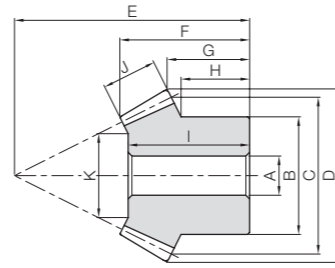


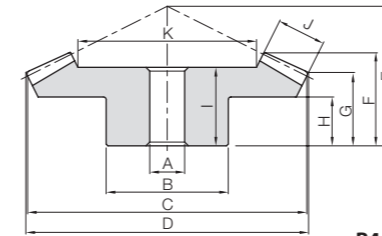


Specifications	
Precision grade	JIS B 1704: 1978 grade 4
Gear teeth	Gleason
Pressure angle	20°
Helix angle	35°*
Material	S45C
Heat treatment	Gear teeth induction hardened
Tooth hardness	50 to 60HRC
Surface treatment	Black oxide coating

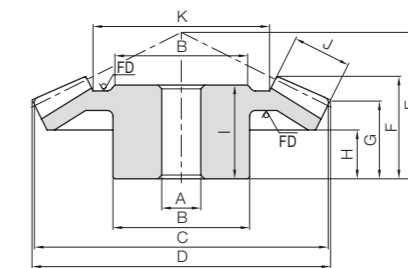
* 6015R and 1560L of SBS1.5 and 2 are 39°.



B3



B4



B5

* FD has a forged finish surface.

Catalog Number	Gear Ratio	Module	No. of teeth	Direction of spiral	Shape	Bore		Pitch dia.	Outside dia.	Mounting distance	Total length		Crown to back
						A	B				C	D	
SBS2-4515R SBS2-1545L	3	m2	45	R	B4	12	40	90	90.67	40	30.29	26.01	
15			L	B3	10	24	30	34.78	60	29.66	15.8		
SBS2.5-4515R SBS2.5-1545L		m2.5	45	R	B4	15	50	112.5	113.32	50	38.25	32.47	
15			L	B3	12	30	37.5	43.36	75	38.27	19.73		
SBS3-4515R SBS3-1545L		m3	45	R	B4	20	60	135	135.99	55	40.59	33.98	
15			L	B3	15	38	45	52.08	90	44.98	23.68		
SBS4-4515R SBS4-1545L	m4	45	R	B5	20	80	180	181.3	70	50.62	41.95		
15		L	B3	16	50	60	69.3	115	54.37	26.55			
SBS5-4515R SBS5-1545L	m5	45	R	B5	30	90	225	226.61	75	50.05	39.92		
15		L	B3	20	60	75	86.55	145	66.89	34.43			
SBS1.5-6015R SBS1.5-1560L	4	m1.5	60	R	B4	12	60	90	90.36	32	24.08	21.48	
15			L	B3	8	18	22.5	26.09	56	22.95	11.45		
SBS2-6015R SBS2-1560L		m2	60	R	B4	15	80	120	120.46	42	31.5	27.91	
15			L	B3	10	24	30	34.68	75	30.94	15.58		
SBS2.5-6015R SBS2.5-1560L		m2.5	60	R	B4	20	100	150	150.5	53	39.68	35.24	
15			L	B3	12	30	37.5	44.16	94	38.9	19.83		
SBS3-6015R SBS3-1560L	m3	60	R	B4	20	120	180	180.57	64	47.61	42.64		
15		L	B3	15	38	45	52.64	112	44.01	22.96			

