8	9							
M4*	9							
M4*	9							
M4*	9							
M5*	9							
M5*	9							
M5*	9							
M5*	9							
M6	9							
M6	9							
M6	9							
M6	9							
M8	9							
M8	9							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

KGCU-S Spur Gear Kit



Installment : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.





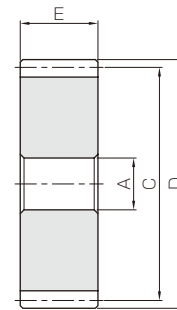
KSUSA Stainless Steel Spur Gears

Module 2.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



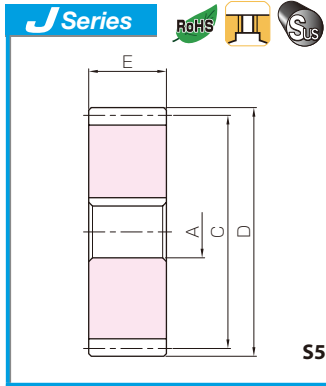
S5

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway			
				AH7	B	C	D	E	F	G	WidthxDepth			
KSUSA2.5-32 ●KSUSA2.5-32J15 ●KSUSA2.5-32J16 ●KSUSA2.5-32J17 ●KSUSA2.5-32J18 ●KSUSA2.5-32J19 ●KSUSA2.5-32J20 ●KSUSA2.5-32J22 ●KSUSA2.5-32J25 ●KSUSA2.5-32J28 ●KSUSA2.5-32J30 ●KSUSA2.5-32J32 ●KSUSA2.5-32J35	m2.5	32	S5	15		80	85	25						
			S5K	15								5 x 2.3		
			S5K	16								5 x 2.3		
			S5K	17								5 x 2.3		
			S5K	18								6 x 2.8		
			S5K	19								6 x 2.8		
			S5K	20								6 x 2.8		
			S5K	22								6 x 2.8		
			S5K	25								8 x 3.3		
			S5K	28								8 x 3.3		
			S5K	30								8 x 3.3		
			S5K	32								10 x 3.3		
S5K	35								10 x 3.3					
KSUSA2.5-35 ●KSUSA2.5-35J15 ●KSUSA2.5-35J16 ●KSUSA2.5-35J17 ●KSUSA2.5-35J18 ●KSUSA2.5-35J19 ●KSUSA2.5-35J20 ●KSUSA2.5-35J22 ●KSUSA2.5-35J25 ●KSUSA2.5-35J28 ●KSUSA2.5-35J30 ●KSUSA2.5-35J32 ●KSUSA2.5-35J35 ●KSUSA2.5-35J40	m2.5	35	S5	15		87.5	92.5	25						
			S5K	15								5 x 2.3		
			S5K	16								5 x 2.3		
			S5K	17								5 x 2.3		
			S5K	18								6 x 2.8		
			S5K	19								6 x 2.8		
			S5K	20								6 x 2.8		
			S5K	22								6 x 2.8		
			S5K	25								8 x 3.3		
			S5K	28								8 x 3.3		
			S5K	30								8 x 3.3		
			S5K	32								10 x 3.3		
S5K	35								10 x 3.3					
S5K	40								12 x 3.3					
KSUSA2.5-36 ●KSUSA2.5-36J15 ●KSUSA2.5-36J16 ●KSUSA2.5-36J17 ●KSUSA2.5-36J18 ●KSUSA2.5-36J19 ●KSUSA2.5-36J20 ●KSUSA2.5-36J22 ●KSUSA2.5-36J25 ●KSUSA2.5-36J28 ●KSUSA2.5-36J30 ●KSUSA2.5-36J32 ●KSUSA2.5-36J35 ●KSUSA2.5-36J40	m2.5	36	S5	15		90	95	25						
			S5K	15								5 x 2.3		
			S5K	16								5 x 2.3		
			S5K	17								5 x 2.3		
			S5K	18								6 x 2.8		
			S5K	19								6 x 2.8		
			S5K	20								6 x 2.8		
			S5K	22								6 x 2.8		
			S5K	25								8 x 3.3		
			S5K	28								8 x 3.3		
			S5K	30								8 x 3.3		
			S5K	32								10 x 3.3		
S5K	35								10 x 3.3					
S5K	40								12 x 3.3					
KSUSA2.5-40 ●KSUSA2.5-40J20 ●KSUSA2.5-40J22 ●KSUSA2.5-40J25 ●KSUSA2.5-40J28 ●KSUSA2.5-40J30 ●KSUSA2.5-40J32 ●KSUSA2.5-40J35 ●KSUSA2.5-40J40 ●KSUSA2.5-40J45	m2.5	40	S5	20		100	105	25						
			S5K	20								6 x 2.8		
			S5K	22								6 x 2.8		
			S5K	25								8 x 3.3		
			S5K	28								8 x 3.3		
			S5K	30								8 x 3.3		
			S5K	32								10 x 3.3		
			S5K	35								10 x 3.3		
			S5K	40								12 x 3.3		
			S5K	45								14 x 3.8		
			KSUSA2.5-42 ●KSUSA2.5-42J20 ●KSUSA2.5-42J22 ●KSUSA2.5-42J25 ●KSUSA2.5-42J28 ●KSUSA2.5-42J30 ●KSUSA2.5-42J32 ●KSUSA2.5-42J35 ●KSUSA2.5-42J40 ●KSUSA2.5-42J45	m2.5	42	S5	20		105	110	25			
						S5K	20							
S5K	22											6 x 2.8		
S5K	25											8 x 3.3		
S5K	28											8 x 3.3		
S5K	30											8 x 3.3		
S5K	32											10 x 3.3		
S5K	35											10 x 3.3		
S5K	40											12 x 3.3		
S5K	45											14 x 3.8		

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

S5K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		95.4	11.1	9.73	1.13	0.16~0.34	0.95 0.94 0.94 0.93 0.93 0.92 0.92 0.90 0.88 0.85 0.84 0.82 0.79	KSUSA2.5-32 ● KSUSA2.5-32J15 ● KSUSA2.5-32J16 ● KSUSA2.5-32J17 ● KSUSA2.5-32J18 ● KSUSA2.5-32J19 ● KSUSA2.5-32J20 ● KSUSA2.5-32J22 ● KSUSA2.5-32J25 ● KSUSA2.5-32J28 ● KSUSA2.5-32J30 ● KSUSA2.5-32J32 ● KSUSA2.5-32J35
		107	13.4	10.9	1.36	0.16~0.34	1.14 1.14 1.13 1.13 1.12 1.11 1.11 1.10 1.07 1.05 1.03 1.01 0.98 0.92	KSUSA2.5-35 ● KSUSA2.5-35J15 ● KSUSA2.5-35J16 ● KSUSA2.5-35J17 ● KSUSA2.5-35J18 ● KSUSA2.5-35J19 ● KSUSA2.5-35J20 ● KSUSA2.5-35J22 ● KSUSA2.5-35J25 ● KSUSA2.5-35J28 ● KSUSA2.5-35J30 ● KSUSA2.5-35J32 ● KSUSA2.5-35J35 ● KSUSA2.5-35J40
		111	14.2	11.3	1.45	0.16~0.34	1.21 1.20 1.19 1.19 1.18 1.18 1.16 1.14 1.12 1.10 1.08 1.05 0.99	KSUSA2.5-36 ● KSUSA2.5-36J15 ● KSUSA2.5-36J16 ● KSUSA2.5-36J17 ● KSUSA2.5-36J18 ● KSUSA2.5-36J19 ● KSUSA2.5-36J20 ● KSUSA2.5-36J22 ● KSUSA2.5-36J25 ● KSUSA2.5-36J28 ● KSUSA2.5-36J30 ● KSUSA2.5-36J32 ● KSUSA2.5-36J35 ● KSUSA2.5-36J40
		127	17.7	13.0	1.81	0.16~0.34	1.47 1.47 1.45 1.43 1.41 1.39 1.37 1.34 1.28 1.21	KSUSA2.5-40 ● KSUSA2.5-40J20 ● KSUSA2.5-40J22 ● KSUSA2.5-40J25 ● KSUSA2.5-40J28 ● KSUSA2.5-40J30 ● KSUSA2.5-40J32 ● KSUSA2.5-40J35 ● KSUSA2.5-40J40 ● KSUSA2.5-40J45
		135	19.6	13.8	2.00	0.18~0.40	1.63 1.62 1.61 1.59 1.56 1.55 1.53 1.49 1.44 1.37	KSUSA2.5-42 ● KSUSA2.5-42J20 ● KSUSA2.5-42J22 ● KSUSA2.5-42J25 ● KSUSA2.5-42J28 ● KSUSA2.5-42J30 ● KSUSA2.5-42J32 ● KSUSA2.5-42J35 ● KSUSA2.5-42J40 ● KSUSA2.5-42J45

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.





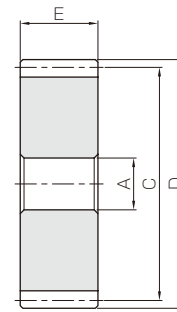
KSUSA Stainless Steel Spur Gears

Module 2.5



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



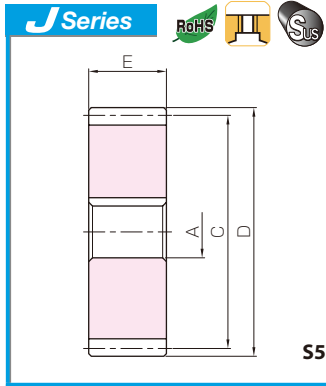
S5

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUSA2.5-45 ●KSUSA2.5-45J20 ●KSUSA2.5-45J22 ●KSUSA2.5-45J25 ●KSUSA2.5-45J28 ●KSUSA2.5-45J30 ●KSUSA2.5-45J32 ●KSUSA2.5-45J35 ●KSUSA2.5-45J40 ●KSUSA2.5-45J45 ●KSUSA2.5-45J50	m2.5	45	S5	20		112.5	117.5	25			
S5K			20						6 x 2.8		
S5K			22						6 x 2.8		
S5K			25						8 x 3.3		
S5K			28						8 x 3.3		
S5K			30						8 x 3.3		
S5K			32						10 x 3.3		
S5K			35						10 x 3.3		
S5K			40						12 x 3.3		
S5K			45						14 x 3.8		
S5K		50			14 x 3.8						
KSUSA2.5-48 ●KSUSA2.5-48J20 ●KSUSA2.5-48J22 ●KSUSA2.5-48J25 ●KSUSA2.5-48J28 ●KSUSA2.5-48J30 ●KSUSA2.5-48J32 ●KSUSA2.5-48J35 ●KSUSA2.5-48J40 ●KSUSA2.5-48J45 ●KSUSA2.5-48J50		48	S5	20		120	125	25			
S5K			20						6 x 2.8		
S5K			22						6 x 2.8		
S5K			25						8 x 3.3		
S5K			28						8 x 3.3		
S5K			30						8 x 3.3		
S5K			32						10 x 3.3		
S5K			35						10 x 3.3		
S5K			40						12 x 3.3		
S5K			45						14 x 3.8		
S5K		50			14 x 3.8						
KSUSA2.5-50 ●KSUSA2.5-50J20 ●KSUSA2.5-50J22 ●KSUSA2.5-50J25 ●KSUSA2.5-50J28 ●KSUSA2.5-50J30 ●KSUSA2.5-50J32 ●KSUSA2.5-50J35 ●KSUSA2.5-50J40 ●KSUSA2.5-50J45 ●KSUSA2.5-50J50		50	S5	20		125	130	25			
S5K			20						6 x 2.8		
S5K	22				6 x 2.8						
S5K	25				8 x 3.3						
S5K	28				8 x 3.3						
S5K	30				8 x 3.3						
S5K	32				10 x 3.3						
S5K	35				10 x 3.3						
S5K	40				12 x 3.3						
S5K	45				14 x 3.8						
S5K	50			14 x 3.8							
KSUSA2.5-55 ●KSUSA2.5-55J20 ●KSUSA2.5-55J22 ●KSUSA2.5-55J25 ●KSUSA2.5-55J28 ●KSUSA2.5-55J30 ●KSUSA2.5-55J32 ●KSUSA2.5-55J35 ●KSUSA2.5-55J40 ●KSUSA2.5-55J45 ●KSUSA2.5-55J50	55	S5	20		137.5	142.5	25				
S5K		20						6 x 2.8			
S5K		22						6 x 2.8			
S5K		25						8 x 3.3			
S5K		28						8 x 3.3			
S5K		30						8 x 3.3			
S5K		32						10 x 3.3			
S5K		35						10 x 3.3			
S5K		40						12 x 3.3			
S5K		45						14 x 3.8			
S5K	50			14 x 3.8							
KSUSA2.5-56 ●KSUSA2.5-56J20 ●KSUSA2.5-56J22 ●KSUSA2.5-56J25 ●KSUSA2.5-56J28 ●KSUSA2.5-56J30 ●KSUSA2.5-56J32 ●KSUSA2.5-56J35 ●KSUSA2.5-56J40 ●KSUSA2.5-56J45 ●KSUSA2.5-56J50	56	S5	20		140	145	25				
S5K		20						6 x 2.8			
S5K		22						6 x 2.8			
S5K		25						8 x 3.3			
S5K		28						8 x 3.3			
S5K		30						8 x 3.3			
S5K		32						10 x 3.3			
S5K		35						10 x 3.3			
S5K		40						12 x 3.3			
S5K		45						14 x 3.8			
S5K	50			14 x 3.8							

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60	64
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

SSK

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		148	22.7	15.0	2.31	0.18~0.40	1.88 1.87 1.86 1.84 1.81 1.80 1.78 1.74 1.69 1.62 1.55	KSUSA2.5-45 ● KSUSA2.5-45J20 ● KSUSA2.5-45J22 ● KSUSA2.5-45J25 ● KSUSA2.5-45J28 ● KSUSA2.5-45J30 ● KSUSA2.5-45J32 ● KSUSA2.5-45J35 ● KSUSA2.5-45J40 ● KSUSA2.5-45J45 ● KSUSA2.5-45J50
		160	26.1	16.3	2.66	0.18~0.40	2.14 2.14 2.13 2.10 2.08 2.06 2.04 2.01 1.95 1.88 1.81	KSUSA2.5-48 ● KSUSA2.5-48J20 ● KSUSA2.5-48J22 ● KSUSA2.5-48J25 ● KSUSA2.5-48J28 ● KSUSA2.5-48J30 ● KSUSA2.5-48J32 ● KSUSA2.5-48J35 ● KSUSA2.5-48J40 ● KSUSA2.5-48J45 ● KSUSA2.5-48J50
		168	28.4	17.1	2.90	0.18~0.40	2.33 2.33 2.32 2.29 2.27 2.25 2.23 2.20 2.14 2.07 2.00	KSUSA2.5-50 ● KSUSA2.5-50J20 ● KSUSA2.5-50J22 ● KSUSA2.5-50J25 ● KSUSA2.5-50J28 ● KSUSA2.5-50J30 ● KSUSA2.5-50J32 ● KSUSA2.5-50J35 ● KSUSA2.5-50J40 ● KSUSA2.5-50J45 ● KSUSA2.5-50J50
		189	34.9	19.2	3.56	0.18~0.40	2.83 2.83 2.82 2.79 2.77 2.75 2.73 2.70 2.64 2.58 2.50	KSUSA2.5-55 ● KSUSA2.5-55J20 ● KSUSA2.5-55J22 ● KSUSA2.5-55J25 ● KSUSA2.5-55J28 ● KSUSA2.5-55J30 ● KSUSA2.5-55J32 ● KSUSA2.5-55J35 ● KSUSA2.5-55J40 ● KSUSA2.5-55J45 ● KSUSA2.5-55J50
		193	36.2	19.6	3.70	0.18~0.40	2.94 2.94 2.92 2.90 2.88 2.86 2.84 2.81 2.75 2.68 2.61	KSUSA2.5-56 ● KSUSA2.5-56J20 ● KSUSA2.5-56J22 ● KSUSA2.5-56J25 ● KSUSA2.5-56J28 ● KSUSA2.5-56J30 ● KSUSA2.5-56J32 ● KSUSA2.5-56J35 ● KSUSA2.5-56J40 ● KSUSA2.5-56J45 ● KSUSA2.5-56J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

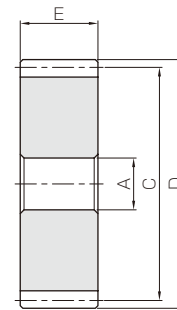


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.

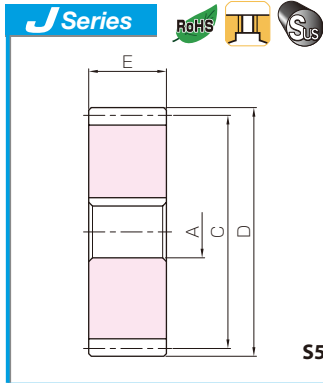


S5

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway		
				A _{H7}	B	C	D	E	F	G	Width×Depth		
KSUSA2.5-60 ●KSUSA2.5-60J20 ●KSUSA2.5-60J22 ●KSUSA2.5-60J25 ●KSUSA2.5-60J28 ●KSUSA2.5-60J30 ●KSUSA2.5-60J32 ●KSUSA2.5-60J35 ●KSUSA2.5-60J40 ●KSUSA2.5-60J45 ●KSUSA2.5-60J50	m2.5	60	S5	20									
			S5K	20								6 × 2.8	
			S5K	22								6 × 2.8	6 × 2.8
			S5K	25			150	155	25			8 × 3.3	8 × 3.3
			S5K	28								8 × 3.3	8 × 3.3
			S5K	30								8 × 3.3	8 × 3.3
			S5K	32								10 × 3.3	10 × 3.3
			S5K	35								10 × 3.3	10 × 3.3
			S5K	40								12 × 3.3	12 × 3.3
			S5K	45								14 × 3.8	14 × 3.8
S5K	50								14 × 3.8	14 × 3.8			
KSUSA2.5-64 ●KSUSA2.5-64J20 ●KSUSA2.5-64J22 ●KSUSA2.5-64J25 ●KSUSA2.5-64J28 ●KSUSA2.5-64J30 ●KSUSA2.5-64J32 ●KSUSA2.5-64J35 ●KSUSA2.5-64J40 ●KSUSA2.5-64J45 ●KSUSA2.5-64J50	m2.5	64	S5	20									
			S5K	20								6 × 2.8	
			S5K	22								6 × 2.8	6 × 2.8
			S5K	25			160	165	25			8 × 3.3	8 × 3.3
			S5K	28								8 × 3.3	8 × 3.3
			S5K	30								8 × 3.3	8 × 3.3
			S5K	32								10 × 3.3	10 × 3.3
			S5K	35								10 × 3.3	10 × 3.3
			S5K	40								12 × 3.3	12 × 3.3
			S5K	45								14 × 3.8	14 × 3.8
S5K	50								14 × 3.8	14 × 3.8			

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



Stainless Steel Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		209	42.0	21.3	4.28	0.18~0.40	3.38	KSUSA2.5-60
							3.38	●KSUSA2.5-60J20
							3.37	●KSUSA2.5-60J22
							3.35	●KSUSA2.5-60J25
							3.32	●KSUSA2.5-60J28
							3.30	●KSUSA2.5-60J30
							3.28	●KSUSA2.5-60J32
							3.25	●KSUSA2.5-60J35
							3.19	●KSUSA2.5-60J40
							3.13	●KSUSA2.5-60J45
		3.05	●KSUSA2.5-60J50					
		226	48.2	23.0	4.91	0.18~0.40	3.86	KSUSA2.5-64
							3.86	●KSUSA2.5-64J20
							3.84	●KSUSA2.5-64J22
							3.82	●KSUSA2.5-64J25
							3.80	●KSUSA2.5-64J28
							3.78	●KSUSA2.5-64J30
							3.76	●KSUSA2.5-64J32
							3.73	●KSUSA2.5-64J35
							3.67	●KSUSA2.5-64J40
							3.60	●KSUSA2.5-64J45
		3.53	●KSUSA2.5-64J50					

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

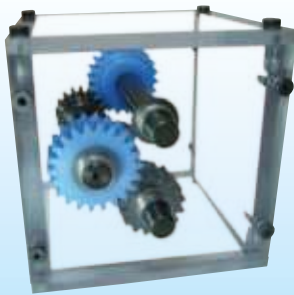
[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

KGCU-S Spur Gear Kit



Installation : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



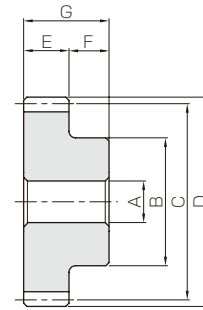


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



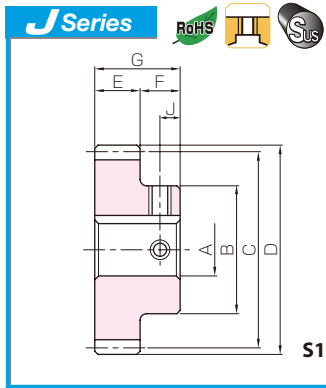
S1

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS3-15 ●KSUS3-15J15 ●KSUS3-15J16 ●KSUS3-15J17 ●KSUS3-15J18 ●KSUS3-15J19	m3	15	S1	15	36	45	51	30	20	50	5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
KSUS3-16 ●KSUS3-16J15 ●KSUS3-16J16 ●KSUS3-16J17 ●KSUS3-16J18 ●KSUS3-16J19 ●KSUS3-16J20 ●KSUS3-16J22	16	16	S1	15	38	48	54	30	20	50	5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
KSUS3-18 ●KSUS3-18J15 ●KSUS3-18J16 ●KSUS3-18J17 ●KSUS3-18J18 ●KSUS3-18J19 ●KSUS3-18J20 ●KSUS3-18J22	18	18	S1	15	40	54	60	30	20	50	5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
KSUS3-20 ●KSUS3-20J15 ●KSUS3-20J16 ●KSUS3-20J17 ●KSUS3-20J18 ●KSUS3-20J19 ●KSUS3-20J20 ●KSUS3-20J22 ●KSUS3-20J25 ●KSUS3-20J28 ●KSUS3-20J30	20	20	S1	15	50	60	66	30	20	50	5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
			S1K	25							
			S1K	28							
S1K	30										
KSUS3-22 ●KSUS3-22J15 ●KSUS3-22J16 ●KSUS3-22J17 ●KSUS3-22J18 ●KSUS3-22J19 ●KSUS3-22J20 ●KSUS3-22J22 ●KSUS3-22J25 ●KSUS3-22J28 ●KSUS3-22J30 ●KSUS3-22J32	22	22	S1	15	54	66	72	30	20	50	5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3 10 x 3.3
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
			S1K	25							
			S1K	28							
			S1K	30							
			S1K	32							
KSUS3-24 ●KSUS3-24J15 ●KSUS3-24J16 ●KSUS3-24J17 ●KSUS3-24J18 ●KSUS3-24J19 ●KSUS3-24J20 ●KSUS3-24J22 ●KSUS3-24J25 ●KSUS3-24J28 ●KSUS3-24J30 ●KSUS3-24J32	24	24	S1	15	58	72	78	30	20	50	5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3 10 x 3.3
			S1K	15							
			S1K	16							
			S1K	17							
			S1K	18							
			S1K	19							
			S1K	20							
			S1K	22							
			S1K	25							
			S1K	28							
			S1K	30							
			S1K	32							

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M4	10	55.1	3.71	5.62	0.38	0.14~0.32	0.46	KSUS3-15 ●KSUS3-15J15 ●KSUS3-15J16 ●KSUS3-15J17 ●KSUS3-15J18 ●KSUS3-15J19
M4	10							
M4	10							
M5	10							
M5	10							
M4	10	61.1	4.29	6.23	0.44	0.14~0.32	0.53	KSUS3-16 ●KSUS3-16J15 ●KSUS3-16J16 ●KSUS3-16J17 ●KSUS3-16J18 ●KSUS3-16J19 ●KSUS3-16J20 ●KSUS3-16J22
M4	10							
M4	10							
M4	10							
M5	10							
M5	10							
M5	10							
M4	10	73.3	5.59	7.47	0.57	0.14~0.32	0.66	KSUS3-18 ●KSUS3-18J15 ●KSUS3-18J16 ●KSUS3-18J17 ●KSUS3-18J18 ●KSUS3-18J19 ●KSUS3-18J20 ●KSUS3-18J22
M4	10							
M4	10							
M4	10							
M5	10							
M5	10							
M5	10							
M4*	10	85.8	7.07	8.74	0.72	0.14~0.32	0.90	KSUS3-20 ●KSUS3-20J15 ●KSUS3-20J16 ●KSUS3-20J17 ●KSUS3-20J18 ●KSUS3-20J19 ●KSUS3-20J20 ●KSUS3-20J22 ●KSUS3-20J25 ●KSUS3-20J28 ●KSUS3-20J30
M4*	10							
M4*	10							
M4*	10							
M5*	10							
M5*	10							
M5*	10							
M5*	10							
M6	10							
M6	10							
M4*	10	98.5	8.73	10.0	0.89	0.18~0.38	1.09	KSUS3-22 ●KSUS3-22J15 ●KSUS3-22J16 ●KSUS3-22J17 ●KSUS3-22J18 ●KSUS3-22J19 ●KSUS3-22J20 ●KSUS3-22J22 ●KSUS3-22J25 ●KSUS3-22J28 ●KSUS3-22J30 ●KSUS3-22J32
M4*	10							
M4*	10							
M4*	10							
M5*	10							
M5*	10							
M5*	10							
M5*	10							
M6	10							
M6	10							
M4*	10	111	10.6	11.4	1.08	0.18~0.38	1.30	KSUS3-24 ●KSUS3-24J15 ●KSUS3-24J16 ●KSUS3-24J17 ●KSUS3-24J18 ●KSUS3-24J19 ●KSUS3-24J20 ●KSUS3-24J22 ●KSUS3-24J25 ●KSUS3-24J28 ●KSUS3-24J30 ●KSUS3-24J32
M4*	10							
M4*	10							
M4*	10							
M5*	10							
M5*	10							
M5*	10							
M5*	10							
M6	10							
M6	10							

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

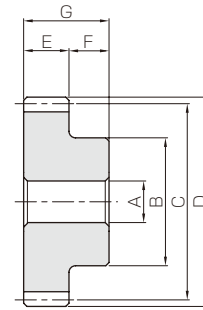
[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S1

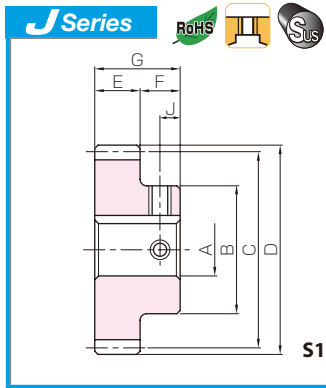
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS3-25 ● KSUS3-25J20 ● KSUS3-25J22 ● KSUS3-25J25 ● KSUS3-25J28 ● KSUS3-25J30 ● KSUS3-25J32 ● KSUS3-25J35	m3	25	S1	20	60	75	81	30	20	50	6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3 10 x 3.3 10 x 3.3
			S1K	20							
			S1K	22							
			S1K	25							
			S1K	28							
			S1K	30							
			S1K	32							
			S1K	35							
			KSUS3-28 ● KSUS3-28J20 ● KSUS3-28J22 ● KSUS3-28J25 ● KSUS3-28J28 ● KSUS3-28J30 ● KSUS3-28J32 ● KSUS3-28J35 ● KSUS3-28J40	28							
S1K	20										
S1K	22										
S1K	25										
S1K	28										
S1K	30										
S1K	32										
S1K	35										
S1K	40										
KSUS3-30 ● KSUS3-30J20 ● KSUS3-30J22 ● KSUS3-30J25 ● KSUS3-30J28 ● KSUS3-30J30 ● KSUS3-30J32 ● KSUS3-30J35 ● KSUS3-30J40 ● KSUS3-30J45	30	S1	20	75	90	96	30	20	50	6 x 2.8 6 x 2.8 8 x 3.3 8 x 3.3 8 x 3.3 10 x 3.3 10 x 3.3 12 x 3.3 14 x 3.8	
		S1K	20								
		S1K	22								
		S1K	25								
		S1K	28								
		S1K	30								
		S1K	32								
		S1K	35								
		S1K	40								
S1K	45										

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60
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Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)	
Size	J	Bending strength	Surface durability	Bending strength	Surface durability				
M5*	10	118	11.6	12.0	1.18	0.18~0.38	1.35	KSUS3-25 ●KSUS3-25J20 ●KSUS3-25J22 ●KSUS3-25J25 ●KSUS3-25J28 ●KSUS3-25J30 ●KSUS3-25J32 ●KSUS3-25J35	
M5*	10								1.34
M6	10								1.31
M6	10								1.27
M6	10								1.22
M8	10								1.18
M8	10								1.14
M8	10								1.08
M5*	10	138	14.7	14.1	1.50	0.18~0.38	1.77	KSUS3-28 ●KSUS3-28J20 ●KSUS3-28J22 ●KSUS3-28J25 ●KSUS3-28J28 ●KSUS3-28J30 ●KSUS3-28J32 ●KSUS3-28J35 ●KSUS3-28J40	
M5*	10								1.76
M6*	10								1.73
M6*	10								1.69
M6*	10								1.64
M6*	10								1.60
M8	10								1.56
M8	10								1.50
M8	10	1.38							
M5*	10	151	17.0	15.4	1.74	0.18~0.38	2.06	KSUS3-30 ●KSUS3-30J20 ●KSUS3-30J22 ●KSUS3-30J25 ●KSUS3-30J28 ●KSUS3-30J30 ●KSUS3-30J32 ●KSUS3-30J35 ●KSUS3-30J40 ●KSUS3-30J45	
M5*	10								2.04
M6*	10								2.01
M6*	10								1.97
M6*	10								1.92
M6*	10								1.88
M8	10								1.83
M8	10								1.77
M8	10								1.66
M10	10								1.52

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

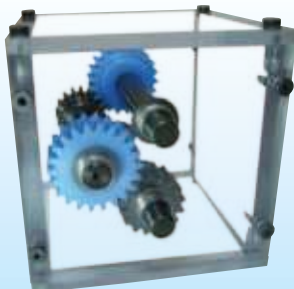
[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

KGCU-S Spur Gear Kit



Installment : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



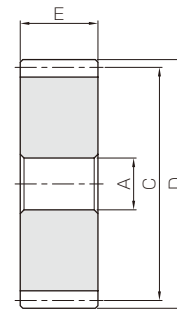
KSUSA Stainless Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S5

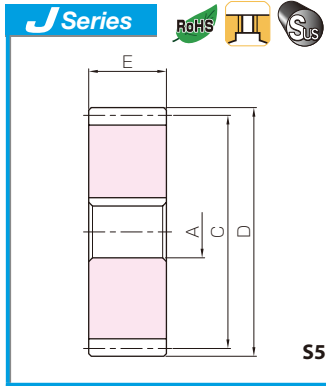
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSUSA3-32 ●KSUSA3-32J20 ●KSUSA3-32J22 ●KSUSA3-32J25 ●KSUSA3-32J28 ●KSUSA3-32J30 ●KSUSA3-32J32 ●KSUSA3-32J35 ●KSUSA3-32J40 ●KSUSA3-32J45	m3	32	S5	20		96	102	30			6 × 2.8
			S5K	20							8 × 3.3
			S5K	22							8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							10 × 3.3
			S5K	30							10 × 3.3
			S5K	32							12 × 3.3
			S5K	35							12 × 3.3
			S5K	40							14 × 3.8
			S5K	45							14 × 3.8
KSUSA3-35 ●KSUSA3-35J20 ●KSUSA3-35J22 ●KSUSA3-35J25 ●KSUSA3-35J28 ●KSUSA3-35J30 ●KSUSA3-35J32 ●KSUSA3-35J35 ●KSUSA3-35J40 ●KSUSA3-35J45	m3	35	S5	20		105	111	30			6 × 2.8
			S5K	20							6 × 2.8
			S5K	22							8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							8 × 3.3
			S5K	32							10 × 3.3
			S5K	35							10 × 3.3
			S5K	40							12 × 3.3
			S5K	45							14 × 3.8
KSUSA3-36 ●KSUSA3-36J20 ●KSUSA3-36J22 ●KSUSA3-36J25 ●KSUSA3-36J28 ●KSUSA3-36J30 ●KSUSA3-36J32 ●KSUSA3-36J35 ●KSUSA3-36J40 ●KSUSA3-36J45 ●KSUSA3-36J50	m3	36	S5	20		108	114	30			6 × 2.8
			S5K	20							6 × 2.8
			S5K	22							8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							8 × 3.3
			S5K	32							10 × 3.3
			S5K	35							10 × 3.3
			S5K	40							12 × 3.3
			S5K	45							14 × 3.8
KSUSA3-40 ●KSUSA3-40J25 ●KSUSA3-40J28 ●KSUSA3-40J30 ●KSUSA3-40J32 ●KSUSA3-40J35 ●KSUSA3-40J40 ●KSUSA3-40J45 ●KSUSA3-40J50	m3	40	S5	25		120	126	30			8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							8 × 3.3
			S5K	32							10 × 3.3
			S5K	35							10 × 3.3
			S5K	40							12 × 3.3
			S5K	45							14 × 3.8
			S5K	50							14 × 3.8
			KSUSA3-42 ●KSUSA3-42J25 ●KSUSA3-42J28 ●KSUSA3-42J30 ●KSUSA3-42J32 ●KSUSA3-42J35 ●KSUSA3-42J40 ●KSUSA3-42J45 ●KSUSA3-42J50	m3							42
S5K	25	8 × 3.3									
S5K	28	8 × 3.3									
S5K	30	8 × 3.3									
S5K	32	10 × 3.3									
S5K	35	10 × 3.3									
S5K	40	12 × 3.3									
S5K	45	14 × 3.8									
S5K	50	14 × 3.8									
KSUSA3-45 ●KSUSA3-45J25 ●KSUSA3-45J28 ●KSUSA3-45J30 ●KSUSA3-45J32 ●KSUSA3-45J35 ●KSUSA3-45J40 ●KSUSA3-45J45 ●KSUSA3-45J50	m3	45			S5	25		135	141	30	
			S5K	25	8 × 3.3						
			S5K	28	8 × 3.3						
			S5K	30	8 × 3.3						
			S5K	32	10 × 3.3						
			S5K	35	10 × 3.3						
			S5K	40	12 × 3.3						
			S5K	45	14 × 3.8						
			S5K	50	14 × 3.8						

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60
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- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		165	19.5	16.8	1.99	0.18~0.38	1.62 1.62 1.60 1.57 1.54 1.52 1.50 1.46 1.39 1.31 ●KSUSA3-32 ●KSUSA3-32J20 ●KSUSA3-32J22 ●KSUSA3-32J25 ●KSUSA3-32J28 ●KSUSA3-32J30 ●KSUSA3-32J32 ●KSUSA3-32J35 ●KSUSA3-32J40 ●KSUSA3-32J45	
		185	23.6	18.9	2.40	0.18~0.38	1.95 1.95 1.93 1.91 1.88 1.85 1.83 1.79 1.72 1.64 ●KSUSA3-35 ●KSUSA3-35J20 ●KSUSA3-35J22 ●KSUSA3-35J25 ●KSUSA3-35J28 ●KSUSA3-35J30 ●KSUSA3-35J32 ●KSUSA3-35J35 ●KSUSA3-35J40 ●KSUSA3-35J45	
		192	25.0	19.6	2.55	0.18~0.38	2.07 2.05 2.02 1.99 1.97 1.95 1.91 1.84 1.76 1.67 ●KSUSA3-36 ●KSUSA3-36J20 ●KSUSA3-36J22 ●KSUSA3-36J25 ●KSUSA3-36J28 ●KSUSA3-36J30 ●KSUSA3-36J32 ●KSUSA3-36J35 ●KSUSA3-36J40 ●KSUSA3-36J45 ●KSUSA3-36J50	
		220	31.3	22.4	3.19	0.18~0.38	2.53 2.53 2.50 2.47 2.45 2.41 2.34 2.26 2.17 ●KSUSA3-40 ●KSUSA3-40J25 ●KSUSA3-40J28 ●KSUSA3-40J30 ●KSUSA3-40J32 ●KSUSA3-40J35 ●KSUSA3-40J40 ●KSUSA3-40J45 ●KSUSA3-40J50	
		234	34.7	23.9	3.54	0.20~0.44	2.80 2.80 2.77 2.75 2.72 2.72 2.68 2.61 2.53 2.45 ●KSUSA3-42 ●KSUSA3-42J25 ●KSUSA3-42J28 ●KSUSA3-42J30 ●KSUSA3-42J32 ●KSUSA3-42J35 ●KSUSA3-42J40 ●KSUSA3-42J45 ●KSUSA3-42J50	
		255	40.2	26.0	4.10	0.20~0.44	3.23 3.23 3.20 3.18 3.15 3.12 3.05 2.96 2.88 ●KSUSA3-45 ●KSUSA3-45J25 ●KSUSA3-45J28 ●KSUSA3-45J30 ●KSUSA3-45J32 ●KSUSA3-45J35 ●KSUSA3-45J40 ●KSUSA3-45J45 ●KSUSA3-45J50	

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.



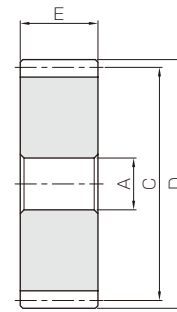
KSUSA Stainless Steel Spur Gears

Module 3



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



S5

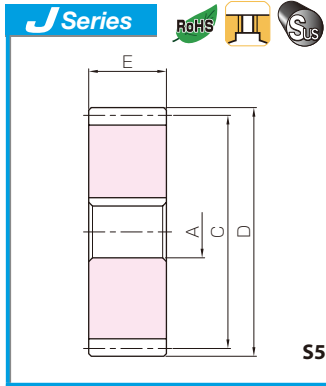
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KSUSA3-48 ●KSUSA3-48J25 ●KSUSA3-48J28 ●KSUSA3-48J30 ●KSUSA3-48J32 ●KSUSA3-48J35 ●KSUSA3-48J40 ●KSUSA3-48J45 ●KSUSA3-48J50	m3	48	S5	25		144	150	30			8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							10 × 3.3
			S5K	32							10 × 3.3
			S5K	35							12 × 3.3
			S5K	40							14 × 3.8
			S5K	45							14 × 3.8
S5K	50	14 × 3.8									
KSUSA3-50 ●KSUSA3-50J25 ●KSUSA3-50J28 ●KSUSA3-50J30 ●KSUSA3-50J32 ●KSUSA3-50J35 ●KSUSA3-50J40 ●KSUSA3-50J45 ●KSUSA3-50J50	m3	50	S5	25		150	156	30			8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							10 × 3.3
			S5K	32							10 × 3.3
			S5K	35							12 × 3.3
			S5K	40							14 × 3.8
			S5K	45							14 × 3.8
S5K	50	14 × 3.8									
KSUSA3-55 ●KSUSA3-55J25 ●KSUSA3-55J28 ●KSUSA3-55J30 ●KSUSA3-55J32 ●KSUSA3-55J35 ●KSUSA3-55J40 ●KSUSA3-55J45 ●KSUSA3-55J50	m3	55	S5	25		165	171	30			8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							10 × 3.3
			S5K	32							10 × 3.3
			S5K	35							12 × 3.3
			S5K	40							14 × 3.8
			S5K	45							14 × 3.8
S5K	50	14 × 3.8									
KSUSA3-56 ●KSUSA3-56J25 ●KSUSA3-56J28 ●KSUSA3-56J30 ●KSUSA3-56J32 ●KSUSA3-56J35 ●KSUSA3-56J40 ●KSUSA3-56J45 ●KSUSA3-56J50	m3	56	S5	25		168	174	30			8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							10 × 3.3
			S5K	32							10 × 3.3
			S5K	35							12 × 3.3
			S5K	40							14 × 3.8
			S5K	45							14 × 3.8
S5K	50	14 × 3.8									
KSUSA3-60 ●KSUSA3-60J25 ●KSUSA3-60J28 ●KSUSA3-60J30 ●KSUSA3-60J32 ●KSUSA3-60J35 ●KSUSA3-60J40 ●KSUSA3-60J45 ●KSUSA3-60J50	m3	60	S5	25		180	186	30			8 × 3.3
			S5K	25							8 × 3.3
			S5K	28							8 × 3.3
			S5K	30							10 × 3.3
			S5K	32							10 × 3.3
			S5K	35							12 × 3.3
			S5K	40							14 × 3.8
			S5K	45							14 × 3.8
S5K	50	14 × 3.8									

*Please see book one for additional products in these modules.

