

SSA
Steel Hubless Spur Gears

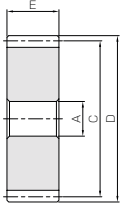


Module 1, 1.5

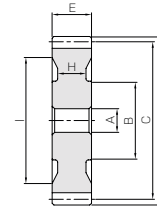


Specifications	
Precision grade	JIS grade N8 (JIS B1702-1:1996) JIS grade 4 (JIS B1702:1976)
Gear teeth	Standard full depth
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)

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

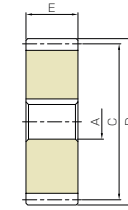


SS

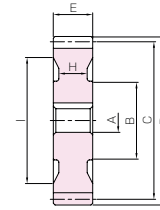


S6

J Series



SSK



S6K

Steel Hubless Spur Gears

Newly added



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

Catalog No.	No. of teeth	Shape	Bore AH7	Hub dia. B	Pitch dia. C	Outside dia. D	Face width E	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		
SSA1-20	20	8	S6	70	20	22	10	—	—	5.75	0.33	0.59	0.033	0.08~0.18	0.021
SSA1-24	24				24	26				7.47	0.49	0.76	0.050		0.032
SSA1-25	25				25	27				7.91	0.54	0.81	0.055		0.035
SSA1-28	28				28	30				9.24	0.68	0.94	0.070		0.044
SSA1-30	30				30	32				10.1	0.79	1.03	0.081		0.052
SSA1-32	32				32	34				11.1	0.90	1.13	0.092		0.059
SSA1-35	35				35	37				12.4	1.09	1.27	0.11		0.072
SSA1-36	36				36	38				12.9	1.16	1.31	0.12		0.076
SSA1-40	40				40	42				14.7	1.45	1.50	0.15		0.095
SSA1-45	45				45	47				17.1	1.86	1.74	0.19		0.12
SSA1-48	48	10	S5	70	48	50	15	—	—	18.5	2.13	1.89	0.22	0.10~0.22	0.14
SSA1-50	50				50	52				19.5	2.32	1.98	0.24		0.15
SSA1-55	55				55	57				21.8	2.83	2.23	0.29		0.18
SSA1-56	56				56	58				22.3	2.94	2.28	0.30		0.19
SSA1-60	60				60	62				24.2	3.40	2.47	0.35		0.22
SSA1-70	70				70	72				29.1	4.70	2.96	0.48		0.30
SSA1-80	80				80	82				33.9	6.23	3.46	0.63		0.39
SSA1-100	100				100	102				43.7	9.97	4.45	1.02		0.61
SSA1-120	120				120	122				53.5	14.7	5.45	1.50		0.88
SSA1.5-20	20				15	S6				70	30	33	15		9
SSA1.5-24	24	36	39	25.2			1.73	2.57	0.18		0.11				
SSA1.5-25	25	37.5	40.5	26.7			1.90	2.72	0.19		0.12				
SSA1.5-28	28	42	45	31.2			2.41	3.18	0.25		0.15				
SSA1.5-30	30	45	48	34.2			2.79	3.49	0.28		0.18				
SSA1.5-32	32	48	51	37.3			3.19	3.80	0.33		0.20				
SSA1.5-35	35	52.5	55.5	41.9			3.85	4.28	0.39		0.25				
SSA1.5-36	36	54	57	43.5			4.09	4.43	0.42		0.26				
SSA1.5-40	40	60	63	49.8			5.10	5.07	0.52		0.31				
SSA1.5-45	45	67.5	70.5	57.7			6.53	5.88	0.67		0.40				
SSA1.5-48	48	15	S6	70	72	75	15	9	125	62.4	7.47	6.37	0.76	0.18~0.32	0.46
SSA1.5-50	50				75	78				65.7	8.15	6.69	0.83		0.50
SSA1.5-55	55				82.5	85.5				73.7	9.96	7.51	1.02		0.61
SSA1.5-56	56				84	87				75.3	10.4	7.68	1.06		0.63
SSA1.5-60	60				90	93				81.8	12.0	8.34	1.22		0.73
SSA1.5-70	70				105	108				98.0	16.6	10.0	1.69		1.00
SSA1.5-80	80				120	123				114	22.0	11.7	2.24		1.31
SSA1.5-100	100				150	153				147	35.5	15.0	3.62		1.72

[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.

