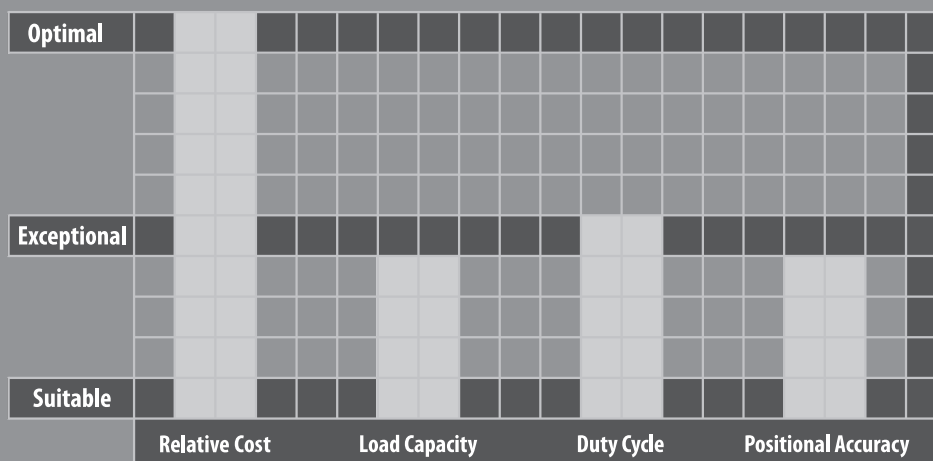


PRE SERIES

PRE is part of the latest generation economy product family from NIDEC-SHIMPO. The PRE redefines the economy planetary gearbox segment by featuring helical cut gearing and a robust internal structure. Our customers benefit from a cost-effective, flexible, reliable design that can be adapted into a wide range of servo and stepper motor axes.

The PRE features industry-standard output mounting geometry with simple adaptation to any motor. Frame sizes from 062-160, along with ≤ 8 -10 arc-minute backlash, allow the PRE to cover a broad range of application requirements where cost is a key consideration. As with all NIDEC-SHIMPO planetary products, PRE is designed for maximum heat reduction and running efficiency through the use of special sealing and lubrication technology.



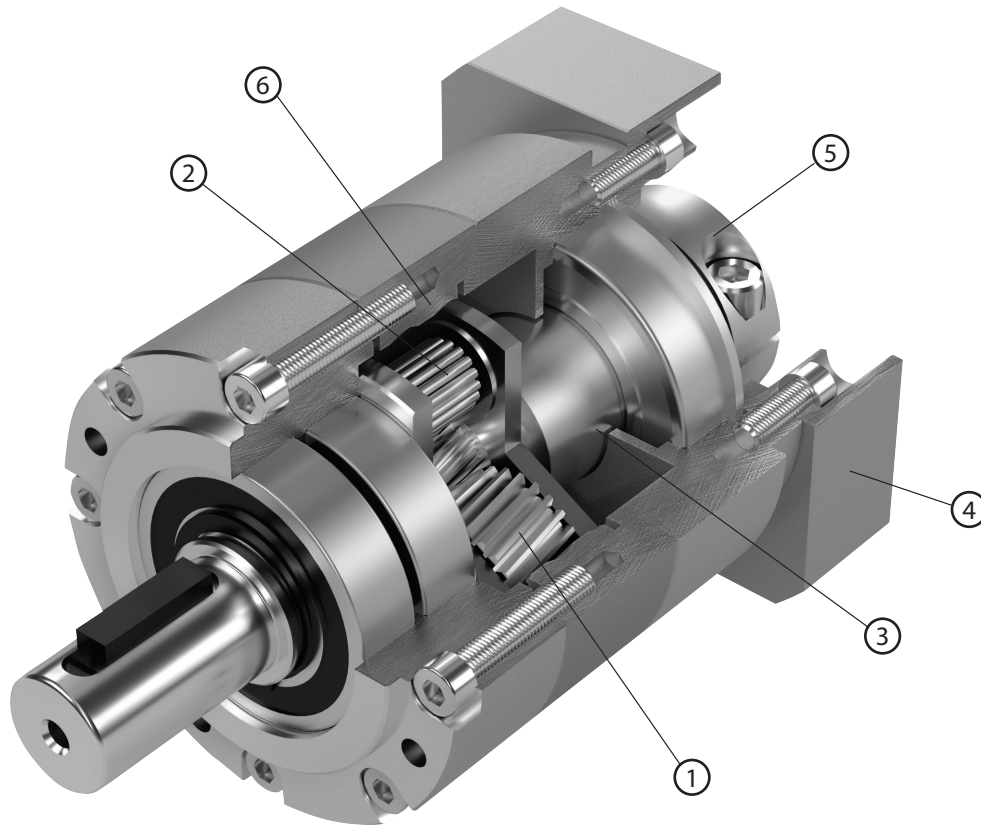


PRE SERIES

- Value engineered solution for low to mid-range motion control applications
- Low backlash, $\leq 8-10$ arc-min
- Four frame sizes, from 062 to 160
- Broad range of mounting adapters offer a simple, precise attachment to any motor
- Maintenance-free solution that is lubricated for life. High performance grease allows flexible mounting in any orientation
- Industry standard mounting dimensions

