

VRT 110 1-Stage Specifications

| Frame Size | 110 | | | | | |
|---|----------------------|------|--------------------------------------|------|------|------|
| Ratio | Unit | Note | 4 | 5 | 7 | 10 |
| Nominal Output Torque | [Nm] | *1 | 146 | 190 | 190 | 190 |
| Maximum Acceleration Torque | [Nm] | *2 | 390 | 390 | 390 | 292 |
| Maximum Torque | [Nm] | *3 | 490 | 490 | 480 | 370 |
| Emergency Stop Torque | [Nm] | *4 | 625 | 625 | 625 | 500 |
| Nominal Input Speed | [rpm] | *5 | 2800 | 2800 | 2800 | 2800 |
| Maximum Input Speed | [rpm] | *6 | 5500 | 5500 | 5500 | 5500 |
| No Load Running Torque | [Nm] | *7 | 0.77 | | | |
| Maximum Radial Load | [N] | *8 | 12000 | | | |
| Maximum Axial Load | [N] | *9 | 8800 | | | |
| Maximum Tilting Moment | [Nm] | *10 | 990 | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 3.1 | 2.1 | 1.3 | 0.99 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.8 | 3.8 | 3.1 | 2.7 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 11 | 10 | 9.5 | 9.0 |
| Efficiency | [%] | *11 | 95 | | | |
| Torsional Rigidity | [Nm/arcmin] | *12 | 80 | 86 | 76 | 62 |
| Maximum Torsional Backlash | [Arc-min] | -- | Standard ≤ 3 / Reduced ≤ 1 | | | |
| Noise Level | dB [A] | *13 | ≤ 71 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 7.8 | | | |

VRT 110 2-Stage Specifications

| Frame Size | 110 | | | | | |
|---|----------------------|------|--------------------------------------|------|------|------|
| Ratio | Unit | Note | 16 | 20 | 25 | 28 |
| Nominal Output Torque | [Nm] | *1 | 200 | 220 | 280 | 280 |
| Maximum Acceleration Torque | [Nm] | *2 | 390 | 390 | 390 | 390 |
| Maximum Torque | [Nm] | *3 | 390 | 390 | 390 | 390 |
| Emergency Stop Torque | [Nm] | *4 | 625 | 625 | 625 | 625 |
| Nominal Input Speed | [rpm] | *5 | 3100 | 3100 | 3100 | 3100 |
| Maximum Input Speed | [rpm] | *6 | 6500 | 6500 | 6500 | 6500 |
| No Load Running Torque | [Nm] | *7 | 0.17 | | | |
| Maximum Radial Load | [N] | *8 | 12000 | | | |
| Maximum Axial Load | [N] | *9 | 8800 | | | |
| Maximum Tilting Moment | [Nm] | *10 | 990 | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | - | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 1.0 | 0.76 | 0.73 | 0.94 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.4 | 1.1 | 1.1 | 1.3 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.2 | 2.9 | 2.9 | 3.1 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 9.5 | 9.2 | 9.1 | 9.4 |
| Efficiency | [%] | *11 | 90 | | | |
| Torsional Rigidity | [Nm/arcmin] | *12 | 81 | 81 | 83 | 80 |
| Maximum Torsional Backlash | [Arc-min] | -- | Standard ≤ 3 / Reduced ≤ 1 | | | |
| Noise Level | dB [A] | *13 | ≤ 71 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 8.6 | | | |

VRT 110 2-Stage Specifications

| Frame Size | 110 | | | | | | | |
|---|----------------------|------|--------------------------------------|------|------|------|------|--|
| Ratio | Unit | Note | 35 | 40 | 50 | 70 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 280 | 270 | 280 | 280 | 220 | |
| Maximum Acceleration Torque | [Nm] | *2 | 390 | 390 | 390 | 390 | 292 | |
| Maximum Torque | [Nm] | *3 | 390 | 390 | 390 | 390 | 292 | |
| Emergency Stop Torque | [Nm] | *4 | 625 | 625 | 625 | 625 | 500 | |
| Nominal Input Speed | [rpm] | *5 | 3100 | 3100 | 3500 | 4200 | 4200 | |
| Maximum Input Speed | [rpm] | *6 | 6500 | 6500 | 6500 | 6500 | 6500 | |
| No Load Running Torque | [Nm] | *7 | 0.17 | | | | | |
| Maximum Radial Load | [N] | *8 | 12000 | | | | | |
| Maximum Axial Load | [N] | *9 | 8800 | | | | | |
| Maximum Tilting Moment | [Nm] | *10 | 990 | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | -- | -- | 0.20 | 0.19 | 0.19 | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.70 | 0.38 | 0.37 | 0.36 | 0.36 | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.1 | 0.78 | 0.77 | 0.76 | 0.76 | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 2.8 | 2.5 | 2.5 | 2.5 | 2.5 | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 9.1 | 8.8 | 8.8 | 8.8 | 8.8 | |
| Efficiency | [%] | *11 | 90 | | | | | |
| Torsional Rigidity | [Nm/arcmin] | *12 | 82 | 76 | 80 | 71 | 60 | |
| Maximum Torsional Backlash | [Arc-min] | -- | Standard ≤ 3 / Reduced ≤ 1 | | | | | |
| Noise Level | dB [A] | *13 | ≤ 71 | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | |
| Weight | [kg] | *15 | 8.6 | | | | | |

