

PGF

Sesame PGF series overall designs are suitable for combined operation with servo motor and achieve maximum torque output. Hollow out-put shaft connects perfectly with circular flange drastically to reduce installation space. Precision gear design and gear processing create a planetary gearhead with low backlash operation, low noise, high efficiency and long service life.

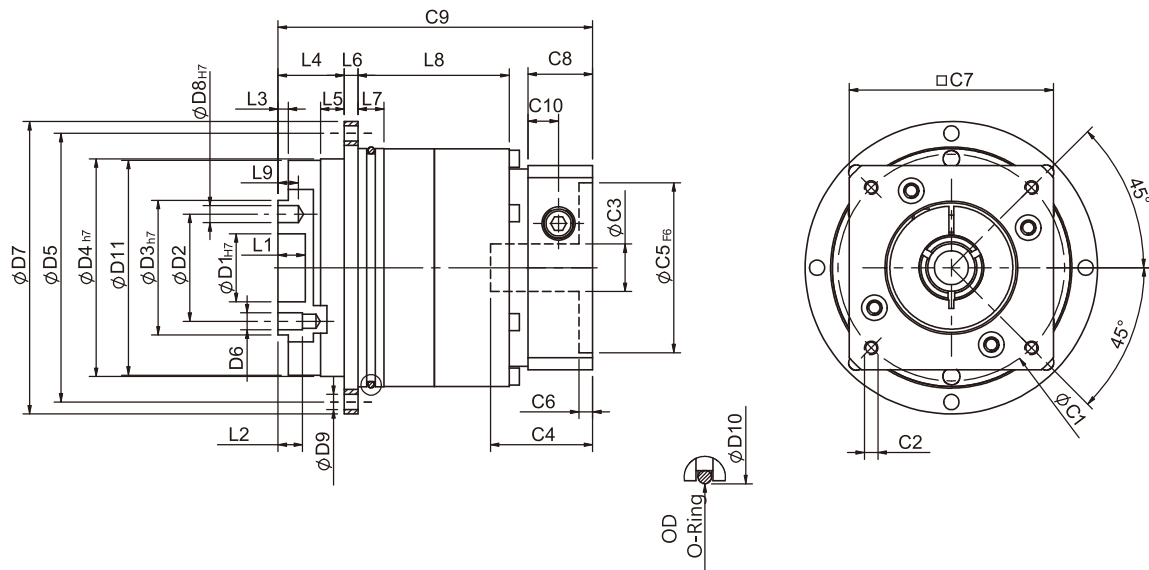


Frame Size (mm)	42, 60, 90, 115, 142
Ratio	3 : 1 - 100 : 1
Nominal Input speed (rpm)	3,000 - 5,000
Max Input Speed (rpm)	5,000 - 10,000
Backlash (arc-min)	1 Stage : 1 - 7 2 Stages : 3 - 9
Noise Level (dBA / 1m)	56 - 65

Features

- ▶ 5 frame sizes available, 42~142 mm.
- ▶ Backlash as low as 1 arc-minute, ultimate performance.
- ▶ One-piece planet carrier/output shaft, large torsional rigidity.
- ▶ Hardened and ground gearing, high wear resistance and impact toughness.
- ▶ One-piece ring gear/housing, high precision and torque output.
- ▶ Angular contact ball bearings with bending moment capacity up to 950 Nm, and axial load capacities up to 6400 N.
- ▶ Planets with full needle bearing support.
- ▶ ISO mounting dimensions.
- ▶ IP65 enclosure and synthetic lubricant, maintenance-free service life.

