

PGEH

Sesame Motor PGEH in-line planetary gearheads provide integration between superior operating performance and cost effectiveness. One-piece planet carrier/output shaft and newly designed gear profile benefit higher output torque, precision, loading capacity and lower noise level. High quality gears and components are utilized to create compact and rigid unit with low backlash and maintenance-free operation. 3 levels of precision are available with max frame size 180 mm. Adapters for all servo motors.

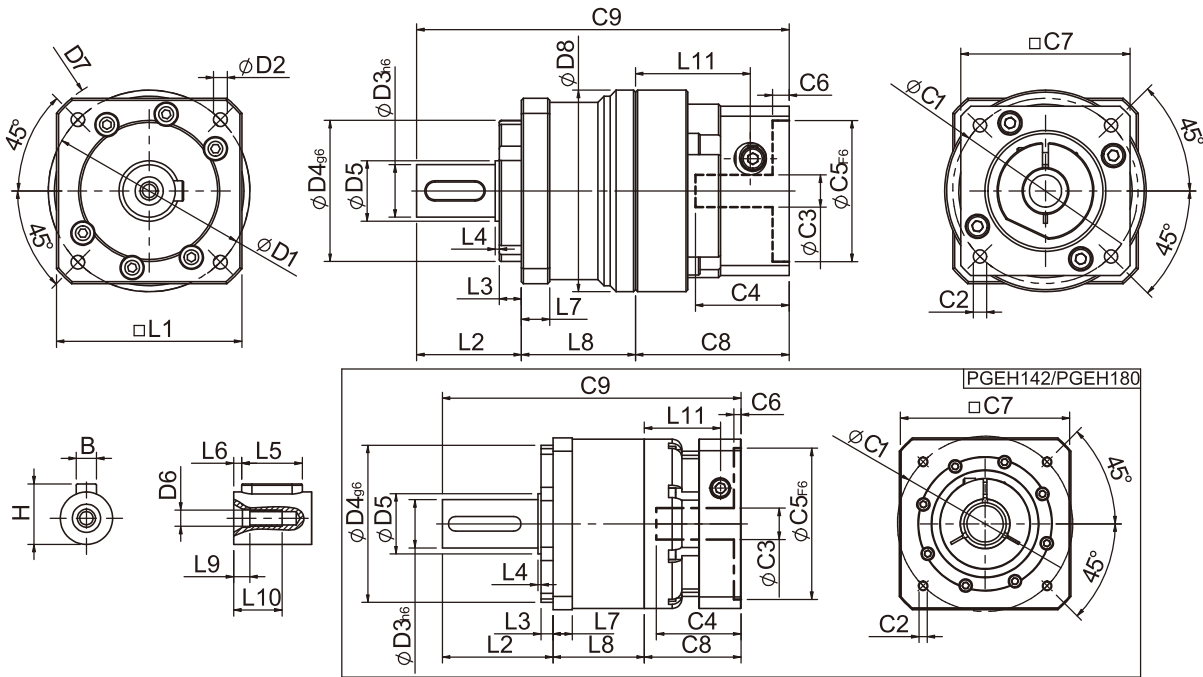


Frame Size (mm)	50, 70, 90, 120, 142, 180
Ratio	3 : 1 - 100 : 1
Nominal Input Speed (rpm)	2,500 - 4,000
Max Input Speed (rpm)	4,000 - 8,000
Backlash (arc-min)	1 Stage : 3 - 8 2 Stages : 5 - 10
Noise Level (dBA / 1m)	58 - 68

Features

- ▶ One-piece planet carrier/output shaft, high torsional rigidity and loading capacity.
- ▶ One-piece compact ring gear design, high precision and output torque.
- ▶ Alloy steel precision gears, low backlash, low noise, high wear resistance.
- ▶ Lubricated for life and IP65 sealing, maintenance free.
- ▶ Adapters for all servo motors.

