

PGII 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
 - 3-traps : 120 / 160 / 200 / 280 / 350 / 500 / 700 / 1000
- Low backlash
 - 1-stage : $\leq 6 \sim 8$ arcmin
 - 2-stage : $\leq 8 \sim 10$ arcmin
 - 3-stage : $\leq 10 \sim 12$ arcmin
- High efficiency
 - 1-stage : $\geq 97\%$
 - 2-stage : $\geq 94\%$
 - 3-stage : $\geq 91\%$
- Easy mount
- Compact structure
- Sizes available: PGII 040 / PGII 060 / PGII 080 / PGII 120 / PGII 160



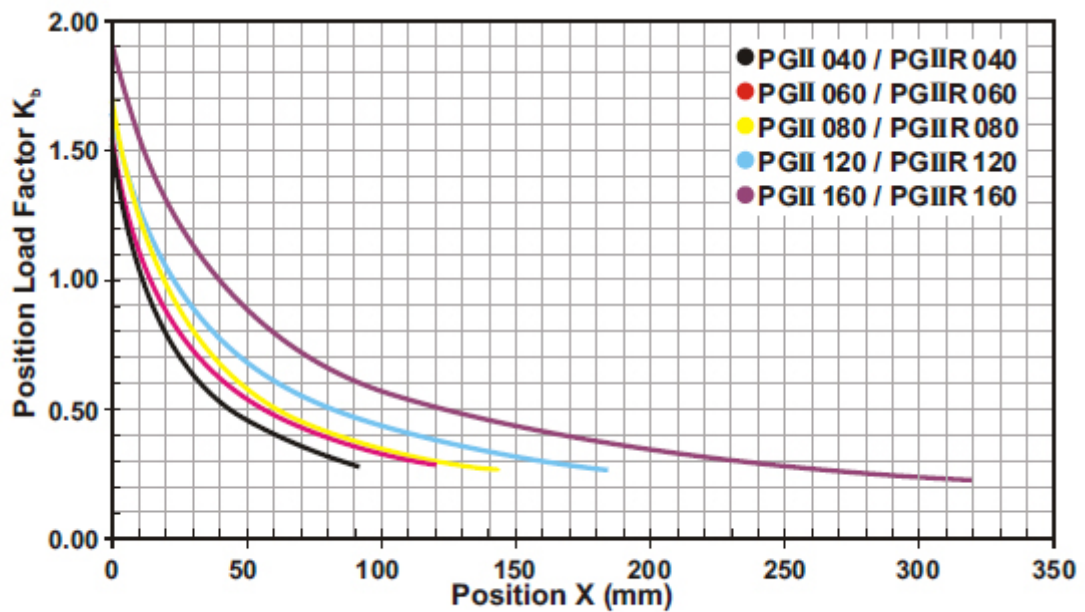
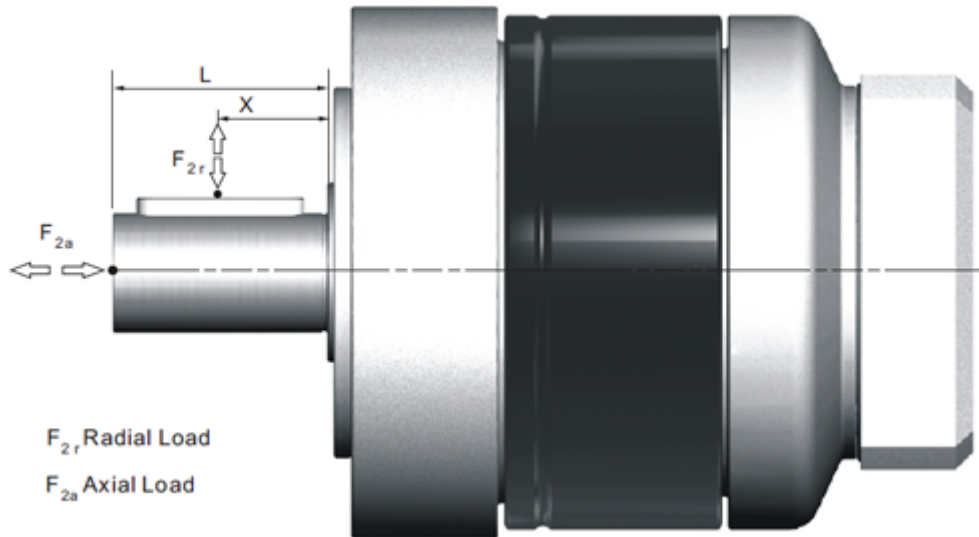
Specifications

