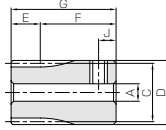


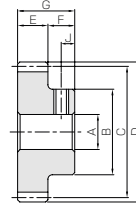


Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) * JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

\* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S3T



S1T

Catalog No.	Module	No. of teeth	Shape	Bore			Outside dia.	Face width	Hub width	Total length	Keyway
				A <sub>H7</sub>	B	C					
S50.5-15A	m0.5	15	S3T	3	8.5	7.5	8.5	5	11	16	—
S50.5-16A		16	S3T	3	9	8	9	5	11	16	—
S50.5-17A		17	S3T	3	9.5	8.5	9.5	5	11	16	—
S50.5-18A		18	S3T	4	10	9	10	5	11	16	—
S50.5-19A		19	S3T	4	10.5	9.5	10.5	5	11	16	—
S50.5-20A		20	S3T	3	11	10	11	5	11	16	—
S50.5-20B			S3T	4	11	10	11	5	11	16	—
S50.5-21A		21	S3T	4	11.5	10.5	11.5	5	11	16	—
S50.5-22A		22	S3T	4	12	11	12	5	11	16	—
S50.5-23A		23	S3T	4	12.5	11.5	12.5	5	11	16	—
S50.5-24A		24	S3T	4	13	12	13	5	11	16	—
S50.5-24B			S3T	5	13	12	13	5	11	16	—
S50.5-25A		25	S3T	4	13.5	12.5	13.5	5	11	16	—
S50.5-25B			S3T	5	13.5	12.5	13.5	5	11	16	—
S50.5-26A		26	S3T	4	14	13	14	5	11	16	—
S50.5-27A		27	S3T	4	14.5	13.5	14.5	5	11	16	—
S50.5-28A		28	S1T	4	12	14	15	5	7	12	—
S50.5-29A		29	S1T	4	12	14.5	15.5	5	7	12	—
S50.5-30A		30	S1T	4	13	15	16	5	7	12	—
S50.5-30B			S1T	5	13	15	16	5	7	12	—
S50.5-30C			S1T	6	13	15	16	5	7	12	—
S50.5-32A		32	S1T	5	14	16	17	5	7	12	—
S50.5-34A		34	S1T	5	15	17	18	5	7	12	—
S50.5-35A		35	S1T	5	15	17.5	18.5	5	7	12	—
S50.5-36A		36	S1T	5	16	18	19	5	7	12	—
S50.5-38A		38	S1T	5	16	19	20	5	7	12	—
S50.5-40A		40	S1T	5	18	20	21	5	7	12	—
S50.5-40B			S1T	6	18	20	21	5	7	12	—
S50.5-42A		42	S1T	5	18	21	22	5	7	12	—
S50.5-44A		44	S1T	5	20	22	23	5	7	12	—
S50.5-45A		45	S1T	5	20	22.5	23.5	5	7	12	—
S50.5-46A		46	S1T	5	20	23	24	5	7	12	—
S50.5-48A		48	S1T	5	22	24	25	5	7	12	—
S50.5-50A		50	S1T	5	22	25	26	5	7	12	—
S50.5-50B			S1T	6	22	25	26	5	7	12	—
S50.5-52A		52	S1T	5	22	26	27	5	7	12	—
S50.5-54A		54	S1T	5	25	27	28	5	7	12	—
S50.5-55A		55	S1T	5	25	27.5	28.5	5	7	12	—
S50.5-56A		56	S1T	5	25	28	29	5	7	12	—
S50.5-58A		58	S1T	5	25	29	30	5	7	12	—
S50.5-60A		60	S1T	6	28	30	31	5	7	12	—
S50.5-60B			S1T	8	28	30	31	5	7	12	—
S50.5-62A		62	S1T	6	28	31	32	5	7	12	—
S50.5-64A		64	S1T	6	28	32	33	5	7	12	—
S50.5-65A		65	S1T	6	28	32.5	33.5	5	7	12	—
S50.5-66A		66	S1T	6	28	33	34	5	7	12	—
S50.5-68A		68	S1T	6	28	34	35	5	7	12	—
S50.5-70A		70	S1T	6	28	35	36	5	7	12	—
S50.5-70B			S1T	8	28	35	36	5	7	12	—
S50.5-72A		72	S1T	6	28	36	37	5	7	12	—

- [Caution on Product Characteristics]
- For products with a tapped hole, a set screw is included.
  - The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
  - 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.
  - If the bore size is less than  $\phi 4$ , the tolerance is H8. If the bore size is  $\phi 5$  or  $\phi 6$ , and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
  - The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

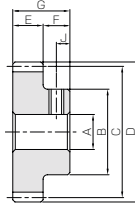
Set Screw	Size	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
		Bending strength	Surface durability	Bending strength	Surface durability			
M3	2.5	0.46	0.022	0.047	0.0022	0~0.10	0.0056	S50.5-15A
M3	2.5	0.51	0.025	0.052	0.0025	0~0.10	0.0064	S50.5-16A
M3	2.5	0.56	0.028	0.057	0.0029	0~0.10	0.0073	S50.5-17A
M3	2.5	0.61	0.032	0.063	0.0033	0~0.10	0.0076	S50.5-18A
M3	2.5	0.67	0.036	0.068	0.0036	0~0.10	0.0085	S50.5-19A
M3	2.5	0.72	0.040	0.073	0.0041	0~0.10	0.010	S50.5-20A
M3	2.5	0.77	0.044	0.079	0.0045	0~0.10	0.011	S50.5-21A
M3	2.5	0.83	0.049	0.084	0.0050	0~0.10	0.012	S50.5-22A
M3	2.5	0.88	0.054	0.090	0.0055	0~0.10	0.013	S50.5-23A
M3	2.5	0.93	0.059	0.095	0.0060	0~0.10	0.014	S50.5-24A
M4	3	0.99	0.064	0.10	0.0065	0~0.10	0.015	S50.5-25A
M3	2.5	1.04	0.069	0.11	0.0071	0~0.10	0.017	S50.5-26A
M3	2.5	1.10	0.075	0.11	0.0076	0~0.10	0.018	S50.5-27A
M3	3.5	1.16	0.081	0.12	0.0082	0~0.10	0.011	S50.5-28A
M3	3.5	1.21	0.087	0.12	0.0088	0~0.10	0.011	S50.5-29A
M3	3.5	1.27	0.093	0.13	0.0095	0~0.10	0.013	S50.5-30A
M4	3.5	1.38	0.11	0.14	0.011	0~0.10	0.014	S50.5-32A
M4	3.5	1.50	0.12	0.15	0.012	0~0.10	0.016	S50.5-34A
M4	3.5	1.55	0.13	0.16	0.013	0~0.10	0.017	S50.5-35A
M4	3.5	1.61	0.14	0.16	0.014	0~0.10	0.019	S50.5-36A
M4	3.5	1.73	0.15	0.18	0.015	0~0.10	0.020	S50.5-38A
M4	3.5	1.84	0.17	0.19	0.017	0~0.10	0.024	S50.5-40A
M4	3.5	1.96	0.19	0.20	0.019	0~0.10	0.025	S50.5-42A
M4	3.5	2.08	0.20	0.21	0.021	0~0.10	0.030	S50.5-44A
M4	3.5	2.14	0.21	0.22	0.022	0~0.10	0.030	S50.5-45A
M4	3.5	2.19	0.22	0.22	0.023	0~0.10	0.031	S50.5-46A
M4	3.5	2.31	0.25	0.24	0.025	0~0.10	0.036	S50.5-48A
M4	3.5	2.43	0.27	0.25	0.027	0~0.10	0.038	S50.5-50A
M4	3.5	2.55	0.29	0.26	0.030	0~0.10	0.039	S50.5-52A
M4	3.5	2.67	0.32	0.27	0.032	0~0.10	0.047	S50.5-54A
M4	3.5	2.73	0.33	0.28	0.033	0~0.10	0.048	S50.5-55A
M4	3.5	2.79	0.34	0.28	0.035	0~0.10	0.048	S50.5-56A
M4	3.5	2.91	0.37	0.30	0.037	0~0.10	0.050	S50.5-58A
M4	3.5	3.03	0.39	0.31	0.040	0~0.10	0.058	S50.5-60A
M5	3.5	3.15	0.42	0.32	0.043	0~0.10	0.060	S50.5-62A
M4	3.5	3.27	0.45	0.33	0.046	0~0.10	0.062	S50.5-64A
M4	3.5	3.33	0.47	0.34	0.048	0~0.10	0.063	S50.5-65A
M4	3.5	3.39	0.48	0.35	0.049	0~0.10	0.064	S50.5-66A
M4	3.5	3.51	0.51	0.36	0.052	0~0.10	0.066	S50.5-68A
M4	3.5	3.63	0.55	0.37	0.056	0~0.10	0.068	S50.5-70A
M5	3.5	3.75	0.58	0.38	0.059	0~0.10	0.065	S50.5-70B
M4	3.5	3.75	0.58	0.38	0.059	0~0.10	0.070	S50.5-72A

- [Caution on Secondary Operations]
- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
  - Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.



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)

\* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S1T

Catalog No.	Module	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width		Total length	Keyway WidthxDepth
				A <sub>H7</sub>	B				E	F		
SS0.5-75A	m0.5	75	S1T	6	28	37.5	38.5	5	7	12	—	
SS0.5-76A		76	S1T	6	28	38	39	5	7	12	—	
SS0.5-80A		80	S1T	6	28	40	41	5	7	12	—	
SS0.5-80B		80	S1T	8	28	40	41	5	7	12	—	
SS0.5-84A		84	S1T	8	28	42	43	5	7	12	—	
SS0.5-85A		85	S1T	8	28	42.5	43.5	5	7	12	—	
SS0.5-88A		88	S1T	8	28	44	45	5	7	12	—	
SS0.5-90A		90	S1T	8	28	45	46	5	7	12	—	
SS0.5-95A		95	S1T	8	28	47.5	48.5	5	7	12	—	
SS0.5-96A		96	S1T	8	28	48	49	5	7	12	—	
SS0.5-100A		100	S1T	8	28	50	51	5	7	12	—	
SS0.5-105A		105	S1T	8	28	52.5	53.5	5	7	12	—	
SS0.5-110A		110	S1T	8	28	55	56	5	7	12	—	
SS0.5-115A		115	S1T	8	28	57.5	58.5	5	7	12	—	
SS0.5-120A		120	S1T	8	28	60	61	5	7	12	—	

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.
- If the bore size is less than  $\phi 4$ , the tolerance is H8. If the bore size is  $\phi 5$  or  $\phi 6$ , and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- The use of S1T shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

\* For products not categorized in our KHK Stock Gear series, custom gear production services with **short lead times** is available. For details see Page 8.

Set Screw Size	J	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
		Bending strength	Surface durability	Bending strength	Surface durability			
M4	3.5	3.93	0.63	0.40	0.064	0~0.10	0.074	SS0.5-75A
M4	3.5	3.99	0.65	0.41	0.066	0~0.10	0.075	SS0.5-76A
M4	3.5	4.24	0.72	0.43	0.074	0~0.10	0.079	SS0.5-80A
M5	3.5	4.24	0.72	0.43	0.074	0~0.10	0.077	SS0.5-80B
M5	3.5	4.48	0.80	0.46	0.082	0~0.10	0.082	SS0.5-84A
M5	3.5	4.54	0.82	0.46	0.084	0~0.10	0.083	SS0.5-85A
M5	3.5	4.72	0.89	0.48	0.090	0~0.10	0.087	SS0.5-88A
M5	3.5	4.85	0.93	0.49	0.095	0~0.10	0.090	SS0.5-90A
M5	3.5	5.15	1.04	0.53	0.11	0~0.10	0.097	SS0.5-95A
M5	3.5	5.21	1.06	0.53	0.11	0~0.10	0.099	SS0.5-96A
M5	3.5	5.46	1.16	0.56	0.12	0~0.10	0.10	SS0.5-100A
M5	3.5	5.76	1.28	0.59	0.13	0~0.10	0.11	SS0.5-105A
M5	3.5	6.07	1.42	0.62	0.14	0~0.10	0.12	SS0.5-110A
M5	3.5	6.38	1.56	0.65	0.16	0~0.10	0.13	SS0.5-115A
M5	3.5	6.68	1.70	0.68	0.17	0~0.10	0.14	SS0.5-120A

[Caution on Secondary Operations]

- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
- Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.

GCU-S Spur Gear Kit



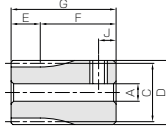
Installation : Parallel axes gears  
(Two-stage)  
Gear Type : Spur Gears  
Gears : 2 units of SS1.5-16  
2 units of PS1.5-22  
Gear Ratio : 1.89  
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.

