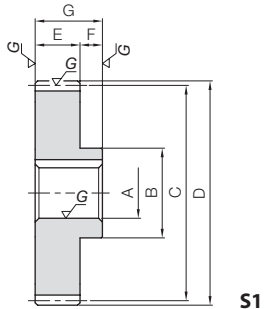


Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Carburized*
Tooth hardness	55 to 60HRC

* No secondary operations can be performed on these finished gears due to the applied carburizing process.



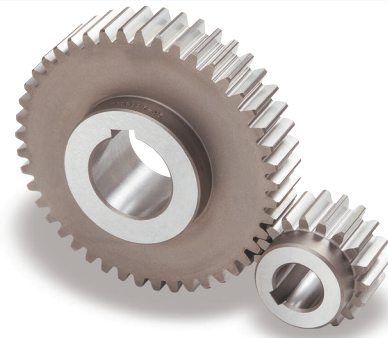
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Catalog Number	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length
				A _{H7}	B	C	D	E	F	G
MSGA1-18	m1	18	S1	8	15	18	20	10	5	15
MSGA1-20		20		8	17	20	22			
MSGB1-20**		20		10	17	20	22			
MSGB1-24		24		12	20	24	26			
MSGA1-25		25		10	20	25	27			
MSGB1-25		25		12	20	25	27			
MSGA1-30		30		10	25	30	32			
MSGB1-30		30		12	25	30	32			
MSGB1-40		40		15	30	40	42			
MSGA1-48		48		12	30	48	50			
MSGB1-48		48		15	30	48	50			
MSGA1-50	m1.5	50	S1	12	35	50	52	15	10	25
MSGB1-60		60		20	40	60	62			
MSGA1-70		70		20	45	70	72			
MSGA1-80		80		20	45	80	82			
MSGA1-100		100		20	45	100	102			
MSGA1.5-15**		15		10	18	22.5	25.5			
MSGA1.5-18		18		10	22	27	30			
MSGB1.5-18		18		12	22	27	30			
MSGA1.5-20		20		12	25	30	33			
MSGB1.5-20		20		15	25	30	33			
MSGB1.5-24		24		15	28	36	39			
MSGB1.5-25		25		16	30	37.5	40.5			
MSGB1.5-30		30		18	30	45	48			
MSGB1.5-36		36		18	32	54	57			
MSGA1.5-40		40		16	35	60	63			
MSGA1.5-50	m2	50	S1	18	40	75	78	20	10	30
MSGB1.5-50		50		22	40	75	78			
MSGB1.5-60		60		25	45	90	93			
MSGA1.5-70		70		20	45	105	108			
MSGA1.5-80		80		20	45	120	123			
MSGB1.5-80		80		25	45	120	123			
MSGA1.5-100		100		25	50	150	153			
MSGB2-15**		15		15	24	30	34			
MSGA2-18		18		12	30	36	40			
MSGB2-18		18		15	30	36	40			
MSGA2-20	m2	20	S1	15	32	40	44	20	10	30
MSGB2-20		20		18	32	40	44			
MSGB2-24		24		18	35	48	52			
MSGA2-25		25		16	35	50	54			
MSGB2-25		25		20	35	50	54			
MSGB2-30		30		22	40	60	64			
MSGA2-35		35		18	40	70	74			
MSGA2-40		40		20	45	80	84			
MSGB2-40		40		25	45	80	84			
MSGA2-60		60		25	55	120	124			

[Caution on Product Characteristics] ① The keyway tolerance is the value before hardening.
② Products marked with "**" have a thin wall section between the keyway and the tooth, so please consider the strength of the thick part when using them. For details, please refer to the web catalog.

