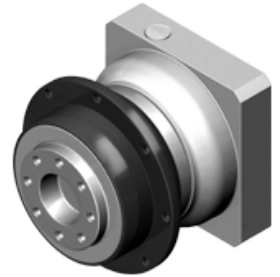


PD series

Overview

- Black coated steel housing, aluminum output and motor adapter flange
- Steel output shaft, flange ISO 9409
- Spur gear design
- Nominal torques:
 - T_{2N} : 10 Nm – 232 Nm
- Ratios
 - 1-stage : 3 / 4 / 5 / 7 / 10
 - 2-stage : 15 / 16 / 20 / 25 / 30 / 35 / 40 / 50 / 70 / 100
- Low backlash
 - 1-stage : $\leq 6 \sim 8$ arcmin
 - 2-stage : $\leq 8 \sim 10$ arcmin
- High efficiency
 - 1-stage : $\geq 97\%$
 - 2-stage : $\geq 94\%$
- Easy mount
- Compact structure
- Sizes available: PD 053 / PD 064 / PD 090 / PD 110



Specifications

PD		Stage	Ratio ⁽¹⁾	Type	PD 053	PD 064	PD 090	PD 110	
Nominal output torque T_{2N}	Nm	1	3	All	16	42	110	217	
			4		16	42	113	223	
			5		15	40	118	220	
			7		12	35	96	198	
			10		10	27	68	155	
			15		15	40	109	213	
			16		16	42	116	228	
			20		16	42	116	230	
		25	15		40	123	228		
		30	2		30	15	40	108	212
		35			12	35	100	206	
		40			16	43	117	232	
		50			15	40	123	228	
70	12	35		100	206				
100	10	27	70	162					
Emergency stop torque T_{2NOT}	Nm	1,2	3~100	All	3 times nominal output torque T_{2N}				
Max. Acceleration torque T_{2B}	Nm	1,2	3~100	All	$T_{2B} = 60\%$ of T_{2NOT}				
No load running torque ⁽⁴⁾	Nm	1	3~10	All	0,05	0,1	0,4	0,8	
		2	15~100	All	0,05	0,1	0,3	0,4	
Backlash ⁽²⁾	arcminutes	1	3~10	All	≤ 8	≤ 7	≤ 6	≤ 6	
		2	15~100	All	≤ 10	≤ 9	≤ 8	≤ 8	
Torsional rigidity ⁽⁴⁾	Nm/arcmin	1,2	3~100	All	1,2	3	10,8	16,2	
Nominal input speed n_{1N}	rpm	1,2	3~100	All	4.500	4.000	3.600	3.600	
Max. input speed n_{1B}	rpm	1,2	3~100	Alle	8.000	6.000	6.000	4.800	
Max. radial load F_{2rB} ⁽³⁾	N	1,2	3~100	Alle	1.045	880	1.615	3.675	
Max. axial load F_{2aB} ⁽³⁾	N	1,2	3~100	All	523	440	808	1.838	
Service Life ⁽⁵⁾	hr	1,2	3~100	All	20.000				
Operating temperature	°C	1,2	3~100	All	0° C ~ +90°C				
Degree of Protection		1,2	3~100	All	IP65				
Lubrication		1,2	3~100	All	Synthetisch lubrication grease				
Mounting position		1,2	3~100	All	All directions				
Running noise ⁽⁴⁾	dB (A)	1,2	3~100	All	≤ 60	≤ 62	≤ 64	≤ 66	
Efficiency η	%	1	3~10	All	≥ 97%				
		2	15~100		≥ 94%				

(1) Ratio ($i = N_{in} / N_{out}$)

(2) Backlash is measured at 2% of Nominal output torque T_{2N} .

(3) Applied to the output shaft center @ 100 rpm .

(4) These values are measured by gearbox with ratio = 10 (1-stage) or ratio = 100 (2-stage) at 3.000 rpm without load.

(5) For continuous operation, the service life is less than 10.000 hrs.

