

Induction Hardened Spur Gears - Ground

Pressure Angle 20°, Module 1.0, 1.5, 2.0, 2.5, 3.0

■ **Features:** Spur gears with hardened teeth which provide excellent strength, abrasion resistance and high precision. For Rack Gears - Ground, see **P.1529**.

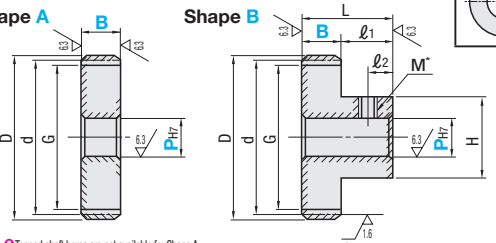


Type			Material	Surface Treatment	Hardness	Accessory
Straight Bore	Straight Bore + Tap	Keyway, Keyway + Tap				
GEAHBH	GEABH	GEAKBH	S45C Equivalent	Black Oxide	Tooth Induction Hardened 51 ~ 55HRC (Depth 1mm or more)	Set Screw (SCM435 Black Oxide)

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

Gear Shape

Shape A **Shape B**



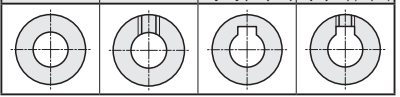
⚠ Tapped shaft bores are not available for Shape A.

/// (shaded) part has no surface treatment.

⚠ End surface of Shape A may not be surface treated as Shape A is made by cutting the hub of Shape B.

Shaft Bore Specifications (Selectable Gear Shapes)

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



⚠ Keyway Dimension Details **P.1498**

⚠ Positioning of keyway and teeth is not fixed.

■ **Tapped Hole Dimension List**

Shaft Bore Dia. Ph7	M (Coarse)	Accessory Set Screw
6~12	M4	M4x3
13~17	M5	M5x4
18~30	M6	M6x5
31~45	M8	M8x6
46~56	M10	M10x8

Accuracy Previous JIS B 1702 Class 2
(New JIS B 1702-1 Class 6 Equivalent)

⚠ Accuracy before shaft bore machining.

Part Number		Number of Teeth	B	Gear Shape	Shaft Hole Dia Ph7 (1mm Increment)		d Reference Dia.	D Tip Dia.	G Root Dia.	H	L	ℓ1	ℓ2	*1. Allowable Transmission Force (N, m) Bending Strength	Unit Price 1 ~ 10 pc(s).		
Type	Module				Straight Bore Straight Bore + Tap	Keyway Keyway + Tap									Straight Bore	Straight Bore + Tap	Keyway Keyway + Tap
Straight Bore (Shape A, Shape B) GEAHBH Straight Bore + Tap (Shape B) GEABH Keyway (Shape A) Keyway + Tap (Shape B) GEAKBH	1.0	18	8	A B	6~10	-	18	20	15.5	15	18	10	5	4.76			-
		20			6~11	8N, 10N	20	22	17.5	17				5.57			
		22			8~14	8N~12N	22	24	19.5	18				6.42			
		24					24	26	21.5	20				7.27			
		25					25	27	22.5					7.69			
		26					26	28	23.5					8.12			
		28					28	30	25.5	9.02							
		30			10~17	10N~15N	30	32	27.5	9.87							
		32					32	34	29.5	10.79							
		35					35	37	32.5	12.13							
		36			10~21	10N~18N	36	38	33.5	25				12.52			
		40					40	42	37.5					13.07			
		45					45	47	42.5					15.18			
		48					48	50	45.5					16.44			
		50			12~24	12N~18N	50	52	47.5	35				17.23			
	60	60	62				57.5	21.50									
	70	70	72				67.5	25.74									
	80	15~35	15N~30N		80	82	77.5	40	29.98								
	100				100	102	97.5		38.72								
	1.5				15	10~12	10N		22.5	25.5	18.75	18	15.11				
		16	10~13		10N, 11N	24	27	20.25	19.5	16.74							
		18	10~15		10N~13N	27	30	23.25	22	20.08							
		20	10~16		10N~14N	30	33	26.25	24	23.51							
		24	12~19		12N~17N	36	39	32.25	28	30.56							
		25	12~21		12N~18N	37.5	40.5	33.75	30	32.39							
		26	12~22		12N~19N	39	42	35.25	32	31.16							
		28	15~25		15N~19N	42	45	38.25	36	34.58							
		30	15~26		15N~23N	45	48	41.25	38	37.84							
		32	15~28		15N~24N	48	51	44.25	40	41.03							
	35	15~29	15N~26N		52.5	55.5	48.75	42	46.51								
	36	15~31	15N~28N		54	57	50.25	45	48.00								
	40	15~35	15N~31N		60	63	56.25		54.90								
	45	18~35	18N~31N		67.5	70.5	63.75	50	63.90								
	48				72	75	68.25		69.20								
	50				75	78	71.25		72.69								
60	18~42	18N~38N	90	93	86.25	60	90.68										
70			105	108	101.25		108.59										