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

No. of Teeth available

15	16	18	20	22	24	25	28	30	32	35	36	40	42	45	48	50	55	56	60
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Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

S5K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		276	46.2	28.2	4.71	0.20~0.44	3.70 3.69 3.66 3.64 3.62 3.58 3.51 3.43 3.34	KSUSA3-48 ●KSUSA3-48J25 ●KSUSA3-48J28 ●KSUSA3-48J30 ●KSUSA3-48J32 ●KSUSA3-48J35 ●KSUSA3-48J40 ●KSUSA3-48J45 ●KSUSA3-48J50
		290	50.4	29.6	5.14	0.20~0.44	4.02 4.01 3.98 3.96 3.94 3.90 3.83 3.75 3.66	KSUSA3-50 ●KSUSA3-50J25 ●KSUSA3-50J28 ●KSUSA3-50J30 ●KSUSA3-50J32 ●KSUSA3-50J35 ●KSUSA3-50J40 ●KSUSA3-50J45 ●KSUSA3-50J50
		326	61.7	33.2	6.30	0.20~0.44	4.89 4.88 4.85 4.83 4.81 4.77 4.70 4.62 4.53	KSUSA3-55 ●KSUSA3-55J25 ●KSUSA3-55J28 ●KSUSA3-55J30 ●KSUSA3-55J32 ●KSUSA3-55J35 ●KSUSA3-55J40 ●KSUSA3-55J45 ●KSUSA3-55J50
		333	64.1	33.9	6.54	0.20~0.44	5.07 5.07 5.04 5.02 4.99 4.95 4.88 4.80 4.72	KSUSA3-56 ●KSUSA3-56J25 ●KSUSA3-56J28 ●KSUSA3-56J30 ●KSUSA3-56J32 ●KSUSA3-56J35 ●KSUSA3-56J40 ●KSUSA3-56J45 ●KSUSA3-56J50
		362	74.3	36.9	7.58	0.20~0.44	5.84 5.83 5.80 5.78 5.76 5.72 5.65 5.57 5.48	KSUSA3-60 ●KSUSA3-60J25 ●KSUSA3-60J28 ●KSUSA3-60J30 ●KSUSA3-60J32 ●KSUSA3-60J35 ●KSUSA3-60J40 ●KSUSA3-60J45 ●KSUSA3-60J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

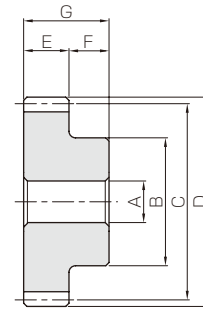
[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

*The precision grade of J Series products is equivalent to the value shown in the table.



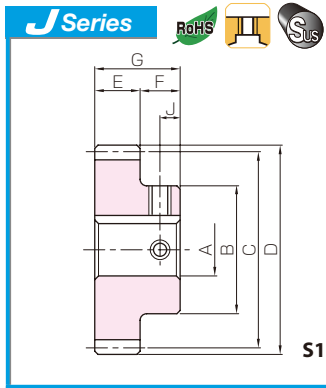
S1

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	WidthxDepth
KSUS4-15 ●KSUS4-15J20 ●KSUS4-15J22 ●KSUS4-15J25	m4	15	S1	20	45	60	68	40	25	65	6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							8 x 3.3
			S1K	25							8 x 3.3
KSUS4-20 ●KSUS4-20J20 ●KSUS4-20J22 ●KSUS4-20J25 ●KSUS4-20J28 ●KSUS4-20J30 ●KSUS4-20J32 ●KSUS4-20J35	m4	20	S1	20	65	80	88	40	25	65	6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							8 x 3.3
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
S1K	35	10 x 3.3									
KSUS4-25 ●KSUS4-25J20 ●KSUS4-25J22 ●KSUS4-25J25 ●KSUS4-25J28 ●KSUS4-25J30 ●KSUS4-25J32 ●KSUS4-25J35 ●KSUS4-25J40 ●KSUS4-25J45 ●KSUS4-25J50	m4	25	S1	20	84	100	108	40	25	65	6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							8 x 3.3
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									
KSUS4-30 ●KSUS4-30J20 ●KSUS4-30J22 ●KSUS4-30J25 ●KSUS4-30J28 ●KSUS4-30J30 ●KSUS4-30J32 ●KSUS4-30J35 ●KSUS4-30J40 ●KSUS4-30J45 ●KSUS4-30J50	m4	30	S1	20	100	120	128	40	25	65	6 x 2.8
			S1K	20							6 x 2.8
			S1K	22							8 x 3.3
			S1K	25							8 x 3.3
			S1K	28							8 x 3.3
			S1K	30							8 x 3.3
			S1K	32							10 x 3.3
			S1K	35							10 x 3.3
			S1K	40							12 x 3.3
			S1K	45							14 x 3.8
S1K	50	14 x 3.8									

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.

No. of Teeth available

15	20	25	30	40	50
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Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
M5 M5 M6	12.5 12.5 12.5	131	9.06	13.3	0.92	0.18~0.38	1.03 1.02 0.99 0.93	KSUS4-15 ● KSUS4-15J20 ● KSUS4-15J22 ● KSUS4-15J25
M5* M5* M6 M6 M6 M8 M8	12.5 12.5 12.5 12.5 12.5 12.5 12.5	203	17.3	20.7	1.76	0.18~0.38	2.06 2.04 2.01 1.94 1.88 1.84 1.78 1.70	KSUS4-20 ● KSUS4-20J20 ● KSUS4-20J22 ● KSUS4-20J25 ● KSUS4-20J28 ● KSUS4-20J30 ● KSUS4-20J32 ● KSUS4-20J35
M5* M5* M6* M6* M6* M8 M8 M8 M10 M10	12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	280	28.3	28.5	2.89	0.20~0.44	3.37 3.35 3.32 3.26 3.19 3.15 3.09 3.01 2.86 2.67 2.49	KSUS4-25 ● KSUS4-25J20 ● KSUS4-25J22 ● KSUS4-25J25 ● KSUS4-25J28 ● KSUS4-25J30 ● KSUS4-25J32 ● KSUS4-25J35 ● KSUS4-25J40 ● KSUS4-25J45 ● KSUS4-25J50
M5* M5* M6* M6* M6* M8* M8* M8* M10 M10	12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	359	41.7	36.6	4.25	0.20~0.44	4.90 4.88 4.85 4.78 4.72 4.67 4.61 4.53 4.38 4.19 4.01	KSUS4-30 ● KSUS4-30J20 ● KSUS4-30J22 ● KSUS4-30J25 ● KSUS4-30J28 ● KSUS4-30J30 ● KSUS4-30J32 ● KSUS4-30J35 ● KSUS4-30J40 ● KSUS4-30J45 ● KSUS4-30J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered)**, after placing an order.
- ② Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.

KGCU-S Spur Gear Kit



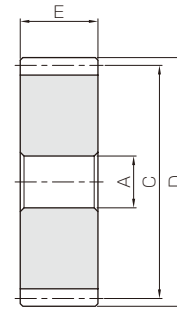
Installment : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)

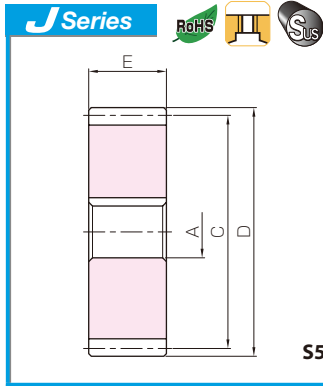
*The precision grade of J Series products is equivalent to the value shown in the table.



S5

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	Width×Depth
KSUSA4-40 ● KSUSA4-40J30 ● KSUSA4-40J32 ● KSUSA4-40J35 ● KSUSA4-40J40 ● KSUSA4-40J45 ● KSUSA4-40J50	m4	40	S5	30		160	168	40			8 × 3.3
			S5K	30	10 × 3.3						
			S5K	32	10 × 3.3						
			S5K	35	12 × 3.3						
			S5K	40	14 × 3.8						
			S5K	45	14 × 3.8						
S5K	50	14 × 3.8									
KSUSA4-50 ● KSUSA4-50J30 ● KSUSA4-50J32 ● KSUSA4-50J35 ● KSUSA4-50J40 ● KSUSA4-50J45 ● KSUSA4-50J50	m4	50	S5	30		200	208	40			8 × 3.3
			S5K	30	10 × 3.3						
			S5K	32	10 × 3.3						
			S5K	35	12 × 3.3						
			S5K	40	14 × 3.8						
			S5K	45	14 × 3.8						
S5K	50	14 × 3.8									

★ For products not categorized in our Stock Gear series, custom gear production services with **short lead times** are available. For details see page VI.



S5K



Set Screw		Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
		521	77.1	53.2	7.86	0.20~0.44	6.05 6.04 6.01 5.96 5.87 5.76 5.64	KSUSA4-40 ●KSUSA4-40J30 ●KSUSA4-40J32 ●KSUSA4-40J35 ●KSUSA4-40J40 ●KSUSA4-40J45 ●KSUSA4-40J50
		573	103	58.5	10.5	0.24~0.52	9.58 9.57 9.54 9.49 9.40 9.29 9.17	KSUSA4-50 ●KSUSA4-50J30 ●KSUSA4-50J32 ●KSUSA4-50J35 ●KSUSA4-50J40 ●KSUSA4-50J45 ●KSUSA4-50J50

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

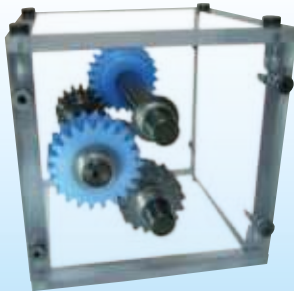
[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within **5 working-days (excludes the day ordered), after placing an order.**
- ② Number of products we can process for one order is **1 to 20 units.** For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

KGCU-S Spur Gear Kit



Installation : Parallel axes gears (Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

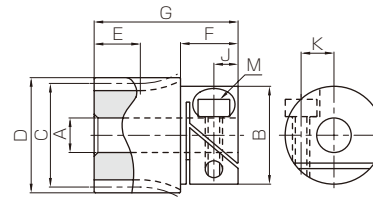
Other Products



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)



*The precision grade of J Series products is equivalent to the value shown in the table.

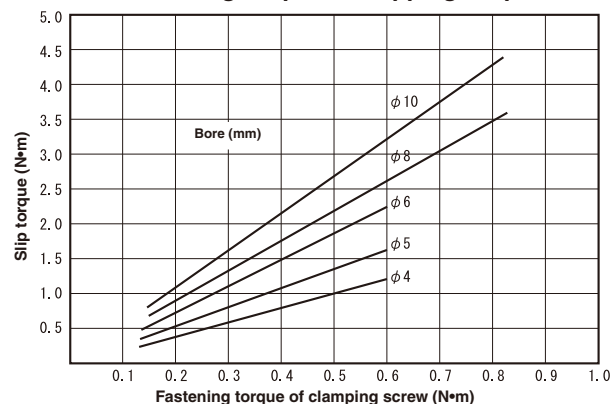
S3

Catalog No.	Module	No. of teeth	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Cap screw dimensions		
				A _{H7}	B							C	D	E
KSUSL0.5-16	m0.5	16	S3	4	14	8	9	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-18		18	S3	4	14	9	10	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-20		20	S3	4	14	10	11	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-24		24	S3	5	14	12	13	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-25		25	S3	5	14	12.5	13.5	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-28		28	S3	5	14	14	15	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-30		30	S3	5	14	15	16	7	8	22	M2.5	3.3	4.4	
KSUSL0.5-32		32	S3	6	17	16	17	5	10	15	M3	4.5	5.3	
KSUSL0.5-36		36	S3	6	17	18	19	5	10	15	M3	4.5	5.3	
KSUSL0.5-40		40	S1	6	17	20	21	5	10	15	M3	4.5	5.3	
KSUSL0.5-45		45	S1	6	17	22.5	23.5	5	10	15	M3	4.5	5.3	
KSUSL0.5-48		48	S1	6	17	24	25	5	10	15	M3	4.5	5.3	
KSUSL0.5-50		50	S1	6	17	25	26	5	10	15	M3	4.5	5.3	
KSUSL0.5-54		54	S1	6	17	27	28	5	10	15	M3	4.5	5.3	
KSUSL0.5-56		56	S1	6	17	28	29	5	10	15	M3	4.5	5.3	
KSUSL0.5-60		60	S1	8	17	30	31	5	10	15	M3	4.5	6	
KSUSL0.5-64		64	S1	8	17	32	33	5	10	15	M3	4.5	6	
KSUSL0.5-70		70	S1	8	17	35	36	5	10	15	M3	4.5	6	
KSUSL0.5-72		72	S1	8	17	36	37	5	10	15	M3	4.5	6	
KSUSL0.5-75		75	S1	8	17	37.5	38.5	5	10	15	M3	4.5	6	
KSUSL0.5-80	80	S1	10	24	40	41	5	14	19	M4	5.3	7.7		
KSUSL0.5-90	90	S1	10	24	45	46	5	14	19	M4	5.3	7.7		
KSUSL0.5-96	96	S1	10	24	48	49	5	14	19	M4	4.9	8		
KSUSL0.5-100	100	S1	10	24	50	51	5	14	19	M4	4.9	8		
KSUSL0.5-112	112	S1	10	24	56	57	5	14	19	M4	4.9	8		
KSUSL0.5-120	120	S1	10	24	60	61	5	14	19	M4	4.9	8		
KSUSL0.8-14	m0.8	14	S3	4	14	11.2	12.8	7	8	22	M2.5	3.3	4.4	
KSUSL0.8-15		15	S3	4	14	12	13.6	7	8	22	M2.5	3.3	4.4	
KSUSL0.8-16		16	S3	4	14	12.8	14.4	7	8	22	M2.5	3.3	4.4	
KSUSL0.8-18		18	S3	4	14	14.4	16	7	8	22	M2.5	3.3	4.4	
KSUSL0.8-20		20	S1	4	14	16	17.6	5	8	13	M2.5	3.3	4.4	
KSUSL0.8-22		22	S1	4	14	17.6	19.2	5	8	13	M2.5	3.3	4.4	
KSUSL0.8-24		24	S1	5	14	19.2	20.8	5	8	13	M2.5	3.3	4.4	
KSUSL0.8-25		25	S1	5	14	20	21.6	5	8	13	M2.5	3.3	4.4	
KSUSL0.8-28		28	S1	5	14	22.4	24	5	8	13	M2.5	3.3	4.4	
KSUSL0.8-30		30	S1	5	14	24	25.6	5	8	13	M2.5	3.3	4.4	

Fastening torque vs. Slipping torque

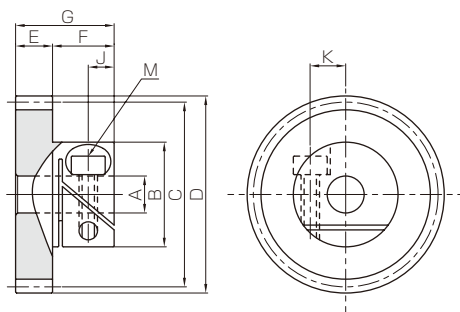
The slipping torque which is dependent on the fastening torque can sometimes be less than the gear strength. Please use caution in selecting. The chart on the right shows the relationship between the slipping torque and the fastening torque.

Fastening torque vs. Slipping torque



*Please see book one for additional products in these modules.

*Data supplied by Designatronics Inc.



S1

Allowable torque (N-m)		Allowable torque (kgf-m)		Ref. Slipping torque / Recommended fastening torque (N-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability				
0.40	0.023	0.04	0.0023	1.20 / 0.60	0~0.10	0.012	KSUSL0.5-16
0.47	0.03	0.048	0.0031	1.20 / 0.60	0~0.10	0.013	KSUSL0.5-18
0.56	0.038	0.057	0.0039	1.20 / 0.60	0~0.10	0.015	KSUSL0.5-20
0.72	0.056	0.074	0.0057	1.60 / 0.60	0~0.10	0.018	KSUSL0.5-24
0.76	0.061	0.078	0.0062	1.60 / 0.60	0~0.10	0.019	KSUSL0.5-25
0.89	0.079	0.091	0.0080	1.60 / 0.60	0~0.10	0.022	KSUSL0.5-28
0.98	0.091	0.10	0.0093	1.60 / 0.60	0~0.10	0.025	KSUSL0.5-30
0.76	0.076	0.078	0.0077	2.25 / 0.60	0~0.10	0.021	KSUSL0.5-32
0.89	0.096	0.091	0.0098	2.25 / 0.60	0~0.10	0.023	KSUSL0.5-36
1.02	0.12	0.10	0.012	2.25 / 0.60	0~0.10	0.025	KSUSL0.5-40
1.18	0.15	0.12	0.016	2.25 / 0.60	0~0.10	0.029	KSUSL0.5-45
1.28	0.17	0.13	0.018	2.25 / 0.60	0~0.10	0.031	KSUSL0.5-48
1.34	0.19	0.14	0.019	2.25 / 0.60	0~0.10	0.032	KSUSL0.5-50
1.48	0.22	0.15	0.023	2.25 / 0.60	0~0.10	0.035	KSUSL0.5-54
1.54	0.24	0.16	0.025	2.25 / 0.60	0~0.10	0.037	KSUSL0.5-56
1.67	0.28	0.17	0.029	3.45 / 0.80	0~0.10	0.038	KSUSL0.5-60
1.81	0.32	0.18	0.033	3.45 / 0.80	0~0.10	0.042	KSUSL0.5-64
2.01	0.39	0.20	0.04	3.45 / 0.80	0~0.10	0.048	KSUSL0.5-70
2.07	0.41	0.21	0.042	3.45 / 0.80	0~0.10	0.050	KSUSL0.5-72
2.17	0.45	0.22	0.046	3.45 / 0.80	0~0.10	0.054	KSUSL0.5-75
2.34	0.51	0.24	0.053	4.30 / 0.80	0~0.10	0.084	KSUSL0.5-80
2.68	0.66	0.27	0.067	4.30 / 0.80	0~0.10	0.097	KSUSL0.5-90
2.88	0.76	0.29	0.077	4.30 / 0.80	0~0.10	0.11	KSUSL0.5-96
3.02	0.82	0.31	0.084	4.30 / 0.80	0~0.10	0.11	KSUSL0.5-100
3.42	1.05	0.35	0.11	4.30 / 0.80	0~0.10	0.13	KSUSL0.5-112
3.69	1.21	0.38	0.12	4.30 / 0.80	0~0.10	0.15	KSUSL0.5-120
0.82	0.048	0.083	0.0049	1.20 / 0.60	0~0.10	0.017	KSUSL0.8-14
0.92	0.056	0.093	0.0057	1.20 / 0.60	0~0.10	0.019	KSUSL0.8-15
1.01	0.065	0.10	0.0066	1.20 / 0.60	0~0.10	0.021	KSUSL0.8-16
1.22	0.083	0.12	0.0085	1.20 / 0.60	0~0.10	0.024	KSUSL0.8-18
1.02	0.076	0.10	0.0077	1.20 / 0.60	0~0.10	0.015	KSUSL0.8-20
1.17	0.091	0.12	0.0093	1.20 / 0.60	0~0.10	0.017	KSUSL0.8-22
1.32	0.11	0.13	0.011	1.60 / 0.60	0~0.10	0.018	KSUSL0.8-24
1.40	0.12	0.14	0.012	1.60 / 0.60	0~0.10	0.019	KSUSL0.8-25
1.63	0.15	0.17	0.015	1.60 / 0.60	0~0.10	0.022	KSUSL0.8-28
1.79	0.17	0.18	0.018	1.60 / 0.60	0~0.10	0.024	KSUSL0.8-30

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ③ Fairloc® Hub Gears are attached to the shaft by a friction coupling. Recommended shaft tolerances are g6, h6 and h7. Torque slippage should be considered when making a selection.
- ④ Do not tighten the clamping screw without inserting a shaft, or the bore will be permanently deformed and will not accept a shaft
- ⑤ The following products are gear press-fitted into a hub : SUSL0.5 with 96 teeth or more, SUSL0.8 with 60 teeth or more. Also, some of the hubs might slightly differ in shape as shown in the diagram.

[Caution on Secondary Operations]

- ① Perform secondary operations carefully as to not distort the groove for clamping.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

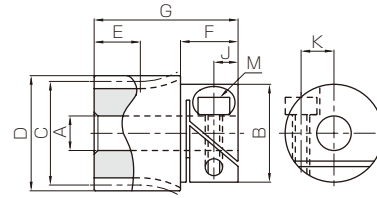
Other Products



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SUS303
Heat treatment	—
Tooth hardness	(less than 194HB)



*The precision grade of J Series products is equivalent to the value shown in the table.

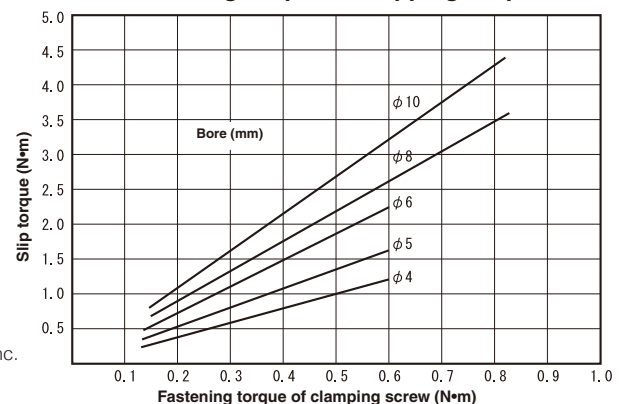
S3

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Cap screw dimensions		
				A _{H7}	B	C	D	E	F	G	M	J	K
KSUSL0.8-32	m0.8	32	S1	5	14	25.6	27.2	5	8	13	M2.5	3.3	4.4
KSUSL0.8-36		36	S1	6	17	28.8	30.4	5	10	15	M3	4.5	5.3
KSUSL0.8-40		40	S1	6	17	32	33.6	5	10	15	M3	4.5	5.3
KSUSL0.8-45		45	S1	6	17	36	37.6	5	10	15	M3	4.5	5.3
KSUSL0.8-48		48	S1	6	17	38.4	40	5	10	15	M3	4.5	5.3
KSUSL0.8-50		50	S1	6	17	40	41.6	5	10	15	M3	4.5	5.3
KSUSL0.8-54		54	S1	6	17	43.2	44.8	5	10	15	M3	4.5	5.3
KSUSL0.8-56		56	S1	6	17	44.8	46.4	5	10	15	M3	4.5	5.3
KSUSL0.8-60		60	S1	8	17	48	49.6	5	10	15	M3	4.5	6
KSUSL0.8-64		64	S1	8	17	51.2	52.8	5	10	15	M3	4.5	6
KSUSL0.8-72	72	S1	8	17	57.6	59.2	5	10	15	M3	4.5	6	
KSUSL0.8-80	80	S1	10	24	64	65.6	5	14	19	M4	4.9	8	
KSUSL0.8-90	90	S1	10	24	72	73.6	5	14	19	M4	4.9	8	
KSUSL0.8-100	100	S1	10	24	80	81.6	5	14	19	M4	4.9	8	
KSUSL1-14	m1	14	S3	6	17	14	16	8	10	25	M3	4.5	5.3
KSUSL1-15		15	S3	6	17	15	17	8	10	25	M3	4.5	5.3
KSUSL1-16		16	S3	6	17	16	18	8	10	25	M3	4.5	5.3
KSUSL1-18		18	S3	6	17	18	20	8	10	25	M3	4.5	5.3
KSUSL1-20		20	S1	6	17	20	22	6	10	16	M3	4.5	5.3
KSUSL1-24		24	S1	6	17	24	26	6	10	16	M3	4.5	5.3
KSUSL1-25		25	S1	6	17	25	27	6	10	16	M3	4.5	5.3
KSUSL1-28		28	S1	6	17	28	30	6	10	16	M3	4.5	5.3
KSUSL1-30		30	S1	8	17	30	32	6	10	16	M3	4.5	6
KSUSL1-32		32	S1	8	17	32	34	6	10	16	M3	4.5	6
KSUSL1-35	35	S1	8	17	35	37	6	10	16	M3	4.5	6	
KSUSL1-36	36	S1	8	17	36	38	6	10	16	M3	4.5	6	
KSUSL1-40	40	S1	8	17	40	42	6	10	16	M3	4.5	6	
KSUSL1-45	45	S1	8	17	45	47	6	10	16	M3	4.5	6	
KSUSL1-48	48	S1	8	17	48	50	6	10	16	M3	4.5	6	
KSUSL1-50	50	S1	10	24	50	52	6	14	20	M4	4.9	8	
KSUSL1-56	56	S1	10	24	56	58	6	14	20	M4	4.9	8	
KSUSL1-60	60	S1	10	24	60	62	6	14	20	M4	4.9	8	
KSUSL1-64	64	S1	10	24	64	66	6	14	20	M4	4.9	8	
KSUSL1-70	70	S1	10	24	70	72	6	14	20	M4	4.9	8	
KSUSL1-72	72	S1	10	24	72	74	6	14	20	M4	4.9	8	
KSUSL1-80	80	S1	10	24	80	82	6	14	20	M4	4.9	8	
KSUSL1-90	90	S1	10	24	90	92	6	14	20	M4	4.9	8	
KSUSL1-100	100	S1	10	24	100	102	6	14	20	M4	4.9	8	

Fastening torque vs. Slipping torque

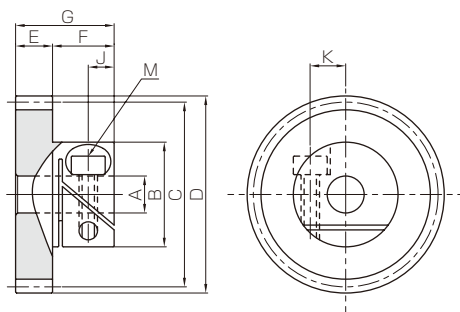
The slipping torque which is dependent on the fastening torque can sometimes be less than the gear strength. Please use caution in selecting. The chart on the right shows the relationship between the slipping torque and the fastening torque.

Fastening torque vs. Slipping torque



* Data supplied by Designatronics Inc.

Stainless Steel Fairloc® Hub Spur Gears



S1

Allowable torque (N-m)		Allowable torque (kgf-m)		Ref. Slipping torque / Recommended fastening torque (N-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability				
1.95	0.20	0.20	0.020	1.60 / 0.60	0~0.10	0.027	KSUSL0.8-32
2.28	0.26	0.23	0.026	2.25 / 0.60	0~0.10	0.038	KSUSL0.8-36
2.61	0.32	0.27	0.033	2.25 / 0.60	0~0.10	0.044	KSUSL0.8-40
3.02	0.41	0.31	0.042	2.25 / 0.60	0~0.10	0.053	KSUSL0.8-45
3.27	0.47	0.33	0.048	2.25 / 0.60	0~0.10	0.058	KSUSL0.8-48
3.44	0.51	0.35	0.053	2.25 / 0.60	0~0.10	0.062	KSUSL0.8-50
3.78	0.61	0.39	0.062	2.25 / 0.60	0~0.10	0.070	KSUSL0.8-54
3.95	0.65	0.40	0.067	2.25 / 0.60	0~0.10	0.075	KSUSL0.8-56
4.28	0.76	0.44	0.077	3.45 / 0.80	0~0.10	0.081	KSUSL0.8-60
4.63	0.87	0.47	0.088	3.45 / 0.80	0~0.10	0.091	KSUSL0.8-64
5.31	1.11	0.54	0.11	3.45 / 0.80	0~0.10	0.11	KSUSL0.8-72
6.00	1.38	0.61	0.14	4.30 / 0.80	0~0.10	0.16	KSUSL0.8-80
6.86	1.77	0.70	0.18	4.30 / 0.80	0~0.10	0.19	KSUSL0.8-90
7.72	2.21	0.79	0.23	4.30 / 0.80	0~0.10	0.23	KSUSL0.8-100
1.46	0.088	0.15	0.0090	2.25 / 0.60	0~0.10	0.029	KSUSL1-14
1.63	0.10	0.17	0.010	2.25 / 0.60	0~0.10	0.032	KSUSL1-15
1.81	0.12	0.18	0.012	2.25 / 0.60	0~0.10	0.034	KSUSL1-16
2.17	0.15	0.22	0.016	2.25 / 0.60	0~0.10	0.041	KSUSL1-18
1.91	0.14	0.19	0.015	2.25 / 0.60	0~0.10	0.028	KSUSL1-20
2.48	0.21	0.25	0.021	2.25 / 0.60	0~0.10	0.034	KSUSL1-24
2.62	0.23	0.27	0.023	2.25 / 0.60	0~0.10	0.036	KSUSL1-25
3.06	0.29	0.31	0.030	2.25 / 0.60	0~0.10	0.042	KSUSL1-28
3.36	0.34	0.34	0.034	3.45 / 0.80	0~0.10	0.043	KSUSL1-30
3.66	0.39	0.37	0.039	3.45 / 0.80	0~0.10	0.048	KSUSL1-32
4.12	0.47	0.42	0.048	3.45 / 0.80	0~0.10	0.055	KSUSL1-35
4.27	0.49	0.44	0.050	3.45 / 0.80	0~0.10	0.058	KSUSL1-36
4.89	0.62	0.50	0.063	3.45 / 0.80	0~0.10	0.069	KSUSL1-40
5.67	0.79	0.58	0.081	3.45 / 0.80	0~0.10	0.085	KSUSL1-45
6.14	0.91	0.63	0.093	3.45 / 0.80	0~0.10	0.095	KSUSL1-48
6.45	0.99	0.66	0.10	4.30 / 0.80	0~0.10	0.13	KSUSL1-50
7.40	1.25	0.75	0.13	4.30 / 0.80	0~0.10	0.15	KSUSL1-56
8.03	1.45	0.82	0.15	4.30 / 0.80	0~0.10	0.17	KSUSL1-60
8.67	1.66	0.88	0.17	4.30 / 0.80	0~0.10	0.19	KSUSL1-64
9.63	2.00	0.98	0.20	4.30 / 0.80	0~0.10	0.21	KSUSL1-70
9.95	2.12	1.02	0.22	4.30 / 0.80	0~0.10	0.23	KSUSL1-72
11.2	2.65	1.15	0.27	4.30 / 0.80	0~0.10	0.27	KSUSL1-80
12.9	3.40	1.31	0.35	4.30 / 0.80	0~0.10	0.33	KSUSL1-90
14.5	4.25	1.48	0.43	4.30 / 0.80	0~0.10	0.40	KSUSL1-100

[Caution on Product Characteristics]

- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- Fairloc® Hub Gears are attached to the shaft by a friction coupling. Recommended shaft tolerances are g6, h6 and h7. Torque slippage should be considered when making a selection.
- Do not tighten the clamping screw without inserting a shaft, or the bore will be permanently deformed and will not accept a shaft
- The following products are gear press-fitted into a hub : SUSL0.5 with 96 teeth or more, SUSL0.8 with 60 teeth or more. Also, some of the hubs might slightly differ in shape as shown in the diagram.

[Caution on Secondary Operations]

- Perform secondary operations carefully as to not distort the groove for clamping.

*Please see book one for additional products in these modules.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

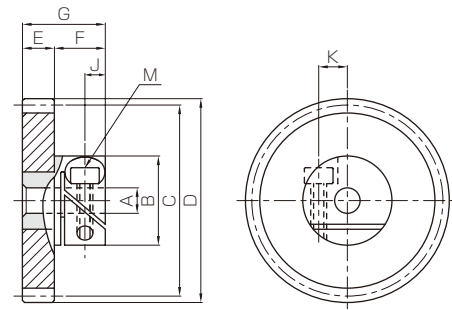
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N10 (JIS B1702-1: 1988)* JIS grade 6 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Acetal with SUS303 core
Heat treatment	-
Tooth hardness	(110~120HRR)

*The gear grade listed is the value before clamping. The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



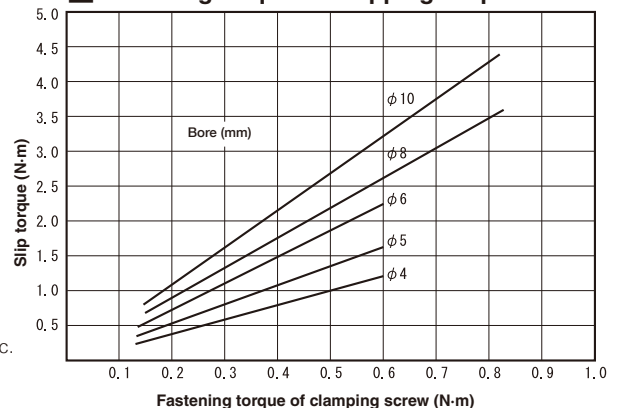
S1

Catalog No.	Module	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width	Total length	Cap screw dimensions		
				A _{H7}	B						C	D	E
KDSL0.5-28	m0.5	28	S1	5	14	14	15	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-30		30	S1	5	14	15	16	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-32		32	S1	5	14	16	17	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-36		36	S1	5	14	18	19	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-40		40	S1	5	14	20	21	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-45		45	S1	5	14	22.5	23.5	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-48		48	S1	5	14	24	25	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-50		50	S1	5	14	25	26	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-56		56	S1	5	14	28	29	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-60		60	S1	5	14	30	31	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-64		64	S1	5	14	32	33	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-70		70	S1	5	14	35	36	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-72		72	S1	5	14	36	37	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-75		75	S1	5	14	37.5	38.5	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-80		80	S1	5	14	40	41	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.5-90		90	S1	8	17	45	46	5	9.8	14.8	M3	4.3	5.9
KDSL0.5-96		96	S1	8	17	48	49	5	9.8	14.8	M3	4.3	5.9
KDSL0.5-100		100	S1	8	17	50	51	5	9.8	14.8	M3	4.3	5.9
KDSL0.5-120		120	S1	8	17	60	61	5	9.8	14.8	M3	4.3	5.9
KDSL0.8-20		m0.8	20	S1	5	14	16	17.6	5	8.5	13.5	M2.5	3.3
KDSL0.8-24	24		S1	5	14	19.2	20.8	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-25	25		S1	5	14	20	21.6	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-28	28		S1	5	14	22.4	24	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-30	30		S1	5	14	24	25.6	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-32	32		S1	5	14	25.6	27.2	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-36	36		S1	5	14	28.8	30.4	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-40	40		S1	5	14	32	33.6	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-45	45		S1	5	14	36	37.6	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-48	48		S1	5	14	38.4	40	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-50	50		S1	5	14	40	41.6	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-56	56		S1	5	14	44.8	46.4	5	8.5	13.5	M2.5	3.3	4.4
KDSL0.8-60	60		S1	8	17	48	49.6	5	9.8	14.8	M3	4.3	5.9
KDSL0.8-72	72		S1	8	17	57.6	59.2	5	9.8	14.8	M3	4.3	5.9
KDSL0.8-80	80		S1	8	17	64	65.6	5	9.8	14.8	M3	4.3	5.9
KDSL0.8-90	90		S1	8	17	72	73.6	5	9.8	14.8	M3	4.3	5.9
KDSL0.8-100	100		S1	8	17	80	81.6	5	9.8	14.8	M3	4.3	5.9

Fastening torque vs. Slipping torque

The slipping torque which is dependent on the fastening torque can sometimes be less than the gear strength. Please use caution in selecting. The chart on the right shows the relationship between the slipping torque and the fastening torque.

Fastening torque vs. Slipping torque



* Data supplied by Designatronics Inc.

Spur
GearsHelical
GearsInternal
Gears

Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products

Allowable torque (N-m)	Allowable torque (kgf-m)	Ref. Slipping torque / Recommended fastening torque (N-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength				
0.39	0.04	1.60 / 0.60	0~0.10	10.8	KDSL0.5-28
0.43	0.044	1.60 / 0.60	0~0.10	11.0	KDSL0.5-30
0.46	0.047	1.60 / 0.60	0~0.10	11.2	KDSL0.5-32
0.54	0.055	1.60 / 0.60	0~0.10	11.5	KDSL0.5-36
0.62	0.063	1.60 / 0.60	0~0.10	12.0	KDSL0.5-40
0.71	0.073	1.60 / 0.60	0~0.10	12.5	KDSL0.5-45
0.78	0.079	1.60 / 0.60	0~0.10	12.9	KDSL0.5-48
0.82	0.083	1.60 / 0.60	0~0.10	13.2	KDSL0.5-50
0.93	0.095	1.60 / 0.60	0~0.10	14.1	KDSL0.5-56
1.01	0.10	1.60 / 0.60	0~0.10	14.7	KDSL0.5-60
1.08	0.11	1.60 / 0.60	0~0.10	15.4	KDSL0.5-64
1.20	0.12	1.60 / 0.60	0~0.10	16.5	KDSL0.5-70
1.24	0.13	1.60 / 0.60	0~0.10	16.9	KDSL0.5-72
1.29	0.13	1.60 / 0.60	0~0.10	17.5	KDSL0.5-75
1.39	0.14	1.60 / 0.60	0~0.10	18.6	KDSL0.5-80
1.58	0.16	3.45 / 0.80	0~0.10	23.9	KDSL0.5-90
1.70	0.17	3.45 / 0.80	0~0.10	25.5	KDSL0.5-96
1.78	0.18	3.45 / 0.80	0~0.10	26.6	KDSL0.5-100
2.15	0.22	3.45 / 0.80	0~0.10	32.6	KDSL0.5-120
0.58	0.059	1.60 / 0.60	0~0.10	11.2	KDSL0.8-20
0.73	0.075	1.60 / 0.60	0~0.10	11.8	KDSL0.8-24
0.78	0.079	1.60 / 0.60	0~0.10	12.0	KDSL0.8-25
0.89	0.091	1.60 / 0.60	0~0.10	12.5	KDSL0.8-28
0.97	0.099	1.60 / 0.60	0~0.10	12.9	KDSL0.8-30
1.06	0.11	1.60 / 0.60	0~0.10	13.4	KDSL0.8-32
1.23	0.13	1.60 / 0.60	0~0.10	14.3	KDSL0.8-36
1.41	0.14	1.60 / 0.60	0~0.10	15.4	KDSL0.8-40
1.62	0.17	1.60 / 0.60	0~0.10	16.9	KDSL0.8-45
1.76	0.18	1.60 / 0.60	0~0.10	17.9	KDSL0.8-48
1.85	0.19	1.60 / 0.60	0~0.10	18.6	KDSL0.8-50
2.11	0.22	1.60 / 0.60	0~0.10	20.8	KDSL0.8-56
2.28	0.23	3.45 / 0.80	0~0.10	25.5	KDSL0.8-60
2.8	0.29	3.45 / 0.80	0~0.10	31.1	KDSL0.8-72
3.15	0.32	3.45 / 0.80	0~0.10	35.4	KDSL0.8-80
3.58	0.37	3.45 / 0.80	0~0.10	41.4	KDSL0.8-90
4.03	0.41	3.45 / 0.80	0~0.10	48.1	KDSL0.8-100

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ③ Holding strength between the teeth (acetal) and the core (SUS303) is 2.9N • m for all DSL products. Please consider holding strength when selecting products.
- ④ Fairloc® Hub Gears are attached to the shaft by a friction coupling. Recommended shaft tolerances are g6, h6 and h7. Torque slippage should be considered when making a selection.
- ⑤ Do not tighten the clamping screw without inserting a shaft, or the bore will be permanently deformed and will not accept a shaft.

[Caution on Secondary Operations]

- ① Perform secondary operations carefully as to not distort the groove for clamping.