*1 At nominal input speed, service life is 20,000 hours

*2 The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications

*3 Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft

*4 The maximum torque allowed under a stress situation. Permitted 1,000 times during service life

*5 The average input speed at nominal input torque. Maintain housing temperature below permitted value

*6 The maximum intermittent input speed

*7 Torque at no load applied to the input shaft at nominal input speed

*8 The maximum radial load that the gearbox can accept

*9 The maximum axial load that the gearbox can accept

*10 The maximum load at output flange surface

*11 The efficiency at the nominal output torque rating

*12 This does not include lost motion

*13 Contact Nidec Drive Technology for the testing conditions and environment

*14 IP65 (wash-down) is available as an option. Contact Nidec Drive Technology for more details

*15 Weight may vary slightly between models

VRSF

PRE

PRF

VRL

VRB

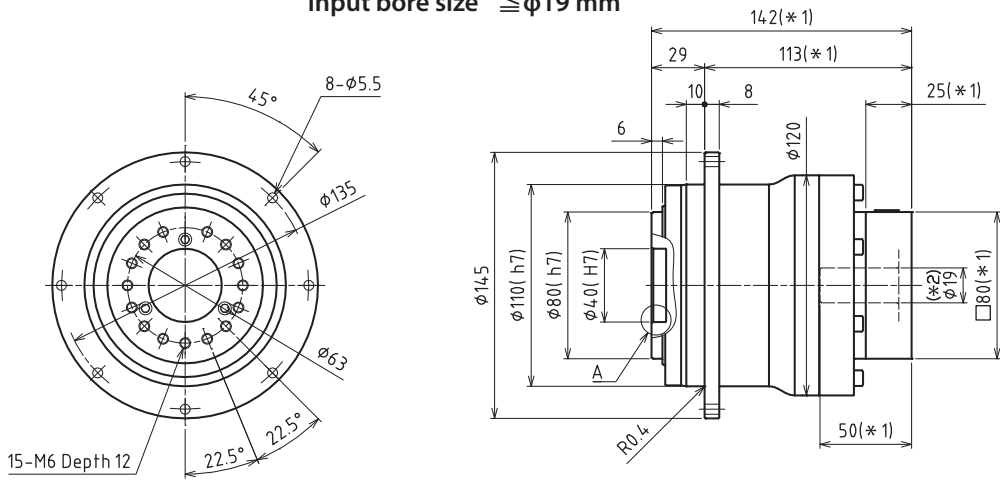
VR5

VRT

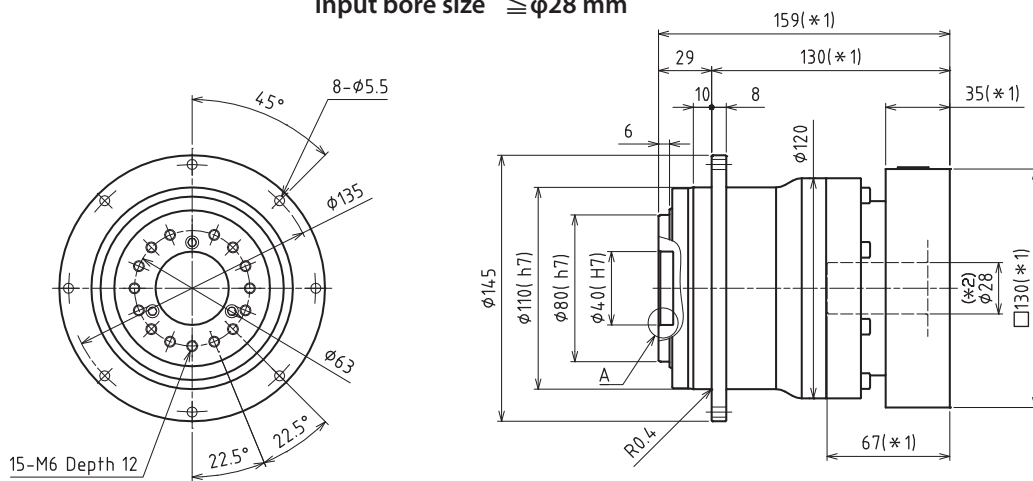
PLANETARY Inline Gear Reducers

VRT 110 1-Stage Dimensions

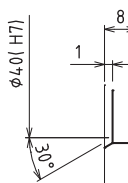
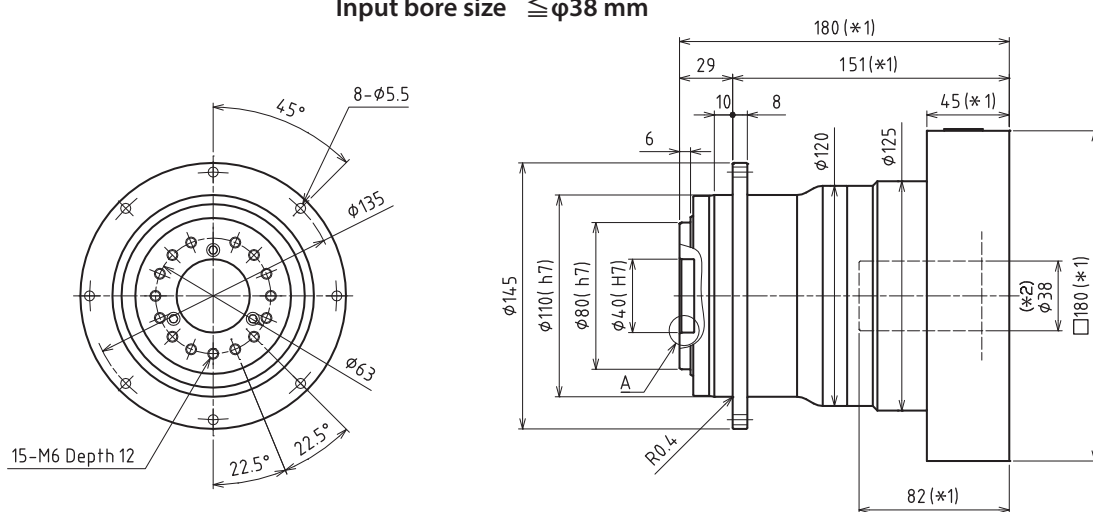
Input bore size $\leq \varnothing 19$ mm