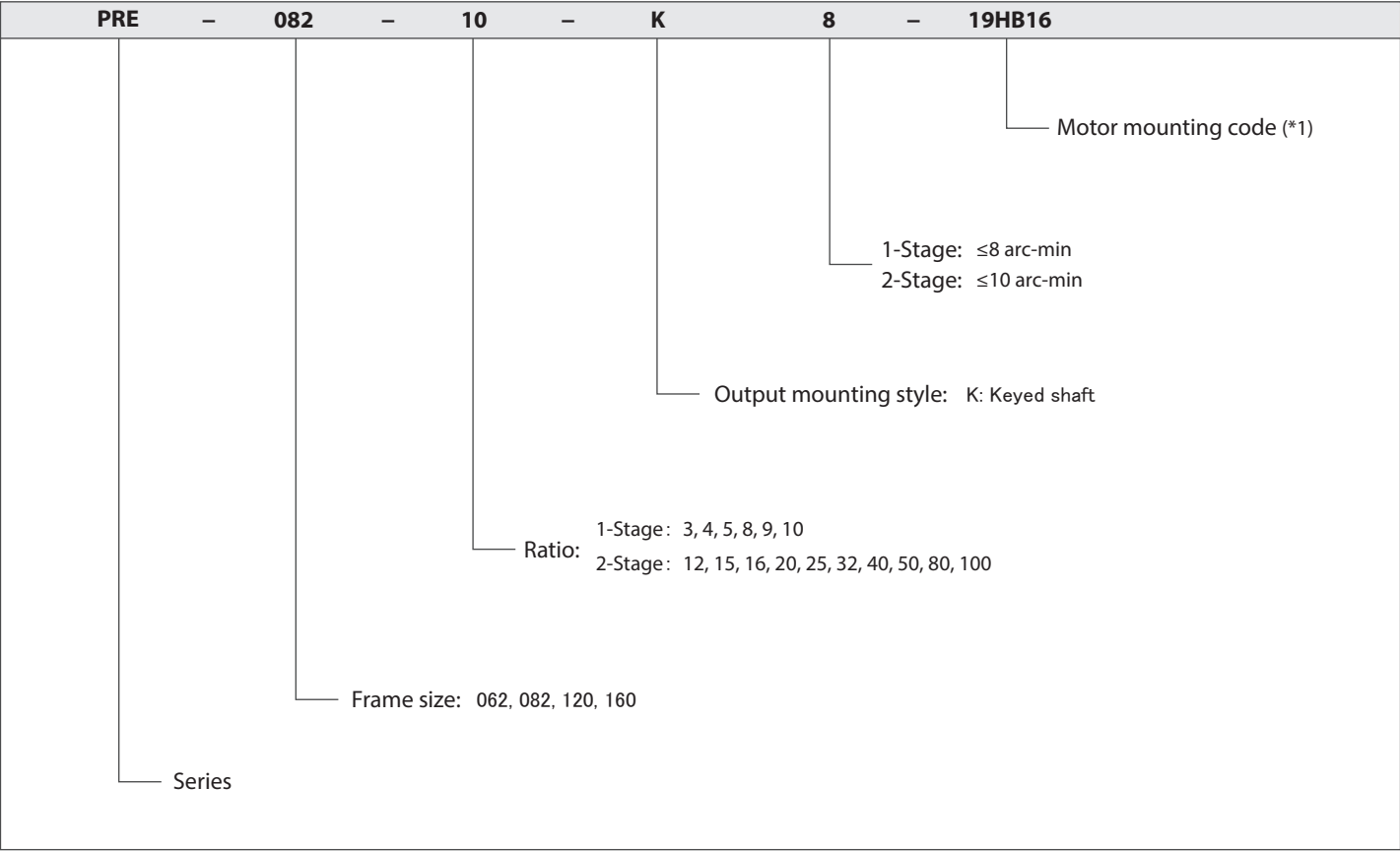
PRE SERIES Inline Planetary

PRE Series Features



- ① Carburized helical gears for higher accuracy and smooth, quiet operation
- ② Uncaged needle roller bearings provide excellent torque density and torsional rigidity
- ③ Unique labyrinth input design greatly reduces heat and increases system efficiency.
- ④ Optimized mounting system with active centering on motor pilot diameter guarantees alignment of motor. Motor can be installed in any orientation
- ⑤ True concentric motor shaft clamping connection, optimized for your specific motor. Reduced inertia for dynamic performance and balanced for high speed operation
- ⑥ Ring gear machined directly into the housing, not welded or pressed in. Provides greater concentricity and elimination of speed fluctuation

PRE Series Model Code



*1) Motor mounting code varies depending on the motor. Contact us to configure the code.

PRE o62 1-Stage Specifications

Frame Size	062							
Ratio	Unit	Note	3	4	5	8	9	10
Nominal Output Torque	[Nm]	*1	35	50	50	50	35	35
Maximum Output Torque	[Nm]	*2	55	79	79	76	55	55
Emergency Stop Torque	[Nm]	*3	80	90	90	90	80	80
Nominal Input Speed	[rpm]	*4	3000					
Maximum Input Speed	[rpm]	*5	6000					
No Load Running Torque	[Nm]	*6	0.15					
Maximum Radial Load	[N]	*7	550					
Maximum Axial Load	[N]	*8	680					
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.19	0.16	0.15	0.14	0.14	0.14
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.40	0.37	0.36	0.35	0.35	0.35
Efficiency	[%]	*9	95					
Torsional Rigidity	[Nm/arcmin]	*10	2.3					
Maximum Torsional Backlash	[Arc-min]	--	≤ 8					
Noise Level	dB [A]	*11	≤ 58					
Protection Class	--	--	IP54					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*12	1.0					

- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

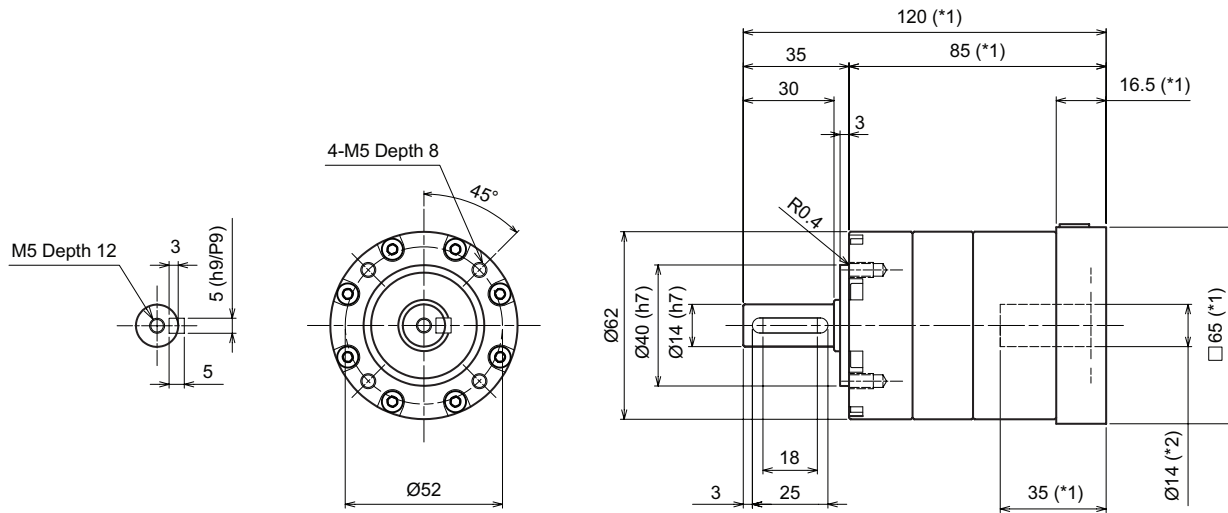
PRE o62 2-Stage Specifications

Frame Size	062											
Ratio	Unit	Note	12	15	16	20	25	32	40	50	80	100
Nominal Output Torque	[Nm]	*1	35	35	50	50	50	50	50	46	46	35
Maximum Output Torque	[Nm]	*2	46	46	66	66	66	66	66	66	66	46
Emergency Stop Torque	[Nm]	*3	80	80	90	90	90	90	90	90	90	80
Nominal Input Speed	[rpm]	*4	3000									
Maximum Input Speed	[rpm]	*5	6000									
No Load Running Torque	[Nm]	*6	0.04									
Maximum Radial Load	[N]	*7	550									
Maximum Axial Load	[N]	*8	680									
Moment of Inertia (≤ Ø 8)	[kgcm ²]	--	0.08	0.07	0.07	0.06	0.06	0.07	0.06	0.06	0.06	0.06
Moment of Inertia (≤ Ø 14)	[kgcm ²]	--	0.16	0.14	0.14	0.14	0.14	0.14	0.13	0.14	0.14	0.14
Moment of Inertia (≤ Ø 19)	[kgcm ²]	--	-	-	-	-	-	-	-	-	-	-
Efficiency	[%]	*9	90									
Torsional Rigidity	[Nm/arcmin]	*10	2.3									
Maximum Torsional Backlash	[Arc-min]	--	≤10									
Noise Level	dB [A]	*11	≤58									
Protection Class	--	--	IP54									
Ambient Temperature	[°C]	--	0-40									
Permitted Housing Temperature	[°C]	--	90									
Weight	[kg]	*12	1.5									

