

# PE Series Specifications

## Gearbox Performance

Model No.	Stages	Ratio <sup>1</sup>	PE050	PE070	PE090	PE120	PE155		
Nominal Output Torque $T_{2N}$	1	3	14	39	104	215	423		
		4	12	31	85	176	364		
		5	14	39	104	215	423		
		7	12	33	91	195	358		
		10	9	26	65	150	293		
	2	15	14	39	104	215	423		
		16	12	31	85	176	364		
		20	12	31	85	176	364		
		25	14	39	104	215	423		
		30	14	39	104	215	423		
		35	12	33	91	195	358		
		40	12	31	85	176	364		
		50	14	39	104	215	423		
		70	12	33	91	195	358		
	100	9	26	65	150	293			
	Emergency Stop Torque $T_{2NOT}^2$	Nm	1,2	3~100	3 times of Nominal Output Torque				
	Nominal Input Speed $n_{1N}$	rpm	1,2	3~100	4,500	4,000	3,600	3,000	2,500
Max. Input Speed $n_{1B}$	rpm	1,2	3~100	8,000	6,000	6,000	4,800	3,600	
Backlash*	arcmin	1	3~10	≤ 8	≤ 8	≤ 6	≤ 6	≤ 6	
		2	15~100	≤ 10	≤ 10	≤ 8	≤ 8	≤ 8	
Torsional Rigidity	Nm/arcmin	1,2	3~100	2	4.4	13.5	35.6	64	
Max. Radial Load $F_{2RB}^3$	N	1,2	3~100	820	1,910	2,060	4,160	6,450	
Max. Axial Load $F_{2aB}^3$	N	1,2	3~100	410	955	1,030	2,080	3,225	
Service Life	hr	1,2	3~100	20,000*					
Efficiency $\eta$	%	1	3~10	≥ 97%					
		2	15~100	≥ 94%					
Weight	kg	1	3~10	0.8	1.9	3.8	8.9	18.0	
		2	15~100	1.1	2.7	5.2	12.2	24.6	
Operating Temp	°C	1,2	3~100	-10°C~90°C					
Lubrication				Synthetic lubrication grease					
Degree of Gearbox Protection		1,2	3~100	IP64					
Mounting Position		1,2	3~100	all directions					
Noise Level ( $n_1=3000\text{rpm}$ , No Load)	dB(A)	1,2	3~100	≤ 68	≤ 70	≤ 72	≤ 74	≤ 75	

## Gearbox Inertia

Model No.	Stages	Ratio <sup>1</sup>	PE050	PE070	PE090	PE120	PE155
Mass Moments of Inertia $J_1$	1	3	0.15	0.53	3.00	10.69	31.86
		4	0.15	0.51	2.83	10.08	29.82
		5	0.15	0.50	2.80	9.96	29.43
		7	0.15	0.50	2.79	9.91	29.26
		10	0.15	0.50	2.79	9.89	29.20
	2	15	0.15	0.50	2.80	9.96	29.43
		16	0.15	0.51	2.83	10.08	29.82
		20	0.15	0.50	2.80	9.96	29.43
		25	0.15	0.50	2.80	9.96	29.43
		30	0.15	0.50	2.80	9.96	29.43
		35	0.15	0.50	2.80	9.96	29.43
		40	0.15	0.50	2.79	9.89	29.20
		50	0.15	0.50	2.79	9.89	29.20
		70	0.15	0.50	2.79	9.89	29.20
	100	0.15	0.50	2.79	9.89	29.20	

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

2.  $T_{2B} = 60\%$  of  $T_{2NOT}$

3. Applied to the output shaft center @ 100 rpm

\*S1 service life 10,000 hrs (Consult us)

\*Backlash is measured at 2% of Nominal Output Torque  $T_{2N}$