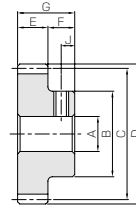


Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1998) * JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

\* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S3T



S1T

Catalog No.	Module	No. of teeth	Shape	Bore			Outside dia.	Face width	Hub width	Total length	Keyway
				A <sub>H7</sub>	B	C					
S50.8-15A	m0.8	15	S3T	5	13.6	12	13.6	8	14	22	—
S50.8-16A		16	S3T	5	14.4	12.8	14.4	8	14	22	—
S50.8-17A		17	S3T	5	15.2	13.6	15.2	8	14	22	—
S50.8-18A		18	S3T	5	16	14.4	16	8	14	22	—
S50.8-19A		19	S1T	5	12	15.2	16.8	8	8	16	—
S50.8-20A		20	S1T	5	13	16	17.6	8	8	16	—
S50.8-20B			S1T	6	13	16	17.6	8	8	16	—
S50.8-21A		21	S1T	6	14	16.8	18.4	8	8	16	—
S50.8-22A		22	S1T	6	15	17.6	19.2	8	8	16	—
S50.8-23A		23	S1T	6	15	18.4	20	8	8	16	—
S50.8-24A		24	S1T	5	16	19.2	20.8	8	8	16	—
S50.8-24B			S1T	6	16	19.2	20.8	8	8	16	—
S50.8-25A		25	S1T	5	16	20	21.6	8	8	16	—
S50.8-25B			S1T	6	16	20	21.6	8	8	16	—
S50.8-26A		26	S1T	6	18	20.8	22.4	8	8	16	—
S50.8-27A		27	S1T	6	18	21.6	23.2	8	8	16	—
S50.8-28A		28	S1T	6	18	22.4	24	8	8	16	—
S50.8-29A		29	S1T	6	20	23.2	24.8	8	8	16	—
S50.8-30A		30	S1T	5	20	24	25.6	8	8	16	—
S50.8-30B			S1T	6	20	24	25.6	8	8	16	—
S50.8-30C			S1T	8	20	24	25.6	8	8	16	—
S50.8-32A		32	S1T	6	22	25.6	27.2	8	8	16	—
S50.8-34A		34	S1T	6	22	27.2	28.8	8	8	16	—
S50.8-35A		35	S1T	6	25	28	29.6	8	8	16	—
S50.8-36A		36	S1T	6	25	28.8	30.4	8	8	16	—
S50.8-38A		38	S1T	6	25	30.4	32	8	8	16	—
S50.8-40A		40	S1T	6	28	32	33.6	8	8	16	—
S50.8-40B			S1T	8	28	32	33.6	8	8	16	—
S50.8-42A		42	S1T	6	28	33.6	35.2	8	8	16	—
S50.8-44A		44	S1T	6	28	35.2	36.8	8	8	16	—
S50.8-45A		45	S1T	6	28	36	37.6	8	8	16	—
S50.8-46A		46	S1T	6	28	36.8	38.4	8	8	16	—
S50.8-48A		48	S1T	6	28	38.4	40	8	8	16	—
S50.8-50A		50	S1T	6	28	40	41.6	8	8	16	—
S50.8-50B			S1T	8	28	40	41.6	8	8	16	—
S50.8-52A		52	S1T	6	28	41.6	43.2	8	8	16	—
S50.8-54A		54	S1T	6	28	43.2	44.8	8	8	16	—
S50.8-55A		55	S1T	6	28	44	45.6	8	8	16	—
S50.8-56A		56	S1T	6	28	44.8	46.4	8	8	16	—
S50.8-58A		58	S1T	6	28	46.4	48	8	8	16	—
S50.8-60A		60	S1T	6	28	48	49.6	8	8	16	—
S50.8-60B			S1T	8	28	48	49.6	8	8	16	—
S50.8-62A		62	S1T	6	28	49.6	51.2	8	8	16	—
S50.8-64A		64	S1T	6	28	51.2	52.8	8	8	16	—
S50.8-65A		65	S1T	6	28	52	53.6	8	8	16	—
S50.8-66A		66	S1T	6	28	52.8	54.4	8	8	16	—
S50.8-68A		68	S1T	6	28	54.4	56	8	8	16	—
S50.8-70A		70	S1T	6	28	56	57.6	8	8	16	—
S50.8-70B			S1T	8	28	56	57.6	8	8	16	—
S50.8-72A		72	S1T	6	28	57.6	59.2	8	8	16	—

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.
- 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.
- The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

Set Screw	Size	J	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
			Bending strength	Surface durability	Bending strength	Surface durability			
M4	3.5	1.89	0.088	0.19	0.0090	0~0.10	0.019	S50.8-15A	
M4	3.5	2.10	0.10	0.21	0.010	0~0.10	0.022	S50.8-16A	
M4	3.5	2.30	0.12	0.23	0.012	0~0.10	0.025	S50.8-17A	
M4	3.5	2.51	0.13	0.26	0.013	0~0.10	0.028	S50.8-18A	
M4	4	2.73	0.15	0.28	0.015	0~0.10	0.016	S50.8-19A	
M4	4	2.94	0.17	0.30	0.017	0~0.10	0.018	S50.8-20A	
M4	4	3.16	0.18	0.32	0.019	0~0.10	0.020	S50.8-21A	
M4	4	3.38	0.20	0.34	0.021	0~0.10	0.022	S50.8-22A	
M4	4	3.60	0.22	0.37	0.023	0~0.10	0.024	S50.8-23A	
M4	4	3.82	0.25	0.39	0.025	0~0.10	0.028	S50.8-24A	
M4	4	4.05	0.27	0.41	0.027	0~0.10	0.029	S50.8-25A	
M4	4	4.28	0.29	0.44	0.030	0~0.10	0.033	S50.8-26A	
M4	4	4.50	0.31	0.46	0.032	0~0.10	0.035	S50.8-27A	
M4	4	4.73	0.34	0.48	0.035	0~0.10	0.037	S50.8-28A	
M4	4	4.96	0.37	0.51	0.037	0~0.10	0.042	S50.8-29A	
M4	4	5.19	0.39	0.53	0.040	0~0.10	0.045	S50.8-30A	
M4	4						0.044	S50.8-30B	
M5	4						0.041	S50.8-30C	
M4	4	5.66	0.45	0.58	0.046	0~0.10	0.052	S50.8-32A	
M4	4	6.13	0.51	0.62	0.052	0~0.10	0.056	S50.8-34A	
M4	4	6.36	0.55	0.65	0.056	0~0.10	0.065	S50.8-35A	
M4	4	6.60	0.58	0.67	0.059	0~0.10	0.067	S50.8-36A	
M4	4	7.07	0.65	0.72	0.066	0~0.10	0.072	S50.8-38A	
M4	4	7.55	0.72	0.77	0.074	0~0.10	0.085	S50.8-40A	
M5	4						0.081	S50.8-40B	
M4	4	8.03	0.80	0.82	0.082	0~0.10	0.090	S50.8-42A	
M4	4	8.51	0.88	0.87	0.090	0~0.10	0.095	S50.8-44A	
M4	4	8.75	0.93	0.89	0.095	0~0.10	0.098	S50.8-45A	
M4	4	8.99	0.97	0.92	0.099	0~0.10	0.10	S50.8-46A	
M4	4	9.47	1.06	0.97	0.11	0~0.10	0.11	S50.8-48A	
M4	4	9.96	1.16	1.02	0.12	0~0.10	0.11	S50.8-50A	
M5	4						0.11	S50.8-50B	
M4	4	10.4	1.26	1.07	0.13	0~0.10	0.12	S50.8-52A	
M4	4	10.9	1.36	1.12	0.14	0~0.10	0.13	S50.8-54A	
M4	4	11.2	1.42	1.14	0.14	0~0.10	0.13	S50.8-55A	
M4	4	11.4	1.47	1.16	0.15	0~0.10	0.13	S50.8-56A	
M4	4	11.9	1.59	1.21	0.16	0~0.10	0.14	S50.8-58A	
M4	4	12.4	1.70	1.26	0.17	0~0.10	0.15	S50.8-60A	
M5	4						0.14	S50.8-60B	
M4	4	12.9	1.82	1.32	0.19	0~0.10	0.16	S50.8-62A	
M4	4	13.4	1.95	1.37	0.20	0~0.10	0.16	S50.8-64A	
M4	4	13.6	2.01	1.39	0.21	0~0.10	0.17	S50.8-65A	
M4	4	13.9	2.08	1.42	0.21	0~0.10	0.17	S50.8-66A	
M4	4	14.4	2.22	1.47	0.23	0~0.10	0.18	S50.8-68A	
M4	4	14.9	2.35	1.52	0.24	0~0.10	0.19	S50.8-70A	
M5	4						0.19	S50.8-70B	
M4	4	15.4	2.50	1.57	0.25	0~0.10	0.20	S50.8-72A	

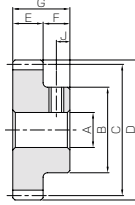
[Caution on Secondary Operations]

- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
- Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.



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

\* The precision grade of products with a module of less than 0.8 is equivalent to the value shown in the table.



S1T

Catalog No.	Module	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width		Total length	Keyway
				A <sub>H7</sub>	B				E	F		
SS0.8-75A	m0.8	75	S1T	6	28	60	61.6	8	8	16	—	
SS0.8-76A		76	S1T	6	28	60.8	62.4	8	8	16	—	
SS0.8-80A		80	S1T	6	28	64	65.6	8	8	16	—	
SS0.8-80B		80	S1T	8	28	64	65.6	8	8	16	—	
SS0.8-84A		84	S1T	8	28	67.2	68.8	8	8	16	—	
SS0.8-85A		85	S1T	8	28	68	69.6	8	8	16	—	
SS0.8-88A		88	S1T	8	28	70.4	72	8	8	16	—	
SS0.8-90A		90	S1T	8	28	72	73.6	8	8	16	—	
SS0.8-95A		95	S1T	8	28	76	77.6	8	8	16	—	
SS0.8-96A		96	S1T	8	28	76.8	78.4	8	8	16	—	
SS0.8-100A		100	S1T	8	28	80	81.6	8	8	16	—	
SS0.8-105A		105	S1T	8	28	84	85.6	8	8	16	—	
SS0.8-110A		110	S1T	8	28	88	89.6	8	8	16	—	
SS0.8-115A		115	S1T	8	28	92	93.6	8	8	16	—	
SS0.8-120A		120	S1T	8	28	96	97.6	8	8	16	—	

[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 31 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  $\phi 4$ , the tolerance is H8. If the bore size is  $\phi 5$  or  $\phi 6$ , and the hole length exceeds 3 times of the bore size, the tolerance is also H8.
- ⑤ The use of S1T shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

\* For products not categorized in our KHK Stock Gear series, custom gear production services with **short lead times** is available. For details see Page 8.

Set Screw	Size	J	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
			Bending strength	Surface durability	Bending strength	Surface durability			
M4	4	16.1	2.72	1.64	0.28	0~0.10	0.21	SS0.8-75A	
M4	4	16.4	2.80	1.67	0.29	0~0.10	0.22	SS0.8-76A	
M4	4	17.4	3.11	1.77	0.32	0~0.10	0.24	SS0.8-80A	
M5	4	17.4	3.11	1.77	0.32	0~0.10	0.23	SS0.8-80B	
M5	4	18.4	3.45	1.87	0.35	0~0.10	0.25	SS0.8-84A	
M5	4	18.6	3.54	1.90	0.36	0~0.10	0.26	SS0.8-85A	
M5	4	19.4	3.80	1.97	0.39	0~0.10	0.28	SS0.8-88A	
M5	4	19.9	3.99	2.02	0.41	0~0.10	0.29	SS0.8-90A	
M5	4	21.1	4.47	2.15	0.46	0~0.10	0.32	SS0.8-95A	
M5	4	21.4	4.57	2.18	0.47	0~0.10	0.32	SS0.8-96A	
M5	4	22.4	4.98	2.28	0.51	0~0.10	0.35	SS0.8-100A	
M5	4	23.6	5.52	2.41	0.56	0~0.10	0.38	SS0.8-105A	
M5	4	24.9	6.09	2.54	0.62	0~0.10	0.41	SS0.8-110A	
M5	4	26.1	6.69	2.66	0.68	0~0.10	0.45	SS0.8-115A	
M5	4	27.4	7.32	2.79	0.75	0~0.10	0.49	SS0.8-120A	

[Caution on Secondary Operations]

- ① Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, 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.

