

# PEII series

## Overview

- Black coated steel housing, aluminum output and motor adapter flange
- Steel output shaft with key
- Spur gear design
- Nominal torques:
  - $T_{2N}$  : 8 Nm – 459 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: PEII 050 / PEII 070 / PEII 090 / PEII 120 / PEII 155



# Specifications

PEII		Stage	Ratio <sup>(1)</sup>	Type	PEII 050	PEII 070	PEII 090	PEII 120	PEII 155	
Nominal output torque $T_{2N}$	Nm	1	3	All	16	42	110	217	430	
			4		16	42	113	223	440	
			5		15	40	118	220	435	
			7		12	35	96	198	366	
			10		10	27	68	155	295	
			15		15	40	109	213	424	
			16		16	42	116	228	452	
			20		16	42	116	230	454	
		25	15		40	123	228	450		
		30	2		All	15	40	108	212	422
		35				12	35	100	206	382
		40				16	43	117	232	459
		50				15	40	123	228	450
70	12	35		100		206	382			
100	10	27	70	162	308					
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 <sup>(4)</sup>	Nm	1	3~10	All	0,05	0,1	0,4	0,8	2,5	
		2	15~100	All	0,05	0,1	0,3	0,4	0,8	
Backlash <sup>(2)</sup>	arcmin	1	3~10	All	≤ 8	≤ 7	≤ 6	≤ 6	≤ 6	
		2	15~100	All	≤ 10	≤ 9	≤ 8	≤ 8	≤ 8	
Torsional rigidity <sup>(4)</sup>	Nm/arcmin	1,2	3~100	All	0,9	2,2	8	12	16	
Nominal input speed $n_{1N}$	rpm	1,2	3~100	All	4.500	4.000	3.600	3.600	2.500	
Max. input speed $n_{1B}$	rpm	1,2	3~100	All	8.000	6.000	6.000	4.800	3.600	
Max. radial load $F_{2rB}$ <sup>(3)</sup>	N	1,2	3~100	All	810	1.150	1.530	3.260	4.550	
Max. axial load $F_{2aB}$ <sup>(3)</sup>	N	1,2	3~100	All	405	575	765	1.630	2.275	
Service Life <sup>(5)</sup>	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 <sup>(4)</sup>	dB (A)	1,2	3~100	All	≤ 60	≤ 62	≤ 64	≤ 66	≤ 68	
Efficiency $\eta$	%	1	3~10	All	≥ 97%					
		2	15~100		≥ 94%					

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

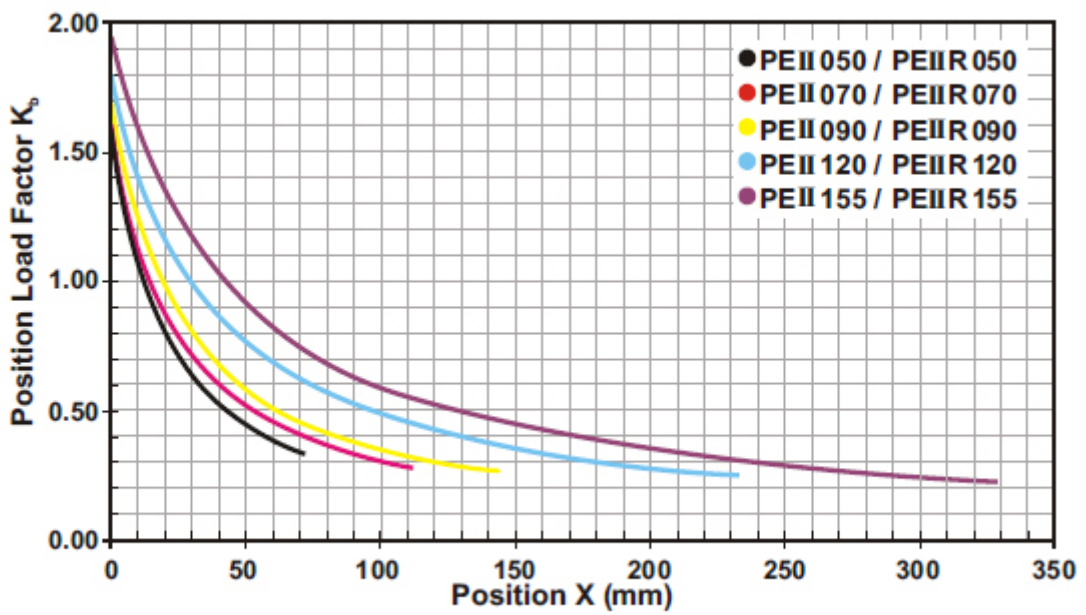
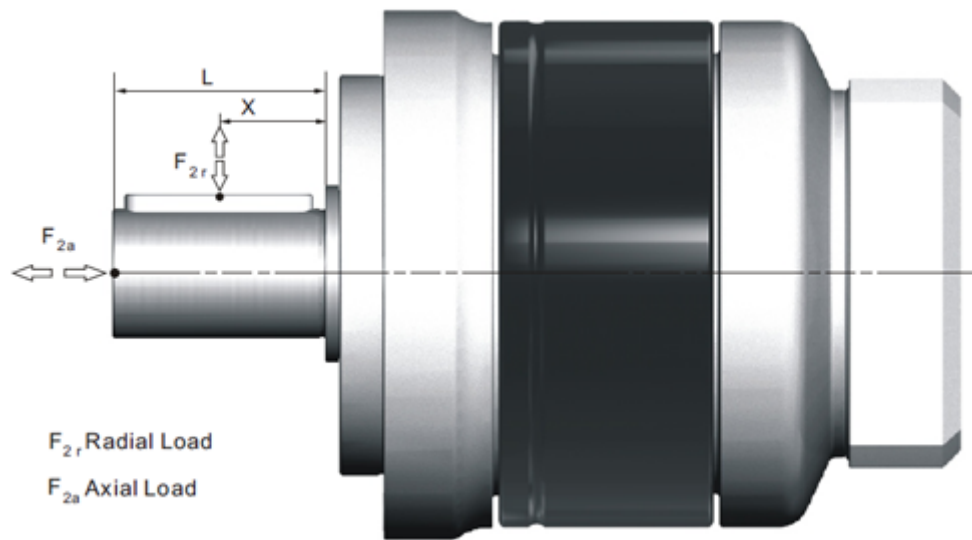
(2) Backlash is measured at 2% of Nominal output torque  $T_{2N}$ .

