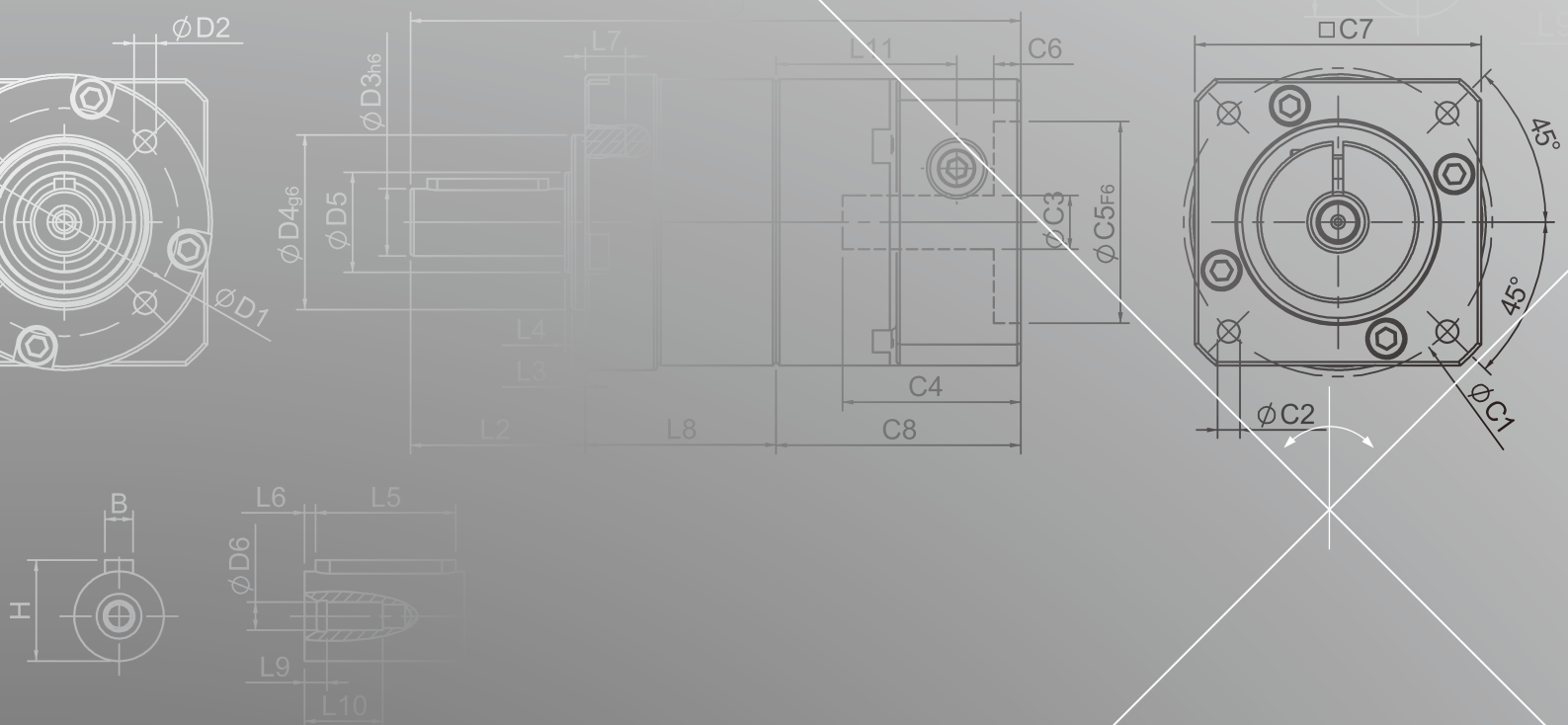
