

Planetary Gearboxes



A *Nidec* Group Company

SHIMPO

All for dreams



PLANETARY GEARBOXES



OVERVIEW

1 ÷ 5



VRL-Series

Planetary Inline Configuration
General purpose

6 ÷ 53



VRB-Series

Planetary Inline Configuration
General purpose, simple mount

54 ÷ 99



VRS-Series

Planetary Inline Configuration
Highest radial, axial load capacity

100 ÷ 145



VRT-Series

Planetary Inline Configuration
Compact, ISO flange mount

146 ÷ 197



EVL-Series

Planetary Right-angle Configuration
General purpose

198 ÷ 237



EVB-Series

Planetary Right-angle Configuration
General purpose, simple mount

238 ÷ 277



EVS-Series

Planetary Right-angle Configuration
Highest radial, axial load capacity

278 ÷ 323



STH-Series

Hollow Output Rotary Actuator
Great moment load, general duty

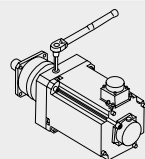
324 ÷ 331



STR-Series

Hollow Output Rotary Actuator
Highest moment load, "zero" backlash

332 ÷ 361



TECHNICAL INFORMATION

362 ÷ 373



PINION-RACK

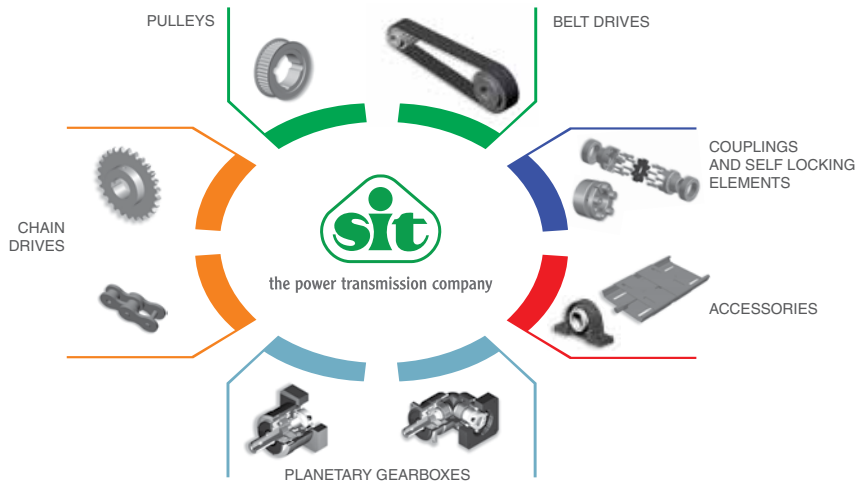
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Planetary Gearboxes






NIDEC-SHIMPO Planetary Gearboxes show excellent versatility combined with very high quality, certified by a manufacturing process which includes constant checks of each component, and final tests of the complete product for angular backlash, noise, back-drive resistance and slip resistance. Through the use of software optimized helical gearing, a superior tooth hardening process, and extremely close machining tolerances, we can offer an optimum power density which will satisfy the highest dynamic and precision requirements. **NIDEC-SHIMPO** gearboxes are interchangeable with most of the gear on the market.



Solutions that **change**
 the mechatronic world.

Gear Reducer Selection Overview

| | |  |  |  |  |
|------------------------------------|--------------|---|---|--|---|
| Product Series | | VRL | VRB | VRS | VRT |
| Catalog Page | | 6 | 54 | 100 | 146 |
| Axis of Orientation | | Coaxial | Coaxial | Coaxial | Coaxial |
| Gear Description | | Planetary helical | Planetary helical | Planetary helical | Planetary helical |
| Frame | Smallest | 050 | 042 | 060 | 047 |
| | Largest | 235 | 220 | 240 | 285 |
| | Variety | 6 | 6 | 7 | 7 |
| Ratio | Minimum | 3 | 3 | 3 | 4 |
| | Maximum | 100 | 100 | 100 | 100 |
| | Variety | 22 | 22 | 22 | 19 |
| Installation | | | | | |
| Rounded, Tapping Holes on Casing | | ■ | | | |
| Square, Through Holes on Casing | | | ■ | ■ | |
| Rounded, Through Holes on Casing | | | | | |
| Lubrication | | | | | |
| Grease | | ■ | ■ | ■ | |
| Oil | | | | | |
| Input | | | | | |
| Direct Clamp | | ■ | ■ | ■ | |
| Keyed Shaft | | | | | |
| Output | | | | | |
| Smooth Shaft with Tapping Hole | | ■ | ■ | ■ | |
| Shaft with Tapping Hole and Keyway | | ■ | ■ | ■ | |
| Flanged Connection | | | | | |
| Flange with Hollow Bore | | | | | |
| Bearing Type on Output | | | | | |
| Ball Bearing | | ■ | ■ | | |
| Tapered Roller Bearing | | | | ■ | |
| Cross Roller Bearing | | | | | |
| Performance Specification | | | | | |
| Radial Load | | Ordinary | Ordinary | Excellent | Excellent |
| Thrust Load | | Ordinary | Ordinary | Excellent | Excellent |
| Backlash Rating | < 1 arc/min | | | | |
| | ≤ 2 arc/min | | | | |
| | ≤ 3 arc/min | | ■ | ■ | |
| | ≤ 5 arc/min | ■ | | | |
| | ≤ 6 arc/min | | | | |
| | ≤ 8 arc/min | | | | |
| | ≤ 9 arc/min | | | | |
| | ≤ 10 arc/min | | | | |
| ≤ 11 arc/min | | | | | |
| ≤ 15 arc/min | | | | | |
| ≤ 30 arc/min | | | | | |
| Torsional Rigidity | | Ordinary | Ordinary | Excellent | Excellent |
| Efficiency | | Excellent | Excellent | Excellent | Excellent |