⚠ Shaft bore diameter 6.35 is available for Straight Bore and Straight Bore + Tap. ⚠ Shaft bore diameter 9N is not available for Keyway Bore + Tap.

⚠ Specify 10K as P dimension if keyway width of 4.0mm (height 1.8mm) for Keyway + Tap with shaft bore diameter of 10 is desired. **P.1498**

*1 Allowable Transmission Forces in the table are reference values calculated with prescribed conditions. For conditions, see **P.1498**.

■ **Module 2.0, 2.5, 3.0**

Part Number		Number of Teeth	B	Gear Shape	Shaft Hole Dia Ph7 (1mm Increment)		d Reference Dia.	D Tip Dia.	G Root Dia.	H	L	ℓ1	ℓ2	*1. Allowable Transmission Force (N·m) Bending Strength	Unit Price 1 ~ 30 pc(s).							
Type	Module				Straight Bore Straight Bore + Tap	Keyway Keyway + Tap									Straight Bore	Straight Bore + Tap	Keyway Keyway + Tap					
Straight Bore (Shape A, Shape B) GEAHBH Straight Bore + Tap (Shape B) GEABH Keyway (Shape A) Keyway + Tap (Shape B) GEAKBH	2.0	15	20	A B	12~17	12N~14N	30	34	25	24	36	16	8	35.81								
		16			12~18	12N~15N	32	36	27	26				39.67								
		18			12~21	12N~18N	36	40	31	30				47.59								
		20			15~22	15N~19N	40	44	35	32				50.67								
		22					44	48	39	36				58.24								
		24			15~26	15N~23N	48	52	43	38				65.86								
		25			15~28	15N~24N	50	54	45	40				69.81								
		28			15~31	15N~28N	56	60	51	45				81.96								
		30			18~35	18N~31N	60	64	55	50				89.70								
		32					64	68	59					97.27								
		36					72	76	67					113.78								
		40					80	84	75					130.13								
		45			20~42	20N~38N	90	94	85	60				151.46								
		48					96	100	91					164.04								
		50					100	104	95					172.31								
		60					120	124	115					205.60								
	2.5	16	25		15~22	15N~19N	40	45	33.75	32	43	18	9	70.43								
		20			18~28	18N~24N	50	55	43.75	40				98.97								
		24			18~33	18N~30N	60	65	53.75	48				128.63								
		25			20~35	20N~31N	62.5	67.5	56.25	50				136.34								
		28			20~42	20N~38N	70	75	63.75	60				160.07								
		30			20~45	20N~42N	75	80	68.75	65				175.19								
		36			20~49	20N~45N	90	95	83.75	70				222.23								
		40			25~49	25N~45N	100	105	93.75					254.16								
		45			25~52	25N~49N	112.5	117.5	106.25					75	295.82							
		48					120	125	113.75						306.46							
		50					125	130	118.75	80					321.92							
		16					16~26	16N~23N	48	54					40.5	38	121.71					
		3.0			20	30	20~35	20N~31N	60	66				52.5	50	50	20	10	171.01			
					24		20~40	20N~37N	72	78				64.5	58				222.27			
	25		20~42		20N~38N		75	81	67.5	60	235.60											
	30		25~52		25N~49N		90	96	82.5	75	302.72											
	32						96	102	88.5		328.27											
	36						108	114	100.5		384.01											
	40						120	126	112.5		80	420.10										