***Please see book one for additional products in these modules.**

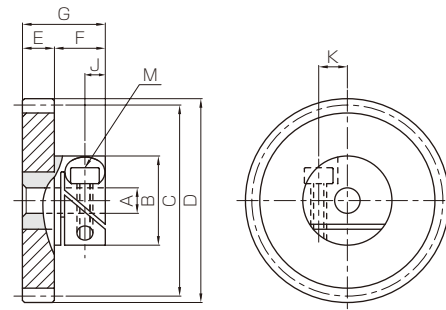


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N10 (JIS B1702-1: 1988)* JIS grade 6 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Acetal with SUS303 core
Heat treatment	-
Tooth hardness	(110~120HRR)

*The gear grade listed is the value before clamping. The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



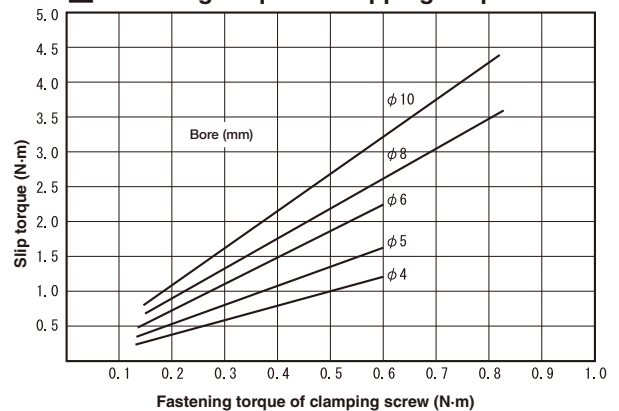
S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Cap screw dimensions		
				AH7	B	C	D	E	F	G	M	J	K
KDSL1-15	m1	15	S1	5	14	15	17	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-16		16	S1	5	14	16	18	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-18		18	S1	5	14	18	20	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-20		20	S1	5	14	20	22	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-24		24	S1	5	14	24	26	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-25		25	S1	5	14	25	27	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-28		28	S1	5	14	28	30	5	8.5	13.5	M2.5	3.3	4.4
KDSL1-30		30	S1	8	17	30	32	5	9.8	14.8	M3	4.3	5.9
KDSL1-32		32	S1	8	17	32	34	5	9.8	14.8	M3	4.3	5.9
KDSL1-35		35	S1	8	17	35	37	5	9.8	14.8	M3	4.3	5.9
KDSL1-36		36	S1	8	17	36	38	5	9.8	14.8	M3	4.3	5.9
KDSL1-40		40	S1	8	17	40	42	5	9.8	14.8	M3	4.3	5.9
KDSL1-45		45	S1	8	17	45	47	5	9.8	14.8	M3	4.3	5.9
KDSL1-48		48	S1	8	17	48	50	5	9.8	14.8	M3	4.3	5.9
KDSL1-50		50	S1	8	17	50	52	5	9.8	14.8	M3	4.3	5.9
KDSL1-56		56	S1	8	17	56	58	5	9.8	14.8	M3	4.3	5.9
KDSL1-60		60	S1	8	17	60	62	5	9.8	14.8	M3	4.3	5.9
KDSL1-64		64	S1	8	17	64	66	5	9.8	14.8	M3	4.3	5.9
KDSL1-70		70	S1	8	17	70	72	5	9.8	14.8	M3	4.3	5.9
KDSL1-72		72	S1	8	17	72	74	5	9.8	14.8	M3	4.3	5.9
KDSL1-80	80	S1	8	17	80	82	5	9.8	14.8	M3	4.3	5.9	
KDSL1-90	90	S1	8	17	90	92	5	9.8	14.8	M3	4.3	5.9	
KDSL1-100	100	S1	8	17	100	102	5	9.8	14.8	M3	4.3	5.9	

Fastening torque vs. Slipping torque

The slipping torque which is dependent on the fastening torque can sometimes be less than the gear strength. Please use caution in selecting. The chart on the right shows the relationship between the slipping torque and the fastening torque.

Fastening torque vs. Slipping torque



* Data supplied by Designatronics Inc.

*Please see book one for additional products in these modules.

Spur
GearsHelical
GearsInternal
Gears

Racks

CP Racks
& PinionsMiter
GearsBevel
GearsScrew
GearsWorm
Gear PairBevel
GearboxesOther
Products

Allowable torque (N·m)	Allowable torque (kgf·m)	Ref. Slipping torque / Recommended fastening torque (N·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength				
0.53	0.054	1.60 / 0.60	0~0.10	11.0	KDSL1-15 KDSL1-16 KDSL1-18 KDSL1-20 KDSL1-24
0.59	0.06	1.60 / 0.60	0~0.10	11.2	
0.69	0.07	1.60 / 0.60	0~0.10	11.5	
0.80	0.081	1.60 / 0.60	0~0.10	12.0	
1.00	0.10	1.60 / 0.60	0~0.10	12.9	
1.06	0.11	1.60 / 0.60	0~0.10	13.2	KDSL1-25 KDSL1-28 KDSL1-30 KDSL1-32 KDSL1-35
1.22	0.12	1.60 / 0.60	0~0.10	14.1	
1.33	0.14	3.45 / 0.80	0~0.10	17.7	
1.44	0.15	3.45 / 0.80	0~0.10	18.4	
1.62	0.17	3.45 / 0.80	0~0.10	19.5	
1.68	0.17	3.45 / 0.80	0~0.10	19.9	KDSL1-36 KDSL1-40 KDSL1-45 KDSL1-48 KDSL1-50
1.92	0.20	3.45 / 0.80	0~0.10	21.6	
2.22	0.23	3.45 / 0.80	0~0.10	23.9	
2.41	0.25	3.45 / 0.80	0~0.10	25.5	
2.53	0.26	3.45 / 0.80	0~0.10	26.6	
2.88	0.29	3.45 / 0.80	0~0.10	30.1	KDSL1-56 KDSL1-60 KDSL1-64 KDSL1-70 KDSL1-72
3.12	0.32	3.45 / 0.80	0~0.10	32.6	
3.35	0.34	3.45 / 0.80	0~0.10	35.4	
3.71	0.38	3.45 / 0.80	0~0.10	39.8	
3.83	0.39	3.45 / 0.80	0~0.10	41.4	
4.30	0.44	3.45 / 0.80	0~0.10	48.1	KDSL1-80 KDSL1-90 KDSL1-100
4.89	0.50	3.45 / 0.80	0~0.10	57.6	
5.49	0.56	3.45 / 0.80	0~0.10	68.1	

[Caution on Product Characteristics]

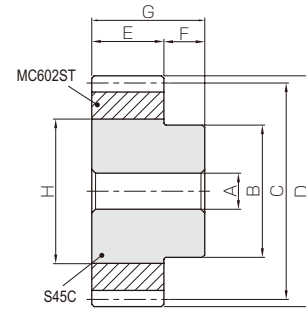
- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ③ Holding strength between the teeth (acetal) and the core (SUS303) is 2.9N • m for all KDSL products. Please consider holding strength when selecting products.
- ④ Fairloc® Hub Gears are attached to the shaft by a friction coupling. Recommended shaft tolerances are g6, h6 and h7. Torque slippage should be considered when making a selection.
- ⑤ Do not tighten the clamping screw without inserting a shaft, or the bore will be permanently deformed and will not accept a shaft.

[Caution on Secondary Operations]

- ① Perform secondary operations carefully as to not distort the groove for clamping.



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC602ST with S45C core
Heat treatment	-
Tooth hardness	(115-120HRR)



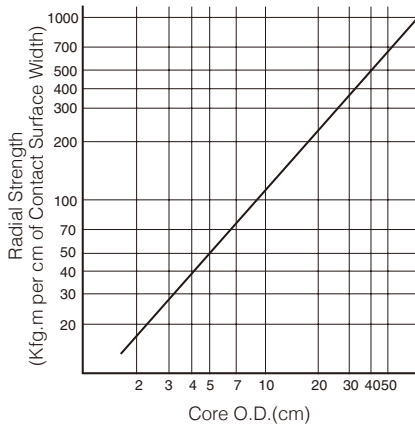
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Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Metal core dia.
				AH7	B	C	D	E	F	G	H
KNSU1-30	m1	30	S1	8	20	30	32	10	10	20	20
KNSU1-32		32	S1	8	22	32	34	10	10	20	22
KNSU1-34		34	S1	8	25	34	36	10	10	20	25
KNSU1-35		35	S1	8	25	35	37	10	10	20	25
KNSU1-36		36	S1	8	25	36	38	10	10	20	25
KNSU1-40		40	S1	10	25	40	42	10	10	20	28
KNSU1-45		45	S1	10	30	45	47	10	10	20	34
KNSU1-48		48	S1	10	30	48	50	10	10	20	34
KNSU1-50		50	S1	10	30	50	52	10	10	20	34
KNSU1-60		60	S1	10	40	60	62	10	10	20	45
KNSU1-70		70	S1	10	40	70	72	10	10	20	45
KNSU1-80		80	S1	10	40	80	82	10	10	20	45
KNSU1-90		90	S1	10	40	90	92	10	10	20	55
KNSU1-100		100	S1	10	40	100	102	10	10	20	65
KNSU1.5-28	m1.5	28	S1	10	30	42	45	15	12	27	30
KNSU1.5-30		30	S1	10	30	45	48	15	12	27	30
KNSU1.5-32		32	S1	10	33	48	51	15	12	27	33
KNSU1.5-34		34	S1	10	33	51	54	15	12	27	33
KNSU1.5-35		35	S1	10	33	52.5	55.5	15	12	27	36
KNSU1.5-36		36	S1	10	33	54	57	15	12	27	36
KNSU1.5-40		40	S1	10	40	60	63	15	12	27	45
KNSU1.5-45		45	S1	10	40	67.5	70.5	15	12	27	45
KNSU1.5-48		48	S1	10	40	72	75	15	12	27	45
KNSU1.5-50		50	S1	12	40	75	78	15	12	27	45
KNSU1.5-56		56	S1	12	50	84	87	15	12	27	55
KNSU1.5-60		60	S1	12	50	90	93	15	12	27	55
KNSU1.5-68		68	S1	12	50	102	105	15	12	27	67
KNSU1.5-70		70	S1	12	50	105	108	15	12	27	70
KNSU1.5-80		80	S1	12	60	120	123	15	12	27	85
KNSU1.5-90	90	S1	12	60	135	138	15	12	27	100	

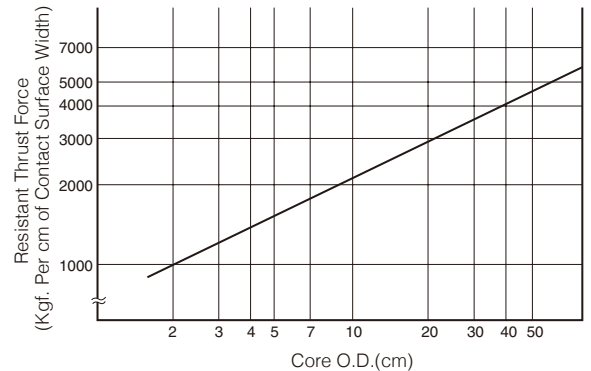
Definition of Holding Strength and Safety Factor

① The holding strength between the metal core and the molded material is a function of the contact area. The relationship between the core outside diameter and the radial strength (torque) is shown on the left, while the relationship between the core diameter and the resistant thrust force is shown on the right.

Relationship between radial strength and core diameter



Relationship between resistant thrust force and core diameter



*Please see book one for additional products in these modules.

Plastic Spur Gears with Steel Core

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② When the core O.D. is the same as the hub diameter, you may see some serration on the hub. There is no effect on the strength of the gear.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

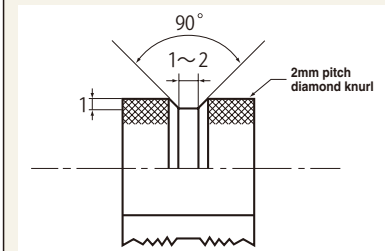
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Even though the holding strength at the material interface is designed to be stronger than the teeth, a secondary operation may weaken the holding strength.
- ③ Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No.
1.23	0.13	0~0.34	0.046	KNSU1-30
1.34	0.14	0~0.34	0.057	KNSU1-32
1.44	0.15	0~0.34	0.074	KNSU1-34
1.50	0.15	0~0.34	0.075	KNSU1-35
1.56	0.16	0~0.34	0.076	KNSU1-36
1.78	0.18	0~0.34	0.082	KNSU1-40
2.06	0.21	0~0.34	0.12	KNSU1-45
2.23	0.23	0~0.34	0.13	KNSU1-48
2.35	0.24	0~0.34	0.13	KNSU1-50
2.93	0.30	0~0.36	0.23	KNSU1-60
3.46	0.35	0~0.36	0.24	KNSU1-70
4.00	0.41	0~0.36	0.25	KNSU1-80
4.56	0.46	0~0.36	0.32	KNSU1-90
5.12	0.52	0~0.36	0.40	KNSU1-100
3.82	0.39	0~0.38	0.15	KNSU1.5-28
4.15	0.42	0~0.38	0.15	KNSU1.5-30
4.51	0.46	0~0.38	0.18	KNSU1.5-32
4.88	0.50	0~0.40	0.19	KNSU1.5-34
5.07	0.52	0~0.40	0.20	KNSU1.5-35
5.26	0.54	0~0.40	0.21	KNSU1.5-36
6.00	0.61	0~0.40	0.31	KNSU1.5-40
6.94	0.71	0~0.40	0.33	KNSU1.5-45
7.53	0.77	0~0.40	0.33	KNSU1.5-48
7.92	0.81	0~0.40	0.33	KNSU1.5-50
9.09	0.93	0~0.40	0.50	KNSU1.5-56
9.89	1.01	0~0.40	0.51	KNSU1.5-60
11.3	1.15	0~0.40	0.66	KNSU1.5-68
11.7	1.19	0~0.42	0.70	KNSU1.5-70
13.5	1.38	0~0.42	1.01	KNSU1.5-80
15.4	1.57	0~0.42	1.29	KNSU1.5-90

How is MC nylon fused to the metal core

This method is superior to other conventional methods such as bolting, shrink fitting and bonding.

- ① Outline of the procedure
The surface of the core material is rolled with a 2mm pitch diamond knurl. Then one or more grooves (1 to 2mm wide and 1mm deep) are cut as shown below. The metal surface is treated prior to casting nylon in a mold.



- ② Advantage of MC nylon with metal core
 1. Wide temperature range.
There are examples of wheel use in furnaces at 130 to 140°C.
 2. Good dimensional stability
Since nylon is fused to the whole outer surface of the metal hub, dimensional change is very small even under temperature variations.
 3. Good appearance
Elimination of bolts and nuts provides a cleaner physical appearance.

- ② When the ambient temperature rises, obtain the temperature compensation factor, T, from the chart on the right. Also, use a safety factor of 4 to 5 in the calculation.

$$T_{al} = T_{max} \times \frac{1}{\text{Safety Factor}} \times T$$

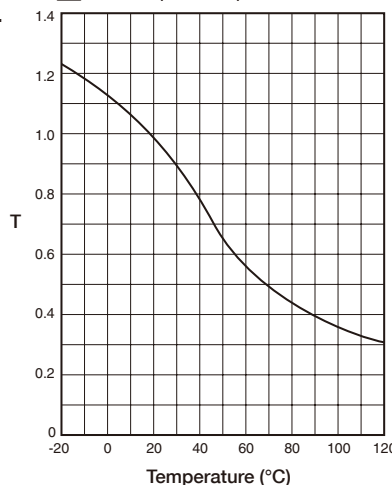
Where

T_{al} : Allowable Holding Strength at the contact surface

T_{max} : Maximum Holding Strength - Find from the charts on the left.

T : Temperature Compensation Factor

Ambient temperature compensation factor T



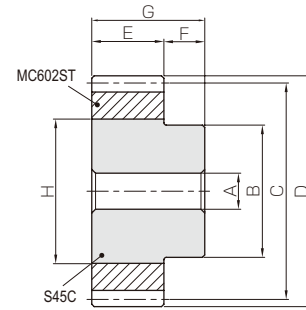
*Data supplied by Japan Polypenco Limited.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC602ST with S45C core
Heat treatment	—
Tooth hardness	(115-120HRR)



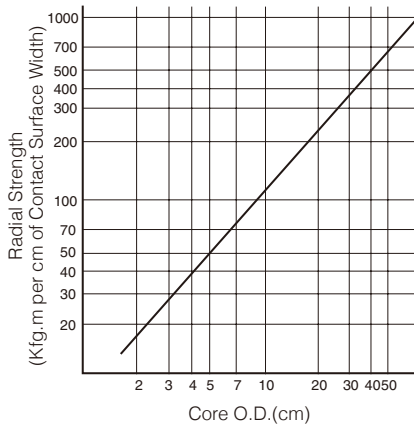
S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Metal core dia.	
				AH7	B	C	D	E	F	G	H	
KNSU2-20	m2	20	S1	10	22	40	44	20	14	34	22	
KNSU2-22		22	S1	10	30	44	48	20	14	34	30	
KNSU2-24		24	S1	10	30	48	52	20	14	34	30	
KNSU2-25		25	S1	10	30	50	54	20	14	34	30	
KNSU2-28		28	S1	10	35	56	60	20	14	34	35	
KNSU2-30		30	S1	10	35	60	64	20	14	34	35	
KNSU2-32		32	S1	12	40	64	68	20	14	34	40	
KNSU2-34		34	S1	12	40	68	72	20	14	34	45	
KNSU2-35		35	S1	12	40	70	74	20	14	34	45	
KNSU2-36		36	S1	12	40	72	76	20	14	34	45	
KNSU2-40		40	S1	15	55	80	84	20	14	34	60	
KNSU2-44		44	S1	15	55	88	92	20	14	34	60	
KNSU2-45		45	S1	15	55	90	94	20	14	34	60	
KNSU2-48		48	S1	15	60	96	100	20	14	34	65	
KNSU2-50		50	S1	15	60	100	104	20	14	34	65	
KNSU2-56		56	S1	15	60	112	116	20	14	34	65	
KNSU2-60		60	S1	15	60	120	124	20	14	34	85	
KNSU2-68		68	S1	15	60	136	140	20	14	34	100	
KNSU2-70		70	S1	15	60	140	144	20	14	34	105	
KNSU2-80		80	S1	15	60	160	164	20	14	34	125	
KNSU2.5-18		m2.5	18	S1	12	25	45	50	25	15	40	25
KNSU2.5-20			20	S1	12	28	50	55	25	15	40	28
KNSU2.5-22			22	S1	12	35	55	60	25	15	40	35
KNSU2.5-24			24	S1	12	35	60	65	25	15	40	35
KNSU2.5-25			25	S1	12	35	62.5	67.5	25	15	40	35
KNSU2.5-28			28	S1	12	40	70	75	25	15	40	40
KNSU2.5-30			30	S1	12	45	75	80	25	15	40	50
KNSU2.5-32			32	S1	12	45	80	85	25	15	40	50
KNSU2.5-34	34		S1	12	50	85	90	25	15	40	55	
KNSU2.5-35	35		S1	12	55	87.5	92.5	25	15	40	60	

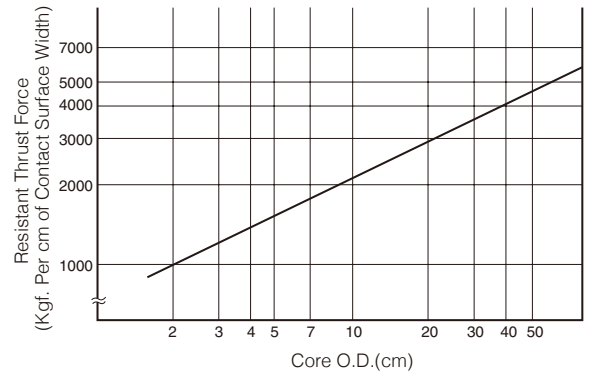
Definition of Holding Strength and Safety Factor

① The holding strength between the metal core and the molded material is a function of the contact area. The relationship between the core outside diameter and the radial strength (torque) is shown on the left, while the relationship between the core diameter and the resistant thrust force is shown on the right.

Relationship between radial strength and core diameter



Relationship between resistant thrust force and core diameter



*Please see book one for additional products in these modules.

Plastic Spur Gears with Steel Core

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② When the core O.D. is the same as the hub diameter, you may see some serration on the hub. There is no effect on the strength of the gear.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

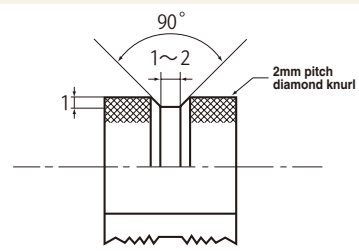
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Even though the holding strength at the material interface is designed to be stronger than the teeth, a secondary operation may weaken the holding strength.
- ③ Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			
5.89	0.60	0~0.42	0.10	KNSU2-20
6.66	0.68	0~0.42	0.19	KNSU2-22
7.43	0.76	0~0.42	0.19	KNSU2-24
7.85	0.80	0~0.42	0.20	KNSU2-25
9.05	0.92	0~0.44	0.27	KNSU2-28
9.84	1.00	0~0.44	0.28	KNSU2-30
10.7	1.09	0~0.44	0.35	KNSU2-32
11.6	1.18	0~0.44	0.41	KNSU2-34
12.0	1.22	0~0.44	0.41	KNSU2-35
12.5	1.27	0~0.44	0.42	KNSU2-36
14.2	1.45	0~0.44	0.71	KNSU2-40
16.0	1.63	0~0.44	0.74	KNSU2-44
16.5	1.68	0~0.44	0.74	KNSU2-45
17.8	1.82	0~0.44	0.88	KNSU2-48
18.8	1.92	0~0.44	0.90	KNSU2-50
21.5	2.20	0~0.46	0.95	KNSU2-56
23.5	2.39	0~0.46	1.29	KNSU2-60
26.8	2.74	0~0.46	1.66	KNSU2-68
27.7	2.82	0~0.46	1.79	KNSU2-70
32.0	3.27	0~0.46	2.38	KNSU2-80
9.93	1.01	0~0.44	0.15	KNSU2.5-18
11.5	1.17	0~0.44	0.20	KNSU2.5-20
13.0	1.33	0~0.46	0.31	KNSU2.5-22
14.5	1.48	0~0.46	0.32	KNSU2.5-24
15.3	1.56	0~0.46	0.33	KNSU2.5-25
17.7	1.80	0~0.46	0.44	KNSU2.5-28
19.2	1.96	0~0.46	0.61	KNSU2.5-30
20.9	2.13	0~0.46	0.63	KNSU2.5-32
22.6	2.30	0~0.46	0.76	KNSU2.5-34
23.5	2.39	0~0.46	0.90	KNSU2.5-35

How is MC nylon fused to the metal core

This method is superior to other conventional methods such as bolting, shrink fitting and bonding.

- ① Outline of the procedure
The surface of the core material is rolled with a 2mm pitch diamond knurl. Then one or more grooves (1 to 2mm wide and 1mm deep) are cut as shown below. The metal surface is treated prior to casting nylon in a mold.



- ② Advantage of MC nylon with metal core
 1. Wide temperature range.
There are examples of wheel use in furnaces at 130 to 140°C.
 2. Good dimensional stability
Since nylon is fused to the whole outer surface of the metal hub, dimensional change is very small even under temperature variations.
 3. Good appearance
Elimination of bolts and nuts provides a cleaner physical appearance.

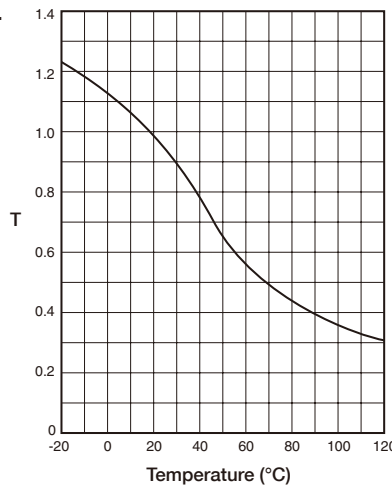
- ② When the ambient temperature rises, obtain the temperature compensation factor, T, from the chart on the right. Also, use a safety factor of 4 to 5 in the calculation.

$$T_{al} = T_{max} \times \frac{1}{\text{Safety Factor}} \times T$$

Where

- T_{al} : Allowable Holding Strength at the contact surface
- T_{max} : Maximum Holding Strength - Find from the charts on the left.
- T : Temperature Compensation Factor

Ambient temperature compensation factor T



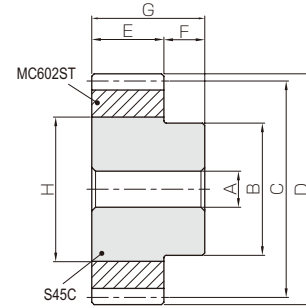
*Data supplied by Japan Polypenco Limited.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC602ST with S45C core
Heat treatment	—
Tooth hardness	(115-120HRR)



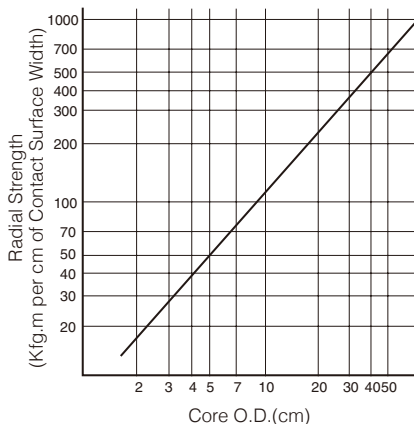
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Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Metal core dia.
				AH7	B	C	D	E	F	G	H
KNSU2.5-36	m2.5	36	S1	12	55	90	95	25	15	40	60
KNSU2.5-40		40	S1	15	65	100	105	25	15	40	70
KNSU2.5-44		44	S1	15	65	110	115	25	15	40	75
KNSU2.5-45		45	S1	15	65	112.5	117.5	25	15	40	75
KNSU2.5-48		48	S1	15	65	120	125	25	15	40	85
KNSU2.5-50		50	S1	15	65	125	130	25	15	40	95
KNSU2.5-56		56	S1	15	65	140	145	25	15	40	105
KNSU2.5-60		60	S1	20	70	150	155	25	15	40	115
KNSU2.5-68		68	S1	20	70	170	175	25	15	40	135
KNSU2.5-70		70	S1	20	70	175	180	25	15	40	140
KNSU3-16	m3	16	S1	12	24	48	54	30	17	47	24
KNSU3-18		18	S1	12	30	54	60	30	17	47	30
KNSU3-20		20	S1	12	33	60	66	30	17	47	33
KNSU3-22		22	S1	12	38	66	72	30	17	47	38
KNSU3-24		24	S1	12	43	72	78	30	17	47	43
KNSU3-25		25	S1	12	45	75	81	30	17	47	45
KNSU3-28		28	S1	15	50	84	90	30	17	47	50
KNSU3-30		30	S1	15	55	90	96	30	17	47	60
KNSU3-32		32	S1	15	60	96	102	30	17	47	65
KNSU3-34		34	S1	15	60	102	108	30	17	47	65
KNSU3-35		35	S1	15	60	105	111	30	17	47	75
KNSU3-36		36	S1	15	60	108	114	30	17	47	80
KNSU3-40		40	S1	20	70	120	126	30	17	47	85
KNSU3-44		44	S1	20	70	132	138	30	17	47	95
KNSU3-45		45	S1	20	70	135	141	30	17	47	105
KNSU3-48		48	S1	20	70	144	150	30	17	47	105
KNSU3-50		50	S1	20	70	150	156	30	17	47	105
KNSU3-56		56	S1	20	70	168	174	30	17	47	130
KNSU3-60		60	S1	20	70	180	186	30	17	47	145
KNSU3-68		68	S1	20	70	204	210	30	17	47	165
KNSU3-70	70	S1	20	70	210	216	30	17	47	175	

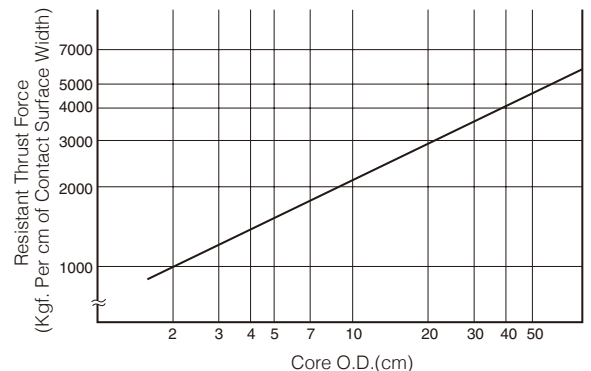
Definition of Holding Strength and Safety Factor

① The holding strength between the metal core and the molded material is a function of the contact area. The relationship between the core outside diameter and the radial strength (torque) is shown on the left, while the relationship between the core diameter and the resistant thrust force is shown on the right.

Relationship between radial strength and core diameter



Relationship between resistant thrust force and core diameter



*Please see book one for additional products in these modules.

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② When the core O.D. is the same as the hub diameter, you may see some serration on the hub. There is no effect on the strength of the gear.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

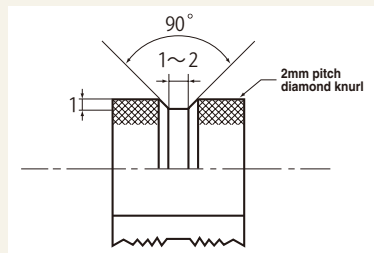
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Even though the holding strength at the material interface is designed to be stronger than the teeth, a secondary operation may weaken the holding strength.
- ③ Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
24.3	2.48	0~0.46	0.91	KNSU2.5-36 KNSU2.5-40 KNSU2.5-44 KNSU2.5-45 KNSU2.5-48
27.8	2.83	0~0.46	1.21	
31.3	3.19	0~0.48	1.36	
32.1	3.28	0~0.48	1.37	
34.8	3.55	0~0.48	1.62	
36.7	3.74	0~0.48	1.89	KNSU2.5-50 KNSU2.5-56 KNSU2.5-60 KNSU2.5-68 KNSU2.5-70
42.1	4.29	0~0.48	2.24	
45.8	4.67	0~0.48	2.62	
52.4	5.34	0~0.48	3.42	
54.1	5.51	0~0.48	3.64	
14.7	1.50	0~0.52	0.18	KNSU3-16 KNSU3-18 KNSU3-20 KNSU3-22 KNSU3-24
17.2	1.75	0~0.54	0.28	
19.9	2.03	0~0.54	0.35	
22.5	2.29	0~0.54	0.46	
25.1	2.56	0~0.54	0.59	
26.5	2.70	0~0.54	0.65	KNSU3-25 KNSU3-28 KNSU3-30 KNSU3-32 KNSU3-34
30.5	3.11	0~0.54	0.79	
33.2	3.39	0~0.54	1.05	
36.1	3.68	0~0.54	1.24	
39.0	3.98	0~0.56	1.27	
40.5	4.13	0~0.56	1.51	KNSU3-35 KNSU3-36 KNSU3-40 KNSU3-44 KNSU3-45
42.1	4.29	0~0.56	1.65	
48.0	4.90	0~0.56	1.94	
54.0	5.51	0~0.56	2.31	
55.5	5.66	0~0.56	2.6	
60.2	6.14	0~0.56	2.72	KNSU3-48 KNSU3-50 KNSU3-56 KNSU3-60 KNSU3-68
63.4	6.46	0~0.56	2.77	
72.7	7.42	0~0.56	3.85	
79.1	8.07	0~0.56	4.62	
90.6	9.23	0~0.56	5.85	
93.4	9.53	0~0.56	6.45	KNSU3-70

How is MC nylon fused to the metal core

This method is superior to other conventional methods such as bolting, shrink fitting and bonding.

- ① Outline of the procedure
The surface of the core material is rolled with a 2mm pitch diamond knurl. Then one or more grooves (1 to 2mm wide and 1mm deep) are cut as shown below. The metal surface is treated prior to casting nylon in a mold.



② Advantage of MC nylon with metal core

1. Wide temperature range.
There are examples of wheel use in furnaces at 130 to 140°C.
2. Good dimensional stability
Since nylon is fused to the whole outer surface of the metal hub, dimensional change is very small even under temperature variations.
3. Good appearance
Elimination of bolts and nuts provides a cleaner physical appearance.

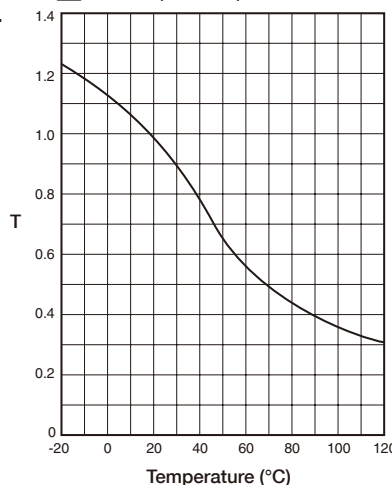
- ② When the ambient temperature rises, obtain the temperature compensation factor, T, from the chart on the right. Also, use a safety factor of 4 to 5 in the calculation.

$$T_{al} = T_{max} \times \frac{1}{\text{Safety Factor}} \times T$$

Where

- T_{al} : Allowable Holding Strength at the contact surface
- T_{max} : Maximum Holding Strength - Find from the charts on the left.
- T : Temperature Compensation Factor

Ambient temperature compensation factor T



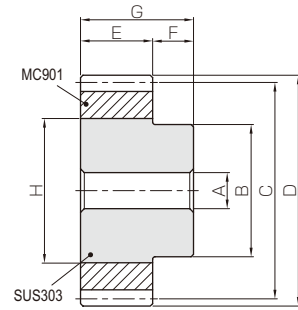
*Data supplied by Japan Polyenco Limited.



- Spur Gears
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- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901 with SUS303 core
Heat treatment	—
Tooth hardness	(115-120HRR)



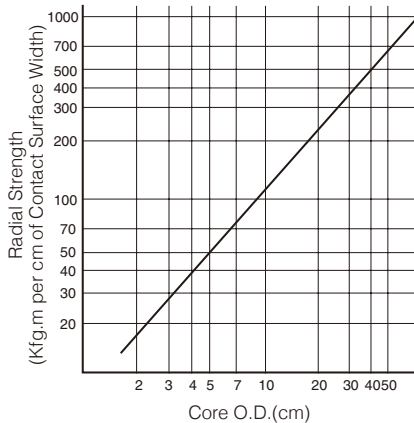
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Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Metal core dia.
				AH7	B	C	D	E	F	G	H
KPU1-30	m1	30	S1	8	20	30	32	10	10	20	20
KPU1-35		35	S1	8	25	35	37	10	10	20	25
KPU1-40		40	S1	10	25	40	42	10	10	20	28
KPU1-50		50	S1	10	30	50	52	10	10	20	34
KPU1-60		60	S1	10	40	60	62	10	10	20	45
KPU1-80		80	S1	10	40	80	82	10	10	20	45
KPU1.5-30	m1.5	30	S1	10	30	45	48	15	12	27	30
KPU1.5-35		35	S1	10	33	52.5	55.5	15	12	27	36
KPU1.5-40		40	S1	10	40	60	63	15	12	27	45
KPU1.5-50		50	S1	12	40	75	78	15	12	27	45
KPU1.5-60		60	S1	12	50	90	93	15	12	27	55
KPU1.5-80		80	S1	12	60	120	123	15	12	27	85
KPU2-20	m2	20	S1	10	22	40	44	20	14	34	22
KPU2-25		25	S1	10	30	50	54	20	14	34	30
KPU2-30		30	S1	10	35	60	64	20	14	34	35
KPU2-35		35	S1	12	40	70	74	20	14	34	45
KPU2-40		40	S1	15	55	80	84	20	14	34	60
KPU2-50		50	S1	15	60	100	104	20	14	34	65
KPU2-60	60	S1	15	60	120	124	20	14	34	85	

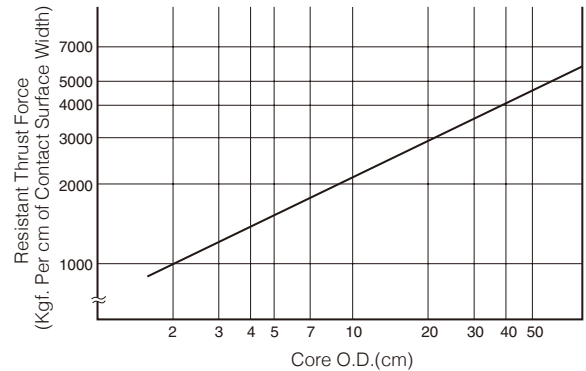
Definition of Holding Strength and Safety Factor

① The holding strength between the metal core and the molded material is a function of the contact area. The relationship between the core outside diameter and the radial strength (torque) is shown on the left, while the relationship between the core diameter and the resistant thrust force is shown on the right.

Relationship between radial strength and core diameter



Relationship between resistant thrust force and core diameter



*Please see book one for additional products in these modules.

Plastic Spur Gears with Stainless Steel Core

[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ When the core O.D. is the same as the hub diameter, you may see some serration on the hub. There is no effect on the strength of the gear.
- ④ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ⑤ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Even though the holding strength at the material interface is designed to be stronger than the teeth, a secondary operation may weaken the holding strength.
- ③ Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

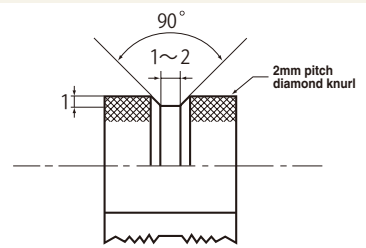
Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			
1.03	0.10	0~0.34	0.046	KPU1-30 KPU1-35 KPU1-40 KPU1-50 KPU1-60 KPU1-80
1.25	0.13	0~0.34	0.074	
1.48	0.15	0~0.34	0.081	
1.96	0.20	0~0.34	0.13	
2.41	0.25	0~0.36	0.22	
3.34	0.34	0~0.36	0.25	
3.46	0.35	0~0.38	0.15	KPU1.5-30 KPU1.5-35 KPU1.5-40 KPU1.5-50 KPU1.5-60 KPU1.5-80
4.22	0.43	0~0.40	0.20	
5.00	0.51	0~0.40	0.31	
6.60	0.67	0~0.40	0.33	
8.14	0.83	0~0.40	0.51	
11.26	1.15	0~0.42	1.00	
4.91	0.50	0~0.42	0.10	KPU2-20 KPU2-25 KPU2-30 KPU2-35 KPU2-40 KPU2-50 KPU2-60
6.54	0.67	0~0.42	0.20	
8.20	0.84	0~0.44	0.28	
10.0	1.02	0~0.44	0.41	
11.9	1.21	0~0.44	0.70	
15.7	1.60	0~0.44	0.88	
19.3	1.97	0~0.46	1.28	

How is MC nylon fused to the metal core

This method is superior to other conventional methods such as bolting, shrink fitting and bonding.

① Outline of the procedure

The surface of the core material is rolled with a 2mm pitch diamond knurl. Then one or more grooves (1 to 2mm wide and 1mm deep) are cut as shown below. The metal surface is treated prior to casting nylon in a mold.

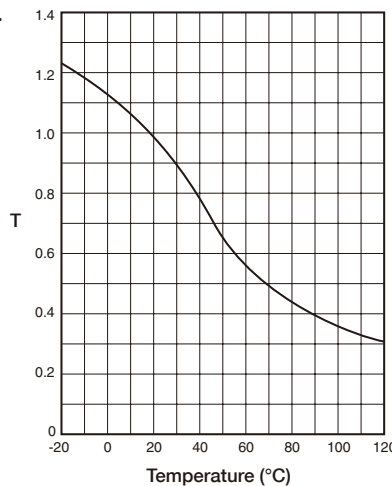


② Advantage of MC nylon with metal core

1. Wide temperature range.
There are examples of wheel use in furnaces at 130 to 140°C.
2. Good dimensional stability
Since nylon is fused to the whole outer surface of the metal hub, dimensional change is very small even under temperature variations.
3. Good appearance
Elimination of bolts and nuts provides a cleaner physical appearance.

- ② When the ambient temperature rises, obtain the temperature compensation factor, T, from the chart on the right. Also, use a safety factor of 4 to 5 in the calculation.

Ambient temperature compensation factor T



$$T_{al} = T_{max} \times \frac{1}{\text{Safety Factor}} \times T$$

Where

T_{al} : Allowable Holding Strength at the contact surface

T_{max} : Maximum Holding Strength - Find from the charts on the left.

