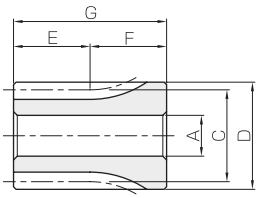
SS

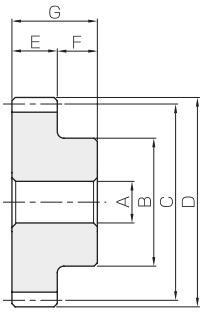
Steel Spur Gears

Module 1

Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	less than 194HB



S3

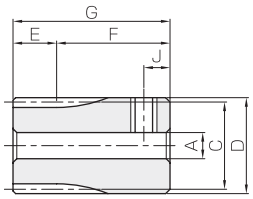


S1

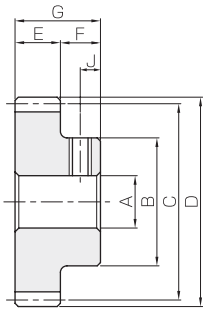
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A_{H7}	B	C	D	E	F	G	Width×Depth
SS1-15			S3	8							—
SS1-15A		15	S3T	5	17	15	17	10	20	30	—
SS1-15B			S3T	6							—
SS1-16			S3	8							—
SS1-16A		16	S3T	5	18	16	18	10	20	30	—
SS1-16B			S3T	6							—
SS1-17		17	S3	8	19	17	19	10	20	30	—
SS1-17A			S3T	8							—
SS1-18			S3	8							—
SS1-18A		18	S3T	6	20	18	20	10	20	30	—
SS1-18B			S3T	8							—
SS1-19		19	S3	8	21	19	21	10	20	30	—
SS1-19A			S3T	8							—
SS1-20			S1	8							—
SS1-20A		20	S1T	5	16	20	22	10	10	20	—
SS1-20B			S1T	6							—
SS1-20C			S1T	8							—
SS1-21		21	S1	8	17	21	23	10	10	20	—
SS1-21A			S1T	8							—
SS1-22		22	S1	8	18	22	24	10	10	20	—
SS1-22A			S1T	8							—
SS1-23		23	S1	8	18	23	25	10	10	20	—
SS1-23A			S1T	8							—
SS1-24			S1	8							—
SS1-24A			S1T	6							—
SS1-24B	***m*1**	24	S1T	8	20	24	26	10	10	20	—
SS1-24C			S1K	10							4 x 1.8
SS1-25			S1	8							—
SS1-25A			S1T	6							—
SS1-25B		25	S1T	8	20	25	27	10	10	20	—
SS1-25C			S1K	10							4 x 1.8
SS1-26			S1	8							—
SS1-26A		26	S1T	8	22	26	28	10	10	20	—
SS1-26B			S1K	10							4 x 1.8
SS1-27		27	S1	8	22	27	29	10	10	20	—
SS1-27A			S1T	8							—
SS1-28			S1	8							—
SS1-28A		28	S1T	8	22	28	30	10	10	20	—
SS1-28B			S1K	10							4 x 1.8
SS1-29		29	S1	8	24	29	31	10	10	20	—
SS1-29A			S1T	8							—
SS1-30			S1	10							—
SS1-30A			S1T	6							—
SS1-30B		30	S1T	8	25	30	32	10	10	20	—
SS1-30C			S1K	10							4 x 1.8
SS1-30D			S1K	12							4 x 1.8
SS1-32			S1	10							—
SS1-32A		32	S1T	8	26	32	34	10	10	20	—
SS1-32B			S1K	10							4 x 1.8
SS1-32C			S1K	12							4 x 1.8

[Caution on Product Characteristics]

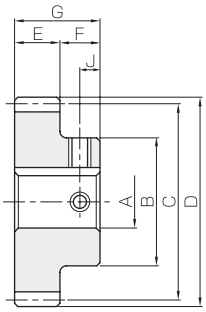
① For products with a tapped hole, a set screw is included.
② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
④ If the bore size is less than ϕ 4, the tolerance is H8. If the bore size is ϕ 5 or ϕ 6, and the hole length exceeds 3 times of the bore size, the tolerance is also H8.



