PGCH

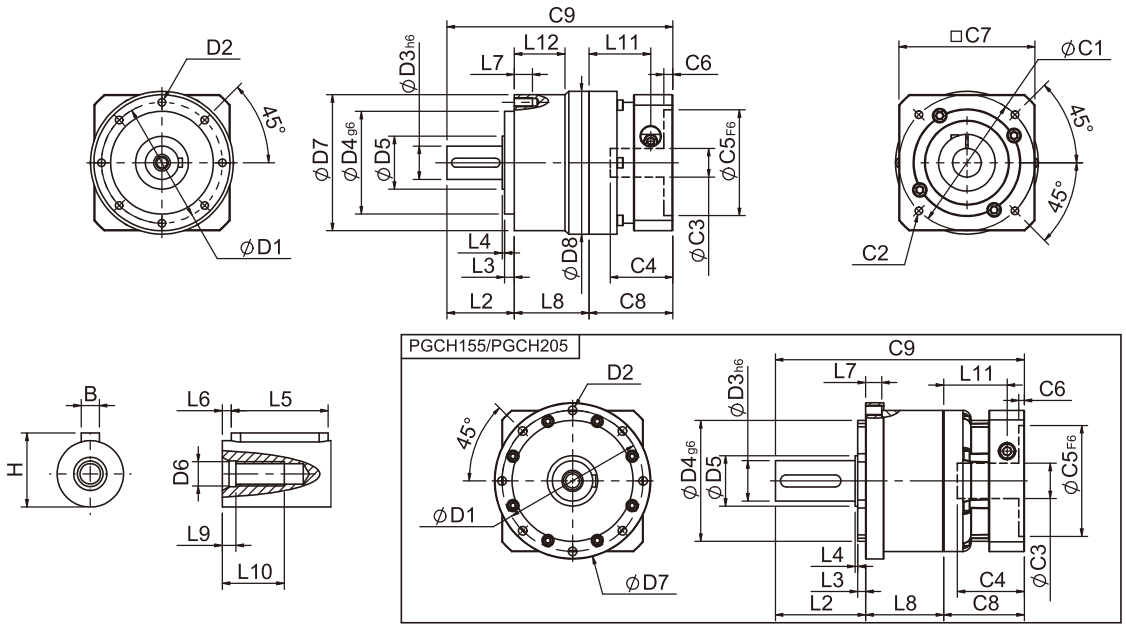
Sesame Motor PGCH in-line planetary gearheads provide integration between superior operating performance and cost effectiveness. One-piece planet carrier/output shaft and newly designed gear profile benefit higher output torque, precision, loading capacity and lower noise level. High quality gears and 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 235 mm. Adapters for all servo motors.

Frame Size (mm)	50, 70, 90, 120, 155, 205, 235
Ratio	3 : 1 - 100 : 1
Nominal Input Speed (rpm)	2,000 - 5,000
Max Input Speed (rpm)	3,500 - 10,000
Backlash (arc-min)	1 Stage : 3 - 8 2 Stages : 5 - 10
Noise Level (dBA / 1m)	58 - 70

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.

