

PEII / PEIIR Gearbox Performance

Model No.	Stages	Ratio ⁽¹⁾	Type	PEII 050	PEII 070	PEII 090	PEII 120	PEII 155	
				PEIIR 050	PEIIR 070	PEIIR 090	PEIIR 120	PEIIR 155	
Nominal Output Torque T_{2N}	1	3	AII	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	
	2	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		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	AII 3 times T_{2N}		
Max. Acceleration Torque T_{2B}	Nm	1,2	3~100	AII $T_{2B} = 60\%$ of T_{2NOT}					
No Load Running Torque ⁽⁴⁾	1	3~10	PEII	0.05	0.10	0.40	0.80	2.50	
			PEIIR	0.10	0.15	0.45	0.85	2.55	
	2	15~100	PEII	0.05	0.10	0.30	0.40	0.80	
			PEIIR	0.10	0.15	0.35	0.45	0.85	
Backlash ⁽²⁾	1	3~10	PEII	≤ 8	≤ 7	≤ 6	≤ 6	≤ 6	
			PEIIR	≤ 12	≤ 11	≤ 10	≤ 10	≤ 10	
	2	15~100	PEII	≤ 10	≤ 9	≤ 8	≤ 8	≤ 8	
			PEIIR	≤ 14	≤ 13	≤ 12	≤ 12	≤ 12	
Torsional Rigidity	Nm/arcmin	1,2	3~100	AII	0.9	2.2	8	12	16
Nominal Input Speed n_{1N}	rpm	1,2	3~100	AII	4,500	4,000	3,600	3,600	2,500
Max. Input Speed n_{1B}	rpm	1,2	3~100	AII	8,000	6,000	6,000	4,800	3,600
Max. Radial Load F_{2rB} ⁽³⁾	N	1,2	3~100	AII	810	1,150	1,530	3,260	4,550
Max. Axial Load F_{2aB} ⁽³⁾	N	1,2	3~100	AII	405	575	765	1,630	2,275
Service Life ⁽⁵⁾	hr	1,2	3~100	AII	20,000				
Operating Temp	°C	1,2	3~100	AII	0° C~ +90° C				
Degree of Gearbox Protection		1,2	3~100	AII	IP65				
Lubrication		1,2	3~100	AII	Synthetic lubrication grease				
Mounting Position		1,2	3~100	AII	All directions				
Running Noise ⁽⁴⁾	dB(A)	1,2	3~100	PEII	≤ 60	≤ 62	≤ 64	≤ 66	≤ 68
				PEIIR	≤ 70	≤ 72	≤ 74	≤ 75	≤ 77
Efficiency η	%	1	3~10	PEII	$\geq 97\%$				
				PEIIR	$\geq 93\%$				
		2	15~100	PEII	$\geq 94\%$				
				PEIIR	$\geq 90\%$				

(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 at 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, By ratio smaller than 10, the noise value would be 3-5dB higher.

(5) For continuous operation, the service life time is less than 10,000 hrs.

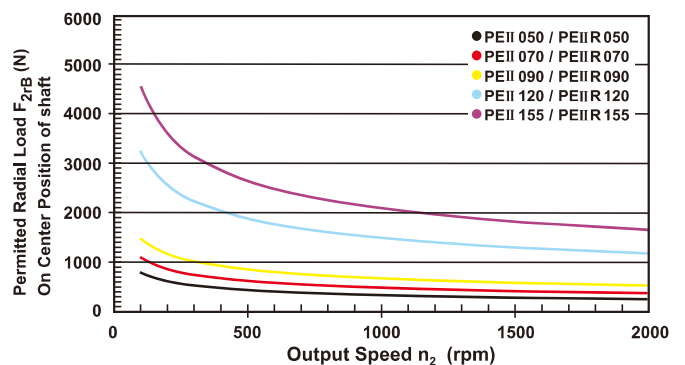
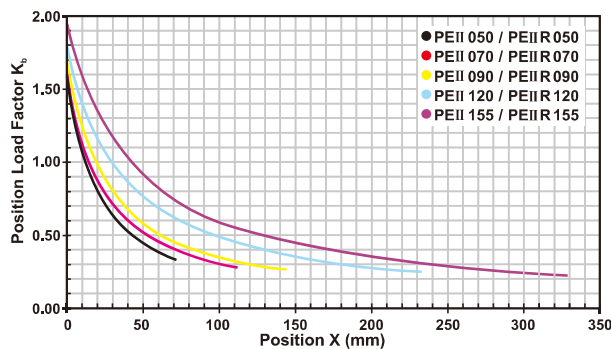
PEII Gearbox Inertia

Model No.	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
$\emptyset^{(A)}$ (C3)										
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	-