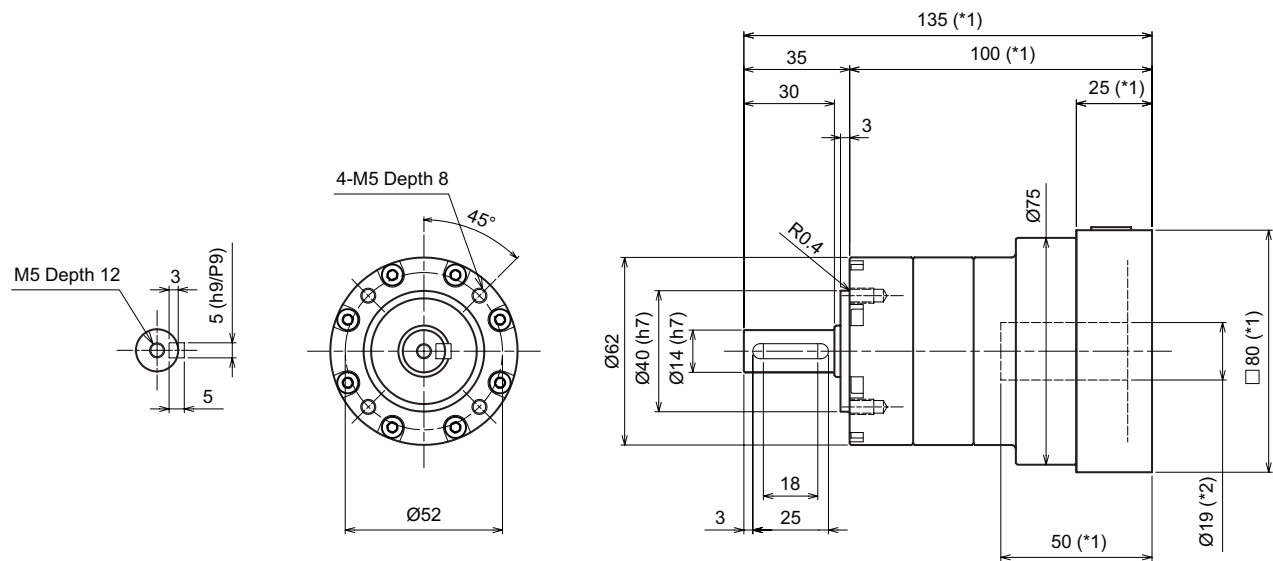
- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

PRE o62 1-Stage Dimensions

Input bore size $\leq \phi 14$ mm



Input bore size $\leq \phi 19$ mm

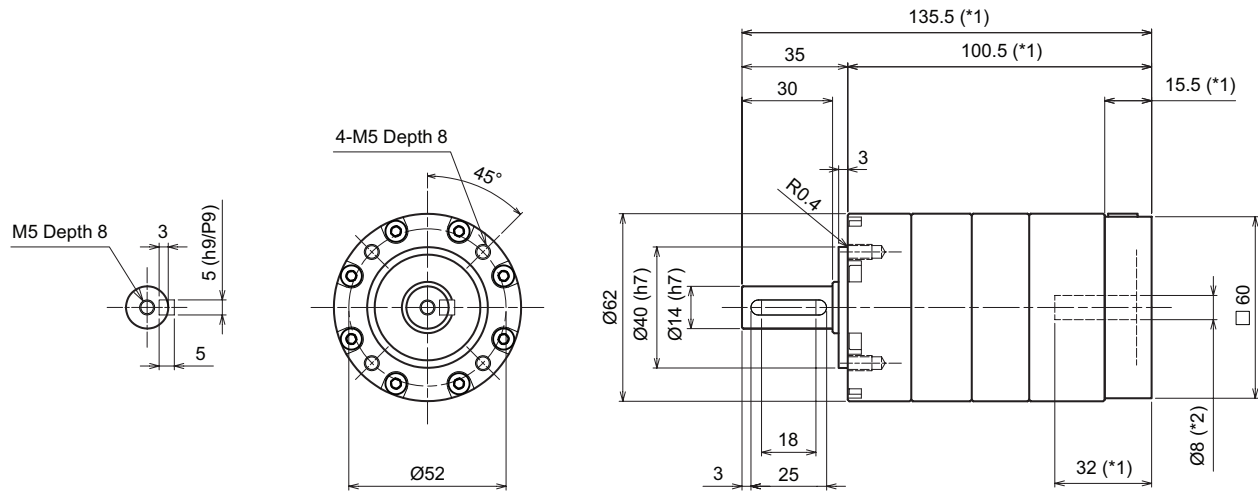


*1) Length will vary depending on motor

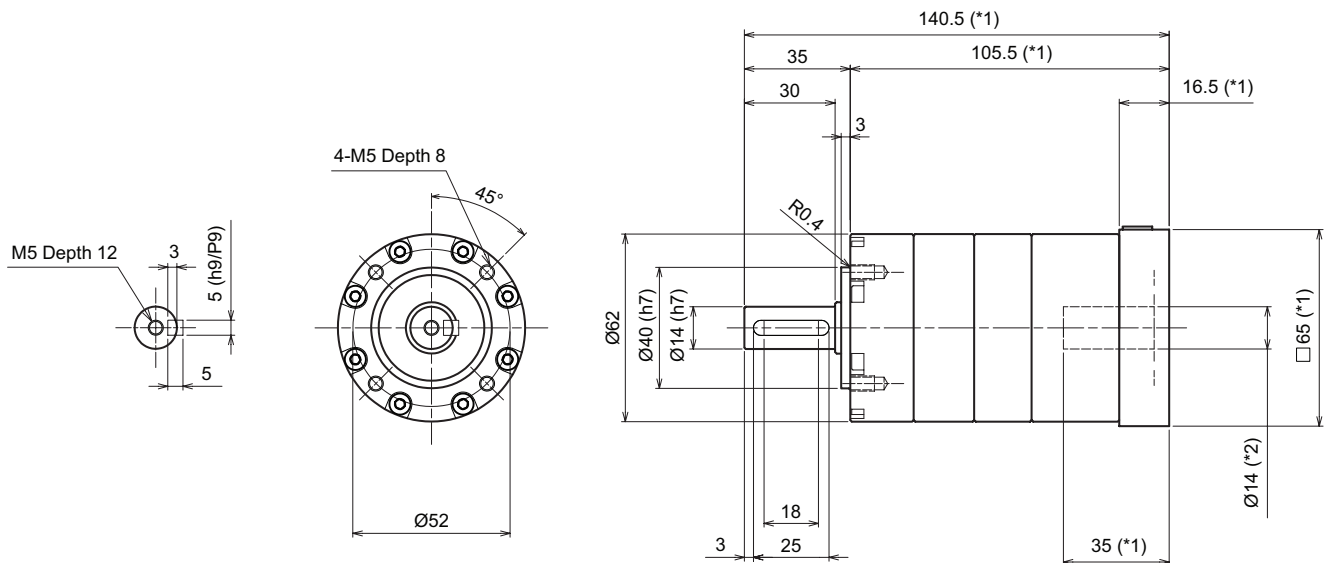
*2) Bushing will be inserted to adapt to motor shaft

PRE o62 2-Stage Dimensions

Input bore size $\leq \phi 8$ mm



Input bore size $\leq \phi 14$ mm



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

PRE o82 1-Stage Specifications

Frame Size	082							
Ratio	Unit	Note	3	4	5	8	9	10
Nominal Output Torque	[Nm]	*1	80	125	125	125	80	80
Maximum Output Torque	[Nm]	*2	135	200	200	190	145	145
Emergency Stop Torque	[Nm]	*3	200	210	210	210	200	200
Nominal Input Speed	[rpm]	*4	3000					
Maximum Input Speed	[rpm]	*5	6000					
No Load Running Torque	[Nm]	*6	0.35					
Maximum Radial Load	[N]	*7	990					
Maximum Axial Load	[N]	*8	1500					
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.57	0.41	0.35	0.31	0.30	0.30
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.04	0.87	0.82	0.77	0.77	0.76
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.13	2.96	2.91	2.86	2.86	2.85
Efficiency	[%]	*9	95					
Torsional Rigidity	[Nm/arc-min]	*10	6					
Maximum Torsional Backlash	[arc-min]	--	≤ 8					
Noise Level	dB [A]	*11	≤ 60					
Protection Class	--	--	IP54					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*12	2.5					

- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

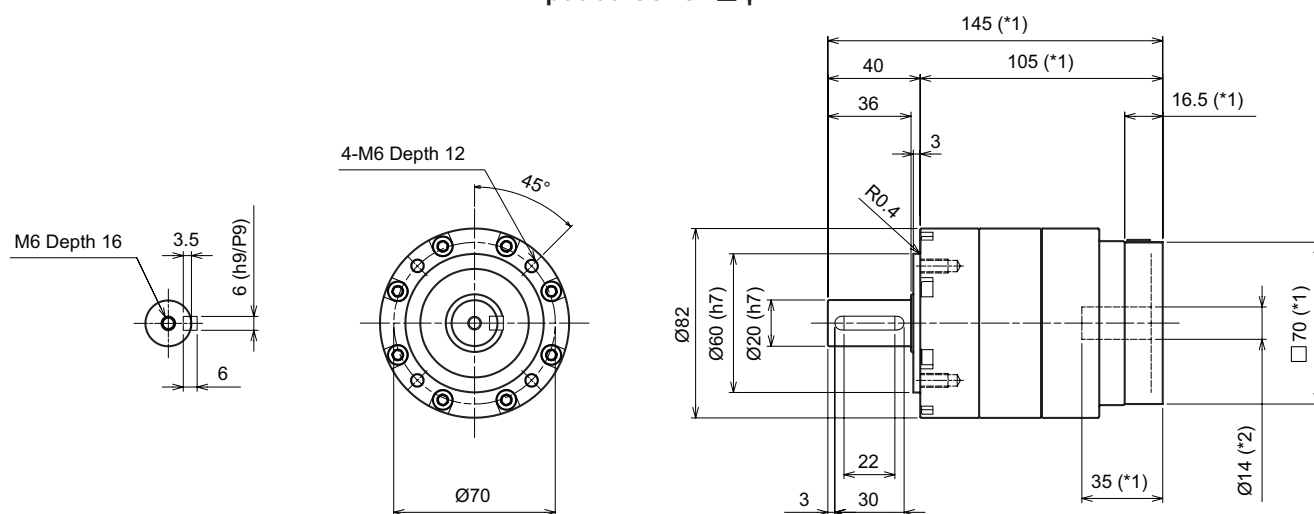
PRE o82 2-Stage Specifications

Frame Size	082											
Ratio	Unit	Note	12	15	16	20	25	32	40	50	80	100
Nominal Output Torque	[Nm]	*1	80	80	125	125	125	125	125	120	120	80
Maximum Output Torque	[Nm]	*2	108	108	165	165	165	165	165	165	165	112
Emergency Stop Torque	[Nm]	*3	200	200	210	210	210	210	210	210	210	200
Nominal Input Speed	[rpm]	*4	3000									
Maximum Input Speed	[rpm]	*5	6000									
No Load Running Torque	[Nm]	*6	0.06									
Maximum Radial Load	[N]	*7	990									
Maximum Axial Load	[N]	*8	1500									
Moment of Inertia (≤ Ø 14)	[kgcm ²]	--	0.39	0.33	0.33	0.32	0.32	0.32	0.28	0.29	0.28	0.28
Moment of Inertia (≤ Ø 19)	[kgcm ²]	--	0.84	0.78	0.78	0.77	0.77	0.78	0.73	0.74	0.74	0.74
Moment of Inertia (≤ Ø 28)	[kgcm ²]	--	2.91	2.85	2.85	2.84	2.83	2.84	2.79	2.81	2.81	2.81
Efficiency	[%]	*9	90									
Torsional Rigidity	[Nm/arc-min]	*10	6									
Maximum Torsional Backlash	[arc-min]	--	≤10									
Noise Level	dB [A]	*11	≤60									
Protection Class	--	--	IP54									
Ambient Temperature	[°C]	--	0-40									
Permitted Housing Temperature	[°C]	--	90									
Weight	[kg]	*12	3.0									

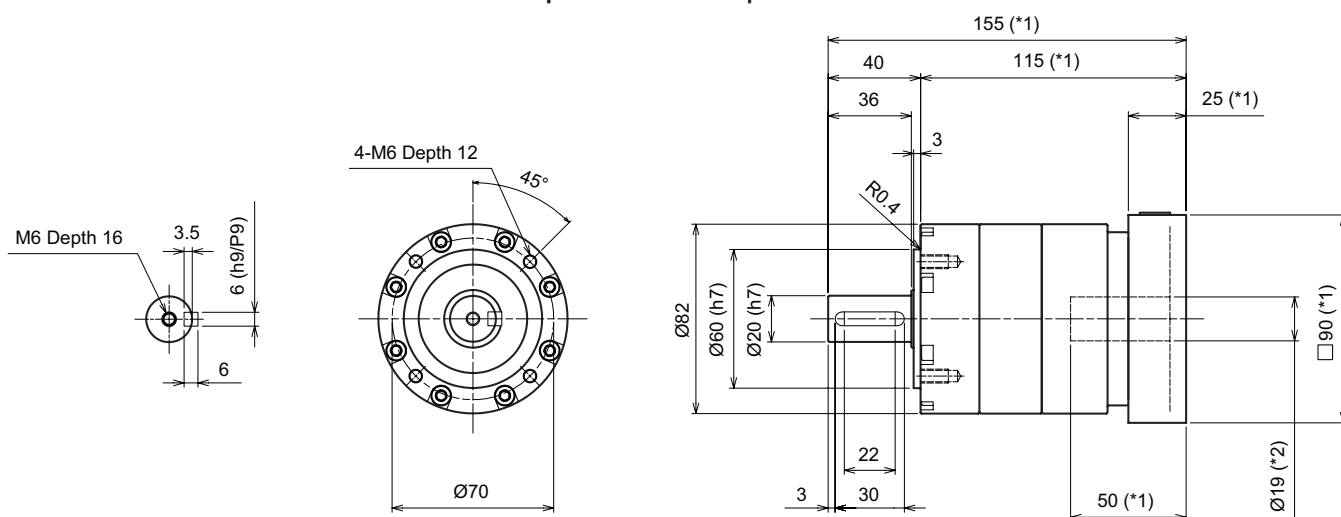
- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