| | |  |  |  |  |  |
|------------------------------------|--------------|---|---|--|---|---|
| Product Series | | EVL | EVB | EVS | STH | STR |
| Catalog Page | | 198 | 238 | 278 | 324 | 332 |
| Axis of Orientation | | Right-angle | Right-angle | Right-angle | Off-set rotary stage | Right-angle |
| Gear Description | | Spiral bevel/Planetary | Spiral bevel/Planetary | Spiral bevel/Planetary | Planetary w/ Rotary stage | Roller gear/cam mechanism |
| Frame | Smallest | 070 | 060 | 060 | 052 (B frame) | 040 |
| | Largest | 235 | 220 | 240 | 078 (C frame) | 240 |
| | Variety | 6 | 6 | 7 | 2 | 7 |
| Ratio | Minimum | 3 | 3 | 3 | 12 | 15 |
| | Maximum | 100 | 100 | 100 | 324 | Various* |
| | Variety | 22 | 22 | 22 | 9 | Various* |
| Installation | | | | | | |
| Rounded, Tapping Holes on Casing | | ■ | | | | |
| Square, Through Holes on Casing | | | ■ | ■ | ■ | ■* |
| Rounded, Through Holes on Casing | | | | | | |
| Lubrication | | | | | | |
| Grease | | ■ | ■ | ■ | ■ | ■ |
| Oil | | | | | | |
| Input | | | | | | |
| Direct Clamp | | ■ | ■ | ■ | ■ | ■* |
| Keyed Shaft | | | | | | |
| Output | | | | | | |
| Smooth Shaft with Tapping Hole | | ■ | ■ | ■ | | |
| Shaft with Tapping Hole and Keyway | | ■ | ■ | ■ | | |
| Flanged Connection | | | | | | |
| Flange with Hollow Bore | | | | | ■ | ■ |
| Bearing Type on Output | | | | | | |
| Ball Bearing | | ■ | ■ | | | |
| Tapered Roller Bearing | | | | ■ | | |
| Cross Roller Bearing | | | | | ■ | ■ |
| Performance Specification | | | | | | |
| Radial Load | | Ordinary | Ordinary | Excellent | Ordinary | Excellent |
| Thrust Load | | Ordinary | Ordinary | Excellent | Excellent | Excellent |
| Backlash Rating | < 1 arc/min | | | | | |
| | ≤ 2 arc/min | | | | ■ | |
| | ≤ 3 arc/min | | | | | |
| | ≤ 5 arc/min | | | | ■ | |
| | ≤ 6 arc/min | ■ | ■ | ■ | | |
| | ≤ 8 arc/min | | | | | |
| | ≤ 9 arc/min | ■ | ■ | ■ | | |
| | ≤ 10 arc/min | | | | ■ | |
| ≤ 11 arc/min | | | | | | |
| ≤ 15 arc/min | | | | | | |
| ≤ 30 arc/min | | | | | | |
| Torsional Rigidity | | Ordinary | Ordinary | Excellent | Ordinary | Excellent |
| Efficiency | | Excellent | Excellent | Excellent | Excellent | Ordinary |

NOTE: *(STR) motor connection to VRB/EVB reducer

SHIMPO ABLE Gear Reducers



Industrial Areas of Expertise



Machine Tool and Metal Forming

A selection of robust and durable speed reducers, both planetary and cycloidal, for heavier duty or high shock load applications. Many choices for the different levels of precision, torque ratings, and mounting options required on the different axes of movement.



