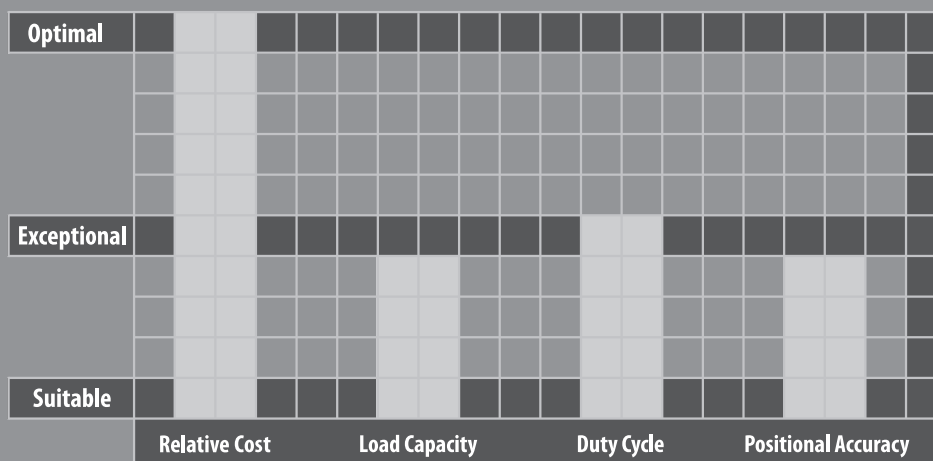


## PRE SERIES

**P**RE 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  $\leq 8$ -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.



