

Spur Gear

Pressure Angle 20°, Module 2.5, Shaft Bore Configurable Type

Fixing Parts				Others		
Rotary Shaft	Cantilever Shaft	MechaLock	Parallel Key	Bearing with Housings	Bearing	Shaft Collar
P.1-837	P.1-901	P.1-1521	P.2-277	P.1-947	P.1-1017	P.1-297
P.1-900	P.1-926	P.1-1530	P.2-282	P.1-1014	P.1-1049	P.1-330

For products uncovered by the e-Catalog Standard, see P.131.

Type			Material	Surface Treatment	Accessory
Straight Bore	Straight Bore + Tap	Keyway, Keyway + Tap			
GEAHB	GEAB	GEAKB	S45C	-	Set Screw (SCM435, Black Oxide)
GEAHBB	GEABBB	GEAKBB	Equivalent	Black Oxide	

Set Screw is not included in Un-tapped Type products.

Gear Shape

Shaft Bore Specifications (Selectable Gear Shapes)

Straight Bore (Shape A, Shape B)	Straight Bore + Tap (Shape B)
Keyway (Shape A) Keyway + Tap (Shape B)	

For Tap, Keyway Dimension Details, see P.1532
Positioning of keyway and teeth is not fixed.

Accuracy Previous JIS B 1702 Class 4 (New JIS B 1702-1 Class 8 Equivalent)

When desiring to fix the gear hub onto the shaft through MechaLock, see Keyless Type on P.1557. For configuring the tooth width / hub dimensions, see P.1551.

Part Number	Number of Teeth	B	Gear Shape	Shaft Bore Dia. PH7 (1mm Increment)		d Reference Dia.	D Tip Dia.	G Root Dia.	H	L	l1	l2	M (Coarse)	Allowable Transmission Force (N·m) Bending Strength							
				Straight Bore	Keyway, Keyway + Tap																
Straight Bore (Shape A, Shape B) GEAHB GEAHBB	12	2.5	A B	8-13	8N	30	35	23.75	23	37	12	6	M5	38.58							
	14			8-15	8N-12N	35	40	28.75	25					49.96							
	15			8-20	8N-15N	37.5	42.5	31.25	30					55.96							
	16			8-22	8N-17N	40	45	33.75	32					61.98							
	17			8-24	8N-19N	42.5	47.5	36.25	35					68.13							
	18			8-26	8N-22N	45	50	38.75	38					74.36							
	19			8-27	8N-23N	47.5	52.5	41.25	39					80.6							
	20			8-28	8N-23N	50	55	43.75	40					87.09							
	21			8-30	8N-27N	52.5	57.5	46.25	42					93.5							
	22			8-32	8N-29N	55	60	48.75	44					100.13							
	23			8-34	8N-30N	57.5	62.5	51.25	46					106.58							
	24			8-36	8N-32N	60	65	53.75	48					113.19							
	25			8-38	8N-33N	62.5	67.5	56.25	50					119.98							
	26			8-43	8N-37N	65	70	58.75	55					126.94							
	27			8-48	8N-40N	67.5	72.5	61.25	60					133.57							
	28			8-49	8N-41N	70	75	63.75	65					140.86							
	29			8-51	8N-43N	72.5	77.5	66.25	62					147.18							
	30			8-55	8N-47N	75	80	68.75	65					154.16							
	Straight Bore + Tap (Shape B) GEAB GEABB			34	2.5	A B	10-55	10N-47N	85					90	78.75	70	41	16	8	M6	167.17
				35			10-55	10N-47N	87.5					92.5	81.25	75					182.65
36		10-57	10N-49N	90			95	83.75	80	189.48											
38		10-57	10N-49N	95			100	88.75	85	195.56											
40		10-60	10N-50N	100			105	93.75	90	210.35											
42		10-60	10N-50N	105			110	98.75	95	223.66											
44		10-60	10N-50N	110			115	103.75	100	238.12											
45		12-60	12N-50N	112.5			117.5	106.25	105	252.85											
46		12-60	12N-50N	115			120	108.75	110	260.32											
48		12-60	12N-50N	120			125	113.75	115	267.86											
Keyway (Shape A) Keyway + Tap (Shape B) GEAKB GEAKBB	50	2.5	A B	15-60	15N-50N	125	130	118.75	85	85				281.94							
	52			15-60	15N-50N	125	130	118.75	90					296.17							
	54			15-60	15N-50N	130	135	123.75	95					310.53							
	55			15-60	15N-50N	135	140	128.75	100					325.04							
	58			15-60	15N-50N	137.5	142.5	131.25	105					333.08							
	60			15-60	15N-50N	140	145	133.75	110					341.19							
	62			15-60	15N-50N	145	150	138.75	115					354.5							
	64			15-60	15N-50N	150	155	143.75	120					369.44							
	65			15-60	15N-50N	155	160	148.75	125					382.84							
	68			15-60	15N-50N	160	165	153.75	130					398.01							
70	15-60	15N-50N	162.5	167.5	156.25	135	404.75														
72	15-60	15N-50N	170	175	163.75	140	428.78														
75	15-60	15N-50N	175	180	168.75	145	442.41														
80	15-60	15N-50N	180	185	173.75	150	456.04														
	80	15-60	15N-50N	187.5	192.5	181.25	155	478.65													
	80	15-60	15N-50N	200	205	193.75	160	396.36													