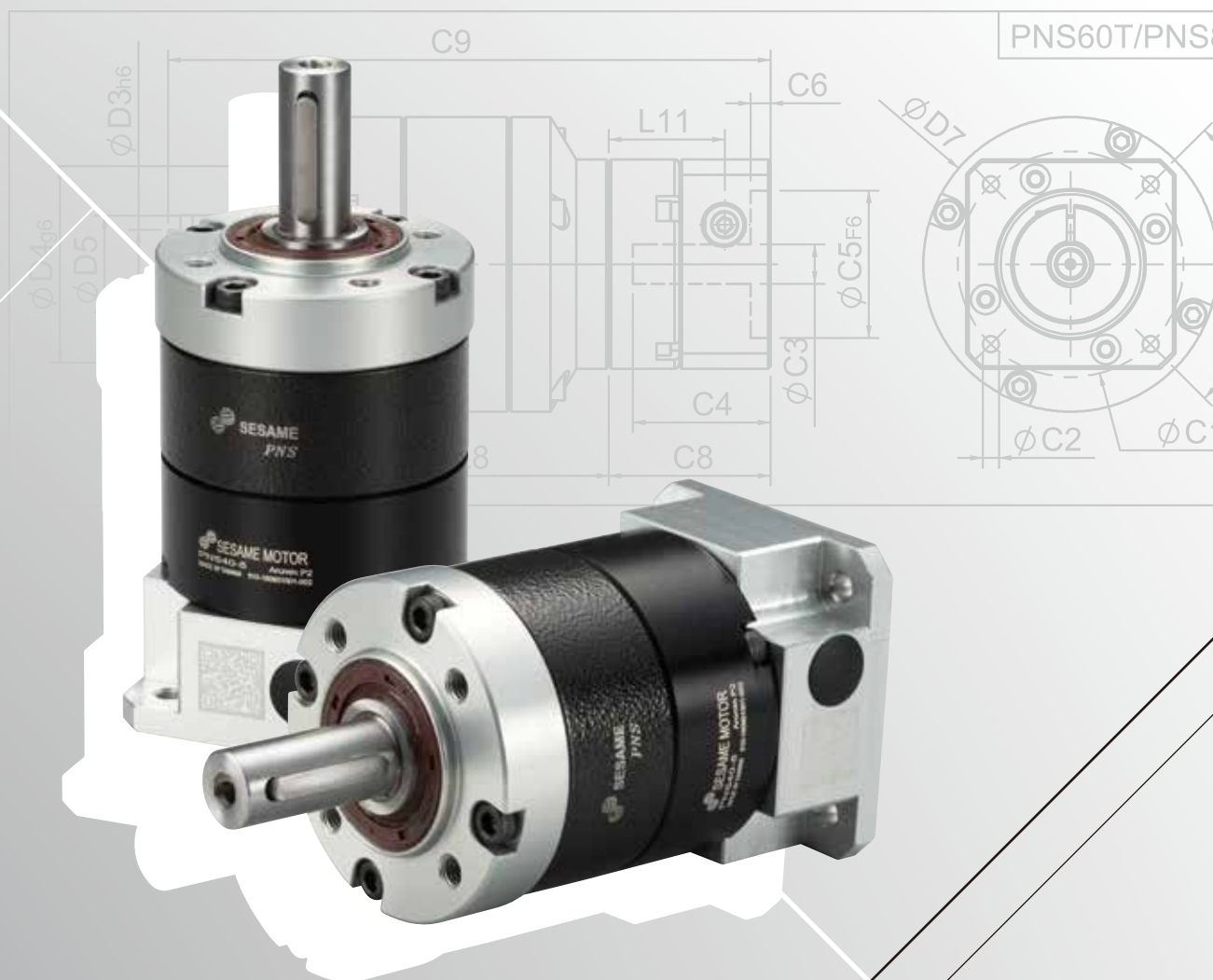
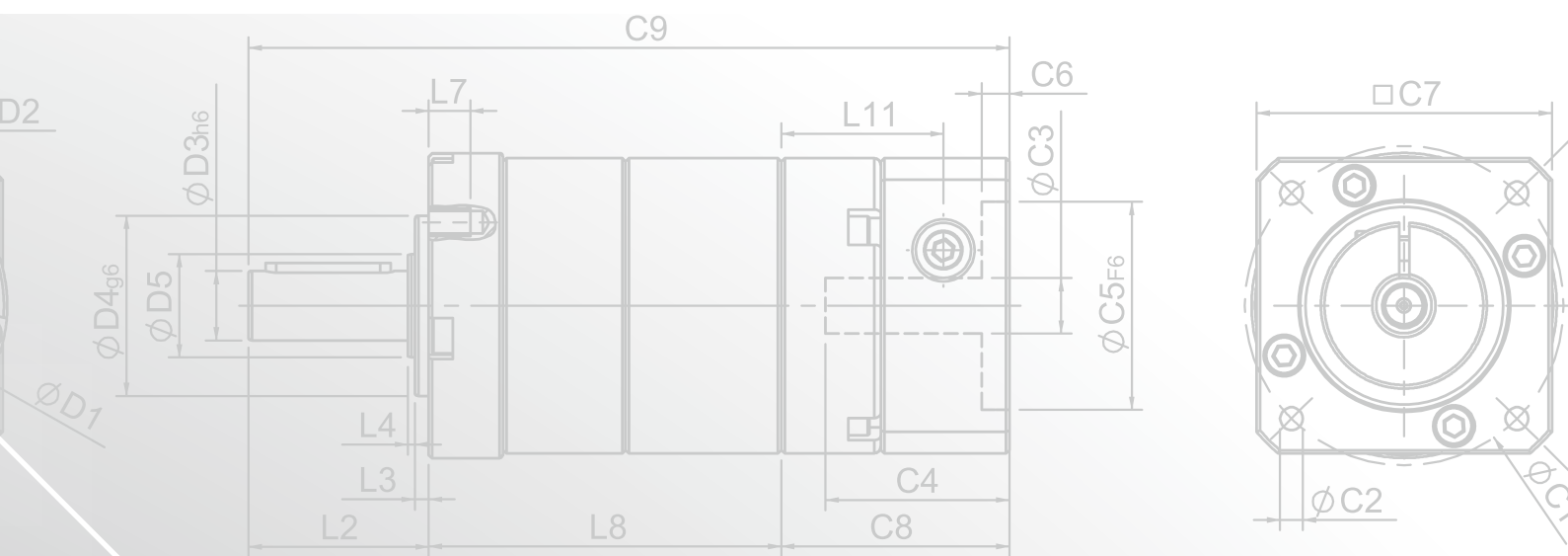