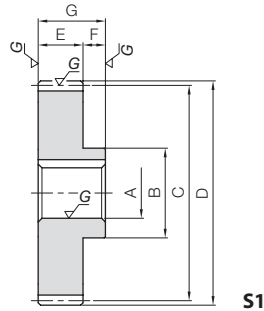
Keyway	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog Number
	Width × Depth	Bending strength	Surface durability	Bending strength	Surface durability		
3 × 1.4	12.1	6.37	1.24	0.65	0.08~0.16	0.020	MSGA1-18
3 × 1.4	14.2	8.04	1.45	0.82		0.027	MSGA1-20
4 × 1.8	18.5	12.0	1.88	1.22		0.023	MSGB1-20**
4 × 1.8	19.6	13.1	2.00	1.33		0.034	MSGB1-24
4 × 1.8	25.1	19.0	2.56	1.94		0.041	MSGA1-25
4 × 1.8	36.5	34.6	3.72	3.53		0.037	MSGB1-25
4 × 1.8	45.8	50.6	4.67	5.16		0.065	MSGA1-30
5 × 2.3	55.1	80.6	6.11	8.22		0.061	MSGB1-30
4 × 1.8	71.9	111	7.33	11.4		0.10	MSGB1-40
6 × 2.8	83.9	147	8.55	15.0		0.16	MSGA1-48
6 × 2.8	103	224	10.5	22.8		0.15	MSGB1-48
4 × 1.8	30.8	14.8	3.15	1.51	0.08~0.16	0.18	MSGA1-50
4 × 1.8	41.0	22.1	4.18	2.26		0.27	MSGB1-60
4 × 1.8	48.0	27.9	4.89	2.84		0.37	MSGA1-70
5 × 2.3	62.4	41.5	6.36	4.24		0.47	MSGA1-80
5 × 2.3	66.0	45.4	6.73	4.63		0.69	MSGA1-100
6 × 2.8	84.7	66.4	8.63	6.77		0.050	MSGA1.5-15**
6 × 2.8	108	97.1	11.0	9.90		0.080	MSGA1.5-18
5 × 2.3	123	121	12.6	12.3		0.074	MSGB1.5-18
6 × 2.8	162	193	16.6	19.7		0.098	MSGA1.5-20
6 × 2.8	202	283	20.6	28.8		0.085	MSGB1.5-20
8 × 3.3	231	372	23.6	38.0	0.10~0.20	0.13	MSGB1.5-24
6 × 2.8	270	494	27.5	50.3		0.14	MSGB1.5-25
8 × 3.3	347	787	35.4	80.2		0.19	MSGB1.5-30
5 × 2.3	73.1	35.7	7.46	3.64		0.28	MSGB1.5-36
4 × 1.8	97.2	53.5	9.91	5.46		0.37	MSGA1.5-40
5 × 2.3	114	67.6	11.6	6.89		0.57	MSGA1.5-50
6 × 2.8	148	101	15.1	10.3		0.54	MSGB1.5-50
5 × 2.3	157	110	16.0	11.2		0.77	MSGB1.5-60
6 × 2.8	201	161	20.5	16.5		1.08	MSGA1.5-70
6 × 2.8	246	223	25.1	22.7		1.39	MSGA1.5-80
6 × 2.8	292	294	29.7	30.0	0.10~0.20	1.36	MSGB1.5-80
8 × 3.3	457	658	46.6	67.1		2.13	MSGA1.5-100
8 × 3.3	457	658	46.6	67.1		0.10	MSGB2-15**
8 × 3.3	457	658	46.6	67.1		0.19	MSGA2-18
8 × 3.3	457	658	46.6	67.1		0.17	MSGB2-18
8 × 3.3	457	658	46.6	67.1	0.10~0.20	0.22	MSGA2-20
8 × 3.3	457	658	46.6	67.1		0.20	MSGB2-20
8 × 3.3	457	658	46.6	67.1		0.30	MSGB2-24
8 × 3.3	457	658	46.6	67.1		0.33	MSGA2-25
8 × 3.3	457	658	46.6	67.1		0.31	MSGB2-25
8 × 3.3	457	658	46.6	67.1		0.45	MSGB2-30
8 × 3.3	457	658	46.6	67.1	0.10~0.20	0.64	MSGA2-35
8 × 3.3	457	658	46.6	67.1		0.84	MSGA2-40
8 × 3.3	457	658	46.6	67.1		0.79	MSGB2-40
8 × 3.3	457	658	46.6	67.1		1.84	MSGA2-60



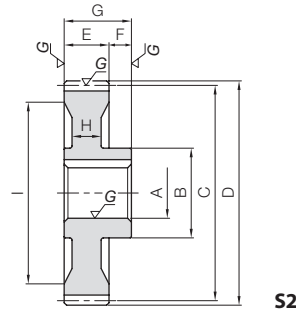


Specifications	
Precision grade	JIS grade N5 (JIS B1702-1: 1998)
Gear teeth	Standard full depth
Pressure angle	20°
Material	SCM415
Heat treatment	Carburized*
Tooth hardness	55 to 60HRC

* No secondary operations can be performed on these finished gears due to the applied carburizing process.