Keyway Js9	* The product shapes of J Series items are identified by background color.																					
	8	10	12	14	15	16	17	18	19	20	22	25	28	30	32	35	40	45	50			
Screw size	3 x 1.4	4 x 1.8	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.	—																					
SSA1-20 J BORE																						
SSA1-24 J BORE																						
SSA1-25 J BORE																						
SSA1-28 J BORE																						
SSA1-30 J BORE																						
SSA1-32 J BORE																						
SSA1-35 J BORE																						
SSA1-36 J BORE																						
SSA1-40 J BORE																						
SSA1-45 J BORE																						
SSA1-48 J BORE																						
SSA1-50 J BORE																						
SSA1-55 J BORE																						
SSA1-56 J BORE																						
SSA1-60 J BORE																						
SSA1-70 J BORE																						
SSA1-80 J BORE																						
SSA1-100 J BORE																						
SSA1-120 J BORE																						
SSA1.5-20 J BORE																						
SSA1.5-24 J BORE																						
SSA1.5-25 J BORE																						
SSA1.5-28 J BORE																						
SSA1.5-30 J BORE																						
SSA1.5-32 J BORE																						
SSA1.5-35 J BORE																						
SSA1.5-36 J BORE																						
SSA1.5-40 J BORE																						
SSA1.5-45 J BORE																						
SSA1.5-48 J BORE																						
SSA1.5-50 J BORE																						
SSA1.5-55 J BORE																						
SSA1.5-56 J BORE																						
SSA1.5-60 J BORE																						
SSA1.5-70 J BORE																						
SSA1.5-80 J BORE																						
SSA1.5-100 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 Areas of products which have been re-worked will not be black oxide coated.



SSA
Steel Hubless Spur Gears

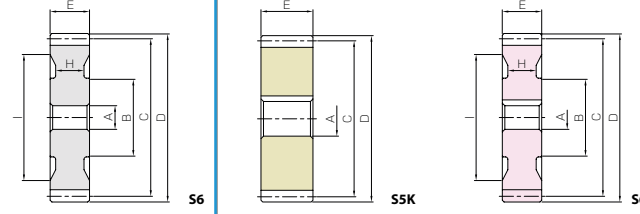
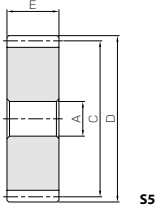


Module 2, 2.5



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 J Series products is equivalent to the value shown in the table.



Steel Hubless Spur Gears

Newly added



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	40	45	50																																							
Keyway Js9	10	12	14	15	16	17	18	19	20	22	25	28	30	32	35	40	45	50																																							
Screw size	4 x 1.8			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.	—																																																								
SSA2-20 J BORE																																																									
SSA2-24 J BORE																																																									
SSA2-25 J BORE																																																									
SSA2-28 J BORE																																																									
SSA2-30 J BORE																																																									
SSA2-32 J BORE																																																									
SSA2-35 J BORE																																																									
SSA2-36 J BORE																																																									
SSA2-40 J BORE																																																									
SSA2-45 J BORE																																																									
SSA2-48 J BORE																																																									
SSA2-50 J BORE																																																									
SSA2-55 J BORE																																																									
SSA2-56 J BORE																																																									
SSA2-60 J BORE																																																									
SSA2-70 J BORE																																																									
SSA2-80 J BORE																																																									
SSA2-100 J BORE																																																									
SSA2.5-20 J BORE																																																									
SSA2.5-24 J BORE																																																									
SSA2.5-25 J BORE																																																									
SSA2.5-28 J BORE																																																									
SSA2.5-30 J BORE																																																									
SSA2.5-32 J BORE																																																									
SSA2.5-35 J BORE																																																									
SSA2.5-36 J BORE																																																									
SSA2.5-40 J BORE																																																									
SSA2.5-45 J BORE																																																									
SSA2.5-48 J BORE																																																									
SSA2.5-50 J BORE																																																									
SSA2.5-55 J BORE																																																									
SSA2.5-56 J BORE																																																									
SSA2.5-60 J BORE																																																									
SSA2.5-70 J BORE																																																									
SSA2.5-80 J BORE																																																									