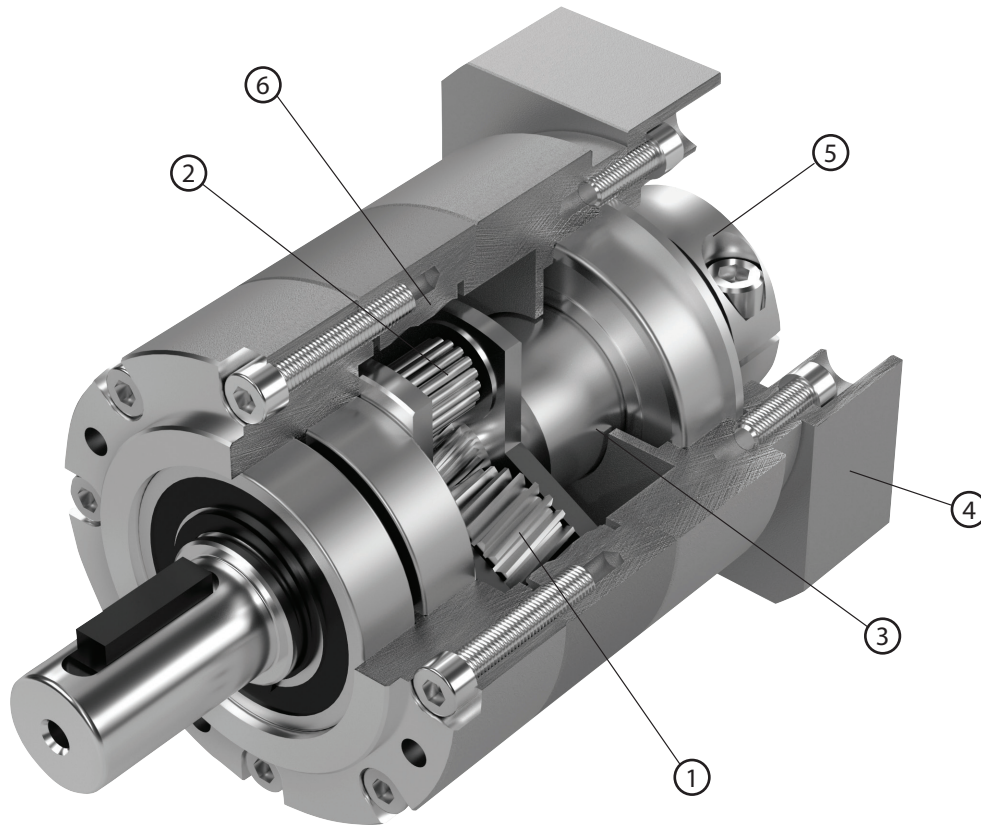


## PRE SERIES

- 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

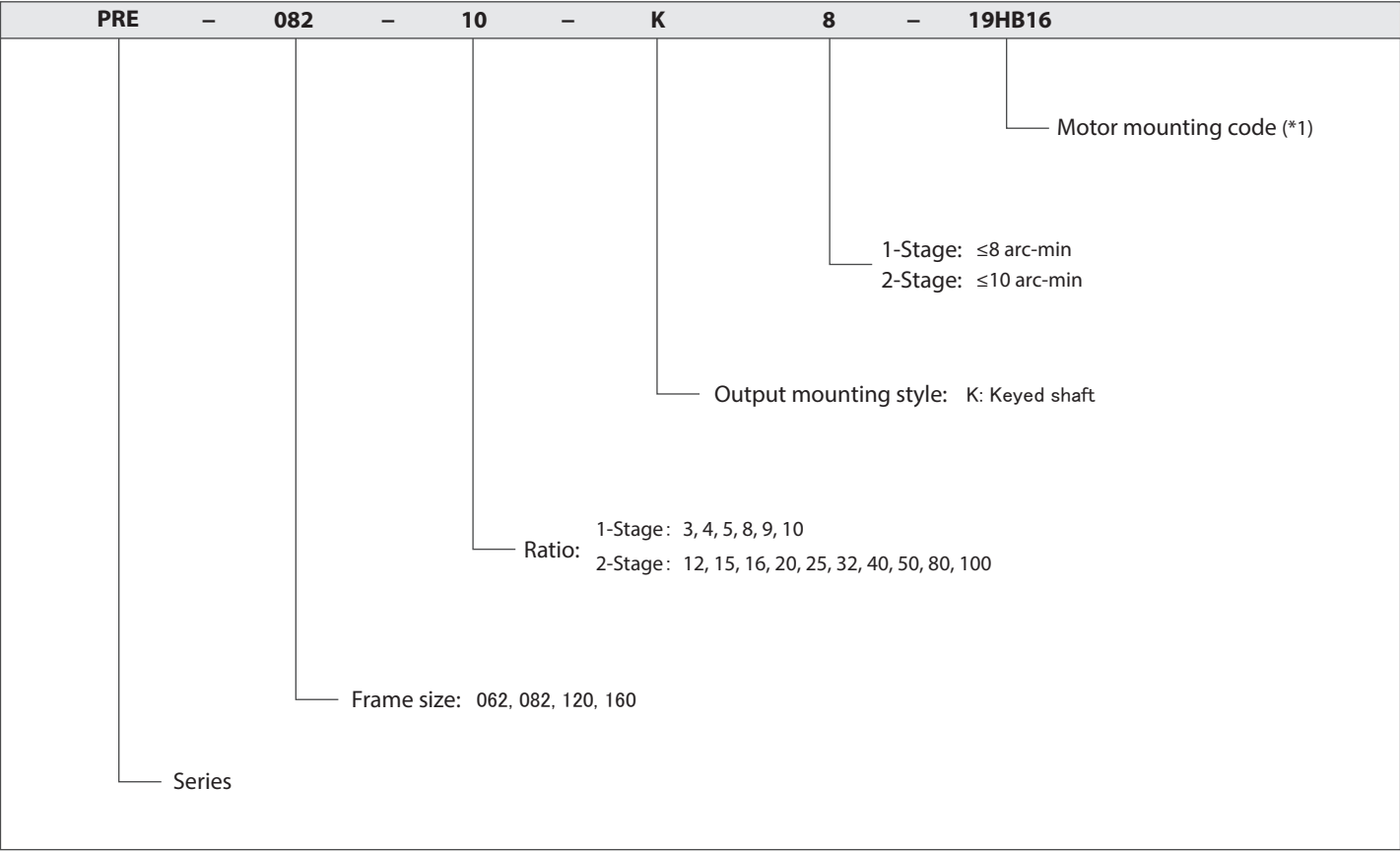
# PRE SERIES Inline Planetary

## 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 <sup>2</sup> ] | --   | -         | -    | -    | -    | -    | -    |
| Moment of Inertia ( $\leq \varnothing 14$ ) | [kgcm <sup>2</sup> ] | --   | 0.19      | 0.16 | 0.15 | 0.14 | 0.14 | 0.14 |
| Moment of Inertia ( $\leq \varnothing 19$ ) | [kgcm <sup>2</sup> ] | --   | 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]            | --   | $\leq 8$  |      |      |      |      |      |
| Noise Level                                 | dB [A]               | *11  | $\leq 58$ |      |      |      |      |      |
| 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

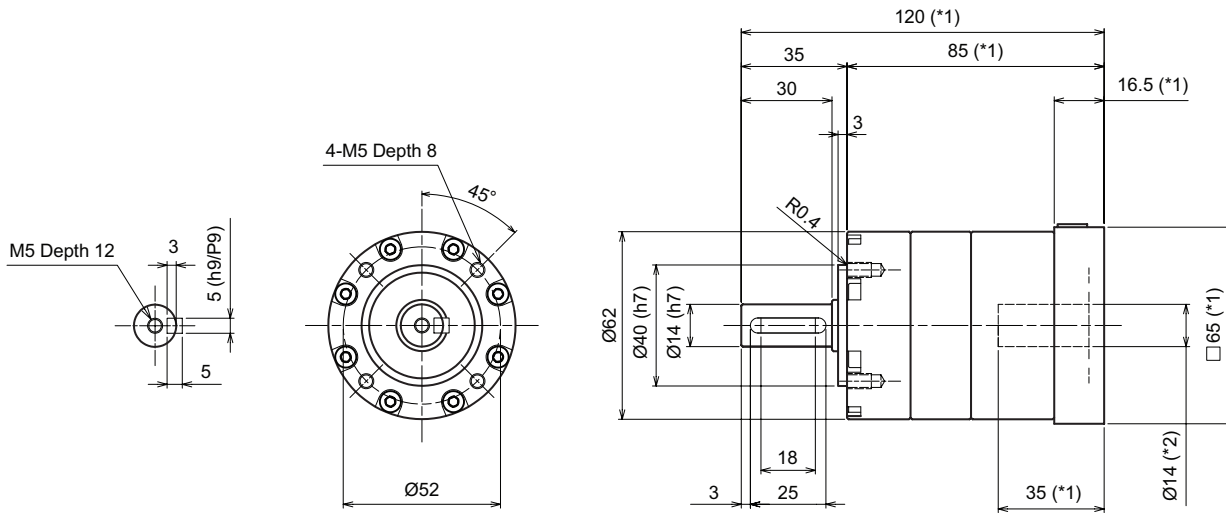
## PRE o62 2-Stage Specifications

| 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 ( $\leq \varnothing 8$ )  | [kgcm <sup>2</sup> ] | --   | 0.08      | 0.07 | 0.07 | 0.06 | 0.06 | 0.07 | 0.06 | 0.06 | 0.06 | 0.06 |
| Moment of Inertia ( $\leq \varnothing 14$ ) | [kgcm <sup>2</sup> ] | --   | 0.16      | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 | 0.14 | 0.14 | 0.14 |
| Moment of Inertia ( $\leq \varnothing 19$ ) | [kgcm <sup>2</sup> ] | --   | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Efficiency                                  | [%]                  | *9   | 90        |      |      |      |      |      |      |      |      |      |
| Torsional Rigidity                          | [Nm/arcmin]          | *10  | 2.3       |      |      |      |      |      |      |      |      |      |
| Maximum Torsional Backlash                  | [Arc-min]            | --   | $\leq 10$ |      |      |      |      |      |      |      |      |      |
| Noise Level                                 | dB [A]               | *11  | $\leq 58$ |      |      |      |      |      |      |      |      |      |
| Protection Class                            | --                   | --   | IP54      |      |      |      |      |      |      |      |      |      |
| Ambient Temperature                         | [°C]                 | --   | 0-40      |      |      |      |      |      |      |      |      |      |
| Permitted Housing Temperature               | [°C]                 | --   | 90        |      |      |      |      |      |      |      |      |      |
| Weight                                      | [kg]                 | *12  | 1.5       |      |      |      |      |      |      |      |      |      |