S1



S2

Catalog Number	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A _{H7}	B	C	D	E	F	G	H	I
MSGA2.5-15 MSGB2.5-15**	m2.5	15	S1	15	30	37.5	42.5	25	12	37	—	—
MSGB2.5-20		20		22	40	50	55					
MSGB2.5-24		24		22	40	60	65					
MSGB2.5-25		25		25	45	62.5	67.5					
MSGB2.5-36		36		30	55	90	95					
MSGA2.5-40 MSGB2.5-40		40		25 32	55	100	105					
MSGA2.5-55		55	S2	30	70	137.5	142.5	—	—	—	17	150
MSGB2.5-60		60		40	70	150	155					
MSGA2.5-70		70		40	85	175	180					
MSGA3-15 MSGB3-15**	m3	15	S1	18 22	36	45	51	30	15	45	—	—
MSGB3-20		20		25	45	60	66					
MSGB3-25		25		30	55	75	81					
MSGA3-30 MSGB3-30		30		28 35	60	90	96					
MSGA3-40 MSGB3-40		40		30 40	70	120	126					
MSGA3-45		45		30	70	135	141					
MSGA3-60		60	S2	35	80	180	186	40	20	60	—	—
MSGB4-15**	m4	15	S1	30	48	60	68					
MSGA4-20 MSGB4-20		20		28 32	60	80	88					
MSGA4-24		24		28	60	96	104					
MSGA4-25 MSGB4-25		25		30 35	60	100	108					
MSGA4-30 MSGB4-30		30		35 40	70	120	128					
MSGA4-40 MSGB4-40		40		40 45	80	160	168					
MSGB4-45		45	S2	45	80	180	188					
MSGB4-50		50		50	85	200	208					

[Caution on Product Characteristics] ① The keyway tolerance is the value before hardening.
② Products marked with "*" have a thin wall section between the keyway and the tooth, so please consider the strength of the thick part when using them. For details, please refer to the web catalog.

Keyway Width x Depth	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog Number
	Bending strength	Surface durability	Bending strength	Surface durability			
5 x 2.3 6 x 2.8	143	71.0	14.6	7.24	0.10~0.20	0.23 0.20	MSGA2.5-15 MSGB2.5-15**
6 x 2.8	222	134	22.7	13.7		0.39	MSGB2.5-20
6 x 2.8	289	201	29.4	20.5		0.56	MSGB2.5-24
8 x 3.3	306	220	31.2	22.4		0.60	MSGB2.5-25
8 x 3.3	498	471	50.8	48.0		1.26	MSGB2.5-36
8 x 3.3 10 x 3.3	543	560	55.3	57.1		1.61 1.52	MSGA2.5-40 MSGB2.5-40
8 x 3.3	804	1090	82.0	112		3.06	MSGA2.5-55
12 x 3.3	892	1310	90.9	134		3.45	MSGB2.5-60
12 x 3.3	1020	1730	104	176		4.24	MSGA2.5-70
6 x 2.8 6 x 2.8	247	124	25.2	12.7	0.10~0.20	0.40 0.35	MSGA3-15 MSGB3-15**
8 x 3.3	384	236	39.1	24.1		0.67	MSGB3-20
10 x 3.3	528	386	53.9	39.3		1.06	MSGB3-25
8 x 3.3 10 x 3.3	677	565	69.1	57.7		1.60 1.48	MSGA3-30 MSGB3-30
8 x 3.3 12 x 3.3	938	988	95.6	101		2.86 2.66	MSGA3-40 MSGB3-40
8 x 3.3	1090	1260	111	129		3.57	MSGA3-45
10 x 3.3	1470	2200	150	224		5.31	MSGA3-60
8 x 3.3	585	302	59.7	30.8	0.10~0.20	0.83	MSGB4-15**
8 x 3.3 10 x 3.3	910	574	92.8	58.6		1.72 1.63	MSGA4-20 MSGB4-20
8 x 3.3	1130	819	115	83.5		2.41	MSGA4-24
8 x 3.3 10 x 3.3	1190	896	122	91.4		2.56 2.44	MSGA4-25 MSGB4-25
10 x 3.3 12 x 3.3	1530	1320	156	134		3.69 3.54	MSGA4-30 MSGB4-30
12 x 3.3 14 x 3.8	2120	2290	216	234		6.49 6.33	MSGA4-40 MSGB4-40
14 x 3.8	2460	2930	251	299		8.01	MSGB4-45
14 x 3.8	2800	3650	285	372		8.37	MSGB4-50



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