GCU-S Spur Gear Kit

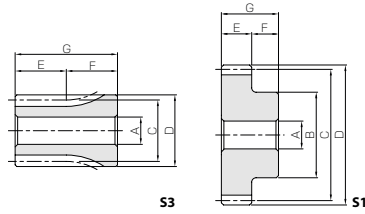


Installation : Parallel axes gears  
(Two-stage)  
Gear Type : Spur Gears  
Gears : 2 units of SS1.5-16  
2 units of PS1.5-22  
Gear Ratio : 1.89  
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.



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)



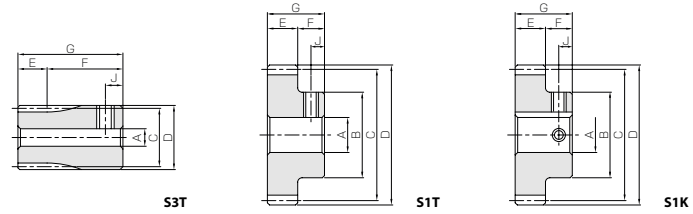
S3

S1

Catalog No.	Module	No. of teeth	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A <sub>H7</sub>	B							
SS1-15	m1	15	S3	8	17	15	17	10	20	30	—	
SS1-15A			S3T	5								
SS1-15B			S3T	6								
SS1-16		16	S3	8	18	16	18	10	20	30	—	
SS1-16A			S3T	5								
SS1-16B			S3T	6								
SS1-17		17	S3	8	19	17	19	10	20	30	—	
SS1-17A			S3T	8								
SS1-18			S3	8								20
SS1-18A		S3T	6									
SS1-18B		S3T	8									
SS1-19		19	S3	8	21	19	21	10	20	30	—	
SS1-19A			S3T	8								
SS1-20			S1	8								16
SS1-20A		S1T	5									
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			S1	8								18
SS1-22A		S1T	8									
SS1-23		S1	8	18	23	25	10	10	20	—		
SS1-23A		S1T	8									
SS1-24		24	S1								8	20
SS1-24A			S1T	6								
SS1-24B			S1T	8								
SS1-24C			S1K	10								
SS1-25		25	S1	8	20	25	27	10	10	20	—	
SS1-25A			S1T	6								
SS1-25B			S1T	8								
SS1-25C			S1K	10								
SS1-26		26	S1	8	22	26	28	10	10	20	—	
SS1-26A	S1T		8									
SS1-26B	S1K		10									
SS1-27	27	S1	8	22	27	29	10	10	20	—		
SS1-27A		S1T	8									
SS1-28		S1	8								22	28
SS1-28A	S1T	8										
SS1-28B	S1K	10										
SS1-29	29	S1	8	24	29	31	10	10	20	—		
SS1-29A		S1T	8									
SS1-30		S1	10								25	30
SS1-30A	S1T	6										
SS1-30B	S1T	8										
SS1-30C	S1K	10										
SS1-30D	S1K	12	26	32	34	10	10	20	—			
SS1-32	S1	10										
SS1-32A	S1T	8										
SS1-32B	S1K	10	26	32	34	10	10	20	—			
SS1-32C	S1K	12										

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.
- 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.
- The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.



S3T

S1T

S1K

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

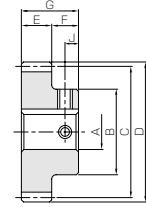
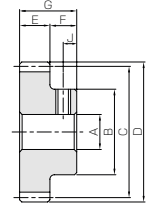
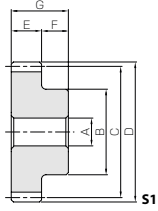
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- Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.





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)



Catalog No.	Module	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A <sub>H7</sub>	B						
<b>SS1-34</b> <b>SS1-34A</b>	m1	34	S1	10	26	34	36	10	10	20	—
S1K			10	4 x 1.8							
<b>SS1-35</b> <b>SS1-35A</b> <b>SS1-35B</b>		35	S1	10	26	35	37	10	10	20	—
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
<b>SS1-36</b> <b>SS1-36A</b> <b>SS1-36B</b>		36	S1	10	28	36	38	10	10	20	—
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
<b>SS1-38</b> <b>SS1-38A</b>		38	S1	10	32	38	40	10	10	20	—
S1K			10	4 x 1.8							
<b>SS1-40</b> <b>SS1-40A</b> <b>SS1-40B</b> <b>SS1-40C</b>		40	S1	10	35	40	42	10	10	20	—
S1T			8	4 x 1.8							
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
<b>SS1-42</b> <b>SS1-42A</b>		42	S1	10	35	42	44	10	10	20	—
S1K			10	4 x 1.8							
<b>SS1-44</b> <b>SS1-44A</b>		44	S1	10	35	44	46	10	10	20	—
S1K			10	4 x 1.8							
<b>SS1-45</b> <b>SS1-45A</b> <b>SS1-45B</b> <b>SS1-45C</b>		45	S1	10	35	45	47	10	10	20	—
S1T			8	4 x 1.8							
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
<b>SS1-46</b> <b>SS1-46A</b>		46	S1	10	35	46	48	10	10	20	—
S1K			10	4 x 1.8							
<b>SS1-48</b> <b>SS1-48A</b> <b>SS1-48B</b>		48	S1	10	35	48	50	10	10	20	—
S1K			10	4 x 1.8							
S1K			12	4 x 1.8							
<b>SS1-50</b> <b>SS1-50A</b> <b>SS1-50B</b> <b>SS1-50C</b>		50	S1	10	35	50	52	10	10	20	—
S1T	8		4 x 1.8								
S1K	10		4 x 1.8								
S1K	12		4 x 1.8								
<b>SS1-52</b> <b>SS1-52A</b>	52	S1	10	35	52	54	10	10	20	—	
S1K		10	4 x 1.8								
<b>SS1-54</b> <b>SS1-54A</b>	54	S1	10	35	54	56	10	10	20	—	
S1K		10	4 x 1.8								
<b>SS1-55</b> <b>SS1-55A</b>	55	S1	10	35	55	57	10	10	20	—	
S1K		10	4 x 1.8								
<b>SS1-56</b> <b>SS1-56A</b> <b>SS1-56B</b>	56	S1	10	35	56	58	10	10	20	—	
S1K		10	4 x 1.8								
S1K		12	4 x 1.8								
<b>SS1-58</b> <b>SS1-58A</b>	58	S1	10	35	58	60	10	10	20	—	
S1K		10	4 x 1.8								
<b>SS1-60</b> <b>SS1-60A</b> <b>SS1-60B</b> <b>SS1-60C</b>	60	S1	10	35	60	62	10	10	20	—	
S1K		10	4 x 1.8								
S1K		12	4 x 1.8								
S1K		15	5 x 2.3								
<b>SS1-62</b> <b>SS1-62A</b>	62	S1	10	40	62	64	10	10	20	—	
S1K		12	4 x 1.8								
<b>SS1-64</b> <b>SS1-64A</b>	64	S1	10	40	64	66	10	10	20	—	
S1K		12	4 x 1.8								

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.
- The use of S1T shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

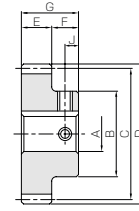
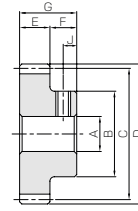
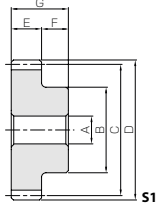
Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	12.0	1.03	1.22	0.10	0.08~0.18	0.10	<b>SS1-34</b> <b>SS1-34A</b>
M4	5	12.4	1.09	1.27	0.11	0.08~0.18	0.10	<b>SS1-35</b>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

[Caution on Secondary Operations]

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



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1978)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



Catalog No.	Module	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width	Total length	Keyway
				A <sub>H7</sub>	B						
<b>SS1-65</b> <b>SS1-65A</b>	m1	65	S1	10	40	65	67	10	10	20	—
S1K			12								
<b>SS1-66</b> <b>SS1-66A</b>		66	S1	10	40	66	68	10	10	20	—
S1K			12								
<b>SS1-68</b> <b>SS1-68A</b>		68	S1	10	40	68	70	10	10	20	—
S1K			12								
<b>SS1-70</b> <b>SS1-70A</b> <b>SS1-70B</b> <b>SS1-70C</b>		70	S1	10	40	70	72	10	10	20	—
S1K			12								
S1K			15								
S1K			18								
<b>SS1-72</b> <b>SS1-72A</b> <b>SS1-72B</b> <b>SS1-72C</b>		72	S1	10	40	72	74	10	10	20	—
S1K			12								
S1K			15								
S1K			18								
<b>SS1-75</b> <b>SS1-75A</b>		75	S1	10	40	75	77	10	10	20	—
S1K			12								
<b>SS1-76</b> <b>SS1-76A</b>		76	S1	10	40	76	78	10	10	20	—
S1K			12								
<b>SS1-80</b> <b>SS1-80A</b> <b>SS1-80B</b> <b>SS1-80C</b>		80	S1	10	40	80	82	10	10	20	—
S1K			12								
S1K	15										
S1K	18										
<b>SS1-84</b> <b>SS1-84A</b>	84	S1	10	40	84	86	10	10	20	—	
S1K		12									
<b>SS1-85</b> <b>SS1-85A</b>	85	S1	10	40	85	87	10	10	20	—	
S1K		12									
<b>SS1-88</b> <b>SS1-88A</b>	88	S1	10	40	88	90	10	10	20	—	
S1K		12									
<b>SS1-90</b> <b>SS1-90A</b> <b>SS1-90B</b> <b>SS1-90C</b>	90	S1	10	40	90	92	10	10	20	—	
S1K		12									
S1K		15									
S1K		18									
<b>SS1-95</b> <b>SS1-95A</b>	95	S1	10	40	95	97	10	10	20	—	
S1K		12									
<b>SS1-96</b> <b>SS1-96A</b>	96	S1	10	40	96	98	10	10	20	—	
S1K		12									
<b>SS1-100</b> <b>SS1-100A</b> <b>SS1-100B</b> <b>SS1-100C</b>	100	S1	10	40	100	102	10	10	20	—	
S1K		12									
S1K		15									
S1K		18									
<b>SS1-110</b> <b>SS1-110A</b>	110	S1	15	50	110	112	10	10	20	—	
S1K		15	40								
<b>SS1-120</b> <b>SS1-120A</b> <b>SS1-120B</b>	120	S1	15	50	120	122	10	10	20	—	
S1K		15	40								
S1K		18	40								
<b>SS1-150</b> <b>SS1-200</b>	150	S1	20	120	150	152	10	10	20	—	
	200	S1	20	160	200	202	10	10	20	—	

[Caution on Product Characteristics]

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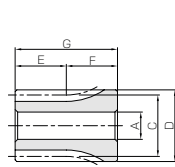
Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	26.6	4.02	2.72	0.41	0.08~0.18	0.35	<b>SS1-65</b> <b>SS1-65A</b>
M4	5	27.1	4.15	2.77	0.42	0.08~0.18	0.35	<b>SS1-66</b>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

[Caution on Secondary Operations]

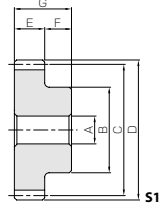
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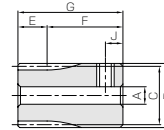
Specifications	
Precision grade	JIS grade N8 (JIS B1702-1: 1998) JIS grade 4 (JIS B1702: 1978)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