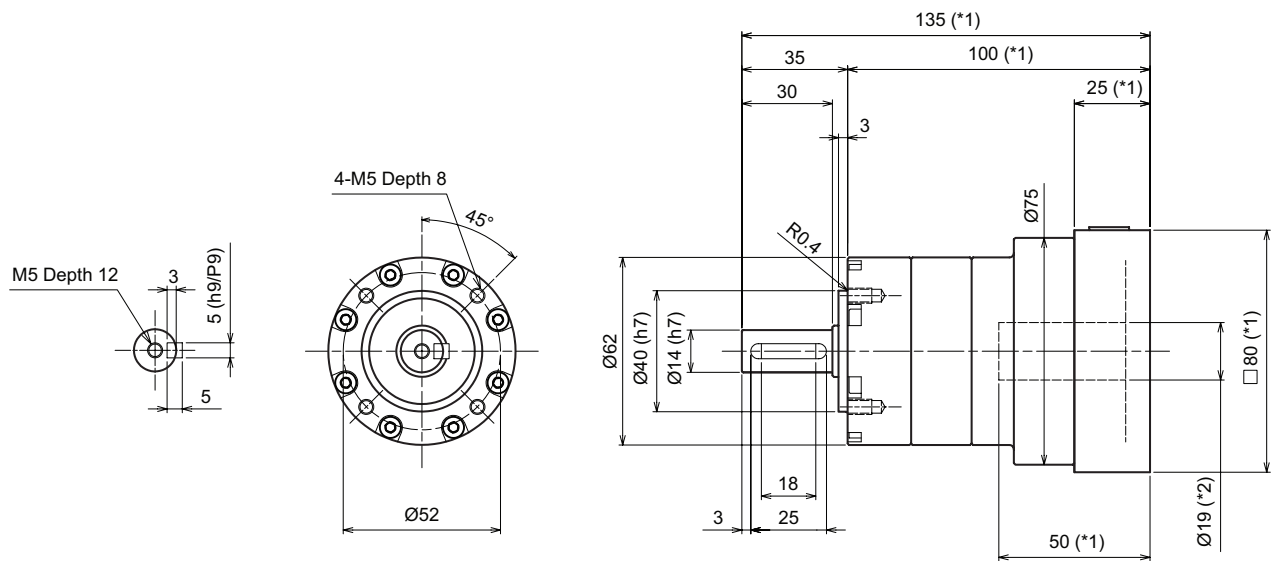
- \*1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- \*2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- \*3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- \*4) The average 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