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

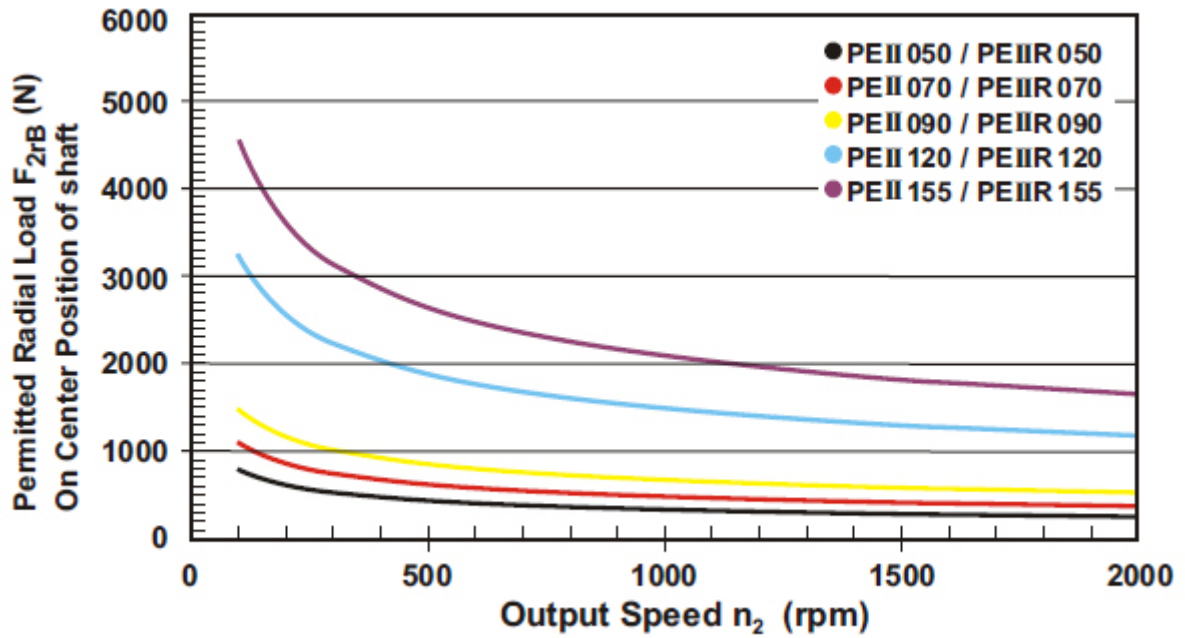
(4) These values are measured by gearbox with ratio = 10 (1-stage) or ratio = 100 (2-stage) at 3.000 rpm without load.

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

## Permitted Radial And Axial Loads



If radial force  $F_{2r}$  is not exerted on the center of the output shaft  $X < \frac{1}{2} \times L$  or  $X > \frac{1}{2} \times L$ , the permitted radial and axial loads can be calculated by the position load factor  $K_b$  on the above diagram.



Permitted radial load  $F_{2r}$  on center of output shaft  $X = \frac{1}{2} \times L$  for various output speeds. Values provided are for 20.000 hours life.

(A)  $\emptyset$  Input shaft diameter

(B) Permitted loading values on the output shaft. Please contact Apex Dynamics for more details.

(C) For continue mode (S1), the service life is reduced to 50%.