PGII		Stage	Ratio ⁽¹⁾	Type	PGII	PGII	PGII	PGII	PGII
					040	060	080	120	160
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		15	40	108	212	422
		2	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	
			120	19	50	137	-	-	
			160	16	43	118	-	-	
			200	16	43	118	-	-	
			280	12	35	99	-	-	
			350	12	35	99	-	-	
3	500	15	40	122	-	-			
	700	12	35	99	-	-			
	1000	10	27	70	-	-			
Emergency stop torque T_{2NOT}	Nm	1,2,3	3~1000	All	3 times nominal output torque T_{2N}				
Max. Acceleration torque T_{2B}	Nm	1,2,3	3~1000	All	T_{2B} = 60% van T_{2NOT}				
No load running torque ⁽⁴⁾	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
		3	120~1000	All	0,05	0,1	0,4	-	-
Backlash ⁽²⁾	arcmin	1	3~10	All	≤8	≤7	≤6	≤6	≤6
		2	15~100	All	≤10	≤9	≤8	≤8	≤8
		3	120~1000	All	≤12	≤11	≤10	-	-
Torsional rigidity ⁽⁴⁾	Nm/arcmin	1,2,3	3~1000	All	0,5	2	8	12	16
Nominal input speed n_{1N}	rpm	1,2,3	3~1000	All	4.500	4.000	3.600	3.600	2.500
Max. input speed n_{1B}	rpm	1,2,3	3~1000	All	8.000	6.000	6.000	4.800	3.600
Max. radial load F_{2rB} ⁽³⁾	N	1,2,3	3~1000	All	520	1.030	1.570	3.590	4.690
Max. axial load F_{2aB} ⁽³⁾	N	1,2,3	3~1000	All	260	515	785	1.795	2.345
Service Life ⁽⁵⁾	hr	1,2,3	3~1000	All	20.000				
Operating temperature	°C	1,2,3	3~1000	All	0° C ~ +90°C				
Degree of Protection		1,2,3	3~1000	All	IP65				
Lubrication		1,2,3	3~1000	All	Synthetisch lubrication grease				
Mounting position		1,2,3	3~1000	All	All directions				
Running noise ⁽⁴⁾	dB (A)	1,2,3	3~1000	All	≤60	≤62	≤64	≤66	≤68
Efficiency η	%	1	3~10	All	≥97%				
		2	15~100		≥94%				
		3	120~1000		≥91%				

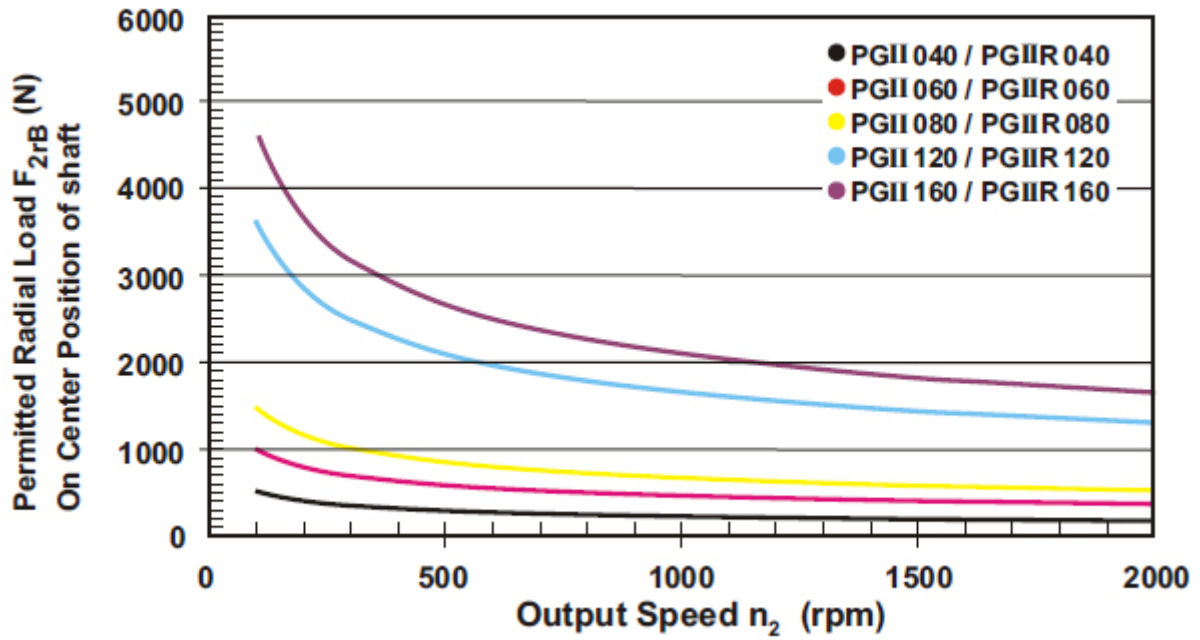
(1) Ratio ($i = N_{in} / N_{out}$).

- (2) Ratio 9 and 81 are only provided for PSII and PAII series.
- (3) Backlash is measured at 2% of Nominal output torque T2N.
- (4) Applied to the output shaft center @ 100 rpm .
- (5) These values are measured by gearbox with ratio = 10 (1-stage) or ratio = 100 (2-stage) at 3.000 rpm without load.
- (6) 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%.