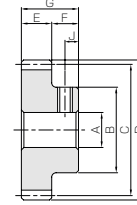
S3



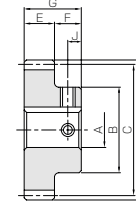
S1



S3T



S1T



S1K

Catalog No.	Module	No. of teeth	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width		Hub width	Total length	Web thickness		Web O.D.	Keyway
				A <sub>H7</sub>	B				E	F			H	I		
SS1.5-12 SS1.5-12A	m1.5	12	S3	8	21	18	21	15	15	30	—	—	—	—	—	—
S3T			6	21	18	21	15	15	30	—	—	—	—	—	—	
SS1.5-13 SS1.5-13A		13	S3	8	22.5	19.5	22.5	15	15	30	—	—	—	—	—	—
S3T			6	22.5	19.5	22.5	15	15	30	—	—	—	—	—	—	
SS1.5-14 SS1.5-14A SS1.5-14B		14	S1	8	16	21	24	15	10	25	—	—	—	—	—	—
S1T			6	16	21	24	15	10	25	—	—	—	—	—	—	
SS1.5-15 SS1.5-15A SS1.5-15B		15	S1	8	18	22.5	25.5	15	10	25	—	—	—	—	—	—
S1T			6	18	22.5	25.5	15	10	25	—	—	—	—	—	—	
SS1.5-16 SS1.5-16A SS1.5-16B		16	S1	8	20	24	27	15	10	25	—	—	—	—	—	—
S1T			6	20	24	27	15	10	25	—	—	—	—	—	—	
SS1.5-17 SS1.5-17A		17	S1	8	21	25.5	28.5	15	10	25	—	—	—	—	—	—
S1T			8	21	25.5	28.5	15	10	25	—	—	—	—	—	—	
SS1.5-18 SS1.5-18A SS1.5-18B		18	S1	8	22	27	30	15	10	25	—	—	—	—	—	—
S1T			8	22	27	30	15	10	25	—	—	—	—	—	—	
SS1.5-19 SS1.5-19A		19	S1	8	23	28.5	31.5	15	10	25	—	—	—	—	—	—
S1T			8	23	28.5	31.5	15	10	25	—	—	—	—	—	—	
SS1.5-20 SS1.5-20A SS1.5-20B SS1.5-20C		20	S1	8	24	30	33	15	10	25	—	—	—	—	—	—
S1T			8	24	30	33	15	10	25	—	—	—	—	—	—	
SS1.5-21 SS1.5-21A SS1.5-21B		21	S1	8	25	31.5	34.5	15	10	25	—	—	—	—	—	—
S1T			8	25	31.5	34.5	15	10	25	—	—	—	—	—	—	
SS1.5-22 SS1.5-22A		22	S1	8	26	33	36	15	10	25	—	—	—	—	—	—
S1K			10	26	33	36	15	10	25	—	—	—	—	—	—	
SS1.5-23 SS1.5-23A		23	S1	8	27	34.5	37.5	15	10	25	—	—	—	—	—	—
S1K			10	27	34.5	37.5	15	10	25	—	—	—	—	—	—	
SS1.5-24 SS1.5-24A SS1.5-24B SS1.5-24C		24	S1	8	28	36	39	15	10	25	—	—	—	—	—	—
S1T			8	28	36	39	15	10	25	—	—	—	—	—	—	
SS1.5-25 SS1.5-25A SS1.5-25B SS1.5-25C		25	S1	8	30	37.5	40.5	15	10	25	—	—	—	—	—	—
S1T			8	30	37.5	40.5	15	10	25	—	—	—	—	—	—	
SS1.5-26 SS1.5-26A		26	S1	10	32	39	42	15	10	25	—	—	—	—	—	—
S1K			12	32	39	42	15	10	25	—	—	—	—	—	—	
SS1.5-27 SS1.5-27A	27	S1	10	34	40.5	43.5	15	10	25	—	—	—	—	—	—	
S1K		12	34	40.5	43.5	15	10	25	—	—	—	—	—	—		
SS1.5-28 SS1.5-28A	28	S1	10	36	42	45	15	10	25	—	—	—	—	—	—	
S1K		12	36	42	45	15	10	25	—	—	—	—	—	—		
SS1.5-29 SS1.5-29A	29	S1	10	37	43.5	46.5	15	10	25	—	—	—	—	—	—	
S1K		12	37	43.5	46.5	15	10	25	—	—	—	—	—	—		
SS1.5-30 SS1.5-30A SS1.5-30B SS1.5-30C SS1.5-30D	30	S1	10	38	45	48	15	10	25	—	—	—	—	—	—	
S1K		12	38	45	48	15	10	25	—	—	—	—	—	—		

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.
- The use of S3T and S1T shaped set screws for fastening gears to a shaft are only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Size	J	Bending strength	Surface durability	Bending strength	Surface durability			
—	—	6.86	0.36	0.70	0.037	0.10~0.22	0.059	SS1.5-12
M4	4	6.86	0.36	0.70	0.037	0.10~0.22	0.063	SS1.5-12A
—	—	8.84	0.44	0.90	0.045	0.10~0.22	0.070	SS1.5-13
M4	4	8.84	0.44	0.90	0.045	0.10~0.22	0.075	SS1.5-13A
—	—	11.1	0.52	1.13	0.053	0.10~0.22	0.047	SS1.5-14
M4	5	11.1	0.52	1.13	0.053	0.10~0.22	0.051	SS1.5-14A
M5	5	11.1	0.52	1.13	0.053	0.10~0.22	0.046	SS1.5-14B
—	—	12.5	0.60	1.27	0.062	0.10~0.22	0.057	SS1.5-15
M4	5	12.5	0.60	1.27	0.062	0.10~0.22	0.061	SS1.5-15A
M5	5	12.5	0.60	1.27	0.062	0.10~0.22	0.056	SS1.5-15B
—	—	13.8	0.70	1.41	0.071	0.10~0.22	0.068	SS1.5-16
M4	5	13.8	0.70	1.41	0.071	0.10~0.22	0.072	SS1.5-16A
M5	5	13.8	0.70	1.41	0.071	0.10~0.22	0.067	SS1.5-16B
—	—	15.2	0.80	1.55	0.082	0.10~0.22	0.077	SS1.5-17
M5	5	15.2	0.80	1.55	0.082	0.10~0.22	0.077	SS1.5-17A
—	—	16.6	0.91	1.69	0.093	0.10~0.22	0.087	SS1.5-18
M5	5	16.6	0.91	1.69	0.093	0.10~0.22	0.086	SS1.5-18A
M4	5	16.6	0.91	1.69	0.093	0.10~0.22	0.080	SS1.5-18B
—	—	18.0	1.03	1.83	0.11	0.10~0.22	0.098	SS1.5-19
M5	5	18.0	1.03	1.83	0.11	0.10~0.22	0.097	SS1.5-19A
—	—	19.4	1.15	1.98	0.12	0.10~0.22	0.11	SS1.5-20
M4	5	19.4	1.15	1.98	0.12	0.10~0.22	0.11	SS1.5-20A
M5	5	19.4	1.15	1.98	0.12	0.10~0.22	0.11	SS1.5-20B
M4	5	19.4	1.15	1.98	0.12	0.10~0.22	0.10	SS1.5-20C
—	—	20.8	1.29	2.12	0.13	0.12~0.26	0.12	SS1.5-21
M5	5	20.8	1.29	2.12	0.13	0.12~0.26	0.12	SS1.5-21A
M4	5	20.8	1.29	2.12	0.13	0.12~0.26	0.11	SS1.5-21B
—	—	22.3	1.43	2.27	0.15	0.12~0.26	0.13	SS1.5-22
M4	5	22.3	1.43	2.27	0.15	0.12~0.26	0.12	SS1.5-22A
—	—	23.7	1.58	2.42	0.16	0.12~0.26	0.15	SS1.5-23
M4	5	23.7	1.58	2.42	0.16	0.12~0.26	0.14	SS1.5-23A
—	—	25.2	1.73	2.57	0.18	0.12~0.26	0.16	SS1.5-24
M5	5	25.2	1.73	2.57	0.18	0.12~0.26	0.16	SS1.5-24A
M4	5	25.2	1.73	2.57	0.18	0.12~0.26	0.15	SS1.5-24B
M4	5	25.2	1.73	2.57	0.18	0.12~0.26	0.14	SS1.5-24C
—	—	26.7	1.90	2.72	0.19	0.12~0.26	0.18	SS1.5-25
M5	5	26.7	1.90	2.72	0.19	0.12~0.26	0.17	SS1.5-25A
M4	5	26.7	1.90	2.72	0.19	0.12~0.26	0.17	SS1.5-25B
M4	5	26.7	1.90	2.72	0.19	0.12~0.26	0.16	SS1.5-25C
—	—	28.2	2.06	2.87	0.21	0.12~0.26	0.19	SS1.5-26
M4	5	28.2	2.06	2.87	0.21	0.12~0.26	0.18	SS1.5-26A
—	—	29.7	2.23	3.03	0.23	0.12~0.26	0.21	SS1.5-27
M4	5	29.7	2.23	3.03	0.23	0.12~0.26	0.20	SS1.5-27A
—	—	31.2	2.41	3.18	0.25	0.12~0.26	0.23	SS1.5-28
M4	5	31.2	2.41	3.18	0.25	0.12~0.26	0.22	SS1.5-28A
—	—	32.7	2.60	3.34	0.26	0.12~0.26	0.24	SS1.5-29
M4	5	32.7	2.60	3.34	0.26	0.12~0.26	0.23	SS1.5-29A
—	—	34.2	2.79	3.49	0.28	0.12~0.26	0.26	SS1.5-30
M4	5	34.2	2.79	3.49	0.28	0.12~0.26	0.26	SS1.5-30A
M4	5	34.2	2.79	3.49	0.28	0.12~0.26	0.25	SS1.5-30B
M4	5	34.2	2.79	3.49	0.28	0.12~0.26	0.24	SS1.5-30C
M4	5	34.2	2.79	3.49	0.28	0.12~0.26	0.23	SS1.5-30D

[Caution on Secondary Operations]

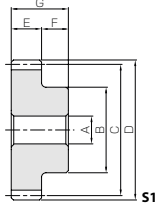
- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
- Avoid performing secondary operations that narrow the tooth width as it affects precision and strength.





Specifications	
Precision grade	JIS grade NB (JIS B1702-1: 1989) * JIS grade 4 (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

\* The precision grade of J Series products is equivalent to the value shown in the table.



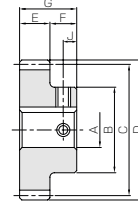
Catalog No.	Module	No. of teeth	Shape	Bore A <sub>H7</sub>	Hub dia. B	Pitch dia. C	Outside dia. D	Face width E	Hub width F	Total length G	Web thickness H	Web O.D. I	Keyway Width×Depth
<b>SS1.5-32</b>	m1.5	32	S1	10	40	48	51	15	10	25	—	—	—
<b>SS1.5-32A</b>			S1K	10	38								4 x 1.8
<b>SS1.5-32B</b>			S1K	12	38								4 x 1.8
<b>SS1.5-32C</b>			S1K	15	38								5 x 2.3
<b>SS1.5-32D</b>			S1K	16	38								5 x 2.3
<b>SS1.5-34</b>			S1	10	40								51
<b>SS1.5-34A</b>		S1K	12	38	—	—	—	—	—	—	—	4 x 1.8	
<b>SS1.5-35</b>		S1	10	42	52.5	55.5	15	10	25	—	—	—	—
<b>SS1.5-35A</b>		S1K	12	40	—	—	—	—	—	—	—	—	4 x 1.8
<b>SS1.5-36</b>		S1	10	45	54	57	15	10	25	—	—	—	—
<b>SS1.5-36A</b>		S1K	12	40	—	—	—	—	—	—	—	—	4 x 1.8
<b>SS1.5-38</b>		S1	12	45	57	60	15	10	25	—	—	—	—
<b>SS1.5-38A</b>		S1K	15	40	—	—	—	—	—	—	—	—	5 x 2.3
<b>SS1.5-40</b>		S1	12	45	60	63	15	10	25	—	—	—	—
<b>SS1.5-40A</b>		S1K	12	40	—	—	—	—	—	—	—	—	4 x 1.8
<b>SS1.5-40B</b>		S1K	15	40	—	—	—	—	—	—	—	—	5 x 2.3
<b>SS1.5-40C</b>	S1K	16	40	—	—	—	—	—	—	—	—	5 x 2.3	

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.

[Caution on Secondary Operations]

- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
- Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.



Set Screw		Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.	
Size	J	Bending strength	Surface durability	Bending strength	Surface durability				
—	—	—	—	—	—	0.12~0.26	0.30	<b>SS1.5-32</b>	
M4	5	37.3	3.19	3.80	0.33				0.28
M4	5	37.3	3.19	3.80	0.33	0.12~0.26	0.28	<b>SS1.5-32B</b>	
M4	5							0.26	<b>SS1.5-32C</b>
M4	5	40.4	3.63	4.12	0.37	0.12~0.26	0.32	<b>SS1.5-34</b>	
M4	5							0.30	<b>SS1.5-34A</b>
—	—	41.9	3.85	4.28	0.39	0.12~0.26	0.35	<b>SS1.5-35</b>	
M4	5							0.33	<b>SS1.5-35A</b>
—	—	43.5	4.09	4.43	0.42	0.12~0.26	0.38	<b>SS1.5-36</b>	
M4	5							0.34	<b>SS1.5-36A</b>
—	—	46.6	4.58	4.75	0.47	0.12~0.26	0.40	<b>SS1.5-38</b>	
M4	5							0.36	<b>SS1.5-38A</b>
—	—	49.8	5.10	5.07	0.52	0.12~0.26	0.44	<b>SS1.5-40</b>	
M4	5							0.41	<b>SS1.5-40A</b>
M4	5							0.39	<b>SS1.5-40B</b>
M4	5							0.39	<b>SS1.5-40C</b>

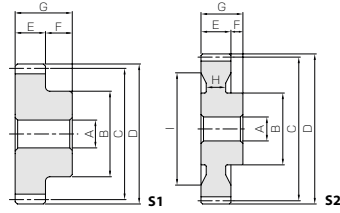
[Caution on J series]

- As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- Keyways are made according to JIS B1301 standards, JS9 tolerance.
- Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap.
- Areas of products which have been re-worked will not be black oxide coated.
- For products having a tapped hole, a set screw is included.