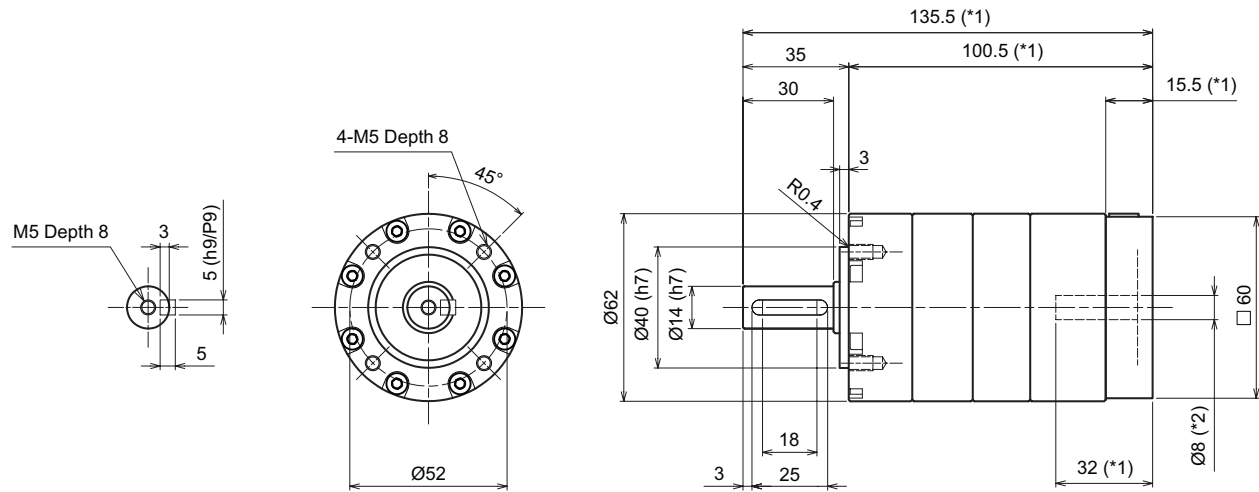


\*1) Length will vary depending on motor

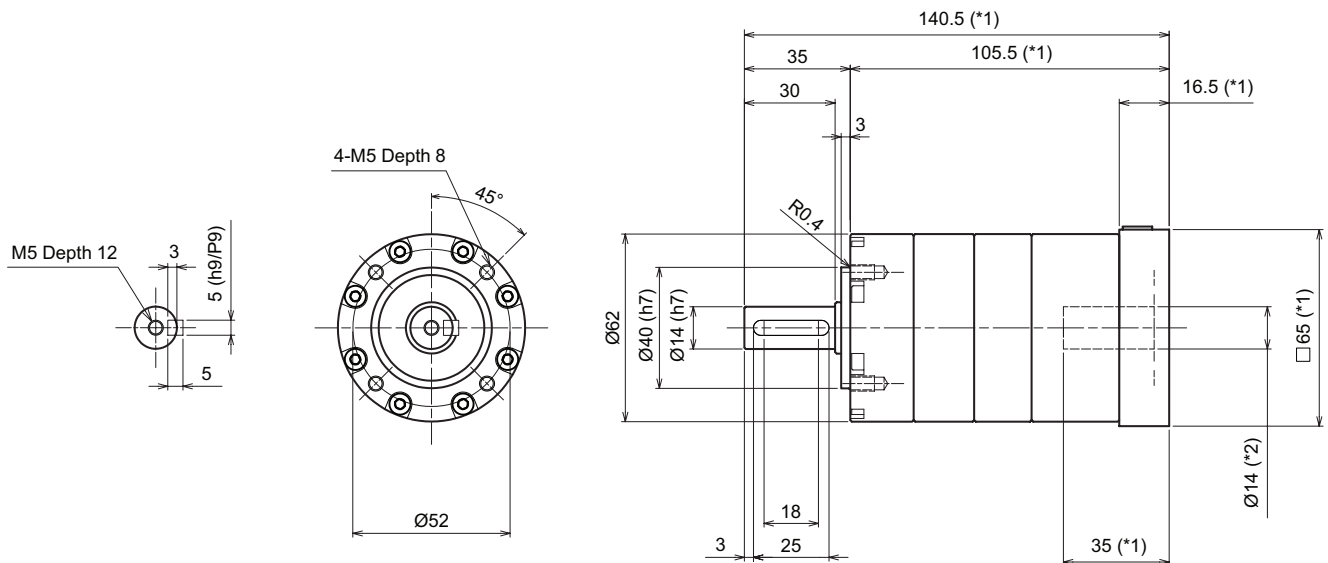
\*2) Bushing will be inserted to adapt to motor shaft

## 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 <sup>2</sup> ] | --   | 0.57      | 0.41 | 0.35 | 0.31 | 0.30 | 0.30 |
| Moment of Inertia ( $\leq \varnothing 19$ ) | [kgcm <sup>2</sup> ] | --   | 1.04      | 0.87 | 0.82 | 0.77 | 0.77 | 0.76 |
| Moment of Inertia ( $\leq \varnothing 28$ ) | [kgcm <sup>2</sup> ] | --   | 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]            | --   | $\leq 8$  |      |      |      |      |      |
| Noise Level                                 | dB [A]               | *11  | $\leq 60$ |      |      |      |      |      |
| 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

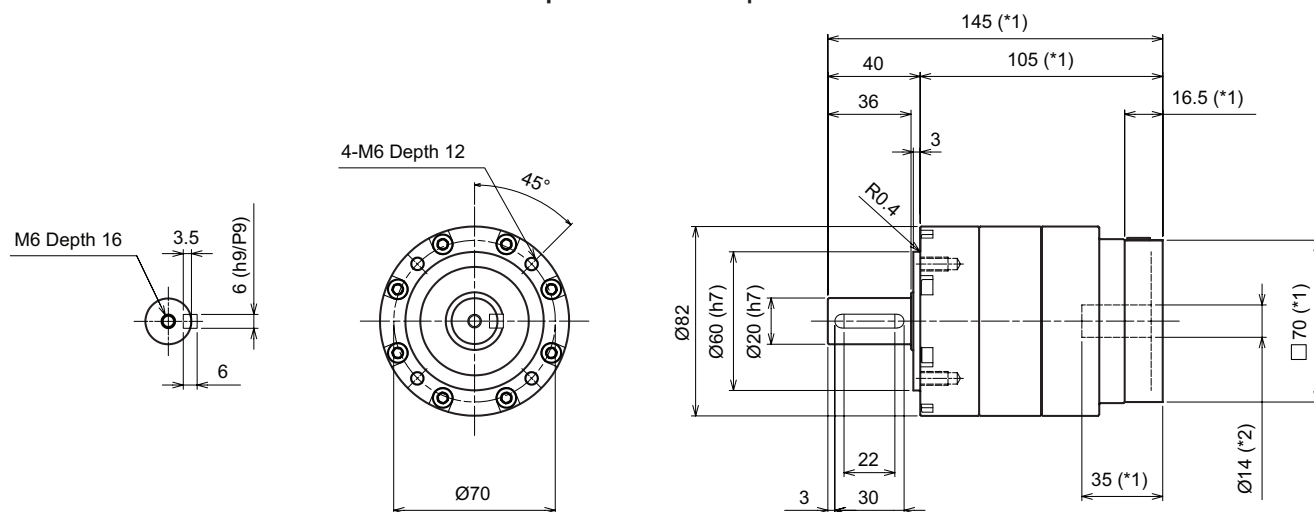
## PRE o82 2-Stage Specifications

| Frame Size                    | 082                  |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|----------------------|------|------|------|------|------|------|------|------|------|------|------|
| Ratio                         | Unit                 | Note | 12   | 15   | 16   | 20   | 25   | 35   | 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 <sup>2</sup> ] | --   | 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 <sup>2</sup> ] | --   | 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 <sup>2</sup> ] | --   | 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  |      |      |      |      |      |      |      |      |      |

