

PLR series

Overview

- Black coated steel housing, aluminum output and motor adapter flange
- Steel output shaft, special for Belt Pulley
- Spur gear design
- Nominal torques:
 - T_{2N} : 27 Nm – 143 Nm
- Ratios
 - 1-stage : 3 / 4 / 5 / 7 / 10
 - 2-stage : 12 / 15 / 16 / 20 / 25 / 30 / 35 / 40 / 50 / 70 / 100
- Low backlash
 - 1-stage : $\leq 10 \sim 11$ arcmin
 - 2-stage : $\leq 12 \sim 13$ arcmin
- High efficiency
 - 1-stage : $\geq 93\%$
 - 2-stage : $\geq 90\%$
- Easy mount
- Compact structure
- Sizes available: PLR 070 / PLR 090 / PLR 120



Specifications

PLR		Stage	Ratio ⁽¹⁾	Type	PLR 070	PLR 090	PLR 120
Nominal output torque T _{2N}	Nm	1	3	All	30	67	107
			4		39	86	137
			5		40	89	140
			7		37	80	128
			10		27	59	93
			12		31	69	109
			15		31	70	110
			16		39	86	137
			20		39	88	141
		2	25		40	89	140
			30		32	72	111
			35		36	80	130
			40		41	92	143
			50		42	90	143
			70		37	81	131
			100		27	59	93
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	0,1	0,4	0,8
		2	12~100	All	0,1	0,3	0,4
Backlash ⁽²⁾	arcminutes	1	3~10	All	≤7	≤6	≤6
		2	12~100	All	≤9	≤8	≤8
Torsional rigidity ⁽⁴⁾	Nm/arcmin	1,2	3~100	All	2,2	8	12
Nominal input speed n _{1N}	rpm	1,2	3~100	All	4.000	3.600	3.600
Max. input speed n _{1B}	rpm	1,2	3~100	All	6.000	6.000	4.800
Max. radial load F _{2rB} ⁽³⁾	N	1,2	3~100	All	2.600	3.100	6.550
Max. axial load F _{2aB} ⁽³⁾	N	1,2	3~100	All	1.300	1.550	3.275
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	≤62	≤64	≤66
Efficiency n	%	1	3~10	All	≥97%		
		2	12~100		≥94%		

(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.

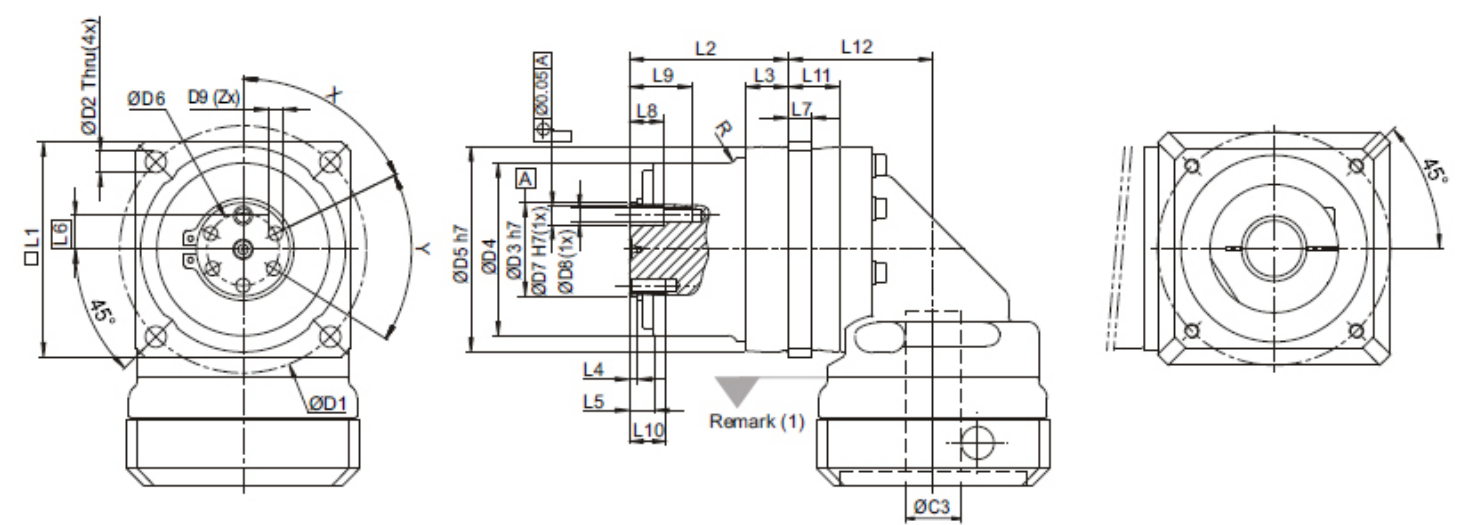
Inertia

Model No.		PLR 070		PLR 090		PLR 120	
Ø ^(A) (C3)		1-stage	2-stage	1-stage	2-stage	1-stage	2-stage
8	kg*cm ²	0,36	0,36	-	-	-	-
11		0,39	0,39	-	-	-	-
14		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		-	-	-	-	10,56	10,56
35		-	-	-	-	11,97	11,97
38		-	-	-	-	13,95	13,95
42		-	-	-	-	-	-

(A) Ø Input shaft diameter

Sizes

PLR series:



Dimensions	PLR 070		PLR 090		PLR 120	
	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage
D1		82		106		144
D2		6,6		9		13
D3 h7		25		40		50
D4		58		74		100
D5 h7		68		88		118
D6		18		31		37
D7 h7		6		8		147
D8		M5 x 0,8P		M6 x 1P		M6 x 1P
D9		M5 x 0,8P		M6 x 1P		M8 x 1,25P
R		-		4		2
L1		70		92		122
L2		60,2		68,3		82,2
L3		12,7		18,3		15,7
L4		3,8		3,7		4,5
L5		10		10,5		12,5
L6		8,8		14,5		18,5
L7		8		10		12
L8		10		15		16
L9		18,5		27		28
L10		12		16		16
L11	16,8	36,8	22,2	48,9	34,8	71,1
L12	46,3	66,3	62,2	88,9	85,8	122,1
X in graden		64°		45°		45°
Y in graden		58°		45°		45°
Z		5		7		7

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

Pulley Dimensions



Reductor	Tandriempoelie	D1	L1	L2	L3	Pitch P mm	aantal tanden Z	Omtrek Z*P mm/rotatie	Inertia J kg/cm ²	Mass m kg
PLR 070	AT05-W50-T43	71	41,8	14,8	51	5	43	215	4,68	0,57
	HTD 5M-W50-T44	72,9	41,8	14,8	51	5	44	220	5,58	0,65
	5GT-W50-T44	72,9	41,8	14,8	51	5	44	220	5,58	0,65
PLR 090	AT10-W50-T28	91,7	51,3	24,3	51	10	28	280	14,07	1,00
	HTD 8M-W50-T36	98,4	51,3	24,3	51	8	36	288	17,78	1,18
	8YU-W50-T36	98,4	51,3	24,3	51	8	36	288	17,78	1,18
PLR 120	AT20-W75-T19	124,6	57,7	17,7	76	20	19	380	69,55	2,71
	HTD 14M-W75-T28	137	57,7	17,7	76	14	28	392	87,83	3,20

- (1) Poelie maat.
- (2) Poelie specificatie
- (3) Poelie uitvoering: B = Manganese phosphate blackening (standaard), N = Nickel plating