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)
Face width (E)	15
Hub width (F)	10
Total length (G)	25
Screw offset (J)	10

\* The precision grade of J Series products is equivalent to the value shown in the table.



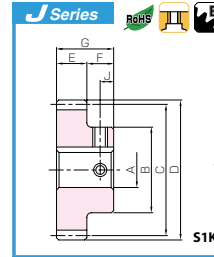
Catalog No.	No. of teeth	Shape	Bore A <sub>H7</sub>	Hub dia. B	Pitch dia.		Outside dia. D	Web thickness (H)	Web O.D. (I)	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)						
					C	D				Bending strength	Surface durability	Bending strength	Surface durability								
SS1.5-42	42	S1	12	45	63	66	72	—	—	52.9	5.65	5.40	0.58	0.47							
SS1.5-44	44														66	69	56.1	6.23	5.72	0.64	0.51
SS1.5-45	45														67.5	70.5	57.7	6.53	5.88	0.67	0.52
SS1.5-46	46														69	72	59.3	6.83	6.04	0.70	0.54
SS1.5-48	48														72	75	62.4	7.47	6.37	0.76	0.58
SS1.5-50	50														75	78	65.7	8.15	6.69	0.83	0.62
SS1.5-52	52				78	81	68.9	8.85	7.02	0.90	0.68										
SS1.5-54	54				81	84	72.1	9.59	7.35	0.98	0.73										
SS1.5-55	55				82.5	85.5	73.7	9.96	7.51	1.02	0.75										
SS1.5-56	56				84	87	75.3	10.4	7.68	1.06	0.77										
SS1.5-58	58				87	90	78.5	11.2	8.01	1.14	0.82										
SS1.5-60	60				90	93	81.8	12.0	8.34	1.22	0.87										
SS1.5-62	62	93	96	85.0	12.8	8.67	1.31	0.95													
SS1.5-64	64	96	99	88.3	13.7	9.00	1.40	1.00													
SS1.5-65	65	97.5	100.5	89.9	14.2	9.17	1.45	1.03													
SS1.5-66	66	99	102	91.5	14.6	9.33	1.49	1.06													
SS1.5-68	68	102	105	94.8	15.6	9.66	1.59	1.11													
SS1.5-70	70	105	108	98.0	16.6	10.0	1.69	1.17													
SS1.5-72	72	108	111	101	17.6	10.3	1.79	1.23													
SS1.5-75	75	112.5	115.5	106	19.2	10.8	1.95	1.36													
SS1.5-76	76	114	117	108	19.7	11.0	2.01	1.39													
SS1.5-80	80	120	123	114	22.0	11.7	2.24	1.52													
SS1.5-84	84	126	129	121	24.4	12.3	2.49	1.66													
SS1.5-85	85	127.5	130.5	123	25.1	12.5	2.56	1.69													
SS1.5-88	88	132	135	128	27.0	13.0	2.75	1.80													
SS1.5-90	90	135	138	131	28.3	13.3	2.89	1.87													
SS1.5-95	95	142.5	145.5	139	31.8	14.2	3.24	2.07													
SS1.5-100	100	150	153	147	35.5	15.0	3.62	1.88													
SS1.5-120	120	180	183	180	52.3	18.4	5.33	2.74													
SS1.5-150	150	225	228	192	70.3	19.6	7.17	6.62													
SS1.5-200	200	300	303	261	131	26.7	13.3	11.8													

[Caution on Product Characteristics]

- For products with a tapped hole, a set screw is included.
- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
- 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.

[Caution on Secondary Operations]

- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
- Avoid performing secondary operations that narrow the tooth width, as it affects precision and strength.



To order J Series products, please specify; Catalog No. + J + BORE

Bore H7	* The product shapes of J Series items are identified by background color.														
	10	12	14	15	16	17	18	19	20	22	25	28	30	32	35
Keyway Js9	4 x 1.8			5 x 2.3			6 x 2.8			8 x 3.3			10 x 3.3		
Screw size	M4			M5			M6			M8					
Catalog No.															
SS1.5-42 J BORE															
SS1.5-44 J BORE															
SS1.5-45 J BORE															
SS1.5-46 J BORE															
SS1.5-48 J BORE															
SS1.5-50 J BORE															
SS1.5-52 J BORE															
SS1.5-54 J BORE															
SS1.5-55 J BORE															
SS1.5-56 J BORE															
SS1.5-58 J BORE															
SS1.5-60 J BORE															
SS1.5-62 J BORE															
SS1.5-64 J BORE															
SS1.5-65 J BORE															
SS1.5-66 J BORE															
SS1.5-68 J BORE															
SS1.5-70 J BORE															
SS1.5-72 J BORE															
SS1.5-75 J BORE															
SS1.5-76 J BORE															
SS1.5-80 J BORE															
SS1.5-84 J BORE															
SS1.5-85 J BORE															
SS1.5-88 J BORE															
SS1.5-90 J BORE															
SS1.5-95 J BORE															
SS1.5-100 J BORE															
SS1.5-120 J BORE															

[Caution on J series]

- As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor.
- Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
- Keyways are made according to JIS B1301 standards, JS9 tolerance.
- Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap.
- Areas of products which have been re-worked will not be black oxide coated.
- For products having a tapped hole, a set screw is included.

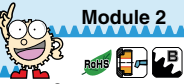


# Steel Spur Gears

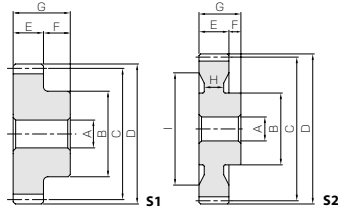


Specifications	
Precision grade	JIS grade NB (JIS B1702-1: 1988) + JIS grade 4 (JIS B1702: 1978)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Face width (E)	20
Hub width (F)	10
Total length (G)	30
Screw offset (J)	5

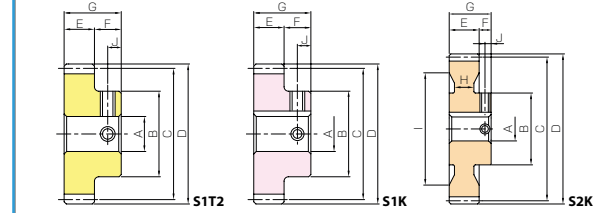
\* The precision grade of J Series products is equivalent to the value shown in the table.



## Module 2



## Steel Spur Gears



To order J Series products, please specify; Catalog No. + J + BORE

Catalog No.	No. of teeth	Shape	Bore A <sub>H7</sub>	Hub dia. B	Pitch dia. C	Outside dia. D	Web thickness (H)	Web O.D. (I)	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)
									Bending strength	Surface durability	Bending strength	Surface durability		
S52-12	12	S1	10	18	24	28	—	—	16.3	0.88	1.66	0.090	0.12~0.26	0.073
S52-13	13			20	26	30			21.0	1.07	2.14	0.11		0.090
S52-14	14			20	28	32			26.3	1.26	2.69	0.13		0.10
S52-15	15			24	30	34			29.6	1.48	3.01	0.15		0.12
S52-16	16			26	32	36			32.7	1.71	3.34	0.17		0.14
S52-17	17			28	34	38			36.0	1.96	3.67	0.20		0.16
S52-18	18			30	36	40			39.3	2.23	4.01	0.23		0.19
S52-19	19			31	38	42			42.6	2.52	4.35	0.26		0.21
S52-20	20			32	40	44			46.0	2.83	4.69	0.29		0.23
S52-21	21			34	42	46			49.4	3.15	5.04	0.32		0.26
S52-22	22		36	44	48	52.8	3.50	5.39	0.36	0.29				
S52-23	23		37	46	50	56.3	3.86	5.74	0.39	0.32				
S52-24	24		38	48	52	59.8	4.24	6.09	0.43	0.35				
S52-25	25		40	50	54	63.3	4.64	6.45	0.47	0.38				
S52-26	26		42	52	56	66.8	5.04	6.81	0.51	0.42				
S52-27	27		45	54	58	70.4	5.45	7.17	0.56	0.46				
S52-28	28		45	56	60	73.9	5.89	7.54	0.60	0.48				
S52-29	29		47	58	62	77.5	6.33	7.91	0.65	0.52				
S52-30	30		50	60	64	81.1	6.80	8.27	0.69	0.57				
S52-32	32		50	64	68	88.4	7.78	9.01	0.79	0.63				
S52-34	34	50	68	72	95.7	8.84	9.76	0.90	0.70					
S52-35	35	52	70	74	99.3	9.39	10.1	0.96	0.74					
S52-36	36	55	72	76	103	9.96	10.5	1.02	0.80					
S52-38	38	55	76	80	111	11.2	11.3	1.14	0.87					
S52-40	40	55	80	84	118	12.5	12.0	1.27	0.93					
S52-42	42	S1	10	84	88	125	13.8	12.8	1.41	1.01				
S52-44	44			88	92	133	15.2	13.6	1.55	1.10				
S52-45	45			90	94	137	16.0	13.9	1.63	1.14				
S52-46	46			92	96	140	16.7	14.3	1.71	1.19				
S52-48	48			96	100	148	18.3	15.1	1.87	1.28				
S52-50	50			100	104	156	19.9	15.9	2.03	1.38				
S52-52	52			104	108	163	21.7	16.6	2.21	1.48				
S52-54	54			108	112	171	23.4	17.4	2.39	1.58				
S52-55	55			110	114	175	24.4	17.8	2.48	1.64				
S52-56	56			112	116	179	25.3	18.2	2.58	1.69				
S52-58	58	S1	15	116	120	186	27.3	19.0	2.78	1.84				
S52-60	60			120	124	194	29.3	19.8	2.99	1.96				
S52-62	62			124	128	202	31.5	20.6	3.21	2.08				
S52-64	64			128	132	209	33.7	21.3	3.44	2.20				
S52-65	65			130	134	213	34.8	21.7	3.55	2.26				
S52-66	66			132	136	217	36.0	22.1	3.67	2.33				
S52-68	68			136	140	225	38.4	22.9	3.91	2.46				
S52-70	70			140	144	232	40.8	23.7	4.16	2.60				
S52-72	72			144	148	240	43.3	24.5	4.42	2.74				
S52-75	75			150	154	252	47.3	25.7	4.82	2.92				
S52-76	76	S2	20	60	152	156	256	48.6	26.1	4.96	3.00			
S52-80	80			60	160	164	271	54.3	27.7	5.53	2.67			
S52-84	84			70	168	172	287	60.2	29.2	6.14	3.09			
S52-85	85			70	170	174	291	61.7	29.6	6.30	3.09			
S52-88	88			70	176	180	302	66.5	30.8	6.78	3.29			
S52-90	90			70	180	184	310	69.7	31.6	7.11	3.38			
S52-95	95			70	190	194	330	78.2	33.6	7.97	3.69			
S52-100	100			70	200	204	346	85.8	36.5	8.87	4.01			
S52-120	120			90	240	244	437	108	46.1	11.0	5.91			
S52-150	150			120	300	304	555	144	61.8	17.7	14.5			

[Caution on Product Characteristics] ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details. ② 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.

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, 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.

Bore H7	* The product shapes of J Series items are identified by background color.															
	10	12	14	15	16	17	18	19	20	22	25	28	30	32	35	
Keyway Js9	4 x 1.8			5 x 2.3				6 x 2.8				8 x 3.3			10 x 3.3	
Screw size	M4			M5				M6			M8					
Catalog No.	[Color-coded grid for product selection]															

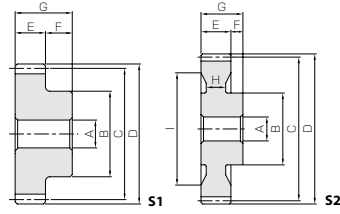
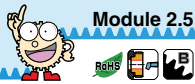
[Caution on J series] ① As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor. ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time. ③ Keyways are made according to JIS B1301 standards, Js9 tolerance. ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. ⑤ Areas of products which have been re-worked will not be black oxide coated. ⑥ For products having a tapped hole, a set screw is included. ⑦ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

# SS Steel Spur Gears



Specifications	
Precision grade	JIS grade NB (JIS B1702-1: 1998) + JIS grade 4 (JIS B1702: 1978)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Face width (E)	25
Hub width (F)	12
Total length (G)	37
Screw offset (J)	6

\* The precision grade of J Series products is equivalent to the value shown in the table.