PRE o82 1-Stage Dimensions

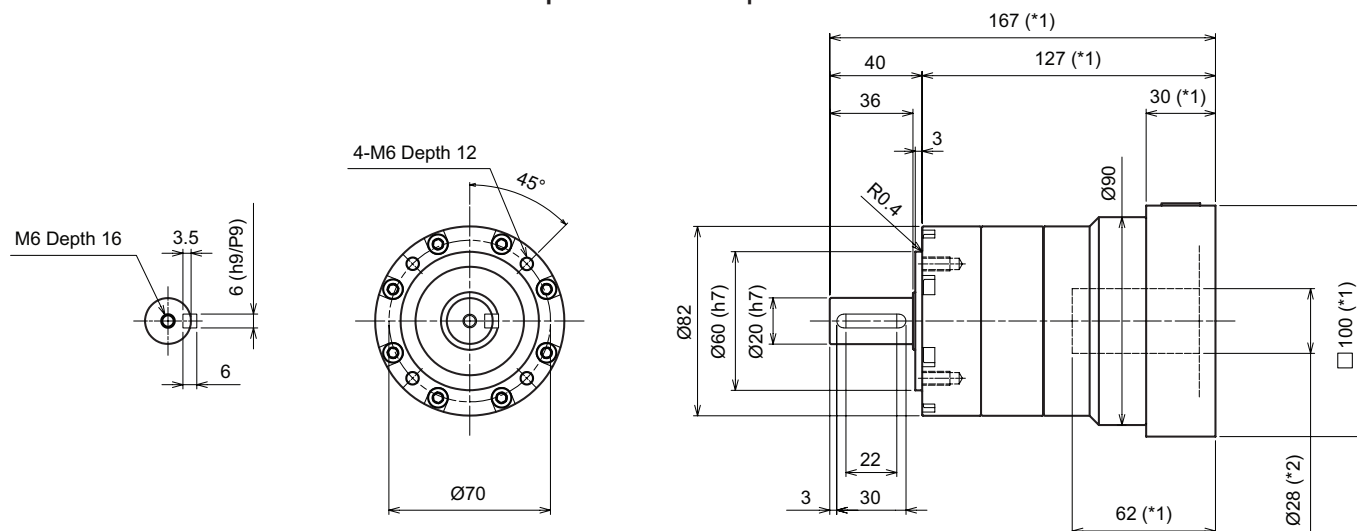
Input bore size $\leq \varnothing 14 \text{ mm}$



Input bore size $\leq \varnothing 19 \text{ mm}$



Input bore size $\leq \varnothing 28 \text{ mm}$

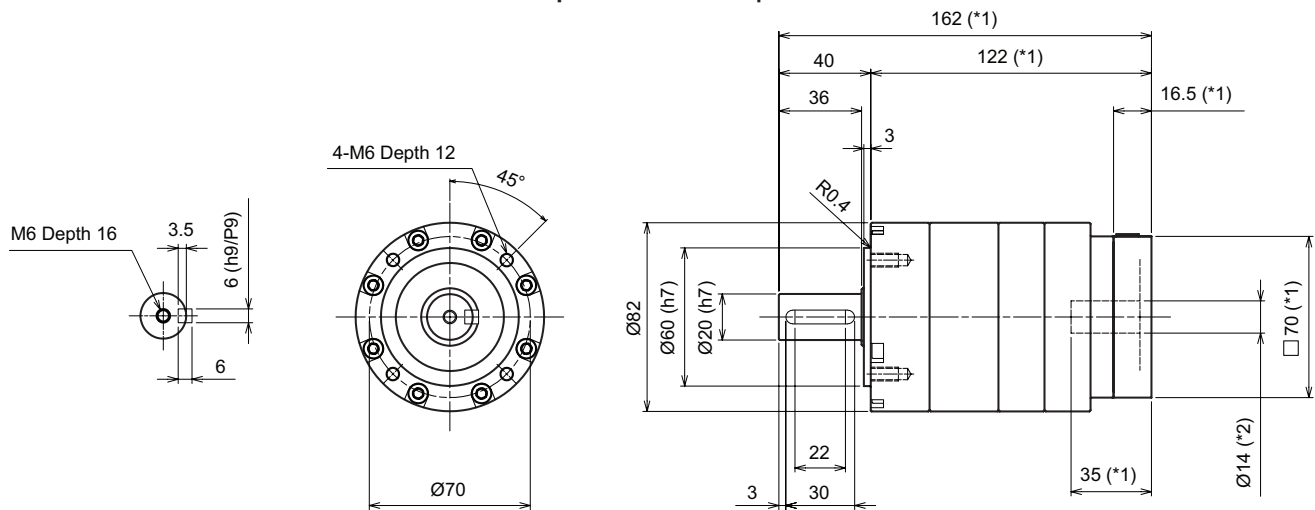


*1) Length will vary depending on motor

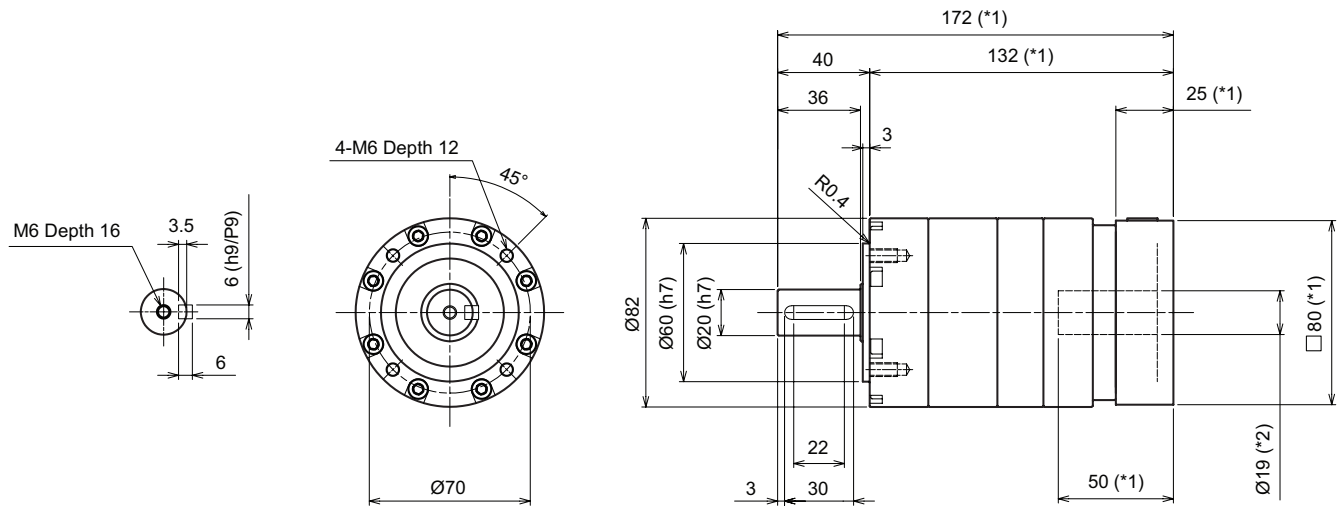
*2) Bushing will be inserted to adapt to motor shaft