Custom Assembly and Test Automation

A wide variety of frame sizes and ratios are available for immediate delivery to solve any inertia matching application within turn-key projects. The hollow-bore rotary products and planetary reducers with high torsional rigidity characteristics are ideal for many indexing applications.



Packaging and Filling Machinery

An assortment of inline and right angle speed reducers at different price points, depending on the specifications needed. For the OEM, this provides ideal, cost-effective, gear reduction solutions for exported packaging equipment or applications where you are transitioning from induction motor or hydraulics to servo motor technology.



Printing and Converting Equipment

Our reducers are designed to minimize the heat generated, and they are therefore capable of operating at higher speeds and within continuous duty environments. An assortment of size and ratio combinations are available that allow proper selection to maximize operating efficiency for varying cycle speeds.



Medical and Health Care Related Systems

We offer extremely accurate positioning characteristics and high quality gear reducers that maintain a level of performance consistency required in medical applications. Our inline speed reducers are ideal for commercial equipment applications involving pumping, mobile equipment, and smooth positioning.



Semiconductor and Circuit Manufacturing

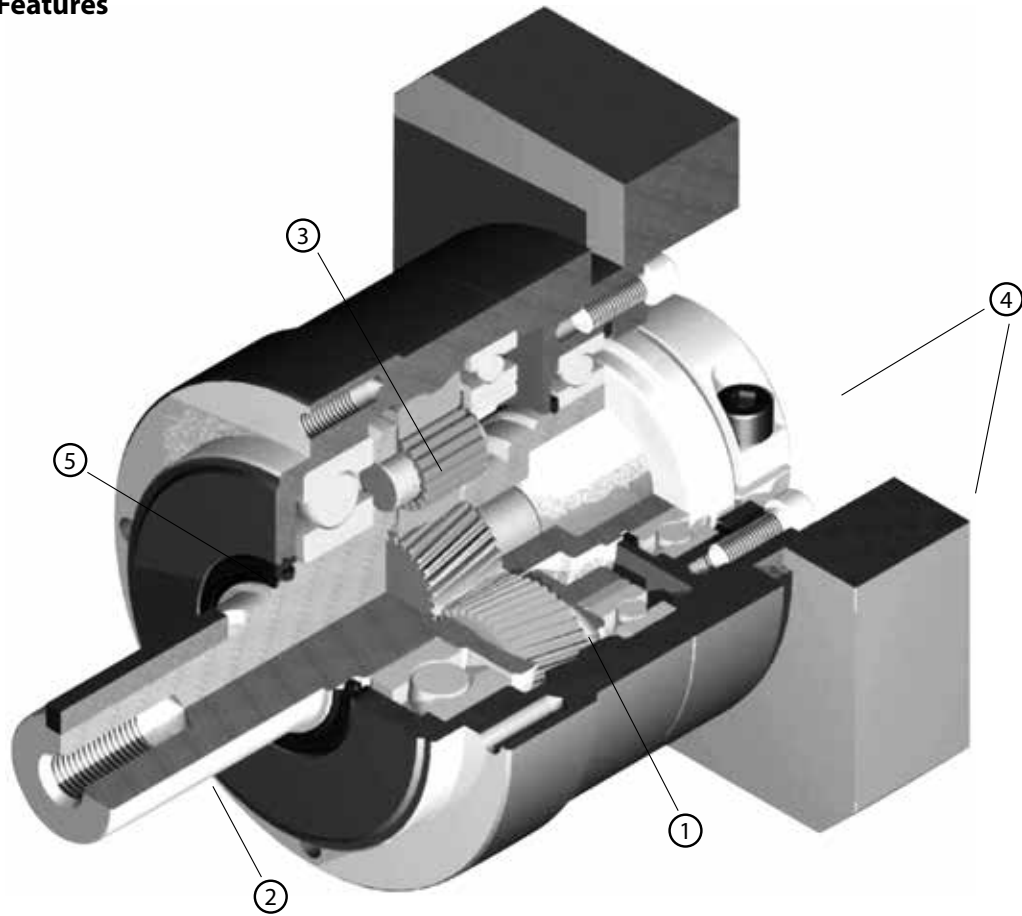
A broad offering of high precision, clean room friendly planetary and hollow-bore rotary reducers that are preferable over belt drives and other reduction methods that can introduce contamination. Custom coatings and materials are available for OEM applications when necessary for corrosive chamber environments and different clean room classifications.