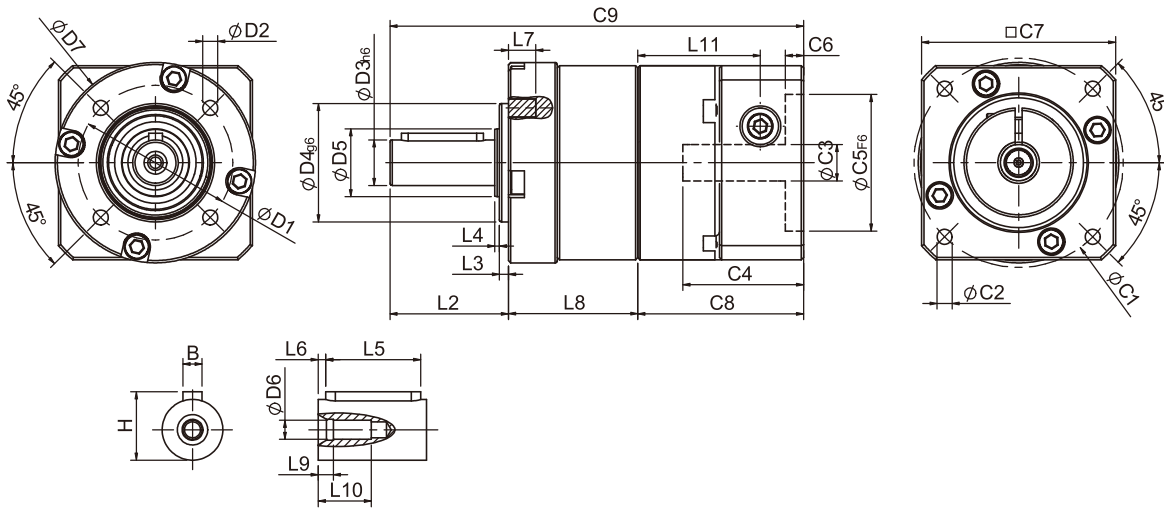