T : Temperature Compensation Factor

*Data supplied by Japan Polypenco Limited.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products



KPS Plastic Spur Gears

Module 1

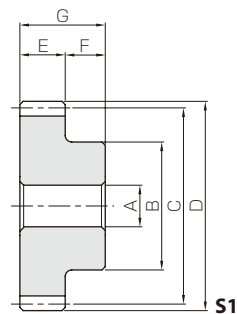


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- Internal Gears
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- CP Racks & Pinions
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- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1-15 ●KPS1-15J6	m1	15	S1 S1T	6 6	12	15	17	10	10	20
KPS1-16 ●KPS1-16J6		16	S1 S1T	6 6	12	16	18	10	10	20
KPS1-18 ●KPS1-18J6		18	S1 S1T	6 6	14	18	20	10	10	20
KPS1-20 ●KPS1-20J6		20	S1 S1T	6 6	16	20	22	10	10	20
KPS1-22 ●KPS1-22J8		22	S1 S1T	8 8	18	22	24	10	10	20
KPS1-24 ●KPS1-24J8		24	S1 S1T	8 8	20	24	26	10	10	20
KPS1-25 ●KPS1-25J8		25	S1 S1T	8 8	20	25	27	10	10	20
KPS1-26 ●KPS1-26J8		26	S1 S1T	8 8	20	26	28	10	10	20
KPS1-28 ●KPS1-28J8 ●KPS1-28J10		28	S1 S1T S1K	8 8 10	22	28	30	10	10	20
KPS1-30 ●KPS1-30J8 ●KPS1-30J10 ●KPS1-30J12		30	S1 S1T S1K S1K	8 8 10 12	25	30	32	10	10	20
KPS1-32 ●KPS1-32J8 ●KPS1-32J10 ●KPS1-32J12		32	S1 S1T S1K S1K	8 8 10 12	26	32	34	10	10	20
KPS1-35 ●KPS1-35J8 ●KPS1-35J10 ●KPS1-35J12		35	S1 S1T S1K S1K	8 8 10 12	26	35	37	10	10	20
KPS1-36 ●KPS1-36J8 ●KPS1-36J10 ●KPS1-36J12 ●KPS1-36J14 ●KPS1-36J15		36	S1 S1T S1K S1K S1K S1K	8 8 10 12 14 15	28	36	38	10	10	20
KPS1-40 ●KPS1-40J10 ●KPS1-40J12 ●KPS1-40J14 ●KPS1-40J15 ●KPS1-40J16 ●KPS1-40J17 ●KPS1-40J18 ●KPS1-40J19		40	S1 S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 17 18 19	35	40	42	10	10	20
KPS1-45 ●KPS1-45J10 ●KPS1-45J12 ●KPS1-45J14 ●KPS1-45J15 ●KPS1-45J16 ●KPS1-45J17 ●KPS1-45J18 ●KPS1-45J19		45	S1 S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 17 18 19	35	45	47	10	10	20

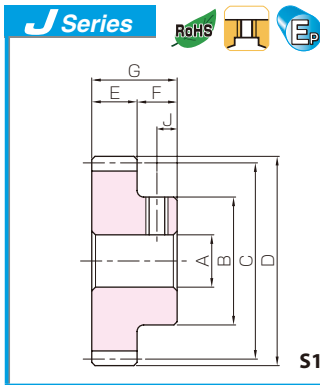
[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

***Please see book one for additional products in these modules.**

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
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Plastic Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N-m) Bending strength	Allowable torque (kgf-m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
	Size	J					
—	M4**	5	0.41	0.042	0~0.32	0.0027 0.0027	KPS1-15 ● KPS1-15J6
—	M4**	5	0.45	0.046	0~0.32	0.0030 0.0029	KPS1-16 ● KPS1-16J6
—	M4**	5	0.53	0.054	0~0.32	0.0041 0.0040	KPS1-18 ● KPS1-18J6
—	M4	5	0.61	0.063	0~0.32	0.0053 0.0052	KPS1-20 ● KPS1-20J6
—	M5**	5	0.69	0.071	0~0.34	0.0062 0.0061	KPS1-22 ● KPS1-22J8
—	M5	5	0.77	0.079	0~0.34	0.0077 0.0076	KPS1-24 ● KPS1-24J8
—	M5	5	0.82	0.083	0~0.34	0.0082 0.0080	KPS1-25 ● KPS1-25J8
—	M5	5	0.86	0.088	0~0.34	0.0086 0.0085	KPS1-26 ● KPS1-26J8
—	M5	5	0.94	0.096	0~0.34	0.010	KPS1-28 ● KPS1-28J8 ● KPS1-28J10
4 x 1.8	M4	5				0.010	
—	M4	5	0.0094				
—	M5	5	1.03	0.10	0~0.34	0.013	KPS1-30 ● KPS1-30J8 ● KPS1-30J10 ● KPS1-30J12
4 x 1.8	M4	5				0.013	
—	M4	5				0.012	
4 x 1.8	M4	5	0.011				
—	M5	5	1.11	0.11	0~0.34	0.014	KPS1-32 ● KPS1-32J8 ● KPS1-32J10 ● KPS1-32J12
4 x 1.8	M4	5				0.014	
—	M4	5				0.013	
4 x 1.8	M4	5				0.012	
—	M5	5	1.25	0.13	0~0.34	0.016	KPS1-35 ● KPS1-35J8 ● KPS1-35J10 ● KPS1-35J12
4 x 1.8	M4	5				0.016	
—	M4	5				0.015	
4 x 1.8	M4	5				0.014	
—	M5	5	1.30	0.13	0~0.34	0.018	KPS1-36 ● KPS1-36J8 ● KPS1-36J10 ● KPS1-36J12 ● KPS1-36J14 ● KPS1-36J15
4 x 1.8	M4	5				0.018	
4 x 1.8	M4	5				0.017	
5 x 2.3	M4	5				0.016	
—	M4	5				0.015	
5 x 2.3	M4	5				0.014	
4 x 1.8	M4	5	1.48	0.15	0~0.34	0.024	KPS1-40 ● KPS1-40J10 ● KPS1-40J12 ● KPS1-40J14 ● KPS1-40J15 ● KPS1-40J16 ● KPS1-40J17 ● KPS1-40J18 ● KPS1-40J19
4 x 1.8	M4	5				0.023	
4 x 1.8	M4	5				0.023	
5 x 2.3	M4	5				0.022	
5 x 2.3	M4	5				0.022	
5 x 2.3	M4	5				0.021	
5 x 2.3	M4	5				0.021	
5 x 2.3	M4	5				0.020	
6 x 2.8	M5	5				0.019	
6 x 2.8	M5	5				0.018	
—	M4	5	1.71	0.17	0~0.34	0.028	KPS1-45 ● KPS1-45J10 ● KPS1-45J12 ● KPS1-45J14 ● KPS1-45J15 ● KPS1-45J16 ● KPS1-45J17 ● KPS1-45J18 ● KPS1-45J19
4 x 1.8	M4	5				0.027	
4 x 1.8	M4	5				0.026	
5 x 2.3	M4	5				0.025	
5 x 2.3	M4	5				0.025	
5 x 2.3	M4	5				0.025	
5 x 2.3	M4	5				0.024	
5 x 2.3	M4	5				0.024	
6 x 2.8	M5	5				0.023	
6 x 2.8	M5	5				0.022	

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ For products having a tapped hole, a set screw is included.
- ⑤ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " ** " are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.





KPS Plastic Spur Gears

Module 1

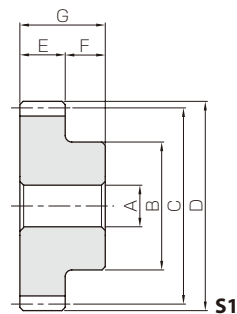


- Spur Gears
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Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.

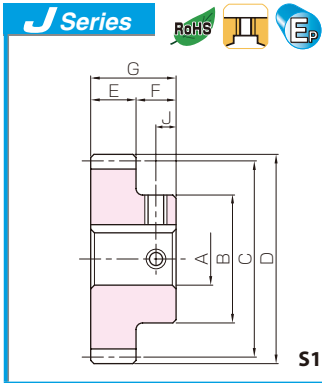


Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1-48 ● KPS1-48J10 ● KPS1-48J12 ● KPS1-48J14 ● KPS1-48J15 ● KPS1-48J16 ● KPS1-48J17 ● KPS1-48J18 ● KPS1-48J19	m1	48	S1	10	35	48	50	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
KPS1-50 ● KPS1-50J10 ● KPS1-50J12 ● KPS1-50J14 ● KPS1-50J15 ● KPS1-50J16 ● KPS1-50J17 ● KPS1-50J18 ● KPS1-50J19	m1	50	S1	10	35	50	52	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
KPS1-55 ● KPS1-55J10 ● KPS1-55J12 ● KPS1-55J14 ● KPS1-55J15 ● KPS1-55J16 ● KPS1-55J17 ● KPS1-55J18 ● KPS1-55J19	m1	55	S1	10	35	55	57	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
KPS1-60 ● KPS1-60J10 ● KPS1-60J12 ● KPS1-60J14 ● KPS1-60J15 ● KPS1-60J16 ● KPS1-60J17 ● KPS1-60J18 ● KPS1-60J19	m1	60	S1	10	35	60	62	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
KPS1-65 ● KPS1-65J10 ● KPS1-65J12 ● KPS1-65J14 ● KPS1-65J15 ● KPS1-65J16 ● KPS1-65J17 ● KPS1-65J18 ● KPS1-65J19	m1	65	S1	10	35	65	67	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
KPS1-70 ● KPS1-70J10 ● KPS1-70J12 ● KPS1-70J14 ● KPS1-70J15 ● KPS1-70J16 ● KPS1-70J17 ● KPS1-70J18 ● KPS1-70J19 ● KPS1-70J20 ● KPS1-70J22	m1	70	S1	10	40	70	72	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
S1K	20									
S1K	22									
KPS1-75 ● KPS1-75J10 ● KPS1-75J12 ● KPS1-75J14 ● KPS1-75J15 ● KPS1-75J16 ● KPS1-75J17 ● KPS1-75J18 ● KPS1-75J19 ● KPS1-75J20 ● KPS1-75J22	m1	75	S1	10	40	75	77	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
S1K	20									
S1K	22									

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



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Keyway	Set Screw		Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)																														
	WidthxDepth	Size						J	Bending strength	Bending strength																											
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8	— M4 M4 M4 M4 M4 M4 M5 M5	— 5 5 5 5 5 5 5 5	1.86	0.19	0~0.34	0.030 0.030 0.029 0.028 0.027 0.027 0.026 0.025 0.025	KPS1-48 ● KPS1-48J10 ● KPS1-48J12 ● KPS1-48J14 ● KPS1-48J15 ● KPS1-48J16 ● KPS1-48J17 ● KPS1-48J18 ● KPS1-48J19																														
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8	— M4 M4 M4 M4 M4 M4 M5 M5	— 5 5 5 5 5 5 5 5						1.96	0.20	0~0.34	0.032 0.032 0.031 0.030 0.029 0.029 0.028 0.027 0.027	KPS1-50 ● KPS1-50J10 ● KPS1-50J12 ● KPS1-50J14 ● KPS1-50J15 ● KPS1-50J16 ● KPS1-50J17 ● KPS1-50J18 ● KPS1-50J19																									
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8	— M4 M4 M4 M4 M4 M4 M5 M5	— 5 5 5 5 5 5 5 5											2.18	0.22	0~0.36	0.037 0.036 0.036 0.035 0.034 0.034 0.034 0.033 0.032 0.031	KPS1-55 ● KPS1-55J10 ● KPS1-55J12 ● KPS1-55J14 ● KPS1-55J15 ● KPS1-55J16 ● KPS1-55J17 ● KPS1-55J18 ● KPS1-55J19																				
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8	— M4 M4 M4 M4 M4 M4 M5 M5	— 5 5 5 5 5 5 5 5																2.41	0.25	0~0.36	0.042 0.042 0.041 0.040 0.039 0.039 0.038 0.037 0.037	KPS1-60 ● KPS1-60J10 ● KPS1-60J12 ● KPS1-60J14 ● KPS1-60J15 ● KPS1-60J16 ● KPS1-60J17 ● KPS1-60J18 ● KPS1-60J19															
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8	— M4 M4 M4 M4 M4 M4 M5 M5	— 5 5 5 5 5 5 5 5																					2.64	0.27	0~0.36	0.048 0.047 0.047 0.046 0.045 0.044 0.044 0.044 0.043 0.042	KPS1-65 ● KPS1-65J10 ● KPS1-65J12 ● KPS1-65J14 ● KPS1-65J15 ● KPS1-65J16 ● KPS1-65J17 ● KPS1-65J18 ● KPS1-65J19										
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8	— M4* M4 M4 M4 M4 M4 M5 M5 M5 M5	— 5 5 5 5 5 5 5 5 5 5																										2.87	0.29	0~0.36	0.057 0.057 0.056 0.055 0.054 0.054 0.053 0.052 0.052 0.051 0.050	KPS1-70 ● KPS1-70J10 ● KPS1-70J12 ● KPS1-70J14 ● KPS1-70J15 ● KPS1-70J16 ● KPS1-70J17 ● KPS1-70J18 ● KPS1-70J19 ● KPS1-70J20 ● KPS1-70J22					
— 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8	— M4* M4 M4 M4 M4 M4 M5 M5 M5 M5	— 5 5 5 5 5 5 5 5 5 5																															3.11	0.32	0~0.36	0.064 0.063 0.063 0.062 0.061 0.061 0.060 0.059 0.058 0.058 0.058 0.056	KPS1-75 ● KPS1-75J10 ● KPS1-75J12 ● KPS1-75J14 ● KPS1-75J15 ● KPS1-75J16 ● KPS1-75J17 ● KPS1-75J18 ● KPS1-75J19 ● KPS1-75J20 ● KPS1-75J22

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ② Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.





KPS Plastic Spur Gears

Module 1

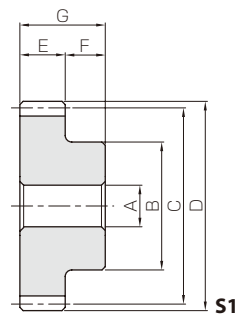


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.

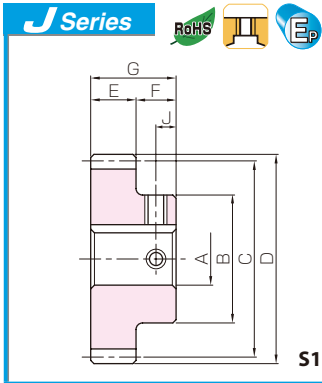


Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1-80 ●KPS1-80J10 ●KPS1-80J12 ●KPS1-80J14 ●KPS1-80J15 ●KPS1-80J16 ●KPS1-80J17 ●KPS1-80J18 ●KPS1-80J19 ●KPS1-80J20 ●KPS1-80J22	m1	80	S1	10	40	80	82	10	10	20
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			KPS1-85 ●KPS1-85J10 ●KPS1-85J12 ●KPS1-85J14 ●KPS1-85J15 ●KPS1-85J16 ●KPS1-85J17 ●KPS1-85J18 ●KPS1-85J19 ●KPS1-85J20 ●KPS1-85J22	m1						
S1K	10									
S1K	12									
S1K	14									
S1K	15									
S1K	16									
S1K	17									
S1K	18									
S1K	19									
S1K	20									
S1K	22									
KPS1-90 ●KPS1-90J10 ●KPS1-90J12 ●KPS1-90J14 ●KPS1-90J15 ●KPS1-90J16 ●KPS1-90J17 ●KPS1-90J18 ●KPS1-90J19 ●KPS1-90J20 ●KPS1-90J22	m1	90			S1	10	40	90	92	10
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			KPS1-95 ●KPS1-95J10 ●KPS1-95J12 ●KPS1-95J14 ●KPS1-95J15 ●KPS1-95J16 ●KPS1-95J17 ●KPS1-95J18 ●KPS1-95J19 ●KPS1-95J20 ●KPS1-95J22	m1	95	S1				
S1K	10									
S1K	12									
S1K	14									
S1K	15									
S1K	16									
S1K	17									
S1K	18									
S1K	19									
S1K	20									
S1K	22									
KPS1-100 ●KPS1-100J10 ●KPS1-100J12 ●KPS1-100J14 ●KPS1-100J15 ●KPS1-100J16 ●KPS1-100J17 ●KPS1-100J18 ●KPS1-100J19 ●KPS1-100J20 ●KPS1-100J22	m1	100				S1	10	40	100	102
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway WidthxDepth	Set Screw		Allowable torque (N-m) Bending strength	Allowable torque (kgf-m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
	Size	J					
—	—	—	3.34	0.34	0~0.36	0.071 0.070 0.070 0.069 0.068 0.068 0.067 0.066 0.065 0.065 0.063	KPS1-80 ●KPS1-80J10 ●KPS1-80J12 ●KPS1-80J14 ●KPS1-80J15 ●KPS1-80J16 ●KPS1-80J17 ●KPS1-80J18 ●KPS1-80J19 ●KPS1-80J20 ●KPS1-80J22
4 x 1.8	M4*	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	3.57	0.36	0~0.36	0.079 0.078 0.077 0.076 0.076 0.075 0.075 0.074 0.073 0.072 0.071	KPS1-85 ●KPS1-85J10 ●KPS1-85J12 ●KPS1-85J14 ●KPS1-85J15 ●KPS1-85J16 ●KPS1-85J17 ●KPS1-85J18 ●KPS1-85J19 ●KPS1-85J20 ●KPS1-85J22
4 x 1.8	M4*	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	3.80	0.39	0~0.36	0.087 0.086 0.085 0.084 0.084 0.083 0.083 0.082 0.081 0.080 0.079	KPS1-90 ●KPS1-90J10 ●KPS1-90J12 ●KPS1-90J14 ●KPS1-90J15 ●KPS1-90J16 ●KPS1-90J17 ●KPS1-90J18 ●KPS1-90J19 ●KPS1-90J20 ●KPS1-90J22
4 x 1.8	M4*	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	4.03	0.41	0~0.36	0.095 0.094 0.094 0.093 0.092 0.092 0.091 0.090 0.089 0.089 0.087	KPS1-95 ●KPS1-95J10 ●KPS1-95J12 ●KPS1-95J14 ●KPS1-95J15 ●KPS1-95J16 ●KPS1-95J17 ●KPS1-95J18 ●KPS1-95J19 ●KPS1-95J20 ●KPS1-95J22
4 x 1.8	M4*	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	4.27	0.44	0~0.36	0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.099 0.098 0.098 0.096	KPS1-100 ●KPS1-100J10 ●KPS1-100J12 ●KPS1-100J14 ●KPS1-100J15 ●KPS1-100J16 ●KPS1-100J17 ●KPS1-100J18 ●KPS1-100J19 ●KPS1-100J20 ●KPS1-100J22
4 x 1.8	M4*	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					

[Caution on Secondary Operations]

- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- For products having a tapped hole, a set screw is included.
- Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.

[Caution on Product Characteristics]

- Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.





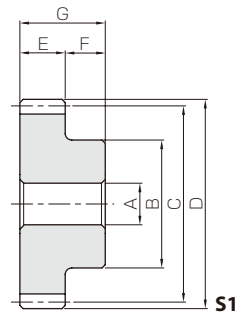
KPS Plastic Spur Gears

Module 1.5



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



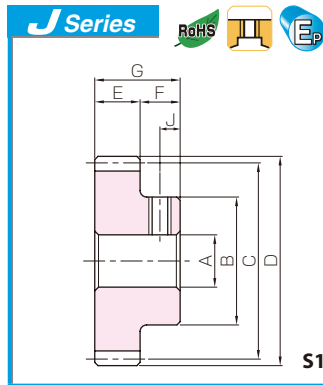
- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1.5-15 ● KPS1.5-15J8 KPS1.5-16 ● KPS1.5-16J8 KPS1.5-18 ● KPS1.5-18J8 ● KPS1.5-18J10 KPS1.5-20 ● KPS1.5-20J8 ● KPS1.5-20J10 ● KPS1.5-20J12 KPS1.5-22 ● KPS1.5-22J8 ● KPS1.5-22J10 ● KPS1.5-22J12 KPS1.5-24 ● KPS1.5-24J8 ● KPS1.5-24J10 ● KPS1.5-24J12 ● KPS1.5-24J14 ● KPS1.5-24J15 KPS1.5-25 ● KPS1.5-25J8 ● KPS1.5-25J10 ● KPS1.5-25J12 ● KPS1.5-25J14 ● KPS1.5-25J15 ● KPS1.5-25J16 ● KPS1.5-25J17 KPS1.5-26 ● KPS1.5-26J8 ● KPS1.5-26J10 ● KPS1.5-26J12 ● KPS1.5-26J14 ● KPS1.5-26J15 ● KPS1.5-26J16 ● KPS1.5-26J17 KPS1.5-28 ● KPS1.5-28J8 ● KPS1.5-28J10 ● KPS1.5-28J12 ● KPS1.5-28J14 ● KPS1.5-28J15 ● KPS1.5-28J16 ● KPS1.5-28J17 ● KPS1.5-28J18 ● KPS1.5-28J19 ● KPS1.5-28J20 KPS1.5-30 ● KPS1.5-30J8 ● KPS1.5-30J10 ● KPS1.5-30J12 ● KPS1.5-30J14 ● KPS1.5-30J15 ● KPS1.5-30J16 ● KPS1.5-30J17 ● KPS1.5-30J18 ● KPS1.5-30J19 ● KPS1.5-30J20 ● KPS1.5-30J22	m1.5	15	S1 S1T	8 8	18	22.5	25.5	15	10	25
		16	S1 S1T	8 8	20	24	27	15	10	25
		18	S1 S1T S1K	8 8 10	22	27	30	15	10	25
		20	S1 S1T S1K S1K	8 8 10 12	24	30	33	15	10	25
		22	S1 S1T S1K S1K	8 8 10 12	26	33	36	15	10	25
		24	S1 S1T S1K S1K S1K	8 8 10 12 14 15	28	36	39	15	10	25
		25	S1 S1T S1K S1K S1K S1K S1K	8 8 10 12 14 15 16 17	30	37.5	40.5	15	10	25
		26	S1 S1T S1K S1K S1K S1K S1K	8 8 10 12 14 15 16 17	32	39	42	15	10	25
		28	S1 S1T S1K S1K S1K S1K S1K S1K S1K S1K	8 8 10 12 14 15 16 17 18 19 20	36	42	45	15	10	25
		30	S1 S1T S1K S1K S1K S1K S1K S1K S1K S1K S1K	8 8 10 12 14 15 16 17 18 19 20 22	38	45	48	15	10	25

*Please see book one for additional products in these modules.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N·m) Bending strength	Allowable torque (kgf·m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)	
	Size	J						
—	M5**	5	1.39	0.14	0~0.38	0.0084 0.0083	KPS1.5-15 ●KPS1.5-15J8	
—	M5	5	1.53	0.16	0~0.38	0.010 0.0099	KPS1.5-16 ●KPS1.5-16J8	
—	M5	5	1.79	0.18	0~0.38	0.013	KPS1.5-18 ●KPS1.5-18J8 ●KPS1.5-18J10	
4 x 1.8	M4	5				0.013 0.012		
—	M5	5	2.07	0.21	0~0.38	0.016	KPS1.5-20 ●KPS1.5-20J8 ●KPS1.5-20J10 ●KPS1.5-20J12	
4 x 1.8	M4	5				0.016		
4 x 1.8	M4	5				0.015		
4 x 1.8	M4	5	0.014					
—	M5	5	2.34	0.24	0~0.38	0.020	KPS1.5-22 ●KPS1.5-22J8 ●KPS1.5-22J10 ●KPS1.5-22J12	
4 x 1.8	M4	5				0.019		
4 x 1.8	M4	5				0.018		
4 x 1.8	M4	5				0.017		
—	M5	5	2.61	0.27	0~0.38	0.023		KPS1.5-24 ●KPS1.5-24J8 ●KPS1.5-24J10 ●KPS1.5-24J12 ●KPS1.5-24J14 ●KPS1.5-24J15
4 x 1.8	M4	5				0.023		
4 x 1.8	M4	5				0.022		
5 x 2.3	M4	5				0.021		
5 x 2.3	M4	5				0.020		
5 x 2.3	M4	5				0.019		
—	M5	5	2.76	0.28	0~0.38	0.026	KPS1.5-25 ●KPS1.5-25J8 ●KPS1.5-25J10 ●KPS1.5-25J12 ●KPS1.5-25J14 ●KPS1.5-25J15 ●KPS1.5-25J16 ●KPS1.5-25J17	
4 x 1.8	M4	5				0.026		
4 x 1.8	M4	5				0.025		
5 x 2.3	M4	5				0.024		
5 x 2.3	M4	5				0.022		
5 x 2.3	M4	5				0.022		
5 x 2.3	M4	5				0.021		
5 x 2.3	M4	5				0.020		
—	M5	5	2.91	0.3	0~0.38	0.029		KPS1.5-26 ●KPS1.5-26J8 ●KPS1.5-26J10 ●KPS1.5-26J12 ●KPS1.5-26J14 ●KPS1.5-26J15 ●KPS1.5-26J16 ●KPS1.5-26J17
4 x 1.8	M4	5				0.028		
4 x 1.8	M4	5				0.027		
5 x 2.3	M4	5				0.026		
5 x 2.3	M4	5				0.025		
5 x 2.3	M4	5				0.024		
5 x 2.3	M4	5				0.024		
—	M5	5	3.18	0.32	0~0.38	0.034	KPS1.5-28 ●KPS1.5-28J8 ●KPS1.5-28J10 ●KPS1.5-28J12 ●KPS1.5-28J14 ●KPS1.5-28J15 ●KPS1.5-28J16 ●KPS1.5-28J17 ●KPS1.5-28J18 ●KPS1.5-28J19 ●KPS1.5-28J20	
4 x 1.8	M4	5				0.034		
4 x 1.8	M4	5				0.033		
5 x 2.3	M4	5				0.032		
5 x 2.3	M4	5				0.031		
5 x 2.3	M4	5				0.030		
5 x 2.3	M4	5				0.029		
5 x 2.3	M4	5				0.029		
—	M5	5	3.46	0.35	0~0.38	0.039		KPS1.5-30 ●KPS1.5-30J8 ●KPS1.5-30J10 ●KPS1.5-30J12 ●KPS1.5-30J14 ●KPS1.5-30J15 ●KPS1.5-30J16 ●KPS1.5-30J17 ●KPS1.5-30J18 ●KPS1.5-30J19 ●KPS1.5-30J20 ●KPS1.5-30J22
4 x 1.8	M4	5				0.039		
4 x 1.8	M4	5				0.038		
5 x 2.3	M4	5				0.037		
5 x 2.3	M4	5				0.036		
5 x 2.3	M4	5				0.035		
5 x 2.3	M4	5				0.034		
5 x 2.3	M4	5				0.034		
6 x 2.8	M5	5	0.033					
6 x 2.8	M5	5	0.032					
6 x 2.8	M5	5	0.031					
6 x 2.8	M5	5	0.029					

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ For products having a tapped hole, a set screw is included.
- ⑤ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " ** " are the tap size), fasten with torques less than 0.12N · m for M4, and 0.38N · m for M5.

[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.





KPS Plastic Spur Gears

Module 1.5

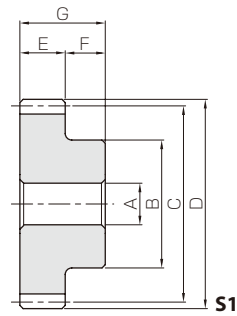


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1.5-32 ● KPS1.5-32J8 ● KPS1.5-32J10 ● KPS1.5-32J12 ● KPS1.5-32J14 ● KPS1.5-32J15 ● KPS1.5-32J16 ● KPS1.5-32J17 ● KPS1.5-32J18 ● KPS1.5-32J19 ● KPS1.5-32J20 ● KPS1.5-32J22	m1.5	32	S1	8	40	48	51	15	10	25
			S1T	8						
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
KPS1.5-35 ● KPS1.5-35J8 ● KPS1.5-35J10 ● KPS1.5-35J12 ● KPS1.5-35J14 ● KPS1.5-35J15 ● KPS1.5-35J16 ● KPS1.5-35J17 ● KPS1.5-35J18 ● KPS1.5-35J19 ● KPS1.5-35J20 ● KPS1.5-35J22	m1.5	35	S1	8	42	52.5	55.5	15	10	25
			S1T	8						
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
KPS1.5-36 ● KPS1.5-36J8 ● KPS1.5-36J10 ● KPS1.5-36J12 ● KPS1.5-36J14 ● KPS1.5-36J15 ● KPS1.5-36J16 ● KPS1.5-36J17 ● KPS1.5-36J18 ● KPS1.5-36J19 ● KPS1.5-36J20 ● KPS1.5-36J22 ● KPS1.5-36J25	m1.5	36	S1	8	45	54	57	15	10	25
			S1T	8						
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
KPS1.5-40 ● KPS1.5-40J10 ● KPS1.5-40J12 ● KPS1.5-40J14 ● KPS1.5-40J15 ● KPS1.5-40J16 ● KPS1.5-40J17 ● KPS1.5-40J18 ● KPS1.5-40J19 ● KPS1.5-40J20 ● KPS1.5-40J22 ● KPS1.5-40J25	m1.5	40	S1	10	45	60	63	15	10	25
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
KPS1.5-45 ● KPS1.5-45J10 ● KPS1.5-45J12 ● KPS1.5-45J14 ● KPS1.5-45J15 ● KPS1.5-45J16 ● KPS1.5-45J17 ● KPS1.5-45J18 ● KPS1.5-45J19 ● KPS1.5-45J20 ● KPS1.5-45J22 ● KPS1.5-45J25	m1.5	45	S1	10	45	67.5	70.5	15	10	25
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						

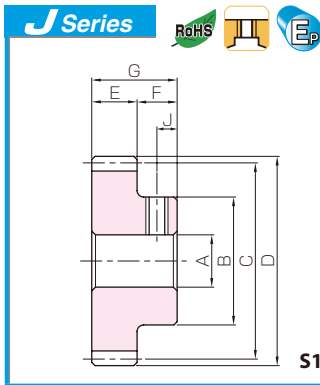
[Caution on Product Characteristics]

① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.

② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N·m) Bending strength	Allowable torque (kgf·m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)																				
	Size	J																									
— — 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8	— M5 M4* M4* M4 M4 M4 M4 M5 M5 M5 M5	— 5 5 5 5 5 5 5 5 5 5 5 5	3.76	0.38	0~0.38	0.045 0.044 0.043 0.042 0.041 0.040 0.040 0.039 0.038 0.037 0.036 0.034	KPS1.5-32 ● KPS1.5-32J8 ● KPS1.5-32J10 ● KPS1.5-32J12 ● KPS1.5-32J14 ● KPS1.5-32J15 ● KPS1.5-32J16 ● KPS1.5-32J17 ● KPS1.5-32J18 ● KPS1.5-32J19 ● KPS1.5-32J20 ● KPS1.5-32J22																				
— — 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8	— M5 M4* M4* M4 M4 M4 M4 M5 M5 M5 M5	— 5 5 5 5 5 5 5 5 5 5 5 5						4.22	0.43	0~0.40	0.052 0.052 0.051 0.050 0.049 0.048 0.047 0.046 0.045 0.045 0.044 0.042	KPS1.5-35 ● KPS1.5-35J8 ● KPS1.5-35J10 ● KPS1.5-35J12 ● KPS1.5-35J14 ● KPS1.5-35J15 ● KPS1.5-35J16 ● KPS1.5-35J17 ● KPS1.5-35J18 ● KPS1.5-35J19 ● KPS1.5-35J20 ● KPS1.5-35J22															
— — 4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3	— M5* M4* M4* M4* M4* M4* M4* M5 M5 M5 M5 M6	— 5 5 5 5 5 5 5 5 5 5 5 5											4.38	0.45	0~0.40	0.057 0.056 0.055 0.054 0.053 0.052 0.052 0.051 0.050 0.049 0.048 0.046 0.043	KPS1.5-36 ● KPS1.5-36J8 ● KPS1.5-36J10 ● KPS1.5-36J12 ● KPS1.5-36J14 ● KPS1.5-36J15 ● KPS1.5-36J16 ● KPS1.5-36J17 ● KPS1.5-36J18 ● KPS1.5-36J19 ● KPS1.5-36J20 ● KPS1.5-36J22 ● KPS1.5-36J25										
4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3	— M4* M4* M4* M4* M4* M4* M5 M5 M5 M5 M6	— 5 5 5 5 5 5 5 5 5 5 5																5.00	0.51	0~0.40	0.065 0.065 0.064 0.062 0.062 0.061 0.060 0.059 0.058 0.057 0.056 0.052	KPS1.5-40 ● KPS1.5-40J10 ● KPS1.5-40J12 ● KPS1.5-40J14 ● KPS1.5-40J15 ● KPS1.5-40J16 ● KPS1.5-40J17 ● KPS1.5-40J18 ● KPS1.5-40J19 ● KPS1.5-40J20 ● KPS1.5-40J22 ● KPS1.5-40J25					
4 x 1.8 4 x 1.8 5 x 2.3 5 x 2.3 5 x 2.3 5 x 2.3 6 x 2.8 6 x 2.8 6 x 2.8 6 x 2.8 8 x 3.3	— M4* M4* M4* M4* M4* M4* M5 M5 M5 M5 M6	— 5 5 5 5 5 5 5 5 5 5 5																					5.79	0.59	0~0.40	0.078 0.078 0.077 0.075 0.075 0.075 0.074 0.073 0.072 0.071 0.071 0.069 0.065	KPS1.5-45 ● KPS1.5-45J10 ● KPS1.5-45J12 ● KPS1.5-45J14 ● KPS1.5-45J15 ● KPS1.5-45J16 ● KPS1.5-45J17 ● KPS1.5-45J18 ● KPS1.5-45J19 ● KPS1.5-45J20 ● KPS1.5-45J22 ● KPS1.5-45J25

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N · m for M4, and 0.38N · m for M5.

③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

*Please see book one for additional products in these modules.





KPS Plastic Spur Gears

Module 1.5

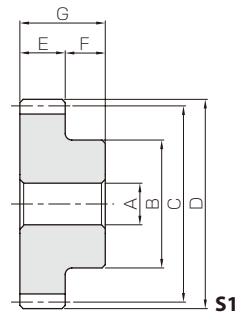


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



Catalog No. ● J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1.5-48 ● KPS1.5-48J10 ● KPS1.5-48J12 ● KPS1.5-48J14 ● KPS1.5-48J15 ● KPS1.5-48J16 ● KPS1.5-48J17 ● KPS1.5-48J18 ● KPS1.5-48J19 ● KPS1.5-48J20 ● KPS1.5-48J22 ● KPS1.5-48J25	m1.5	48	S1	10	45	72	75	15	10	25
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
KPS1.5-50 ● KPS1.5-50J10 ● KPS1.5-50J12 ● KPS1.5-50J14 ● KPS1.5-50J15 ● KPS1.5-50J16 ● KPS1.5-50J17 ● KPS1.5-50J18 ● KPS1.5-50J19 ● KPS1.5-50J20 ● KPS1.5-50J22 ● KPS1.5-50J25	m1.5	50	S1	10	45	75	78	15	10	25
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
KPS1.5-55 ● KPS1.5-55J10 ● KPS1.5-55J12 ● KPS1.5-55J14 ● KPS1.5-55J15 ● KPS1.5-55J16 ● KPS1.5-55J17 ● KPS1.5-55J18 ● KPS1.5-55J19 ● KPS1.5-55J20 ● KPS1.5-55J22 ● KPS1.5-55J25	m1.5	55	S1	10	45	82.5	85.5	15	10	25
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
KPS1.5-60 ● KPS1.5-60J10 ● KPS1.5-60J12 ● KPS1.5-60J14 ● KPS1.5-60J15 ● KPS1.5-60J16 ● KPS1.5-60J17 ● KPS1.5-60J18 ● KPS1.5-60J19 ● KPS1.5-60J20 ● KPS1.5-60J22 ● KPS1.5-60J25 ● KPS1.5-60J28	m1.5	60	S1	10	50	90	93	15	10	25
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
S1K	28									
KPS1.5-65 ● KPS1.5-65J12 ● KPS1.5-65J14 ● KPS1.5-65J15 ● KPS1.5-65J16 ● KPS1.5-65J17 ● KPS1.5-65J18 ● KPS1.5-65J19 ● KPS1.5-65J20 ● KPS1.5-65J22 ● KPS1.5-65J25 ● KPS1.5-65J28	m1.5	65	S1	12	50	97.5	100.5	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
S1K	28									

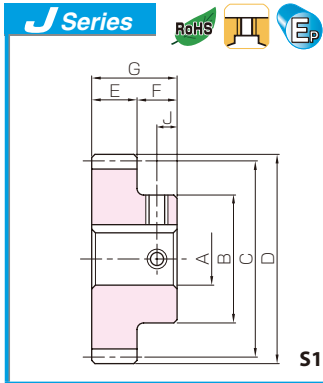
[Caution on Product Characteristics]

① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway WidthxDepth	Set Screw		Allowable torque (N-m) Bending strength	Allowable torque (kgf-m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
	Size	J					
—	—	—	6.27	0.64	0~0.40	0.087 0.086 0.085 0.084 0.083 0.083 0.082 0.081 0.080 0.079 0.077 0.074	KPS1.5-48 ● KPS1.5-48J10 ● KPS1.5-48J12 ● KPS1.5-48J14 ● KPS1.5-48J15 ● KPS1.5-48J16 ● KPS1.5-48J17 ● KPS1.5-48J18 ● KPS1.5-48J19 ● KPS1.5-48J20 ● KPS1.5-48J22 ● KPS1.5-48J25
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
—	—	—	6.60	0.67	0~0.40	0.093 0.092 0.091 0.090 0.089 0.089 0.088 0.087 0.086 0.085 0.083 0.080	KPS1.5-50 ● KPS1.5-50J10 ● KPS1.5-50J12 ● KPS1.5-50J14 ● KPS1.5-50J15 ● KPS1.5-50J16 ● KPS1.5-50J17 ● KPS1.5-50J18 ● KPS1.5-50J19 ● KPS1.5-50J20 ● KPS1.5-50J22 ● KPS1.5-50J25
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
—	—	—	7.36	0.75	0~0.40	0.11 0.11 0.11 0.11 0.10 0.10 0.10 0.10 0.10 0.10 0.099 0.096	KPS1.5-55 ● KPS1.5-55J10 ● KPS1.5-55J12 ● KPS1.5-55J14 ● KPS1.5-55J15 ● KPS1.5-55J16 ● KPS1.5-55J17 ● KPS1.5-55J18 ● KPS1.5-55J19 ● KPS1.5-55J20 ● KPS1.5-55J22 ● KPS1.5-55J25
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
—	—	—	8.14	0.83	0~0.40	0.13 0.13 0.13 0.13 0.13 0.13 0.13 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.11	KPS1.5-60 ● KPS1.5-60J10 ● KPS1.5-60J12 ● KPS1.5-60J14 ● KPS1.5-60J15 ● KPS1.5-60J16 ● KPS1.5-60J17 ● KPS1.5-60J18 ● KPS1.5-60J19 ● KPS1.5-60J20 ● KPS1.5-60J22 ● KPS1.5-60J25 ● KPS1.5-60J28
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
—	—	—	8.91	0.91	0~0.40	0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.14 0.14 0.14 0.14 0.14 0.14 0.13	KPS1.5-65 ● KPS1.5-65J12 ● KPS1.5-65J14 ● KPS1.5-65J15 ● KPS1.5-65J16 ● KPS1.5-65J17 ● KPS1.5-65J18 ● KPS1.5-65J19 ● KPS1.5-65J20 ● KPS1.5-65J22 ● KPS1.5-65J25 ● KPS1.5-65J28
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.

② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

*Please see book one for additional products in these modules.



