



# KMM Carburized & Hardened Miter Gears

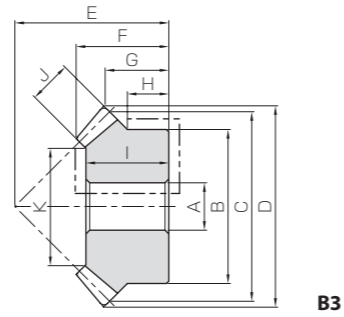
Module 2 ~ 5

KMM

Carburized & Hardened Miter Gears



Specifications	
Precision grade	JIS B 1704: 1978 grade 4
Gear teeth	Gleason
Pressure angle	20°
Material	SCM415
Heat treatment	Carburizing
Tooth hardness	55 ~ 60HRC
Surface treatment	Black oxide coating



B3

Catalog No.	Gear ratio	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length	Hub width
					A <sub>H7</sub>	B	C	D	E	F	G	H
<b>KMM2-20</b>	1	<b>m2</b>	20	B3	12	34	40	42.83	35	22.24	16.41	12
<b>KMM2.5-20</b>		<b>m2.5</b>	20	B3	15	42	50	53.54	45	28.89	21.77	16
<b>KMM3-20</b>		<b>m3</b>	20	B3	16	52	60	64.24	50	31.19	22.12	16
<b>KMM4-20</b>		<b>m4</b>	20	B3	20	65	80	85.66	65	39.49	27.83	17.5
<b>KMM5-20</b>		<b>m5</b>	20	B3	25	80	100	107.07	90	60.38	43.54	30
<b>KMM2-25</b>	1	<b>m2</b>	25	B3	12	45	50	52.83	40	24.33	16.41	12.5
<b>KMM2.5-25</b>		<b>m2.5</b>	25	B3	16	55	62.5	66.03	50	30.41	20.52	15
<b>KMM3-25</b>		<b>m3</b>	25	B3	20	65	75	79.24	60	37.81	24.62	17.5
<b>KMM4-25</b>		<b>m4</b>	25	B3	25	85	100	105.66	80	49.32	32.83	22.5
<b>KMM5-25</b>		<b>m5</b>	25	B3	28	100	125	132.07	100	60.82	41.04	25
<b>KMM2-30</b>	1	<b>m2</b>	30	B3	12	45	60	62.83	50	29.43	21.41	12.5
<b>KMM2.5-30</b>		<b>m2.5</b>	30	B3	16	60	75	78.54	62	36.28	26.27	17
<b>KMM3-30</b>		<b>m3</b>	30	B3	20	70	90	94.24	75	45.47	32.12	20
<b>KMM4-30</b>		<b>m4</b>	30	B3	28	100	120	125.66	95	54.52	37.83	25
<b>KMM5-30</b>		<b>m5</b>	30	B3	28	130	150	157.07	120	68.56	48.54	35

- [Caution on Product Characteristics]
- The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 272 for more details.
  - 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.

Length of bore	Face width	Holding surface dia.	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
			Bending strength	Surface durability	Bending strength	Surface durability			
I	J	K							
20	9	24.54	15.1	9.74	1.54	0.99	0.06~0.16	0.13	<b>KMM2-20</b>
26	11	30.89	29.0	19.0	2.96	1.94	0.07~0.17	0.27	<b>KMM2.5-20</b>
27	14	34.4	52.0	34.5	5.30	3.52	0.08~0.18	0.43	<b>KMM3-20</b>
35	18	49.09	121	81.2	12.3	8.28	0.12~0.27	0.93	<b>KMM4-20</b>
54	26	54.46	256	175	26.1	17.8	0.14~0.34	2.15	<b>KMM5-20</b>
21	12	28.06	26.4	20.1	2.70	2.05	0.06~0.16	0.25	<b>KMM2-25</b>
27	15	36.57	51.6	39.7	5.27	4.05	0.07~0.17	0.47	<b>KMM2.5-25</b>
33	20	39.43	94.7	73.5	9.66	7.49	0.08~0.18	0.81	<b>KMM3-25</b>
44	25	57.29	217	171	22.1	17.4	0.12~0.27	1.89	<b>KMM4-25</b>
50	30	65.15	413	329	42.1	33.6	0.14~0.34	3.41	<b>KMM5-25</b>
25	12	36.06	35.7	31.1	3.64	3.17	0.06~0.16	0.37	<b>KMM2-30</b>
32	15	47.57	69.7	61.5	7.11	6.27	0.07~0.17	0.76	<b>KMM2.5-30</b>
40	20	53.43	129	115	13.2	11.7	0.08~0.18	1.32	<b>KMM3-30</b>
50	25	79.29	293	266	29.9	27.1	0.12~0.27	3.09	<b>KMM4-30</b>
62	30	99.15	558	513	56.9	52.3	0.14~0.34	6.47	<b>KMM5-30</b>

- [Caution on Secondary Operations]
- Please read "Caution on Performing Secondary Operations" (Page 274) when performing modification and/or secondary operations for safety concerns.
  - In the illustration, the area surrounded with - - - - line is masked during the carburization process and can be modified. However, care should be exercised since the hardness is high (approx. HRC40, maximum).



# KLM Sintered Metal Miter Gears

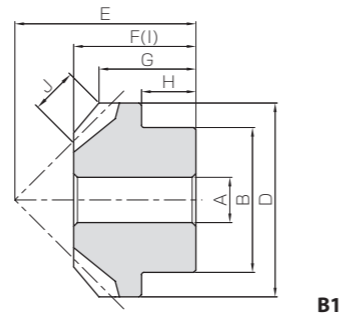
Module 0.8 ~ 1.5

KLM

Sintered Metal Miter Gears



Specifications	
Precision grade	JIS B 1704: 1978 grade 5
Gear teeth	Gleason
Pressure angle	20°
Material	SMF5040
Heat treatment	—
Tooth hardness	(70 ~ 95HRB)



B1

Catalog No.	Gear ratio	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length	Hub width
					A <sub>H8</sub>	B	C	D	E	F	G	H
<b>KLM0.8-20</b>	1	<b>m0.8</b>	20	B1	4	12	16	17.13	16	11	8.57	5.5
<b>KLM1-20</b>		<b>m1</b>	20	B1	5	16	20	21.41	20	13.5	10.71	6
<b>KLM1.25-20</b>		<b>m1.25</b>	20	B1	6	22	25	26.77	23	15	11.38	6
<b>KLM1.5-20</b>		<b>m1.5</b>	20	B1	6	26	30	32.12	30	21	16.06	9

- [Caution on Product Characteristics]
- The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 272 for more details.
  - Steam treatment (an effect creating surface oxidation) provides rust prevention; however, it is not a complete solution.
  - Although the sintering process allows for the inclusion of oil to maintain lubrication, these gears have not been oil impregnated.

Length of bore	Face width	Holding surface dia.	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (g)	Catalog No.
			Bending strength	Surface durability	Bending strength	Surface durability			
I	J	K							
11	4.24	—	0.22	0.027	0.022	0.0027	0~0.16	9.67	<b>KLM0.8-20</b>
13.5	4.95	—	0.41	0.050	0.042	0.0051	0~0.18	20.7	<b>KLM1-20</b>
15	6.36	—	0.81	0.099	0.083	0.010	0~0.20	38.8	<b>KLM1.25-20</b>
21	8.48	—	1.48	0.19	0.15	0.019	0~0.22	78.6	<b>KLM1.5-20</b>

- [Caution on Secondary Operations]
- Please read "Caution on Performing Secondary Operations" (Page 274) when performing modifications and/or secondary operations for safety concerns.