Input bore size $\leq \varnothing 28$ mm



Input bore size $\leq \varnothing 38$ mm



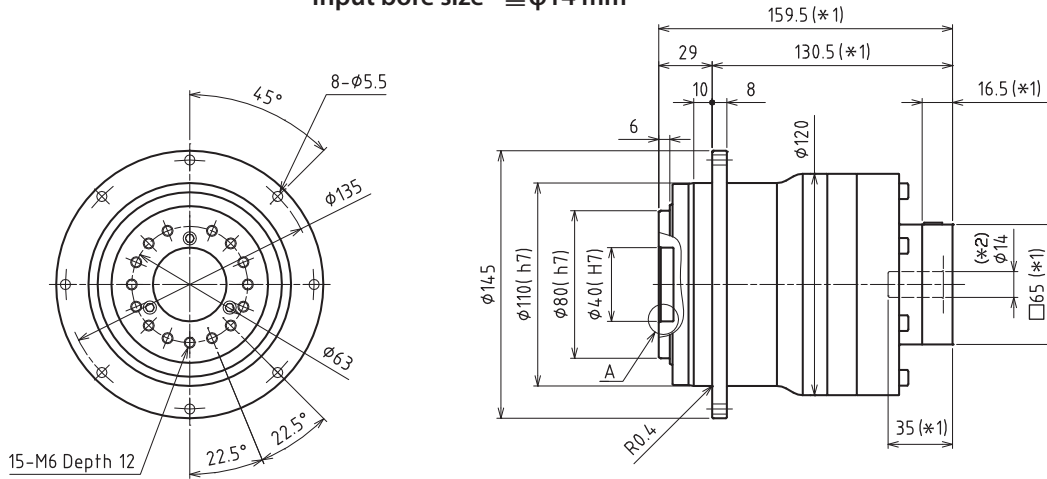
Enlarged detail A

*1 Length will vary depending on motor

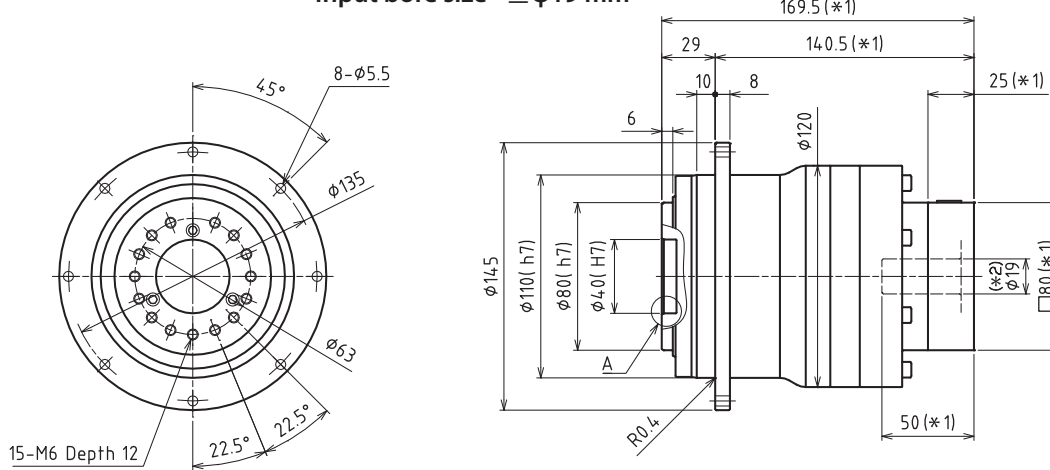
*2 Bushing will be inserted to adapt to motor shaft

VRT 110 2-Stage Dimensions

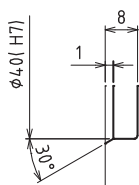
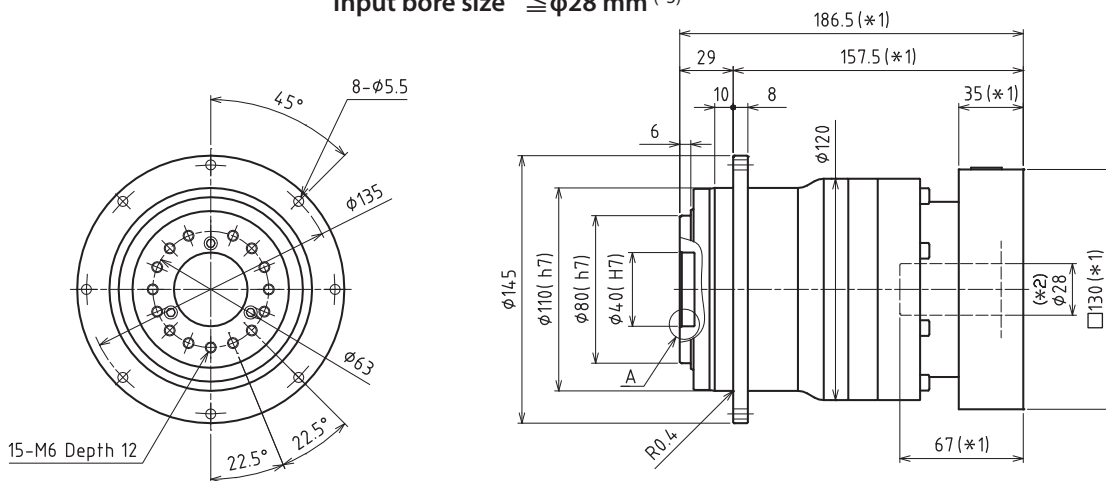
Input bore size $\leq \phi 14$ mm



Input bore size $\leq \phi 19$ mm



Input bore size $\leq \phi 28$ mm^(*3)



Enlarged detail A

*1 Length will vary depending on motor

*2 Bushing will be inserted to adapt to motor shaft

*3 38mm input bore is available for this frame size. Use our online configurator to make your selection or contact us for assistance

VRSF

PRE

PRF

VRL

VRB

VRS

VRT