VRL-SERIES

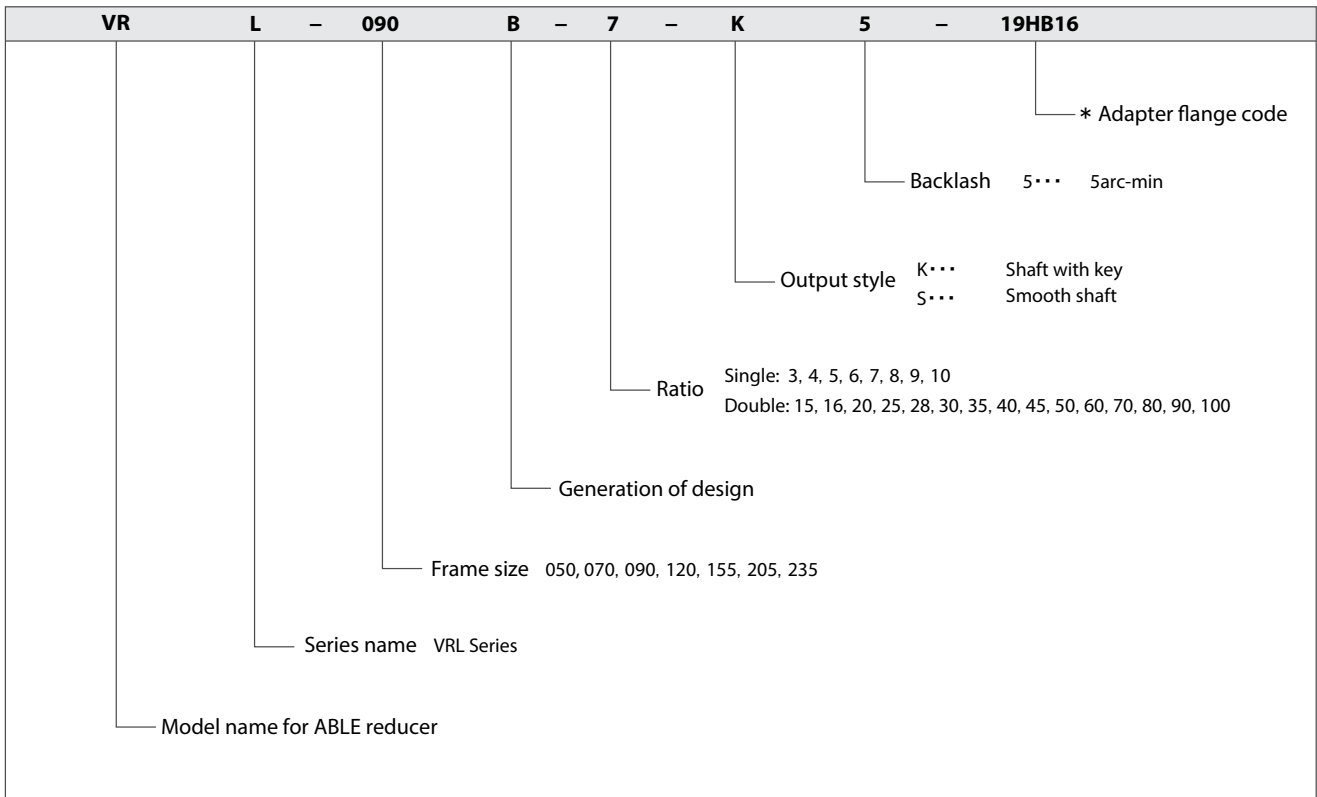
- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thread-in mounting style
- Best-In-class backlash (≤ 5 arc/min)

VRL-Series- Features



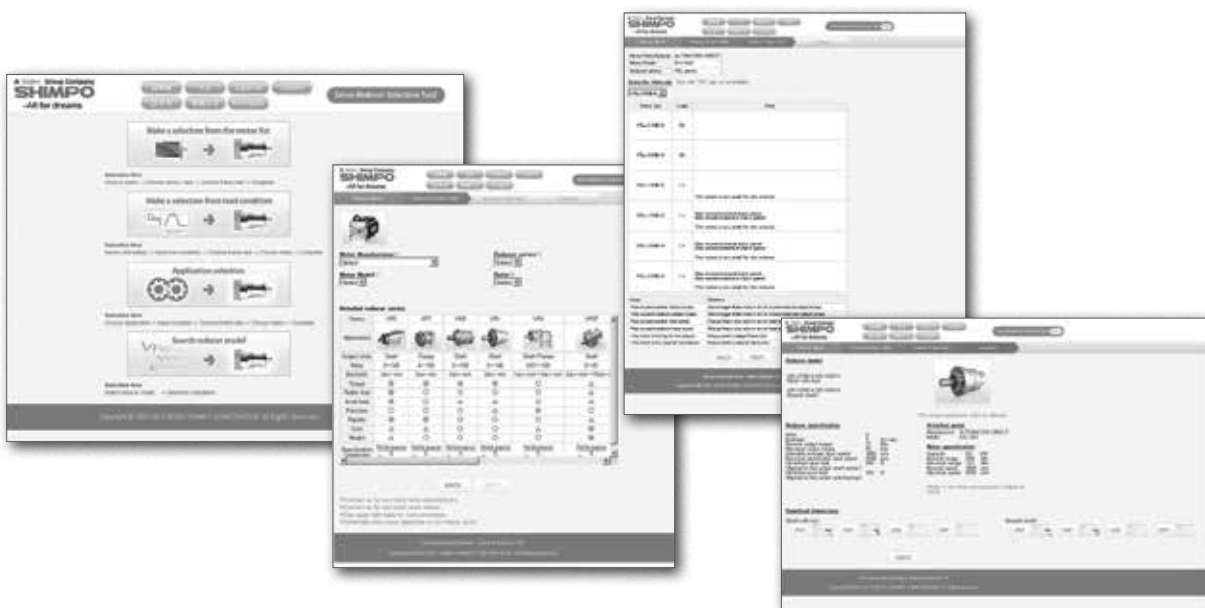
- ① Quiet operation: Helical cut gears contribute to reduced vibration and noise
- ② High precision: Standard backlash is 5 arc/min, ideal for the most accurate applications
- ③ High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ④ Adapter bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