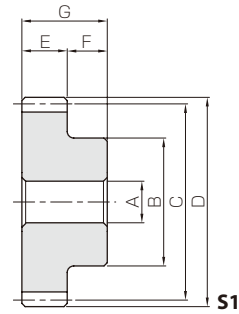


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1.5-70 ●KPS1.5-70J12 ●KPS1.5-70J14 ●KPS1.5-70J15 ●KPS1.5-70J16 ●KPS1.5-70J17 ●KPS1.5-70J18 ●KPS1.5-70J19 ●KPS1.5-70J20 ●KPS1.5-70J22 ●KPS1.5-70J25 ●KPS1.5-70J28	m1.5	70	S1	12	50	105	108	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
S1K	28									
KPS1.5-75 ●KPS1.5-75J12 ●KPS1.5-75J14 ●KPS1.5-75J15 ●KPS1.5-75J16 ●KPS1.5-75J17 ●KPS1.5-75J18 ●KPS1.5-75J19 ●KPS1.5-75J20 ●KPS1.5-75J22 ●KPS1.5-75J25 ●KPS1.5-75J28	m1.5	75	S1	12	50	112.5	115.5	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
S1K	28									
KPS1.5-80 ●KPS1.5-80J12 ●KPS1.5-80J14 ●KPS1.5-80J15 ●KPS1.5-80J16 ●KPS1.5-80J17 ●KPS1.5-80J18 ●KPS1.5-80J19 ●KPS1.5-80J20 ●KPS1.5-80J22 ●KPS1.5-80J25 ●KPS1.5-80J28 ●KPS1.5-80J30	m1.5	80	S1	12	55	120	123	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
S1K	28									
S1K	30									
KPS1.5-85 ●KPS1.5-85J12 ●KPS1.5-85J14 ●KPS1.5-85J15 ●KPS1.5-85J16 ●KPS1.5-85J17 ●KPS1.5-85J18 ●KPS1.5-85J19 ●KPS1.5-85J20 ●KPS1.5-85J22 ●KPS1.5-85J25 ●KPS1.5-85J28 ●KPS1.5-85J30	m1.5	85	S1	12	55	127.5	130.5	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
S1K	25									
S1K	28									
S1K	30									

[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

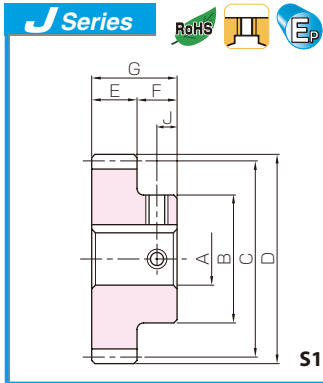
[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Plastic Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N-m) Bending strength	Allowable torque (kgf-m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
	Size	J					
—	—	—	9.69	0.99	0~0.42	0.17	KPS1.5-70 ●KPS1.5-70J12 ●KPS1.5-70J14 ●KPS1.5-70J15 ●KPS1.5-70J16 ●KPS1.5-70J17 ●KPS1.5-70J18 ●KPS1.5-70J19 ●KPS1.5-70J20 ●KPS1.5-70J22 ●KPS1.5-70J25 ●KPS1.5-70J28
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
—	—	—	10.5	1.07	0~0.42	0.19	KPS1.5-75 ●KPS1.5-75J12 ●KPS1.5-75J14 ●KPS1.5-75J15 ●KPS1.5-75J16 ●KPS1.5-75J17 ●KPS1.5-75J18 ●KPS1.5-75J19 ●KPS1.5-75J20 ●KPS1.5-75J22 ●KPS1.5-75J25 ●KPS1.5-75J28
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
—	—	—	11.3	1.15	0~0.42	0.22	KPS1.5-80 ●KPS1.5-80J12 ●KPS1.5-80J14 ●KPS1.5-80J15 ●KPS1.5-80J16 ●KPS1.5-80J17 ●KPS1.5-80J18 ●KPS1.5-80J19 ●KPS1.5-80J20 ●KPS1.5-80J22 ●KPS1.5-80J25 ●KPS1.5-80J28 ●KPS1.5-80J30
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
—	—	—	12.0	1.23	0~0.42	0.25	KPS1.5-85 ●KPS1.5-85J12 ●KPS1.5-85J14 ●KPS1.5-85J15 ●KPS1.5-85J16 ●KPS1.5-85J17 ●KPS1.5-85J18 ●KPS1.5-85J19 ●KPS1.5-85J20 ●KPS1.5-85J22 ●KPS1.5-85J25 ●KPS1.5-85J28 ●KPS1.5-85J30
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with "*" are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.

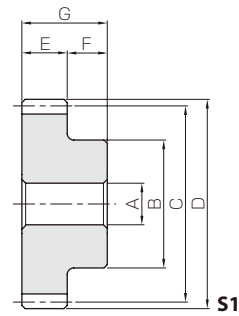
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS1.5-90 ● KPS1.5-90J12 ● KPS1.5-90J14 ● KPS1.5-90J15 ● KPS1.5-90J16 ● KPS1.5-90J17 ● KPS1.5-90J18 ● KPS1.5-90J19 ● KPS1.5-90J20 ● KPS1.5-90J22 ● KPS1.5-90J25 ● KPS1.5-90J28 ● KPS1.5-90J30	m1.5	90	S1	12	55	135	138	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
KPS1.5-95 ● KPS1.5-95J12 ● KPS1.5-95J14 ● KPS1.5-95J15 ● KPS1.5-95J16 ● KPS1.5-95J17 ● KPS1.5-95J18 ● KPS1.5-95J19 ● KPS1.5-95J20 ● KPS1.5-95J22 ● KPS1.5-95J25 ● KPS1.5-95J28 ● KPS1.5-95J30	m1.5	95	S1	12	60	142.5	145.5	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
KPS1.5-100 ● KPS1.5-100J12 ● KPS1.5-100J14 ● KPS1.5-100J15 ● KPS1.5-100J16 ● KPS1.5-100J17 ● KPS1.5-100J18 ● KPS1.5-100J19 ● KPS1.5-100J20 ● KPS1.5-100J22 ● KPS1.5-100J25 ● KPS1.5-100J28 ● KPS1.5-100J30	m1.5	100	S1	12	60	150	153	15	10	25
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						

[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

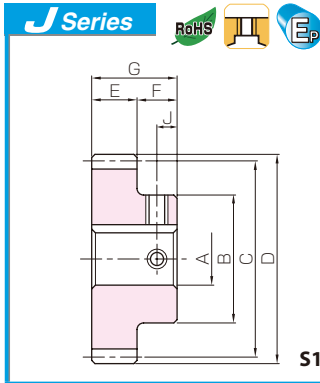
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

***Please see book one for additional products in these modules.**

*In regards to MC Nylon gears, other materials are available for plastic gears, including Ultra High Molecular Weight Polyethylene (UHMW-PE), which has excellent abrasion resistance. Poly Ether Ether Ketone (PEEK) also has quality properties. A single piece order is acceptable and will be produced as a custom-made gear. For details on quotations and orders please see page VI.

No. of Teeth available

15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway WidthxDepth	Set Screw		Allowable torque (N-m) Bending strength	Allowable torque (kgf-m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
	Size	J					
—	—	—	12.8	1.31	0~0.42	0.27	KPS1.5-90 ● KPS1.5-90J12 ● KPS1.5-90J14 ● KPS1.5-90J15 ● KPS1.5-90J16 ● KPS1.5-90J17 ● KPS1.5-90J18 ● KPS1.5-90J19 ● KPS1.5-90J20 ● KPS1.5-90J22 ● KPS1.5-90J25 ● KPS1.5-90J28 ● KPS1.5-90J30
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
4 x 1.8	M4*	5	13.6	1.39	0~0.42	0.31	KPS1.5-95 ● KPS1.5-95J12 ● KPS1.5-95J14 ● KPS1.5-95J15 ● KPS1.5-95J16 ● KPS1.5-95J17 ● KPS1.5-95J18 ● KPS1.5-95J19 ● KPS1.5-95J20 ● KPS1.5-95J22 ● KPS1.5-95J25 ● KPS1.5-95J28 ● KPS1.5-95J30
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
4 x 1.8	M4*	5	14.4	1.47	0~0.42	0.34	KPS1.5-100 ● KPS1.5-100J12 ● KPS1.5-100J14 ● KPS1.5-100J15 ● KPS1.5-100J16 ● KPS1.5-100J17 ● KPS1.5-100J18 ● KPS1.5-100J19 ● KPS1.5-100J20 ● KPS1.5-100J22 ● KPS1.5-100J25 ● KPS1.5-100J28 ● KPS1.5-100J30
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
6 x 2.8	M5*	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with "*" are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.

KGCU-S Spur Gear Kit



Installment : Parallel axes gears
(Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

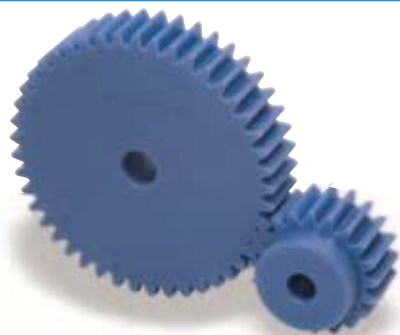
The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.





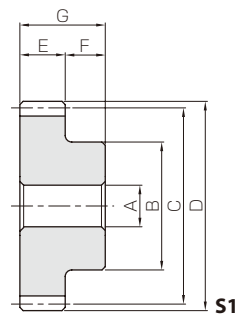
KPS Plastic Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



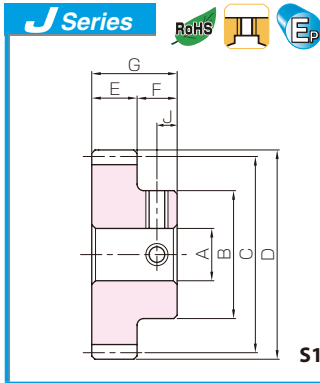
S1

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS2-12 ● KPS2-12J10 KPS2-13 ● KPS2-13J10 KPS2-14 ● KPS2-14J10 KPS2-15 ● KPS2-15J10 KPS2-16 ● KPS2-16J10 ● KPS2-16J12 KPS2-18 ● KPS2-18J10 ● KPS2-18J12 ● KPS2-18J14 ● KPS2-18J15 ● KPS2-18J16 KPS2-20 ● KPS2-20J10 ● KPS2-20J12 ● KPS2-20J14 ● KPS2-20J15 ● KPS2-20J16 ● KPS2-20J17 KPS2-22 ● KPS2-22J10 ● KPS2-22J12 ● KPS2-22J14 ● KPS2-22J15 ● KPS2-22J16 ● KPS2-22J17 ● KPS2-22J18 ● KPS2-22J19 KPS2-24 ● KPS2-24J10 ● KPS2-24J12 ● KPS2-24J14 ● KPS2-24J15 ● KPS2-24J16 ● KPS2-24J17 ● KPS2-24J18 ● KPS2-24J19 ● KPS2-24J20 ● KPS2-24J22 KPS2-25 ● KPS2-25J10 ● KPS2-25J12 ● KPS2-25J14 ● KPS2-25J15 ● KPS2-25J16 ● KPS2-25J17 ● KPS2-25J18 ● KPS2-25J19 ● KPS2-25J20 ● KPS2-25J22	m2	12	S1 S1T2	10 10	18	24	28	20	10	30
		13	S1 S1T2	10 10	20	26	30	20	10	30
		14	S1 S1T2	10 10	20	28	32	20	10	30
		15	S1 S1K	10 10	24	30	34	20	10	30
		16	S1 S1K S1K	10 10 12	26	32	36	20	10	30
		18	S1 S1K S1K S1K S1K S1K	10 10 12 14 15 16	30	36	40	20	10	30
		20	S1 S1K S1K S1K S1K S1K	10 10 12 14 15 16 17	32	40	44	20	10	30
		22	S1 S1K S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 16 17 18 19	35	44	48	20	10	30
		24	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 17 18 19 20 22	38	48	52	20	10	30
		25	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K S1K	10 10 12 14 15 16 17 18 19 20 22	40	50	54	20	10	30

*Please see book one for additional products in these modules.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J Series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).

- ⑤ For products having a tapped hole, a set screw is included.

- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N • m for M4, and 0.38N • m for M5.

Keyway Width×Depth	Set Screw		Allowable torque (N·m) Bending strength	Allowable torque (kgf·m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
	Size	J					
—	—	—	2.25	0.23	0~0.42	0.011 0.011	KPS2-12 ● KPS2-12J10
—	M4**	5	2.59	0.26	0~0.42	0.013 0.013	KPS2-13 ● KPS2-13J10
—	—	—	2.96	0.30	0~0.42	0.015 0.015	KPS2-14 ● KPS2-14J10
—	M4	5	3.29	0.34	0~0.42	0.019 0.018	KPS2-15 ● KPS2-15J10
4 x 1.8	—	—	3.63	0.37	0~0.42	0.022 0.022 0.020	KPS2-16 ● KPS2-16J10 ● KPS2-16J12
4 x 1.8	M4	5					
4 x 1.8	M4	5					
4 x 1.8	—	—	4.24	0.43	0~0.42	0.029 0.029 0.027 0.026 0.025 0.024	KPS2-18 ● KPS2-18J10 ● KPS2-18J12 ● KPS2-18J14 ● KPS2-18J15 ● KPS2-18J16
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
—	—	—	4.91	0.50	0~0.42	0.036 0.035 0.034 0.032 0.032 0.031 0.030	KPS2-20 ● KPS2-20J10 ● KPS2-20J12 ● KPS2-20J14 ● KPS2-20J15 ● KPS2-20J16 ● KPS2-20J17
4 x 1.8	M4	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
—	—	—	5.55	0.57	0~0.42	0.044 0.043 0.042 0.040 0.040 0.039 0.038 0.037 0.036	KPS2-22 ● KPS2-22J10 ● KPS2-22J12 ● KPS2-22J14 ● KPS2-22J15 ● KPS2-22J16 ● KPS2-22J17 ● KPS2-22J18 ● KPS2-22J19
4 x 1.8	M4	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	6.19	0.63	0~0.42	0.052 0.052 0.051 0.049 0.048 0.047 0.047 0.047 0.045 0.044 0.043 0.041	KPS2-24 ● KPS2-24J10 ● KPS2-24J12 ● KPS2-24J14 ● KPS2-24J15 ● KPS2-24J16 ● KPS2-24J17 ● KPS2-24J18 ● KPS2-24J19 ● KPS2-24J20 ● KPS2-24J22
4 x 1.8	M4	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	6.54	0.67	0~0.42	0.057 0.057 0.056 0.054 0.053 0.052 0.052 0.051 0.050 0.049 0.048 0.046	KPS2-25 ● KPS2-25J10 ● KPS2-25J12 ● KPS2-25J14 ● KPS2-25J15 ● KPS2-25J16 ● KPS2-25J17 ● KPS2-25J18 ● KPS2-25J19 ● KPS2-25J20 ● KPS2-25J22
4 x 1.8	M4*	5					
4 x 1.8	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					

[Caution on Product Characteristics]

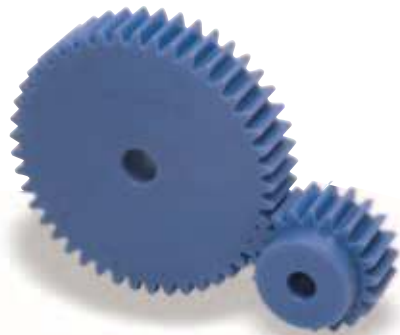
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.





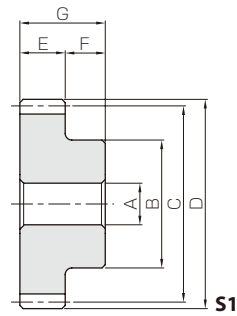
KPS Plastic Spur Gears

Module 2



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998)* JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS2-26 ● KPS2-26J10 ● KPS2-26J12 ● KPS2-26J14 ● KPS2-26J15 ● KPS2-26J16 ● KPS2-26J17 ● KPS2-26J18 ● KPS2-26J19 ● KPS2-26J20 ● KPS2-26J22	m2	26	S1	10	42	52	56	20	10	30
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
S1K	22									
KPS2-28 ● KPS2-28J10 ● KPS2-28J12 ● KPS2-28J14 ● KPS2-28J15 ● KPS2-28J16 ● KPS2-28J17 ● KPS2-28J18 ● KPS2-28J19 ● KPS2-28J20 ● KPS2-28J22 ● KPS2-28J25	m2	28	S1	10	45	56	60	20	10	30
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
S1K	22									
S1K	25									
KPS2-30 ● KPS2-30J10 ● KPS2-30J12 ● KPS2-30J14 ● KPS2-30J15 ● KPS2-30J16 ● KPS2-30J17 ● KPS2-30J18 ● KPS2-30J19 ● KPS2-30J20 ● KPS2-30J22 ● KPS2-30J25 ● KPS2-30J28	m2	30	S1	10	50	60	64	20	10	30
			S1K	10						
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
S1K	22									
S1K	25									
S1K	28									

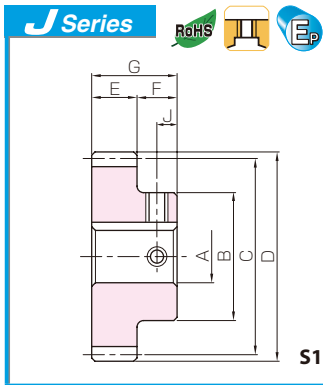
[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

*In regards to MC Nylon gears, other materials are available for plastic gears, including Ultra High Molecular Weight Polyethylene (UHMW-PE), which has excellent abrasion resistance. Poly Ether Ether Ketone (PEEK) also has quality properties. A single piece order is acceptable and will be produced as a custom-made gear. For details on quotations and orders please see page VI.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N·m) Bending strength	Allowable torque (kgf·m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
	Size	J					
—	—	—	6.90	0.70	0~0.44	0.063	KPS2-26 ●KPS2-26J10 ●KPS2-26J12 ●KPS2-26J14 ●KPS2-26J15 ●KPS2-26J16 ●KPS2-26J17 ●KPS2-26J18 ●KPS2-26J19 ●KPS2-26J20 ●KPS2-26J22
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
—	—	—	7.54	0.77	0~0.44	0.073	KPS2-28 ●KPS2-28J10 ●KPS2-28J12 ●KPS2-28J14 ●KPS2-28J15 ●KPS2-28J16 ●KPS2-28J17 ●KPS2-28J18 ●KPS2-28J19 ●KPS2-28J20 ●KPS2-28J22 ●KPS2-28J25
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
—	—	—	8.20	0.84	0~0.44	0.086	KPS2-30 ●KPS2-30J10 ●KPS2-30J12 ●KPS2-30J14 ●KPS2-30J15 ●KPS2-30J16 ●KPS2-30J17 ●KPS2-30J18 ●KPS2-30J19 ●KPS2-30J20 ●KPS2-30J22 ●KPS2-30J25 ●KPS2-30J28
4 x 1.8	M4*	5					
4 x 1.8	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
5 x 2.3	M4*	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
6 x 2.8	M5	5					
8 x 3.3	M6	5					
8 x 3.3	M6	5					

[Caution on Secondary Operations]

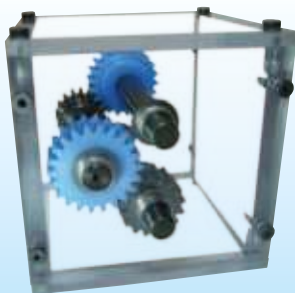
- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

[Caution on J series]

- As available-on-request products, requires a lead-time for shipping within **5 working days (excludes the day ordered)**, after placing an order. Please allow additional shipping time to get to your local distributor.
- Number of products we can process for one order is **1 to 20 units**. For quantities of 21 or more pieces, we need to quote price and lead time.
- Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- For products having a tapped hole, a set screw is included.

- Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N·m for M4, and 0.38N·m for M5.

KGCU-S Spur Gear Kit



Installment : Parallel axes gears
(Two-stage)
 Gear Type : Spur Gears
 Gears : 2 units of KSS1.5-16
 2 units of KPS1.5-22
 Gear Ratio : 1.89
 Weight : Approx. 1kg

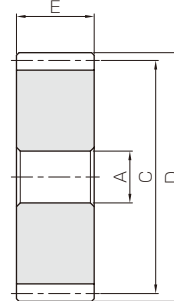
The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.

*Please see book one for additional products in these modules.



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



55

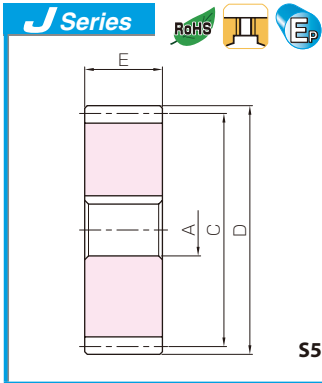
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2-32 ● KPSA2-32 J12 ● KPSA2-32 J14 ● KPSA2-32 J15 ● KPSA2-32 J16 ● KPSA2-32 J17 ● KPSA2-32 J18 ● KPSA2-32 J19 ● KPSA2-32 J20 ● KPSA2-32 J22 ● KPSA2-32 J25 ● KPSA2-32 J28	m2	32	S5	12	64	68	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
S5K	25	8 × 3.3						
S5K	28	8 × 3.3						
KPSA2-35 ● KPSA2-35 J12 ● KPSA2-35 J14 ● KPSA2-35 J15 ● KPSA2-35 J16 ● KPSA2-35 J17 ● KPSA2-35 J18 ● KPSA2-35 J19 ● KPSA2-35 J20 ● KPSA2-35 J22 ● KPSA2-35 J25 ● KPSA2-35 J28 ● KPSA2-35 J30 ● KPSA2-35 J32	m2	35	S5	12	70	74	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
S5K	25	8 × 3.3						
S5K	28	8 × 3.3						
S5K	30	8 × 3.3						
S5K	32	10 × 3.3						
KPSA2-36 ● KPSA2-36 J12 ● KPSA2-36 J14 ● KPSA2-36 J15 ● KPSA2-36 J16 ● KPSA2-36 J17 ● KPSA2-36 J18 ● KPSA2-36 J19 ● KPSA2-36 J20 ● KPSA2-36 J22 ● KPSA2-36 J25 ● KPSA2-36 J28 ● KPSA2-36 J30 ● KPSA2-36 J32	m2	36	S5	12	72	76	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
S5K	25	8 × 3.3						
S5K	28	8 × 3.3						
S5K	30	8 × 3.3						
S5K	32	10 × 3.3						
KPSA2-40 ● KPSA2-40 J12 ● KPSA2-40 J14 ● KPSA2-40 J15 ● KPSA2-40 J16 ● KPSA2-40 J17 ● KPSA2-40 J18 ● KPSA2-40 J19 ● KPSA2-40 J20 ● KPSA2-40 J22 ● KPSA2-40 J25 ● KPSA2-40 J28 ● KPSA2-40 J30 ● KPSA2-40 J32 ● KPSA2-40 J35	m2	40	S5	12	80	84	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
S5K	25	8 × 3.3						
S5K	28	8 × 3.3						
S5K	30	8 × 3.3						
S5K	32	10 × 3.3						
S5K	35	10 × 3.3						

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

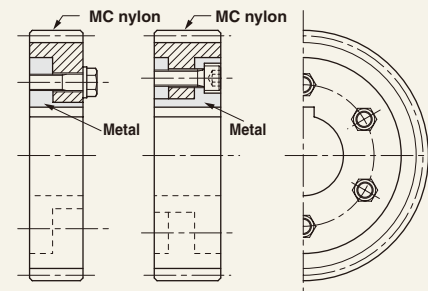
Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			● : J Series (Available-on-request)
8.91	0.91	0~0.44	0.075	KPSA2-32
			0.074	● KPSA2-32 J12
			0.073	● KPSA2-32 J14
			0.073	● KPSA2-32 J15
			0.072	● KPSA2-32 J16
			0.072	● KPSA2-32 J17
			0.071	● KPSA2-32 J18
			0.070	● KPSA2-32 J19
			0.070	● KPSA2-32 J20
			0.068	● KPSA2-32 J22
			0.065	● KPSA2-32 J25
0.062	● KPSA2-32 J28			
10.0	1.02	0~0.44	0.089	KPSA2-35
			0.089	● KPSA2-35 J12
			0.088	● KPSA2-35 J14
			0.088	● KPSA2-35 J15
			0.087	● KPSA2-35 J16
			0.086	● KPSA2-35 J17
			0.086	● KPSA2-35 J18
			0.085	● KPSA2-35 J19
			0.084	● KPSA2-35 J20
			0.083	● KPSA2-35 J22
			0.080	● KPSA2-35 J25
			0.077	● KPSA2-35 J28
			0.075	● KPSA2-35 J30
			0.072	● KPSA2-35 J32
10.4	1.06	0~0.44	0.094	KPSA2-36
			0.094	● KPSA2-36 J12
			0.093	● KPSA2-36 J14
			0.093	● KPSA2-36 J15
			0.092	● KPSA2-36 J16
			0.092	● KPSA2-36 J17
			0.091	● KPSA2-36 J18
			0.090	● KPSA2-36 J19
			0.089	● KPSA2-36 J20
			0.088	● KPSA2-36 J22
			0.085	● KPSA2-36 J25
			0.082	● KPSA2-36 J28
			0.080	● KPSA2-36 J30
			0.078	● KPSA2-36 J32
11.9	1.21	0~0.44	0.12	KPSA2-40
			0.12	● KPSA2-40 J12
			0.12	● KPSA2-40 J14
			0.11	● KPSA2-40 J15
			0.11	● KPSA2-40 J16
			0.11	● KPSA2-40 J17
			0.11	● KPSA2-40 J18
			0.11	● KPSA2-40 J19
			0.11	● KPSA2-40 J20
			0.11	● KPSA2-40 J22
			0.11	● KPSA2-40 J25
			0.10	● KPSA2-40 J28
			0.10	● KPSA2-40 J30
			0.10	● KPSA2-40 J32
0.10	● KPSA2-40 J35			

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

For details, please see Page 334.

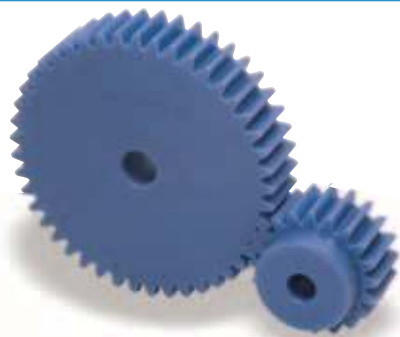
- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

*Please see book one for additional products in these modules.



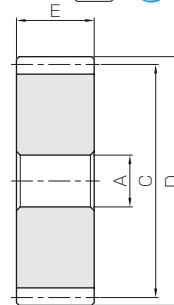


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



S5

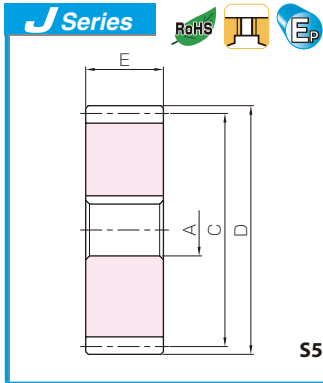
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2-45 ●KPSA2-45 J12 ●KPSA2-45 J14 ●KPSA2-45 J15 ●KPSA2-45 J16 ●KPSA2-45 J17 ●KPSA2-45 J18 ●KPSA2-45 J19 ●KPSA2-45 J20 ●KPSA2-45 J22 ●KPSA2-45 J25 ●KPSA2-45 J28 ●KPSA2-45 J30 ●KPSA2-45 J32 ●KPSA2-45 J35 ●KPSA2-45 J40	m2	45	S5	12	90	94	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
S5K	35	10 × 3.3						
S5K	40	12 × 3.3						
KPSA2-48 ●KPSA2-48 J12 ●KPSA2-48 J14 ●KPSA2-48 J15 ●KPSA2-48 J16 ●KPSA2-48 J17 ●KPSA2-48 J18 ●KPSA2-48 J19 ●KPSA2-48 J20 ●KPSA2-48 J22 ●KPSA2-48 J25 ●KPSA2-48 J28 ●KPSA2-48 J30 ●KPSA2-48 J32 ●KPSA2-48 J35 ●KPSA2-48 J40 ●KPSA2-48 J45	m2	48	S5	12	96	100	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
S5K	35	10 × 3.3						
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						
KPSA2-50 ●KPSA2-50 J12 ●KPSA2-50 J14 ●KPSA2-50 J15 ●KPSA2-50 J16 ●KPSA2-50 J17 ●KPSA2-50 J18 ●KPSA2-50 J19 ●KPSA2-50 J20 ●KPSA2-50 J22 ●KPSA2-50 J25 ●KPSA2-50 J28 ●KPSA2-50 J30 ●KPSA2-50 J32 ●KPSA2-50 J35 ●KPSA2-50 J40 ●KPSA2-50 J45	m2	50	S5	12	100	104	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
S5K	35	10 × 3.3						
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						

- [Caution on Product Characteristics]
- Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



S5K

Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

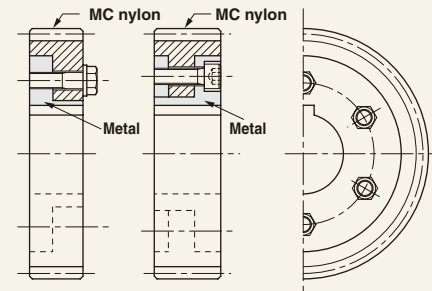
Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			●: J Series (Available-on-request)
13.7	1.40	0~0.44	0.15	KPSA2-45
			0.15	●KPSA2-45 J12
			0.15	●KPSA2-45 J14
			0.15	●KPSA2-45 J15
			0.15	●KPSA2-45 J16
			0.15	●KPSA2-45 J17
			0.14	●KPSA2-45 J18
			0.14	●KPSA2-45 J19
			0.14	●KPSA2-45 J20
			0.14	●KPSA2-45 J22
			0.14	●KPSA2-45 J25
			0.14	●KPSA2-45 J28
			0.13	●KPSA2-45 J30
			0.13	●KPSA2-45 J32
			0.13	●KPSA2-45 J35
0.12	●KPSA2-45 J40			
14.9	1.52	0~0.44	0.17	KPSA2-48
			0.17	●KPSA2-48 J12
			0.17	●KPSA2-48 J14
			0.17	●KPSA2-48 J15
			0.17	●KPSA2-48 J16
			0.17	●KPSA2-48 J17
			0.16	●KPSA2-48 J18
			0.16	●KPSA2-48 J19
			0.16	●KPSA2-48 J20
			0.16	●KPSA2-48 J22
			0.16	●KPSA2-48 J25
			0.16	●KPSA2-48 J28
			0.15	●KPSA2-48 J30
			0.15	●KPSA2-48 J32
			0.15	●KPSA2-48 J35
0.14	●KPSA2-48 J40			
0.13	●KPSA2-48 J45			
15.7	1.60	0~0.44	0.18	KPSA2-50
			0.18	●KPSA2-50 J12
			0.18	●KPSA2-50 J14
			0.18	●KPSA2-50 J15
			0.18	●KPSA2-50 J16
			0.18	●KPSA2-50 J17
			0.18	●KPSA2-50 J18
			0.18	●KPSA2-50 J19
			0.18	●KPSA2-50 J20
			0.18	●KPSA2-50 J22
			0.17	●KPSA2-50 J25
			0.17	●KPSA2-50 J28
			0.17	●KPSA2-50 J30
			0.17	●KPSA2-50 J32
			0.16	●KPSA2-50 J35
0.15	●KPSA2-50 J40			
0.15	●KPSA2-50 J45			

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

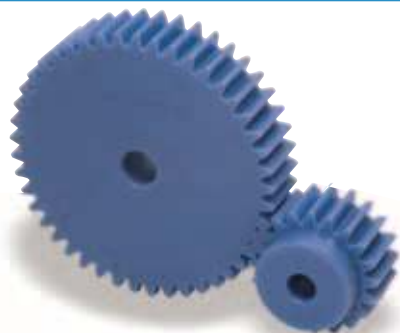
For details, please see Page 334.

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

*Please see book one for additional products in these modules.

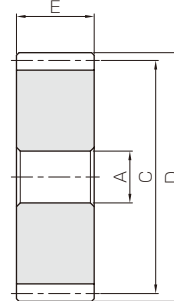


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



55

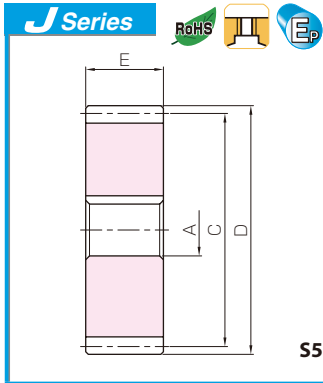
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2-55 ● KPSA2-55 J12 ● KPSA2-55 J14 ● KPSA2-55 J15 ● KPSA2-55 J16 ● KPSA2-55 J17 ● KPSA2-55 J18 ● KPSA2-55 J19 ● KPSA2-55 J20 ● KPSA2-55 J22 ● KPSA2-55 J25 ● KPSA2-55 J28 ● KPSA2-55 J30 ● KPSA2-55 J32 ● KPSA2-55 J35 ● KPSA2-55 J40 ● KPSA2-55 J45 ● KPSA2-55 J50	m2	55	S5	12	110	114	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						
KPSA2-60 ● KPSA2-60 J12 ● KPSA2-60 J14 ● KPSA2-60 J15 ● KPSA2-60 J16 ● KPSA2-60 J17 ● KPSA2-60 J18 ● KPSA2-60 J19 ● KPSA2-60 J20 ● KPSA2-60 J22 ● KPSA2-60 J25 ● KPSA2-60 J28 ● KPSA2-60 J30 ● KPSA2-60 J32 ● KPSA2-60 J35 ● KPSA2-60 J40 ● KPSA2-60 J45 ● KPSA2-60 J50	m2	60	S5	12	120	124	20	—
			S5K	12				4 × 1.8
			S5K	14				5 × 2.3
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						
KPSA2-65 ● KPSA2-65 J15 ● KPSA2-65 J16 ● KPSA2-65 J17 ● KPSA2-65 J18 ● KPSA2-65 J19 ● KPSA2-65 J20 ● KPSA2-65 J22 ● KPSA2-65 J25 ● KPSA2-65 J28 ● KPSA2-65 J30 ● KPSA2-65 J32 ● KPSA2-65 J35 ● KPSA2-65 J40 ● KPSA2-65 J45 ● KPSA2-65 J50	m2	65	S5	15	130	134	20	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
			S5K	45				14 × 3.8
S5K	50	14 × 3.8						

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

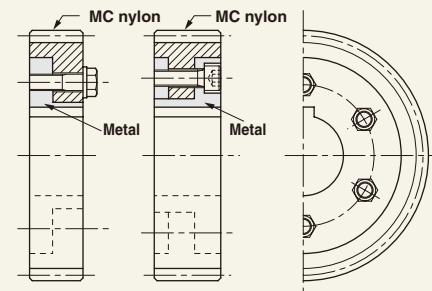
Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			●: J Series (Available-on-request)
17.5	1.78	0~0.46	0.22	KPSA2-55
			0.22	●KPSA2-55 J12
			0.22	●KPSA2-55 J14
			0.22	●KPSA2-55 J15
			0.22	●KPSA2-55 J16
			0.22	●KPSA2-55 J17
			0.22	●KPSA2-55 J18
			0.22	●KPSA2-55 J19
			0.22	●KPSA2-55 J20
			0.21	●KPSA2-55 J22
			0.21	●KPSA2-55 J25
			0.21	●KPSA2-55 J28
			0.21	●KPSA2-55 J30
			0.20	●KPSA2-55 J32
			0.20	●KPSA2-55 J35
			0.19	●KPSA2-55 J40
			0.18	●KPSA2-55 J45
0.18	●KPSA2-55 J50			
19.3	1.97	0~0.46	0.26	KPSA2-60
			0.26	●KPSA2-60 J12
			0.26	●KPSA2-60 J14
			0.26	●KPSA2-60 J15
			0.26	●KPSA2-60 J16
			0.26	●KPSA2-60 J17
			0.26	●KPSA2-60 J18
			0.26	●KPSA2-60 J19
			0.26	●KPSA2-60 J20
			0.26	●KPSA2-60 J22
			0.25	●KPSA2-60 J25
			0.25	●KPSA2-60 J28
			0.25	●KPSA2-60 J30
			0.25	●KPSA2-60 J32
			0.24	●KPSA2-60 J35
			0.23	●KPSA2-60 J40
			0.23	●KPSA2-60 J45
0.22	●KPSA2-60 J50			
21.1	2.15	0~0.46	0.31	KPSA2-65
			0.31	●KPSA2-65 J15
			0.31	●KPSA2-65 J16
			0.31	●KPSA2-65 J17
			0.31	●KPSA2-65 J18
			0.31	●KPSA2-65 J19
			0.30	●KPSA2-65 J20
			0.30	●KPSA2-65 J22
			0.30	●KPSA2-65 J25
			0.30	●KPSA2-65 J28
			0.30	●KPSA2-65 J30
			0.29	●KPSA2-65 J32
			0.29	●KPSA2-65 J35
			0.28	●KPSA2-65 J40
			0.27	●KPSA2-65 J45
			0.27	●KPSA2-65 J50

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



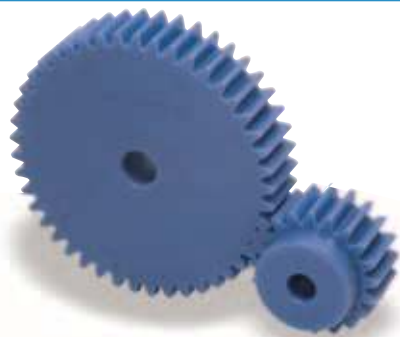
Sectional Parts

For details, please see Page 334.

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

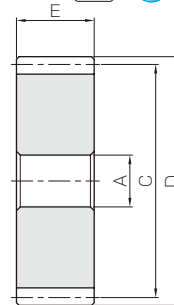
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



S5

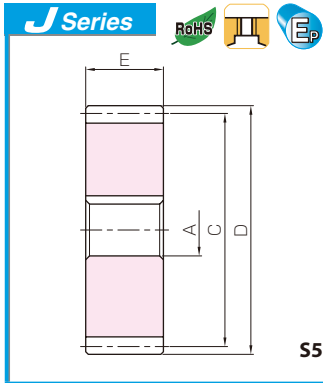
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2-70 ●KPSA2-70 J15 ●KPSA2-70 J16 ●KPSA2-70 J17 ●KPSA2-70 J18 ●KPSA2-70 J19 ●KPSA2-70 J20 ●KPSA2-70 J22 ●KPSA2-70 J25 ●KPSA2-70 J28 ●KPSA2-70 J30 ●KPSA2-70 J32 ●KPSA2-70 J35 ●KPSA2-70 J40 ●KPSA2-70 J45 ●KPSA2-70 J50	m2	70	S5 SSK	15	140	144	20	—
				15				5 × 2.3
				16				5 × 2.3
				17				5 × 2.3
				18				6 × 2.8
				19				6 × 2.8
				20				6 × 2.8
				22				6 × 2.8
				25				8 × 3.3
				28				8 × 3.3
				30				8 × 3.3
				32				10 × 3.3
				35				10 × 3.3
				40				12 × 3.3
				45				14 × 3.8
				50				14 × 3.8
KPSA2-75 ●KPSA2-75 J15 ●KPSA2-75 J16 ●KPSA2-75 J17 ●KPSA2-75 J18 ●KPSA2-75 J19 ●KPSA2-75 J20 ●KPSA2-75 J22 ●KPSA2-75 J25 ●KPSA2-75 J28 ●KPSA2-75 J30 ●KPSA2-75 J32 ●KPSA2-75 J35 ●KPSA2-75 J40 ●KPSA2-75 J45 ●KPSA2-75 J50	m2	75	S5 SSK	15	150	154	20	—
				15				5 × 2.3
				16				5 × 2.3
				17				5 × 2.3
				18				6 × 2.8
				19				6 × 2.8
				20				6 × 2.8
				22				6 × 2.8
				25				8 × 3.3
				28				8 × 3.3
				30				8 × 3.3
				32				10 × 3.3
				35				10 × 3.3
				40				12 × 3.3
				45				14 × 3.8
				50				14 × 3.8
KPSA2-80 ●KPSA2-80 J15 ●KPSA2-80 J16 ●KPSA2-80 J17 ●KPSA2-80 J18 ●KPSA2-80 J19 ●KPSA2-80 J20 ●KPSA2-80 J22 ●KPSA2-80 J25 ●KPSA2-80 J28 ●KPSA2-80 J30 ●KPSA2-80 J32 ●KPSA2-80 J35 ●KPSA2-80 J40 ●KPSA2-80 J45 ●KPSA2-80 J50	m2	80	S5 SSK	15	160	164	20	—
				15				5 × 2.3
				16				5 × 2.3
				17				5 × 2.3
				18				6 × 2.8
				19				6 × 2.8
				20				6 × 2.8
				22				6 × 2.8
				25				8 × 3.3
				28				8 × 3.3
				30				8 × 3.3
				32				10 × 3.3
				35				10 × 3.3
				40				12 × 3.3
				45				14 × 3.8
				50				14 × 3.8
KPSA2-85 ●KPSA2-85 J15 ●KPSA2-85 J16 ●KPSA2-85 J17 ●KPSA2-85 J18 ●KPSA2-85 J19 ●KPSA2-85 J20 ●KPSA2-85 J22 ●KPSA2-85 J25 ●KPSA2-85 J28 ●KPSA2-85 J30 ●KPSA2-85 J32 ●KPSA2-85 J35 ●KPSA2-85 J40 ●KPSA2-85 J45 ●KPSA2-85 J50	m2	85	S5 SSK	15	170	174	20	—
				15				5 × 2.3
				16				5 × 2.3
				17				5 × 2.3
				18				6 × 2.8
				19				6 × 2.8
				20				6 × 2.8
				22				6 × 2.8
				25				8 × 3.3
				28				8 × 3.3
				30				8 × 3.3
				32				10 × 3.3
				35				10 × 3.3
				40				12 × 3.3
				45				14 × 3.8
				50				14 × 3.8

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

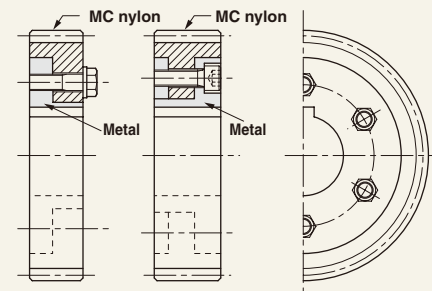
Allowable torque (N-m)	Allowable torque (kgf-m)	Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Bending strength	Bending strength			
23.0	2.34	0~0.46	0.36	KPSA2-70 ●KPSA2-70 J15 ●KPSA2-70 J16 ●KPSA2-70 J17 ●KPSA2-70 J18 ●KPSA2-70 J19 ●KPSA2-70 J20 ●KPSA2-70 J22 ●KPSA2-70 J25 ●KPSA2-70 J28 ●KPSA2-70 J30 ●KPSA2-70 J32 ●KPSA2-70 J35 ●KPSA2-70 J40 ●KPSA2-70 J45 ●KPSA2-70 J50
			0.36	
			0.36	
			0.35	
			0.35	
			0.35	
			0.35	
			0.35	
			0.34	
			0.34	
			0.33	
			0.32	
			0.31	
			0.31	
24.9	2.54	0~0.46	0.41	KPSA2-75 ●KPSA2-75 J15 ●KPSA2-75 J16 ●KPSA2-75 J17 ●KPSA2-75 J18 ●KPSA2-75 J19 ●KPSA2-75 J20 ●KPSA2-75 J22 ●KPSA2-75 J25 ●KPSA2-75 J28 ●KPSA2-75 J30 ●KPSA2-75 J32 ●KPSA2-75 J35 ●KPSA2-75 J40 ●KPSA2-75 J45 ●KPSA2-75 J50
			0.41	
			0.41	
			0.41	
			0.41	
			0.41	
			0.41	
			0.40	
			0.40	
			0.40	
			0.40	
			0.40	
			0.39	
			0.38	
0.37				
26.7	2.72	0~0.46	0.47	KPSA2-80 ●KPSA2-80 J15 ●KPSA2-80 J16 ●KPSA2-80 J17 ●KPSA2-80 J18 ●KPSA2-80 J19 ●KPSA2-80 J20 ●KPSA2-80 J22 ●KPSA2-80 J25 ●KPSA2-80 J28 ●KPSA2-80 J30 ●KPSA2-80 J32 ●KPSA2-80 J35 ●KPSA2-80 J40 ●KPSA2-80 J45 ●KPSA2-80 J50
			0.47	
			0.47	
			0.47	
			0.46	
			0.46	
			0.46	
			0.46	
			0.46	
			0.46	
			0.45	
			0.45	
			0.45	
			0.44	
0.42				
28.5	2.91	0~0.46	0.53	KPSA2-85 ●KPSA2-85 J15 ●KPSA2-85 J16 ●KPSA2-85 J17 ●KPSA2-85 J18 ●KPSA2-85 J19 ●KPSA2-85 J20 ●KPSA2-85 J22 ●KPSA2-85 J25 ●KPSA2-85 J28 ●KPSA2-85 J30 ●KPSA2-85 J32 ●KPSA2-85 J35 ●KPSA2-85 J40 ●KPSA2-85 J45 ●KPSA2-85 J50
			0.53	
			0.52	
			0.52	
			0.52	
			0.52	
			0.52	
			0.52	
			0.52	
			0.51	
			0.51	
			0.50	
			0.49	
			0.48	

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



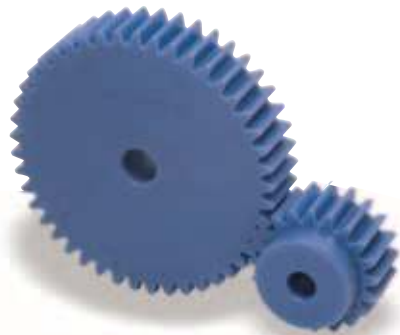
Sectional Parts

For details, please see Page 334.

