

PGLH

This precision type helical gear planetary gear reducer is offering 3 precision levels and 6 frame sizes to choose. They are ready for most industry and motion control applications. Square mounting flange, caged precision class helical planetary gears in an in-line housing through sizes 220 mm. High torque capacity, quiet operation with backlash as low as < 3 arc-min. Ratios 3:1 to 100:1. PGLH is designed to offer a consideration for achieving the desired goal at the most cost effective price.

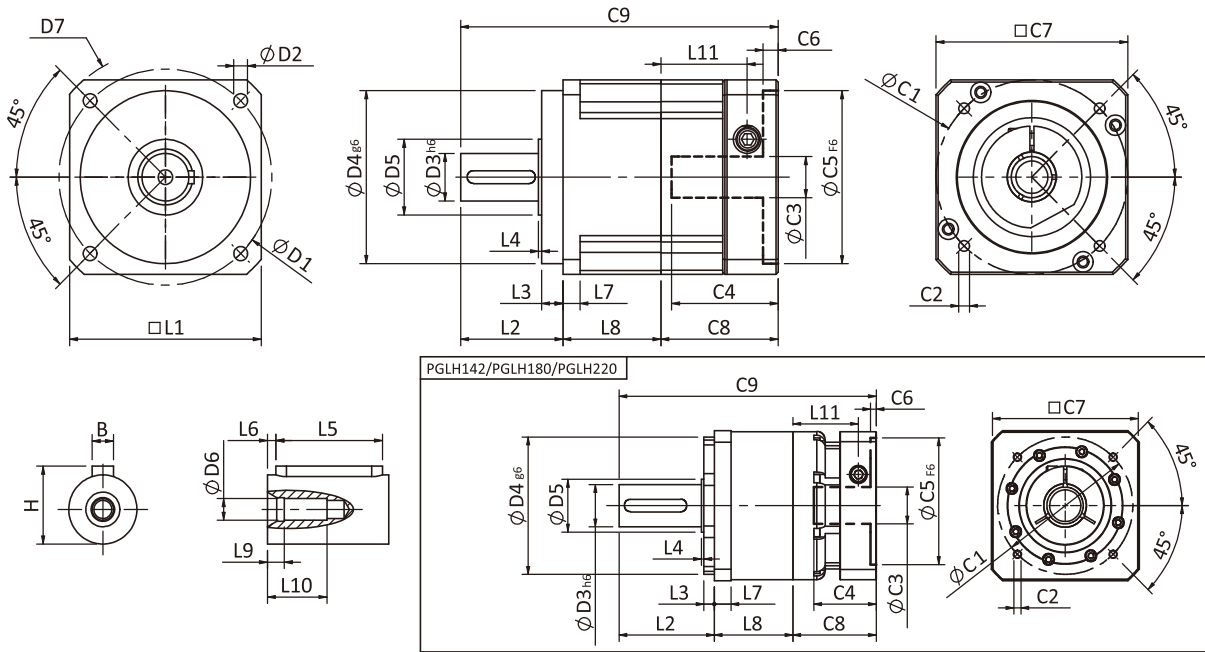


Frame Size (mm)	42, 60, 90, 115, 142, 180, 220
Ratio	3 : 1 - 100 : 1
Nominal Input Speed (rpm)	2,000 - 4,000
Max Input Speed (rpm)	3,000 - 8,000
Backlash (arc-min)	1 Stage : 3 - 8 2 Stages : 5 - 10
Noise Level (dBA / 1m)	58 - 72

Features

- ▶ In-line configuration with output shaft 13 mm through 75 mm diameter.
- ▶ Torque capacity range: 11 Nm through 2000 Nm.
- ▶ Caged planet carrier: with Precision Helical planet gear set.
- ▶ High performance, efficiencies and low acoustics.
- ▶ Wide range of ratios: 8 single stage ratios and up to 13 two-stage ratios.
- ▶ Output bearings deliver radial load capacity 28000 N, and axial capacities to 15000 N.
- ▶ Square servo and step motor input: accommodates 40 mm to 220 mm, with optional sizes available.

PGLH Single Stage Dimensions



Specifications

Unit:mm

Dimensions	PGLH42	PGLH60	PGLH90	PGLH115	PGLH142	PGLH180	PGLH220
D1	50	70	100	130	165	215	215
D2	3.4	5.5	6.5	8.5	10.5	13	17
D3 _{h6}	13	16	22	32	40	55	75
D4 _{g6}	35	50	80	110	130	160	180
D5	15	25	35	45	50	70	114.4
D6	M4x0.7P	M5x0.8P	M8x1.25P	M12x1.75P	M16x2.0P	M20x2.5P	M20x2.5P
D7	56	80	118	148	186	239	292
L1	42.6	60	90	115	142	182	220
L2	26	37	48	63	91.5	100.5	138
L3	5.5	7	10	10	10	16	30
L4	1	1.5	1.5	3.5	2.5	2.5	3
L5	15	25	32	40	60	70	90
L6	2	2	3	5	5	6	7
L7	4	6	8	11	16	20	20
L8	28.3	37	46	57	75.5	94	111
L9	4	4	4.5	6	6	8	15
L10	14	16.5	20.5	30	38	48	42
L11	29	35.5	40.5	53.7	63	69.5	95
C1 ²	46	70	90	115	145	200	235
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P	M8x1.25P	M8x1.25P	M12x1.75P	M12x1.75P
C3 ²	≤8/≤14	≤14/≤19	≤19/≤24	≤24/≤32/≤38	≤35/≤38	≤50	≤55
C4 ²	27	37	41	56.3	66.5	82	112
C5 ^{2f6}	30	50	70	95	110	114.3	200
C6 ²	4	4	6	10	5.5	13	6
C7 ²	42.6	60	90	115	140	182	220
C8 ²	38.5	46	55	75	80	95	120
C9 ²	92.8	120	149	195	247	289.5	369
B	5	5	6	10	12	16	20
H	15	18	24.5	35	43	59	79.5

* C1~C9 are motor specific dimensions (metric std shown). Size may vary according to motor flange.