Shaft bore diameter 9N is not available for Keyway Bore + Tap. The "-" text on the above table means that any Shaft Bore Dia. is not selectable.

Specify 10K as the P dimension if keyway width of 4.0mm (height 1.8mm) for Keyway + Tap with shaft bore diameter of 10 is desired P.1532.

1. Allowable Transmission Force in the table are reference values calculated with prescribed conditions. For conditions, see P.1534.

Ordering Example	Part Number	Number of Teeth	B	Gears Shape	P
	GEAB2.5	15	25	B	8
	GEAKB2.5	30	25	A	10N

Number of Teeth	Unit Price				
	Straight Bore	Straight Bore + Tap	Keyway, Keyway + Tap	GEAHB	GEAKBB
12					
14					
15					
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68					
70					
72					
75					
80					

Alterations	Part Number	Number of Teeth	B	Gears Shape	P
	GEAB2.5	15	25	B	8
	GEAHBB2.5	30	25	A	15

Alterations Code	Set Screw KC90, KC120	Tapped Hole Dimension TPC	Stepped Hole DHL, DHR	Both Ends Stepped Bore WDH						
Spec.	<p>KC90: Adds another set screw at 90° position. KC120: Adds another set screw at 120° position. Not applicable to Shape A. Not applicable to Straight Bore Type.</p>	<p>Changes the tapped hole dimension. Ordering Code: TPC4 Not applicable to Shape A. Not applicable to Straight Bore Type.</p> <table border="1"> <tr><td>M</td><td>TPC</td></tr> <tr><td>M5</td><td>M4 M6</td></tr> <tr><td>M6</td><td>M5 M8</td></tr> </table>	M	TPC	M5	M4 M6	M6	M5 M8	<p>Changes shaft bores to stepped bores. (Z: 1mm Increment, J: 0.1mm Increment) Ordering Code: DHL-220-J4.0 Applicable to Straight Bore Type Only.</p> <p>DHL: Shape A: P+2<Z<G-4, 2<J<22; Shape B: P+2<Z<H-4, 2<J<81 DHR: Shape A: P+2<Z<G-4, 2<J<L-3; Shape B: P+2<Z<G-4, 2<J<L-3</p>	<p>Changes shaft bores to both ends stepped hole. (Q, R, S, T: 1mm Increment) S, T: 3 Ordering Code: WDH-Q10-R10-S5-T5 Applicable to Straight Bore Type Only.</p> <p>Shape A: P+2<Q, R<G-4; Shape B: P+2<Q, R<H-4 S+T<22; S+T<L-3 Shaft Bore Dia. P is general tolerance.</p>
M	TPC									
M5	M4 M6									
M6	M5 M8									

Alterations Code	Side Slotted Hole LFC, LTC	Side Through Hole KFC, KTC	Side Tapped Hole QFC, QTC
Spec.	<p>Machines slotted holes on the side surface (30°). (LFC, LTC: 1mm Increment) P+C+4<LFC(LTC)<G-C-4 Applicable to Shape A only. M Selection: M3, M4, M5, M6 Ordering Code: LFC20-M3 R=C/2</p>	<p>Machines through holes on the side surface. (KFC, KTC: 1mm Increment, K: 0.5mm Increment) P+K+4<KFC(KTC)<G-K-4 Applicable to Shape A only. P+K+4<KFC(KTC)<G-K-4 K Selection: K3.0-K6.0 Ordering Code: KFC20-K3.5 R=C/2</p>	<p>Machines tapped holes on the side surface of the gear (QFC, QTC: 1mm Increment). Applicable to Shape A only. P+M+4<QFC(QTC)<G-M-4 M Selection: M3, M4 Ordering Code: QFC25-M3 Tapped Hole Depth Mx1.5 (When B<Mx1.5, through)</p>