PEIIR Gearbox Inertia

Model No.	PEIIR 050		PEIIR 070		PEIIR 090		PEIIR 120		PEIIR 155	
	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage	1-stage	2-stage
$\emptyset^{(A)}$ (C3)										
8	0.18	0.18	0.36	0.36	-	-	-	-	-	-
11	0.20	0.20	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	-	13.57
24	-	-	-	-	2.97	2.97	7.10	7.10	13.87	13.87
28	-	-	-	-	3.47	3.47	7.59	7.59	14.36	14.36
32	-	-	-	-	-	-	10.56	10.56	17.33	17.33
35	-	-	-	-	-	-	11.97	11.97	18.74	18.74
38	-	-	-	-	-	-	13.95	13.95	20.79	20.79
42	-	-	-	-	-	-	-	-	26.54	-

Permitted Radial And Axial Loads^(B)

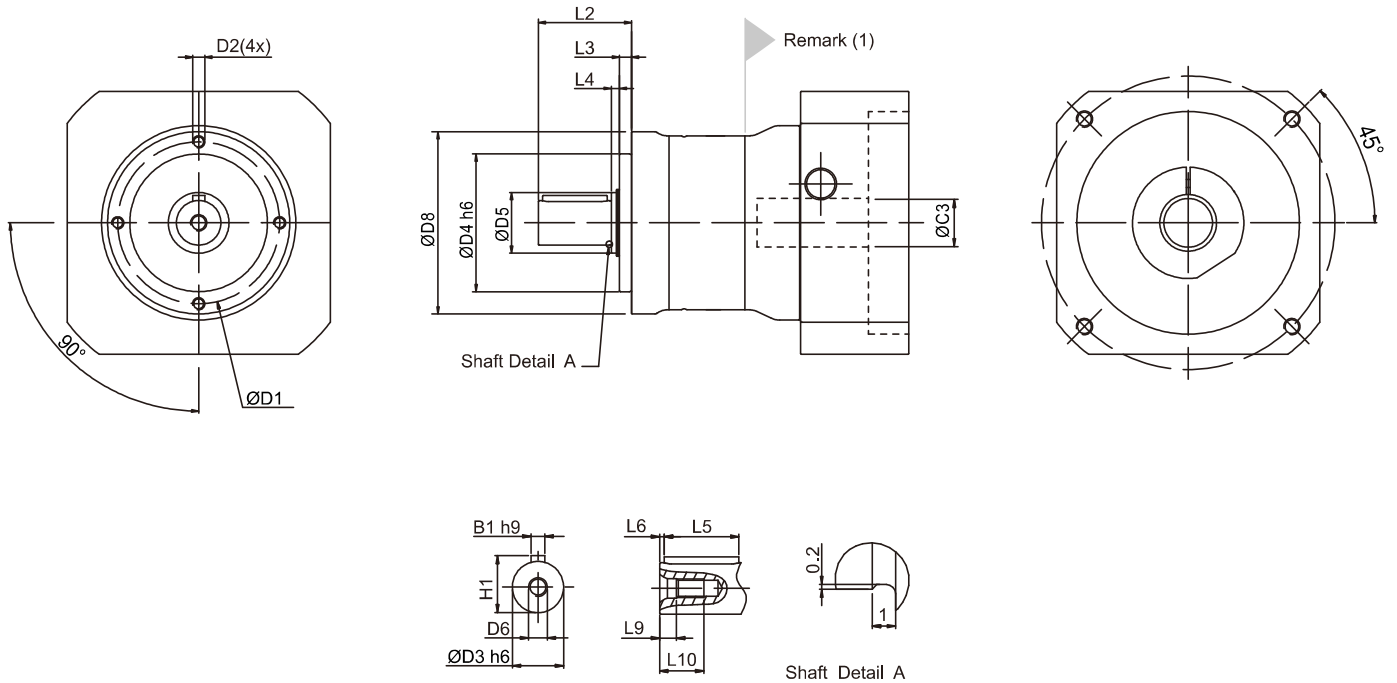


If radial force F_{2r} is not exerted on the center of the output shaft $X < 1/2 L$ or $X > 1/2 L$, the permitted radial and axial loads can be calculated by the position load factor K_b on the above diagram.

Permitted radial load F_{2r} on center of output shaft $X = 1/2 L$ for various output speeds. Values provided are for 20,000 hours^(C) life.

- (A) \emptyset = Input shaft diameter.
- (B) Permitted loading values on the output shaft. Please refer to P. 33 glossary.
- (C) For Continuous Operation(S1), the service life reduced to 50%.

PEII Series Dimension



Dimension	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	M4X9		M5X10		M6X12		M8X15		M10X18	
D3	h6	12	16	22	32	40				
D4	h6	35	52	68	90	120				
D5		17	22	30	40	55				
D6		M4X0.7P	M5X0.8P	M8X1.25P	M12X1.75P	M16X2P				
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 for details.