PGF Single Stage Dimensions



Specifications

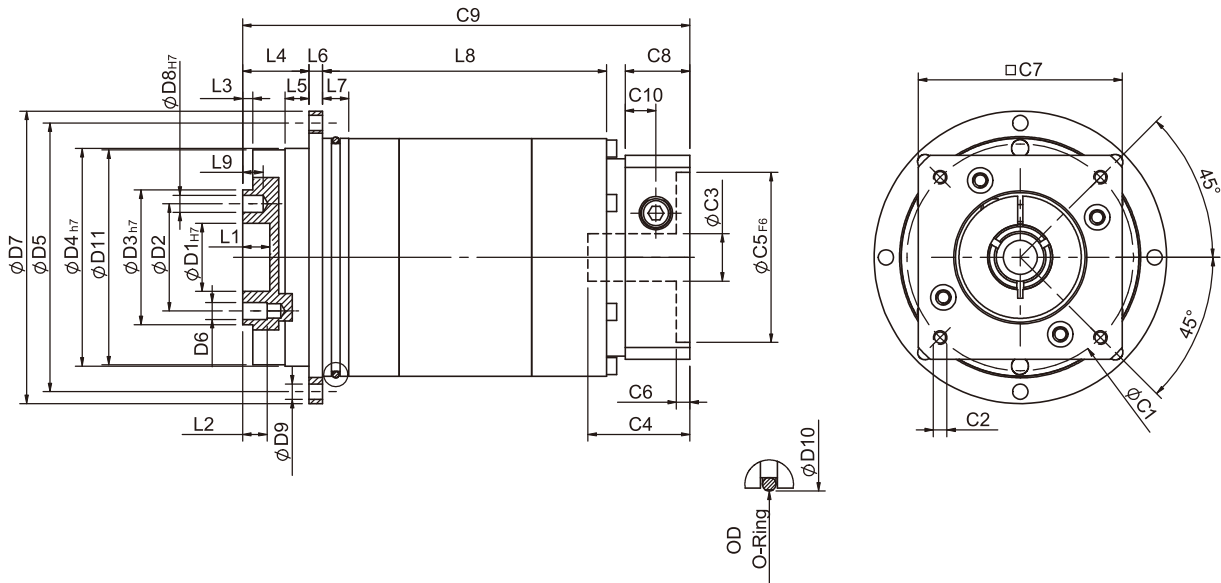
Unit:mm

Dimensions	PGF42	PGF60	PGF90	PGF115	PGF142
D1 _{H7}	12	20	31.5	40	50
D2	20	31.5	50	63	80
D3 _{H7}	28	40	63	80	110
D4 _{H7}	47	64	90	110	140
D5	67	79	109	135	168
D6	M3x0.5P	M5x0.8P	M6x1.0P	M6x1.0P	M8x1.25P
D7	72	86	118	145	179
D8 _{H7}	3	5	6	6	8
D9	3.4	4.5	5.5	5.5	6.6
D10	60	70	95	120	152
D11	46.2	63.2	89.2	109.2	139.2
L1	4	8	12	12	12
L2	6	7.2	12	13.5	16
L3	3	3	6	6	6
L4	19.5	19.5	29	29	38
L5	7	7	10	10	14.6
L6	4	4	7	8	10
L7	5	7.7	8	12	12
L8	25	29.5	35	50.5	65
L9	4	6	5	7	7
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/≤38
C4 ²	28.5	37.5	41.7	51.1	66.7
C5 ² _{F6}	30	50	70	95	110
C6 ²	4.1	4.5	6	6	5.5
C7 ²	42	60	90	115	140
C8 ²	17	20	26	30	35
C9 ²	75.3	85.5	105	127.5	168.5
C10 ²	7.4	9	11.3	13.9	17.9
OD	56x2	66x2	90x3	110x3	145x3

★ C1~C10 are motor specific dimensions (metric std shown). Size may vary according to motor flange.

★ Specification subject to change without notice.