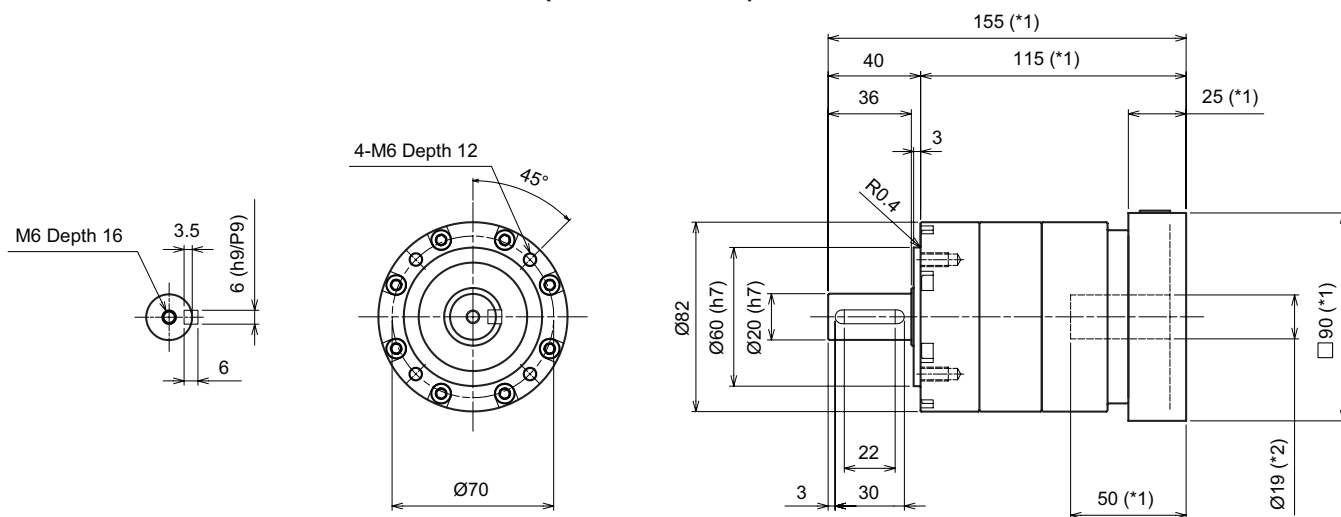
- \*1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- \*2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- \*3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- \*4) The average 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

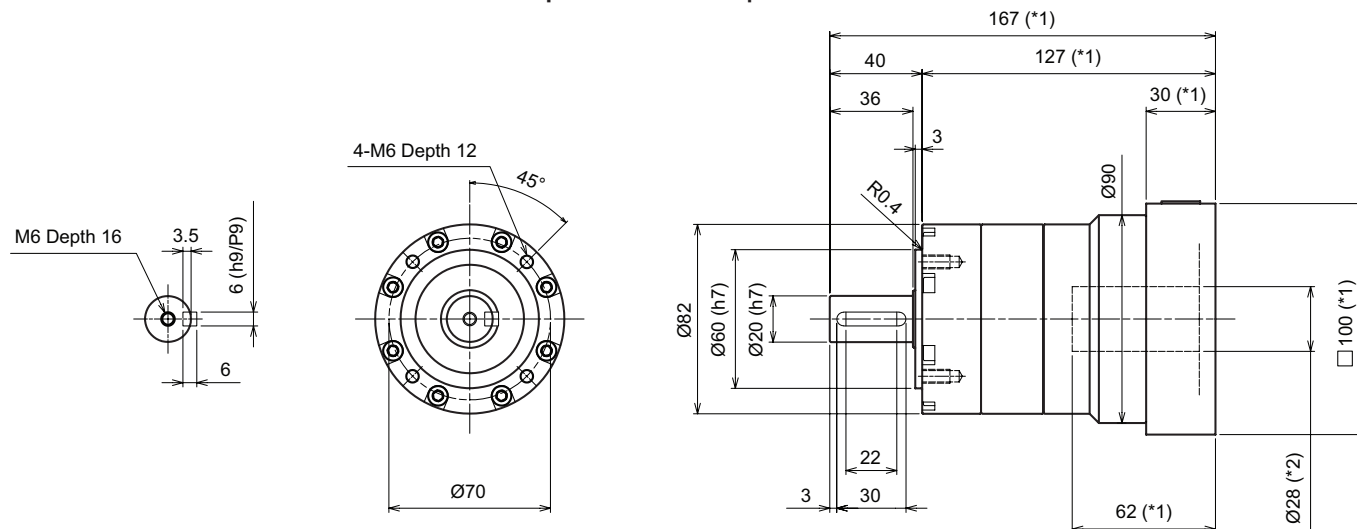
Input bore size  $\leq \varnothing 14$  mm



Input bore size  $\leq \varnothing 19$  mm



Input bore size  $\leq \varnothing 28$  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 <sup>2</sup> ] | --   | 2.38      | 1.45  | 1.17  | 0.88  | 0.85  | 0.83  |
| Moment of Inertia ( $\leq \varnothing 28$ ) | [kgcm <sup>2</sup> ] | --   | 4.41      | 3.48  | 3.13  | 2.89  | 2.86  | 2.84  |
| Moment of Inertia ( $\leq \varnothing 38$ ) | [kgcm <sup>2</sup> ] | --   | 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]            | --   | $\leq 8$  |       |       |       |       |       |
| Noise Level                                 | dB [A]               | *11  | $\leq 65$ |       |       |       |       |       |
| 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