PNS SERIES





PNS Single Stage Dimensions



Specifications

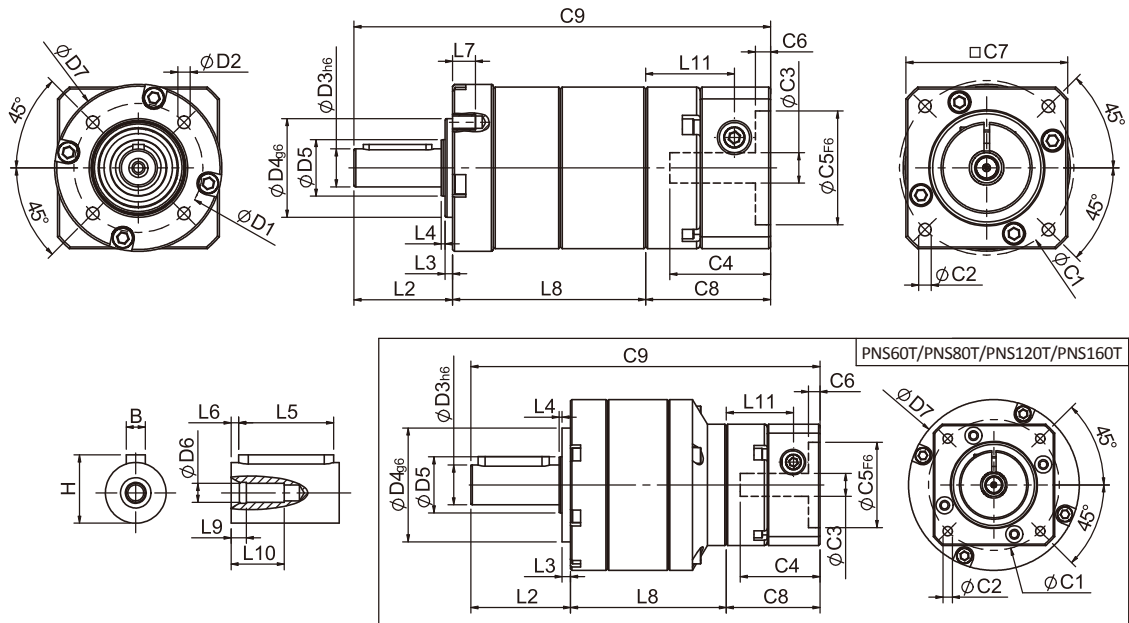
Unit:mm

Dimensions	PNS40	PNS60	PNS80	PNS120	PNS160
D1	34	52	70	100	145
D2	M4x0.7P	M5x0.8P	M6x1.0P	M10x1.5P	M12x1.75P
D3 _{h6}	10	14	20	25	40
D4 _{g6}	26	40	60	80	130
D5	15	20	35	40	50
D6	M3x0.5P	M5x0.8P	M6x1.0P	M10x1.5P	M16x2.0P
D7	44	60	90	116	160
L2	26	35	40	55	87
L3	2	3	3	4	5
L4	1	1	1	1	2
L5	18	25	28	40	65
L6	2.5	2.5	4	5	8
L7	6	8	10	15	20
L8	28.4	34.4	42.2	68.8	81
L9	3	4	4.5	6	6
L10	9	16.5	16.5	26	38
L11	26.9	31.6	37.3	51.8	63
C1 ²	46	70	90	145	130
C2 ²	M4x0.7P	M5x0.8P	M6x1.0P	M8x1.25P	M8x1.25P
C3 ²	$\leq 8/\leq 11$	$\leq 14/\leq 19$	$\leq 19/\leq 24/\leq 28$	$\leq 24/\leq 32/\leq 38$	$\leq 35/\leq 38$
C4 ²	26.5	33.5	41	51.5	66.5
C5 ² _{F6}	30	50	70	110	110
C6 ²	4	4	6	6	5.5
C7 ²	42.6	60	90	130	140
C8 ²	36.4	42.1	51.5	68	80
C9 ²	90.8	111.5	133.7	191.8	248
B	3	5	6	8	12
H	11.2	16	22.5	28	43

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

★ Specification subject to change without notice.