PGF Double Stage Dimensions-1



Specifications

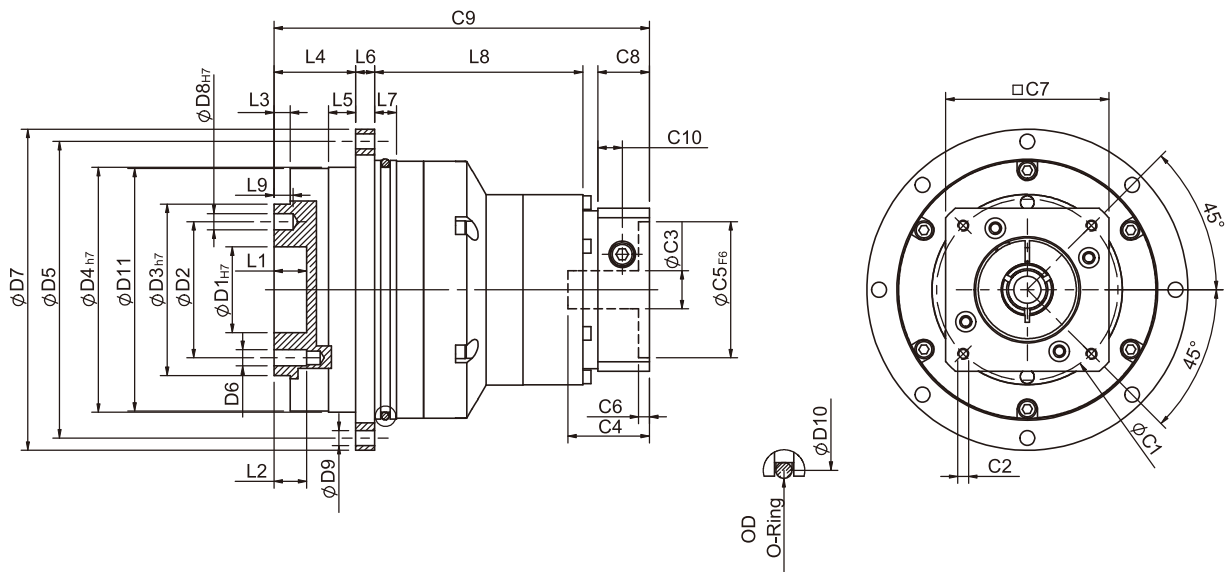
Unit:mm

Dimensions	PGF42	PGF60	PGF90
D1H7	12	20	31.5
D2	20	31.5	50
D3h7	28	40	63
D4h7	47	64	90
D5	67	79	109
D6	M3x0.5P	M5x0.8P	M6x1.0P
D7	72	86	118
D8H7	3	5	6
D9	3.4	4.5	5.5
D10	60	70	95
D11	46.2	63.2	89.2
L1	4	8	12
L2	6	7.2	12
L3	3	3	6
L4	19.5	19.5	29
L5	7	7	10
L6	4	4	7
L7	5	7.7	8
L8	54.5	68.5	80
L9	4	6	7
C1 ²	46	70	90
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P
C3 ²	≤8/≤11	≤14/≤19	≤19/≤24
C4 ²	28.6	37.5	41.7
C5 ² F6	30	50	70
C6 ²	4.1	4.5	6
C7 ²	42	60	90
C8 ²	17	20	26
C9 ²	103	124.5	149.1
C10 ²	7.4	9	11.3
OD	56x2	66x2	90x3

* C1~C10 are motor specific dimensions (metric std shown). Size may vary according to motor flange.

* Specification subject to change without notice.

PGF Double Stage Dimensions-2



Specifications

Unit:mm

Dimensions	PGF60T	PGF90T	PGF115T	PGF142T
D1 _{H7}	20	31.5	40	50
D2	31.5	50	63	80
D3 _{h7}	40	63	80	100
D4 _{h7}	64	90	110	140
D5	79	109	135	168
D6	M5x0.8P	M6x1.0P	M6x1.0P	M8x1.25P
D7	86	118	145	179
D8 _{H7}	5	6	6	8
D9	4.5	5.5	5.5	6.6
D10	70	95	120	152
D11	63.2	89.2	109.2	139.2
L1	8	12	12	12
L2	7.2	12	13.5	16
L3	3	6	6	6
L4	19.5	29	29	38
L5	7	10	10	14.6
L6	4	7	8	10
L7	7.7	8	10	12
L8	61.2	68	89.5	110
L9	6	7	7	7
C1 ²	46	70	90	115
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P	M8x1.25P
C3 ²	≤8/≤11	≤14/≤19	≤19/≤24	≤24/≤32/≤38
C4 ²	28.6	37.5	41.7	51.1
C5 ² _{F6}	30	50	70	95
C6 ²	4.1	4.5	6	6
C7 ²	42	60	90	115
C8 ²	17	20	26	30
C9 ²	109.7	136.5	159.6	198
C10 ²	7.4	9	11.3	13.9
OD	66x2	90x3	110x3	145x3

