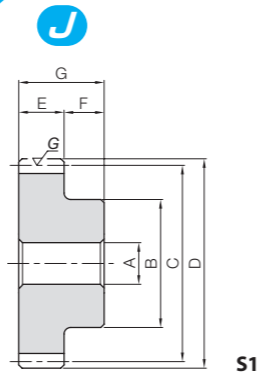




Specifications	
Precision grade	JIS grade N6 (JIS B1702-1: 1998)*
Reference section of gear	Rotating plane
Gear teeth	Standard full depth
Transverse pressure angle	20°
Helix angle	21°30'
Material	SCM440
Heat treatment	Thermal refined, gear teeth induction hardened**
Tooth hardness	50 to 60HRC
Surface treatment	Black oxide coated except for teeth

\* The precision grade of J Series products is equivalent to the value shown in the table.  
 \*\* Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).

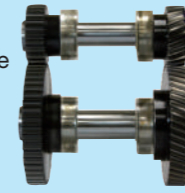


Catalog Number	Module	No. of teeth	Direction of helix	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width	Total length	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)							
					A <sub>H7</sub>	B						Bending strength	Surface durability	Bending strength	Surface durability									
KHG1-20R KHG1-20L	m1	20	R L	S1	6	17	20	22	8	10	18	7.80	4.96	0.80	0.51	0.08~0.16	0.034							
KHG1-24R KHG1-24L		24	R L		8	20	24	26				10.1	7.43	1.03	0.76									
KHG1-30R KHG1-30L		30	R L		10	25	30	32				13.6	12.2	1.39	1.24									
KHG1-40R KHG1-40L		40	R L		12	30	40	42				17.9	20.8	1.83	2.12									
KHG1-50R KHG1-50L		50	R L		14	35	50	52				23.6	33.8	2.41	3.45									
KHG1-60R KHG1-60L		60	R L		16	40	60	62				29.4	50.2	2.99	5.12									
KHG1-70R KHG1-70L		70	R L		18	40	70	72				35.2	70.1	3.59	7.15									
KHG1.5-20R KHG1.5-20L		m1.5	20		R L	S1	12	24				30	33	12	12			24	26.3	17.2	2.68	1.75	0.08~0.16	0.088
KHG1.5-24R KHG1.5-24L			24		R L		12	28				36	39						30.9	23.4	3.16	2.39		
KHG1.5-30R KHG1.5-30L			30		R L		15	38				45	48						41.8	38.4	4.26	3.92		
KHG1.5-32R KHG1.5-32L	32		R L	15	40		48	51	45.5	44.3	4.64	4.52												
KHG1.5-36R KHG1.5-36L	36		R L	15	45		54	57	53.0	57.4	5.40	5.85												
KHG1.5-40R KHG1.5-40L	40		R L	18	50		60	63	60.5	72.3	6.17	7.38												
KHG1.5-50R KHG1.5-50L	50		R L	20	60		75	78	79.7	118	8.13	12.0												
KHG1.5-60R KHG1.5-60L	60		R L	20	60		90	93	99.1	175	10.1	17.9												
KHG1.5-80R KHG1.5-80L	80		R L	20	70		120	123	132	313	13.5	32.0												
KHG1.5-90R KHG1.5-90L	90		R L	20	70		135	138	151	404	15.4	41.2												
KHG1.5-100R KHG1.5-100L	100	R L	20	70	150	153	170	508	17.4	51.8														

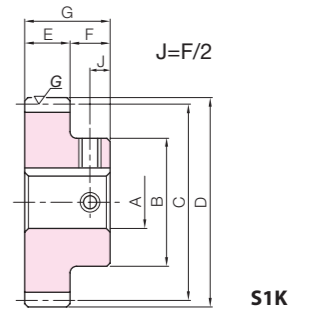
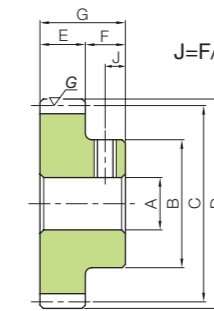
[Caution on Secondary Operations] ① Because of the influence of hardening residual stress, avoid removing the entire boss, as it may cause the gears to deform.