* Specification subject to change without notice.

PGLH Specifications

Specifications		Stage	Ratio	PGLH-42	PGLH-60	PGLH-90	PGLH-115	PGLH-142	PGLH-180	PGLH-220
Nominal Output Torque T_{2N}	N • m	1	3	19	53	145	290	520	950	1100
			4	20	55	150	300	550	1000	1700
			5	17	54	140	290	600	1050	2000
			6	15	46	135	280	560	1000	1850
			7	14	44	125	270	530	960	1750
			8	12	41	110	240	480	900	1550
			9	11	37	95	220	430	800	1500
		10	11	37	95	220	430	800	1450	
		Stage	Ratio	PGLH-42	PGLH-60 /60T	PGLH-90 /90T	PGLH-115T	PGLH-142T	PGLH-180T	PGLH-220T
		2	15	19	53	145	290	520	950	2000
			20	20	55	150	300	550	1000	2000
			25	17	54	140	290	600	1050	2000
			30	17	54	140	290	600	1050	2000
			35	17	54	140	290	600	1050	2000
			40	17	54	140	290	600	1050	2000
			45	17	54	140	290	600	1050	2000
			50	17	54	140	290	600	1050	2000
			60	15	46	135	280	560	1000	1850
			70	14	44	125	270	530	960	1750
80	12		41	110	240	480	900	1550		
90	11		37	95	220	430	800	1500		
100	11	37	95	220	430	800	1450			
Emergency Stop Torque T_{2NOT}	N • m		(3.0 times of Nominal Output Torque) (*Max. Output Torque T_{2B} = 60% of Emergency Stop Torque)							
Nominal Input Speed n_{1N}	rpm	1,2	3-100	4000	4000	3000	3000	2500	2500	2000
Max. Input Speed n_{1max}	rpm	1,2	3-100	8000	8000	6000	6000	5000	4000	3000
Micro Backlash P0	arcmin	1	3-10	≤ 4	≤ 4	≤ 4	≤ 3	≤ 3	≤ 3	≤ 3
		2	12-100	≤ 6	≤ 6	≤ 6	≤ 5	≤ 5	≤ 5	≤ 5
Precision Backlash P1	arcmin	1	3-10	≤ 6	≤ 6	≤ 6	≤ 5	≤ 5	≤ 5	≤ 5
		2	12-100	≤ 8	≤ 8	≤ 8	≤ 7	≤ 7	≤ 7	≤ 7
Standard Backlash P2	arcmin	1	3-10	≤ 8	≤ 8	≤ 8	≤ 7	≤ 7	≤ 7	≤ 7
		2	12-100	≤ 10	≤ 10	≤ 10	≤ 9	≤ 9	≤ 9	≤ 9
Torsional Rigidity	N•m /arcmin	1,2	3-100	2.5	6	12	23	50	145	200
Max. Radial Load F_{2rB}^{-1}	N	1,2	3-100	640	1260	2230	4300	7140	11050	28000
Max. Axial Load F_{2aB}^{-1}	N	1,2	3-100	410	600	1500	3310	4670	6460	15000
Operating Temp.	°C		3-100	-10°C ~ +90°C						
Service Life	hr		3-100	20,000 (10,000 Continuous Operation)						
Efficiency	%	1	3-10	≥ 97%						
		2	12-100	≥ 94%						
Weight	kg	1	3-10	0.6	13	3.5	7.8	16.1	27	55
		2	12-100	0.9	2.0(1.6)	5.6(3.9)	9.5	19	34	68.5
Mounting Position	-	1,2	3-100	Any Direction						
Noise Level ²	dBA/1m	1,2	3-100	58	60	63	65	67	68	72
Protection Class	-	1,2	3-100	IP65						
Lubrication	-	1,2	3-100	Synthetic Lubricant						
Inertia (J1)										
Stage	Ratio	unit		PGLH-42	PGLH-60	PGLH-90	PGLH-115	PGLH-142	PGLH-180	PGLH-220
1	3	Kg · cm ²		0.03	0.23	0.97	2.35	10.00	30.50	79.50
	4			0.02	0.18	0.67	1.66	7.17	25.86	58.21
	5			0.02	0.17	0.65	1.50	6.52	23.63	54.36
	6/7/8			0.02	0.14	0.60	1.45	6.17	22.92	54.12
	9/10			0.02	0.14	0.58	1.41	6.10	22.73	53.98
Stage	Ratio			PGLH-42	PGLH-60(T)	PGLH-90(T)	PGLH-115T	PGLH-142T	PGLH-180T	PGLH-220T
2	15/20/25			0.02	0.17(0.02)	0.65(0.17)	0.65	1.50	6.52	23.63
	30/35/40			0.02	0.14(0.02)	0.60(0.14)	0.60	1.45	6.17	22.92
	45/50/60/70/80/90/100			0.02	0.14(0.02)	0.58(0.14)	0.58	1.41	6.10	22.73

* 1. Applied to the output shaft center at 100 rpm.
* 2. Environment noise level 30 dB; distance 1m; measured under free loading with input speed 3000 rpm; ratio = 10 (1-stage) or ratio = 100 (2-stage).
※The above figures/specifications are subject to change without prior notice.

Products due to human error, natural disasters or other factors lead to poor or damaged, will not be covered under warranty.