

PDR 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 : $\leq 10 \sim 12$ arcmin
 - 2-stage : $\leq 12 \sim 14$ arcmin
- High efficiency
 - 1-stage : $\geq 93\%$
 - 2-stage : $\geq 90\%$
- Easy mount
- Compact structure
- Sizes available: PDR 053 / PDR 064 / PDR 090 / PDR 110



Specifications

PDR		Stage	Ratio ⁽¹⁾	Type	PDR 053	PDR 064	PDR 090	PDR 110
Nominal output torque T _{2N}	Nm	1	3	Alle	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
		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	Alle	3 times nominal output torque T _{2N}			
Max. Acceleration torque T _{2B}	Nm	1,2	3~100	Alle	T _{2B} = 60% of T _{2NOT}			
No load running torque ⁽⁴⁾	Nm	1	3~10	Alle	0,05	0,1	0,4	0,8
		2	15~100	Alle	0,05	0,1	0,3	0,4
Backlash ⁽²⁾	arcminutes	1	3~10	Alle	≤ 8	≤ 7	≤ 6	≤ 6
		2	15~100	Alle	≤ 10	≤ 9	≤ 8	≤ 8
Torsional rigidity ⁽⁴⁾	Nm/arcmin	1,2	3~100	Alle	1,2	3	10,8	16,2
Nominal input speed n _{1N}	rpm	1,2	3~100	Alle	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	Alle	523	440	808	1.838
Service Life ⁽⁵⁾	hr	1,2	3~100	Alle	20.000			
Operating temperature	°C	1,2	3~100	Alle	0° C ~ +90°C			
Degree of Protection		1,2	3~100	Alle	IP65			
Lubrication		1,2	3~100	Alle	Synthetisch lubrication grease			
Mounting position		1,2	3~100	Alle	All directions			
Running noise ⁽⁴⁾	dB (A)	1,2	3~100	Alle	≤ 70	≤ 72	≤ 74	≤ 75
Efficiency n	%	1	3~10	Alle	≥ 93%			
		2	15~100		≥ 90%			

(1) Ratio (i = N in / N out)

(2) Backlash is measured at 2% of Nominal output torque T2N.

(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.

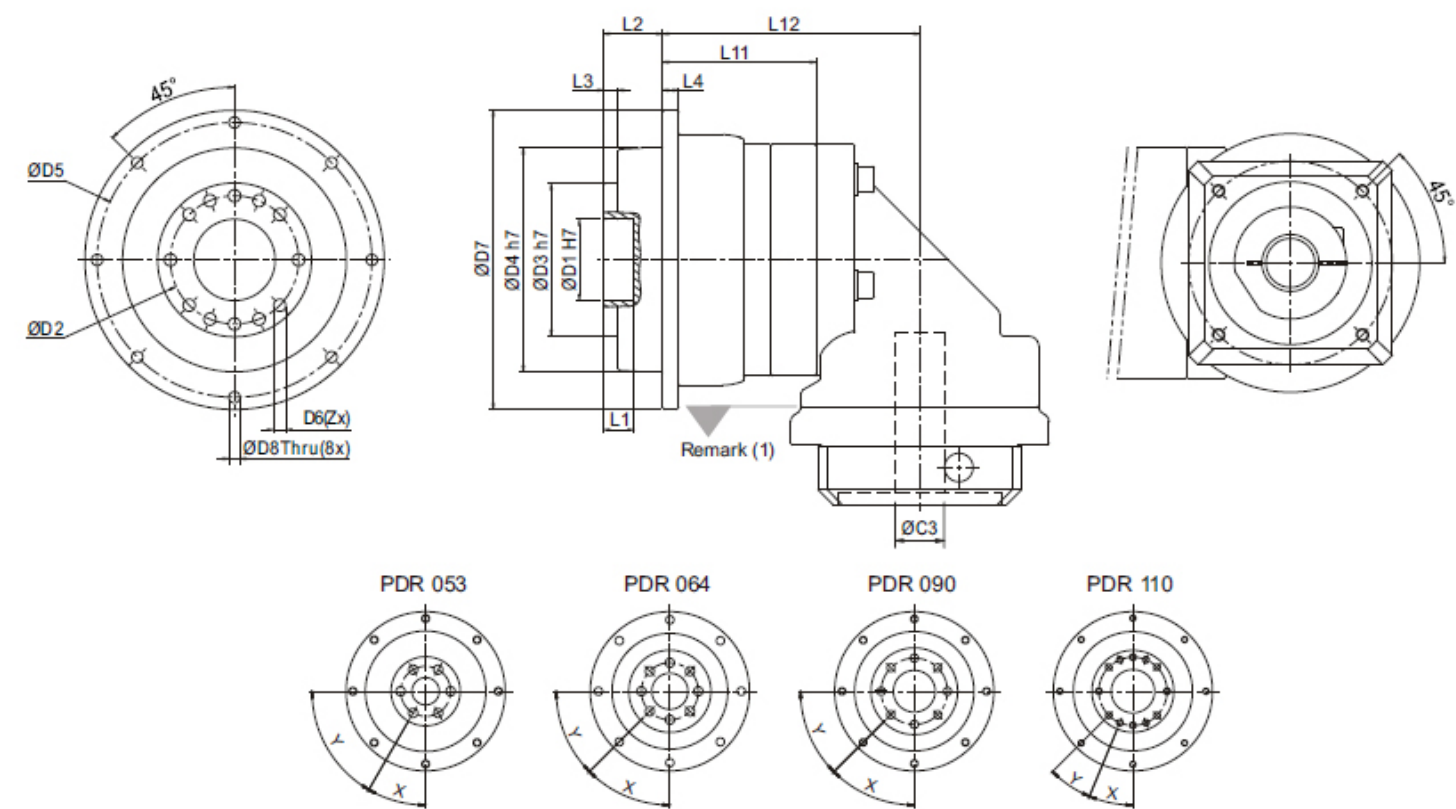
Inertia

Model No.	PDR 053		PDR 064		PDR 090		PDR 110	
Ø ^(A) (C3)	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage
8	0,18	0,18	0,36	0,36	-	-	-	-
11	0,20	0,20	0,39	0,39	-	-	-	-
14	0,24	0,24	0,43	0,43	1,87	1,87	-	-
19	-	-	1,24	1,24	2,67	2,67	6,80	6,80
24	-	-	-	-	2,97	2,97	7,10	7,10
28	-	-	-	-	3,47	3,47	7,59	7,59
32	kg*cm ²	-	-	-	-	-	10,56	10,56
35		-	-	-	-	-	11,97	11,97
38		-	-	-	-	-	13,95	13,95
42		-	-	-	-	-	-	-

(A) Ø Input shaft diameter

Sizes

PDR series:



Dimension	PDR 053		PDR 064		PDR 090		PDR 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	
L11	42,8	52,8	39,5	54,5	49,6	69,1	75,4	103,4
L12	100,6	130,6	98,5	138,5	125,2	178,2	185,8	257,8
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.