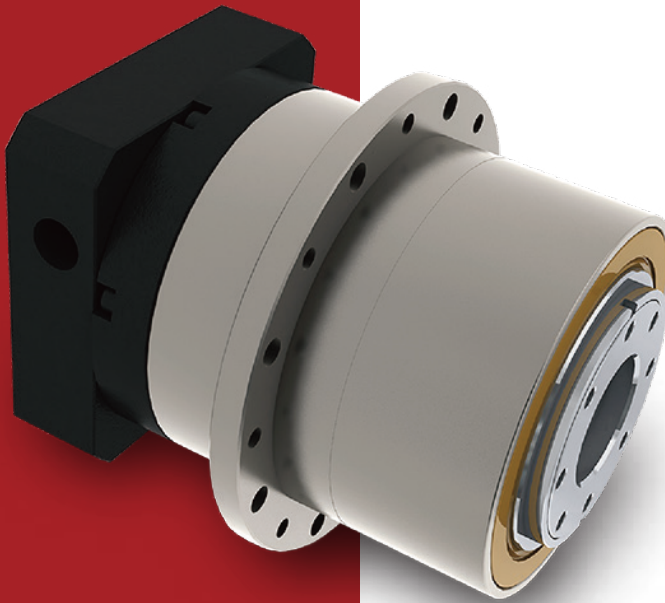


PGV

AGV & AMR Gearboxes

The function of automated guided vehicles (AGVs) or autonomous mobile robots (AMRs) is to transport material and operate continuously. The specific structure and mechanical requirements are extremely high due to their work loading and long term operation. SESAME planetary gearbox PGV series provide the most suitable solution for the drive module of AGV and AMR.

Compact design and reliable performance in precision, high loading capacity and efficiency benefit AGVs and AMRs to move smoothly while carrying the maximum weight. Quality power transmission components and service-life lubricant further reduce downtime and production costs as well.