Usable in the assembly distance of the spur gear.

KHG ground helical gears use a "transverse" module. The assembly distance is the same as spur gear pairs with the same module and number of teeth. Improved strength and low noise: Take the next step up from spur gears.



### J Series



To order J Series products, please specify: **Catalog No. + J + BORE.**

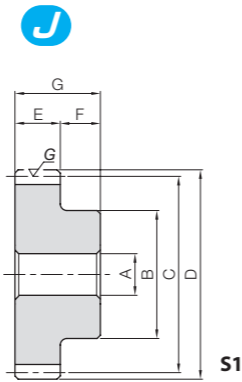
Bore H7	* The product shapes of J Series items are identified by background color.														
	6	8	10	12	14	15	16	17	18	19	20	22	25	28	30
Keyway J <sub>S9</sub>	-		4x1.8		5x2.3			6x2.8			8x3.3				
Screw size	-		4x1.8		5x2.3			6x2.8			8x3.3				
Catalog Number	M4	M5	M4			M5			M6						
KHG1-20R J BORE															
KHG1-20L J BORE															
KHG1-24R J BORE															
KHG1-24L J BORE															
KHG1-30R J BORE															
KHG1-30L J BORE															
KHG1-40R J BORE															
KHG1-40L J BORE															
KHG1-50R J BORE															
KHG1-50L J BORE															
KHG1-60R J BORE															
KHG1-60L J BORE															
KHG1-70R J BORE															
KHG1-70L J BORE															
KHG1.5-20R J BORE															
KHG1.5-20L J BORE															
KHG1.5-24R J BORE															
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KHG1.5-80L J BORE															
KHG1.5-90R J BORE															
KHG1.5-90L J BORE															
KHG1.5-100R J BORE															
KHG1.5-100L J BORE															

[Caution on J series] ① Cancellation is not possible for made-to-order products. See page 42 for lead times and allowable order quantities. See page 44 for other precautions.



Specifications	
Precision grade	JIS grade N6 (JIS B1702-1: 1998)
Reference section of gear	Rotating plane
Gear teeth	Standard full depth
Transverse pressure angle	20°
Helix angle	21°30'
Material	SCM440
Heat treatment	Thermal refined, gear teeth induction hardened**
Tooth hardness	50 to 60HRC
Surface treatment	Black oxide coated except for teeth

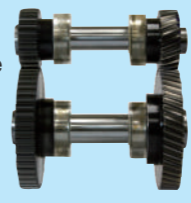
\* The precision grade of J Series products is equivalent to the value shown in the table.  
 \*\* Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).



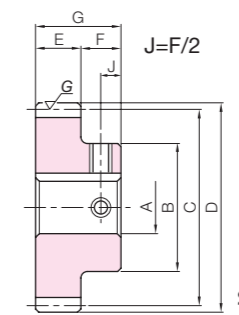
Catalog Number	Module	No. of teeth	Direction of helix	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	
					A <sub>H7</sub>	H7							Bending strength	Surface durability	Bending strength	Surface durability			
KHG2-15R KHG2-15L	m2	15	R L	S1	12	A <sub>H7</sub>	24	30	34	16	13	29	40.5	21.1	4.13	2.15	0.10~0.20	0.11	
KHG2-18R KHG2-18L		18	R L				30	36	40				48.6	29.5	4.96	3.01			0.17
KHG2-20R KHG2-20L		20	R L				32	40	44				56.7	37.8	5.78	3.85			0.20
KHG2-25R KHG2-25L		25	R L				40	50	54				77.6	62.1	7.91	6.33			0.33
KHG2-26R KHG2-26L		26	R L				42	52	56				81.8	67.8	8.35	6.91			0.37
KHG2-30R KHG2-30L		30	R L				50	60	64				99.1	93.1	10.1	9.49			0.50
KHG2-32R KHG2-32L		32	R L				50	64	68				108	107	11.0	10.9			0.55
KHG2-35R KHG2-35L		35	R L				50	70	74				121	131	12.4	13.3			0.63
KHG2-36R KHG2-36L		36	R L				50	72	76				126	139	12.8	14.2			0.65
KHG2-40R KHG2-40L		40	R L				60	80	84				143	176	14.6	17.9			0.85
KHG2-48R KHG2-48L		48	R L				60	96	100				172	251	17.5	25.6			1.13
KHG2-50R KHG2-50L		50	R L				60	100	104				181	274	18.4	28.0			1.16
KHG2-60R KHG2-60L		60	R L				65	120	124				225	408	22.9	41.7			1.65
KHG2-70R KHG2-70L		70	R L				70	140	144				269	572	27.4	58.3			2.21
KHG2-80R KHG2-80L		80	R L				80	160	164				301	732	30.7	74.7			2.93