PGCH Single Stage Dimensions



Specifications

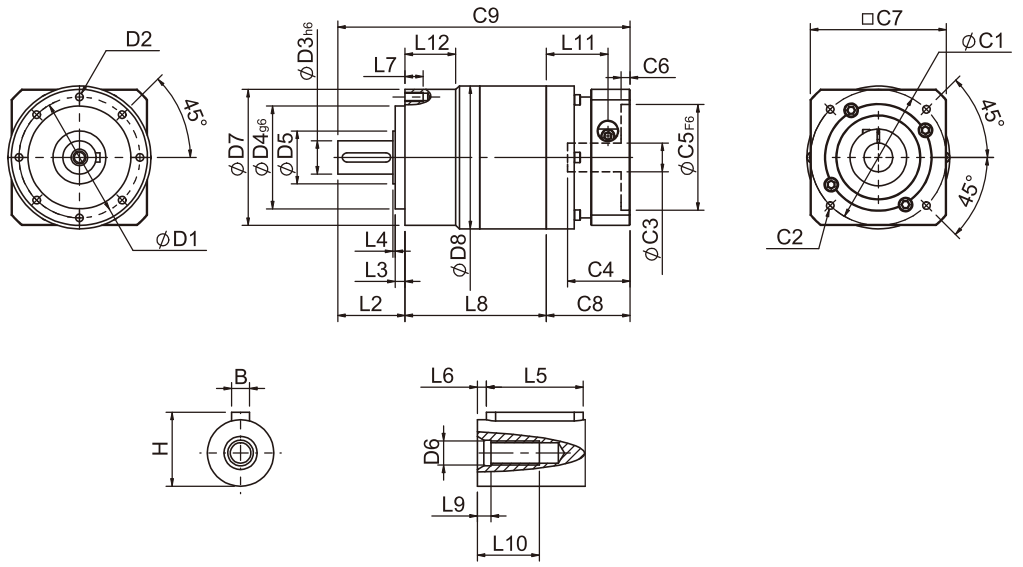
Unit:mm

Dimensions	PGCH50	PGCH70	PGCH90	PGCH120	PGCH155	PGCH205	PGCH235
D1	44	62	80	108	140	184	210
D2	M4x0.7P	M5x0.8P	M6x1.0P	M8x1.25P	M10x1.5P	M12x1.75P	M16x2.0P
$D3_{h6}$	12	16	22	32	40	55	75
$D4_{g6}$	35	52	68	90	120	160	180
D5	15	25	35	45	50	70	114.5
D6	M4x0.7P	M5x0.8P	M8x1.25P	M12x1.75P	M16x2.0P	M20x2.5P	M20x2.5P
D7	50	70	90	120	155	205	235
D8	50	70	94.5	120	-	-	253
L2	24.5	36	44.5	60	89.5	96.5	126
L3	4	6	6.5	7	8	12	18
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	8	10	12	16	16	20	28
L8	29.8	38	49.5	60	77.5	98	124
L9	4	4	4.5	6	6	8	15
L10	12	16.5	20.5	30	38	48	42
L11	29	35.4	40.7	53.7	63	69.5	95
L12	-	-	33.5	-	-	-	70
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/≦11	≦14/≦19	≦19/≦24	≦24/≦32/≦38	≦35/≦38	≦50	≦55
C4 [2]	26.5	37.6	41.4	51.3	66.5	77	112
$C5^{2}_{F6}$	30	50	70	95	110	114.3	200
C6 [2]	4.1	4.5	6	6	5.5	6	6
C7 [2]	42	60	90	115	140	180	220
C8 [2]	38.1	46.5	55.4	70	80	90	120
C9 [2]	92.4	120.5	149.4	190	247	284.5	370
B	5	5	6	10	12	16	20
H	13.5	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.

PGCH Double Stage Dimensions-1



Specifications

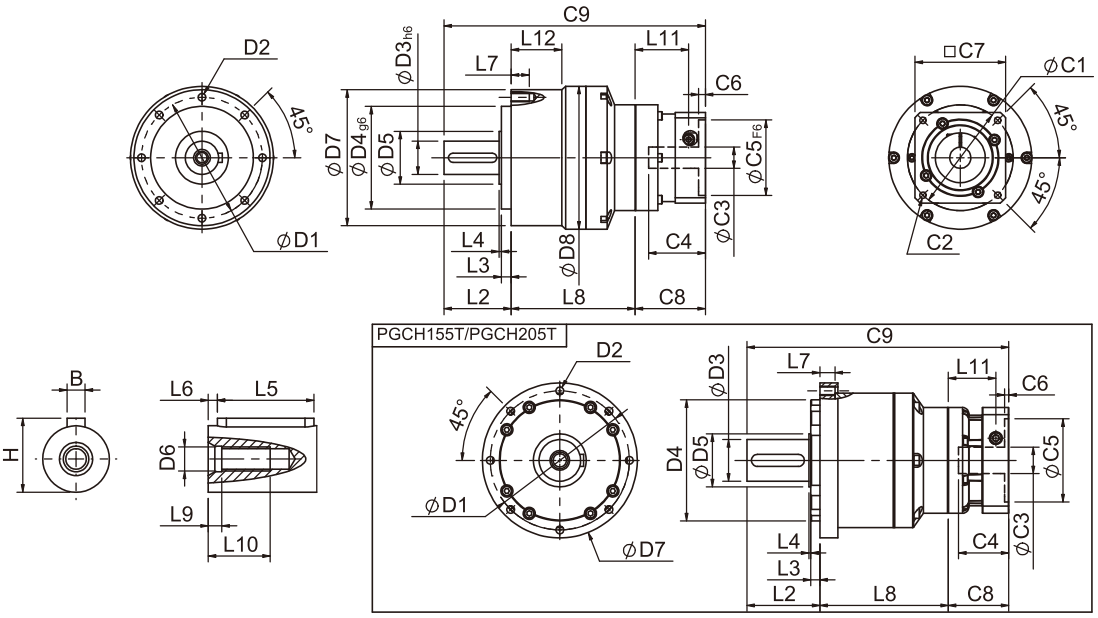
Unit:mm

Dimensions	PGCH50	PGCH70	PGCH90
D1	4	62	80
D2	M4x0.7P	M5x0.8P	M6x1.0P
$D3_{h6}$	12	16	22
$D4_{g6}$	35	52	68
D5	15	25	35
D6	M4x0.7P	M5x0.8P	M8x1.25P
D7	50	70	90
D8	50	70	94.5
L2	24.5	36	44.5
L3	4	6	6.5
L4	1	1.5	1.5
L5	15	25	32
L6	2	2	3
L7	8	10	12
L8	56.8	71	93.5
L9	4	4	4.5
L10	12	16.5	20.5
L11	29	35.4	40.7
L12	-	-	33.5
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	13.5	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.