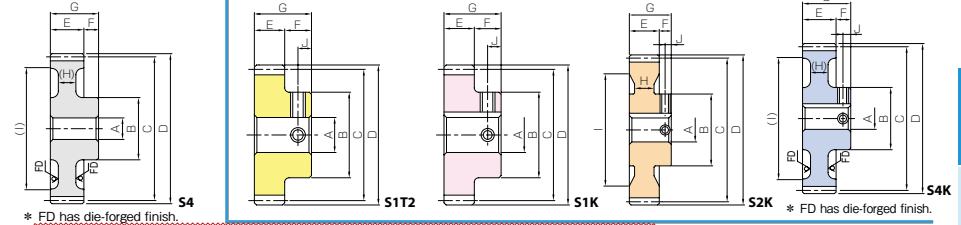
Catalog No.	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Web thickness (H)	Web O.D. (I)	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	
			A <sub>H7</sub>	B					Bending strength	Surface durability	Bending strength	Surface durability			
SS2.5-12	12	S1	12	23	30	35	—	—	31.8	1.77	3.24	0.18	0.14~0.28	0.15	
SS2.5-13	13			25	32.5	37.5			40.9	2.14	4.17	0.22		0.18	
SS2.5-14	14			25	35	40			51.5	2.53	5.25	0.26		0.20	
SS2.5-15	15			30	37.5	42.5			57.7	2.96	5.89	0.30		0.23	
SS2.5-16	16			32	40	45			64	3.43	6.52	0.35		0.27	
SS2.5-17	17			35	42.5	47.5			70.3	3.93	7.17	0.40		0.32	
SS2.5-18	18		38	45	50	76.7	4.47	7.82	0.46	0.37					
SS2.5-19	19		39	47.5	52.5	83.2	5.05	8.49	0.51	0.41					
SS2.5-20	20		40	50	55	89.8	5.66	9.16	0.58	0.45					
SS2.5-21	21		42	52.5	57.5	96.4	6.30	9.83	0.64	0.50					
SS2.5-22	22		20	15	44	55	60	—	—	103	6.99	10.5	0.71	0.16~0.34	0.56
SS2.5-23	23				46	57.5	62.5			110	7.71	11.2	0.79		0.61
SS2.5-24	24	48			60	65	117			8.47	11.9	0.86	0.67		
SS2.5-25	25	50			62.5	67.5	124			9.26	12.6	0.94	0.74		
SS2.5-26	26	55			65	70	130			10.1	13.3	1.03	0.82		
SS2.5-27	27	60			67.5	72.5	137			10.9	14.0	1.11	0.92		
SS2.5-28	28	60		70	75	144	11.7	14.7	1.20	0.97					
SS2.5-29	29	62		72.5	77.5	151	12.6	15.4	1.29	1.04					
SS2.5-30	30	65		75	80	159	13.6	16.2	1.39	1.13					
SS2.5-32	32	70		80	85	173	15.6	17.6	1.59	1.30					
SS2.5-34	34	S4		70	85	90	90	—	—	187	17.7	19.1	1.80	0.18~0.40	1.42
SS2.5-35	35				87.5	92.5	194			18.8	19.8	1.92	1.49		
SS2.5-36	36		90		95	201	20.0			20.5	2.04	1.56			
SS2.5-38	38		95		100	216	22.4			22.0	2.28	1.66			
SS2.5-40	40		100		105	230	24.9			23.5	2.54	1.81			
SS2.5-42	42		105		110	245	27.6			25.0	2.82	1.97			
SS2.5-44	44		110	115	260	30.5	26.5	3.11	2.14						
SS2.5-45	45		112.5	117.5	267	31.9	27.2	3.26	2.22						
SS2.5-46	46		115	120	274	33.5	28.0	3.41	2.31						
SS2.5-48	48		120	125	289	36.7	29.5	3.74	2.49						
SS2.5-50	50		S2	25	125	130	130	15	(10)	304	40.0	31.0	4.08	0.22~0.48	2.68
SS2.5-52	52				130	135	319			43.5	32.5	4.44	2.88		
SS2.5-54	54	135			140	334	47.2			34.0	4.81	3.08			
SS2.5-55	55	137.5			142.5	341	49.1			34.8	5.01	3.19			
SS2.5-56	56	140			145	349	51.0			35.6	5.20	3.29			
SS2.5-58	58	70			145	150	364			55.0	37.1	5.61	3.51		
SS2.5-60	60	70		150	155	379	59.1	38.6	6.03	3.80					
SS2.5-62	62	80		155	160	394	63.4	40.1	6.46	4.13					
SS2.5-64	64	80		160	165	409	67.8	41.7	6.92	4.49					
SS2.5-65	65	80		162.5	167.5	416	70.1	42.4	7.15	4.77					
SS2.5-66	66	165		170	170	424	72.4	43.2	7.39	5.09					
SS2.5-68	68	170		175	175	439	77.2	44.7	7.87	5.42					
SS2.5-70	70	80	175	180	454	82.1	46.3	8.37	5.78						
SS2.5-72	72	180	185	185	469	87.1	47.8	8.89	6.14						
SS2.5-75	75	187.5	192.5	192.5	492	95.0	50.1	9.69	6.54						
SS2.5-76	76	80	190	195	160	499	97.7	50.9	9.97	6.94					
SS2.5-80	80	80	200	205	(177)	441	90.9	45.0	9.27	7.38					
SS2.5-90	90	90	225	230	(202)	505	117	51.5	12.0	8.22					
SS2.5-100	100	90	250	255	(227)	569	147	58.0	15.0	9.18					
SS2.5-120	120	100	300	305	(277)	696	218	71.0	22.2	10.38					

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# J Series

# Steel Spur Gears



\* FD has die-forged finish.

To order J Series products, please specify; Catalog No. + J + BORE

Bore H7	* The product shapes of J Series items are identified by background color.														
	12	14	15	16	17	18	19	20	22	25	28	30	32	35	40
Keyway Js9	4 x 1.8			5 x 2.3			6 x 2.8			8 x 3.3			10 x 3.3		
Screw size	M4			M5			M6			M8			M8		
Catalog No.															
SS2.5-12 J BORE															
SS2.5-13 J BORE															
SS2.5-14 J BORE															
SS2.5-15 J BORE															
SS2.5-16 J BORE															
SS2.5-17 J BORE															
SS2.5-18 J BORE															
SS2.5-19 J BORE															
SS2.5-20 J BORE															
SS2.5-21 J BORE															
SS2.5-22 J BORE															
SS2.5-23 J BORE															
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SS2.5-27 J BORE															
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SS2.5-29 J BORE															
SS2.5-30 J BORE															
SS2.5-32 J BORE															
SS2.5-34 J BORE															
SS2.5-35 J BORE															
SS2.5-36 J BORE															
SS2.5-38 J BORE															
SS2.5-40 J BORE															
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SS2.5-56 J BORE															
SS2.5-58 J BORE															
SS2.5-60 J BORE															
SS2.5-62 J BORE															
SS2.5-64 J BORE															
SS2.5-65 J BORE															
SS2.5-66 J BORE															
SS2.5-68 J BORE															
SS2.5-70 J BORE															
SS2.5-72 J BORE															
SS2.5-75 J BORE															
SS2.5-76 J BORE															
SS2.5-80 J BORE															
SS2.5-90 J BORE															
SS2.5-100 J BORE															
SS2.5-120 J BORE															

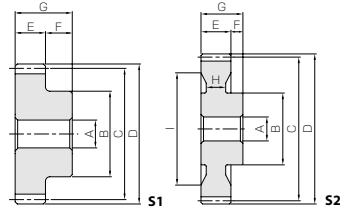
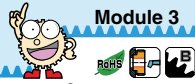
[Caution on J series] ① As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor. ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time. ③ Keyways are made according to JIS B1301 standards, Js9 tolerance. ④ Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap. ⑤ Areas of products which have been re-worked will not be black oxide coated. ⑥ For products having a tapped hole, a set screw is included. ⑦ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.

# SS Steel Spur Gears



Specifications	
Precision grade	JIS grade NB (JIS B1702-1: 1998) = JIS grade (JIS B1702: 1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Face width (E)	30
Hub width (F)	35
Total length (G)	45
Screw offset (J)	7.5

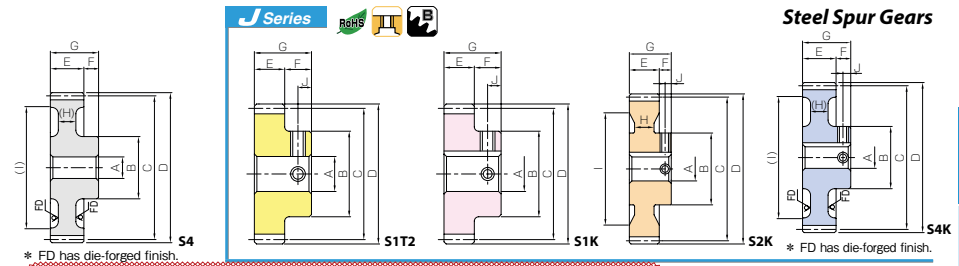
\* The precision grade of J Series products is equivalent to the value shown in the table.



Catalog No.	No. of teeth	Shape	Bore A <sub>H7</sub>	Hub dia. B	Pitch dia. C	Outside dia. D	Web thickness (H)	Web O.D. (I)	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	
									Bending strength	Surface durability	Bending strength	Surface durability			
S53-12	12	S1	15	28	36	42	—	—	54.9	3.12	5.59	0.32	0.14~0.32	0.25	
S53-13	13			30	39	45			70.7	3.77	7.21	0.38		0.30	
S53-14	14			32	42	48			88.9	4.47	9.07	0.46		0.36	
S53-15	15			36	45	51			99.7	5.23	10.2	0.53		0.43	
S53-16	16			38	48	54			111	6.05	11.3	0.62		0.50	
S53-17	17			39	51	57			122	6.93	12.4	0.71		0.56	
S53-18	18			40	54	60			133	7.87	13.5	0.80		0.62	
S53-19	19			45	57	63			144	8.88	14.7	0.91		0.73	
S53-20	20			50	60	66			155	9.95	15.8	1.02		0.83	
S53-21	21			52	63	69			167	11.1	17.0	1.13		0.92	
S53-22	22			54	66	72			178	12.3	18.2	1.25		1.01	
S53-23	23			56	69	75			190	13.6	19.4	1.38		1.11	
S53-24	24			58	72	78			202	14.9	20.6	1.52		1.21	
S53-25	25			60	75	81			214	16.3	21.8	1.66		1.26	
S53-26	26			65	78	84			226	17.7	23.0	1.81		1.41	
S53-27	27		65	81	87	237	19.2	24.2	1.96	1.49					
S53-28	28		70	84	90	250	20.7	25.4	2.11	1.65					
S53-29	29		70	87	93	262	22.3	26.7	2.27	1.74					
S53-30	30		75	90	96	274	24.0	27.9	2.44	1.91					
S53-32	32		75	96	102	298	27.4	30.4	2.80	2.11					
S53-34	34		80	80	102	108	323	31.2	32.9	3.18	2.41				
S53-35	35	105			111	335	33.1	34.2	3.38	2.52					
S53-36	36	108			114	348	35.2	35.5	3.59	2.64					
S53-38	38	114			120	373	39.4	38.0	4.02	2.82					
S53-40	40	120			126	398	44.0	40.6	4.49	3.08					
S53-42	42	126			132	423	48.9	43.2	4.98	3.35					
S53-44	44	132			138	449	54.0	45.7	5.50	3.64					
S53-45	45	135			141	461	56.6	47.0	5.78	3.79					
S53-46	46	138			144	474	59.4	48.3	6.05	3.94					
S53-48	48	144			150	500	65.0	50.9	6.63	4.25					
S53-50	50	S2			25	80	150	156	(10)	(123)	525	70.9	53.6	7.23	3.72
S53-52	52						156	162	—	126	551	77.1	56.2	7.86	4.38
S53-54	54						162	168	—	132	577	83.6	58.8	8.52	4.61
S53-55	55						165	171	—	131	590	86.9	60.1	8.86	4.81
S53-56	56						168	174	—	134	602	90.3	61.4	9.21	4.94
S53-58	58		174	180			—	144	628	97.3	64.1	9.92	5.10		
S53-60	60		180	186			(10)	(153)	654	105	66.7	10.7	4.60		
S53-62	62		186	192			—	150	680	112	69.4	11.4	5.76		
S53-64	64		192	198			—	158	588	99.9	60.0	10.2	5.99		
S53-65	65		195	201			—	161	599	103	61.1	10.5	6.13		
S53-66	66		198	204			—	160	610	107	62.2	10.9	6.67		
S53-68	68		204	210			—	170	632	114	64.4	11.6	6.86		
S53-70	70		210	216			—	176	654	121	66.6	12.4	7.15		
S53-72	72		216	222			—	182	675	129	68.9	13.1	7.46		
S53-75	75		225	231			—	190	708	141	72.2	14.3	7.95		
S53-76	76	90	228	234	—	190	145	73.3	14.8	8.20					
S53-80	80	S4	90	240	246	(10)	(213)	763	162	77.8	16.5	6.92			
S53-90	90	S2	100	270	276	—	240	872	208	89.0	21.2	10.6			
S53-100	100	S4	100	300	306	(10)	(273)	983	261	100	26.6	10.78			
S53-120	120	S4	130	360	366	(10)	(333)	1200	386	123	39.4	15.7			

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\* FD has die-forged finish.