Inertia

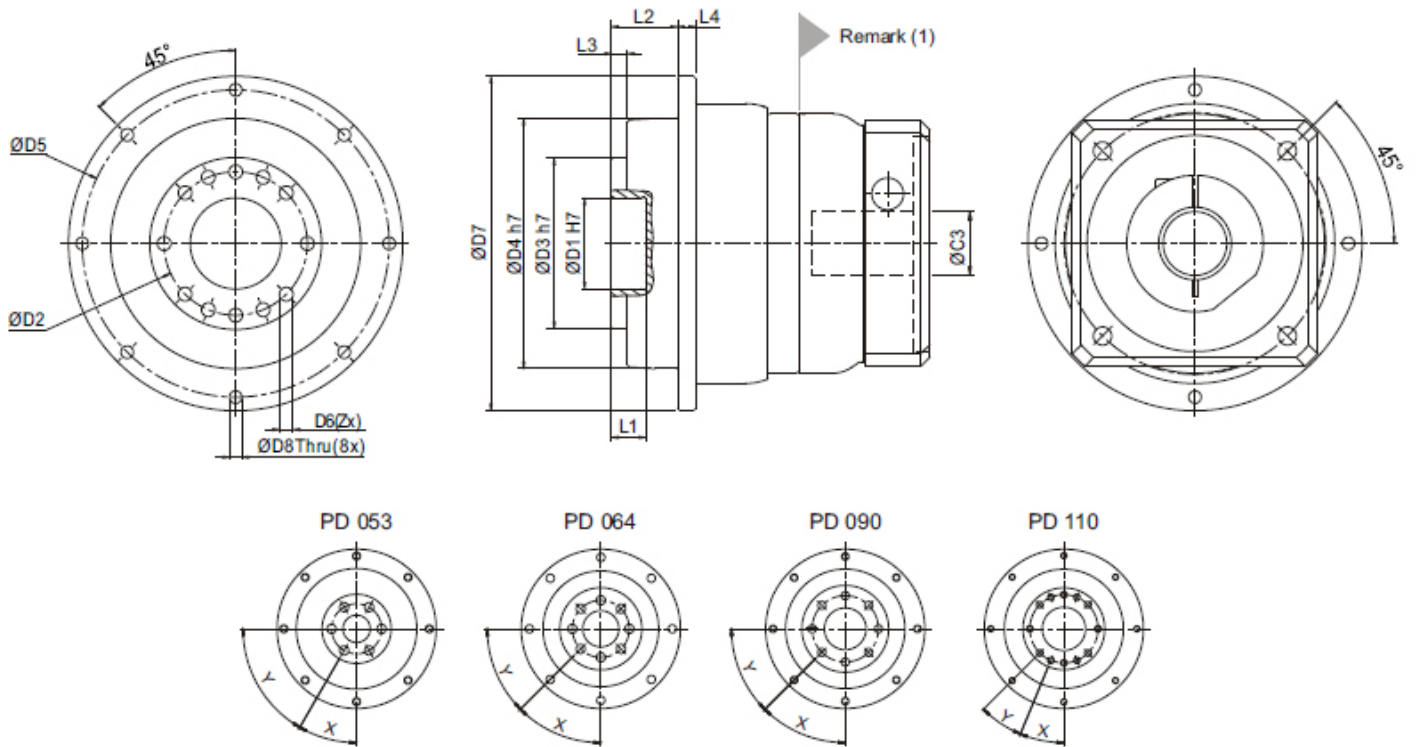
Model No.	PD 053		PD 064		PD 090		PD 110	
	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage
8	0,10	0,10	0,12	0,10	-	-	-	-
11	0,16	0,16	0,19	0,16	-	-	-	-
14	0,20	0,20	0,22	0,20	0,36	0,24	-	-
19	-	-	1,53	1,54	1,70	1,58	2,20	1,73
24	-	-	-	-	2,24	2,12	2,74	2,27
28	-	-	-	-	2,68	2,55	3,17	2,70
32	-	-	-	-	-	-	7,77	7,30
35	-	-	-	-	-	-	10,80	10,30
38	-	-	-	-	-	-	14,00	13,50
42	-	-	-	-	-	-	-	-

kg*cm²

(A) \varnothing = Input shaft diameter

Sizes

PD series:



Dimensions	PD 053		PD 064		PD 090		PD 110	
	1-traps	2-traps	1-traps	2-traps	1-traps	2-traps	1-traps	2-traps
D1 H7		12		20		31,5		40
D2		22		31,5		50		63
D3 h7		28		40		63		75
D4 g7		53		64		90		110
D5		64		79		109		135
D6	M4 x 0,7P 8L		M5 x 0,8P x 8L		M6 x 1P x 13,5L		M6 x 1P x 13,5L	
D7		70		88		120		147
D8		3,4		4,5		5,5		5,5
L1		4		8		15		15
L2		14,5		19,5		30		29
L3		3		4		7		7
L4		5		5		7		8
X in graden		30°		45°		45°		22,5°
Y in graden		60°		45°		45°		22,5°
Z		6		8		8		12

(1) Input dimensions vary according to motor flange. Please contact Apex Dynamics for details.