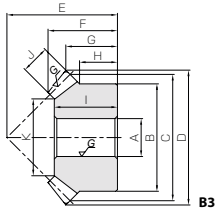
Ground Spiral Miter Gears

Module 1 ～ 5

Specifications	
Precision grade	JIS B 1704 : 1978 grade 2
Gear teeth	Gleason
Pressure angle	20°
Helix angle	35°
Material	S45C
Heat treatment	Teeth induction hardened
Tooth hardness	50 ～ 60HRC
Gear ratio	1
Screw offset (L)	Half of hub width (H)

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

A_{H7}	Bore
B	Hub dia.
C	Pitch dia.
D	Outside dia.
E	Mounting distance
F	Total length
G	Crown to back
H	Hub width
I	Length of bore
J	Face width
K	Holding surface dia.



Standardized ground spiral miter gears available in Module 1!

Catalog No.	No. of teeth	Shape	A_{H7}	B	C	D	E	F	G	H	I	J	K	Allowable torque (N·m) Bending strength	Allowable torque (N·m) Surface durability	Allowable torque (kgf·m) Bending strength	Allowable torque (kgf·m) Surface durability	Backlash (mm)	Weight (kg)
SMSG1-20R SMSG1-20L	20	B3	6	16	20	21.30	20	13.84	10.65	8	12	5	9.86	1.17	0.97	0.12	0.099	0.02~0.08	0.019
SMSG1.5-20R SMSG1.5-20L			8	26	30	31.74	30	21.18	15.87	13	19	8	15.37	4.10	3.47	0.42	0.35	0.04~0.10	0.074
SMSG2-20R SMSG2-20L			12	34	40	42.4	37	24.75	18.2	14	22	10	21.72	7.83	6.79	0.80	0.69	0.05~0.11	0.15
SMSG2.5-20R SMSG2.5-20L			14	42	50	52.94	48	32.42	24.47	19	29	12	28.06	14.9	13.2	1.52	1.35	0.06~0.12	0.30
SMSG3-20R SMSG3-20L			16	50	60	63.72	58	39.6	29.86	23	35	15	31.57	26.4	23.7	2.69	2.42	0.07~0.13	0.52
SMSG3.5-20R SMSG3.5-20L			20	60	70	74.47	65	43.81	32.23	25	40	18	39.09	42.6	38.8	4.35	3.96	0.08~0.14	0.82
SMSG4-20R SMSG4-20L			20	64	80	84.88	75	50.51	37.44	27	45	20	43.43	62.6	57.8	6.39	5.90	0.10~0.16	1.15
SMSG5-20R SMSG5-20L			25	80	100	105.9	90	60.16	42.95	30	54	26	54.46	115	109	11.8	11.1	0.12~0.18	2.13
SMSG1-25R SMSG1-25L	25		6	20	25	26.22	23	15.08	11.11	8	14	6	15.03	1.88	1.91	0.19	0.19	0.02~0.08	0.035
SMSG1.5-25R SMSG1.5-25L			10	30	37.5	39.31	34	22.14	16.16	11.5	19	9	19.54	5.29	5.52	0.54	0.56	0.04~0.10	0.11
SMSG2-25R SMSG2-25L			12	40	50	52.4	40	24.19	16.2	10	20	12	26.06	12.6	13.5	1.28	1.37	0.05~0.11	0.21
SMSG2.5-25R SMSG2.5-25L			16	50	62.5	65.54	50	30.24	20.27	12.5	26	15	34.57	24.5	26.8	2.50	2.74	0.06~0.12	0.42
SMSG3-25R SMSG3-25L			20	60	75	78.77	60	37.57	24.39	15	32	20	37.43	45.0	50.0	4.59	5.10	0.07~0.13	0.74
SMSG3.5-25R SMSG3.5-25L			25	70	87.5	91.81	70	42.98	28.41	17.5	37	22	46.77	69.2	78.1	7.05	7.97	0.08~0.14	1.14
SMSG4-25R SMSG4-25L			28	80	100	104.7	80	49.14	32.35	20	43	25	55.29	95.0	109	9.68	11.1	0.10~0.16	1.71
SMSG5-25R SMSG5-25L			28	100	125	130.86	100	60.59	40.43	25	50	30	65.15	181	213	18.5	21.7	0.12~0.18	3.39
SMSG1-30R SMSG1-30L	30		8	24	30	31.26	28	17.61	13.63	10	16	6	19.03	2.50	3.02	0.25	0.31	0.02~0.08	0.057
SMSG1.5-30R SMSG1.5-30L			10	36	45	46.84	43	28.11	21.42	16	25	10	25.72	7.53	9.35	0.77	0.95	0.04~0.10	0.21
SMSG2-30R SMSG2-30L			12	45	60	62.42	50	29.27	21.21	12.5	25	12	36.06	16.7	21.4	1.70	2.18	0.05~0.11	0.37
SMSG2.5-30R SMSG2.5-30L			16	60	75	78.04	62	36.08	26.02	17	32	15	47.57	32.6	42.7	3.32	4.36	0.06~0.12	0.76
SMSG3-30R SMSG3-30L			20	70	90	93.61	75	45.25	31.8	20	40	20	53.43	60.3	80.4	6.15	8.20	0.07~0.13	1.32
SMSG3.5-30R SMSG3.5-30L			25	90	105	109.21	85	49.4	34.6	25	45	22	67.77	85.1	115	8.68	11.8	0.08~0.14	2.19
SMSG4-30R SMSG4-30L			28	100	120	124.71	95	54.28	37.35	25	50	25	79.29	127	174	12.9	17.8	0.10~0.16	3.07
SMSG5-30R SMSG5-30L			28	130	150	155.90	120	68.20	47.95	35	62	30	99.15	240	332	24.5	33.9	0.12~0.18	6.44