To order J Series products, please specify; Catalog No. + J + BORE

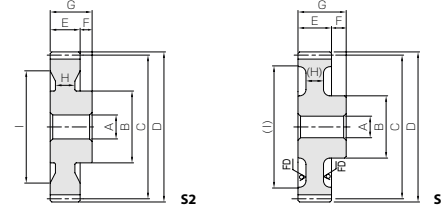
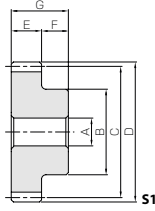
Catalog No.	* The product shapes of J Series items are identified by background color.																	
	15	16	17	18	19	20	22	25	28	30	32	35	40	45	50			
Bore H7	Keyway Js9																	
Screw size	5 x 2.3				6 x 2.8				8 x 3.3				10 x 3.3		12 x 3.3		14 x 3.8	
Catalog No.	M4																	
S53-12 J BORE																		
S53-13 J BORE																		
S53-14 J BORE																		
S53-15 J BORE																		
S53-16 J BORE																		
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S53-66 J BORE																		
S53-68 J BORE																		
S53-70 J BORE																		
S53-72 J BORE																		
S53-75 J BORE																		
S53-76 J BORE																		
S53-80 J BORE																		
S53-90 J BORE																		
S53-100 J BORE																		
S53-120 J BORE																		

[Caution on J Series] ① As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order. Please allow additional shipping time to get to your local distributor. ② Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time. ③ Keyways are made according to JIS B1301 standards, Js9 tolerance. ④ Certain products which would otherwise have a very long tapped hole are contoured to reduce the length of the tap. ⑤ Areas of products which have been re-worked will not be black oxide coated. ⑥ For products having a tapped hole, a set screw is included. ⑦ The use of S1T2 shaped set screws for fastening gears to a shaft, is a method only applicable to light load usage. For secure fastening, please use dowel pins, in combination.





Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1996) JIS grade 4 (JIS B1702:1996)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



\* FD has die-forged finish.

Catalog No.	Module	No. of teeth	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A <sub>H7</sub>	B								
S54-12	m4	12	S1	20	35	48	56	40	20	60	—	—	
S54-13		13	S1	20	38	52	60	40	20	60	—	—	
S54-14		14	S1	20	40	56	64	40	20	60	—	—	
S54-15		15	S1	20	45	60	68	40	20	60	—	—	
S54-16		16	S1	20	50	64	72	40	20	60	—	—	
S54-17		17	S1	20	53	68	76	40	20	60	—	—	
S54-18		18	S1	20	55	72	80	40	20	60	—	—	
S54-19		19	S1	20	60	76	84	40	20	60	—	—	
S54-20		20	S1	20	65	80	88	40	20	60	—	—	
S54-21		21	S1	20	69	84	92	40	20	60	—	—	
S54-22		22	S1	20	73	88	96	40	20	60	—	—	
S54-23		23	S1	20	77	92	100	40	20	60	—	—	
S54-24		24	S1	20	80	96	104	40	20	60	—	—	
S54-25		25	S1	20	84	100	108	40	20	60	—	—	
S54-26		26	S1	20	87	104	112	40	20	60	—	—	
S54-27		27	S1	20	90	108	116	40	20	60	—	—	
S54-28		28	S1	20	95	112	120	40	20	60	—	—	
S54-29		29	S1	20	95	116	124	40	20	60	—	—	
S54-30		30	S1	20	100	120	128	40	20	60	—	—	
S54-32		32	S1	22	100	128	136	40	16	56	—	—	
S54-34		34	S1	22	100	136	144	40	16	56	—	—	
S54-35		35	S1	22	100	140	148	40	16	56	—	—	
S54-36		36	S1	22	100	144	152	40	16	56	—	—	
S54-38		38	S1	22	100	152	160	40	16	56	—	—	
S54-40		40	S1	25	100	160	168	40	16	56	—	—	
S54-42		42	S1	25	100	168	176	40	16	56	—	—	
S54-44		44	S1	25	100	176	184	40	16	56	—	—	
S54-45		45	S1	25	100	180	188	40	16	56	—	—	
S54-46		46	S1	25	100	184	192	40	16	56	—	—	
S54-48		48	S2	25	100	192	200	40	16	56	26	150	
S54-50		50	S4	30	100	200	208	40	16	56	(12)	(168)	
S54-52		52	S2	30	100	208	216	40	16	56	26	165	
S54-54		54	S2	30	100	216	224	40	16	56	26	175	
S54-55		55	S2	30	100	220	228	40	16	56	26	178	
S54-56		56	S2	30	100	224	232	40	16	56	26	182	
S54-58		58	S2	30	110	232	240	40	16	56	26	190	
S54-60*		60	S4	30	110	240	248	40	16	56	(12)	(208)	
S54-62		62	S2	30	110	248	256	40	16	56	20	210	
S54-64		64	S2	30	110	256	264	40	16	56	16	214	
S54-65		65	S2	30	110	260	268	40	16	56	16	218	
S54-66	66	S2	30	120	264	272	40	16	56	16	220		
S54-68	68	S2	30	120	272	280	40	16	56	16	225		
S54-70	70	S4	30	120	280	288	40	16	56	(12)	(248)		
S54-80	80	S4	30	120	320	328	40	16	56	(12)	(288)		

[Caution on Product Characteristics] ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.  
② 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.

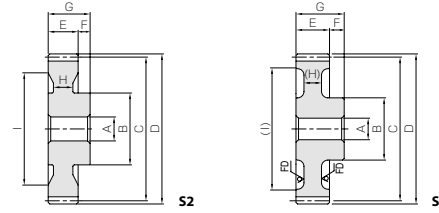
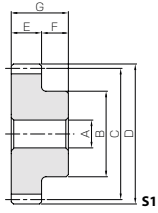
Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
130	7.62	13.3	0.78	0.18~0.38	0.57	S54-12
168	9.22	17.1	0.94	0.18~0.38	0.70	S54-13
211	10.9	21.5	1.11	0.18~0.38	0.82	S54-14
236	12.8	24.1	1.30	0.18~0.38	0.99	S54-15
262	14.7	26.7	1.50	0.18~0.38	1.17	S54-16
288	16.9	29.4	1.72	0.18~0.38	1.34	S54-17
314	19.2	32.0	1.96	0.18~0.38	1.50	S54-18
341	21.7	34.8	2.21	0.18~0.38	1.72	S54-19
368	24.3	37.5	2.48	0.18~0.38	1.95	S54-20
395	27.1	40.3	2.76	0.20~0.44	2.18	S54-21
423	30.1	43.1	3.06	0.20~0.44	2.42	S54-22
450	33.2	45.9	3.38	0.20~0.44	2.67	S54-23
478	36.4	48.8	3.72	0.20~0.44	2.91	S54-24
506	39.9	51.6	4.07	0.20~0.44	3.19	S54-25
534	43.3	54.5	4.42	0.20~0.44	3.45	S54-26
563	46.9	57.4	4.78	0.20~0.44	3.73	S54-27
591	50.6	60.3	5.16	0.20~0.44	4.06	S54-28
620	54.5	63.2	5.56	0.20~0.44	4.28	S54-29
649	58.7	66.2	5.98	0.20~0.44	4.64	S54-30
707	67.4	72.1	6.87	0.20~0.44	4.86	S54-32
766	76.7	78.1	7.82	0.20~0.44	5.38	S54-34
795	81.6	81.1	8.32	0.20~0.44	5.65	S54-35
825	86.7	84.1	8.84	0.20~0.44	5.93	S54-36
884	97.3	90.1	9.92	0.20~0.44	6.52	S54-38
943	109	96.2	11.1	0.20~0.44	7.08	S54-40
1000	120	102	12.3	0.24~0.52	7.73	S54-42
1060	133	108	13.6	0.24~0.52	8.41	S54-44
1090	139	112	14.2	0.24~0.52	8.76	S54-45
1120	146	115	14.9	0.24~0.52	9.12	S54-46
987	133	101	13.6	0.24~0.52	9.12	S54-48
1040	146	106	14.8	0.24~0.52	8.00	S54-50
1090	158	111	16.1	0.24~0.52	10.2	S54-52
1140	172	116	17.5	0.24~0.52	10.8	S54-54
1160	179	119	18.2	0.24~0.52	11.1	S54-55
1190	186	121	18.9	0.24~0.52	11.5	S54-56
1240	200	127	20.4	0.24~0.52	12.5	S54-58
1290	215	132	22	0.24~0.52	10.7	S54-60
1340	231	137	23.6	0.24~0.52	13.1	S54-62
1390	248	142	25.2	0.24~0.52	13.4	S54-64
1420	256	145	26.1	0.24~0.52	13.7	S54-65
1450	265	148	27	0.24~0.52	14.7	S54-66
1500	282	153	28.8	0.24~0.52	15.5	S54-68
1550	300	158	30.6	0.24~0.52	13.6	S54-70
1810	400	184	40.8	0.24~0.52	16.3	S54-80

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, 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.

© As of March 2015, the products which have a mark on the catalog number will be modified to an S2-shape. For details, please see our web site.



Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1996) JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)



\* FD has die-forged finish.

Catalog No.	Module	No. of teeth	Shape	Dimensions										
				A <sub>H7</sub>	B	C	D	E	F	G	(H)	(I)	Web O.D.	
S55-12	m5	12	S1	22	46	60	70	50	25	75	—	—		
S55-13		13	S1	22	50	65	75	50	25	75	—	—		
S55-14		14	S1	22	52	70	80	50	25	75	—	—		
S55-15		15	S1	22	60	75	85	50	25	75	—	—		
S55-16		16	S1	22	65	80	90	50	25	75	—	—		
S55-17		17	S1	22	68	85	95	50	25	75	—	—		
S55-18		18	S1	22	70	90	100	50	25	75	—	—		
S55-19		19	S1	22	76	95	105	50	25	75	—	—		
S55-20		20	S1	22	82	100	110	50	25	75	—	—		
S55-21		21	S1	25	90	105	115	50	25	75	—	—		
S55-22		22	S1	25	95	110	120	50	25	75	—	—		
S55-23		23	S1	25	100	115	125	50	25	75	—	—		
S55-24		24	S1	25	100	120	130	50	25	75	—	—		
S55-25		25	S1	25	105	125	135	50	25	75	—	—		
S55-26		26	S1	25	110	130	140	50	25	75	—	—		
S55-27		27	S1	25	110	135	145	50	25	75	—	—		
S55-28		28	S1	25	110	140	150	50	25	75	—	—		
S55-29		29	S1	25	115	145	155	50	25	75	—	—		
S55-30		30	S1	25	120	150	160	50	25	75	—	—		
S55-32		32	S1	30	120	160	170	50	21	71	—	—		
S55-34		34	S1	30	120	170	180	50	21	71	—	—		
S55-35		35	S1	30	120	175	185	50	21	71	—	—		
S55-36		36	S1	30	120	180	190	50	21	71	—	—		
S55-38		38	S1	30	120	190	200	50	21	71	—	—		
S55-40		40	S2	30	120	200	210	50	21	71	36	160		
S55-42		42	S2	30	120	210	220	50	21	71	36	170		
S55-44		44	S2	30	120	220	230	50	21	71	36	175		
S55-45		45	S2	30	120	225	235	50	21	71	36	185		
S55-46		46	S2	30	120	230	240	50	21	71	30	185		
S55-48		48	S2	30	120	240	250	50	21	71	30	200		
S55-50		50	S4	30	120	250	260	50	21	71	(16)	(212)		
S55-52		52	S2	30	130	260	270	50	21	71	30	220		
S55-54	54	S2	30	130	270	280	50	21	71	30	230			
S55-55	55	S2	30	130	275	285	50	21	71	30	235			
S55-56	56	S2	30	130	280	290	50	21	71	30	240			
S55-58	58	S2	30	130	290	300	50	21	71	30	240			
S55-60	60	S4	30	130	300	310	50	21	71	(20)	(260)			

[Caution on Product Characteristics] ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.  
② 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.