[Caution on Secondary Operations] ① Because of the influence of hardening residual stress, avoid removing the entire boss, as it may cause the gears to deform.

Usable in the assembly distance of the spur gear.  
 KHG ground helical gears use a "transverse" module.  
 The assembly distance is the same as spur gear pairs with the same module and number of teeth.  
 Improved strength and low noise:  
 Take the next step up from spur gears.



### J Series



To order J Series products, please specify: **Catalog No. + J + BORE.**

Bore H7	* The product shapes of J Series items are identified by background color.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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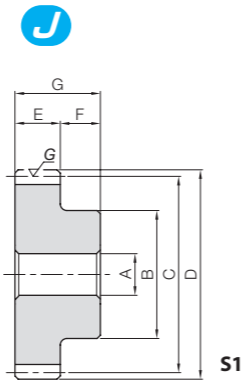
[Caution on J series] ① Cancellation is not possible for made-to-order products. See page 42 for lead times and allowable order quantities. See page 44 for other precautions.

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

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



Specifications	
Precision grade	JIS grade N6 (JIS B1702-1: 1998)*
Reference section of gear	Rotating plane
Gear teeth	Standard full depth
Transverse pressure angle	20°
Helix angle	21°30'
Material	SCM440
Heat treatment	Thermal refined, gear teeth induction hardened**
Tooth hardness	50 to 60HRC
Surface treatment	Black oxide coated except for teeth



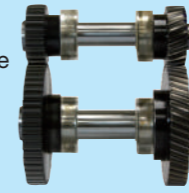
\* The precision grade of J Series products is equivalent to the value shown in the table.  
 \*\* Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).

Catalog Number	Module	No. of teeth	Direction of helix	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width	Total length	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)			
					A <sub>H7</sub>	B						Bending strength	Surface durability	Bending strength	Surface durability					
KHG2.5-18R KHG2.5-18L	m2.5	18	R L	S1	15	38	45	50	20	14	34	94.9	58.6	9.68	5.97	0.10~0.20	0.33			
KHG2.5-20R KHG2.5-20L		20	R L		18	40	50	55				111	75.0	11.3	7.65			0.38		
KHG2.5-26R KHG2.5-26L		26	R L		20	50	65	70				160	135	16.3	13.7			0.65		
KHG2.5-40R KHG2.5-40L		40	R L		25	70	100	105				268	335	27.3	34.1			1.53		
KHG2.5-48R KHG2.5-48L		48	R L			75	120	125				336	500	34.2	51.0			2.13		
KHG2.5-60R KHG2.5-60L		60	R L			80	150	155				439	815	44.8	83.2			3.20		
KHG3-16R KHG3-16L		m3	16			R L	S1	18				38	48	54	143			80.5	14.6	8.21
KHG3-18R KHG3-18L			18		R L	40						54	60	171	106			17.4	10.8	0.53
KHG3-20R KHG3-20L			20		R L	20		50				60	66	199	136			20.3	13.9	0.70
KHG3-24R KHG3-24L			24		R L			58				72	78	258	206			26.3	21.0	1.03
KHG3-28R KHG3-28L	28		R L	70	84			90	318	290	32.4	29.6	1.47							
KHG3-30R KHG3-30L	30		R L	25	75			90	96	349	339	35.5	34.5	1.65						
KHG3-35R KHG3-35L	35		R L		18	80		105	111	407	456	41.5	46.5	2.17						
KHG3-36R KHG3-36L	36		R L			80		108	114	422	485	43.1	49.5	2.27						
KHG3-40R KHG3-40L	40		R L		30	80		120	126	483	613	49.2	62.5	2.69						
KHG3-45R KHG3-45L	45		R L			80		135	141	559	795	57.0	81.0	3.28						
KHG3-48R KHG3-48L	48	R L	85			144	150	604	916	61.6	93.4	3.75								
KHG3-50R KHG3-50L	50	R L	85	150		156	635	1000	64.8	102	3.95									
KHG3-60R KHG3-60L	60	R L	90	180	186	757	1430	77.2	146	5.57										