PNS Double Stage Dimensions



Specifications

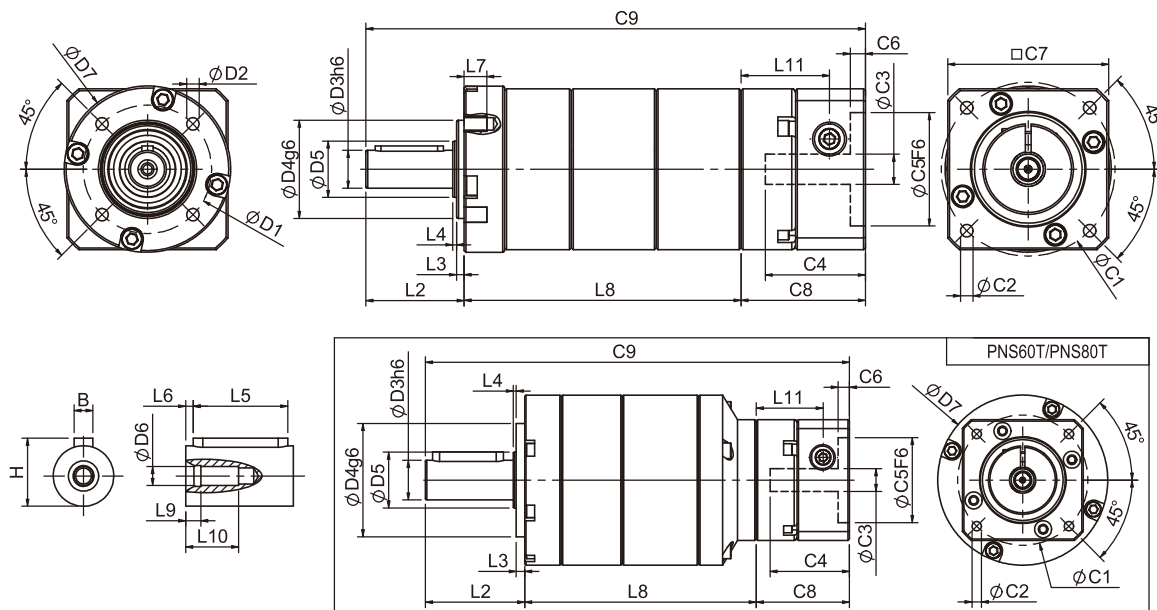
Unit:mm

Dimensions	PNS40	PNS60	PNS60T	PNS80	PNS80T	PNS120T	PNS160	PNS160T
D1	34	52		70		100	145	
D2	M4x0.7P	M5x0.8P		M6x1.0P		M10x1.5P	M12x1.75P	
D3 _{h6}	10	14		20		25	40	
D4 _{g6}	26	40		60		80	130	
D5	15	20		35		40	50	
D6	M3x0.5P	M5x0.8P		M6x1.0P		M10x1.5P	M16x2.0P	
D7	44	60		90		116	160	
L2	26	35		40		55	87	
L3	2	3		3		4	5	
L4	1	1		1		1	2	
L5	18	25		28		40	65	
L6	2.5	2.5		4		5	8	
L7	6	8		10		15	20	
L8	50.9	61.4	54.7	76	71.5	106.9	142	129
L9	3	4		4.5		6	6	
L10	9	16.5		16.5		26	38	
L11	23.4	31	23.4	37.3	31	37.3	63	42
C1 ²	46	70	46	90	70	90	130	115
C2 ²	M4x0.7P	M5x0.8P	M4x0.7P	M6x1.0P	M5x0.8P	M6x1.0P	M8x1.25P	M8x1.25P
C3 ²	≤8/≤11	≤14/≤19	≤8/≤11	≤19/≤24/≤28	≤14/≤19	≤19/≤24/≤28	≤35/≤38	≤24/≤28
C4 ²	26.5	33.5	26.5	41	33.5	41	66.5	53.5
C5 ² _{F6}	30	50	30	70	50	70	110	95
C6 ²	4	4	4	6	4	6	5.5	5.5
C7 ²	42.6	60	42.6	90	60	90	140	120
C8 ²	32.9	41.5	32.9	51.5	41.5	51.5	80	58
C9 ²	109.8	137.9	122.6	167.5	153	213.4	30	274
B	3	5		6		8	12	
H	11.2	16		22.5		28	43	

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

★ Specification subject to change without notice.