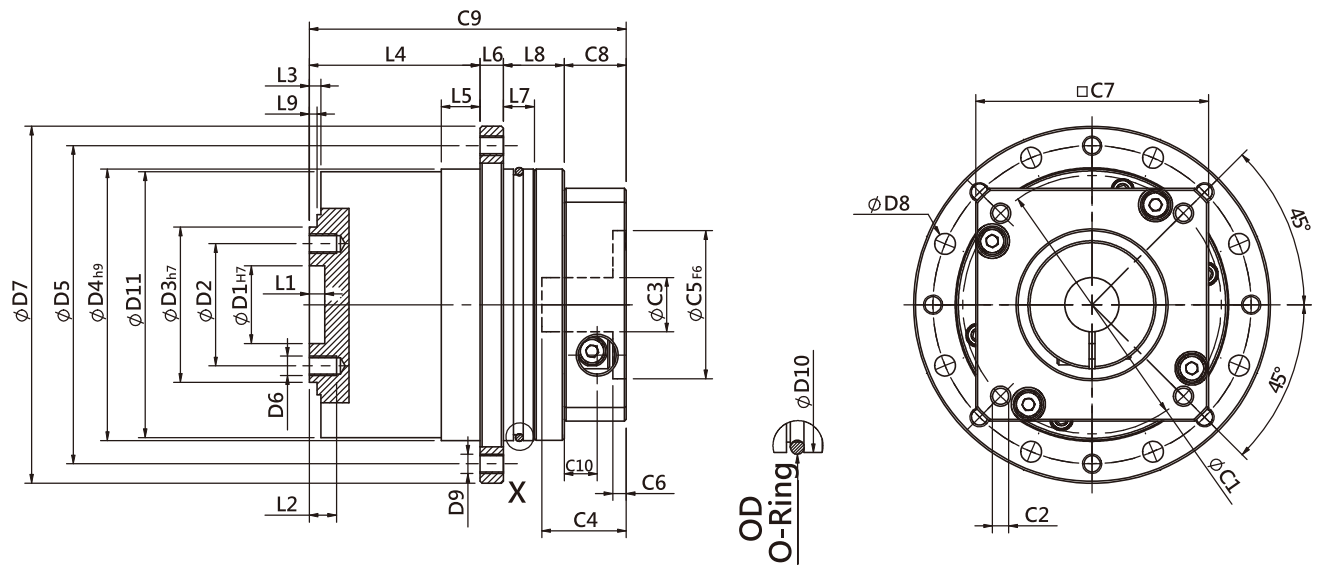


Frame Size(mm)	60, 90, 115
Ratio	3 : 1 - 100:1
Nominal Input Speed (rpm)	3,500 - 4,500
Max Input Speed (rpm)	6,500 - 7,500
Backlash (arc-min)	1 Stage: 7 - 9 2 Stages: 9 - 12
Noise Level (dBA / 1m)	58 - 63

Features

- ▶ Designed for AGVs and AMRs driving units.
- ▶ Direct mounting of motor and wheel to save installation space.
- ▶ Low backlash, low noise, high efficiency.
- ▶ One-piece planet carrier/output shaft, high rigidity and radial load capacity.
- ▶ One-piece ring gear/housing, high precision and torque output.
- ▶ IP65 enclosure and synthetic lubricant, maintenance-free service life.
- ▶ Customized bracket for all servo motors and DC motors.