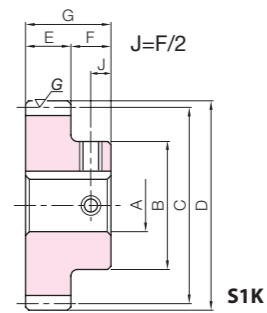
[Caution on Secondary Operations] ① Because of the influence of hardening residual stress, avoid removing the entire boss, as it may cause the gears to deform.

Usable in the assembly distance of the spur gear.

KHG ground helical gears use a "transverse" module. The assembly distance is the same as spur gear pairs with the same module and number of teeth. Improved strength and low noise: Take the next step up from spur gears.



J Series



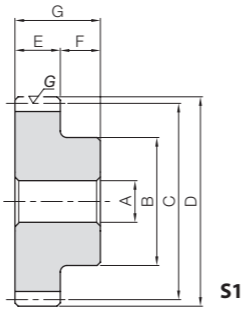
To order J Series products, please specify: **Catalog No. + J + BORE.**

Bore H7	* The product shapes of J Series items are identified by background color.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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[Caution on J series] ① Cancellation is not possible for made-to-order products. See page 42 for lead times and allowable order quantities. See page 44 for other precautions.



Specifications	
Precision grade	JIS grade N6 (JIS B 1702-1: 1999)*
Reference section of gear	Rotating plane
Gear teeth	Standard full depth
Transverse pressure angle	20°
Helix angle	21°30'
Material	SCM440
Heat treatment	Thermal refined, gear teeth induction hardened**
Tooth hardness	50 to 60HRC
Surface treatment	-

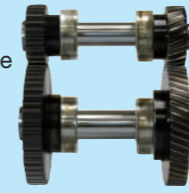


S1

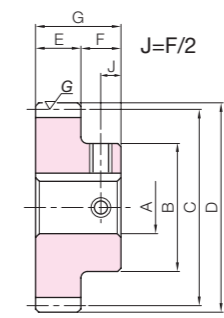
\* The precision grade of J Series products is equivalent to the value shown in the table.  
 \*\* Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).

Usable in the assembly distance of the spur gear.

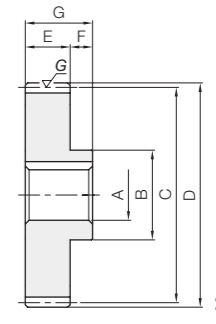
KHG ground helical gears use a "transverse" module. The assembly distance is the same as spur gear pairs with the same module and number of teeth. Improved strength and low noise: Take the next step up from spur gears.