Catalog No.	No. of teeth	Shape	Bore A _{H7}	Hub dia. B	Pitch dia. C	Outside dia. D	Face width E	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			
SSA2-20	20	55	12	—	40	44	20	—	—	46.0	2.83	4.69	0.29	0.12~0.26	0.18	
SSA2-24	24				48	52				59.8	4.24	6.09	0.43			
SSA2-25	25				50	54				63.3	4.64	6.45	0.47			
SSA2-28	28				56	60				73.9	5.89	7.54	0.60			
SSA2-30	30				60	64				81.1	6.80	8.27	0.69			
SSA2-32	32		15	—	—	64	68	20	—	—	88.4	7.78	9.01	0.79	0.14~0.30	0.48
SSA2-35	35					70	74				99.3	9.39	10.1	0.96		
SSA2-36	36					72	76				103	9.96	10.5	1.02		
SSA2-40	40					80	84				118	12.5	12.0	1.27		
SSA2-45	45					90	94				137	16.0	13.9	1.63		
SSA2-48	48	18	—	—	96	100	20	—	—	148	18.3	15.1	1.87	0.18~0.36	1.10	
SSA2-50	50				100	104				156	19.9	15.9	2.03			
SSA2-55	55				110	114				175	24.4	17.8	2.48			
SSA2-56	56				112	116				179	25.3	18.2	2.58			
SSA2-60	60				120	124				194	29.3	19.8	2.99			
SSA2-70	70	56	70	90	140	144	25	—	—	232	40.8	23.7	4.16	0.20~0.44	2.38	
SSA2-80	80				160	164				271	54.3	27.7	5.53			
SSA2-100	100				200	204				291	72.7	29.7	7.42			
SSA2.5-20	20	55	15	—	50	55	25	—	—	89.8	5.66	9.16	0.58	0.14~0.28	0.35	
SSA2.5-24	24				60	65				117	8.47	11.9	0.86			
SSA2.5-25	25				62.5	67.5				124	9.26	12.6	0.94			
SSA2.5-28	28				70	75				144	11.7	14.7	1.20			
SSA2.5-30	30				75	80				159	13.6	16.2	1.39			
SSA2.5-32	32				80	85				173	15.6	17.6	1.59			
SSA2.5-35	35				87.5	92.5				194	18.8	19.8	1.92			
SSA2.5-36	36				90	95				201	20.0	20.5	2.04			
SSA2.5-40	40				100	105				230	24.9	23.5	2.54			
SSA2.5-45	45				112.5	117.5				267	31.9	27.2	3.26			
SSA2.5-48	48				120	125				289	36.7	29.5	3.74			
SSA2.5-50	50	125	130	304	40.0	31.0	4.08									
SSA2.5-55	55	137.5	142.5	341	49.1	34.8	5.01									
SSA2.5-56	56	140	145	349	51.0	35.6	5.20									
SSA2.5-60	60	150	155	379	59.1	38.6	6.03									
SSA2.5-70	70	56	80	175	180	205	25	—	—	121	146	454	82.1	46.3	8.37	
SSA2.5-80	80									171	176	441	90.9	45.0	9.27	

[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.

[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 Areas of products which have been re-worked will not be black oxide coated.

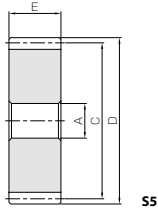
SSA Steel Hubless Spur Gears

Module 3, 4, 5



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 J Series products is equivalent to the value shown in the table.



