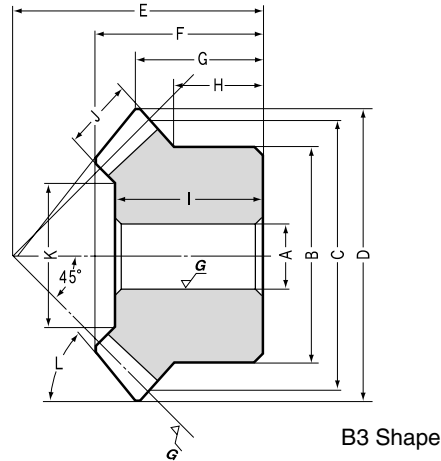




# SMSG Ground Spiral Miter Gears Module 2~5



## 20 Tooth Miter Gears Modules 2~5

Catalog No.	Direction of Spiral	Module	No. of teeth	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length	Hub width	Length of bore	Face width
		<i>m</i>	<i>z</i>	AH7	B	C	D	E	F	G	H	I	J
<b>SMSG2 -20R</b> <b>SMSG2 -20L</b>	R L	2	20	12	34	40	42.4	37	24.75	18.2	14	22	10
<b>SMSG2.5-20R</b> <b>SMSG2.5-20L</b>	R L	2.5	20	14	42	50	52.94	48	32.42	24.47	19	29	12
<b>SMSG3 -20R</b> <b>SMSG3 -20L</b>	R L	3	20	16	50	60	63.72	58	39.6	29.86	23	35	15
<b>SMSG3.5-20R</b> <b>SMSG3.5-20L</b>	R L	3.5	20	20	60	70	74.47	65	43.81	32.23	25	40	18
<b>SMSG4 -20R</b> <b>SMSG4 -20L</b>	R L	4	20	20	64	80	84.88	75	50.51	37.44	27	45	20
<b>SMSG5 -20R</b> <b>SMSG5 -20L</b>	R L	5	20	25	80	100	105.9	90	60.16	42.95	30	54	26

## 25 Tooth Miter Gears Modules 2~5

<b>SMSG2 -25R</b> <b>SMSG2 -25L</b>	R L	2	25	12	40	50	52.4	40	24.19	16.2	10	20	12
<b>SMSG2.5-25R</b> <b>SMSG2.5-25L</b>	R L	2.5	25	16	50	62.5	65.54	50	30.24	20.27	12.5	26	15
<b>SMSG3 -25R</b> <b>SMSG3 -25L</b>	R L	3	25	20	60	75	78.77	60	37.57	24.39	15	32	20
<b>SMSG3.5-25R</b> <b>SMSG3.5-25L</b>	R L	3.5	25	25	70	87.5	91.81	70	42.98	28.41	17.5	37	22
<b>SMSG4 -25R</b> <b>SMSG4 -25L</b>	R L	4	25	28	80	100	104.7	80	49.14	32.55	20	43	25
<b>SMSG5 -25R</b> <b>SMSG5 -25L</b>	R L	5	25	28	100	125	130.86	100	60.59	40.43	25	50	30

## 30 Tooth Miter Gears Modules 2~4

<b>SMSG2 -30R</b> <b>SMSG2 -30L</b>	R L	2	30	12	45	60	62.42	50	29.27	21.21	12.5	25	12
<b>SMSG2.5-30R</b> <b>SMSG2.5-30L</b>	R L	2.5	30	16	60	75	78.04	62	36.08	26.02	17	32	15
<b>SMSG3 -30R</b> <b>SMSG3 -30L</b>	R L	3	30	20	70	90	93.61	75	45.25	31.8	20	40	20
<b>SMSG3.5-30R</b> <b>SMSG3.5-30L</b>	R L	3.5	30	25	90	105	109.21	85	49.4	34.6	25	45	22
<b>SMSG4 -30R</b> <b>SMSG4 -30L</b>	R L	4	30	28	100	120	124.71	95	54.28	37.35	25	50	25