J Series



S1K



S1SK

To order J Series products, please specify: **Catalog No. + J + BORE.**

Catalog Number	Module	No. of teeth	Direction of helix	Shape	Bore A <sub>H7</sub>	Hub dia. B	Pitch dia. C	Outside dia. D	Face width E	Hub width F	Total length G	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)				
												Bending strength	Surface durability	Bending strength	Surface durability						
KHG4-18RS KHG4-18LS	m4	18	R	S1	20	60	72	80	32	25	57	389	244	39.7	24.9	0.10~0.20	1.44				
KHG4-20RS KHG4-20LS			L															65	80	88	454
KHG4-25RS KHG4-25LS		R	80			100	108	621				513	63.3	52.3							
KHG4-30RS KHG4-30LS		L													120			128	793	769	80.9
KHG4-36RS KHG4-36LS		R	90			144	152	1000				1150	102	117							
KHG4-40RS KHG4-40LS		L													160			168	1150	1450	117
KHG4-50RS KHG4-50LS		R	100		200	208	1450	2270	147	231											
KHG4-60RS KHG4-60LS		L									110	240	248	1800	3380			183	344		
KHG5-18RS KHG5-18LS		m5	18		R	S1	25	70	90	100										40	25
KHG5-20RS KHG5-20LS					L						82	100	110	886	620			90.3	63.2		
KHG5-25RS KHG5-25LS			R		105			125	135	1210											
KHG5-30RS KHG5-30LS			L								120	150	160	1550	1530			158	156		
KHG5-36RS KHG5-36LS	R		130	180	190			1960	2290	200						234					
KHG5-40RS KHG5-40LS	L										140	200	210	2140	2770		219	282			
KHG5-50RS KHG5-50LS	R		250	260	2820		4520	288	461												
KHG5-60RS KHG5-60LS	L									300	310	3510	6740	358	687						
KHG6-18RS KHG6-18LS	m6		18	R	S1		30	80	108							120	48	28	76	1310	848
KHG6-20RS KHG6-20LS				L						100	120	132	1530	1090	156						
KHG6-25RS KHG6-25LS			R	125				150	162							2090				1790	214
KHG6-30RS KHG6-30LS			L							150	180	192	2680	2690	273						
KHG6-36RS KHG6-36LS		R	160	216		228		3240	3850							331				393	
KHG6-40RS KHG6-40LS		L								170	240	252	3710	4860	378						496
KHG6-50RS KHG6-50LS		R	300	312		4880	7950	497	811												
KHG6-60RS KHG6-60LS		L								360	372	5810	11400	593	1160						

Bore H7	* The product shapes of J Series items are identified by background color.																					
	20	22	25	28	30	32	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Keyway J <sub>S9</sub>	6x2.8			8x3.3			10x3.3	12x3.3	14x3.8	16x4.3	18x4.4			20x4.9		22x5.4		25x5.4		28x6.4		
Screw size																						
Catalog Number	M5			M6			M8			M10			M12			M16					M20	
KHG4-18RS J BORE	Ask for Quote																					
KHG4-18LS J BORE	Ask for Quote																					
KHG4-20RS J BORE	Ask for Quote																					
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KHG4-25LS J BORE	Ask for Quote																					
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KHG4-30LS J BORE	Ask for Quote																					
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KHG4-36LS J BORE	Ask for Quote																					
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KHG6-60RS J BORE	Ask for Quote																					
KHG6-60LS J BORE	Ask for Quote																					

[Caution on Product Characteristics] ① Products with S at the end of the catalog number are semi-custom stock products. See page 42 for lead times and allowable order quantities. See page 44 for other precautions.  
 ② For S semi-custom standard products weighing 15 kg or more, eyebolt screw threads (2-M12 depth 25 mm) are machined around the outside of the hub side surface. Details of the PCD of the screw threads are located on page 193.  
 [Caution on Secondary Operations] ① Because of the influence of hardening residual stress, avoid removing the entire boss, as it may cause the gears to deform.

[Caution on J series] ① Cancellation is not possible for made-to-order products. See page 42 for lead times and allowable order quantities. See page 44 for other precautions.