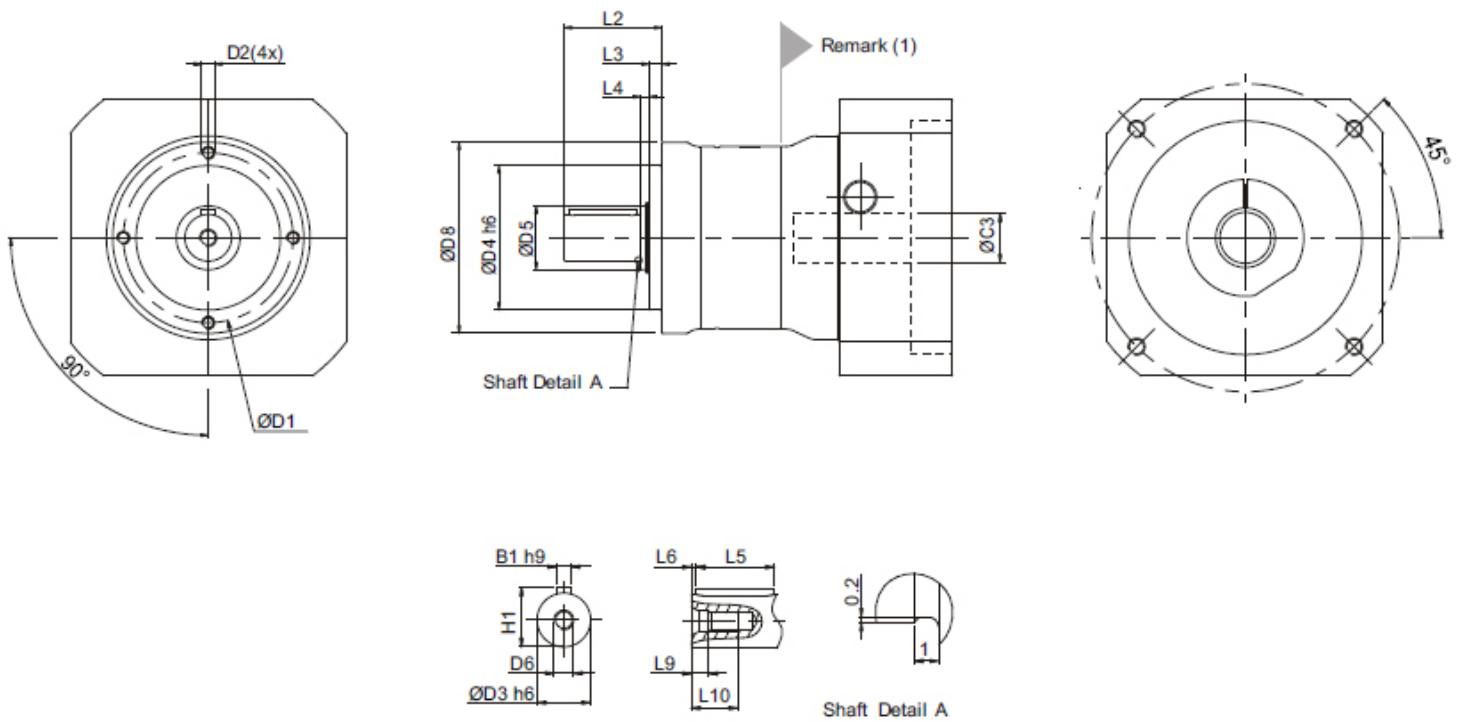
# Inertia

Model No. ∅ <sup>(A)</sup> (C3)	PEII 050		PEII 070		PEII 090		PEII 120		PEII 155	
	1-traps	2-traps	1-traps	2-traps	1-traps	2-traps	1-traps	2-traps	1-traps	2-traps
8	0,10	0,10	0,12	0,10	-	-	-	-	-	-
11	0,16	0,16	0,19	0,16	-	-	-	-	-	-
14	-	-	0,22	0,20	0,36	0,24	-	-	-	-
19	-	-	1,53	1,51	1,70	1,58	2,20	1,73	-	2,18
24	-	-	-	-	2,24	2,12	2,74	2,27	4,52	2,73
28	-	-	-	-	2,68	2,55	3,17	2,70	4,94	3,15
32	-	-	-	-	-	-	7,77	7,30	9,70	7,91
35	-	-	-	-	-	-	10,80	10,30	12,80	11,00
38	-	-	-	-	-	-	14,00	13,50	16,00	14,20
42	-	-	-	-	-	-	-	-	24,50	-

(A) ∅ = Input shaft diameter

# Sizes

PEII series:



Dimensions	PEII 050		PEII 070		PEII 090		PEII 120		PEII 155	
	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage
D1	44		62		80		108		140	
D2	M4 x 9		M5 x 10		M6 x 12		M8 x 15		M10 x 18	
D3 h7	12		16		22		32		40	
D4 g7	35		52		68		90		120	
D5	17		22		30		40		55	
D6	M4 x 0,7P		M5 x 0,8P		M8 x 1,25P		M12 x 1,75P		M16 x 2P	
D8	50		70		90		120		155	
L2	24,5		36		46		70		97	
L3	4		4,5		6		7		9,5	
L4	2,5		3,5		4		5		5,5	
L5	14		25		32		50		70	
L6	2		2		2		4		6	
L9	4,5		4,8		7,2		10		12	
L10	10		12,5		19		28		36	
B1 h9	4		5		6		10		12	
H1	13,5		18		24,5		35		43	

(1) Dimensions are related to motor interface. Please contact Apex Dynamics for details.