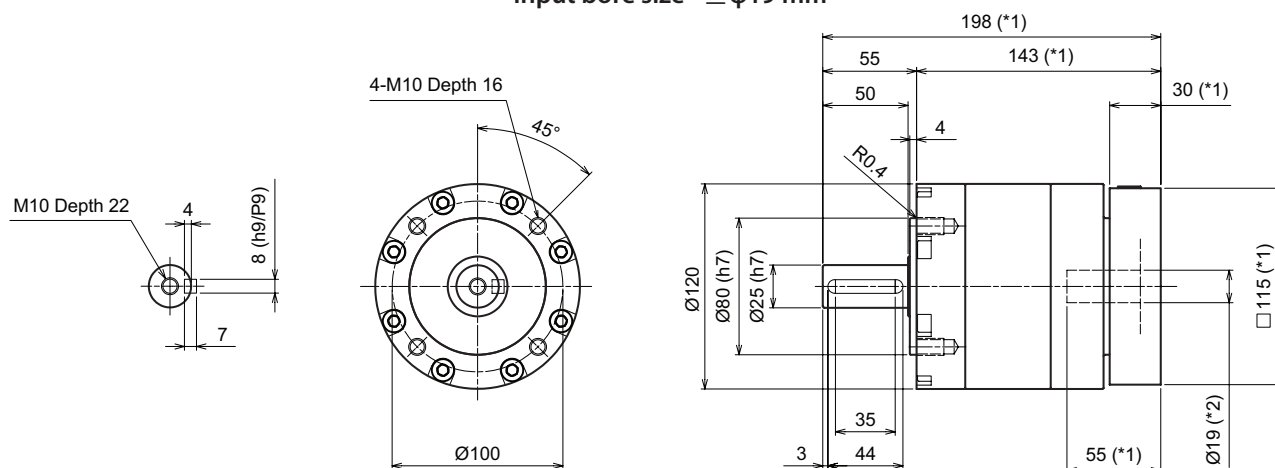
## PRE 120 2-Stage Specifications

| Frame Size                                  | 120                  |      |           |      |      |      |      |      |      |      |      |      |
|---------------------------------------------|----------------------|------|-----------|------|------|------|------|------|------|------|------|------|
| Ratio                                       | Unit                 | Note | 12        | 15   | 16   | 20   | 25   | 35   | 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 <sup>2</sup> ] | --   | 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 <sup>2</sup> ] | --   | 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 <sup>2</sup> ] | --   | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Efficiency                                  | [%]                  | *9   | 90        |      |      |      |      |      |      |      |      |      |
| Torsional Rigidity                          | [Nm/arc-min]         | *10  | 15        |      |      |      |      |      |      |      |      |      |
| Maximum Torsional Backlash                  | [arc-min]            | --   | $\leq 10$ |      |      |      |      |      |      |      |      |      |
| Noise Level                                 | dB [A]               | *11  | $\leq 65$ |      |      |      |      |      |      |      |      |      |
| Protection Class                            | *15                  | --   | IP54      |      |      |      |      |      |      |      |      |      |
| Ambient Temperature                         | [°C]                 | --   | 0-40      |      |      |      |      |      |      |      |      |      |
| Permitted Housing Temperature               | [°C]                 | --   | 90        |      |      |      |      |      |      |      |      |      |
| Weight                                      | [kg]                 | *12  | 8.8       |      |      |      |      |      |      |      |      |      |

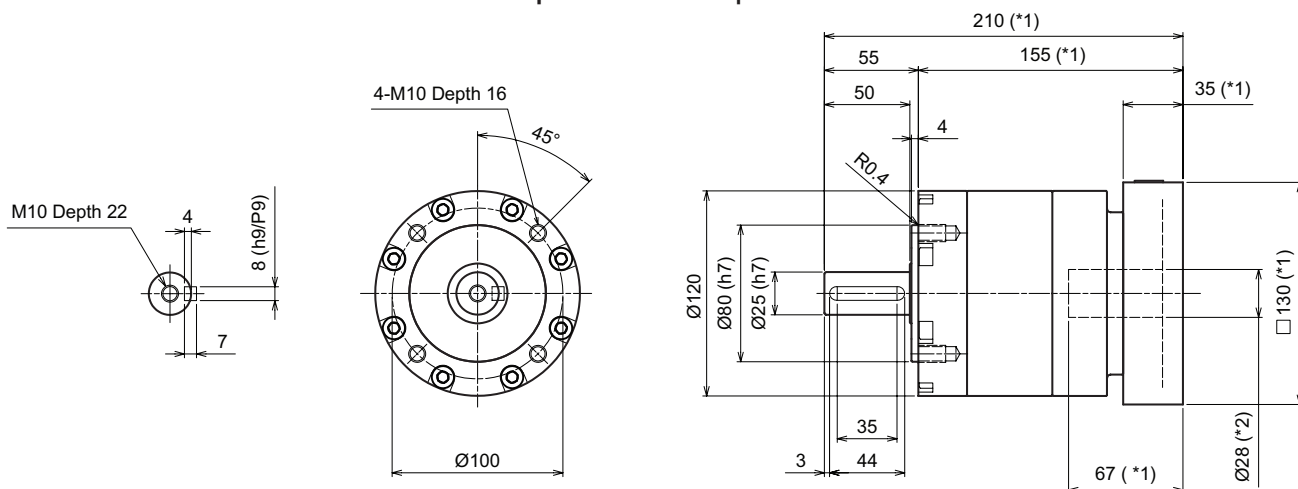
- \*1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- \*2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- \*3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- \*4) The average 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