PRE o82 2-Stage Dimensions

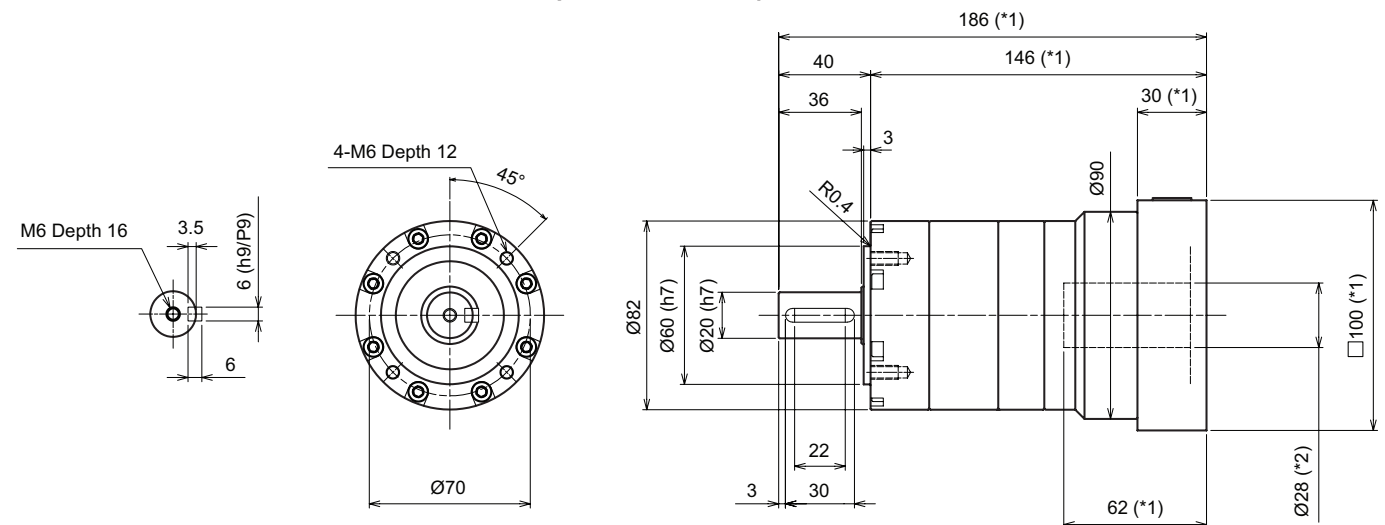
Input bore size $\leq \phi 14$ mm



Input bore size $\leq \phi 19$ mm



Input bore size $\leq \phi 28$ mm



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

PRE 120 1-Stage Specifications

Frame Size	120							
Ratio	Unit	Note	3	4	5	8	9	10
Nominal Output Torque	[Nm]	*1	225	330	330	330	225	225
Maximum Output Torque	[Nm]	*2	340	490	490	480	370	370
Emergency Stop Torque	[Nm]	*3	500	550	550	550	500	500
Nominal Input Speed	[rpm]	*4	3000					
Maximum Input Speed	[rpm]	*5	6000					
No Load Running Torque	[Nm]	*6	1.30					
Maximum Radial Load	[N]	*7	2000					
Maximum Axial Load	[N]	*8	2800					
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	2.38	1.45	1.17	0.88	0.85	0.83
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.41	3.48	3.13	2.89	2.86	2.84
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.27	11.34	11.05	10.72	10.69	10.67
Efficiency	[%]	*9	95					
Torsional Rigidity	[Nm/arc-min]	*10	15					
Maximum Torsional Backlash	[arc-min]	--	≤ 8					
Noise Level	dB [A]	*11	≤ 65					
Protection Class	*15	--	IP54					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*12	6.8					

- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

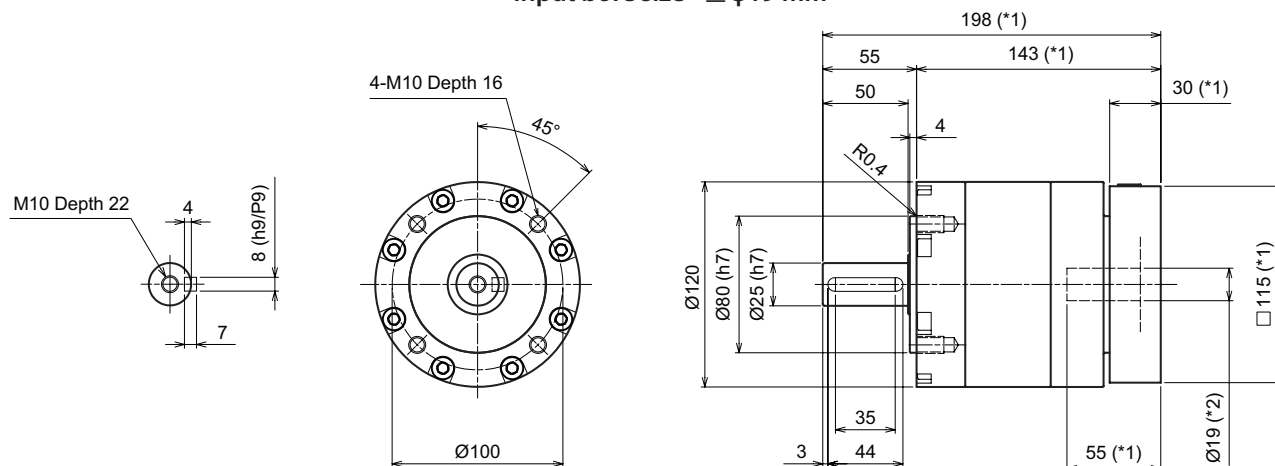
PRE 120 2-Stage Specifications

Frame Size	120											
Ratio	Unit	Note	12	15	16	20	25	32	40	50	80	100
Nominal Output Torque	[Nm]	*1	225	225	330	330	330	330	330	280	280	225
Maximum Output Torque	[Nm]	*2	270	270	390	390	390	390	390	390	390	292
Emergency Stop Torque	[Nm]	*3	500	500	550	550	550	550	550	550	550	500
Nominal Input Speed	[rpm]	*4	3000									
Maximum Input Speed	[rpm]	*5	6000									
No Load Running Torque	[Nm]	*6	0.42									
Maximum Radial Load	[N]	*7	2000									
Maximum Axial Load	[N]	*8	2800									
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.32	1.08	1.07	0.93	0.92	1.03	0.76	0.80	0.79	0.79
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.31	2.97	3.06	2.93	2.91	3.03	2.75	2.78	2.78	2.78
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	-	-	-	-	-	-	-	-	-	-
Efficiency	[%]	*9	90									
Torsional Rigidity	[Nm/arc-min]	*10	15									
Maximum Torsional Backlash	[arc-min]	--	≤ 10									
Noise Level	dB [A]	*11	≤ 65									
Protection Class	*15	--	IP54									
Ambient Temperature	[°C]	--	0-40									
Permitted Housing Temperature	[°C]	--	90									
Weight	[kg]	*12	8.8									

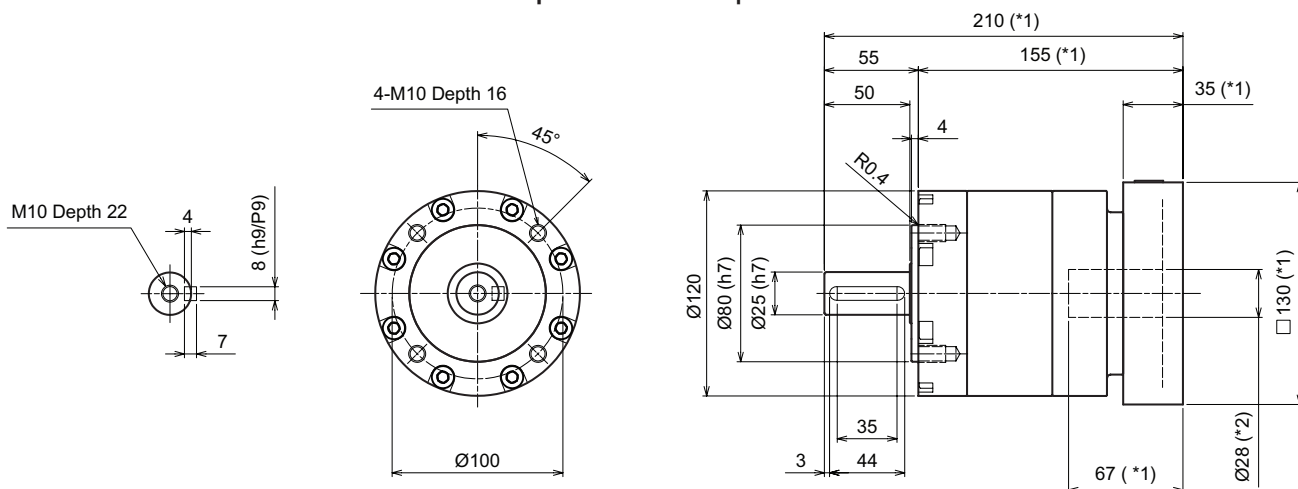
- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