PGEH Single Stage Dimensions



Specifications

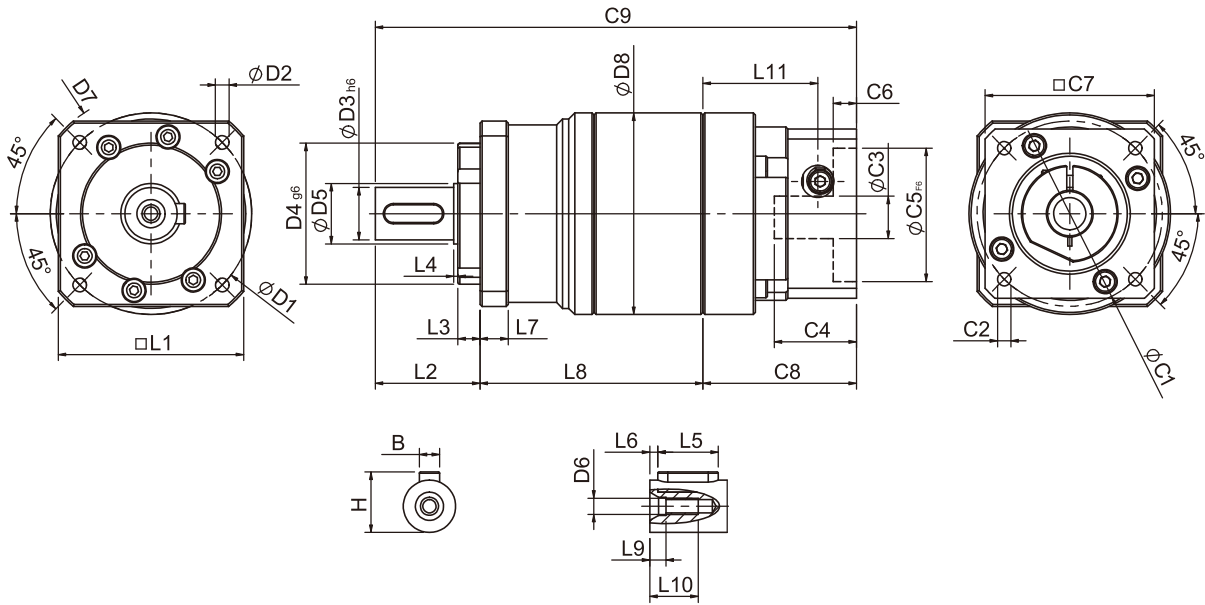
Unit:mm

Dimensions	PGEH50	PGEH70	PGEH90	PGEH120	PGEH142	PGEH180
D1	50	70	100	130	165	215
D2	3.4	5.5	6.8	9	10.5	13
D3h6	13	16	22	32	40	55
D4g6	35	50	80	110	130	160
D5	15	25	35	45	50	70
D6	M4x0.7P	M5x0.8P	M8x1.25P	M12x1.75P	M16x2.0P	M20x2.5P
D7	60	82	118	148	186	239
D8	50	70	94.5	120	-	-
L2	46	64	90	118	142	182
L3	26	37	43	59	91.5	100.5
L4	5.5	7	5	6	10	16
L5	1	1.5	1.5	3.5	2.5	2.5
L6	15	25	32	40	60	70
L7	2	2	3	5	5	6
L8	7	9.7	13.5	15.7	16	20
L9	28.3	37	51	61	75.5	94
L10	4	4	4.5	6	6	8
L11	12	16.5	20.5	30	38	48
L12	28.5	35.5	40.7	53.8	62.8	70
C1 ²	46	70	90	115	145	200
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P	M8x1.25P	M8x1.25P	M12x1.75P
C3 ²	≤8/≤11	≤14/≤19	≤19/≤24	≤24/≤32/≤38	≤35/≤38	≤50
C4 ²	26.5	37.6	41.4	51.3	66.5	82
C5 ² F ₆	30	50	70	95	110	114.3
C6 ²	4.1	4.5	6	6	5.5	10
C7 ²	42	60	90	115	140	180
C8 ²	38.1	46.5	55.4	70	80	95
C9 ²	92.4	120.5	149.4	190	247	289.5
B	5	5	6	10	12	16
H	15	18	24.5	35	43	59

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

* Specification subject to change without notice.

