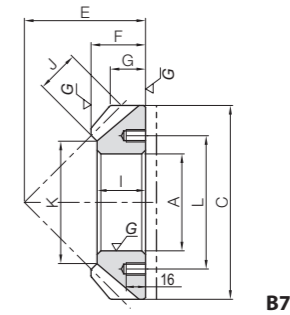
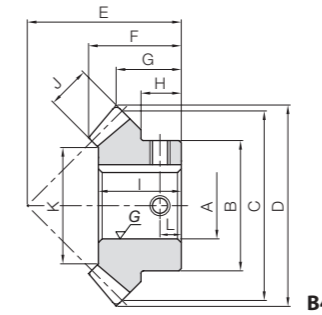
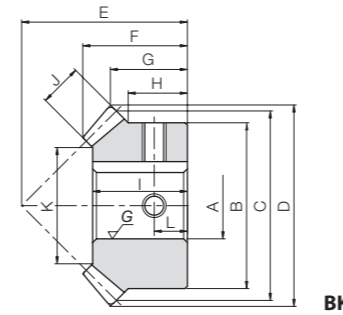
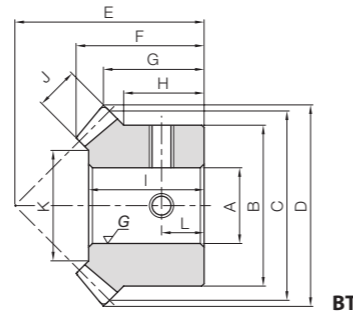




Specifications	
Precision grade	JIS B 1704: 1978 grade 4
Gear teeth	Gleason
Pressure angle	20°
Helix angle	35°
Material	SCM415
Heat treatment	Carburized
Tooth hardness	55 to 60HRC



Catalog Number	Gear Ratio	Module	No. of teeth	Direction of spiral	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back	Hub width	Hole length
						A _{H7}	B								
MMSA1-20R MMSB1-20R MMSA1-20L MMSB1-20L	1	m1	20	R	BT	8	17	20	21.29	20	13.53	10.64	8.5	12.2	
L				10											
MMSA1.5-20R MMSB1.5-20R MMSA1.5-20L MMSB1.5-20L		m1.5	R	BT BK	10	25	30	31.9	28	18.48	13.95	10.5	16.5		
L			12												
MMSA2-20R MMSB2-20R MMSA2-20L MMSB2-20L		m2	R	BT BK	14	35	40	42.52	35	22.09	16.26	12.5	20		
L			16												
MMSA2.5-20R MMSB2.5-20R MMSA2.5-20L MMSB2.5-20L		m2.5	R	BK	18	42	50	53.2	45	28.63	21.6	16	26		
L			20												
MMSA3-20R MMSB3-20R MMSA3-20L MMSB3-20L		m3	R	BK	20	52	60	63.99	50	30.78	21.99	16	27		
L			22												
MMSA3.5-20R MMSB3.5-20R MMSA3.5-20L MMSB3.5-20L		m3.5	R	BK	25	50	70	74.53	55	32.45	22.26	14	29		
L			28												
MMSA4-20R MMSB4-20R MMSA4-20L MMSB4-20L		m4	R	B4	28	55	80	84.99	65	39.13	27.5	17	35		
L			30												
MMSA5-20R MMSB5-20R MMSA5-20L MMSB5-20L		m5	R	B4	30	70	100	106.25	75	42.99	28.13	17	38		
L			35												
MMSA6-20R MMSB6-20R MMSA6-20L MMSB6-20L		m6	R	B4	40	80	120	127.59	90	51.13	33.8	20	45		
L			45												
MMSA8-20R MMSA8-20L		m8	R	B7	80	—	160	—	100	45	29.16	—	40		
L			80												
MMSA10-20R MMSA10-20L	m10	R	B7	100	—	200	—	125	58	36.48	—	50			
L		100													

Face width	Holding surface dia.	Keyway	Socket head screw	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog Number
				Bending strength	Surface durability	Bending strength	Surface durability			
4.5	11.67	—	2-M4	4.5	2.24	2.09	0.23	0.21	0.03~0.13	0.018 0.015 0.018 0.015
7	17.2	4 x 1.8								
9	24.54	5 x 2.3	7	18.0	17.3	1.83	1.76	0.06~0.16	0.13 0.12 0.13 0.12	
11	30.89	6 x 2.8								8
14	34.4	8 x 3.3	9	61.9	61.1	6.32	6.23	0.08~0.18	0.40 0.39 0.40 0.39	
16	42.75	8 x 3.3								9
18	49.08	8 x 3.3	9	144	144	14.6	14.7	0.12~0.27	0.70 0.68 0.70 0.68	
23	60.95	10 x 3.3								10
27	73.63	12 x 3.3	10	475	496	48.4	50.6	0.16~0.36	2.11 1.99 2.11 1.99	
35	101	14 x 3.8								110
45	122.72	14 x 3.8	130	1660	1840	169	188	0.25~0.50	7.88 7.88	

When installing products produced in B7 style (ring type), always secure the gears onto the mounting base with taper pins to absorb the rotational loads. It is dangerous to secure with bolts only.