VRL-Series – Model Code



- *1) Adapter flange code
Adapter flange code varies depending on the motor
- *2) For all washdown intensive and food grade options, refer to pages 10 and 11

Contact us for additional information or refer to our online reducer selection tool.
Selection tool www.nidec-shimpo.co.jp/selection/eng



ABLE Washdown and Food Duty Reducers

Motion control applications for production environments within the Food and Beverage, Personal Care, and Pharmaceutical industries often require materials of construction and sealants that provide higher levels of protection. To improve our product offering to these customers, NI-DEC-SHIMPO is now offering Washdown and Food Grade à la carte options for our inline and right-angle planetary reducers. These options provide ultimate flexibility without sacrificing on precision and performance.

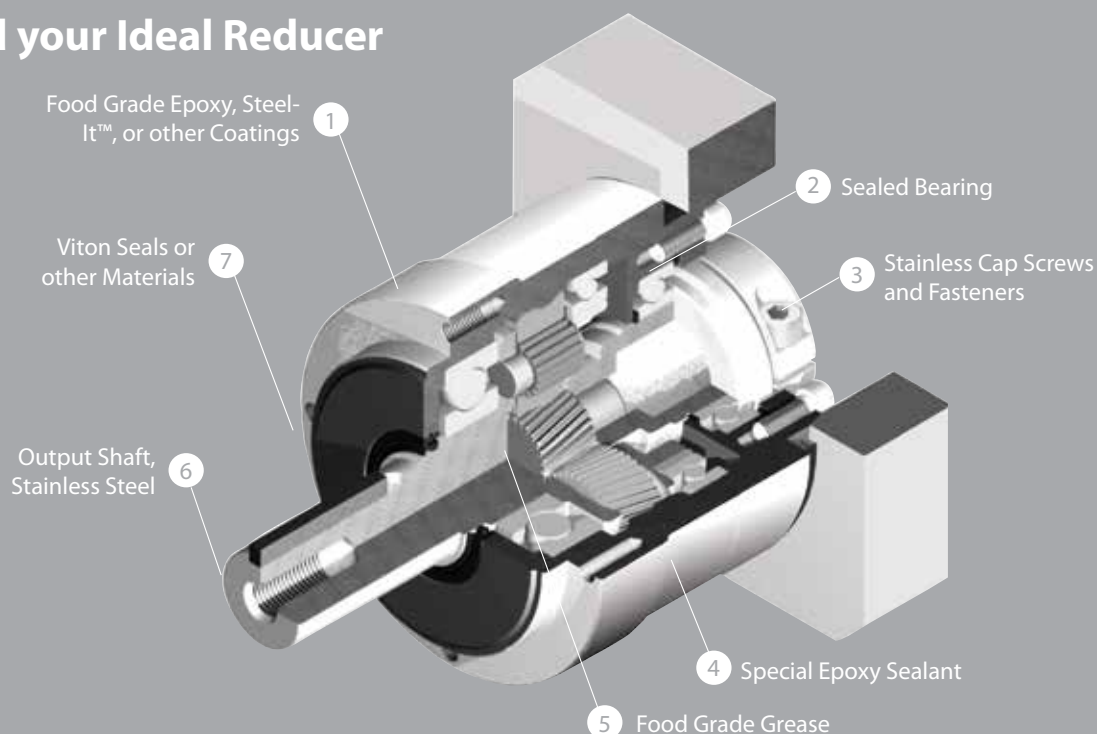
Upgradeable Features include the following;

- *Special coatings, including Food Grade white epoxy, Steel-It, among others*
- *Sealed bearing, and Viton seal at output*
- *Stainless steel screws, fasteners, etc.*
- *Special sealant for better resistance to solvents*
- *Stainless steel output shaft*
- *Food Grade grease for exposure sensitive environments*

Note:

- 1) For Food Grade grease, special consideration is required when sizing the reducer. Contact SIT S.P.A. for support on these applications.
- 2) IP65 rating is based on standard protection criteria and commonly accepted test conditions. Any exposure at extreme conditions (continuous exposure, excessive pressure, etc.) is not considered accepted environment for given IP rating.