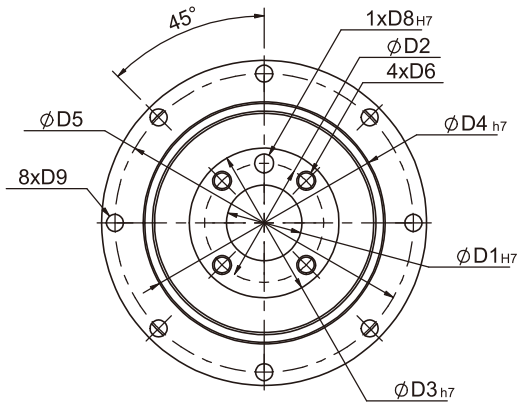
* C1~C10 are motor specific dimensions (metric std shown). Size may vary according to motor flange.

* Specification subject to change without notice.

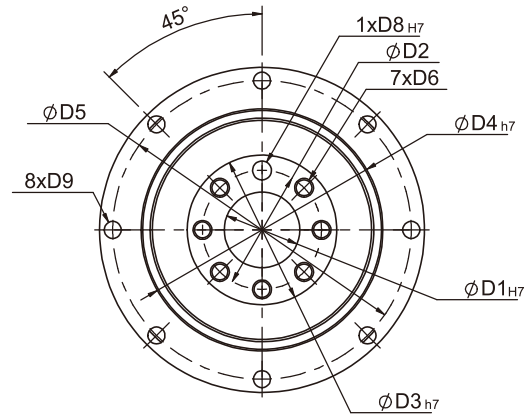
PGF Flange Dimensions

PACR
PBE
PBC
PGSH
PGS
PAN
PANR
PNS
PNSR
PUL
PUA
PUR
PHF
PGF
PHFR
PGFR

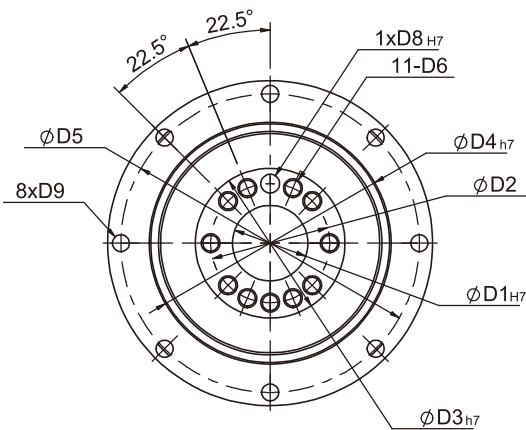
PGF42



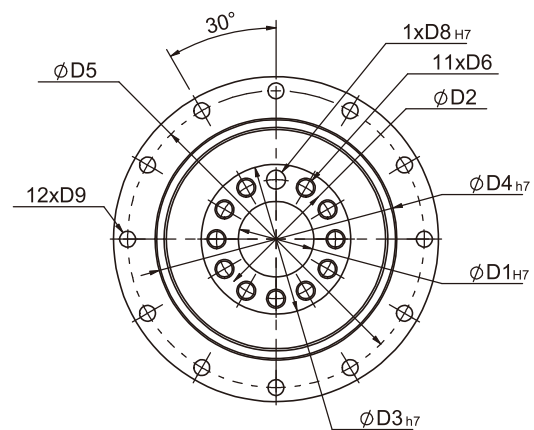
PGF60
PGF90



PGF115



PGF142



Specifications

Unit:mm

Dimensions	PGF42	PGF60	PGF90	PGF115	PGF115
D1 _{H7}	12	20	31.5	40	50
D2	20	31.5	50	63	80
D3 _{h7}	28	40	63	80	100
D4 _{h7}	47	64	90	110	140
D5	67	79	109	135	168
D6	M3x0.5P	M5x0.8P	M6x1.0P	M6x1.0P	M8x1.25P
D8 _{H7}	3	5	6	6	8
D9	3.4	4.5	5.5	5.5	6.6