PGV Single Stage Dimensions



Specifications

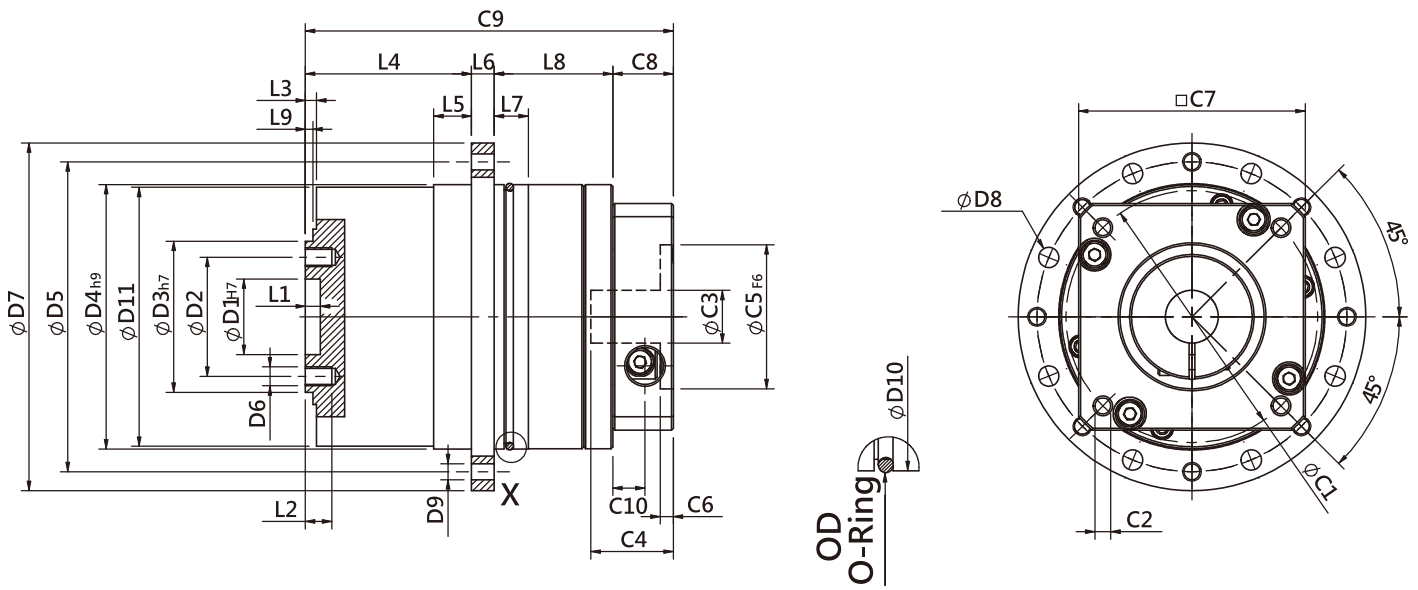
Unit:mm

Dimensions	PGV60	PGV90	PGV115
D1 _{H7}	20	31.5	40
D2	31.5	50	63
D3 _{H7}	40	63	80
D4 _{H7}	70	94	120
D5	82	108	142
D6	M5x0.8P	M6x1.0P	M6x1.0P
D7	92	120	158
D8	5.4	6.6	9
D9	M5x0.8P	M6x1.0P	M8x1.25P
D10	70	95	120
D11	69.9	93.9	119.9
L1	4	6	6.5
L2	7	10	12
L3	3	6	6.5
L4	44	59.5	80
L5	10	15	21
L6	6	8	10
L7	8	-	-
L8	15.7	22.9	18
L9	2	5	5.5
C1 ²	66.67	90	115
C2 ²	M5x0.8P	M6x1.0P	M8x1.25P
C3 ²	≤11/≤14/≤19	≤14/≤19/≤24	≤19/≤24/≤38
C4 ²	21.8	41.3	42.9
C5 ² _{F6}	38.15	70	95
C6 ²	3.5	6	6
C7 ²	60	90	115
C8 ²	16	26	30
C9 ²	81.7	116.4	138
C10 ²	8.5	11.3	13.8
OD	66x2	-	-

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

* Specification subject to change without notice.

PGV Double Stage Dimensions



SGC / SGE

PGW

PGHA / PGHX

PGV

Strain Wave Gearboxes

PT

Specifications

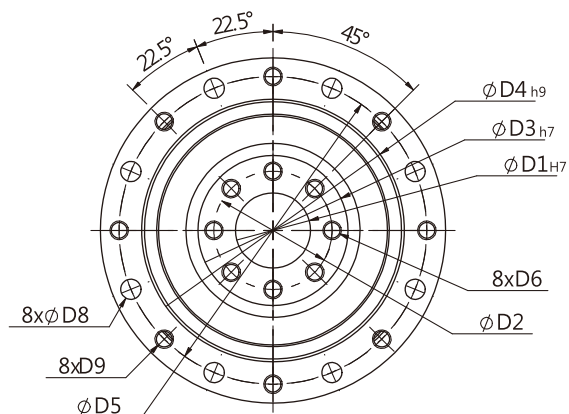
Unit:mm

Dimensions	PGV60	PGV90	PGV115
D1h7	20	31.5	40
D2	31.5	50	63
D3h7	40	63	80
D4h7	70	94	120
D5	82	108	142
D6	M5x0.8P	M6x1.0P	M6x1.0P
D7	92	120	158
D8	5.4	6.6	9
D9	M5x0.8P	M6x1.0P	M8x1.25P
D10	70	95	120
D11	69.9	93.9	119.9
L1	4	6	6.5
L2	7	10	12
L3	3	6	6.5
L4	44	59.5	80
L5	10	15	21
L6	6	8	10
L7	9	7.7	10
L8	31.4	42.7	45.8
L9	2	5	5.5
C1 ²	66.67	90	115
C2 ²	M5x0.8P	M6x1.0P	M8x1.25P
C3 ²	≤11/≤14/≤19	≤14/≤19/≤24	≤19/≤24/≤38
C4 ²	21.8	41.3	42.9
C5 ² _{F6}	38.15	70	95
C6 ²	3.5	6	6
C7 ²	60	90	115
C8 ²	16	26	30
C9 ²	97.4	136.2	165.8
C10 ²	8.5	11.3	13.8
OD	66x2	86x3	110x3

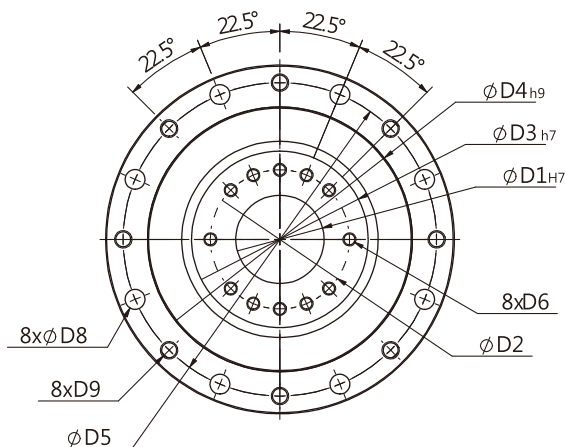
* C1~C10 are motor specific dimensions(metric std shown),
Size may vary according to the motor flange.
* Specification subject to change without notice.