Build your Ideal Reducer



Immediate Availability for these Models:

| Series | VRL | | |
|------------|-----------------------------------|-----|-----|
| Frame Size | 070 | 090 | 120 |
| 1-Stage | 3, 5, 7, 10:1 | | |
| 2-Stage | 15, 25, 28, 30, 35, 50, 70, 100:1 | | |

| Series | VRB | | |
|------------|-----------------------------------|-----|-----|
| Frame Size | 060 | 090 | 115 |
| 1-Stage | 3, 5, 7, 10:1 | | |
| 2-Stage | 15, 25, 28, 30, 35, 50, 70, 100:1 | | |

Featured Series Product Extension



There are many Washdown and Food Grade features that can be added to your reducer. Below is an explanation on the model code, when specifying a reducer with the ideal performance and protection for your application.

Washdown – Model Code

| | | | | | | |
|------------|------------|------------|--------------------|----------|---------------|------------------------------|
| VRB | 090 | 007 | K | 3 | 19HB16 | XV |
| Series | Frame Size | Ratio | Output shaft style | Backlash | Adapter code | Washdown, Food Grade Options |

| Order Code | Description of Features |
|------------|---|
| X V | Food Grade Grease; Food Grade White Epoxy; IP 65; SS shaft |
| – | Standard Grease; Standard Paint |
| W | Standard Grease; Food Grade White Epoxy |
| S | Standard Grease; Steel - It™ |
| F | Food Grade Grease; Standard Paint |
| X | Food Grade Grease; Food Grade White Epoxy |
| G | Food Grade Grease; Steel – It™ |
| – | Standard Protection; Standard Shaft, Fasteners |
| I | Standard Protection; Stainless Steel Shaft, Fasteners |
| V | IP65 Protection; Stainless Steel Shaft, Fasteners |



As the global marketplace becomes increasingly competitive, NIDEC-SHIMPO continues to raise the bar in terms of product quality, flexibility, and availability – providing a real value to our customers. Our new Washdown and Food duty reducers serve as another good example where NIDEC-SHIMPO is delivering improved value to our customers.

Featured Series Product Extension

VRL-050 – 1-Stage Specifications

| Frame Size | 050 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 6 | 9 | 9 | 9 | 9 | 9 | 6 | 6 |
| Maximum Acceleration Torque | [Nm] | *2 | 12 | 18 | 18 | 18 | 18 | 18 | 12 | 12 |
| Emergency Stop Torque | [Nm] | *3 | 30 | 35 | 35 | 35 | 35 | 35 | 30 | 30 |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.03 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 240 | 270 | 290 | 310 | 320 | 340 | 350 | 360 |
| Permitted Axial Load | [N] | *8 | 270 | 300 | 330 | 360 | 380 | 410 | 430 | 450 |
| Maximum Radial Load | [N] | *9 | 710 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 640 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.053 | 0.041 | 0.036 | 0.034 | 0.032 | 0.031 | 0.031 | 0.030 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.091 | 0.079 | 0.074 | 0.072 | 0.071 | 0.070 | 0.069 | 0.069 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 0.7 | | | | | | | |

VRL-050 – 2-Stage Specifications

| Frame Size | 050 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 6 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Maximum Acceleration Torque | [Nm] | *2 | 12 | 18 | 18 | 18 | 18 | 18 | 12 | 18 |
| Emergency Stop Torque | [Nm] | *3 | 30 | 35 | 35 | 35 | 35 | 35 | 30 | 35 |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.01 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 410 | 420 | 460 | 490 | 510 | 520 | 550 | 570 |
| Permitted Axial Load | [N] | *8 | 540 | 550 | 610 | 640 | 640 | 640 | 640 | 640 |
| Maximum Radial Load | [N] | *9 | 710 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 640 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.035 | 0.038 | 0.034 | 0.034 | 0.038 | 0.030 | 0.034 | 0.030 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 0.8 | | | | | | | |