**CAUTION:** A set of miter gears must be identical in module and number of teeth, but opposite in spiral hands.

**CAUTION:** 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.

Miter Gears SMSG



# Ground Spiral Miter Gears

## Specifications

Precision grade	JIS B 1704 grade 2	Tooth hardness	48~53HRC
Gear teeth	Gleason	Surface treatment	Black oxide except Ground surface
Pressure angle	20°	Tooth surface finish	Ground
Helix angle	35°	Datum reference surface for gear grinding	Bore
Material	S45C	Secondary Operations	Possible except tooth areas
Heat treatment	Teeth induction hardened		

Holding surface dia. K	Tip angle L	Shape	Allowable torque (N-m) NOTE 1		Allowable torque (kgf-m)		Backlash (mm)	Weight (kgf)	Catalog No.
			Bending strength	Surface durability	Bending strength	Surface durability			
21.72	49°12'	B3	7.827	6.785	( 0.7981 )	( 0.6919 )	0.05 ~ 0.11	0.15	<b>SMSG2 -20R</b> <b>SMSG2 -20L</b>
28.06	48°38'	B3	14.93	13.2	( 1.522 )	( 1.346 )	0.06 ~ 0.12	0.3	<b>SMSG2.5-20R</b> <b>SMSG2.5-20L</b>
31.57	49°38'	B3	26.42	23.73	( 2.694 )	( 2.42 )	0.07 ~ 0.13	0.5	<b>SMSG3 -20R</b> <b>SMSG3 -20L</b>
39.09	50°10'	B3	42.62	38.83	( 4.346 )	( 3.96 )	0.08 ~ 0.14	0.8	<b>SMSG3.5-20R</b> <b>SMSG3.5-20L</b>
43.43	49°20'	B3	62.61	57.82	( 6.385 )	( 5.896 )	0.1 ~ 0.16	1.1	<b>SMSG4 -20R</b> <b>SMSG4 -20L</b>
54.46	48°39'	B3	115.4	109	(11.77 )	(11.11 )	0.1 ~ 0.16	2.1	<b>SMSG5 -20R</b> <b>SMSG5 -20L</b>

Pitch Angle 45°

26.06	48°22'	B3	12.56	13.47	( 1.281 )	( 1.374 )	0.05 ~ 0.11	0.2	<b>SMSG2 -25R</b> <b>SMSG2 -25L</b>
34.57	48°26'	B3	24.53	26.84	( 2.501 )	( 2.737 )	0.06 ~ 0.12	0.4	<b>SMSG2.5-25R</b> <b>SMSG2.5-25L</b>
37.43	48°51'	B3	44.98	50.02	( 4.587 )	( 5.101 )	0.07 ~ 0.13	0.7	<b>SMSG3 -25R</b> <b>SMSG3 -25L</b>
46.77	48°37'	B3	69.15	78.13	( 7.051 )	( 7.967 )	0.08 ~ 0.14	1.1	<b>SMSG3.5-25R</b> <b>SMSG3.5-25L</b>
55.29	47°52'	B3	94.97	108.9	( 9.684 )	(11.1 )	0.1 ~ 0.16	1.7	<b>SMSG4 -25R</b> <b>SMSG4 -25L</b>
65.15	47°50'	B3	181.1	213	(18.47 )	(21.72 )	0.12 ~ 0.18	3.4	<b>SMSG5 -25R</b> <b>SMSG5 -25L</b>

Pitch Angle 45°

36.06	47°53'	B3	16.68	21.42	( 1.701 )	( 2.184 )	0.05 ~ 0.11	0.37	<b>SMSG2 -30R</b> <b>SMSG2 -30L</b>
47.57	47°58'	B3	32.59	42.72	( 3.323 )	( 4.356 )	0.06 ~ 0.12	0.77	<b>SMSG2.5-30R</b> <b>SMSG2.5-30L</b>
53.43	47°48'	B3	60.3	80.42	( 6.149 )	( 8.201 )	0.07 ~ 0.13	1.3	<b>SMSG3 -30R</b> <b>SMSG3 -30L</b>
67.77	47°48'	B3	85.12	115.4	( 8.68 )	(11.77 )	0.08 ~ 0.14	2.3	<b>SMSG3.5-30R</b> <b>SMSG3.5-30L</b>
79.29	47°26'	B3	126.6	174.4	(12.91 )	(17.78 )	0.1 ~ 0.16	3.2	<b>SMSG4 -30R</b> <b>SMSG4 -30L</b>

**NOTE 1:** The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 196 for more details.

Pitch Angle 45°