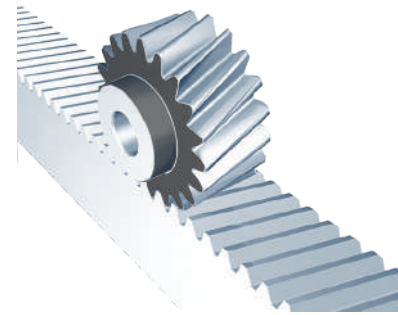
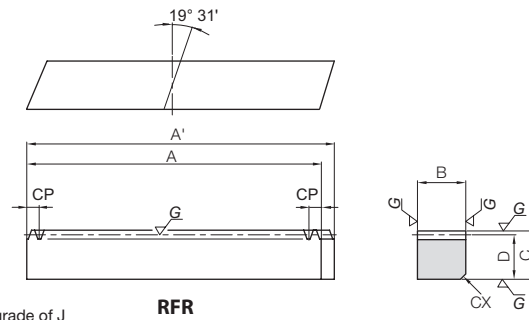




Specifications	
Precision grade	DIN3962, 3963, 3967 Grade Q6*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Pressure angle	20°
Helix angle/direction	19° 31' 41" right helix
Material	DIN C45 (JIS S45C equivalent)
Heat Treatment	Gear teeth induction hardened
Tooth hardness	HRC55 to 60

* Equivalent to KHK R 001 Grade 2. The precision grade of J Series products is equivalent to the value shown in the table.



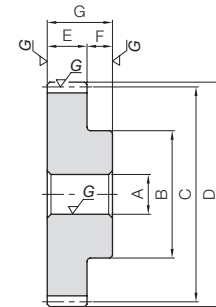
Catalog Number	Module (front pitch mm)	No. of teeth	Shape	Total Length		Face width	Height	Height to pitch line	C Chamfer Amount	Allowable force (N)		Allowable force (kgf)		Backlash (mm)	Weight (kg)
				A	A'					Bending strength	Surface durability	Bending strength	Surface durability		
ZST2-1000R ZST2-2000R	m2 (CP6.667) m2 (CP6.667)	150 300	RFR	1000 2000	1008.51 2008.52	24	24	22	2	4410	2140	450	219	0.06~0.14	4.13 8.26
ZST3-1000R ZST3-2000R	m3 (CP10) m3 (CP10)	100 200		1000 2000	1010.29 2010.29	29	29	26		8210	5580	837	569		5.90 11.8
ZST4-1000R ZST4-2000R	m4 (CP13.333) m4 (CP13.333)	75 150		1000 2000	1013.83 2013.83	39	39	35		15200	8960	1550	914		10.7 21.4
ZST5-1000R ZST6-1000R	m5 (CP16.667) m6 (CP20)	60 50		1000 2000	1017.38 2020.93	49	49	43		22500 33400	13300 22800	2300 3410	1360 2320		13.0 19.9

Catalog Number	Module (front pitch mm)	No. of teeth	Shape	Total Length		Face width	Height	Height to pitch line	C Chamfer Amount	Mounting hole dimensions					
				A	A'					E	F	(F')	G	No. of holes	Screw size
ZSTD2-1000RJ ZSTD2-2000RJ	m2 (CP6.667)	150 300	RDR	1000 2000	1008.51 2008.52	24	24	22	2	8	71.01	53.99	125	8 16	M6
ZSTD3-1000RJ ZSTD3-2000RJ	m3 (CP10)	100 200		1000 2000	1010.29 2010.29	29	29	26		9	72.79	52.21		8 16	M8
ZSTD4-1000RJ ZSTD4-2000RJ	m4 (CP13.333)	75 150		1000 2000	1013.83 2013.83	39	39	35		12	76.33	48.67		8 16	M8
ZSTD5-1000RJ ZSTD6-1000RJ	m5 (CP16.667) m6 (CP20)	60 50		1000 2000	1017.38 2020.93	49	49	43		16	83.43	41.57		8 16	M12 M16



Specifications	
Precision grade	JIS B 1702-1:1998 Grade N6
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Pressure angle	20°
Helix angle/direction	19° 31' 41" left helix
Material	SCM440
Heat treatment	Thermal refined, gear teeth induction hardened
Tooth hardness	HRC50 to 60
Surface treatment	Black oxide coated except for ground part
Shape	S1