PGCH Double Stage Dimensions-2



Specifications

Unit:mm

Dimensions	PGCH70T	PGCH90T	PGCH120T	PGCH155T	PGCH205T	PGCH235T
D1	62	80	108	140	184	210
D2	M5x0.8P	M6x1.0P	M8x1.25P	M10x1.5P	M12x1.75P	M16x2.0P
$D3_{h6}$	16	22	32	40	55	75
$D4_{g6}$	52	68	90	120	160	180
D5	25	35	45	50	70	114.5
D6	M5x0.8P	M8x1.25P	M12x1.75P	M16x2.0P	M20x2.5P	M20x2.5P
D7	70	90	120	155	205	235
D8	70	94.5	120	-	-	253
L2	36	44.5	60	89.5	96.5	126
L3	6	6.5	7	8	12	18
L4	1.5	1.5	3.5	2.5	2.5	3
L5	25	32	40	60	70	90
L6	2	3	5	5	6	7
L7	10	12	16	16	20	28
L8	66.5	82	102.5	129.5	170	215
L9	4	4.5	6	6	8	15
L10	16.5	20.5	30	38	48	42
L11	29	35.4	40.7	53.7	63	68.9
L12	-	33.5	-	-	-	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	77
$C5^{2}{}_{F6}$	30	50	70	95	110	114.3
C6[2]	4.1	4.5	6	6	5.5	6
C7[2]	42	60	90	115	140	180
C8[2]	38.1	46.5	55.4	70	80	90
C9[2]	140.6	173	217.9	289	346.5	431
B	5	6	10	12	16	20
H	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.

PGCH Specifications

Specifications		Stage	Ratio	PGCH-50	PGCH-70	PGCH-90	PGCH-120	PGCH-155	PGCH-205	PGCH-235
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	330	600	1050	2000
			6	15	46	135	310	560	1000	1900
			7	14	44	125	300	530	900	1800
			8	12	41	110	260	480	900	1600
			9	11	37	95	230	430	800	1500
			10	11	37	95	230	430	800	1500
		Stage	Ratio	PGCH-50	PGCH-70 PGCH-70T	PGCH-90 PGCH-90T	PGCH-120T	PGCH-155T	PGCH-205T	PGCH-235T
		2	15	19	53	145	290	520	950	2000
			20	20	55	150	300	550	1000	2000
			25	17	54	140	330	600	1050	2000
			30	17	54	140	330	600	1050	2000
			35	17	54	140	330	600	1050	2000
			40	17	54	140	330	600	1050	2000
			45	17	54	140	330	600	1050	2000
			50	17	54	140	330	600	1050	2000
			60	15	46	135	310	560	1000	2000
			70	14	44	125	300	530	960	1900
			80	12	41	110	260	480	900	1800
			90	11	37	95	230	430	800	1600
			100	11	37	95	230	430	800	1500
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	5000	4000	4000	4000	3000	2500	2000
Max. Input Speed n_{1max}	rpm	1,2	3-100	10000	8000	8000	8000	5000	4000	3500
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	3	7	14	25	50	145	300
Max. Radial Load F_{2rB} [1]	N	1,2	3-100	702	1377	2985	6100	7140	11050	28000
Max. Axial Load F_{2aB} [1]	N	1,2	3-100	410	765	1625	3350	4670	6460	15000
Operating Temp.	℃		3-100	-10℃ ~ +90℃						
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	1.3	3.5	7.8	16.1	27	55
		2	12-100	0.9	2.0(1.6)	5.6(3.9)	8.7	19	34	67
Mounting Position	-	1,2	3-100	Any Direction						
Noise Level [2]	dBA/1m	1,2	3-100	58	58	60	63	65	67	70
Protection Class	-	1,2	3-100	IP65						
Lubrication	-	1,2	3-100	Synthetic Lubricant						

Inertia (J1)

Stage	Ratio	unit	PGCH-50	PGCH-70	PGCH-90	PGCH-120	PGCH-155	PGCH-205	PGCH-235
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		PGCH-50	PGCH-70(T)	PGCH-90(T)	PGCH-120(T)	PGHC-155(T)	PGCH-205(T)	PGCH-235T
2	15/20/25		0.02	0.17(0.02)	0.65(0.15)	0.65	1.50	6.25	30.50
	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.