PNS Triple Stage Dimensions



Specifications

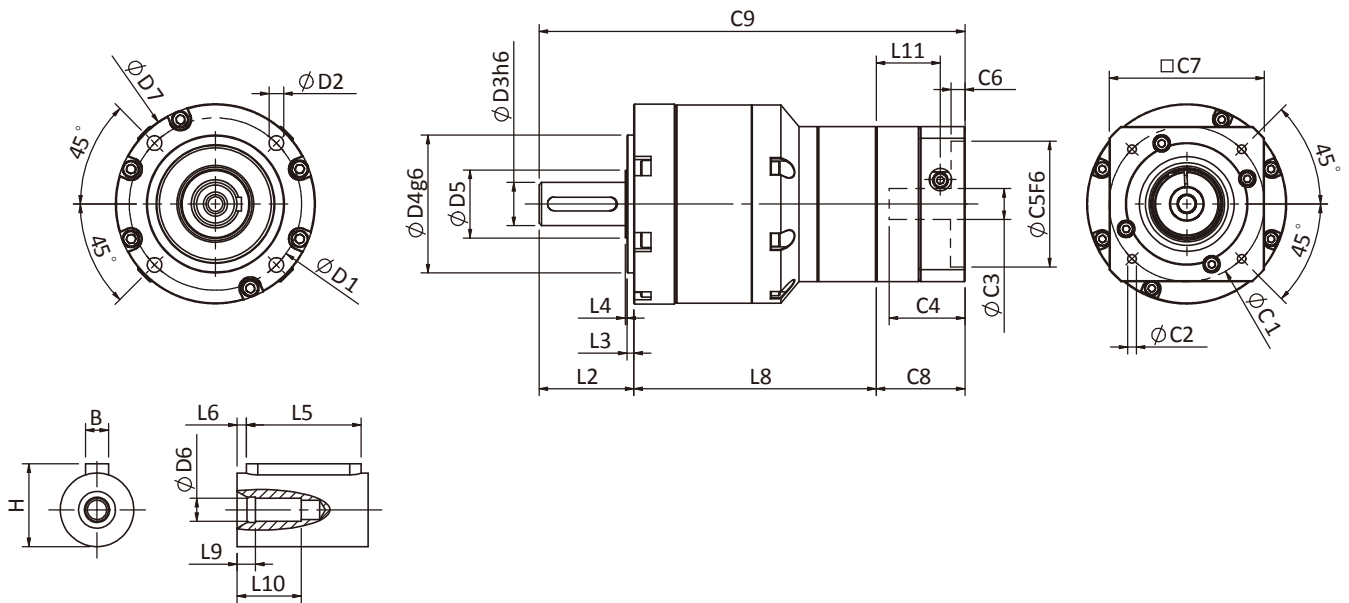
Unit:mm

Dimensions	PNS40	PNS60T	PNS80T
D1	34	52	70
D2	M4x0.7P	M5x0.8P	M6x1.0P
D3 _{h6}	10	14	20
D4 _{g6}	26	40	60
D5	15	20	35
D6	M3x0.5P	M5x0.8P	M6x1.0P
D7	44	60	90
L2	26	35	40
L3	2	3	3
L4	1	1	1
L5	18	25	28
L6	2.5	2.5	4
L7	6	8	10
L8	73.3	81.7	105.3
L9	3	4	4.5
L10	9	16.5	16.5
L11	23.4	23.4	31
C1 ²	46	46	70
C2 ²	M4x0.7P	M4x0.7P	M5x0.8P
C3 ²	≤8/≤11	≤8/≤11	≤14/≤19
C4 ²	26.5	26.5	33.5
C5 ² _{F6}	30	30	50
C6 ²	4	4	4
C7 ²	42.6	42.6	60
C8 ²	32.9	32.9	41.5
C9 ²	132.2	149.6	186.8
B	3	5	6
H	11.2	16	22.5

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

★ Specification subject to change without notice.

PNS Triple Stage Dimensions



Specifications

Unit:mm

Dimensions	PNS120T	PNS160T
D1	100	145
D2	M10x1.5P	M12x1.75P
D3 _{h6}	25	40
D4 _{g6}	80	130
D5	40	50
D6	M10x1.5P	M16x2.0P
D7	116	160
L2	55	87
L3	4	5
L4	1	2
L5	40	65
L6	5	8
L7	15	20
L8	140.7	177
L9	6	6
L10	26	38
L11	37.3	42
C1 ²	90	115
C2 ²	M6x1.0P	M8x1.25P
C3 ²	≅ 19/≅ 24/≅ 28	≅ 24/≅ 28
C4 ²	41	53.5
C5 ² _{F6}	70	95
C6 ²	6	5.5
C7 ²	90	120
C8 ²	51.5	58
C9 ²	247.2	322
B	8	12
H	28	43

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

★ Specification subject to change without notice.