Catalog No.	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)
	Bending strength	Surface durability	Bending strength	Surface durability		
S55-12	254	15.2	25.9	1.55	0.20~0.44	1.21
S55-13	327	18.4	33.4	1.88	0.20~0.44	1.46
S55-14	412	21.8	42.0	2.22	0.20~0.44	1.70
S55-15	462	25.5	47.1	2.60	0.20~0.44	2.07
S55-16	512	29.5	52.2	3.01	0.20~0.44	2.40
S55-17	562	33.8	57.3	3.45	0.20~0.44	2.72
S55-18	614	38.4	62.6	3.92	0.20~0.44	3.03
S55-19	666	43.4	67.9	4.42	0.20~0.44	3.45
S55-20	718	48.6	73.3	4.96	0.20~0.44	3.90
S55-21	772	54.2	78.7	5.53	0.24~0.50	4.36
S55-22	825	60.1	84.1	6.13	0.24~0.50	4.83
S55-23	879	66.3	89.7	6.77	0.24~0.50	5.33
S55-24	934	73.0	95.2	7.45	0.24~0.50	5.69
S55-25	989	80.0	101	8.16	0.24~0.50	6.23
S55-26	1040	87.1	106	8.88	0.24~0.50	6.79
S55-27	1100	94.4	112	9.62	0.24~0.50	7.19
S55-28	1160	102	118	10.4	0.24~0.50	7.62
S55-29	1210	110	124	11.2	0.24~0.50	8.23
S55-30	1270	118	129	12.1	0.24~0.50	8.87
S55-32	1380	136	141	13.8	0.24~0.50	9.36
S55-34	1500	154	153	15.7	0.24~0.50	10.4
S55-35	1550	164	158	16.7	0.24~0.50	10.9
S55-36	1610	174	164	17.8	0.24~0.50	11.5
S55-38	1730	195	176	19.9	0.24~0.50	12.6
S55-40	1540	182	157	18.5	0.24~0.50	13.2
S55-42	1630	202	167	20.6	0.28~0.58	14.2
S55-44	1730	223	177	22.8	0.28~0.58	15.4
S55-45	1780	234	182	23.9	0.28~0.58	15.8
S55-46	1830	246	187	25.1	0.28~0.58	16.2
S55-48	1930	269	197	27.5	0.28~0.58	17.0
S55-50	2030	294	207	30.0	0.28~0.58	15.0
S55-52	2130	320	217	32.6	0.28~0.58	19.8
S55-54	2220	347	227	35.4	0.28~0.58	20.9
S55-55	2270	361	232	36.8	0.28~0.58	21.5
S55-56	2320	375	237	38.3	0.28~0.58	22.0
S55-58	2420	405	247	41.3	0.28~0.58	23.8
S55-60	2520	435	257	44.4	0.28~0.58	21.4

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, 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.

\* For products not categorized in our KHK Stock Gear series, custom gear production services with **short lead times** is available. For details see Page 8.

GCU-S Spur Gear Kit



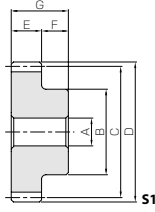
Installation : Parallel axes gears (Two-stage)  
Gear Type : Spur Gears  
Gears : 2 units of SS1.5-16  
          2 units of PS1.5-22  
Gear Ratio : 1.89  
Weight : Approx. 1kg

The Gear Kit contains two-stage spur gears and allows speed increases / reductions, and includes the most commonly used combinations of gears.

# SS Steel Spur Gears



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)



Catalog No.	Module	No. of teeth	Shape	Bore				Pitch dia.	Outside dia.	Face width	Hub width	Total length	Web thickness	Web O.D.
				A <sub>H7</sub>	B	C	D							
<b>S56-12</b>	m6	12	S1	25	55	72	84	60	28	88	—	—		
<b>S56-13</b>		13	S1	25	58	78	90	60	28	88	—	—		
<b>S56-14</b>		14	S1	25	60	84	96	60	28	88	—	—		
<b>S56-15</b>		15	S1	25	70	90	102	60	28	88	—	—		
<b>S56-16</b>		16	S1	25	75	96	108	60	28	88	—	—		
<b>S56-17</b>		17	S1	25	78	102	114	60	28	88	—	—		
<b>S56-18</b>		18	S1	25	80	108	120	60	28	88	—	—		
<b>S56-19</b>		19	S1	25	90	114	126	60	28	88	—	—		
<b>S56-20</b>		20	S1	25	100	120	132	60	28	88	—	—		
<b>S56-21</b>		21	S1	28	105	126	138	60	28	88	—	—		
<b>S56-22</b>		22	S1	28	110	132	144	60	28	88	—	—		
<b>S56-23</b>		23	S1	28	115	138	150	60	28	88	—	—		
<b>S56-24</b>		24	S1	28	120	144	156	60	28	88	—	—		
<b>S56-25</b>		25	S1	28	125	150	162	60	28	88	—	—		
<b>S56-26</b>		26	S1	28	130	156	168	60	28	88	—	—		
<b>S56-27</b>		27	S1	28	135	162	174	60	28	88	—	—		
<b>S56-28</b>		28	S1	28	140	168	180	60	28	88	—	—		
<b>S56-30</b>		30	S1	30	150	180	192	60	28	88	—	—		
<b>S56-32</b>		32	S1	30	150	192	204	60	23	83	—	—		
<b>S56-34</b>		34	S1	30	150	204	216	60	23	83	—	—		
<b>S56-35</b>		35	S1	30	150	210	222	60	23	83	—	—		
<b>S56-36</b>	36	S1	30	150	216	228	60	23	83	—	—			
<b>S56-38</b>	38	S1	30	150	228	240	60	23	83	—	—			
<b>S56-40</b>	40	S1	30	150	240	252	60	23	83	—	—			
<b>S56-42</b>	42	S1	40	150	252	264	60	23	83	—	—			
<b>S56-44</b>	44	S1	40	150	264	276	60	23	83	—	—			
<b>S56-45</b>	45	S1	40	180	270	282	60	23	83	—	—			
<b>S56-46</b>	46	S1	40	180	276	288	60	23	83	—	—			
<b>S56-48</b>	48	S1	40	180	288	300	60	23	83	—	—			
<b>S56-50</b>	50	S1	40	180	300	312	60	23	83	—	—			
<b>S58-12</b>	m8	12	S1	28	75	96	112	75	35	110	—	—		
<b>S58-13</b>		13	S1	28	80	104	120	75	35	110	—	—		
<b>S58-14</b>		14	S1	28	85	112	128	75	35	110	—	—		
<b>S58-15</b>		15	S1	28	90	120	136	75	35	110	—	—		
<b>S58-16</b>		16	S1	28	100	128	144	75	35	110	—	—		
<b>S58-17</b>		17	S1	28	105	136	152	75	35	110	—	—		
<b>S58-18</b>		18	S1	28	110	144	160	75	35	110	—	—		
<b>S58-19</b>		19	S1	28	120	152	168	75	35	110	—	—		
<b>S58-20</b>		20	S1	28	130	160	176	75	35	110	—	—		
<b>S58-21</b>		21	S1	30	140	168	184	75	35	110	—	—		
<b>S58-22</b>		22	S1	30	150	176	192	75	35	110	—	—		
<b>S58-23</b>		23	S1	30	155	184	200	75	35	110	—	—		
<b>S58-24</b>		24	S1	30	160	192	208	75	35	110	—	—		
<b>S58-25</b>		25	S1	30	170	200	216	75	35	110	—	—		
<b>S58-26</b>		26	S1	30	170	208	224	75	35	110	—	—		
<b>S58-27</b>		27	S1	30	170	216	232	75	35	110	—	—		
<b>S58-28</b>		28	S1	30	180	224	240	75	35	110	—	—		
<b>S58-30</b>		30	S1	30	180	240	256	75	35	110	—	—		
<b>S510-15</b>		m10	15	S1	30	115	150	170	90	40	130	—	—	
<b>S510-20</b>			20	S1	30	165	200	220	90	40	130	—	—	
<b>S510-25</b>			25	S1	40	200	250	270	90	40	130	—	—	

[Caution on Product Characteristics] ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.  
② 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.

Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)	Catalog No.
Bending strength	Surface durability	Bending strength	Surface durability			
439	26.8	44.8	2.73	0.22~0.48	2.10	<b>S56-12</b>
566	32.4	57.7	3.31	0.22~0.48	2.49	<b>S56-13</b>
711	38.4	72.5	3.92	0.22~0.48	2.89	<b>S56-14</b>
798	44.9	81.4	4.58	0.22~0.48	3.50	<b>S56-15</b>
884	52	90.2	5.3	0.22~0.48	4.04	<b>S56-16</b>
972	59.6	99.1	6.07	0.22~0.48	4.56	<b>S56-17</b>
1060	67.7	108	6.9	0.22~0.48	5.08	<b>S56-18</b>
1150	76.4	117	7.79	0.22~0.48	5.87	<b>S56-19</b>
1240	85.9	127	8.75	0.22~0.48	6.71	<b>S56-20</b>
1330	95.9	136	9.78	0.26~0.56	7.35	<b>S56-21</b>
1430	107	145	10.9	0.26~0.56	8.11	<b>S56-22</b>
1520	118	155	12	0.26~0.56	8.90	<b>S56-23</b>
1610	129	165	13.2	0.26~0.56	9.73	<b>S56-24</b>
1710	142	174	14.5	0.26~0.56	10.6	<b>S56-25</b>
1800	154	184	15.7	0.26~0.56	11.5	<b>S56-26</b>
1900	167	194	17	0.26~0.56	12.4	<b>S56-27</b>
2000	181	204	18.4	0.26~0.56	13.4	<b>S56-28</b>
2190	209	223	21.3	0.26~0.56	15.4	<b>S56-30</b>
1990	200	203	20.4	0.26~0.56	16.4	<b>S56-32</b>
2150	228	220	23.2	0.26~0.56	18.1	<b>S56-34</b>
2240	242	228	24.7	0.26~0.56	19.0	<b>S56-35</b>
2320	258	237	26.3	0.26~0.56	20.0	<b>S56-36</b>
2490	289	254	29.5	0.26~0.56	22.0	<b>S56-38</b>
2650	323	271	33	0.26~0.56	24.0	<b>S56-40</b>
2820	359	288	36.6	0.30~0.64	25.9	<b>S56-42</b>
2990	397	305	40.5	0.30~0.64	28.2	<b>S56-44</b>
3080	416	314	42.5	0.30~0.64	30.7	<b>S56-45</b>
3160	436	322	44.5	0.30~0.64	32.0	<b>S56-46</b>
3330	478	340	48.8	0.30~0.64	34.5	<b>S56-48</b>
3500	522	357	53.2	0.30~0.64	37.1	<b>S56-50</b>
975	62.6	99.5	6.39	0.28~0.58	4.94	<b>S58-12</b>
1260	75.2	128	7.66	0.28~0.58	5.85	<b>S58-13</b>
1580	88.9	161	9.06	0.28~0.58	6.83	<b>S58-14</b>
1770	104	181	10.6	0.28~0.58	7.87	<b>S58-15</b>
1970	121	200	12.3	0.28~0.58	9.20	<b>S58-16</b>
2160	139	220	14.1	0.28~0.58	10.4	<b>S58-17</b>
2360	158	240	16.1	0.28~0.58	11.7	<b>S58-18</b>
2560	178	261	18.2	0.28~0.58	13.3	<b>S58-19</b>
2760	200	281	20.4	0.28~0.58	15.0	<b>S58-20</b>
2960	223	302	22.8	0.32~0.66	16.7	<b>S58-21</b>
3170	248	323	25.3	0.32~0.66	18.6	<b>S58-22</b>
3380	273	344	27.9	0.32~0.66	20.2	<b>S58-23</b>
2990	250	305	25.5	0.32~0.66	22.0	<b>S58-24</b>
3160	273	323	27.8	0.32~0.66	24.1	<b>S58-25</b>
3340	297	341	30.3	0.32~0.66	25.6	<b>S58-26</b>
3520	322	359	32.8	0.32~0.66	27.2	<b>S58-27</b>
3700	348	377	35.5	0.32~0.66	29.6	<b>S58-28</b>
4060	404	414	41.2	0.32~0.66	33.0	<b>S58-30</b>
3330	203	339	20.7	0.34~0.68	15.0	<b>S510-15</b>
4310	323	440	33	0.34~0.68	28.2	<b>S510-20</b>
5930	529	605	54	0.36~0.76	43.3	<b>S510-25</b>

[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, 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.