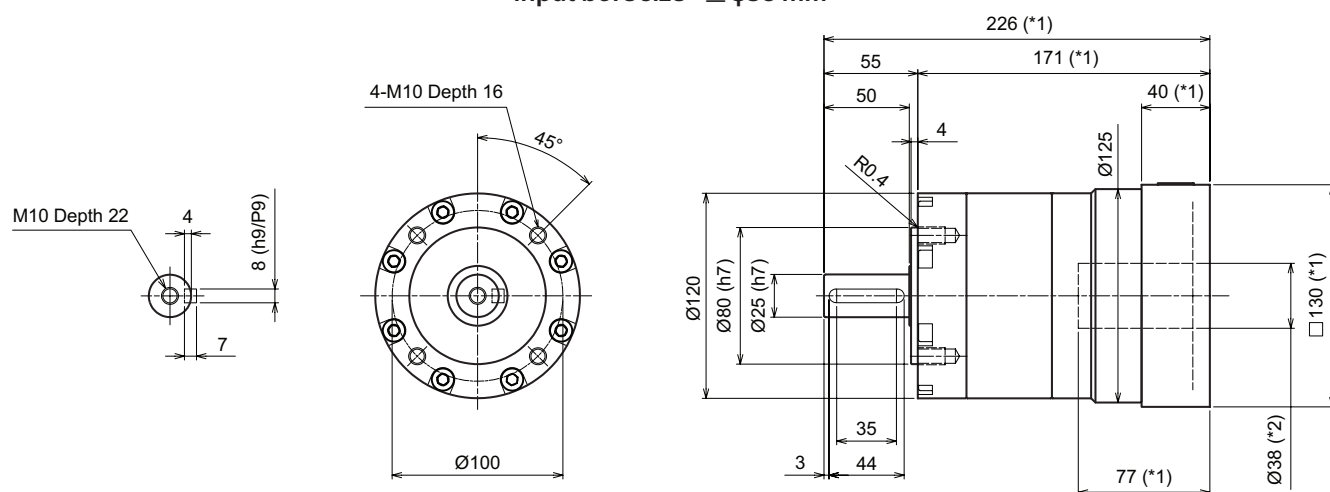
Input bore size  $\leq \phi 19$  mm



Input bore size  $\leq \phi 28$  mm



Input bore size  $\leq \phi 38$  mm

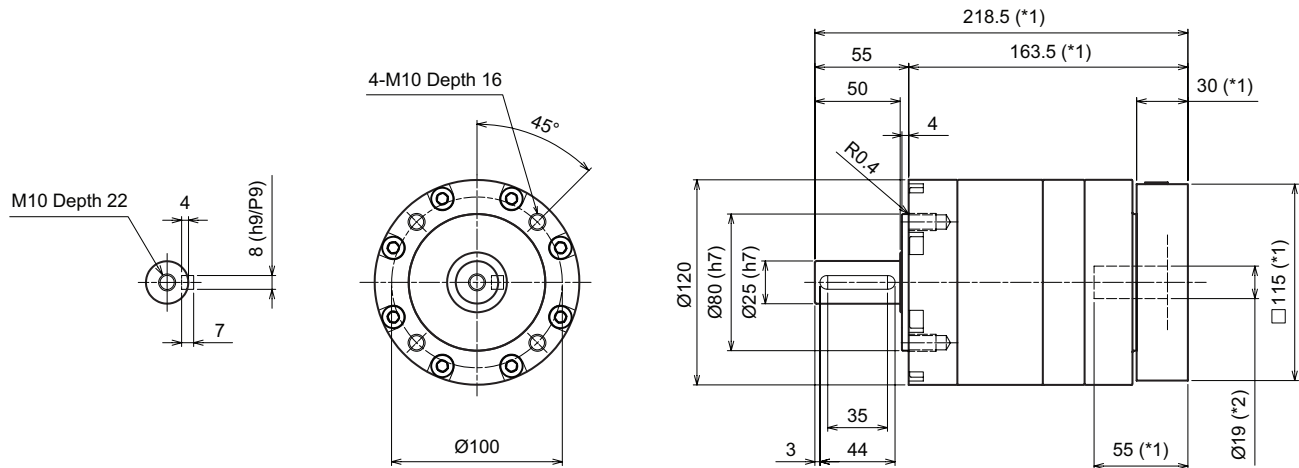


\*1) Length will vary depending on motor

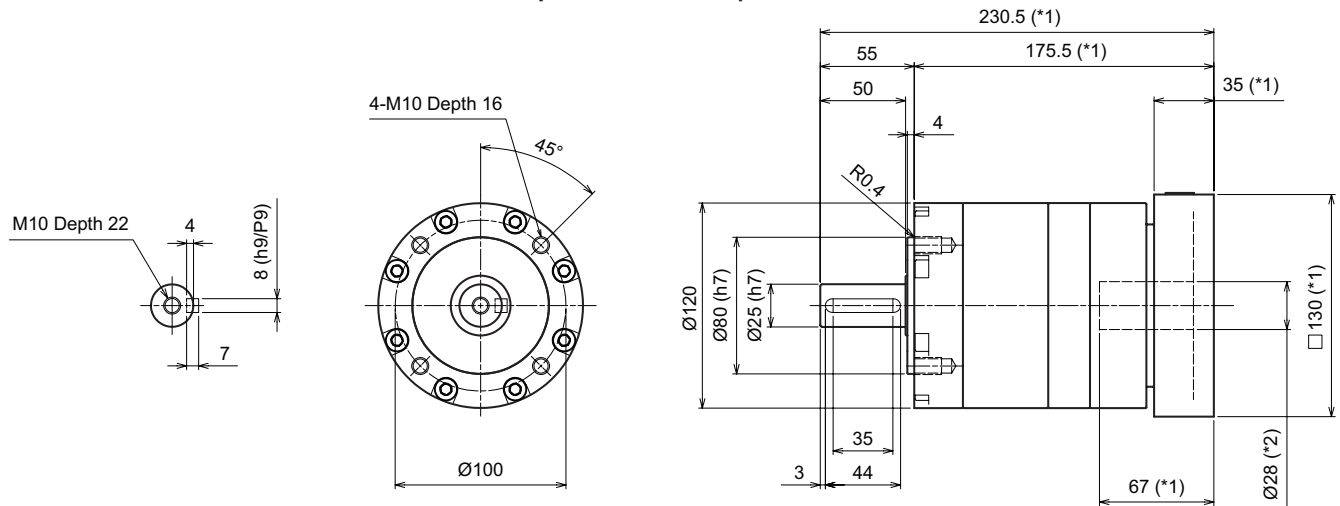
\*2) Bushing will be inserted to adapt to motor shaft