PGEH Double Stage Dimensions-1



Specifications

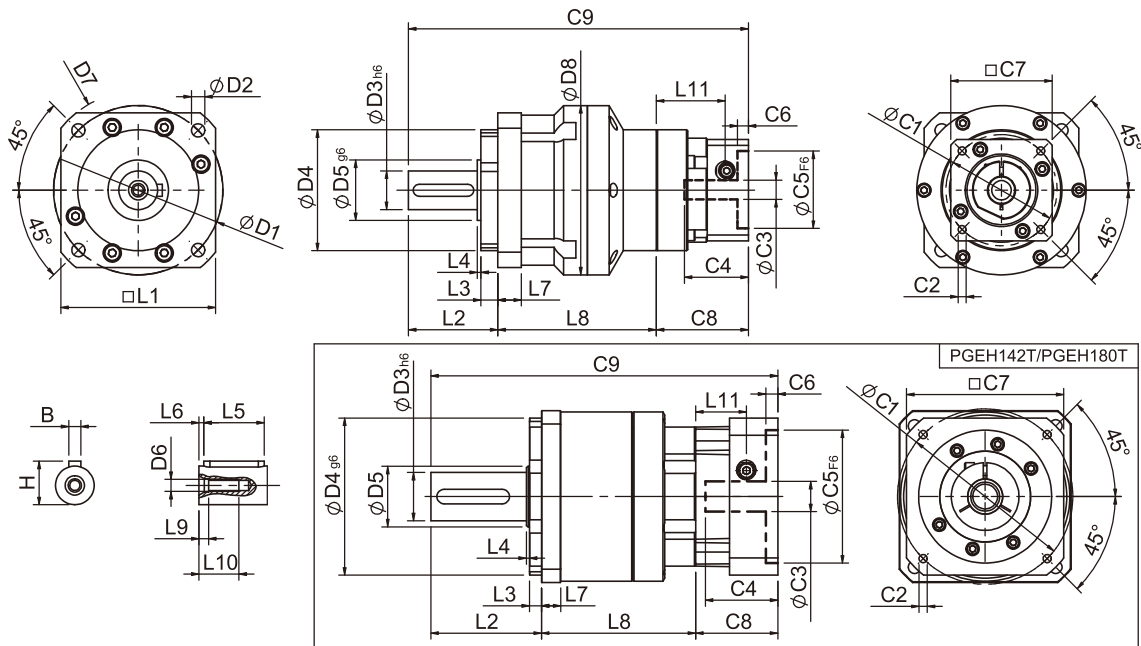
Unit:mm

Dimensions	PGEH50	PGEH70	PGEH90
D1	50	70	100
D2	3.4	5.5	6.8
D3 _{h6}	13	16	22
D4 _{g6}	35	50	80
D5	15	25	35
D6	M4x0.7P	M5x0.8P	M8x1.25P
D7	60	82	118
D8	50	70	94.5
L1	46	64	90
L2	26	37	43
L3	5.5	7	5
L4	1	1.5	1.5
L5	15	25	32
L6	2	2	3
L7	7	9.7	13.5
L8	55.3	70	95
L9	4	4	4.5
L10	12	16.5	20.5
L11	28.5	35.5	40.7
C1 ²	46	70	90
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P
C3 ²	≤8/≤11	≤14/≤19	≤19/≤24
C4 ²	26.5	37.6	41.4
C5 ² _{F6}	30	50	70
C6 ²	4.1	4.5	6
C7 ²	42	60	90
C8 ²	38.1	46.5	55.4
C9 ²	119.4	153.5	193.4
B	5	5	6
H	15	18	24.5

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

★ Specification subject to change without notice.

PGEH Double Stage Dimensions-2



Specifications

Unit:mm

Dimensions	PGEH70T	PGEH90T	PGEH120T	PGEH142T	PGEH180T
D1	70	100	130	165	215
D2	5.5	6.8	9	10.5	13
D3 _{h6}	16	22	32	40	55
D4 _{g6}	50	80	110	130	160
D5	25	35	45	50	70
D6	M5x0.8P	M8x1.25P	M12x1.75P	M16x2.0P	M20x2.5P
D7	82	118	148	186	239
D8	70	94.5	120	-	-
L1	64	90	118	142	182
L2	37	43	59	91.5	100.5
L3	7	5	6	10	16
L4	1.5	1.5	3.5	2.5	2.5
L5	25	32	40	60	70
L6	2	3	5	5	6
L7	9.7	13.5	15.7	16	20
L8	65.5	83.5	103.5	127.5	166
L9	4	4.5	6	6	8
L10	16.5	20.5	30	38	48
L11	28.5	35.5	40.7	41.8	62.8
C1 ²	46	70	90	115	145
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P	M8x1.25P	M8x1.25P
C3 ²	≤8/≤11	≤14/≤19	≤19/≤24	≤24/≤32/≤38	≤35
C4 ²	26.5	37.6	41.4	56	66.5
C5 ² _{F6}	30	50	70	95	110
C6 ²	4.1	4.5	6	10	5.5
C7 ²	42	60	90	115	140
C8 ²	38.1	46.5	55.4	63	80
C9 ²	140.6	173	217.9	282	346.5
B	5	6	10	12	16
H	18	24.5	35	43	59

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

★ Specification subject to change without notice.