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

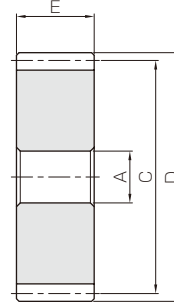
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



55

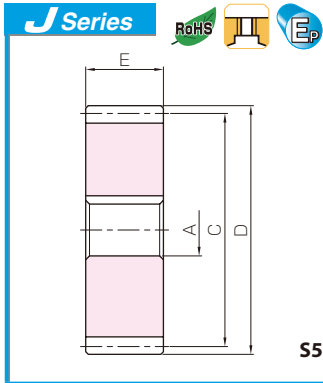
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2-90 ●KPSA2-90 J15 ●KPSA2-90 J16 ●KPSA2-90 J17 ●KPSA2-90 J18 ●KPSA2-90 J19 ●KPSA2-90 J20 ●KPSA2-90 J22 ●KPSA2-90 J25 ●KPSA2-90 J28 ●KPSA2-90 J30 ●KPSA2-90 J32 ●KPSA2-90 J35 ●KPSA2-90 J40 ●KPSA2-90 J45 ●KPSA2-90 J50	m2	90	S5	15	180	184	20	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
			S5K	45				14 × 3.8
S5K	50	14 × 3.8						
KPSA2-95 ●KPSA2-95 J15 ●KPSA2-95 J16 ●KPSA2-95 J17 ●KPSA2-95 J18 ●KPSA2-95 J19 ●KPSA2-95 J20 ●KPSA2-95 J22 ●KPSA2-95 J25 ●KPSA2-95 J28 ●KPSA2-95 J30 ●KPSA2-95 J32 ●KPSA2-95 J35 ●KPSA2-95 J40 ●KPSA2-95 J45 ●KPSA2-95 J50	m2	95	S5	15	190	194	20	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
			S5K	45				14 × 3.8
S5K	50	14 × 3.8						
KPSA2-100 ●KPSA2-100 J15 ●KPSA2-100 J16 ●KPSA2-100 J17 ●KPSA2-100 J18 ●KPSA2-100 J19 ●KPSA2-100 J20 ●KPSA2-100 J22 ●KPSA2-100 J25 ●KPSA2-100 J28 ●KPSA2-100 J30 ●KPSA2-100 J32 ●KPSA2-100 J35 ●KPSA2-100 J40 ●KPSA2-100 J45 ●KPSA2-100 J50	m2	100	S5	15	200	204	20	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
			S5K	45				14 × 3.8
S5K	50	14 × 3.8						

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60	65	70	75	80	85	90	95	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

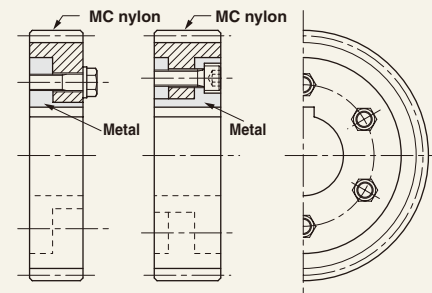
Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			●: J Series (Available-on-request)
30.4	3.10	0~0.46	0.59	KPSA2-90
			0.59	●KPSA2-90 J15
			0.59	●KPSA2-90 J16
			0.59	●KPSA2-90 J17
			0.59	●KPSA2-90 J18
			0.59	●KPSA2-90 J19
			0.59	●KPSA2-90 J20
			0.59	●KPSA2-90 J22
			0.58	●KPSA2-90 J25
			0.58	●KPSA2-90 J28
			0.58	●KPSA2-90 J30
			0.58	●KPSA2-90 J32
			0.57	●KPSA2-90 J35
			0.56	●KPSA2-90 J40
			0.56	●KPSA2-90 J45
0.55	●KPSA2-90 J50			
32.3	3.29	0~0.46	0.66	KPSA2-95
			0.66	●KPSA2-95 J15
			0.66	●KPSA2-95 J16
			0.66	●KPSA2-95 J17
			0.66	●KPSA2-95 J18
			0.65	●KPSA2-95 J19
			0.65	●KPSA2-95 J20
			0.65	●KPSA2-95 J22
			0.65	●KPSA2-95 J25
			0.65	●KPSA2-95 J28
			0.64	●KPSA2-95 J30
			0.64	●KPSA2-95 J32
			0.64	●KPSA2-95 J35
			0.63	●KPSA2-95 J40
			0.62	●KPSA2-95 J45
0.62	●KPSA2-95 J50			
34.2	3.48	0~0.46	0.73	KPSA2-100
			0.73	●KPSA2-100 J15
			0.73	●KPSA2-100 J16
			0.73	●KPSA2-100 J17
			0.73	●KPSA2-100 J18
			0.73	●KPSA2-100 J19
			0.73	●KPSA2-100 J20
			0.72	●KPSA2-100 J22
			0.72	●KPSA2-100 J25
			0.72	●KPSA2-100 J28
			0.72	●KPSA2-100 J30
			0.71	●KPSA2-100 J32
			0.71	●KPSA2-100 J35
			0.70	●KPSA2-100 J40
			0.69	●KPSA2-100 J45
0.69	●KPSA2-100 J50			

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



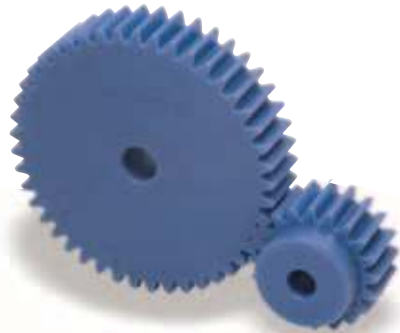
Sectional Parts

For details, please see Page 334.

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

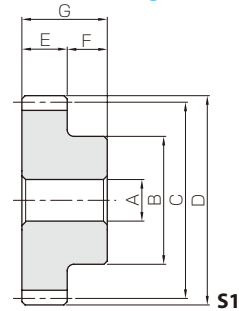
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

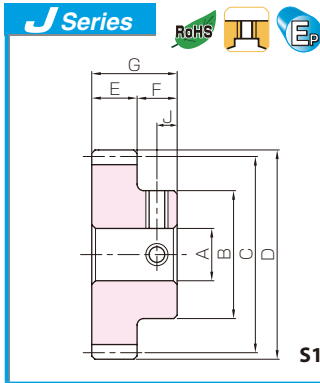
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS2.5-12 ● KPS2.5-12J10 KPS2.5-13 ● KPS2.5-13J10 KPS2.5-14 ● KPS2.5-14J10 ● KPS2.5-14J12 KPS2.5-15 ● KPS2.5-15J12 ● KPS2.5-15J14 KPS2.5-16 ● KPS2.5-16J12 ● KPS2.5-16J14 ● KPS2.5-16J15 ● KPS2.5-16J16 KPS2.5-18 ● KPS2.5-18J12 ● KPS2.5-18J14 ● KPS2.5-18J15 ● KPS2.5-18J16 ● KPS2.5-18J17 ● KPS2.5-18J18 ● KPS2.5-18J19 ● KPS2.5-18J20 KPS2.5-20 ● KPS2.5-20J12 ● KPS2.5-20J14 ● KPS2.5-20J15 ● KPS2.5-20J16 ● KPS2.5-20J17 ● KPS2.5-20J18 ● KPS2.5-20J19 ● KPS2.5-20J20 ● KPS2.5-20J22 KPS2.5-22 ● KPS2.5-22J12 ● KPS2.5-22J14 ● KPS2.5-22J15 ● KPS2.5-22J16 ● KPS2.5-22J17 ● KPS2.5-22J18 ● KPS2.5-22J19 ● KPS2.5-22J20 ● KPS2.5-22J22 ● KPS2.5-22J25 KPS2.5-24 ● KPS2.5-24J12 ● KPS2.5-24J14 ● KPS2.5-24J15 ● KPS2.5-24J16 ● KPS2.5-24J17 ● KPS2.5-24J18 ● KPS2.5-24J19 ● KPS2.5-24J20 ● KPS2.5-24J22 ● KPS2.5-24J25 ● KPS2.5-24J28	m2.5	12	S1 S1T2	10 10	23	30	35	25	12	37
		13	S1 S1K	10 10	25	32.5	37.5	25	12	37
		14	S1 S1K S1K	10 10 12	25	35	40	25	12	37
		15	S1 S1K S1K	12 12 14	30	37.5	42.5	25	12	37
		16	S1 S1K S1K S1K S1K	12 12 14 15 16	32	40	45	25	12	37
		18	S1 S1K S1K S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18 19 20	38	45	50	25	12	37
		20	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18 19 20 22	40	50	55	25	12	37
		22	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18 19 20 22 25	44	55	60	25	12	37
		24	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K S1K S1K	12 12 14 15 16 17 18 19 20 22 25 28	48	60	65	25	12	37

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Keyway	Set Screw		Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No. ● : J Series (Available-on-request)
	Width×Depth	Size	J	Bending strength			
—	—	M4	6	4.39	0.45	0.023 0.023	KPS2.5-12 ●KPS2.5-12J10
—	4 × 1.8	M4	6	5.06	0.52	0.028 0.027	KPS2.5-13 ●KPS2.5-13J10
—	4 × 1.8	M4	6	5.77	0.59	0.031 0.031 0.029	KPS2.5-14 ●KPS2.5-14J10 ●KPS2.5-14J12
—	4 × 1.8	M4	6				
—	4 × 1.8	M4	6	6.42	0.65	0.037 0.036 0.035	KPS2.5-15 ●KPS2.5-15J12 ●KPS2.5-15J14
—	5 × 2.3	M4	6				
—	4 × 1.8	M4	6	7.09	0.72	0.043 0.042 0.040 0.039 0.038	KPS2.5-16 ●KPS2.5-16J12 ●KPS2.5-16J14 ●KPS2.5-16J15 ●KPS2.5-16J16
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	4 × 1.8	M4	6	8.28	0.84	0.057 0.056 0.054 0.053 0.052 0.051 0.050 0.049 0.047	KPS2.5-18 ●KPS2.5-18J12 ●KPS2.5-18J14 ●KPS2.5-18J15 ●KPS2.5-18J16 ●KPS2.5-18J17 ●KPS2.5-18J18 ●KPS2.5-18J19 ●KPS2.5-18J20
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	4 × 1.8	M4	6	9.59	0.98	0.070 0.069 0.067 0.066 0.065 0.064 0.062 0.061 0.060 0.057	KPS2.5-20 ●KPS2.5-20J12 ●KPS2.5-20J14 ●KPS2.5-20J15 ●KPS2.5-20J16 ●KPS2.5-20J17 ●KPS2.5-20J18 ●KPS2.5-20J19 ●KPS2.5-20J20 ●KPS2.5-20J22
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	4 × 1.8	M4*	6	10.8	1.11	0.085 0.084 0.083 0.082 0.081 0.079 0.078 0.077 0.075 0.073 0.067	KPS2.5-22 ●KPS2.5-22J12 ●KPS2.5-22J14 ●KPS2.5-22J15 ●KPS2.5-22J16 ●KPS2.5-22J17 ●KPS2.5-22J18 ●KPS2.5-22J19 ●KPS2.5-22J20 ●KPS2.5-22J22 ●KPS2.5-22J25
—	5 × 2.3	M4*	6				
—	5 × 2.3	M4*	6				
—	5 × 2.3	M4	6				
—	5 × 2.3	M4	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	8 × 3.3	M6	6	12.1	1.23	0.10 0.10 0.100 0.099 0.098 0.096 0.095 0.094 0.092 0.090 0.084 0.079	KPS2.5-24 ●KPS2.5-24J12 ●KPS2.5-24J14 ●KPS2.5-24J15 ●KPS2.5-24J16 ●KPS2.5-24J17 ●KPS2.5-24J18 ●KPS2.5-24J19 ●KPS2.5-24J20 ●KPS2.5-24J22 ●KPS2.5-24J25 ●KPS2.5-24J28
—	5 × 2.3	M4*	6				
—	5 × 2.3	M4*	6				
—	5 × 2.3	M4*	6				
—	5 × 2.3	M4*	6				
—	6 × 2.8	M5	6				
—	6 × 2.8	M5	6				
—	8 × 3.3	M6	6				

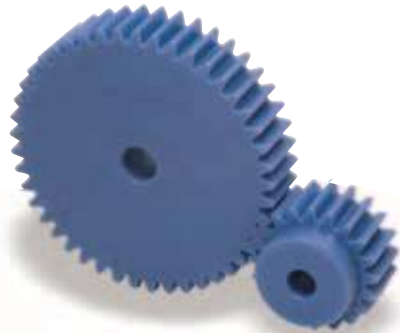
- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
 - ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
 - ⑤ For products having a tapped hole, a set screw is included.
 - ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with "***" are the tap size), fasten with torques less than 0.12N·m for M4, and 0.38N·m for M5.

*Please see book one for additional products in these modules.



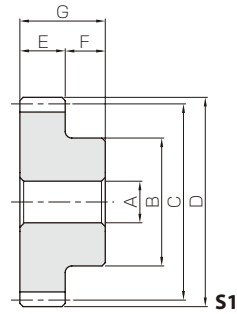


KPS Plastic Spur Gears



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

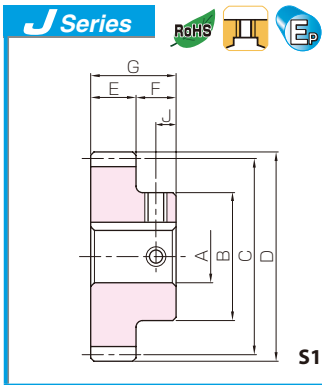
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS2.5-25 ●KPS2.5-25J12 ●KPS2.5-25J14 ●KPS2.5-25J15 ●KPS2.5-25J16 ●KPS2.5-25J17 ●KPS2.5-25J18 ●KPS2.5-25J19 ●KPS2.5-25J20 ●KPS2.5-25J22 ●KPS2.5-25J25 ●KPS2.5-25J28	m2.5	25	S1	12	50	62.5	67.5	25	12	37
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			KPS2.5-26 ●KPS2.5-26J12 ●KPS2.5-26J14 ●KPS2.5-26J15 ●KPS2.5-26J16 ●KPS2.5-26J17 ●KPS2.5-26J18 ●KPS2.5-26J19 ●KPS2.5-26J20 ●KPS2.5-26J22 ●KPS2.5-26J25 ●KPS2.5-26J28 ●KPS2.5-26J30 ●KPS2.5-26J32	m2.5						
S1K	12									
S1K	14									
S1K	15									
S1K	16									
S1K	17									
S1K	18									
S1K	19									
S1K	20									
S1K	22									
S1K	25									
S1K	28									
S1K	30									
S1K	32									
KPS2.5-28 ●KPS2.5-28J12 ●KPS2.5-28J14 ●KPS2.5-28J15 ●KPS2.5-28J16 ●KPS2.5-28J17 ●KPS2.5-28J18 ●KPS2.5-28J19 ●KPS2.5-28J20 ●KPS2.5-28J22 ●KPS2.5-28J25 ●KPS2.5-28J28 ●KPS2.5-28J30 ●KPS2.5-28J32 ●KPS2.5-28J35	m2.5	28	S1	12	60	70	75	25	12	37
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
S1K	32									
S1K	35									
KPS2.5-30 ●KPS2.5-30J12 ●KPS2.5-30J14 ●KPS2.5-30J15 ●KPS2.5-30J16 ●KPS2.5-30J17 ●KPS2.5-30J18 ●KPS2.5-30J19 ●KPS2.5-30J20 ●KPS2.5-30J22 ●KPS2.5-30J25 ●KPS2.5-30J28 ●KPS2.5-30J30 ●KPS2.5-30J32 ●KPS2.5-30J35	m2.5	30	S1	12	65	75	80	25	12	37
			S1K	12						
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
S1K	32									
S1K	35									

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products

Keyway	Set Screw		Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
	Width×Depth	Size	J	Bending strength			
—	—	—	12.8	1.30	0~0.46	0.11	KPS2.5-25 ●KPS2.5-25J12 ●KPS2.5-25J14 ●KPS2.5-25J15 ●KPS2.5-25J16 ●KPS2.5-25J17 ●KPS2.5-25J18 ●KPS2.5-25J19 ●KPS2.5-25J20 ●KPS2.5-25J22 ●KPS2.5-25J25 ●KPS2.5-25J28
4 × 1.8	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
6 × 2.8	M5	6					
6 × 2.8	M5	6					
6 × 2.8	M5	6					
6 × 2.8	M5	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
—	—	—	13.5	1.37	0~0.46	0.12	KPS2.5-26 ●KPS2.5-26J12 ●KPS2.5-26J14 ●KPS2.5-26J15 ●KPS2.5-26J16 ●KPS2.5-26J17 ●KPS2.5-26J18 ●KPS2.5-26J19 ●KPS2.5-26J20 ●KPS2.5-26J22 ●KPS2.5-26J25 ●KPS2.5-26J28 ●KPS2.5-26J30 ●KPS2.5-26J32
4 × 1.8	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
10 × 3.3	M8	6					
—	—	—	14.7	1.50	0~0.46	0.15	KPS2.5-28 ●KPS2.5-28J12 ●KPS2.5-28J14 ●KPS2.5-28J15 ●KPS2.5-28J16 ●KPS2.5-28J17 ●KPS2.5-28J18 ●KPS2.5-28J19 ●KPS2.5-28J20 ●KPS2.5-28J22 ●KPS2.5-28J25 ●KPS2.5-28J28 ●KPS2.5-28J30 ●KPS2.5-28J32 ●KPS2.5-28J35
4 × 1.8	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
10 × 3.3	M8	6					
10 × 3.3	M8	6					
—	—	—	16.0	1.63	0~0.46	0.17	KPS2.5-30 ●KPS2.5-30J12 ●KPS2.5-30J14 ●KPS2.5-30J15 ●KPS2.5-30J16 ●KPS2.5-30J17 ●KPS2.5-30J18 ●KPS2.5-30J19 ●KPS2.5-30J20 ●KPS2.5-30J22 ●KPS2.5-30J25 ●KPS2.5-30J28 ●KPS2.5-30J30 ●KPS2.5-30J32 ●KPS2.5-30J35
4 × 1.8	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
5 × 2.3	M4*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
6 × 2.8	M5*	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
8 × 3.3	M6	6					
10 × 3.3	M8	6					
10 × 3.3	M8	6					

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
 - ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
 - ⑤ For products having a tapped hole, a set screw is included.
 - ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " * " are the tap size), fasten with torques less than 0.12N · m for M4, and 0.38N · m for M5.

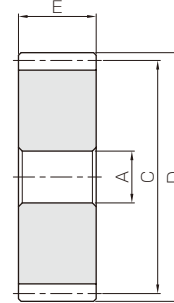
*Please see book one for additional products in these modules.





Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*Precision grade of this product is 'equivalent'.



S5

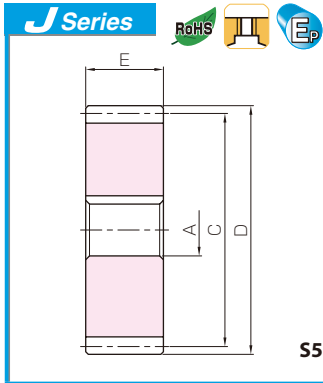
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2.5-32 ●KPSA2.5-32 J15 ●KPSA2.5-32 J16 ●KPSA2.5-32 J17 ●KPSA2.5-32 J18 ●KPSA2.5-32 J19 ●KPSA2.5-32 J20 ●KPSA2.5-32 J22 ●KPSA2.5-32 J25 ●KPSA2.5-32 J28 ●KPSA2.5-32 J30 ●KPSA2.5-32 J32 ●KPSA2.5-32 J35	m2.5	32	S5	15	80	85	25	—
			SSK	15				5 × 2.3
			SSK	16				5 × 2.3
			SSK	17				5 × 2.3
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
KPSA2.5-35 ●KPSA2.5-35 J15 ●KPSA2.5-35 J16 ●KPSA2.5-35 J17 ●KPSA2.5-35 J18 ●KPSA2.5-35 J19 ●KPSA2.5-35 J20 ●KPSA2.5-35 J22 ●KPSA2.5-35 J25 ●KPSA2.5-35 J28 ●KPSA2.5-35 J30 ●KPSA2.5-35 J32 ●KPSA2.5-35 J35	m2.5	35	S5	15	87.5	92.5	25	—
			SSK	15				5 × 2.3
			SSK	16				5 × 2.3
			SSK	17				5 × 2.3
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
KPSA2.5-36 ●KPSA2.5-36 J15 ●KPSA2.5-36 J16 ●KPSA2.5-36 J17 ●KPSA2.5-36 J18 ●KPSA2.5-36 J19 ●KPSA2.5-36 J20 ●KPSA2.5-36 J22 ●KPSA2.5-36 J25 ●KPSA2.5-36 J28 ●KPSA2.5-36 J30 ●KPSA2.5-36 J32 ●KPSA2.5-36 J35	m2.5	36	S5	15	90	95	25	—
			SSK	15				5 × 2.3
			SSK	16				5 × 2.3
			SSK	17				5 × 2.3
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
KPSA2.5-40 ●KPSA2.5-40 J15 ●KPSA2.5-40 J16 ●KPSA2.5-40 J17 ●KPSA2.5-40 J18 ●KPSA2.5-40 J19 ●KPSA2.5-40 J20 ●KPSA2.5-40 J22 ●KPSA2.5-40 J25 ●KPSA2.5-40 J28 ●KPSA2.5-40 J30 ●KPSA2.5-40 J32 ●KPSA2.5-40 J35 ●KPSA2.5-40 J40 ●KPSA2.5-40 J45	m2.5	40	S5	15	100	105	25	—
			SSK	15				5 × 2.3
			SSK	16				5 × 2.3
			SSK	17				5 × 2.3
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
SSK	45	14 × 3.8						

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			●: J Series (Available-on-request)
17.4	1.77	0~0.46	0.15	●KPSA2.5-32
			0.15	●KPSA2.5-32 J15
			0.14	●KPSA2.5-32 J16
			0.14	●KPSA2.5-32 J17
			0.14	●KPSA2.5-32 J18
			0.14	●KPSA2.5-32 J19
			0.14	●KPSA2.5-32 J20
			0.14	●KPSA2.5-32 J22
			0.14	●KPSA2.5-32 J25
			0.13	●KPSA2.5-32 J28
			0.13	●KPSA2.5-32 J30
			0.13	●KPSA2.5-32 J32
			0.12	●KPSA2.5-32 J35
19.5	1.99	0~0.46	0.17	●KPSA2.5-35
			0.17	●KPSA2.5-35 J15
			0.17	●KPSA2.5-35 J16
			0.17	●KPSA2.5-35 J17
			0.17	●KPSA2.5-35 J18
			0.17	●KPSA2.5-35 J19
			0.17	●KPSA2.5-35 J20
			0.17	●KPSA2.5-35 J22
			0.16	●KPSA2.5-35 J25
			0.16	●KPSA2.5-35 J28
			0.16	●KPSA2.5-35 J30
			0.16	●KPSA2.5-35 J32
			0.15	●KPSA2.5-35 J35
			0.14	●KPSA2.5-35 J40
20.3	2.07	0~0.46	0.18	●KPSA2.5-36
			0.18	●KPSA2.5-36 J15
			0.18	●KPSA2.5-36 J16
			0.18	●KPSA2.5-36 J17
			0.18	●KPSA2.5-36 J18
			0.18	●KPSA2.5-36 J19
			0.18	●KPSA2.5-36 J20
			0.18	●KPSA2.5-36 J22
			0.17	●KPSA2.5-36 J25
			0.17	●KPSA2.5-36 J28
			0.17	●KPSA2.5-36 J30
			0.17	●KPSA2.5-36 J32
			0.16	●KPSA2.5-36 J35
			0.15	●KPSA2.5-36 J40
23.2	2.36	0~0.46	0.23	●KPSA2.5-40
			0.23	●KPSA2.5-40 J15
			0.23	●KPSA2.5-40 J16
			0.23	●KPSA2.5-40 J17
			0.23	●KPSA2.5-40 J18
			0.22	●KPSA2.5-40 J19
			0.22	●KPSA2.5-40 J20
			0.22	●KPSA2.5-40 J22
			0.22	●KPSA2.5-40 J25
			0.21	●KPSA2.5-40 J28
			0.21	●KPSA2.5-40 J30
			0.21	●KPSA2.5-40 J32
			0.20	●KPSA2.5-40 J35
			0.20	●KPSA2.5-40 J40
0.19	●KPSA2.5-40 J45			

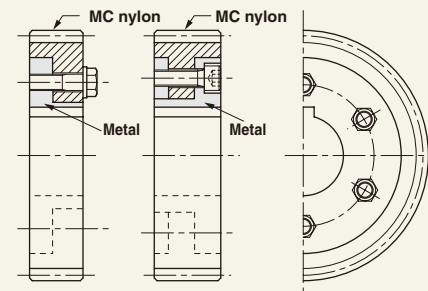
- [Caution on J series]
- As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - Keyways are made according to JIS B1301 standards, Js 9 tolerance.

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

- When the circumferential temperature is high
- For large diameter gears
- If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

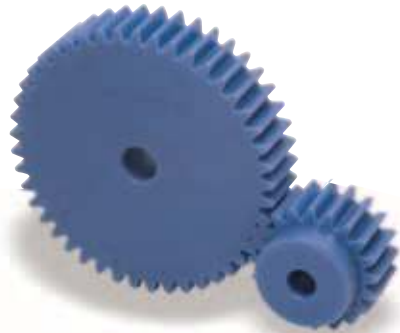
Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

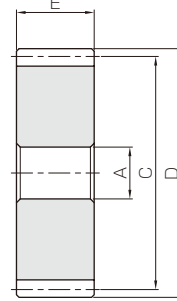
For details, please see Page 334.

*Please see book one for additional products in these modules.



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*Precision grade of this product corresponds to 'equivalent'.



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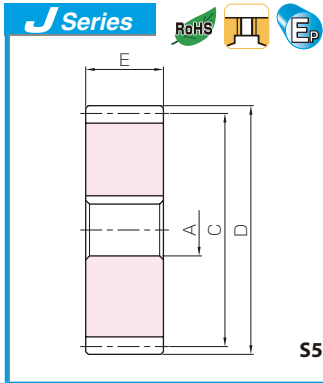
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA2.5-45 ●KPSA2.5-45 J15 ●KPSA2.5-45 J16 ●KPSA2.5-45 J17 ●KPSA2.5-45 J18 ●KPSA2.5-45 J19 ●KPSA2.5-45 J20 ●KPSA2.5-45 J22 ●KPSA2.5-45 J25 ●KPSA2.5-45 J28 ●KPSA2.5-45 J30 ●KPSA2.5-45 J32 ●KPSA2.5-45 J35 ●KPSA2.5-45 J40 ●KPSA2.5-45 J45 ●KPSA2.5-45 J50	m2.5	45	S5	15	112.5	117.5	25	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						
KPSA2.5-48 ●KPSA2.5-48 J15 ●KPSA2.5-48 J16 ●KPSA2.5-48 J17 ●KPSA2.5-48 J18 ●KPSA2.5-48 J19 ●KPSA2.5-48 J20 ●KPSA2.5-48 J22 ●KPSA2.5-48 J25 ●KPSA2.5-48 J28 ●KPSA2.5-48 J30 ●KPSA2.5-48 J32 ●KPSA2.5-48 J35 ●KPSA2.5-48 J40 ●KPSA2.5-48 J45 ●KPSA2.5-48 J50	m2.5	48	S5	15	120	125	25	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						
KPSA2.5-50 ●KPSA2.5-50 J15 ●KPSA2.5-50 J16 ●KPSA2.5-50 J17 ●KPSA2.5-50 J18 ●KPSA2.5-50 J19 ●KPSA2.5-50 J20 ●KPSA2.5-50 J22 ●KPSA2.5-50 J25 ●KPSA2.5-50 J28 ●KPSA2.5-50 J30 ●KPSA2.5-50 J32 ●KPSA2.5-50 J35 ●KPSA2.5-50 J40 ●KPSA2.5-50 J45 ●KPSA2.5-50 J50	m2.5	50	S5	15	125	130	25	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						

- [Caution on Product Characteristics] ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations] ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

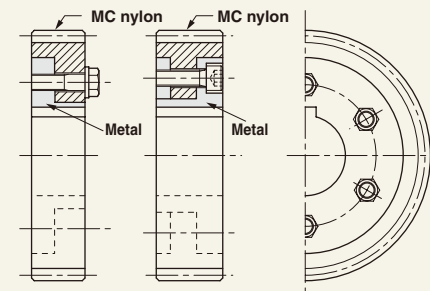
Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			● J Series (Available-on-request)
26.8	2.73	0~0.48	0.29	KPSA2.5-45
			0.29	● KPSA2.5-45 J15
			0.29	● KPSA2.5-45 J16
			0.29	● KPSA2.5-45 J17
			0.29	● KPSA2.5-45 J18
			0.28	● KPSA2.5-45 J19
			0.28	● KPSA2.5-45 J20
			0.28	● KPSA2.5-45 J22
			0.28	● KPSA2.5-45 J25
			0.27	● KPSA2.5-45 J28
			0.27	● KPSA2.5-45 J30
			0.27	● KPSA2.5-45 J32
			0.26	● KPSA2.5-45 J35
			0.26	● KPSA2.5-45 J40
			0.25	● KPSA2.5-45 J45
0.23	● KPSA2.5-45 J50			
29.0	2.96	0~0.48	0.33	KPSA2.5-48
			0.33	● KPSA2.5-48 J15
			0.33	● KPSA2.5-48 J16
			0.33	● KPSA2.5-48 J17
			0.33	● KPSA2.5-48 J18
			0.32	● KPSA2.5-48 J19
			0.32	● KPSA2.5-48 J20
			0.32	● KPSA2.5-48 J22
			0.32	● KPSA2.5-48 J25
			0.31	● KPSA2.5-48 J28
			0.31	● KPSA2.5-48 J30
			0.31	● KPSA2.5-48 J32
			0.30	● KPSA2.5-48 J35
			0.30	● KPSA2.5-48 J40
			0.29	● KPSA2.5-48 J45
0.27	● KPSA2.5-48 J50			
30.6	3.12	0~0.48	0.36	KPSA2.5-50
			0.36	● KPSA2.5-50 J15
			0.35	● KPSA2.5-50 J16
			0.35	● KPSA2.5-50 J17
			0.35	● KPSA2.5-50 J18
			0.35	● KPSA2.5-50 J19
			0.35	● KPSA2.5-50 J20
			0.35	● KPSA2.5-50 J22
			0.35	● KPSA2.5-50 J25
			0.34	● KPSA2.5-50 J28
			0.34	● KPSA2.5-50 J30
			0.34	● KPSA2.5-50 J32
			0.33	● KPSA2.5-50 J35
			0.32	● KPSA2.5-50 J40
			0.31	● KPSA2.5-50 J45
0.30	● KPSA2.5-50 J50			

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

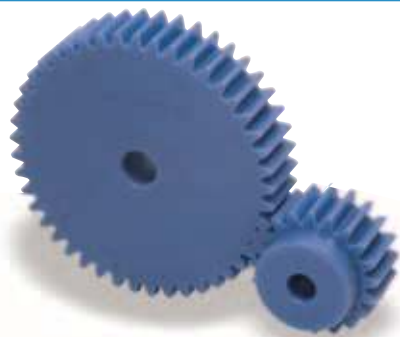
For details, please see Page 334.

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

*Please see book one for additional products in these modules.

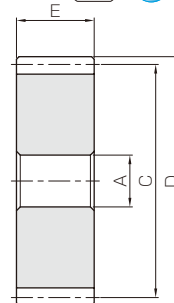


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



55

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
PSA2.5-55 ● PSA2.5-55 J15 ● PSA2.5-55 J16 ● PSA2.5-55 J17 ● PSA2.5-55 J18 ● PSA2.5-55 J19 ● PSA2.5-55 J20 ● PSA2.5-55 J22 ● PSA2.5-55 J25 ● PSA2.5-55 J28 ● PSA2.5-55 J30 ● PSA2.5-55 J32 ● PSA2.5-55 J35 ● PSA2.5-55 J40 ● PSA2.5-55 J45 ● PSA2.5-55 J50	m2.5	55	S5	15	137.5	142.5	25	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						
PSA2.5-60 ● PSA2.5-60 J15 ● PSA2.5-60 J16 ● PSA2.5-60 J17 ● PSA2.5-60 J18 ● PSA2.5-60 J19 ● PSA2.5-60 J20 ● PSA2.5-60 J22 ● PSA2.5-60 J25 ● PSA2.5-60 J28 ● PSA2.5-60 J30 ● PSA2.5-60 J32 ● PSA2.5-60 J35 ● PSA2.5-60 J40 ● PSA2.5-60 J45 ● PSA2.5-60 J50	m2.5	60	S5	15	150	155	25	—
			S5K	15				5 × 2.3
			S5K	16				5 × 2.3
			S5K	17				5 × 2.3
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
			S5K	40				12 × 3.3
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						

[Caution on Product Characteristics] ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.

② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.

④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

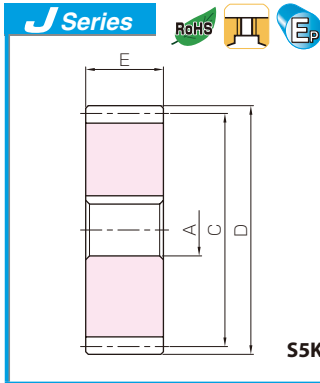
[Caution on Secondary Operations] ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.

② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

*In regards to MC Nylon gears, other materials are available for plastic gears, including Ultra High Molecular Weight Polyethylene (UHMW-PE), which has excellent abrasion resistance. Poly Ether Ether Ketone (PEEK) also has quality properties. A single piece order is acceptable and will be produced as a custom-made gear. For details on quotations and orders please see page VI.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

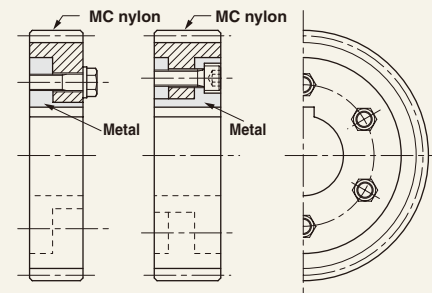
Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			●: J Series (Available-on-request)
34.1	3.48	0~0.48	0.43	KPSA2.5-55
			0.43	● KPSA2.5-55 J15
			0.43	● KPSA2.5-55 J16
			0.43	● KPSA2.5-55 J17
			0.43	● KPSA2.5-55 J18
			0.43	● KPSA2.5-55 J19
			0.43	● KPSA2.5-55 J20
			0.42	● KPSA2.5-55 J22
			0.42	● KPSA2.5-55 J25
			0.42	● KPSA2.5-55 J28
			0.41	● KPSA2.5-55 J30
			0.41	● KPSA2.5-55 J32
			0.41	● KPSA2.5-55 J35
			0.40	● KPSA2.5-55 J40
			0.39	● KPSA2.5-55 J45
0.38	● KPSA2.5-55 J50			
37.7	3.84	0~0.48	0.51	KPSA2.5-60
			0.51	● KPSA2.5-60 J15
			0.51	● KPSA2.5-60 J16
			0.51	● KPSA2.5-60 J17
			0.51	● KPSA2.5-60 J18
			0.51	● KPSA2.5-60 J19
			0.51	● KPSA2.5-60 J20
			0.51	● KPSA2.5-60 J22
			0.50	● KPSA2.5-60 J25
			0.50	● KPSA2.5-60 J28
			0.50	● KPSA2.5-60 J30
			0.49	● KPSA2.5-60 J32
			0.49	● KPSA2.5-60 J35
			0.48	● KPSA2.5-60 J40
			0.47	● KPSA2.5-60 J45
0.46	● KPSA2.5-60 J50			

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

For details, please see Page 334.

*Please see book one for additional products in these modules.