PNS Specifications Table

Specifications		Stage	Ratio	PNS-40	PNS-60	PNS-80	PNS-120	PNS160
Nominal Output Torque T _{2N}	N • m	1	3	9	28	85	200	420
			4	10	32	80	215	490
			5	11	35	95	215	473
			7	10	28	85	200	400
			9	8	23	75	195	320
		10	8	21	65	180	320	
		Stage	Ratio	PNS-40	PNS-60/ PNS-60T	PNS-80 / PNS-80T	PNS-120T	PNS160/ PNS160T
		2	15	11	35/24	95/68	168	420
			20	11	35/31	95/95	215	490
			25	11	35/30	95/95	215	473
			35	11	35/28	95/95	215	473
			45	11	35/27	95/92	215	473
			50	(Ratio 49): 10	35/27	95/82	205	473
			70	(Ratio 63): 10	28/28	85/85	200	400
			90	(Ratio 81): 8	23/23	75/75	195	320
		100	8	21/21	65/65	180	320	
		Stage	Ratio	PNS-40	PNS-60T	PNS-80T	PNS-120T	PNS160T
		3	125	11	35	95	215	473
			175	11	35	95	215	473
			225	11	35	95	215	473
			245	11	35	95	215	(Ratio 250): 473
			315	11	35	95	215	(Ratio 350): 473
			405	11	35	95	215	(Ratio 400): 473
			567	10	28	85	200	(Ratio 500): 473
			729	8	23	75	195	(Ratio 700): 400
			1000	8	21	65	180	320
Emergency Stop Torque T _{2NOT}	N • m	2.5 times of Nominal Output Torque (* Max. Output Torque T _{2B} =60% of Emergency Stop Torque)						
Nominal Input Speed n _{1N}	rpm	1,2,3	3-1000	4000	4000	3000	2500	2500
Max. Input Speed n _{1max}	rpm	1,2,3	3-1000	6000	6000	6000	5000	4000
Standard Backlash P2	arcmin	1	3-10	≤ 9	≤ 8	≤ 7	≤ 6	≤ 5
		2	15-100	≤ 12	≤ 10	≤ 9	≤ 8	≤ 7
		3	125~1000	≤ 15	≤ 12	≤ 12	≤ 12	≤ 10
Torsional Rigidity	N • m /arcmin	1,2,3	3-1000	1.2	3.5	8.5	17	30
Max. Radial Load F _{2RB} ¹	N	1,2,3	3-1000	580	890	2050	4370	6720
Max. Axial Load F _{2aB} ¹	N	1,2,3	3-1000	410	430	1100	2630	4200
Operating Temp.	°C	1,2,3	3-1000	-10℃ ~ +90℃				
Service Life	hr	1,2,3	3-1000	20,000(10,000 / Continuous operation)				
Efficiency	%	1	3-10	≥ 95%				
		2	15-100	≥ 90%				
		3	125~1000	≥ 85%				
Weight	kg	1	3-10	0.5	1.1	2.8	6.3	15.6
		2	15-100	0.7	1.5/1.3	4.2/3.1	7.9	20.7/17.2
		3	125~1000	0.8	1.7	4.5	9.3	9.3/19.2
Mounting Position	-	1,2,3	3-1000	Any direction				
Noise Level ²	dBA/1m	1,2,3	3-1000	60	63	66	67	68
Protection Class	-	1,2,3	3-1000	IP 65				
Lubrication	-	1,2,3	3-1000	Synthetic Lubricant				
Inertia (J1)								
Stage	Ratio	unit	PNS-40(ψ 8)	PNS-60(ψ 14)	PNS-80(ψ 19)	PNS-120(ψ 24)	PNS-160(ψ 35)	
1	3	Kg • cm ²	0.04	0.23	0.77	2.30	7.89	
	4		0.03	0.21	0.67	1.92	5.83	
	5~10		0.03	0.21	0.61	1.71	5.38	
Stage	Ratio		PNS-40(ψ 8)	PNS-60(ψ 14) / PNS-60T(ψ 8)	PNS-80(ψ 19) / PNS-80T(ψ 14)	PNS-120T(ψ 19)	PNS-160(ψ 35) PNS-160T(ψ 24)	
2	15		0.04	0.23(0.04)	0.77(0.23)	0.77	5.38 (1.61)	
	Other ratios		0.03	0.21(0.03)	0.61(0.21)	0.61	5.38 (1.61)	
Stage	Ratio		PNS-40(ψ 8)	PNS-60T(ψ 8)	PNS-80T(ψ 14)	PNS-120T(ψ 19)	PNS-160T(ψ 24)	
3	All ratios		0.03	0.03	0.21	0.61	1.61	
* 1. Applied to the output shaft center @100rpm.								
* 2. Measured at 3000 rpm with no load. These values are measured by gearbox with ratio = 10 (1-stage) or ratio = 100 (2-stage) at nominal input speed or 3000 rpm (if nominal input speed is higher than 3000 rpm) with no load.								
※ 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.