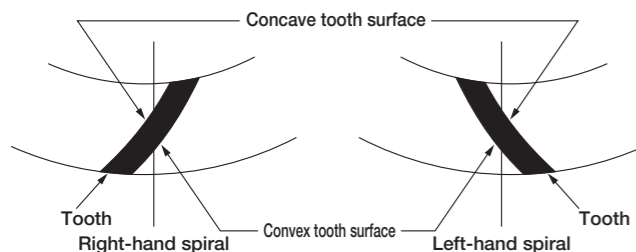
Hub width	Hole length	Face width	Holding surface dia.	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog Number
				Bending strength	Surface durability	Bending strength	Surface durability			
H	I	J	K							
17 14	26 29	15	59.04 19.13	31.7 10.1	18.8 6.27	3.23 1.03	1.92 0.64	0.06~0.16	0.60 0.095	SBS2-4515R SBS2-1545L
22 17.5	35 37	20	72.82 20.51	64.3 20.6	38.7 12.9	6.56 2.10	3.94 1.31	0.07~0.17	1.21 0.19	SBS2.5-4515R SBS2.5-1545L
20 21.33	35 44	23	88.18 28.54	108 34.7	65.8 21.9	11.1 3.54	6.71 2.24	0.08~0.18	1.99 0.34	SBS3-4515R SBS3-1545L
24 23.33	45 52	30	118.08 32.26	253 81.1	156 52.0	25.8 8.27	15.9 5.30	0.12~0.27	4.04 0.76	SBS4-4515R SBS4-1545L
20 30	44 65	35	152.88 48.64	473 152	295 98.2	48.3 15.5	30.0 10.0	0.14~0.34	6.08 1.44	SBS5-4515R SBS5-1545L
12 10.43	21 22.5	12	65.39 15.55	17.9 4.22	12.9 3.21	1.83 0.43	1.31 0.33	0.05~0.15	0.70 0.042	SBS1.5-6015R SBS1.5-1560L
16 14.25	27 30	16	87.02 18.06	42.5 10.0	30.9 7.73	4.33 1.02	3.15 0.79	0.06~0.16	1.59 0.10	SBS2-6015R SBS2-1560L
20 18.06	34 37.5	20	108.64 20.58	96.1 22.6	58.4 14.6	9.79 2.31	5.95 1.49	0.07~0.17	3.13 0.20	SBS2.5-6015R SBS2.5-1560L
25 21.12	41 43	22	134.4 31.58	156 36.8	95.7 23.9	15.9 3.75	9.76 2.44	0.08~0.18	5.38 0.35	SBS3-6015R SBS3-1560L

Product Precautions

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■ Mating surface of spiral bevel gears

Spiral bevel gears have convex and concave tooth surfaces. If the direction of rotation of the drive gear differs, the meshing tooth surface will also change. The table on the right shows how to view the convex and concave tooth surfaces and the meshing tooth surface with respect to the direction of rotation of the drive gear.



For right-hand drive gear

Direction of rotation of drive gear NOTE 1	Meshing tooth surface	
	Right-hand drive gear	Left-hand driven gear
Clockwise	Convex tooth surface	Concave tooth surface
Counterclockwise	Concave tooth surface	Convex tooth surface

For left-hand drive gear

Direction of rotation of drive gear NOTE 1	Meshing tooth surface	
	Left-hand drive gear	Right-hand driven gear
Clockwise	Concave tooth surface	Convex tooth surface
Counterclockwise	Convex tooth surface	Concave tooth surface

[NOTE 1] The direction of rotation in the table is as seen from the hub of the gear.

■ The force applied to the teeth of the spiral bevel gear

The table below shows, for spiral bevel gears with an axis angle of $\Sigma = 90^\circ$, pressure angle of $\alpha_n = 20^\circ$ and spiral angle of $\beta_m = 35^\circ$, the magnitudes of the axial force F_x and radial force F_r where the tangential force F_t at the center of the tooth width is 100.

Thrust force F_x
Radial force F_r value

(1) Force applied to pinion

Meshing tooth surface	Gear Ratio z_2/z_1						
	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Concave tooth surface	80.9 -18.1	82.9 -1.9	82.5 8.4	81.5 15.2	80.5 20.0	78.7 26.1	77.4 29.8
Convex tooth surface	-18.1 80.9	-33.6 75.8	-42.8 71.1	-48.5 67.3	-52.4 64.3	-57.2 60.1	-59.9 57.3

(2) Force applied to gear

Meshing tooth surface	Gear Ratio z_2/z_1						
	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Concave tooth surface	80.9 -18.1	75.8 -33.6	71.1 -42.8	67.3 -48.5	64.3 -52.4	60.1 -57.2	57.3 -59.9
Convex tooth surface	-18.1 80.9	-1.9 82.9	8.4 82.5	15.2 81.5	20.0 80.5	26.1 78.7	29.8 77.4