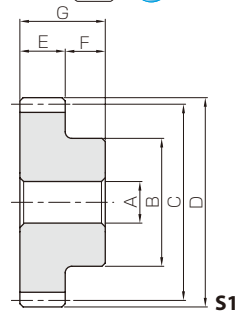


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998)* JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



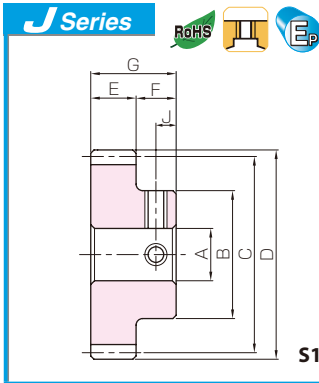
Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS3-12 ●KPS3-12J12	m3	12	S1 S1T2	12 12	28	36	42	30	15	45
KPS3-13 ●KPS3-13J12		13	S1 S1K	12 12	30	39	45	30	15	45
KPS3-14 ●KPS3-14J12 ●KPS3-14J14		14	S1 S1K S1K	12 12 14	32	42	48	30	15	45
KPS3-15 ●KPS3-15J14 ●KPS3-15J15 ●KPS3-15J16 ●KPS3-15J17		15	S1 S1K S1K S1K S1K	14 14 15 16 17	36	45	51	30	15	45
KPS3-16 ●KPS3-16J14 ●KPS3-16J15 ●KPS3-16J16 ●KPS3-16J17 ●KPS3-16J18 ●KPS3-16J19		16	S1 S1K S1K S1K S1K S1K	14 14 15 16 17 18 19	38	48	54	30	15	45
KPS3-18 ●KPS3-18J14 ●KPS3-18J15 ●KPS3-18J16 ●KPS3-18J17 ●KPS3-18J18 ●KPS3-18J19 ●KPS3-18J20 ●KPS3-18J22		18	S1 S1K S1K S1K S1K S1K S1K S1K S1K	14 14 15 16 17 18 19 20 22	40	54	60	30	15	45
KPS3-20 ●KPS3-20J14 ●KPS3-20J15 ●KPS3-20J16 ●KPS3-20J17 ●KPS3-20J18 ●KPS3-20J19 ●KPS3-20J20 ●KPS3-20J22 ●KPS3-20J25 ●KPS3-20J28		20	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K	14 14 15 16 17 18 19 20 22 25 28	50	60	66	30	15	45
KPS3-22 ●KPS3-22J14 ●KPS3-22J15 ●KPS3-22J16 ●KPS3-22J17 ●KPS3-22J18 ●KPS3-22J19 ●KPS3-22J20 ●KPS3-22J22 ●KPS3-22J25 ●KPS3-22J28 ●KPS3-22J30		22	S1 S1K S1K S1K S1K S1K S1K S1K S1K S1K S1K	14 14 15 16 17 18 19 20 22 25 30	54	66	72	30	15	45

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N·m) Bending strength	Allowable torque (kgf·m) Bending strength	Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
	Size	J					
—	—	—	7.58	0.77	0~0.52	0.040 0.040	KPS3-12 ●KPS3-12J12
—	M4	7.5					
—	—	—	8.74	0.89	0~0.52	0.048 0.047	KPS3-13 ●KPS3-13J12
4 × 1.8	M4	7.5					
—	—	—	9.97	1.02	0~0.52	0.056 0.056 0.053	KPS3-14 ●KPS3-14J12 ●KPS3-14J14
4 × 1.8	M4	7.5					
5 × 2.3	M4	7.5					
—	—	—	11.1	1.13	0~0.52	0.065 0.064 0.063 0.062 0.060	KPS3-15 ●KPS3-15J14 ●KPS3-15J15 ●KPS3-15J16 ●KPS3-15J17
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
—	—	—	12.3	1.25	0~0.52	0.075 0.074 0.073 0.071 0.070 0.068 0.067	KPS3-16 ●KPS3-16J14 ●KPS3-16J15 ●KPS3-16J16 ●KPS3-16J17 ●KPS3-16J18 ●KPS3-16J19
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
—	—	—	14.3	1.46	0~0.54	0.094 0.093 0.091 0.090 0.089 0.087 0.085 0.084 0.080	KPS3-18 ●KPS3-18J14 ●KPS3-18J15 ●KPS3-18J16 ●KPS3-18J17 ●KPS3-18J18 ●KPS3-18J19 ●KPS3-18J20 ●KPS3-18J22
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
5 × 2.3	M4	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
—	—	—	16.6	1.69	0~0.54	0.12 0.12 0.12 0.12 0.12 0.12 0.11 0.11 0.10 0.098	KPS3-20 ●KPS3-20J14 ●KPS3-20J15 ●KPS3-20J16 ●KPS3-20J17 ●KPS3-20J18 ●KPS3-20J19 ●KPS3-20J20 ●KPS3-20J22 ●KPS3-20J25 ●KPS3-20J28
5 × 2.3	M4*	7.5					
5 × 2.3	M4*	7.5					
5 × 2.3	M4*	7.5					
5 × 2.3	M4*	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
8 × 3.3	M6	7.5					
8 × 3.3	M6	7.5					
—	—	—	18.7	1.91	0~0.54	0.15 0.15 0.15 0.15 0.15 0.14 0.14 0.14 0.14 0.13 0.12 0.12	KPS3-22 ●KPS3-22J14 ●KPS3-22J15 ●KPS3-22J16 ●KPS3-22J17 ●KPS3-22J18 ●KPS3-22J19 ●KPS3-22J20 ●KPS3-22J22 ●KPS3-22J25 ●KPS3-22J28 ●KPS3-22J30
5 × 2.3	M4*	7.5					
5 × 2.3	M4*	7.5					
5 × 2.3	M4*	7.5					
5 × 2.3	M4*	7.5					
6 × 2.8	M5*	7.5					
6 × 2.8	M5*	7.5					
6 × 2.8	M5	7.5					
6 × 2.8	M5	7.5					
8 × 3.3	M6	7.5					
8 × 3.3	M6	7.5					

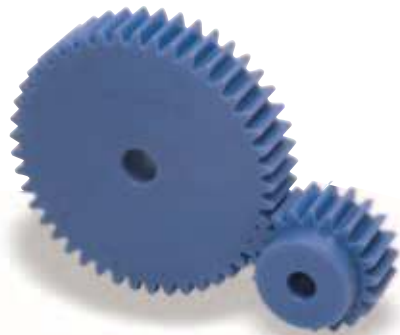
- [Caution on J series]**
- As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - Keyways are made according to JIS B1301 standards, Js 9 tolerance.
 - Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
 - For products having a tapped hole, a set screw is included.
 - Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with "*" are the tap size), fasten with torques less than 0.12N·m for M4, and 0.38N·m for M5.

*Please see book one for additional products in these modules.



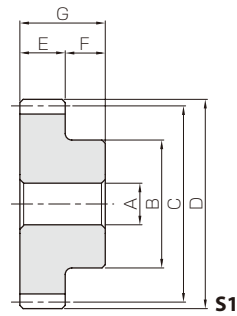


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



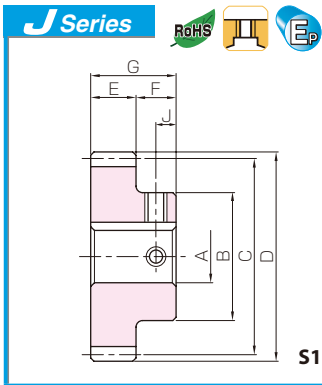
Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS3-24 ●KPS3-24J14 ●KPS3-24J15 ●KPS3-24J16 ●KPS3-24J17 ●KPS3-24J18 ●KPS3-24J19 ●KPS3-24J20 ●KPS3-24J22 ●KPS3-24J25 ●KPS3-24J28 ●KPS3-24J30 ●KPS3-24J32	m3	24	S1	14	58	72	78	30	15	45
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
S1K	32									
KPS3-25 ●KPS3-25J14 ●KPS3-25J15 ●KPS3-25J16 ●KPS3-25J17 ●KPS3-25J18 ●KPS3-25J19 ●KPS3-25J20 ●KPS3-25J22 ●KPS3-25J25 ●KPS3-25J28 ●KPS3-25J30 ●KPS3-25J32 ●KPS3-25J35	m3	25	S1	14	60	75	81	30	15	45
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
S1K	32									
S1K	35									
KPS3-26 ●KPS3-26J14 ●KPS3-26J15 ●KPS3-26J16 ●KPS3-26J17 ●KPS3-26J18 ●KPS3-26J19 ●KPS3-26J20 ●KPS3-26J22 ●KPS3-26J25 ●KPS3-26J28 ●KPS3-26J30 ●KPS3-26J32 ●KPS3-26J35	m3	26	S1	14	65	78	84	30	15	45
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
S1K	32									
S1K	35									
KPS3-28 ●KPS3-28J14 ●KPS3-28J15 ●KPS3-28J16 ●KPS3-28J17 ●KPS3-28J18 ●KPS3-28J19 ●KPS3-28J20 ●KPS3-28J22 ●KPS3-28J25 ●KPS3-28J28 ●KPS3-28J30 ●KPS3-28J32 ●KPS3-28J35 ●KPS3-28J40	m3	28	S1	14	70	84	90	30	15	45
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
S1K	32									
S1K	35									
S1K	40									

- [Caution on Product Characteristics]**
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- [Caution on Secondary Operations]**
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

***Please see book one for additional products in these modules.**

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

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Worm Gear Pair

Bevel Gearboxes

Other Products

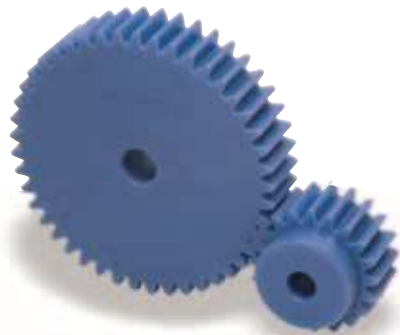
Keyway Width×Depth	Set Screw		Allowable torque (N·m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
	Size	J	Bending strength	Bending strength			
—	—	—	20.9	2.13	0~0.54	0.18	KPS3-24 ● KPS3-24J14 ● KPS3-24J15 ● KPS3-24J16 ● KPS3-24J17 ● KPS3-24J18 ● KPS3-24J19 ● KPS3-24J20 ● KPS3-24J22 ● KPS3-24J25 ● KPS3-24J28 ● KPS3-24J30 ● KPS3-24J32
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
8 x 3.3	M6	7.5					
8 x 3.3	M6	7.5					
8 x 3.3	M6	7.5					
10 x 3.3	M8	7.5					
—	—	—	22.1	2.25	0~0.54	0.19	KPS3-25 ● KPS3-25J14 ● KPS3-25J15 ● KPS3-25J16 ● KPS3-25J17 ● KPS3-25J18 ● KPS3-25J19 ● KPS3-25J20 ● KPS3-25J22 ● KPS3-25J25 ● KPS3-25J28 ● KPS3-25J30 ● KPS3-25J32 ● KPS3-25J35
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
8 x 3.3	M6	7.5					
8 x 3.3	M6	7.5					
8 x 3.3	M6	7.5					
10 x 3.3	M8	7.5					
10 x 3.3	M8	7.5					
—	—	—	23.3	2.37	0~0.54	0.22	KPS3-26 ● KPS3-26J14 ● KPS3-26J15 ● KPS3-26J16 ● KPS3-26J17 ● KPS3-26J18 ● KPS3-26J19 ● KPS3-26J20 ● KPS3-26J22 ● KPS3-26J25 ● KPS3-26J28 ● KPS3-26J30 ● KPS3-26J32 ● KPS3-26J35
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
8 x 3.3	M6	7.5					
8 x 3.3	M6	7.5					
8 x 3.3	M6	7.5					
10 x 3.3	M8	7.5					
10 x 3.3	M8	7.5					
—	—	—	25.5	2.60	0~0.54	0.25	KPS3-28 ● KPS3-28J14 ● KPS3-28J15 ● KPS3-28J16 ● KPS3-28J17 ● KPS3-28J18 ● KPS3-28J19 ● KPS3-28J20 ● KPS3-28J22 ● KPS3-28J25 ● KPS3-28J28 ● KPS3-28J30 ● KPS3-28J32 ● KPS3-28J35 ● KPS3-28J40
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
5 x 2.3	M4*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
6 x 2.8	M5*	7.5					
8 x 3.3	M6*	7.5					
8 x 3.3	M6*	7.5					
8 x 3.3	M6	7.5					
10 x 3.3	M8	7.5					
10 x 3.3	M8	7.5					
12 x 3.3	M8	7.5					

[Caution on J series]

- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with " * " are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with " ** " are the tap size), fasten with torques less than 0.12N · m for M4, and 0.38N · m for M5.

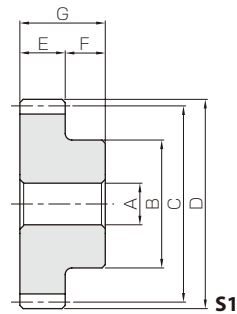


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.

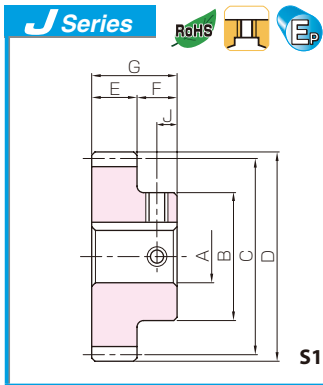


Catalog No. ● : J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A	B	C	D	E	F	G
KPS3-30 ● KPS3-30J14 ● KPS3-30J15 ● KPS3-30J16 ● KPS3-30J17 ● KPS3-30J18 ● KPS3-30J19 ● KPS3-30J20 ● KPS3-30J22 ● KPS3-30J25 ● KPS3-30J28 ● KPS3-30J30 ● KPS3-30J32 ● KPS3-30J35 ● KPS3-30J40	m3	30	S1	14	75	90	96	30	15	45
			S1K	14						
			S1K	15						
			S1K	16						
			S1K	17						
			S1K	18						
			S1K	19						
			S1K	20						
			S1K	22						
			S1K	25						
			S1K	28						
			S1K	30						
			S1K	32						
			S1K	35						
			S1K	40						

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- [Caution on Secondary Operations]
- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

***Please see book one for additional products in these modules.**

*In regards to MC Nylon gears, other materials are available for plastic gears, including Ultra High Molecular Weight Polyethylene (UHMW-PE), which has excellent abrasion resistance. Poly Ether Ether Ketone (PEEK) also has quality properties. A single piece order is acceptable and will be produced as a custom-made gear. For details on quotations and orders please see page VI.



S1K

Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Keyway Width×Depth	Set Screw		Allowable torque (N·m)		Backlash (mm)	Weight (kg)	Catalog No. ● J Series (Available-on-request)
	Size	J	Bending strength	Bending strength			
—	—	—	27.7	2.82	0~0.54	0.29	KPS3-30
5 × 2.3	M4*	7.5					●KPS3-30J14
5 × 2.3	M4*	7.5					●KPS3-30J15
5 × 2.3	M4*	7.5					●KPS3-30J16
5 × 2.3	M4*	7.5					●KPS3-30J17
6 × 2.8	M5*	7.5					●KPS3-30J18
6 × 2.8	M5*	7.5					●KPS3-30J19
6 × 2.8	M5*	7.5					●KPS3-30J20
6 × 2.8	M5*	7.5					●KPS3-30J22
8 × 3.3	M6*	7.5					●KPS3-30J25
8 × 3.3	M6*	7.5					●KPS3-30J28
8 × 3.3	M6*	7.5					●KPS3-30J30
10 × 3.3	M8	7.5					●KPS3-30J32
10 × 3.3	M8	7.5					●KPS3-30J35
12 × 3.3	M8	7.5	●KPS3-30J40				

[Caution on J series]

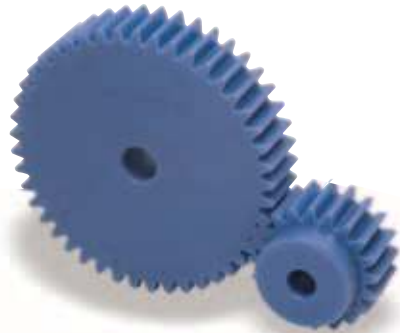
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. (Products marked with "*" are tap size).
- ⑤ For products having a tapped hole, a set screw is included.
- ⑥ Since tapped holes of plastic products are easily broken, avoid too much tightening when fastening screws. For products which have a short tapped hole (Products marked with "*" are the tap size), fasten with torques less than 0.12N·m for M4, and 0.38N·m for M5.

KGCU-S Spur Gear Kit



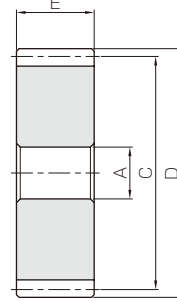
Installment : Parallel axes gears
(Two-stage)
Gear Type : Spur Gears
Gears : 2 units of KSS1.5-16
2 units of KPS1.5-22
Gear Ratio : 1.89
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



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Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA3-32 ●KPSA3-32 J18 ●KPSA3-32 J19 ●KPSA3-32 J20 ●KPSA3-32 J22 ●KPSA3-32 J25 ●KPSA3-32 J28 ●KPSA3-32 J30 ●KPSA3-32 J32 ●KPSA3-32 J35 ●KPSA3-32 J40	m3	32	S5	18	96	102	30	—
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
S5K	40	12 × 3.3						
KPSA3-35 ●KPSA3-35 J18 ●KPSA3-35 J19 ●KPSA3-35 J20 ●KPSA3-35 J22 ●KPSA3-35 J25 ●KPSA3-35 J28 ●KPSA3-35 J30 ●KPSA3-35 J32 ●KPSA3-35 J35 ●KPSA3-35 J40 ●KPSA3-35 J45	m3	35	S5	18	105	111	30	—
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						
KPSA3-36 ●KPSA3-36 J18 ●KPSA3-36 J19 ●KPSA3-36 J20 ●KPSA3-36 J22 ●KPSA3-36 J25 ●KPSA3-36 J28 ●KPSA3-36 J30 ●KPSA3-36 J32 ●KPSA3-36 J35 ●KPSA3-36 J40 ●KPSA3-36 J45 ●KPSA3-36 J50	m3	36	S5	18	108	114	30	—
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						
KPSA3-40 ●KPSA3-40 J18 ●KPSA3-40 J19 ●KPSA3-40 J20 ●KPSA3-40 J22 ●KPSA3-40 J25 ●KPSA3-40 J28 ●KPSA3-40 J30 ●KPSA3-40 J32 ●KPSA3-40 J35 ●KPSA3-40 J40 ●KPSA3-40 J45 ●KPSA3-40 J50	m3	40	S5	18	120	126	30	—
			S5K	18				6 × 2.8
			S5K	19				6 × 2.8
			S5K	20				6 × 2.8
			S5K	22				6 × 2.8
			S5K	25				8 × 3.3
			S5K	28				8 × 3.3
			S5K	30				8 × 3.3
			S5K	32				10 × 3.3
			S5K	35				10 × 3.3
S5K	40	12 × 3.3						
S5K	45	14 × 3.8						
S5K	50	14 × 3.8						

[Caution on Product Characteristics]

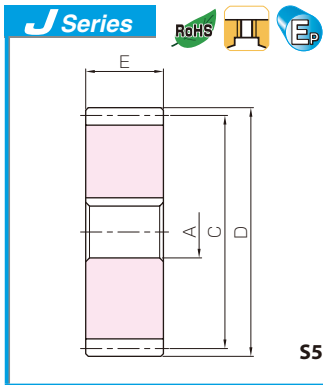
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
- ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

[Caution on Secondary Operations]

- ① Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

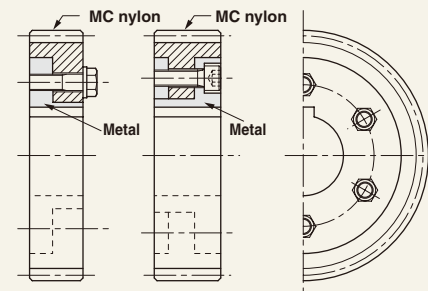
Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			● J Series (Available-on-request)
30.1	3.07	0~0.54	0.25	KPSA3-32
			0.25	● KPSA3-32 J18
			0.25	● KPSA3-32 J19
			0.25	● KPSA3-32 J20
			0.24	● KPSA3-32 J22
			0.24	● KPSA3-32 J25
			0.24	● KPSA3-32 J28
			0.23	● KPSA3-32 J30
			0.23	● KPSA3-32 J32
			0.23	● KPSA3-32 J35
			0.22	● KPSA3-32 J40
33.8	3.44	0~0.56	0.30	KPSA3-35
			0.30	● KPSA3-35 J18
			0.30	● KPSA3-35 J19
			0.30	● KPSA3-35 J20
			0.30	● KPSA3-35 J22
			0.29	● KPSA3-35 J25
			0.29	● KPSA3-35 J28
			0.28	● KPSA3-35 J30
			0.28	● KPSA3-35 J32
			0.28	● KPSA3-35 J35
			0.27	● KPSA3-35 J40
0.25	● KPSA3-35 J45			
35.1	3.57	0~0.56	0.32	KPSA3-36
			0.32	● KPSA3-36 J18
			0.32	● KPSA3-36 J19
			0.32	● KPSA3-36 J20
			0.31	● KPSA3-36 J22
			0.31	● KPSA3-36 J25
			0.31	● KPSA3-36 J28
			0.30	● KPSA3-36 J30
			0.30	● KPSA3-36 J32
			0.29	● KPSA3-36 J35
			0.28	● KPSA3-36 J40
0.27	● KPSA3-36 J45			
0.26	● KPSA3-36 J50			
40.0	4.08	0~0.56	0.39	KPSA3-40
			0.39	● KPSA3-40 J18
			0.39	● KPSA3-40 J19
			0.39	● KPSA3-40 J20
			0.39	● KPSA3-40 J22
			0.38	● KPSA3-40 J25
			0.38	● KPSA3-40 J28
			0.38	● KPSA3-40 J30
			0.37	● KPSA3-40 J32
			0.37	● KPSA3-40 J35
			0.36	● KPSA3-40 J40
0.35	● KPSA3-40 J45			
0.33	● KPSA3-40 J50			

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

For details, please see Page 334.

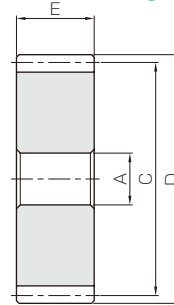
- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order.
Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

*Please see book one for additional products in these modules.



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



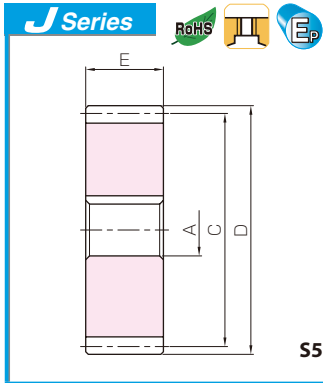
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Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA3-45 ●KPSA3-45 J18 ●KPSA3-45 J19 ●KPSA3-45 J20 ●KPSA3-45 J22 ●KPSA3-45 J25 ●KPSA3-45 J28 ●KPSA3-45 J30 ●KPSA3-45 J32 ●KPSA3-45 J35 ●KPSA3-45 J40 ●KPSA3-45 J45 ●KPSA3-45 J50	m3	45	S5	18	135	141	30	—
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
SSK	45	14 × 3.8						
SSK	50	14 × 3.8						
KPSA3-48 ●KPSA3-48 J18 ●KPSA3-48 J19 ●KPSA3-48 J20 ●KPSA3-48 J22 ●KPSA3-48 J25 ●KPSA3-48 J28 ●KPSA3-48 J30 ●KPSA3-48 J32 ●KPSA3-48 J35 ●KPSA3-48 J40 ●KPSA3-48 J45 ●KPSA3-48 J50	m3	48	S5	18	144	150	30	—
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
SSK	45	14 × 3.8						
SSK	50	14 × 3.8						
KPSA3-50 ●KPSA3-50 J18 ●KPSA3-50 J19 ●KPSA3-50 J20 ●KPSA3-50 J22 ●KPSA3-50 J25 ●KPSA3-50 J28 ●KPSA3-50 J30 ●KPSA3-50 J32 ●KPSA3-50 J35 ●KPSA3-50 J40 ●KPSA3-50 J45 ●KPSA3-50 J50	m3	50	S5	18	150	156	30	—
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
SSK	45	14 × 3.8						
SSK	50	14 × 3.8						
KPSA3-55 ●KPSA3-55 J18 ●KPSA3-55 J19 ●KPSA3-55 J20 ●KPSA3-55 J22 ●KPSA3-55 J25 ●KPSA3-55 J28 ●KPSA3-55 J30 ●KPSA3-55 J32 ●KPSA3-55 J35 ●KPSA3-55 J40 ●KPSA3-55 J45 ●KPSA3-55 J50	m3	55	S5	18	165	171	30	—
			SSK	18				6 × 2.8
			SSK	19				6 × 2.8
			SSK	20				6 × 2.8
			SSK	22				6 × 2.8
			SSK	25				8 × 3.3
			SSK	28				8 × 3.3
			SSK	30				8 × 3.3
			SSK	32				10 × 3.3
			SSK	35				10 × 3.3
SSK	40	12 × 3.3						
SSK	45	14 × 3.8						
SSK	50	14 × 3.8						

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- [Caution on Secondary Operations]
- ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

No. of Teeth available

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

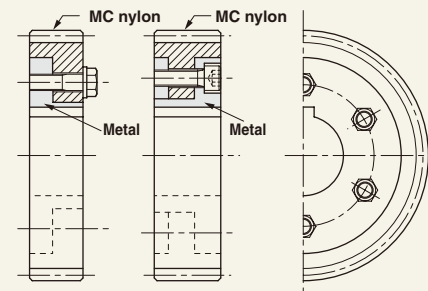
Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No. ●: J Series (Available-on-request)
Bending strength	Bending strength			
46.3	4.72	0~0.56	0.50	KPSA3-45
			0.50	●KPSA3-45 J18
			0.50	●KPSA3-45 J19
			0.49	●KPSA3-45 J20
			0.49	●KPSA3-45 J22
			0.48	●KPSA3-45 J25
			0.48	●KPSA3-45 J28
			0.48	●KPSA3-45 J30
			0.48	●KPSA3-45 J32
			0.47	●KPSA3-45 J35
			0.46	●KPSA3-45 J40
			0.45	●KPSA3-45 J45
			0.44	●KPSA3-45 J50
50.2	5.12	0~0.56	0.57	KPSA3-48
			0.57	●KPSA3-48 J18
			0.57	●KPSA3-48 J19
			0.56	●KPSA3-48 J20
			0.56	●KPSA3-48 J22
			0.56	●KPSA3-48 J25
			0.55	●KPSA3-48 J28
			0.55	●KPSA3-48 J30
			0.55	●KPSA3-48 J32
			0.54	●KPSA3-48 J35
			0.53	●KPSA3-48 J40
			0.52	●KPSA3-48 J45
			0.51	●KPSA3-48 J50
52.8	5.39	0~0.56	0.61	KPSA3-50
			0.61	●KPSA3-50 J18
			0.61	●KPSA3-50 J19
			0.61	●KPSA3-50 J20
			0.61	●KPSA3-50 J22
			0.61	●KPSA3-50 J25
			0.60	●KPSA3-50 J28
			0.60	●KPSA3-50 J30
			0.59	●KPSA3-50 J32
			0.59	●KPSA3-50 J35
			0.58	●KPSA3-50 J40
			0.57	●KPSA3-50 J45
			0.55	●KPSA3-50 J50
58.9	6.01	0~0.56	0.74	KPSA3-55
			0.74	●KPSA3-55 J18
			0.74	●KPSA3-55 J19
			0.74	●KPSA3-55 J20
			0.74	●KPSA3-55 J22
			0.73	●KPSA3-55 J25
			0.73	●KPSA3-55 J28
			0.73	●KPSA3-55 J30
			0.72	●KPSA3-55 J32
			0.72	●KPSA3-55 J35
			0.71	●KPSA3-55 J40
			0.70	●KPSA3-55 J45
			0.68	●KPSA3-55 J50

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

For details, please see Page 334.

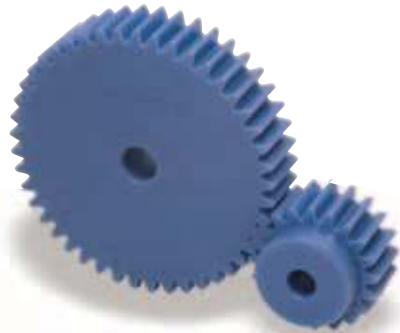
- [Caution on J series]
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

*Please see book one for additional products in these modules.



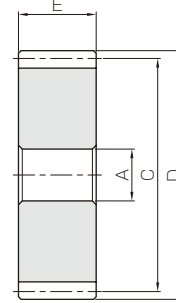


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	(115~120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



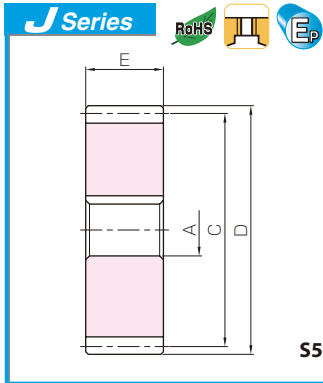
55

Catalog No. ●: J Series (Available-on-request)	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Keyway
				A	C	D	E	Width×Depth
KPSA3-60	m3	60	S5	18	180	186	30	—
● KPSA3-60 J18			S5K	18				6 × 2.8
● KPSA3-60 J19			S5K	19				6 × 2.8
● KPSA3-60 J20			S5K	20				6 × 2.8
● KPSA3-60 J22			S5K	22				6 × 2.8
● KPSA3-60 J25			S5K	25				8 × 3.3
● KPSA3-60 J28			S5K	28				8 × 3.3
● KPSA3-60 J30			S5K	30				8 × 3.3
● KPSA3-60 J32			S5K	32				10 × 3.3
● KPSA3-60 J35			S5K	35				10 × 3.3
● KPSA3-60 J40			S5K	40				12 × 3.3
● KPSA3-60 J45			S5K	45				14 × 3.8
● KPSA3-60 J50			S5K	50				14 × 3.8

- [Caution on Product Characteristics]
- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash.
 - ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ③ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
 - ④ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- [Caution on Secondary Operations]
- ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
 - ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

*In regards to MC Nylon gears, other materials are available for plastic gears, including Ultra High Molecular Weight Polyethylene (UHMW-PE), which has excellent abrasion resistance. Poly Ether Ether Ketone (PEEK) also has quality properties. A single piece order is acceptable and will be produced as a custom-made gear. For details on quotations and orders please see page VI.

12	13	14	15	16	18	20	22	24	25	26	28	30	32	35	36	40	45	48	50	55	60
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Plastic Spur Gears



Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Bending strength			● J Series (Available-on-request)
65.1	6.64	0~0.56	0.89	KPSA3-60
			0.88	● KPSA3-60 J18
			0.88	● KPSA3-60 J19
			0.88	● KPSA3-60 J20
			0.88	● KPSA3-60 J22
			0.88	● KPSA3-60 J25
			0.87	● KPSA3-60 J28
			0.87	● KPSA3-60 J30
			0.87	● KPSA3-60 J32
			0.86	● KPSA3-60 J35
			0.85	● KPSA3-60 J40
0.84	● KPSA3-60 J45			
0.82	● KPSA3-60 J50			

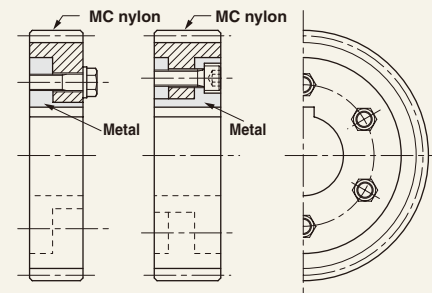
- [Caution on J series]**
- ① As available-on-request products, requires a lead-time for shipping within 5 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
 - ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
 - ③ Keyways are made according to JIS B1301 standards, Js 9 tolerance.

How to attach gears to shafts

To attach gears to shafts, in case of light loads, methods include using keys, taper pins, spring pins, and press fitting after mounting the set-screws. While looseness tends to occur in the conditions below, plastic gears are fastened by applying a steel hub.

1. When the circumferential temperature is high
2. For large diameter gears
3. If forward-reverse motion impacts keys

For fastening steel hubs into plastic gears with bolts, see below for various methods. For gears, which cannot be fasten with bolts due to their shape; it is recommended to use the method of fusion bonding with metal cores.



Fastening with a steel hub bolt

Stainless Steel Hubs for KPSA are now available!

Standardized sectional stainless steel hubs. It enhances a secure fastening to the shaft.



Sectional Parts

For details, please see Page 334.

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

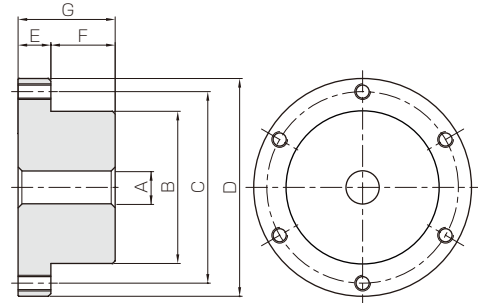
Other Products

*Please see book one for additional products in these modules.





- Spur Gears
- Helical Gears
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- Other Products



Material : SUS303

Catalog No.	Partner	Shape	Bore	Hub dia.	Socket head screw			Flange diameter	Flange length	Hub width	Total length
			A _{H7}	B	No. of threaded hole	Size	C	D	E	F	G
KSUKB20030 KSUKB20046 KSUKB20066	KPSA2-32 or more KPSA2-40 or more KPSA2-50 or more	T8	10	30 46 66	6	M5	42 58 78	51 67 87	10	20	30
KSUKB25038 KSUKB25058 KSUKB25083	KPSA2.5-32 or more KPSA2.5-40 or more KPSA2.5-50 or more	T8	12	38 58 83	6	M6	53 73 98	63 83 108	12.5	24.5	37
KSUKB30046 KSUKB30070 KSUKB30100	KPSA3-32 or more KPSA3-40 or more KPSA3-50 or more	T8	15	46 70 100	6	M8	64 88 118	76 100 130	15	30	45

[Caution on Product Characteristics]

- ① The area where PSA Plastic Spur Gears are attached, with hub tolerance h7.
- ② The friction coupling torques shown in the table are reference values calculated according to these set values; friction factors and fastening torques of the tapping screw.
- ③ Please refer to the assembly example below, and then attach the hub to the gear with the accessories, plain washers, spring washers and hexagon socket head cap screws.
- ④ In accordance with the fastening torque values shown in the dimension table, use a torque wrench and fasten hexagon socket head cap screws firmly, to attach the hub.
- ⑤ If a fastened hexagon socket head cap screw comes loose, the friction tightening torque values shown in the table can not be maintained. It is recommended to check the fasteners regularly and retighten when required.
- ⑥ For secure positioning, it is recommended to use dowel pins.

Features of Stainless Steel Hubs

- This is an attached stainless steel hub with excellent rust resistance.
- Perfectly matches with KPSA Plastic Spur Gears, and suitable for food processing machinery.
- Efficient use of materials and superior cost performance for this product.

Friction Coupling Torque for Stainless Steel Hubs

Friction coupling torque, for Stainless Steel Hubs, is calculated from the frictional force generated by the fastening torque at the contact face of the gear and the stainless steel hub.

Fastening Torque F(N) is calculated from the equation below.

$$F = \frac{n \cdot 1000 \cdot T}{K \cdot d}$$

n : Number → No. of threaded holes shown in the dimension table.

T : Tightening torque (N · m) → Fastening torque shown in the dimension table.

K : Torque coefficient → Set the value at 0.164

d : Nominal diameter (mm) → Socket head screw size shown in the dimension table (M5 = 5mm)

Friction Coupling Torque T_f (N · m) is calculated from the equation below.

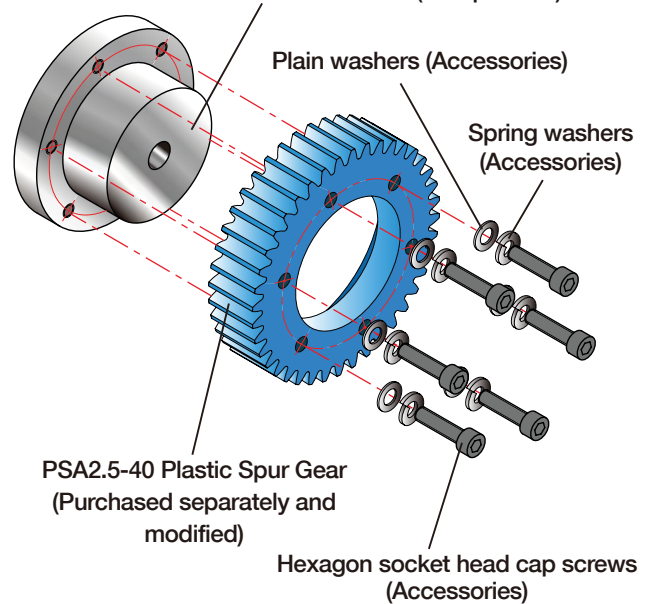
$$T_f = \frac{F \cdot \mu \cdot d_w}{2000}$$

F : Fastening torque (N) → The value obtained from the calculation above.

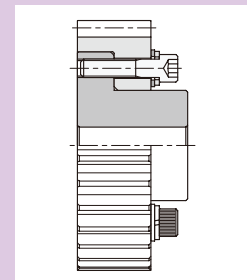
μ : Friction factor at the contact face of the gear and the stainless steel hub → Set the value at 0.18

d_w : Pitch diameter of the threaded hole (mm) → Socket head screw size C shown in the dimension table

SUKB25058 Stainless Steel Hubs (This product)

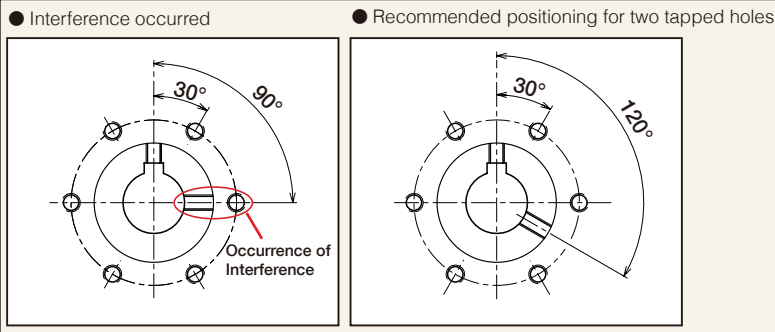


Assembly Completed!



Stainless Steel Hub

Tapped holes at the outer circumference of the hub



Recommended fastening torque		Friction coupling torque		Weight (kg)	Catalog No.
(N·m)	(kgf·m)	(N·m)	(kgf·m)		
0.9	0.092	24.9	2.54	0.24	KSUKB20030 KSUKB20046 KSUKB20066
		34.4	3.51	0.51	
		46.2	4.71	0.97	
1.5	0.15	43.6	4.45	0.47	KSUKB25038 KSUKB25058 KSUKB25083
		60.1	6.13	0.98	
		80.7	8.23	1.88	
3.7	0.38	97.5	9.94	0.82	KSUKB30046 KSUKB30070 KSUKB30100
		134	13.7	1.72	
		180	18.3	3.29	

[Caution on Secondary Operations]

- Please read "Cautions on Performing Secondary Operations" on Page 36 when performing modification and/or secondary operations for safety concerns.
- Datum plane for machining hubs is the outer circumference of the hub, where KPSA Plastic Spur Gears are attached, and the flank of the flange is facing the hub.
- For modifying tapped holes at the outer circumference of the hub, apply machining with care and in consideration of the positions of the screw holes for the fastening screws, that attach the hub. (This position is where no interference occurs with the hexagon socket head cap screws).

Partner Products and Modifications

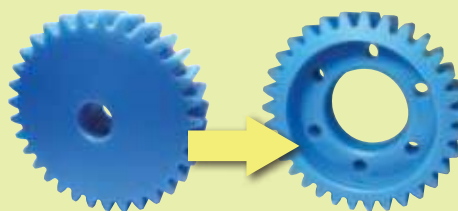


Stainless Steel Hubs	Partner								
	Catalog No. <small>Catalog No. in blue color : New Products</small>	Catalog No.	Bore	Drilled hole			Bore 2	Length of bore	Fillet radius
			B' _{H8}	No. of threaded hole	Size	C'	D'	E' ±0.1	H
KSUKB20030 KSUKB20046 KSUKB20066	KPSA2-32 or more KPSA2-40 or more KPSA2-50 or more	30	6	Ø5.5	C'	42	51	10	R0.5 or less
		46				58	67		
		66				78	87		
KSUKB25038 KSUKB25058 KSUKB25083	KPSA2.5-32 or more KPSA2.5-40 or more KPSA2.5-50 or more	38	6	Ø6.6	C'	53	63	12.5	R0.5 or less
		58				73	83		
		83				98	108		
KSUKB30046 KSUKB30070 KSUKB30100	KPSA3-32 or more KPSA3-40 or more KPSA3-50 or more	46	6	Ø9	C'	64	76	15	R0.5 or less
		70				88	100		
		100				118	130		

Modifications for bores, keyways and tapped holes done in 5 days!



Modifications for KSUKB Products (With fee)



Modifications for KPSA Products (Purchased separately and modified with fee)



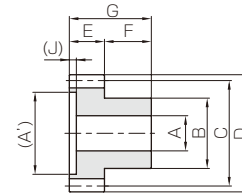


- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N12 (JIS B1702-1: 1998)* JIS grade 8 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Duracon acetal (M90-44)
Heat treatment	—
Tooth hardness	(110 ~ 120HRR)

*The precision grade of this product is equivalent to the value shown in the table.