## 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 <sup>2</sup> ] | --   | 7.17      | 3.67  | 2.62  | 1.60  | 1.50  | 1.43  |
| Moment of Inertia ( $\leq \varnothing 38$ ) | [kgcm <sup>2</sup> ] | --   | 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]            | --   | $\leq 8$  |       |       |       |       |       |
| Noise Level                                 | dB [A]               | *11  | $\leq 70$ |       |       |       |       |       |
| 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

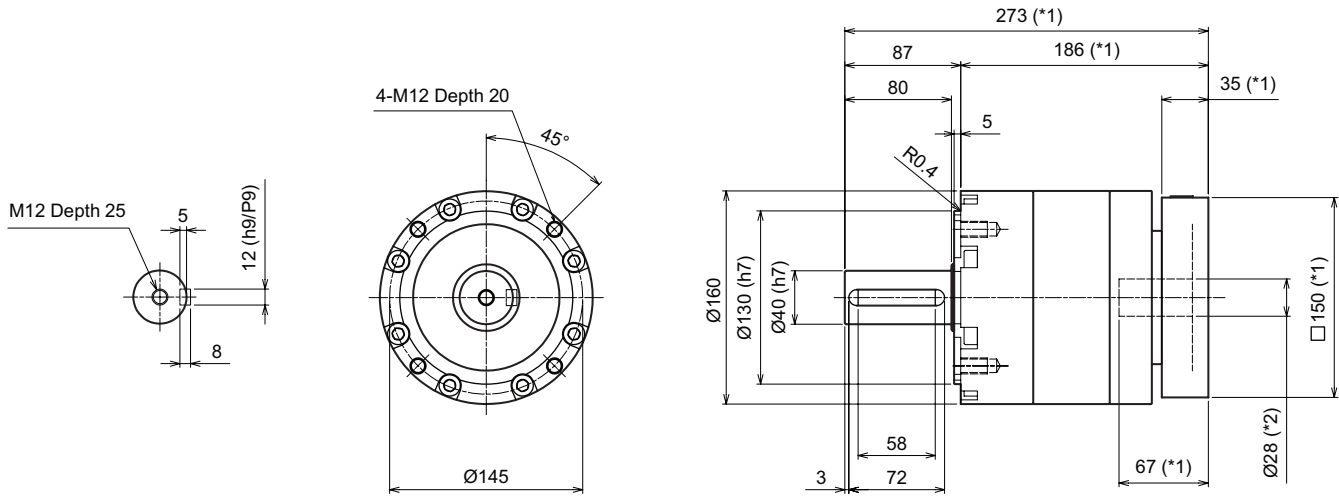
## PRE 160 2-Stage Specifications

| Frame Size                    | 160                  |      |       |       |       |       |       |       |       |       |       |       |
|-------------------------------|----------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ratio                         | Unit                 | Note | 12    | 15    | 16    | 20    | 25    | 35    | 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 (≤ Ø 28)    | [kgcm <sup>2</sup> ] | --   | 5.41  | 2.50  | 2.55  | 1.94  | 1.89  | 2.42  | 1.23  | 3.11  | 3.09  | 3.09  |
| Moment of Inertia (≤ Ø 38)    | [kgcm <sup>2</sup> ] | --   | 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  |       |       |       |       |       |       |       |       |       |

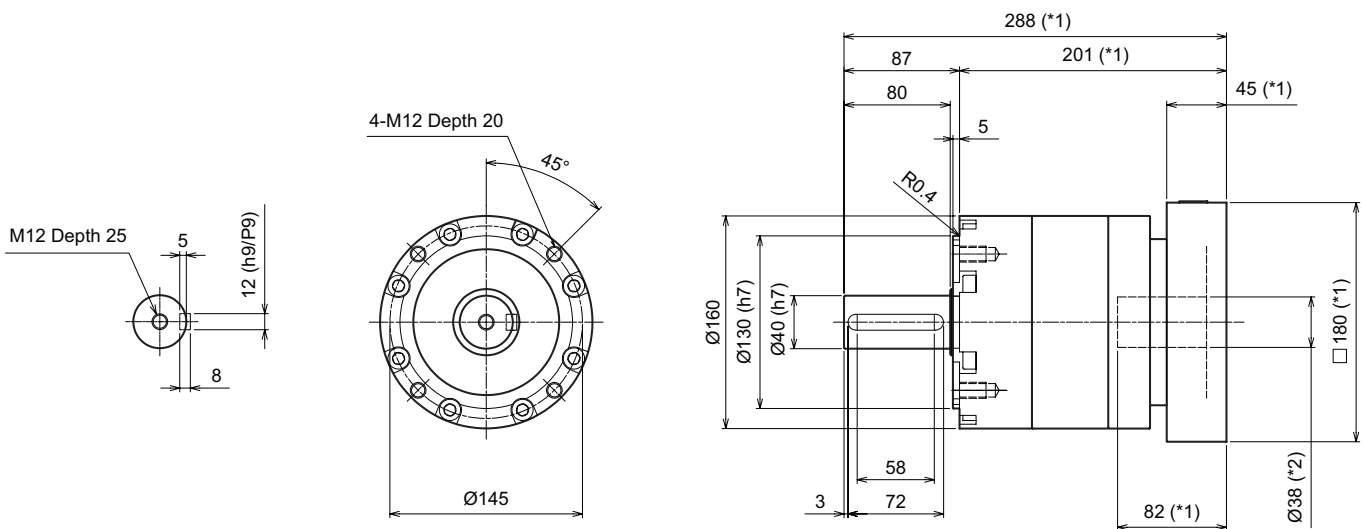
- \*1) Continuous rating at 100% duty cycle, S1 operation, measured at 100rpm output and 30°C
- \*2) Permitted for 30,000 output shaft revolutions. Note operation factor on page 469
- \*3) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- \*4) The average 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