Catalog No.	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.	Face width	Web thickness (H)	Web O.D. (I)	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)	Weight (kg)
			A _{H7}	B						Bending strength	Surface durability	Bending strength	Surface durability		
SSA3-20	20	S5	15	—	60	66	30	—	—	155	9.95	15.8	1.02	0.14~0.32	0.62
SSA3-24	24				72	78				202	14.9	20.6	1.52		
SSA3-25	25				75	81				214	16.3	21.8	1.66		
SSA3-28	28				84	90				250	20.7	25.4	2.11		
SSA3-30	30	90	96	274	24.0	27.9	2.44	0.18~0.38	1.42						
SSA3-32	32	S5	20	—	96	102	30	—	—	298	27.4	30.4	2.80	0.18~0.38	1.63
SSA3-35	35				105	111				335	33.1	34.2	3.38		
SSA3-36	36				108	114				348	35.2	35.5	3.59		
SSA3-40	40				120	126				398	44.0	40.6	4.49		
SSA3-45	45	135	141	461	56.6	47.0	5.78	3.26							
SSA3-48	48	S6	25	—	144	150	30	—	—	500	65.0	50.9	6.63	0.20~0.44	3.72
SSA3-50	50				150	156				116	52.5	70.9	7.23		
SSA3-55	55				165	171				131	59.0	60.1	8.86		
SSA3-56	56				168	174				134	60.2	61.4	9.21		
SSA3-60	60	180	186	146	65.4	105	66.7	10.7	5.14						
SSA3-70	70	90	210	216	176	65.4	121	66.6	12.4	6.64					
SSA3-80	80	90	240	246	205	76.3	162	77.8	16.5	8.37					
SSA4-20	20	S5	20	—	80	88	40	—	—	368	24.3	37.5	2.48	0.18~0.38	1.48
SSA4-24	24				96	104				478	36.4	48.8	3.72		
SSA4-25	25				100	108				506	39.9	51.6	4.07		
SSA4-28	28				112	120				591	50.6	60.3	5.16		
SSA4-30	30	120	128	649	58.7	66.2	5.98	0.20~0.44	3.40						
SSA4-32	32	S5	25	—	128	136	40	—	—	707	67.4	72.1	6.87	0.20~0.44	3.89
SSA4-35	35				140	148				795	81.6	81.1	8.32		
SSA4-36	36				144	152				825	86.7	84.1	8.84		
SSA4-40	40				160	168				118	94.3	109	96.2		
SSA4-45	45	180	188	138	109.0	139	112	14.2	7.29						
SSA4-48	48	S6	30	—	192	200	40	—	—	150	98.7	133	101	13.6	8.12
SSA4-50	50				200	208				158	104.0	146	106	14.8	8.70
SSA4-55	55				220	228				178	116.0	179	119	18.2	10.4
SSA4-56	56				224	232				182	119.0	186	121	18.9	10.7
SSA4-60	60	240	248	198	129.0	215	132	22.0	12.3						
SSA5-20	20	S5	22	—	100	110	50	—	—	718	48.6	73.3	4.96	0.20~0.44	2.93
SSA5-24	24				120	130				934	73.0	95.2	7.45		
SSA5-25	25				125	135				989	80.0	101	8.16		
SSA5-28	28				140	150				1160	102	118	10.4		
SSA5-30	30	150	160	1270	118	129	12.1	0.24~0.50	6.74						
SSA5-32	32	S5	25	—	160	170	50	—	—	1380	136	141	13.8	0.24~0.50	7.70
SSA5-35	35				175	185				1550	164	158	16.7		
SSA5-36	36				180	190				1610	174	164	17.8		
SSA5-40	40				200	210				160	154.0	182	15.7		
SSA5-45	45	225	235	185	178.0	234	182	23.9	14.0						
SSA5-48	48	S6	30	—	200	193.0	269	197	27.5	0.28~0.58	15.7				
SSA5-50	50				240	250	210	203.0	294	207	30.0	17.1			

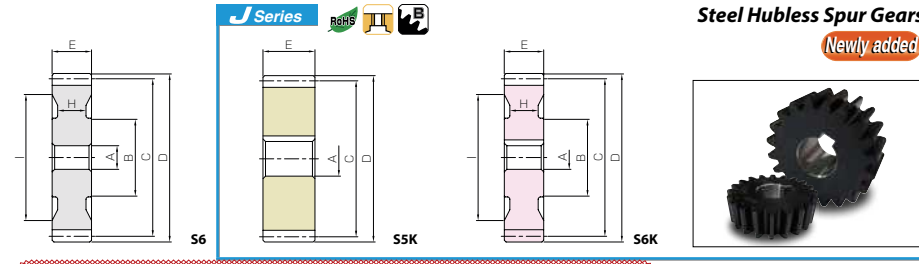
[Caution on Product Characteristics] ① The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
② The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair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

SSA

Steel Hubless Spur Gears

Newly added



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.																	
	15	16	17	18	19	20	22	25	28	30	32	35	40	45	50			
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.	—																	
SSA3-20 J BORE	[Yellow background]																	
SSA3-24 J BORE	[Yellow background]																	
SSA3-25 J BORE	[Yellow background]																	
SSA3-28 J BORE	[Yellow background]																	
SSA3-30 J BORE	[Yellow background]																	
SSA3-32 J BORE	[Yellow background]																	
SSA3-35 J BORE	[Yellow background]																	
SSA3-36 J BORE	[Yellow background]																	
SSA3-40 J BORE	[Yellow background]																	
SSA3-45 J BORE	[Yellow background]																	
SSA3-48 J BORE	[Yellow background]																	
SSA3-50 J BORE	[Pink background]																	
SSA3-55 J BORE	[Pink background]																	
SSA3-56 J BORE	[Pink background]																	
SSA3-60 J BORE	[Pink background]																	
SSA3-70 J BORE	[Pink background]																	
SSA3-80 J BORE	[Pink background]																	

[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 Areas of products which have been re-worked will not be black oxide coated.