S3T



S1T



S1K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash	Weight	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability	(mm)	(kg)	
—	—						0.038	**SS1-15**
M4	4	3.69	0.17	0.38	0.018	0.08~0.18	0.044	**SS1-15A**
M4	4						0.042	**SS1-15B**
—	—						0.044	**SS1-16**
M4	4	4.09	0.2	0.42	0.021	0.08~0.18	0.051	**SS1-16A**
M4	4						0.049	**SS1-16B**
—	—	4.5	0.23	0.46	0.023	0.08~0.18	0.050	**SS1-17**
M5	4						0.050	**SS1-17A**
—	—						0.057	**SS1-18**
M4	4	4.91	0.26	0.5	0.027	0.08~0.18	0.062	**SS1-18A**
M5	4						0.057	**SS1-18B**
—	—	5.33	0.29	0.54	0.030	0.08~0.18	0.065	**SS1-19**
M5	4						0.064	**SS1-19A**
—	—						0.033	**SS1-20**
M4	5	5.75	0.33	0.59	0.033	0.08~0.18	0.037	**SS1-20A**
M4	5						0.036	**SS1-20B**
M5	5						0.032	**SS1-20C**
—	—	6.17	0.36	0.63	0.037	0.08~0.18	0.037	**SS1-21**
M5	5						0.036	**SS1-21A**
—	—	6.6	0.4	0.67	0.041	0.08~0.18	0.042	**SS1-22**
M5	5						0.041	**SS1-22A**
—	—	7.03	0.45	0.72	0.045	0.08~0.18	0.045	**SS1-23**
M5	5						0.044	**SS1-23A**
—	—						0.052	**SS1-24**
M4	5	7.47	0.49	0.76	0.050	0.08~0.18	0.055	**SS1-24A**
M5	5						0.051	**SS1-24B**
M4	5						0.046	**SS1-24C**
—	—						0.055	**SS1-25**
M4	5	7.91	0.54	0.81	0.055	0.08~0.18	0.058	**SS1-25A**
M5	5						0.054	**SS1-25B**
M4	5						0.049	**SS1-25C**
—	—						0.064	**SS1-26**
M5	5	8.35	0.58	0.85	0.059	0.08~0.18	0.063	**SS1-26A**
M4	5						0.057	**SS1-26B**
—	—	8.79	0.63	0.9	0.064	0.08~0.18	0.067	**SS1-27**
M5	5						0.066	**SS1-27A**
—	—						0.070	**SS1-28**
M5	5	9.24	0.68	0.94	0.070	0.08~0.18	0.069	**SS1-28A**
M4	5						0.064	**SS1-28B**
—	—	9.69	0.73	0.99	0.075	0.08~0.18	0.079	**SS1-29**
M5	5						0.078	**SS1-29A**
—	—						0.082	**SS1-30**
M4	5						0.089	**SS1-30A**
M5	5	10.1	0.79	1.03	0.081	0.08~0.18	0.085	**SS1-30B**
M4	5						0.080	**SS1-30C**
M4	5						0.075	**SS1-30D**
—	—						0.092	**SS1-32**
M5	5	11.1	0.90	1.13	0.092	0.08~0.18	0.096	**SS1-32A**
M4	5						0.091	**SS1-32B**
M4	5						0.085	**SS1-32C**

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns. Haguruma Kobo, the KHK's system for quick modification of KHK stock gears is also available.

② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.

SS
Steel Spur Gears

Module 1

Specifications	
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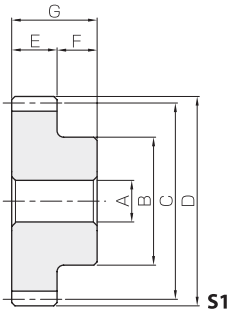
Material	S45C
Heat treatment	—
Tooth hardness	less than 194HB



Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A_{H7}	B	C	D	E	F	G	Width×Depth
SS1-34	*m*1	34	S1	10	26	34	36	10	10	20	—
SS1-34A			S1K	10							4 x 1.8
SS1-35		35	S1	10	26	35	37	10	10	20	—
SS1-35A			S1K	10							4 x 1.8
SS1-35B			S1K	12							4 x 1.8
SS1-36		36	S1	10	28	36	38	10	10	20	—
SS1-36A			S1K	10							4 x 1.8
SS1-36B			S1K	12							4 x 1.8
SS1-38		38	S1	10	32	38	40	10	10	20	—
SS1-38A			S1K	10							4 x 1.8
SS1-40		40	S1	10	35	40	42	10	10	20	—
SS1-40A			S1T	8							—
SS1-40B			S1K	10							4 x 1.8
SS1-40C			S1K	12							4 x 1.8
SS1-42		42	S1	10	35	42	44	10	10	20	—
SS1-42A			S1K	10							4 x 1.8
SS1-44		44	S1	10	35	44	46	10	10	20	—
SS1-44A			S1K	10							4 x 1.8
SS1-45		45	S1	10	35	45	47	10	10	20	—
SS1-45A			S1T	8							—
SS1-45B			S1K	10							4 x 1.8
SS1-45C			S1K	12							4 x 1.8
SS1-46		46	S1	10	35	46	48	10	10	20	—
SS1-46A			S1K	10							4 x 1.8
SS1-48		48	S1	10	35	48	50	10	10	20	—
SS1-48A			S1K	10							4 x 1.8
SS1-48B			S1K	12							4 x 1.8
SS1-50		50	S1	10	35	50	52	10	10	20	—
SS1-50A			S1T	8							—
SS1-50B			S1K	10							4 x 1.8
SS1-50C			S1K	12							4 x 1.8
SS1-52		52	S1	10	35	52	54	10	10	20	—
SS1-52A			S1K	10							4 x 1.8
SS1-54		54	S1	10	35	54	56	10	10	20	—
SS1-54A			S1K	10							4 x 1.8
SS1-55		55	S1	10	35	55	57	10	10	20	—
SS1-55A			S1K	10							4 x 1.8
SS1-56		56	S1	10	35	56	58	10	10	20	—
SS1-56A			S1K	10							4 x 1.8
SS1-56B			S1K	12							4 x 1.8
SS1-58		58	S1	10	35	58	60	10	10	20	—
SS1-58A			S1K	10							4 x 1.8
SS1-60		60	S1	10	35	60	62	10	10	20	—
SS1-60A			S1K	10							4 x 1.8
SS1-60B			S1K	12							4 x 1.8
SS1-60C			S1K	15							5 x 2.3
SS1-62		62	S1	10	40	62	64	10	10	20	—
SS1-62A			S1K	12							4 x 1.8
SS1-64		64	S1	10	40	64	66	10	10	20	—
SS1-64A			S1K	12							4 x 1.8

[Caution on Product Characteristics]
① For products with a tapped hole, a set screw is included.
② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.
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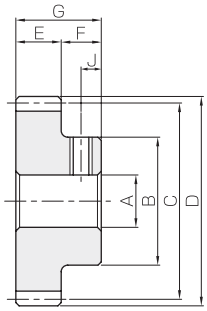
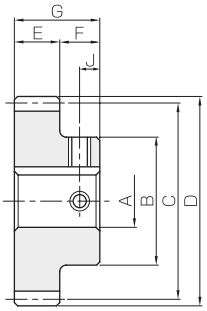


S1T



S1K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash	Weight	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability	(mm)	(kg)	
—	—	12.0	1.03	1.22	0.10	0.08~0.18	0.10	**SS1-34**
M4	5						0.099	**SS1-34A**
—	—	12.4	1.09	1.27	0.11	0.08~0.18	0.10	**SS1-35**
M4	5						0.10	**SS1-35A**
M4	5						0.098	**SS1-35B**
—	—	12.9	1.16	1.31	0.12	0.08~0.18	0.12	**SS1-36**
M4	5						0.11	**SS1-36A**
M4	5						0.11	**SS1-36B**
—	—	13.8	1.30	1.41	0.13	0.08~0.18	0.14	**SS1-38**
M4	5						0.14	**SS1-38A**
—	—	14.7	1.45	1.50	0.15	0.08~0.18	0.16	**SS1-40**
M5	5						0.16	**SS1-40A**
M4	5						0.16	**SS1-40B**
M4	5						0.15	**SS1-40C**
—	—	15.7	1.61	1.60	0.16	0.08~0.18	0.17	**SS1-42**
M4	5						0.17	**SS1-42A**
—	—	16.6	1.77	1.69	0.18	0.08~0.18	0.18	**SS1-44**
M4	5						0.18	**SS1-44A**
—	—	17.1	1.86	1.74	0.19	0.08~0.18	0.19	**SS1-45**
M5	5						0.19	**SS1-45A**
M4	5						0.19	**SS1-45B**
M4	5						0.18	**SS1-45C**
—	—	17.6	1.95	1.79	0.20	0.08~0.18	0.19	**SS1-46**
M4	5						0.19	**SS1-46A**
—	—	18.5	2.13	1.89	0.22	0.08~0.18	0.21	**SS1-48**
M4	5						0.20	**SS1-48A**
M4	5						0.20	**SS1-48B**
—	—	19.5	2.32	1.98	0.24	0.08~0.18	0.22	**SS1-50**
M5	5						0.22	**SS1-50A**
M4	5						0.21	**SS1-50B**
M4	5						0.21	**SS1-50C**
—	—	20.4	2.52	2.08	0.26	0.08~0.18	0.23	**SS1-52**
M4	5						0.23	**SS1-52A**
—	—	21.4	2.73	2.18	0.28	0.08~0.18	0.24	**SS1-54**
M4	5						0.24	**SS1-54A**
—	—	21.8	2.83	2.23	0.29	0.08~0.18	0.25	**SS1-55**
M4	5						0.25	**SS1-55A**
—	—	22.3	2.94	2.28	0.30	0.08~0.18	0.26	**SS1-56**
M4	5						0.25	**SS1-56A**
M4	5						0.25	**SS1-56B**
—	—	23.3	3.17	2.37	0.32	0.08~0.18	0.27	**SS1-58**
M4	5						0.27	**SS1-58A**
—	—	24.2	3.40	2.47	0.35	0.08~0.18	0.29	**SS1-60**
M4	5						0.28	**SS1-60A**
M4	5						0.28	**SS1-60B**
M4	5						0.27	**SS1-60C**
—	—	25.2	3.64	2.57	0.37	0.08~0.18	0.32	**SS1-62**
M4	5						0.32	**SS1-62A**
—	—	26.2	3.89	2.67	0.40	0.08~0.18	0.34	**SS1-64**
M4	5						0.33	**SS1-64A**