PRE 120 1-Stage Dimensions

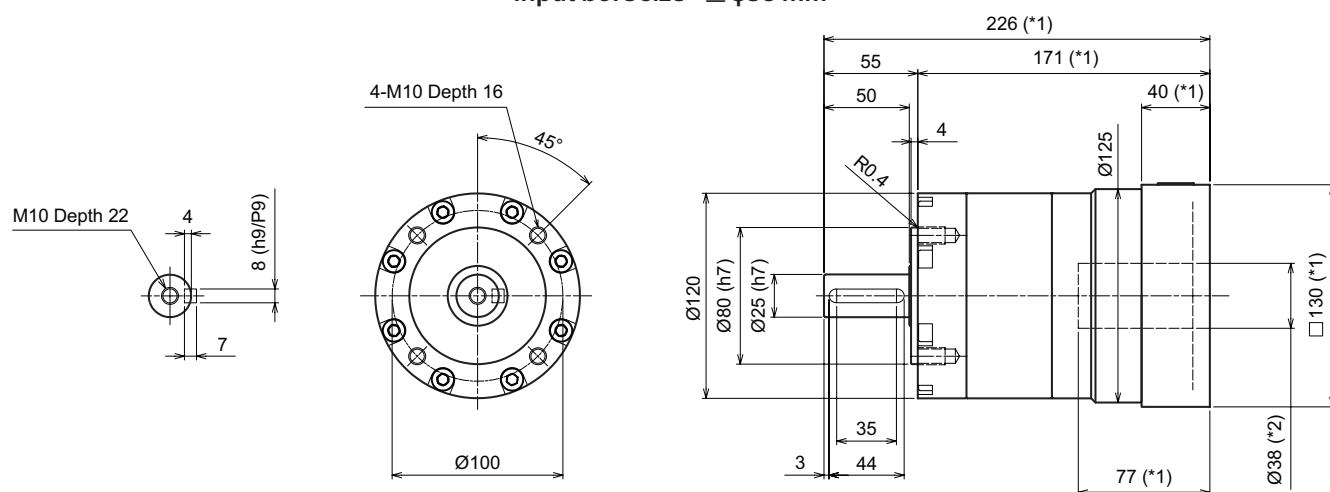
Input bore size $\leq \phi 19$ mm



Input bore size $\leq \phi 28$ mm



Input bore size $\leq \phi 38$ mm

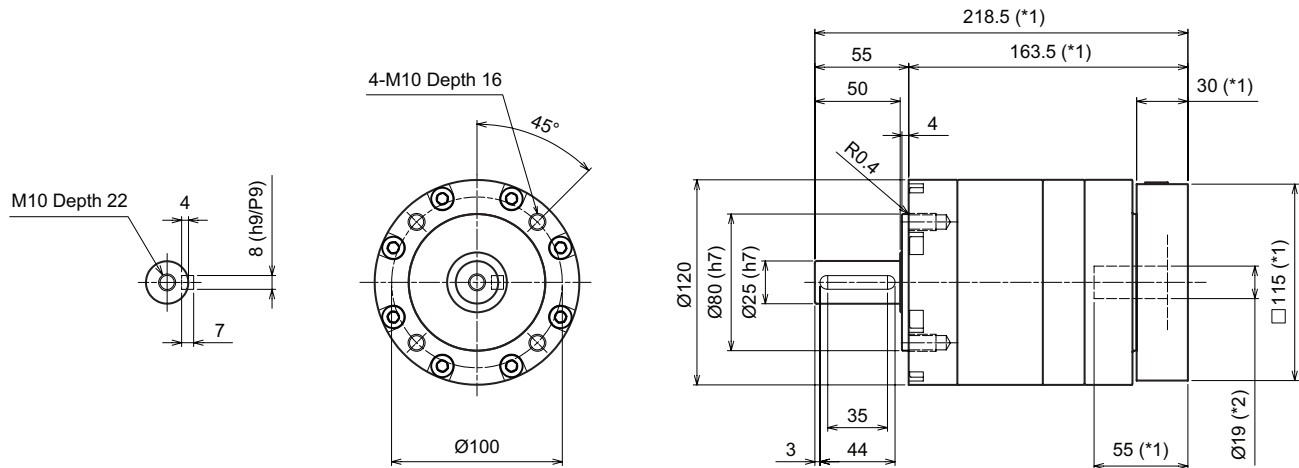


*1) Length will vary depending on motor

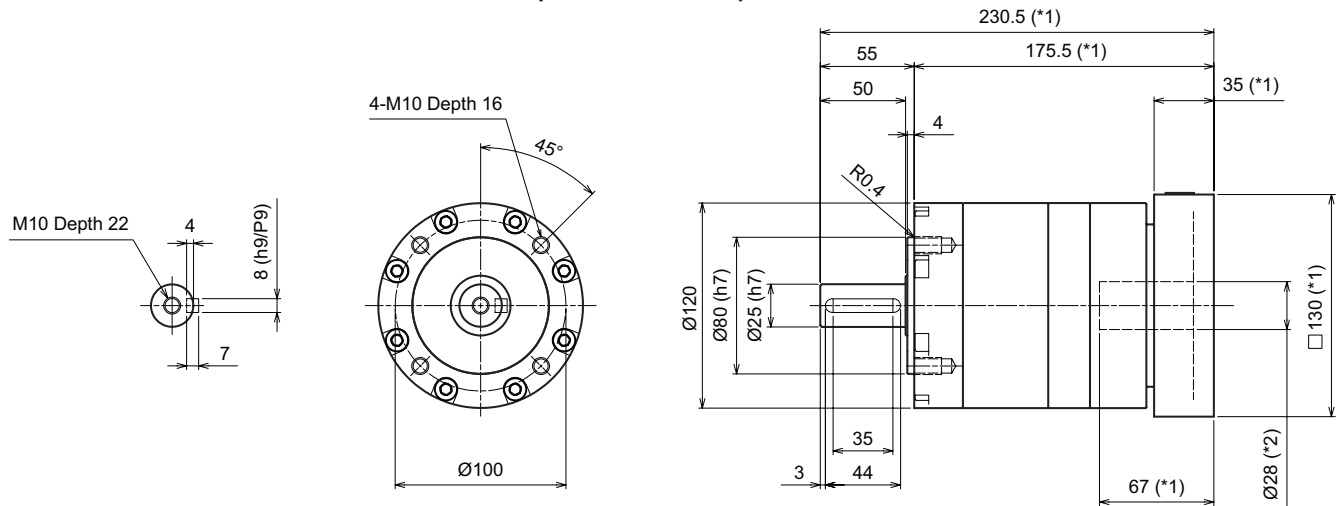
*2) Bushing will be inserted to adapt to motor shaft

PRE 120 2-Stage Dimensions

Input bore size $\leq \phi 19 \text{ mm}$



Input bore size $\leq \phi 28 \text{ mm}$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