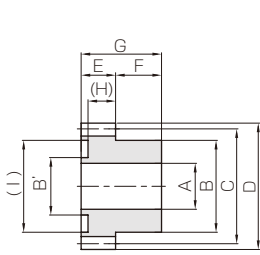


S8

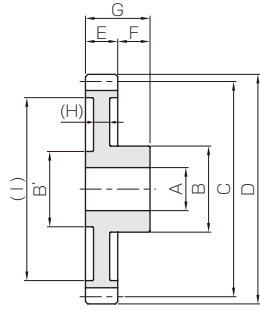
Catalog No.	Module	No. of teeth	Shape	Bore 1	Bore 2	Hub dia. 1	Hub dia. 2	Pitch dia.	Outside dia.	Face width	Hub width
				A	(A')	B	B'	C	D	E	F
KDS0.5-12	m0.5	12	S8	2	(4)	4.5	—	6	7	3	4
KDS0.5-15		15	S8	2	(5.5)	4.5	—	7.5	8.5	3	4
KDS0.5-16		16	S8	3	(6)	6	—	8	9	3	4
KDS0.5-18		18	S8	3	(7)	6	—	9	10	3	4
KDS0.5-20		20	S8B	4	—	8	5	10	11	3	4
KDS0.5-24		24	S9	4	—	8	5	12	13	3	4
KDS0.5-25		25	S9	4	—	8	6	12.5	13.5	3	4
KDS0.5-28		28	S9	4	—	8	6	14	15	3	4
KDS0.5-30		30	S9	5	—	10	7	15	16	3	4
KDS0.5-32		32	S9	5	—	10	7	16	17	3	4
KDS0.5-35		35	S9	5	—	10	7	17.5	18.5	3	4
KDS0.5-36		36	S9	5	—	10	7	18	19	3	4
KDS0.5-40		40	S9	5	—	12	8	20	21	3	4
KDS0.5-45		45	S9	5	—	12	8	22.5	23.5	3	4
KDS0.5-48		48	S9	5	—	12	8	24	25	3	4
KDS0.5-50		50	S9	5	—	12	8	25	26	3	4
KDS0.5-56		56	S9	6	—	14	10	28	29	3	5
KDS0.5-60		60	S9	6	—	14	10	30	31	3	5
KDS0.5-64		64	S9	6	—	14	10	32	33	3	5
KDS0.5-70		70	S9	6	—	14	10	35	36	3	5
KDS0.5-72	72	S9	6	—	14	10	36	37	3	5	
KDS0.5-80	80	S9	6	—	14	10	40	41	3	5	
KDS0.8-12	m0.8	12	S9	3	—	6	4	9.6	11.2	4	5
KDS0.8-15		15	S9	3	—	6	4.5	12	13.6	4	5
KDS0.8-16		16	S9	4	—	8	6	12.8	14.4	4	5
KDS0.8-18		18	S9	4	—	8	6	14.4	16	4	5
KDS0.8-20		20	S9	5	—	10	8	16	17.6	4	5
KDS0.8-24		24	S9	5	—	10	8	19.2	20.8	4	5
KDS0.8-25		25	S9	5	—	10	8	20	21.6	4	5
KDS0.8-28		28	S9	5	—	10	8	22.4	24	4	5
KDS0.8-30		30	S9	6	—	12	10	24	25.6	4	5
KDS0.8-32		32	S9	6	—	12	10	25.6	27.2	4	5
KDS0.8-35		35	S9	6	—	12	10	28	29.6	4	5
KDS0.8-36		36	S9	6	—	12	10	28.8	30.4	4	5
KDS0.8-40		40	S9	6	—	12	10	32	33.6	4	5
KDS0.8-45		45	S9	6	—	12	10	36	37.6	4	5
KDS0.8-48		48	S9	6	—	14.5	11.7	38.4	40	4	6
KDS0.8-50		50	S9	6	—	14.5	11.7	40	41.6	4	6
KDS0.8-56		56	S9	6	—	14.5	11.7	44.8	46.4	4	6
KDS0.8-60		60	S9	6	—	14.5	11.7	48	49.6	4	6
KDS0.8-64		64	S9	6	—	15.5	11.7	51.2	52.8	4	6
KDS0.8-70		70	S9	6	—	15.5	11.7	56	57.6	4	6
KDS0.8-72	72	S9	6	—	15.5	11.7	57.6	59.2	4	6	
KDS0.8-80	80	S9	6	—	15.5	11.7	64	65.6	4	6	

- [Caution on Product Characteristics]
- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
 - ③ The bore tolerance is generally -0.05 to -0.30 but may be + value at the central portion of the hole.
 - ④ To find dimensional precision, see the table "Tolerance of Injection Molded Products".

Injection Molded Spur Gears



S8B



S9

Total length	Web thickness	Web O.D.	Depth of counterbore	Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (g)	Catalog No.
G	(H)	(I)	(J)	Bending strength	Bending strength			
7	—	—	(0.6)	0.063	0.0064	0~0.30	0.17	KDS0.5-12
7	—	—	(0.6)	0.092	0.0094		0.23	KDS0.5-15
7	—	—	(0.6)	0.10	0.010		0.28	KDS0.5-16
7	—	—	(0.6)	0.12	0.012		0.33	KDS0.5-18
7	(2.4)	(8)	—	0.14	0.014		0.47	KDS0.5-20
7	(1.8)	(9.5)	—	0.17	0.018		0.58	KDS0.5-24
7	(1.8)	(10)	—	0.18	0.019		0.61	KDS0.5-25
7	(1.8)	(11.5)	—	0.21	0.022		0.69	KDS0.5-28
7	(1.8)	(12)	—	0.23	0.023		0.90	KDS0.5-30
7	(1.8)	(13)	—	0.25	0.025		0.97	KDS0.5-32
7	(1.8)	(14.5)	—	0.28	0.029		1.09	KDS0.5-35
7	(1.8)	(15)	—	0.29	0.030		1.13	KDS0.5-36
7	(1.8)	(16.5)	—	0.33	0.034		1.53	KDS0.5-40
7	(1.8)	(19)	—	0.38	0.039		1.78	KDS0.5-45
7	(1.8)	(21)	—	0.42	0.043		1.91	KDS0.5-48
7	(1.8)	(21.5)	—	0.44	0.045		2.02	KDS0.5-50
8	(1.8)	(24.5)	—	0.50	0.051		2.77	KDS0.5-56
8	(1.8)	(26.5)	—	0.54	0.055		3.02	KDS0.5-60
8	(1.8)	(28.5)	—	0.58	0.059		3.29	KDS0.5-64
8	(1.8)	(31.5)	—	0.64	0.066		3.71	KDS0.5-70
8	(1.8)	(32)	—	0.67	0.068	3.86	KDS0.5-72	
8	(1.8)	(36.5)	—	0.75	0.076	4.51	KDS0.5-80	
9	(2)	(6.7)	—	0.22	0.022	0~0.48	0.48	KDS0.8-12
9	(2)	(8.8)	—	0.31	0.032		0.64	KDS0.8-15
9	(2)	(9.2)	—	0.35	0.035		0.84	KDS0.8-16
9	(2)	(10.7)	—	0.41	0.041		0.97	KDS0.8-18
9	(2)	(12.7)	—	0.47	0.048		1.26	KDS0.8-20
9	(2)	(15)	—	0.59	0.060		1.59	KDS0.8-24
9	(2)	(16.5)	—	0.63	0.064		1.73	KDS0.8-25
9	(2)	(18.5)	—	0.72	0.074		1.91	KDS0.8-28
9	(2)	(19.5)	—	0.79	0.080		2.37	KDS0.8-30
9	(2)	(21)	—	0.85	0.087		2.57	KDS0.8-32
9	(2)	(23.5)	—	0.96	0.098		2.91	KDS0.8-35
9	(2)	(24.5)	—	0.99	0.10		3.00	KDS0.8-36
9	(2)	(27.5)	—	1.13	0.12		3.47	KDS0.8-40
9	(2)	(31)	—	1.31	0.13		4.18	KDS0.8-45
10	(2)	(33.5)	—	1.42	0.15		5.31	KDS0.8-48
10	(2)	(35)	—	1.50	0.15		5.60	KDS0.8-50
10	(2)	(39.5)	—	1.70	0.17		6.55	KDS0.8-56
10	(2)	(42.5)	—	1.85	0.19		7.30	KDS0.8-60
10	(2)	(46)	—	1.98	0.20		8.64	KDS0.8-64
10	(2)	(50.5)	—	2.20	0.22		9.52	KDS0.8-70
10	(2)	(51.5)	—	2.27	0.23	9.85	KDS0.8-72	
10	(2)	(55.5)	—	2.55	0.26	11.8	KDS0.8-80	

[Caution on Secondary Operations] ① Injection molded products may have air bubbles inside of the material; please avoid performing secondary operations.

*Please see book one for additional products in these modules.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

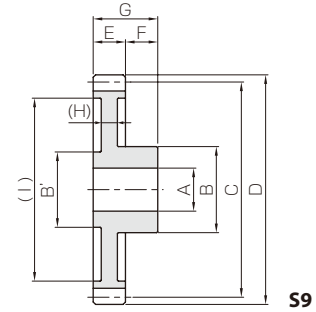
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N12 (JIS B1702-1: 1998)* JIS grade 8 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Duracon acetal (M90-44)
Heat treatment	—
Tooth hardness	(110 ~ 120HRR)

*The precision grade of this product is equivalent to the value shown in the table.



S9

Catalog No.	Module	No. of teeth	Shape	Bore 1	Bore 2	Hub dia. 1	Hub dia. 2	Pitch dia.	Outside dia.	Face width	Hub width
				A	(A')	B	B'	C	D	E	F
KDS1-12	m1	12	S9	4	—	8	6	12	14	6	6
KDS1-15		15	S9	4	—	8	7	15	17	6	6
KDS1-16		16	S9	5	—	10	8	16	18	6	6
KDS1-18		18	S9	5	—	10	8	18	20	6	6
KDS1-20		20	S9	5	—	11.7	9	20	22	6	6
KDS1-24		24	S9	5	—	11.7	9	24	26	6	6
KDS1-25		25	S9	5	—	11.7	9	25	27	6	6
KDS1-28		28	S9	5	—	11.7	9	28	30	6	6
KDS1-30		30	S9	6	—	14	12	30	32	6	6
KDS1-32		32	S9	6	—	14	12	32	34	6	6
KDS1-35		35	S9	6	—	14	12	35	37	6	6
KDS1-36		36	S9	6	—	14	12	36	38	6	6
KDS1-40		40	S9	8	—	16	14	40	42	6	6
KDS1-45		45	S9	8	—	16	14	45	47	6	6
KDS1-48		48	S9	8	—	16	14	48	50	6	8
KDS1-50		50	S9	8	—	16	14	50	52	6	8
KDS1-56		56	S9	8	—	18	15.6	56	58	6	8
KDS1-60		60	S9	8	—	18	15.6	60	62	6	8
KDS1-64		64	S9	8	—	18	15.6	64	66	6	8
KDS1-70		70	S9	8	—	18	15.6	70	72	6	8
KDS1-72	72	S9	8	—	18	15.6	72	74	6	8	
KDS1-80	80	S9	8	—	18	15.6	80	82	6	8	

- [Caution on Product Characteristics]
- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
 - ③ The bore tolerance is generally -0.05 to -0.30 but may be + value at the central portion of the hole.
 - ④ To find dimensional precision, see the table "Tolerance of Injection Molded Products".



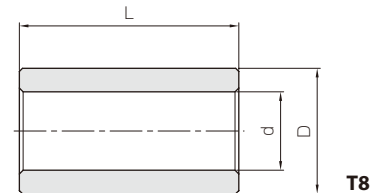
KBB Sintered Metal Bushings



Sintered Metal Bushings



The table below shows a series of standard metal bushings that can be pressed into standard injection molded gears.



T8

Catalog No.	I.D. of bushing	O.D. of bushing	Length	Products that can use the bushing
	d ^{+0.02} / ₀	D ^{+0.02} / _{0.01}	L _{0.3}	
KBB30507	3	5	7	DS0.5
KBB30608	3	6	8	DS0.5, DS0.8
KBB40609	4	6	9	DS0.8
KBB40612	4	6	12	DS1
KBB50812	5	8	12	DS1
KBB50814	5	8	14	DS1



Material: Oil impregnated sintered bronze



Injection Molded Spur Gears

Total length G	Web thickness (H)	Web O.D. (I)	Depth of counterbore (J)	Allowable torque (N-m)		Backlash (mm)	Weight (g)	Catalog No.
				Bending strength	Bending strength			
12	(3)	(8.5)	—	0.44	0.045	0~0.60	1.10	KDS1-12
12	(3)	(11)	—	0.65	0.066		1.49	KDS1-15
12	(3)	(11.5)	—	0.71	0.073		1.87	KDS1-16
12	(3)	(13.5)	—	0.83	0.085		2.15	KDS1-18
12	(3)	(15)	—	0.96	0.098		2.85	KDS1-20
12	(3)	(17)	—	1.22	0.12		3.81	KDS1-24
12	(3)	(20)	—	1.28	0.13		3.76	KDS1-25
12	(3)	(23)	—	1.48	0.15		4.39	KDS1-28
12	(3)	(24)	—	1.61	0.16		5.46	KDS1-30
12	(3)	(26.5)	—	1.75	0.18		5.86	KDS1-32
12	(3)	(29)	—	1.96	0.20		6.73	KDS1-35
12	(3)	(30)	—	2.04	0.21		7.01	KDS1-36
12	(3)	(34)	—	2.33	0.24		8.39	KDS1-40
12	(3)	(39.5)	—	2.69	0.27		9.87	KDS1-45
14	(3)	(40)	—	2.92	0.30		12.0	KDS1-48
14	(3)	(42.5)	—	3.07	0.31		12.6	KDS1-50
14	(3)	(48.5)	—	3.49	0.36		15.8	KDS1-56
14	(3)	(52.5)	—	3.78	0.39		17.6	KDS1-60
14	(3)	(56.5)	—	4.07	0.41		19.4	KDS1-64
14	(3)	(62.5)	—	4.50	0.46		22.4	KDS1-70
14	(3)	(64)	—	4.65	0.47	23.7	KDS1-72	
14	(3)	(72.5)	—	5.23	0.53	27.9	KDS1-80	

[Caution on Secondary Operations]

① Injection molded products may have air bubbles inside of the material; please avoid performing secondary operations.

■ Tolerance of Injection Molded Products. (Unit : mm)

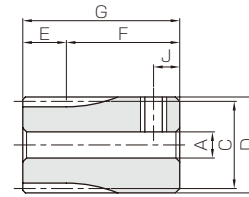
Range	Tolerance
below 3 mm	±0.20
3 up to 6 mm	±0.25
6 up to 10 mm	±0.30
10 up to 18 mm	±0.35
18 up to 30 mm	±0.40
30 mm up	±0.50

*Please see book one for additional products in these modules.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Free cutting brass (C3604)
Heat treatment	—
Tooth hardness	(more than 80HV)

*The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S3T

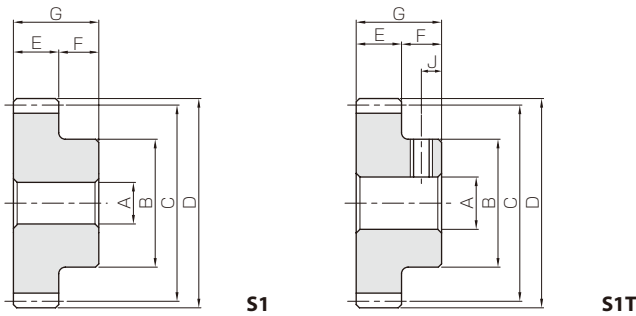
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				AH7	B	C	D	E	F	G	Width×Depth
KBSS0.5-15A	m0.5	15	S3T	3	8.5	7.5	8.5	3	11	14	—
KBSS0.5-16A		16	S3T	3	9	8	9	3	11	14	—
KBSS0.5-17A		17	S3T	3	9.5	8.5	9.5	3	11	14	—
KBSS0.5-18A		18	S3T	3	10	9	10	3	11	14	—
KBSS0.5-19A		19	S3T	3	10.5	9.5	10.5	3	11	14	—
KBSS0.5-20		20	S1	4	8.5				7	10	—
KBSS0.5-20A			S3T	3	11	10	11	3	11	14	—
KBSS0.5-20B			S3T	4	11				11	14	—
KBSS0.5-21A		21	S3T	3	11.5	10.5	11.5	3	11	14	—
KBSS0.5-22A		22	S1T	3	9	11	12	3	7	10	—
KBSS0.5-23A		23	S1T	3	9	11.5	12.5	3	7	10	—
KBSS0.5-24A		24	S1T	3	10	12	13	3	7	10	—
KBSS0.5-24B			S1T	4	10	12	13	3	7	10	—
KBSS0.5-25		25	S1	4	11				7	10	—
KBSS0.5-25A			S1T	3	10	12.5	13.5	3	7	10	—
KBSS0.5-25B			S1T	4	10						—
KBSS0.5-26A		26	S1T	3	10	13	14	3	7	10	—
KBSS0.5-27A		27	S1T	3	10	13.5	14.5	3	7	10	—
KBSS0.5-28A		28	S1T	3	12	14	15	3	7	10	—
KBSS0.5-29A		29	S1T	3	12	14.5	15.5	3	7	10	—
KBSS0.5-30		30	S1	4	13						—
KBSS0.5-30A			S1T	3	12				7	10	—
KBSS0.5-30B			S1T	4	12	15	16	3			—
KBSS0.5-30C			S1T	5	12						—
KBSS0.5-32A		32	S1T	4	14	16	17	3	7	10	—
KBSS0.5-34A		34	S1T	4	15	17	18	3	7	10	—
KBSS0.5-35A		35	S1T	4	15	17.5	18.5	3	7	10	—
KBSS0.5-36A		36	S1T	4	16	18	19	3	7	10	—
KBSS0.5-38A		38	S1T	4	16	19	20	3	7	10	—
KBSS0.5-40		40	S1	4	17						—
KBSS0.5-40A			S1T	4	18	20	21	3	7	10	—
KBSS0.5-40B			S1T	5	18						—
KBSS0.5-50A		50	S1T	4	22	25	26	3	7	10	—
KBSS0.5-50B			S1T	5	22						—
KBSS0.5-60A		60	S1T	5	28	30	31	3	7	10	—
KBSS0.5-60B			S1T	6	28						—
KBSS0.5-70A		70	S1T	5	28						—
KBSS0.5-70B			S1T	6	28	35	36	3	7	10	—
KBSS0.5-80A		80	S1T	5	28						—
KBSS0.5-80B			S1T	6	28	40	41	3	7	10	—

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ If diameter is less than Ø4, the diameter tolerance is H8. If diameter is Ø5 or Ø6, and the hole length exceeds 3 times of the diameter, the tolerance is also H8.

***For products not categorized in our Stock Gear series', custom gear production services with short lead times is available. For details see page VI.**

Brass Spur Gears



Set Screw		Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Bending strength			
M3	2.5	0.058	0.0059	0 ~0.10	0.0054	KBSS0.5-15A
M3	2.5	0.065	0.0066	0 ~0.10	0.0062	KBSS0.5-16A
M3	2.5	0.071	0.0072	0 ~0.10	0.0070	KBSS0.5-17A
M3	2.5	0.078	0.0079	0 ~0.10	0.0079	KBSS0.5-18A
M3	2.5	0.084	0.0086	0 ~0.10	0.0088	KBSS0.5-19A
—	—	0.091	0.0093	0 ~0.10	0.0043	KBSS0.5-20
M3	2.5				0.0098	KBSS0.5-20A
M3	2.5				0.0091	KBSS0.5-20B
M3	2.5	0.10	0.0099	0 ~0.10	0.011	KBSS0.5-21A
M3	3.5	0.10	0.011	0 ~0.10	0.0054	KBSS0.5-22A
M3	3.5	0.11	0.011	0 ~0.10	0.0056	KBSS0.5-23A
M3	3.5	0.12	0.012	0 ~0.10	0.0067	KBSS0.5-24A
M3	3.5	0.12	0.012	0 ~0.10	0.0063	KBSS0.5-24B
—	—	0.12	0.013	0 ~0.10	0.0077	KBSS0.5-25
M3	3.5				0.0070	KBSS0.5-25A
M3	3.5				0.0065	KBSS0.5-25B
M3	3.5	0.13	0.013	0 ~0.10	0.0072	KBSS0.5-26A
M3	3.5	0.14	0.014	0 ~0.10	0.0075	KBSS0.5-27A
M3	3.5	0.15	0.015	0 ~0.10	0.0097	KBSS0.5-28A
M3	3.5	0.15	0.016	0 ~0.10	0.010	KBSS0.5-29A
—	—	0.16	0.016	0 ~0.10	0.011	KBSS0.5-30
M3	3.5				0.010	KBSS0.5-30A
M3	3.5				0.0099	KBSS0.5-30B
M4	3.5				0.0092	KBSS0.5-30C
M3	3.5	0.17	0.018	0 ~0.10	0.013	KBSS0.5-32A
M3	3.5	0.19	0.019	0 ~0.10	0.015	KBSS0.5-34A
M3	3.5	0.20	0.020	0 ~0.10	0.015	KBSS0.5-35A
M3	3.5	0.20	0.021	0 ~0.10	0.017	KBSS0.5-36A
M3	3.5	0.22	0.022	0 ~0.10	0.018	KBSS0.5-38A
—	—	0.23	0.024	0 ~0.10	0.020	KBSS0.5-40
M3	3.5				0.022	KBSS0.5-40A
M4	3.5				0.021	KBSS0.5-40B
M3	3.5	0.31	0.031	0 ~0.10	0.033	KBSS0.5-50A
M4	3.5	0.032	KBSS0.5-50B			
M4	3.5	0.38	0.039	0 ~0.10	0.052	KBSS0.5-60A
M4	3.5	0.051	KBSS0.5-60B			
M4	3.5	0.46	0.047	0 ~0.10	0.058	KBSS0.5-70A
M4	3.5	0.057	KBSS0.5-70B			
M4	3.5	0.54	0.055	0 ~0.10	0.065	KBSS0.5-80A
M4	3.5	0.065	KBSS0.5-80B			

- [Caution on Secondary Operations]
- ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
 - ② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.
 - ③ When performing secondary operations, be aware of deflection and distortion as the tooth is thin in width.

***Please see book one for additional products in these modules.**



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

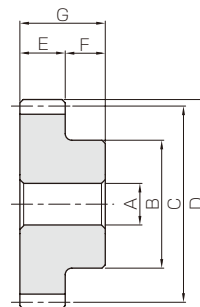
Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998)* JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Free cutting brass (C3604)
Heat treatment	—
Tooth hardness	(more than 80HV)

*The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



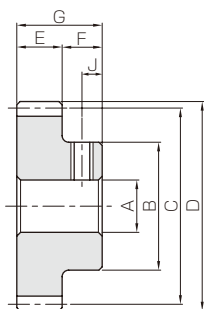
S1

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway	
				A _{H7}	B	C	D	E	F	G	Width×Depth	
KBSS0.8-15A	m0.8	15	S1T	4	9	12	13.6	4	8	12	—	
KBSS0.8-16A		16	S1T	4	10	12.8	14.4	4	8	12	—	
KBSS0.8-17A		17	S1T	4	10	13.6	15.2	4	8	12	—	
KBSS0.8-18A		18	S1T	4	10	14.4	16	4	8	12	—	
KBSS0.8-19A		19	S1T	4	12	15.2	16.8	4	8	12	—	
KBSS0.8-20		20	S1	5	13.5							—
KBSS0.8-20A			S1T	4	12	16	17.6	4	8	12	—	
KBSS0.8-20B			S1T	5	12							—
KBSS0.8-21A		21	S1T	5	14	16.8	18.4	4	8	12	—	
KBSS0.8-22A		22	S1T	5	15	17.6	19.2	4	8	12	—	
KBSS0.8-23A		23	S1T	5	15	18.4	20	4	8	12	—	
KBSS0.8-24A		24	S1T	4	16	19.2	20.8	4	8	12	—	
KBSS0.8-24B			S1T	5	16							—
KBSS0.8-25		25	S1	5	17							—
KBSS0.8-25A			S1T	4	16	20	21.6	4	8	12	—	
KBSS0.8-25B			S1T	5	16							—
KBSS0.8-26A		26	S1T	5	18	20.8	22.4	4	8	12	—	
KBSS0.8-27A		27	S1T	5	18	21.6	23.2	4	8	12	—	
KBSS0.8-28A		28	S1T	5	18	22.4	24	4	8	12	—	
KBSS0.8-29A		29	S1T	5	20	23.2	24.8	4	8	12	—	
KBSS0.8-30		30	S1	5	20							—
KBSS0.8-30A			S1T	4	20	24	25.6	4	8	12	—	
KBSS0.8-30B			S1T	5	20							—
KBSS0.8-30C			S1T	6	20							—
KBSS0.8-32A		32	S1T	5	22	25.6	27.2	4	8	12	—	
KBSS0.8-34A		34	S1T	5	22	27.2	28.8	4	8	12	—	
KBSS0.8-35A		35	S1T	5	25	28	29.6	4	8	12	—	
KBSS0.8-36A		36	S1T	5	25	28.8	30.4	4	8	12	—	
KBSS0.8-38A		38	S1T	5	25	30.4	32	4	8	12	—	
KBSS0.8-40		40	S1	5	20							—
KBSS0.8-40A	S1T		5	28	32	33.6	4	8	12	—		
KBSS0.8-40B	S1T		6	28							—	
KBSS0.8-50A	50	S1T	5	28	40	41.6	4	8	12	—		
KBSS0.8-50B		S1T	6	28							—	
KBSS0.8-60A	60	S1T	5	28	48	49.6	4	8	12	—		
KBSS0.8-60B		S1T	6	28							—	

[Caution on Product Characteristics]

- ① For products with a tapped hole, a set screw is included.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ If diameter is less than Ø4, the diameter tolerance is H8. If diameter is Ø5 or Ø6, and the hole length exceeds 3 times of the diameter, the tolerance is also H8.

***For products not categorized in our Stock Gear series, custom gear production services with short lead times is available. For details see page VI.**



S1T

Set Screw		Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Bending strength			
M3	4	0.20	0.020	0 ~0.10	0.0067	KBSS0.8-15A
M3	4	0.22	0.022	0 ~0.10	0.0082	KBSS0.8-16A
M3	4	0.24	0.025	0 ~0.10	0.0088	KBSS0.8-17A
M3	4	0.26	0.027	0 ~0.10	0.0094	KBSS0.8-18A
M3	4	0.29	0.029	0 ~0.10	0.012	KBSS0.8-19A
—	—	—	—	—	0.014	KBSS0.8-20
M3	4	0.31	0.032	0 ~0.10	0.013	KBSS0.8-20A
M4	4	—	—	—	0.012	KBSS0.8-20B
M4	4	0.33	0.034	0 ~0.10	0.015	KBSS0.8-21A
M4	4	0.36	0.036	0 ~0.10	0.018	KBSS0.8-22A
M4	4	0.38	0.039	0 ~0.10	0.018	KBSS0.8-23A
M3	4	0.40	0.041	0 ~0.10	0.022	KBSS0.8-24A
M4	4	—	—	—	0.021	KBSS0.8-24B
—	—	—	—	—	0.024	KBSS0.8-25
M3	4	0.43	0.043	0 ~0.10	0.023	KBSS0.8-25A
M4	4	—	—	—	0.022	KBSS0.8-25B
M4	4	0.45	0.046	0 ~0.10	0.026	KBSS0.8-26A
M4	4	0.47	0.048	0 ~0.10	0.027	KBSS0.8-27A
M4	4	0.50	0.051	0 ~0.10	0.028	KBSS0.8-28A
M4	4	0.52	0.053	0 ~0.10	0.033	KBSS0.8-29A
—	—	—	—	—	0.034	KBSS0.8-30
M3	4	0.55	0.056	0 ~0.10	0.035	KBSS0.8-30A
M4	4	—	—	—	0.034	KBSS0.8-30B
M4	4	—	—	—	0.033	KBSS0.8-30C
M4	4	0.60	0.061	0 ~0.10	0.040	KBSS0.8-32A
M4	4	0.64	0.066	0 ~0.10	0.042	KBSS0.8-34A
M4	4	0.67	0.068	0 ~0.10	0.051	KBSS0.8-35A
M4	4	0.69	0.071	0 ~0.10	0.052	KBSS0.8-36A
M4	4	0.74	0.076	0 ~0.10	0.055	KBSS0.8-38A
—	—	—	—	—	0.046	KBSS0.8-40
M4	4	0.79	0.081	0 ~0.10	0.066	KBSS0.8-40A
M4	4	—	—	—	0.065	KBSS0.8-40B
M4	4	1.05	0.11	0 ~0.10	0.081	KBSS0.8-50A
M4	4	—	—	—	0.080	KBSS0.8-50B
M4	4	1.31	0.13	0 ~0.10	0.10	KBSS0.8-60A
M4	4	—	—	—	0.099	KBSS0.8-60B

[Caution on Secondary Operations]

- ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
- ② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.
- ③ When performing secondary operations, be aware of deflection and distortion as the tooth is thin in width.

***Please see book one for additional products in these modules.**

Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

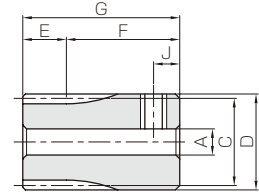
Worm Gear Pair

Bevel Gearboxes

Other Products



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	Free cutting brass (C3604)
Heat treatment	—
Tooth hardness	(more than 80HV)



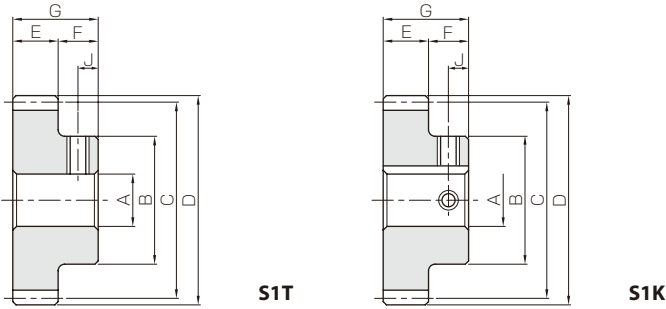
S3T

Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A _{H7}	B	C	D	E	F	G	Width×Depth
KBSS1-15A	m1	15	S3T	4	17	15	17	6	15	21	—
KBSS1-15B			S3T	5	17	15	17	6	15	21	—
KBSS1-16A		16	S1T	4	12	16	18	6	8	14	—
KBSS1-16B			S1T	5	12	16	18	6	8	14	—
KBSS1-17A		17	S1T	6	14	17	19	6	8	14	—
KBSS1-18A		18	S1T	5	15	18	20	6	8	14	—
KBSS1-18B			S1T	6	15	18	20	6	8	14	—
KBSS1-19A		19	S1T	6	16	19	21	6	8	14	—
KBSS1-20A		20	S1T	4	16	20	22	6	8	14	—
KBSS1-20B			S1T	5	16	20	22	6	8	14	—
KBSS1-20C			S1T	6	16	20	22	6	8	14	—
KBSS1-21A		21	S1T	6	18	21	23	6	8	14	—
KBSS1-22A		22	S1T	6	18	22	24	6	8	14	—
KBSS1-23A		23	S1T	6	20	23	25	6	8	14	—
KBSS1-24A		24	S1T	5	20	24	26	6	8	14	—
KBSS1-24B			S1T	6	20	24	26	6	8	14	—
KBSS1-24C			S1T	8	20	24	26	6	8	14	—
KBSS1-25A		25	S1T	5	22	25	27	6	8	14	—
KBSS1-25B			S1T	6	22	25	27	6	8	14	—
KBSS1-25C			S1T	8	22	25	27	6	8	14	—
KBSS1-26A		26	S1T	6	22	26	28	6	8	14	—
KBSS1-26B			S1T	8	22	26	28	6	8	14	—
KBSS1-27A		27	S1T	6	22	27	29	6	8	14	—
KBSS1-28A		28	S1T	6	25	28	30	6	8	14	—
KBSS1-29A		29	S1T	8	25	29	31	6	8	14	—
KBSS1-30A		30	S1T	5	25	30	32	6	8	14	—
KBSS1-30B			S1T	6	25	30	32	6	8	14	—
KBSS1-30C			S1T	8	25	30	32	6	8	14	—
KBSS1-30D			S1K	10	25	30	32	6	8	14	4 x 1.8
KBSS1-32A		32	S1T	5	28	32	34	6	8	14	—
KBSS1-32B			S1T	6	28	32	34	6	8	14	—
KBSS1-32C			S1T	8	28	32	34	6	8	14	—
KBSS1-32D			S1K	10	28	32	34	6	8	14	4 x 1.8
KBSS1-34A		34	S1T	8	28	34	36	6	8	14	—
KBSS1-35A		35	S1T	8	28	35	37	6	8	14	—
KBSS1-35B			S1K	10	28	35	37	6	8	14	4 x 1.8
KBSS1-36A		36	S1T	8	28	36	38	6	8	14	—
KBSS1-36B			S1K	10	28	36	38	6	8	14	4 x 1.8
KBSS1-38A		38	S1T	8	28	38	40	6	8	14	—
KBSS1-40A		40	S1T	6	28	40	42	6	8	14	—
KBSS1-40B			S1T	8	28	40	42	6	8	14	—
KBSS1-40C			S1K	10	28	40	42	6	8	14	4 x 1.8
KBSS1-50A		50	S1T	6	28	50	52	6	8	14	—
KBSS1-50B			S1T	8	28	50	52	6	8	14	—
KBSS1-50C			S1K	10	28	50	52	6	8	14	4 x 1.8

[Caution on Product Characteristics]

- ① Keyways are made according to JIS B1301 standards and Js 9 tolerances. For products with a tapped hole, a set screw is included as an accessory.
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
- ③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- ④ If diameter is less than $\phi 4$, the diameter tolerance is H8. If diameter is $\phi 5$ or $\phi 6$, and the hole length exceeds 3 times of the diameter, the tolerance is also H8.

Brass Spur Gears



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Set Screw		Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Bending strength			
M3	4	0.47	0.048	0.08~0.18	0.035	KBSS1-15A
M4	4			0.08~0.18	0.034	KBSS1-15B
M3	4	0.52	0.053	0.08~0.18	0.016	KBSS1-16A
M4	4			0.08~0.18	0.015	KBSS1-16B
M4	4	0.57	0.058	0.08~0.18	0.018	KBSS1-17A
M4	4			0.08~0.18	0.022	KBSS1-18A
M4	4	0.62	0.063	0.08~0.18	0.021	KBSS1-18B
M4	4			0.08~0.18	0.024	KBSS1-19A
M4	4	0.67	0.069	0.08~0.18	0.024	KBSS1-19A
M3	4			0.08~0.18	0.028	KBSS1-20A
M4	4	0.73	0.074	0.08~0.18	0.027	KBSS1-20B
M4	4			0.08~0.18	0.026	KBSS1-20C
M4	4	0.78	0.080	0.08~0.18	0.031	KBSS1-21A
M4	4			0.08~0.18	0.033	KBSS1-22A
M4	4	0.83	0.085	0.08~0.18	0.033	KBSS1-22A
M4	4			0.08~0.18	0.038	KBSS1-23A
M4	4	0.89	0.091	0.08~0.18	0.038	KBSS1-23A
M4	4			0.08~0.18	0.041	KBSS1-24A
M4	4	0.94	0.10	0.08~0.18	0.041	KBSS1-24A
M4	4			0.08~0.18	0.040	KBSS1-24B
M5	4	0.94	0.10	0.08~0.18	0.037	KBSS1-24C
M4	4			0.08~0.18	0.047	KBSS1-25A
M4	4	1.00	0.10	0.08~0.18	0.046	KBSS1-25B
M5	4			0.08~0.18	0.044	KBSS1-25C
M4	4	1.05	0.11	0.08~0.18	0.048	KBSS1-26A
M5	4			0.08~0.18	0.046	KBSS1-26B
M4	4	1.11	0.11	0.08~0.18	0.051	KBSS1-27A
M4	4			0.08~0.18	0.060	KBSS1-28A
M4	4	1.17	0.12	0.08~0.18	0.060	KBSS1-28A
M5	4			0.08~0.18	0.059	KBSS1-29A
M4	4	1.22	0.12	0.08~0.18	0.059	KBSS1-29A
M4	4			0.08~0.18	0.066	KBSS1-30A
M4	4	1.28	0.13	0.08~0.18	0.065	KBSS1-30B
M5	4			0.08~0.18	0.062	KBSS1-30C
M4	4	1.28	0.13	0.08~0.18	0.058	KBSS1-30D
M4	4			0.08~0.18	0.079	KBSS1-32A
M4	4	1.40	0.14	0.08~0.18	0.078	KBSS1-32B
M5	4			0.08~0.18	0.075	KBSS1-32C
M4	4	1.40	0.14	0.08~0.18	0.075	KBSS1-32C
M4	4			0.08~0.18	0.071	KBSS1-32D
M5	4	1.51	0.15	0.08~0.18	0.080	KBSS1-34A
M5	4			0.08~0.18	0.083	KBSS1-35A
M4	4	1.57	0.16	0.08~0.18	0.083	KBSS1-35A
M4	4			0.08~0.18	0.079	KBSS1-35B
M5	4	1.63	0.17	0.08~0.18	0.086	KBSS1-36A
M4	4			0.08~0.18	0.082	KBSS1-36B
M5	4	1.74	0.18	0.08~0.18	0.092	KBSS1-38A
M4	4			0.08~0.18	0.10	KBSS1-40A
M4	4	1.86	0.19	0.08~0.18	0.10	KBSS1-40A
M5	4			0.08~0.18	0.098	KBSS1-40B
M4	4	1.86	0.19	0.08~0.18	0.094	KBSS1-40C
M4	4			0.08~0.18	0.14	KBSS1-50A
M5	4	2.46	0.25	0.08~0.18	0.13	KBSS1-50B
M4	4			0.08~0.18	0.13	KBSS1-50C

- [Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
 ② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.
 ③ When performing secondary operations, be aware of deflection and distortion as the tooth is thin in width.

*Please see book one for additional products in these modules.

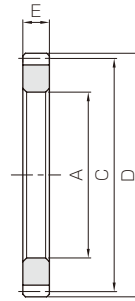




- Spur Gears
- Helical Gears
- Internal Gears
- Racks
- CP Racks & Pinions
- Miter Gears
- Bevel Gears
- Screw Gears
- Worm Gear Pair
- Bevel Gearboxes
- Other Products



Specifications	
Precision grade	JIS grade N9 (JIS B1702-1: 1998) JIS grade 5 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	-
Tooth hardness	(less than 194HB)



S5

Catalog No.	Module	No. of teeth	Shape	Bore	Pitch dia.	Outside dia.	Face width	Allowable torque (N-m)		Allowable torque (kgf-m)	
				A _{H8}	C	D	E	Bending strength	Surface durability	Bending strength	Surface durability
KSSR2-120 KSSR2-200	m2	120	S5	194	240	244	20	366	44.0	37.4	4.49
		200	S5	354	400	404	20	630	84.2	64.3	8.59
KSSR2.5-120 KSSR2.5-200	m2.5	120	S5	245	300	305	25	715	88.5	72.9	9.02
		200	S5	445	500	505	25	1230	169	126	17.2
KSSR3-120 KSSR3-160	m3	120	S5	296	360	366	30	1240	157	126	16.0
		160	S5	416	480	486	30	1680	226	171	23.0

Backlash (mm)	Weight (kg)	Catalog No.
0.17~0.37	2.46	KSSR2-120
0.20~0.41	4.28	KSSR2-200
0.19~0.41	4.62	KSSR2.5-120
0.22~0.46	8.01	KSSR2.5-200
0.22~0.45	7.77	KSSR3-120
0.22~0.45	10.6	KSSR3-160

- [Caution on Product Characteristics]
- ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
 - ② The backlash values shown in the table are the theoretical values for the normal direction for the ring gear in mesh with a 30 tooth KSS type spur gear.
 - ③ Although the inside diameter of these gears are made to H8 tolerance, since the ring shape is easily deformed, some error may occur beyond the stated tolerance.

- [Caution on Secondary Operations]
- ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns.
 - ② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.

***Please see book one for additional products in these modules.**

***For products not categorized in our catalog, custom gear production services with short lead times are available. For details see page VI.**