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



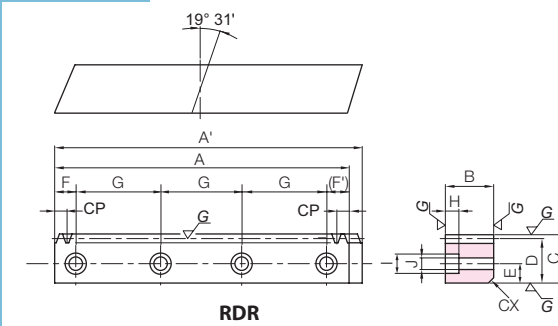
S1

Catalog Number	Module (front pitch mm)	No. of teeth	Profile shift coefficient	Mounting Distance	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width	Total length	Distance traveled in one turn	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash (mm)
													Bending strength	Surface durability	Bending strength	Surface durability	
ZSTP2-18L ZSTP2-24L ZSTP2-30L	m2 (CP6.667)	18 24 30	+0.451 +0.268 +0.085	42 48 54	12 15 18	30 45 55	38.20 50.93 63.66	44 56 68	25	16	41	120 160 200	124 169 214	71.4 162 263	12.6 17.3 21.8	7.28 16.5 26.9	0.06~0.14
ZSTP3-20L ZSTP3-25L ZSTP3-30L	m3 (CP10)	20 25 30	+0.390 +0.404 +0.418	59 67 75	20 20 25	55 70 85	63.66 79.58 95.49	72 88 104	30	20	50	200 250 300	375 490 606	275 471 729	38.3 50.0 61.8	28.0 48.0 74.4	
ZSTP4-18L ZSTP4-24L ZSTP4-30L	m4 (CP13.333)	18 24 30	+0.201 +0.268 +0.335	74 87 100	20 20 25	65 90 110	76.39 101.86 127.32	86 112 138	40	25	65	240 320 400	748 1080 1420	530 1050 1910	76.3 111 145	54.0 107 195	
ZSTP5-18L ZSTP5-24L	m5 (CP16.667)	18 24	+0.451 +0.468	84 100	25	85 110	95.49 127.32	110 142	50	25	75	300 400	1540 2180	985 1980	157 222	100 202	
ZSTP6-20L ZSTP6-25L	m6 (CP20)	20 25	+0.390 +0.404	109 125	30	110 140	127.32 159.15	144 176	60	28	88	400 500	3000 3920	2240 3850	306 400	229 392	0.06~0.15

PUH Lubricated
Helical Gears



Please see Page 476 for more details.



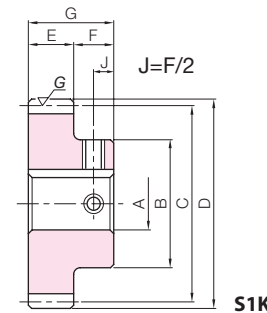
ZST-GL
Assembly Gauges



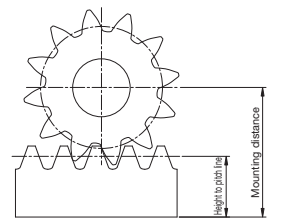
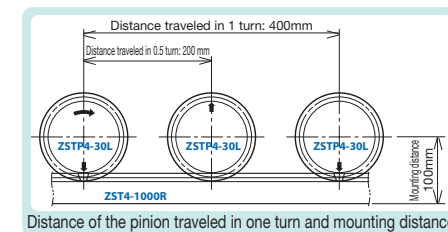
Material: S45C
Accuracy: KHK R 001 Grade 2
Please see Page 264 in the Master Catalog for more details.

Counterbore dimensions			Allowable force (N)		Allowable force (kgf)		Backlash (mm)	Weight (kg)	Catalog Number : J Series (Available-on-request)
H	I	J	Bending strength	Surface durability	Bending strength	Surface durability			
7	11	7	4410	2140	450	219	0.06~0.14	4.05 8.09	ZSTD2-1000RJ ZSTD2-2000RJ
8.6	14	9	8210	5580	837	569		5.70 11.4	ZSTD3-1000RJ ZSTD3-2000RJ
8.6	14	9	15200	8960	1550	914		10.4 20.9	ZSTD4-1000RJ ZSTD4-2000RJ
13	20	14	22500	13300	2300	1360	0.06~0.15	12.4	ZSTD5-1000RJ
17.5	26	18	33400	22800	3410	2320		18.6	ZSTD6-1000RJ

Ground Helical Gears



S1K



Mounting distance of profile helix gear and meshing rack

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.																											
Keyway Js9	12	14	15	16	17	18	19	20	22	25	28	30	32	35	40	45	50	55	60	65	70	75	80					
Screw size	4x1.8	5x2.3				6x2.8				8x3.3				10x3.3		12x3.3	14x3.8		16x4.3	18x4.4		20x4.9		22x5.4				
Catalog Number	M4					M5					M6				M8			M10		M12			M16					
ZSTP2-18LJ BORE	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K																		
ZSTP2-24LJ BORE			S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K																		
ZSTP2-30LJ BORE						S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K															
ZSTP3-20LJ BORE								S1K	S1K	S1K	S1K	S1K	S1K															
ZSTP3-25LJ BORE								S1K	S1K		S1K	S1K	S1K	S1K	S1K	S1K												
ZSTP3-30LJ BORE											S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K		S1K	S1K							
ZSTP4-18LJ BORE								S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K													
ZSTP4-24LJ BORE								S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K									
ZSTP4-30LJ BORE										S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K							
ZSTP5-18LJ BORE										S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K										
ZSTP5-24LJ BORE										S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K									
ZSTP6-20LJ BORE												S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K							
ZSTP6-25LJ BORE												S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K	S1K		