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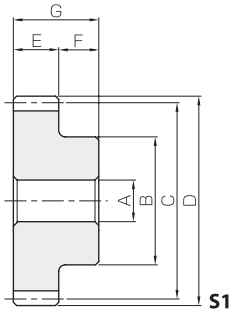


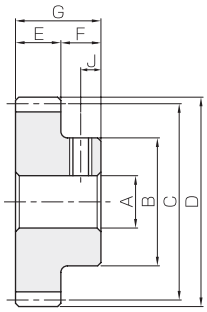
Catalog No.	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A_{H7}	B	C	D	E	F	G	Width×Depth
SS1-65	***m*1**	65	S1	10	40	65	67	10	10	20	—
SS1-65A			S1K	12							4 x 1.8
SS1-66		66	S1	10	40	66	68	10	10	20	—
SS1-66A			S1K	12							4 x 1.8
SS1-68		68	S1	10	40	68	70	10	10	20	—
SS1-68A			S1K	12							4 x 1.8
SS1-70		70	S1	10	40	70	72	10	10	20	—
SS1-70A			S1K	12							4 x 1.8
SS1-70B			S1K	15							5 x 2.3
SS1-70C			S1K	18							6 x 2.8
SS1-72		72	S1	10	40	72	74	10	10	20	—
SS1-72A			S1K	12							4 x 1.8
SS1-72B			S1K	15							5 x 2.3
SS1-72C			S1K	18							6 x 2.8
SS1-75		75	S1	10	40	75	77	10	10	20	—
SS1-75A			S1K	12							4 x 1.8
SS1-76		76	S1	10	40	76	78	10	10	20	—
SS1-76A			S1K	12							4 x 1.8
SS1-80		80	S1	10	40	80	82	10	10	20	—
SS1-80A			S1K	12							4 x 1.8
SS1-80B			S1K	15							5 x 2.3
SS1-80C			S1K	18							6 x 2.8
SS1-84		84	S1	10	40	84	86	10	10	20	—
SS1-84A			S1K	12							4 x 1.8
SS1-85		85	S1	10	40	85	87	10	10	20	—
SS1-85A			S1K	12							4 x 1.8
SS1-88		88	S1	10	40	88	90	10	10	20	—
SS1-88A			S1K	12							4 x 1.8
SS1-90		90	S1	10	40	90	92	10	10	20	—
SS1-90A			S1K	12							4 x 1.8
SS1-90B			S1K	15							5 x 2.3
SS1-90C			S1K	18							6 x 2.8
SS1-95		95	S1	10	40	95	97	10	10	20	—
SS1-95A			S1K	12							4 x 1.8
SS1-96		96	S1	10	40	96	98	10	10	20	—
SS1-96A			S1K	12							4 x 1.8
SS1-100		100	S1	10	40	100	102	10	10	20	—
SS1-100A			S1K	12							4 x 1.8
SS1-100B			S1K	15							5 x 2.3
SS1-100C			S1K	18							6 x 2.8
SS1-110		110	S1	15	50	110	112	10	10	20	—
SS1-110A			S1K	15	40						5 x 2.3
SS1-120		120	S1	15	50	120	122	10	10	20	—
SS1-120A			S1K	15	40						5 x 2.3
SS1-120B			S1K	18							6 x 2.8
SS1-150		150	S1	20	120	150	152	10	10	20	—
SS1-200		200	S1	20	160	200	202	10	10	20	—