PGV Flange Dimensions

PGV60
PGV90



PGV125



Specifications

Unit:mm

Dimensions	PGV60	PGV90	PGV115
D1 _{H7}	20	31.5	40
D2	31.5	50	63
D3 _{h7}	40	63	80
D4 _{h9}	70	94	120
D5	82	108	142
D6	M5x0.8P	M6x1.0P	M6x1.0P
D8	5.4	6.6	9
D9	M5x0.8P	M6x1.0P	M8x1.25P

★ Specification subject to change without notice.

PGV Specifications

Specifications	Stage	Ratio	PGV-60	PGV-90	PGV-115			
Nominal Output Torque T_{2N}	1	3	41	110	250			
		4	44	120	270			
		5	45	120	280			
		7	38	100	260			
		8	35	95	240			
		10	32	85	210			
	2	Stage	Ratio	PGV-60	PGV-90	PGV-115		
		9	41	110	250			
		12	44	120	270			
		15	45	120	280			
		16	44	120	270			
		20	44	120	270			
		25	45	120	280			
		30	41	110	280			
		35	45	120	280			
		40	44	120	270			
		50	45	120	280			
64	35	95	240					
70	38	100	260					
100	32	85	210					
Emergency Stop Torque T_{2NOT}	N · m	(2.5 times of Nominal Output Torque) (Max. Output Torque T_{2B} = 60% of Emergency Stop Torque)						
Starting Torque	N · m	1	3-10	0.11	0.3	0.55		
		2	9-100	0.09	0.25	0.5		
Nominal Input Speed n_{1N}	N	1,2	3-100	4500	4000	3500		
Max. Input Speed n_{1max}	N	1,2	3-100	7500	7000	6500		
Standard Backlash P2	arcmin	1	3-10	≤9	≤8	≤7		
		2	9-100	≤12	≤10	≤9		
Torsional Rigidity	N · m /arcmin	1,2	3-100	8	22	55		
Max. Radial Load F_{2rB}^{-1}	N	1,2	3-100	3300	5300	7100		
Max. Axial Load F_{2aB}^{-1}	N	1,2	3-100	3120	5000	7000		
Max. Bending Moment M_{2kB}^{-1}	N · m	1,2	3-100	110	220	350		
Operating Temp.	°C	1,2	3-100	-20°C ~ +90°C				
Service Life	hr	1,2	3-100	30,000 (10,000 Continuous Operation)				
Efficiency	%	1	3-10	≥ 97%				
		2	9-100	≥ 94%				
Weight	kg	1	3-10	1.8	4.3	8.6		
		2	9-100	2.2	5.3	10.6		
Mounting Position	-	1,2	3-100	Any Direction				
Noise Level ²	dBA/1m	1,2	3-100	58	60	63		
Protection Class	-	1,2	3-100	IP65				
Lubrication	-	1,2	3-100	Synthetic Lubricant				
Inertia (J1)								
Stage	Ratio	unit	PGV-60		PGV-90		PGV-115	
			(ψ19)	(ψ14)(ψ11)	(ψ24)(ψ19)	(ψ14)	(ψ24)	(ψ19)
1	3	Kg · cm ²	0.46	0.23	0.77	0.33	2.2	1.87
	4		0.42	0.21	0.67	0.23	1.51	1.18
	5~8,10		0.42	0.21	0.61	0.21	1.26	0.93
Stage	Ratio		PGV-60		PGV-90		PGV-115	
			(ψ19)	(ψ14)(ψ11)	(ψ24)(ψ19)	(ψ14)	(ψ24)	(ψ19)
2	9,12,15		0.46	0.23	0.77	0.33	2.2	1.87
	Other Ratios	0.42	0.21	0.67	0.23	1.51	1.18	

* 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.