PGEH Specifications

Specifications		Stage	Ratio	PGEH-50	PGEH-70	PGEH-90	PGEH-120	PGEH-142	PGEH-180	
Nominal Output Torque T_{2N}	N • m	1	3	19	53	145	290	520	950	
			4	20	55	150	300	550	1000	
			5	17	54	140	290	600	1050	
			6	15	46	135	280	560	1000	
			7	14	44	125	270	530	960	
			8	12	41	110	240	480	900	
			9	11	37	95	220	430	800	
			10	11	37	95	220	430	800	
			Stage	Ratio	PGEH-50	PGEH-70(T)	PGEH-90(T)	PGEH-120(T)	PGEH-142(T)	PGEH-180(T)
			15	19	53	145	290	520	950	
		20	20	55	150	300	550	1000		
		25	17	54	140	290	600	1050		
		30	17	54	140	290	600	1050		
		35	17	54	140	290	600	1050		
		40	17	54	140	290	600	1050		
		45	17	54	140	290	600	1050		
		50	17	54	140	290	600	1050		
		60	15	46	135	280	560	1000		
		70	14	44	125	270	530	960		
80	12	41	110	240	480	900				
90	11	37	95	220	430	800				
100	11	37	95	220	430	800				
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	
Max. Input Speed n_{1max}	rpm	1,2	3-100	8000	8000	6000	6000	4000	4000	
Micro Backlash P0	arcmin	1	3-10	≤ 4	≤ 4	≤ 4	≤ 3	≤ 3	≤ 3	
		2	12-100	≤ 6	≤ 6	≤ 6	≤ 5	≤ 5	≤ 5	
Precision Backlash P1	arcmin	1	3-10	≤ 6	≤ 6	≤ 6	≤ 5	≤ 5	≤ 5	
		2	12-100	≤ 8	≤ 8	≤ 8	≤ 7	≤ 7	≤ 7	
Standard Backlash P2	arcmin	1	3-10	≤ 8	≤ 8	≤ 8	≤ 7	≤ 7	≤ 7	
		2	12-100	≤ 10	≤ 10	≤ 10	≤ 9	≤ 9	≤ 9	
Torsional Rigidity	N•m /arcmin	1,2	3-100	2.5	6	12	23	50	145	
Max. Radial Load F_{2RB}^{-1}	N	1,2	3-100	640	1260	2230	4300	7140	11050	
Max. Axial Load F_{2aB}^{-1}	N	1,2	3-100	410	600	1500	3340	4670	6460	
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	
		2	12-100	0.9	2.0(1.6)	5.6(3.9)	9.5	19	34	
Mounting Position	-	1,2	3-100	Any Direction						
Noise Level ²	dBA/1m	1,2	3-100	58	60	63	65	67	68	
Protection Class	-	1,2	3-100	IP65						
Lubrication	-	1,2	3-100	Synthetic Lubricant						
Inertia (J1)										
Stage	Ratio	unit	PGEH-50	PGEH-70	PGEH-90	PGEH-120	PGEH-142	PGEH-180		
1	3	Kg · cm ²	0.03	0.23	0.97	2.35	10.00	30.50		
	4		0.02	0.18	0.67	1.66	7.17	25.86		
	5		0.02	0.17	0.65	1.50	6.52	23.63		
	6/7/8		0.02	0.14	0.60	1.45	6.17	22.92		
	9/10		0.02	0.14	0.58	1.41	6.10	22.73		
Stage	Ratio	PGEH-50	PGEH-70(T)	PGEH-90(T)	PGEH-120(T)	PGEH-142(T)	PGEH-180(T)			
2	15/20/25	0.02	0.17(0.02)	0.65(0.17)	0.65	1.50	6.52			
	30/35/40	0.02	0.14(0.02)	0.60(0.14)	0.60	1.45	6.17			
	45/50/60/70/80/90/100	0.02	0.14(0.02)	0.58(0.14)	0.58	1.41	6.10			

* 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.