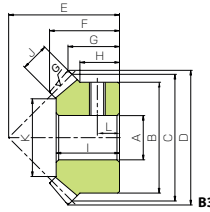
[Caution on Product Characteristics]
① A sets of miter gears must be identical in module and number of teeth, but opposite in spiral hands.
② The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 253 for more details.
③ Dimensions of the outside diameter, the overall length and crown to back length are all theoretical values, and some differences will occur due to the corner chamfering of the gear tips.
④ These gears produce axial thrust forces. See page 254 for more details.

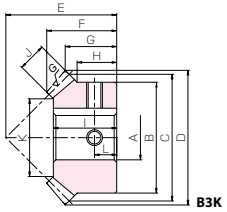
[Caution on Secondary Operations]
① Please read "Caution on Performing Secondary Operations" (Page 254) when performing modification and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
② Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 1 to 2 mm).

J Series

Ground Spiral Miter Gears

Newly added





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

＊ The product shapes of J Series items are identified by background color.

Bore H7	6	8	10	12	14	15	16	17	18	19	20	22	25	28	30	32	35	40	45	50
Keyway Js9			4 × 1.8		5 × 2.3				6 × 2.8				8 × 3.3			10 × 3.3		12 × 3.3	14 × 3.8	
Screw size	—																			
Catalog No.	M4	M5	M4						M5				M6			M8			M10	
SMSG1-20R J BORE SMSG1-20L J BORE	■																			
SMSG1.5-20R J BORE SMSG1.5-20L J BORE		■	■																	
SMSG2-20R J BORE SMSG2-20L J BORE				■	■	■	■													
SMSG2.5-20R J BORE SMSG2.5-20L J BORE					■	■	■	■	■	■	■									
SMSG3-20R J BORE SMSG3-20L J BORE							■	■	■	■	■	■								
SMSG3.5-20R J BORE SMSG3.5-20L J BORE											■	■	■	■	■					
SMSG4-20R J BORE SMSG4-20L J BORE											■	■	■	■	■	■	■			
SMSG5-20R J BORE SMSG5-20L J BORE													■	■	■	■	■	■	■	
SMSG1-25R J BORE SMSG1-25L J BORE	■	■																		
SMSG1.5-25R J BORE SMSG1.5-25L J BORE			■	■	■															
SMSG2-25R J BORE SMSG2-25L J BORE				■	■	■	■	■	■	■										
SMSG2.5-25R J BORE SMSG2.5-25L J BORE							■	■	■	■	■	■	■							
SMSG3-25R J BORE SMSG3-25L J BORE											■			■						
SMSG3.5-25R J BORE SMSG3.5-25L J BORE													■	■	■	■	■			
SMSG4-25R J BORE SMSG4-25L J BORE														■	■	■	■	■	■	
SMSG5-25R J BORE SMSG5-25L J BORE														■	■	■	■	■	■	■
SMSG1-30R J BORE SMSG1-30L J BORE		■	■	■																
SMSG1.5-30R J BORE SMSG1.5-30L J BORE			■	■	■	■	■	■	■	■										
SMSG2-30R J BORE SMSG2-30L J BORE				■	■	■	■	■	■	■	■	■	■							
SMSG2.5-30R J BORE SMSG2.5-30L J BORE							■	■	■	■	■	■	■	■	■	■				
SMSG3-30R J BORE SMSG3-30L J BORE											■	■	■	■	■	■	■	■		
SMSG3.5-30R J BORE SMSG3.5-30L J BORE													■	■	■	■	■	■	■	■
SMSG4-30R J BORE SMSG4-30L J BORE														■	■	■	■	■	■	■
SMSG5-30R J BORE SMSG5-30L J BORE														■	■	■	■	■	■	■

[Caution on J series]
① As available-on-request products, requires a lead-time for shipping within 2 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 conterbored 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.