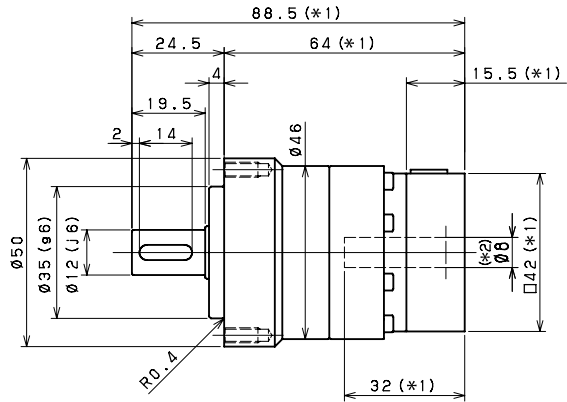
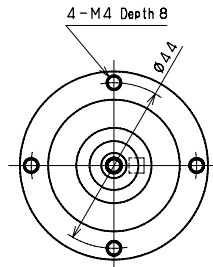
VRL-050 – 2-Stage Specifications

| Frame Size | 050 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 6 | 9 | 9 | 9 | 9 | 6 | 6 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 12 | 18 | 18 | 18 | 18 | 12 | 12 | | |
| Emergency Stop Torque | [Nm] | *3 | 30 | 35 | 35 | 35 | 35 | 30 | 30 | | |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.01 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 600 | 620 | 660 | 690 | 710 | 710 | 710 | | |
| Permitted Axial Load | [N] | *8 | 640 | 640 | 640 | 640 | 640 | 640 | 640 | | |
| Maximum Radial Load | [N] | *9 | 710 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 640 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.034 | 0.030 | 0.030 | 0.030 | 0.030 | 0.030 | 0.030 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 0.8 | | | | | | | | |

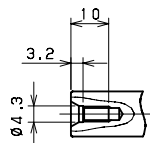
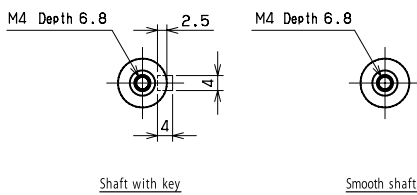
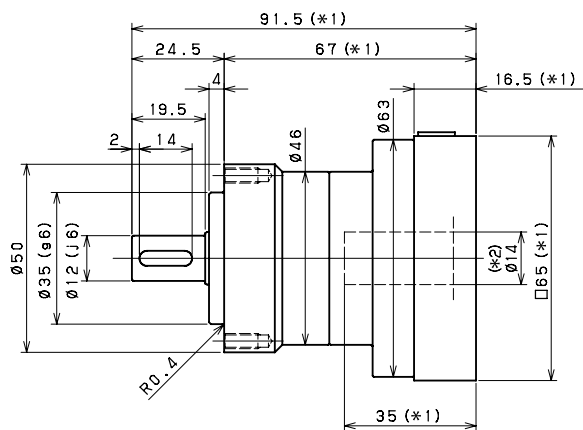
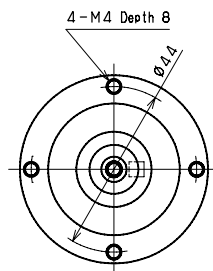
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRL 050
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-050 – 1-Stage Dimensions

Input shaft bore $\leq \varnothing 8$



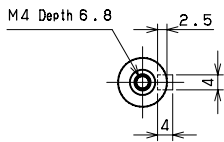
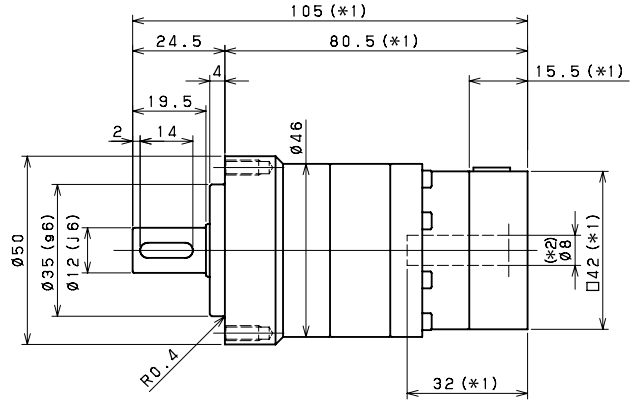
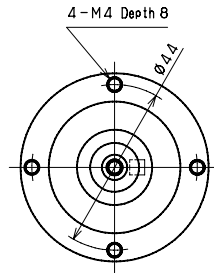
Input shaft bore $\leq \varnothing 14$



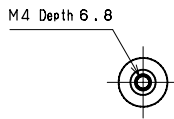
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRL-050 – 2-Stage Dimensions