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PGF Specifications

Specifications		Stage	Ratio	PGF-42	PGF-60	PGF-90	PGF-115	PGF-142
Nominal Output Torque T_{2N}	N • m	1	3	-	40	105	180	340
			4	16	43	110	240	500
			5	17	50	130	290	600
			7	14	44	125	270	530
			10	11	37	95	220	430
		Stage	Ratio	PGF-42	PGF-60(T)	PGF-90(T)	PGF-115T	PGF-142T
		2	15	-	40	105	180	600
			20	16	43	110	240	600
			25	17	50	130	290	600
			30	17	50	130	290	600
			35	17	50	130	290	600
			40	17	50	130	290	600
			50	17	50	130	290	600
			70	14	44	125	270	530
100	11	37	95	220	430			
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	5000	4000	4000	3000
Max. Input Speed n_{1max}	rpm	1,2	3-100	10000	10000	8000	8000	5000
Micro Backlash P0	arcmin	1 2	3-10 12-100	≤ 3 ≤ 5	≤ 3 ≤ 5	≤ 3 ≤ 5	≤ 1 ≤ 3	≤ 1 ≤ 3
Precision Backlash P1	arcmin	1 2	3-10 12-100	≤ 5 ≤ 7	≤ 5 ≤ 7	≤ 5 ≤ 7	≤ 3 ≤ 5	≤ 3 ≤ 5
Standard Backlash P2	arcmin	1 2	3-10 12-100	≤ 7 ≤ 9	≤ 7 ≤ 9	≤ 7 ≤ 9	≤ 5 ≤ 7	≤ 5 ≤ 7
Torsional Rigidity	N• m /arcmin	1,2	3-100	6	12	28	75	145
Max. Bending Moment M_{2kB}^1	N	1,2	3-100	22.5	36	76	140	950
Max. Axial Load F_{2aB}^1	N	1,2	3-100	465	635	1060	1580	6400
Operating Temp.	°C	-10°C ~ +90°C						
Service Life	hr	20,000 (10,000 Continuous operation)						
Efficiency	%	1 2	3-10 12-100	$\geq 97\%$ $\geq 94\%$				
Weight	kg	1 2	3-10 12-100	0.7 1.1	14 2.2(1.7)	3.2 5.0(4.0)	6.0 7.9	13.6 17.9
Mounting Position	-	1,2	3-100	Any Direction				
Noise Level ²	dB(A)/1m	1,2	3-100	56	58	60	63	65
Protection Class	-	1,2	3-100	IP65				
Lubrication	-	1,2	3-100	Synthetic Lubricant				
Inertia (J1)								
Stage	Ratio	unit	PGF-42	PGF-60	PGF-90	PGF-115	PGF-142	
1	3	Kg • cm ²	-	0.19	0.72	2.35	9.05	
	4		0.02	0.18	0.67	1.66	7.17	
	5		0.02	0.17	0.65	1.50	6.52	
	7		0.02	0.14	0.60	1.45	6.17	
	10		0.02	0.14	0.58	1.41	6.10	
Stage	Ratio		PGF-42	PGF-60(T)	PGF-90(T)	PGF-115T	PGF-142T	
2	15/20/25		0.02	0.17(0.02)	0.65(0.17)	0.65	2.35	
	30/35/40		0.02	0.14(0.02)	0.60(0.14)	0.60	1.45	
	50/70/100		0.02	0.14(0.02)	0.58(0.14)	0.58	1.41	

* 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.