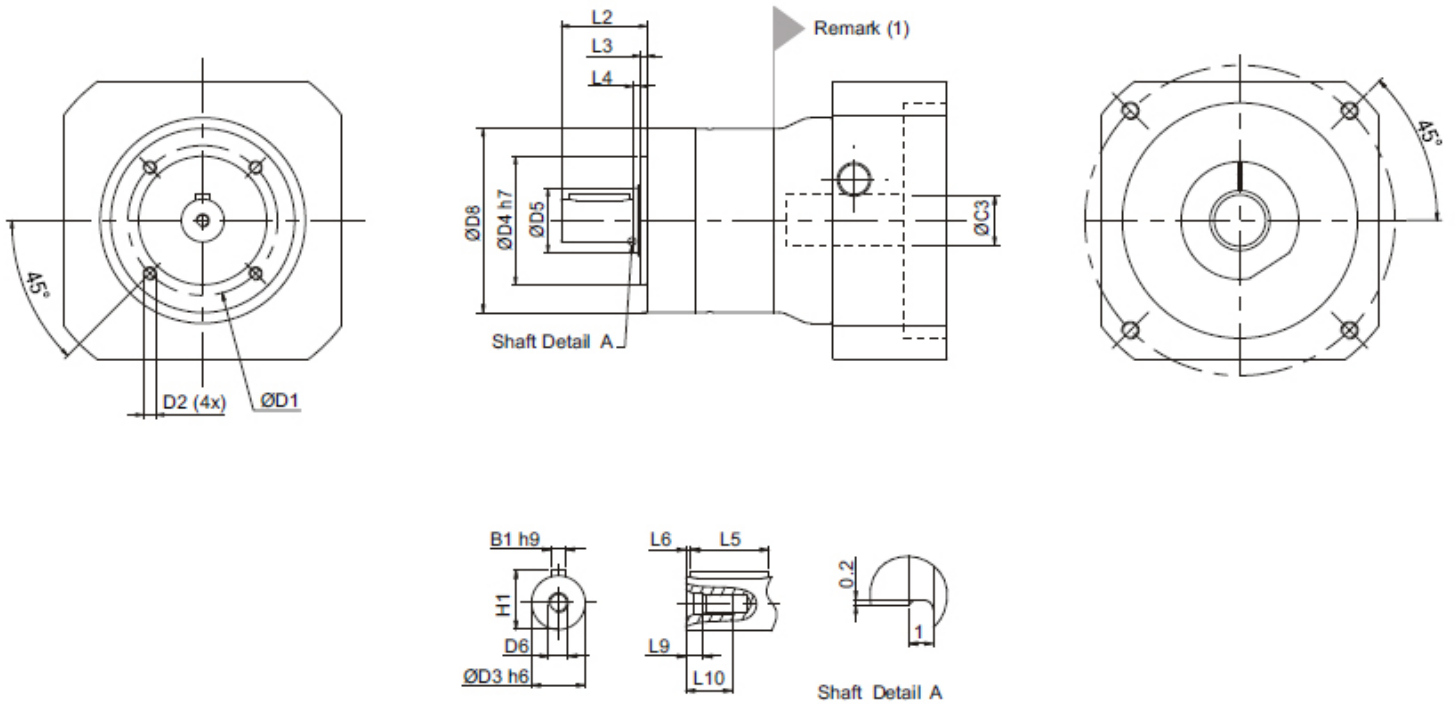
Inertia

Model No. Ø ^(A) (C3)	PGII 040			PGII 060			PGII 080			PGII 120		PGII 160	
	1-traps	2-traps	3-traps	1-traps	2-traps	3-traps	1-traps	2-traps	3-traps	1-traps	2-traps	1-traps	2-traps
8	0,10	0,10	0,10	0,12	0,10	0,10	-	-	-	-	-	-	-
11	0,16	0,16	0,16	0,19	0,16	0,16	-	-	-	-	-	-	-
14	-	-	0,19	0,22	0,20	0,20	0,36	0,24	0,20	-	-	-	-
19	-	-	-	1,53	1,51	1,51	1,70	1,58	1,54	2,20	1,73	-	2,18
24	-	-	-	-	-	-	2,24	2,12	2,09	2,74	2,27	4,52	2,73
28	kg*cm ²	-	-	-	-	-	2,68	2,55	2,52	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) Ø = Input shaft diameter

Sizes

PGII series:



Dimensions	PGII 040			PGII 060			PGII 080			PGII 120		PGII 160	
	1-stage	2-stage	3-stage	1-stage	2-stage	3-stage	1-stage	2-stage	3-stage	1-stage	2-stage	1-stage	2-stage
D1		34			52			70		100			145
D2		M4 x 9			M5 x 10			M6 x 12		M8 x 15			M10 x 18
D3 h7		10			14			20		25			40
D4 g7		26			40			60		80			130
D5		17			17			30		40			55
D6		M3 x 0,5P			M5 x 0,8P			M6 x 1P		M10 x 1,5P			M16 x 2P
D8		44			60			86		114			160
L2		26			35			40		55			87
L3		2			3			3		4			5
L4		1			2			3,5		5			5,5
L5		18			25			28		40			65
L6		2,5			2,5			4		5			8
L9		2,6			4,8			5		7,5			12
L10		9			12,5			16,5		22			36
B1 h9		3			5			6		8			12
H1		11,2			16			22,5		28			43

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