PRE 160 1-Stage Specifications

Frame Size	160							
Ratio	Unit	Note	3	4	5	8	9	10
Nominal Output Torque	[Nm]	*1	470	700	700	700	470	470
Maximum Output Torque	[Nm]	*2	630	1000	1000	950	730	730
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000					
Maximum Input Speed	[rpm]	*5	6000					
No Load Running Torque	[Nm]	*6	1.63					
Maximum Radial Load	[N]	*7	6100					
Maximum Axial Load	[N]	*8	9000					
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	7.17	3.67	2.62	1.60	1.50	1.43
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	17.03	13.51	12.46	11.36	11.26	11.19
Efficiency	[%]	*9	95					
Torsional Rigidity	[Nm/arc-min]	*10	45					
Maximum Torsional Backlash	[arc-min]	--	≤ 8					
Noise Level	dB [A]	*11	≤ 70					
Protection Class	--	--	IP54					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*12	16.5					

- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

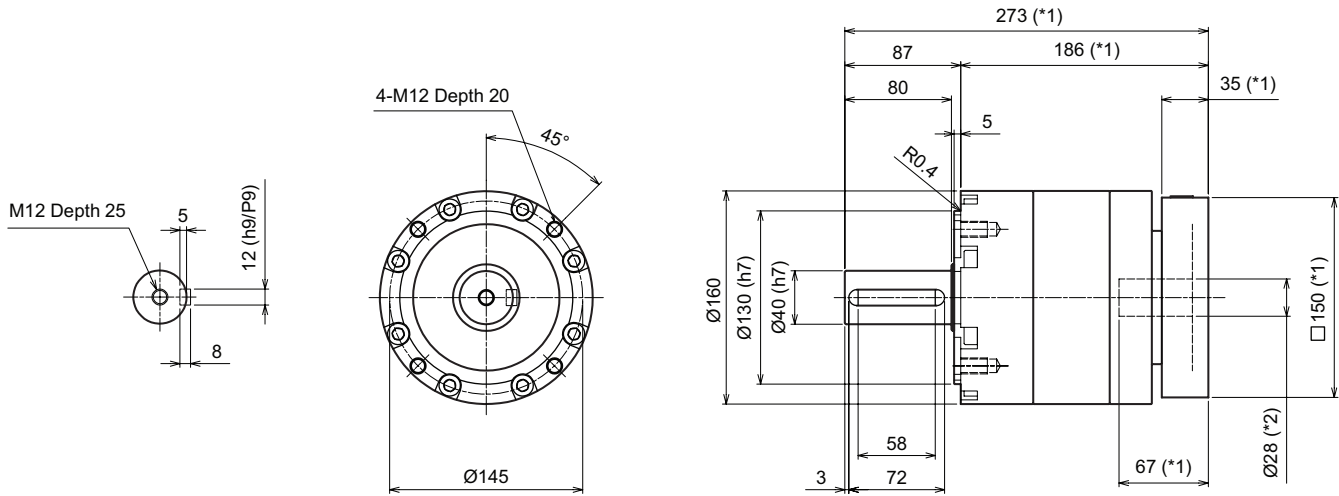
PRE 160 2-Stage Specifications

Frame Size	160											
Ratio	Unit	Note	12	15	16	20	25	32	40	50	80	100
Nominal Output Torque	[Nm]	*1	470	470	700	700	700	700	700	700	700	470
Maximum Output Torque	[Nm]	*2	560	560	840	840	840	840	840	840	840	610
Emergency Stop Torque	[Nm]	*3	1000	1000	1250	1250	1250	1250	1250	1250	1250	1000
Nominal Input Speed	[rpm]	*4	2000									
Maximum Input Speed	[rpm]	*5	6000									
No Load Running Torque	[Nm]	*6	0.56									
Maximum Radial Load	[N]	*7	6100									
Maximum Axial Load	[N]	*8	9000									
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	5.41	2.50	2.55	1.94	1.89	2.42	1.23	3.11	3.09	3.09
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	14.00	12.09	12.54	11.92	11.87	12.41	11.17	11.90	11.90	11.90
Efficiency	[%]	*9	90									
Torsional Rigidity	[Nm/arc-min]	*10	43									
Maximum Torsional Backlash	[arc-min]	--	≤ 10									
Noise Level	dB [A]	*11	≤ 70									
Protection Class	--	--	IP54									
Ambient Temperature	[°C]	--	0-40									
Permitted Housing Temperature	[°C]	--	90									
Weight	[kg]	*12	20.3									

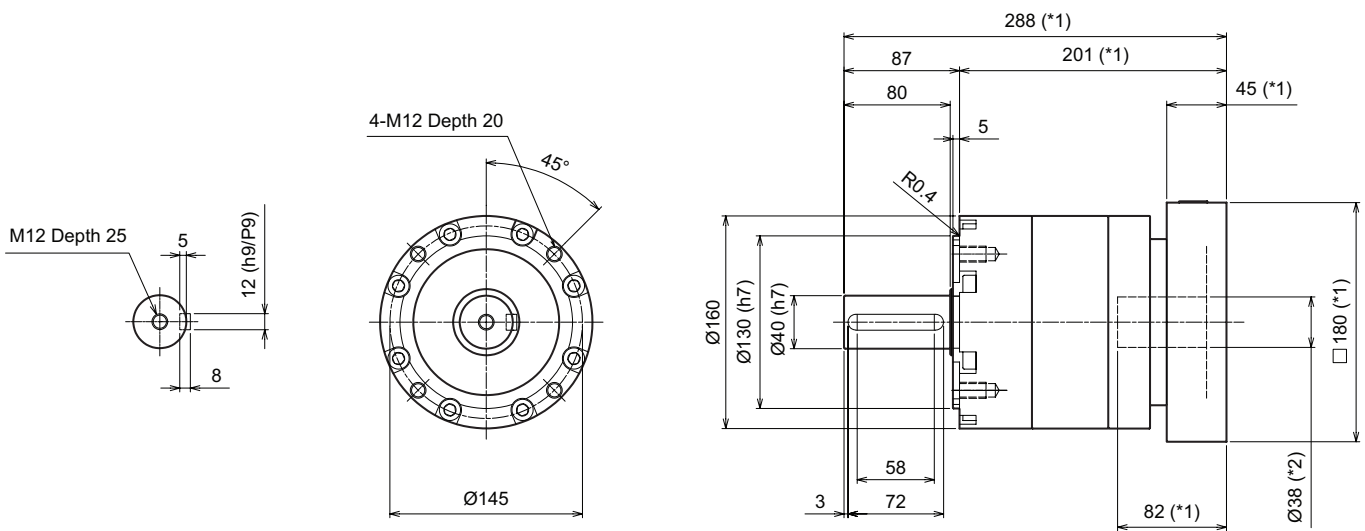
- *1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- *2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- *3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *4) The average input speed at nominal torque. Maintain housing temperature below permitted value
- *5) The maximum intermittent input speed
- *6) Torque at no load applied to the input shaft at nominal input speed
- *7) The maximum radial load that the gearbox can accept
- *8) The maximum axial load that the gearbox can accept
- *9) The efficiency at the nominal output torque ratings
- *10) This does not include lost motion
- *11) Contact NIDEC-SHIMPO for the testing conditions and environment
- *12) Weight may vary slightly between models

PRE 160 1-Stage Dimensions

Input bore size $\leq \varnothing 28$ mm



Input bore size $\leq \varnothing 38$ mm



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