[Caution on Product Characteristics]

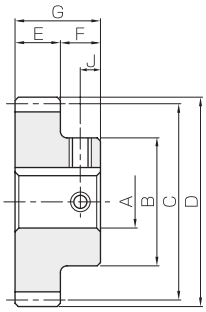
① For products with a tapped hole, a set screw is included.

② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 35 for more details.

③ The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.



S1T



S1K

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash	Weight	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability	(mm)	(kg)	
—	—	26.6	4.02	2.72	0.41	0.08~0.18	0.35	**SS1-65**
M4	5						0.34	**SS1-65A**
—	—	27.1	4.15	2.77	0.42	0.08~0.18	0.35	**SS1-66**
M4	5						0.35	**SS1-66A**
—	—	28.1	4.42	2.86	0.45	0.08~0.18	0.37	**SS1-68**
M4	5						0.36	**SS1-68A**
—	—	29.1	4.70	2.96	0.48	0.08~0.18	0.39	**SS1-70**
M4	5						0.38	**SS1-70A**
M4	5						0.37	**SS1-70B**
M5	5						0.36	**SS1-70C**
—	—	30.0	4.98	3.06	0.51	0.08~0.18	0.41	**SS1-72**
M4	5						0.40	**SS1-72A**
M4	5						0.39	**SS1-72B**
M5	5						0.37	**SS1-72C**
—	—	31.5	5.43	3.21	0.55	0.08~0.18	0.43	**SS1-75**
M4	5						0.42	**SS1-75A**
—	—	32.0	5.59	3.26	0.57	0.08~0.18	0.44	**SS1-76**
M4	5						0.43	**SS1-76A**
—	—	33.9	6.23	3.46	0.63	0.08~0.18	0.48	**SS1-80**
M4	5						0.47	**SS1-80A**
M4	5						0.46	**SS1-80B**
M5	5						0.45	**SS1-80C**
—	—	35.8	6.90	3.66	0.7	0.08~0.18	0.52	**SS1-84**
M4	5						0.51	**SS1-84A**
—	—	36.3	7.08	3.71	0.72	0.08~0.18	0.53	**SS1-85**
M4	5						0.52	**SS1-85A**
—	—	37.8	7.62	3.85	0.78	0.08~0.18	0.56	**SS1-88**
M4	5						0.56	**SS1-88A**
—	—	38.8	7.98	3.95	0.81	0.08~0.18	0.59	**SS1-90**
M4	5						0.58	**SS1-90A**
M4	5						0.57	**SS1-90B**
M5	5						0.55	**SS1-90C**
—	—	41.2	8.95	4.20	0.91	0.08~0.18	0.64	**SS1-95**
M4	5						0.63	**SS1-95A**
—	—	41.7	9.15	4.25	0.93	0.08~0.18	0.65	**SS1-96**
M4	5						0.65	**SS1-96A**
—	—	43.7	9.97	4.45	1.02	0.08~0.18	0.70	**SS1-100**
M4	5						0.69	**SS1-100A**
M4	5						0.68	**SS1-100B**
M5	5						0.67	**SS1-100C**
—	—	48.6	12.2	4.95	1.24	0.08~0.18	0.87	**SS1-110**
M4	5						0.81	**SS1-110A**
—	—	53.5	14.7	5.45	1.50	0.08~0.18	1.01	**SS1-120**
M4	5						0.95	**SS1-120A**
M5	5						0.94	**SS1-120B**
—	—	68.2	23.6	6.96	2.41	0.08~0.18	2.23	**SS1-150**
—	—	71.5	33.6	7.29	3.42	0.08~0.18	4.00	**SS1-200**

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 36) when performing modifications and/or secondary operations for safety concerns. Haguruma Kobo, the KHK's system for quick modification of KHK stock gears is also available.

② Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.