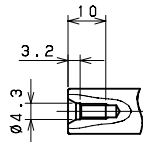
Input shaft bore $\leq \varnothing 8$



Shaft with key



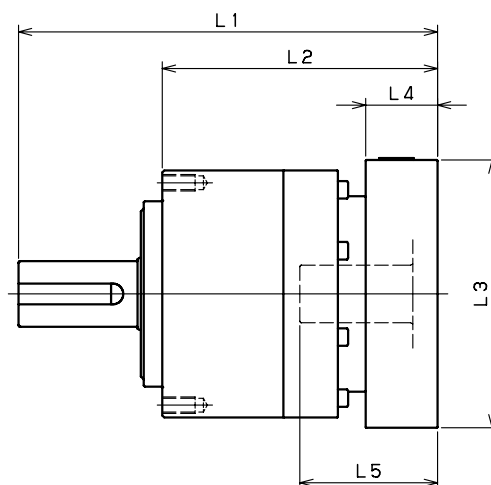
Smooth shaft



*1) Length will vary depending on motor

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

VRL-050 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|----------------------------|---------|------|------|-----|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-050-□-□-S8** (Input shaft bore ≤ φ8) | ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ | 105 | 89.5 | 80.5 | □42 | 15.5 | 32 |
| | ZB·ZE·ZH·ZJ·ZK | 110 | 89.5 | 85.5 | □42 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 105 | 89.5 | 80.5 | □60 | 15.5 | 32 |
| | BC·BF | 110 | 89.5 | 85.5 | □60 | 20.5 | 37 |
| VRL-050-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BJ·BK·BP | -- | -- | -- | -- | -- | -- |
| | BC·BH·BM·BN | -- | -- | -- | -- | -- | -- |
| | BL | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/15 - 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, Contact SIT S.P.A.

VRL-070 – 1-Stage Specifications

| Frame Size | 070 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 27 | 18 | 18 |
| Maximum Output Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 50 | 35 | 35 |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 100 | 80 | 80 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.08 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 430 | 470 | 510 | 540 | 570 | 600 | 620 | 640 |
| Permitted Axial Load | [N] | *8 | 310 | 360 | 390 | 430 | 460 | 480 | 510 | 530 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | 0.140 | 0.095 | 0.077 | 0.068 | 0.062 | 0.059 | 0.057 | 0.056 |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.220 | 0.170 | 0.160 | 0.150 | 0.140 | 0.140 | 0.140 | 0.140 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.430 | 0.380 | 0.360 | 0.360 | 0.350 | 0.350 | 0.340 | 0.340 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 66 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.5 | | | | | | | |

VRL-070 – 2-Stage Specifications

| Frame Size | 070 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 18 | 27 | 27 |
| Maximum Output Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 35 | 50 | 50 |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 100 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 740 | 750 | 810 | 870 | 910 | 930 | 980 | 1000 |
| Permitted Axial Load | [N] | *8 | 630 | 650 | 720 | 790 | 830 | 860 | 920 | 970 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | 0.055 | 0.057 | 0.054 | 0.053 | 0.055 | 0.049 | 0.053 | 0.049 |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.140 | 0.140 | 0.130 | 0.130 | 0.140 | 0.130 | 0.130 | 0.130 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.350 | 0.360 | 0.350 | 0.350 | 0.360 | 0.340 | 0.350 | 0.340 |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 66 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.7 | | | | | | | |

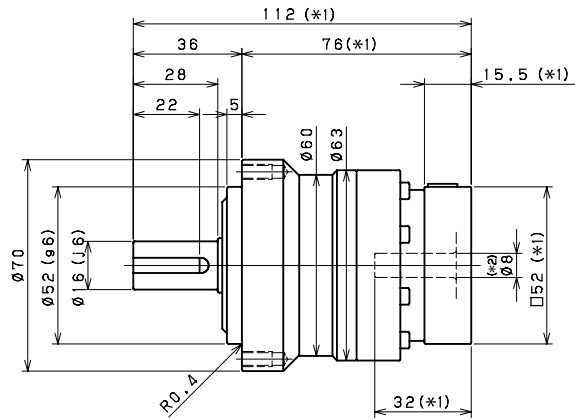
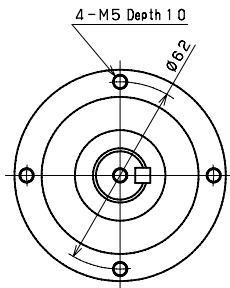
VRL-070 – 2-Stage Specifications

| Frame Size | 070 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 18 | 18 | | |
| Maximum Output Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 35 | 35 | | |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 80 | 80 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1100 | 1100 | 1200 | 1200 | 1200 | 1200 | 1200 | | |
| Permitted Axial Load | [N] | *8 | 1000 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | | |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | 0.053 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.13 | 0.13 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.350 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 66 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.7 | | | | | | | | |

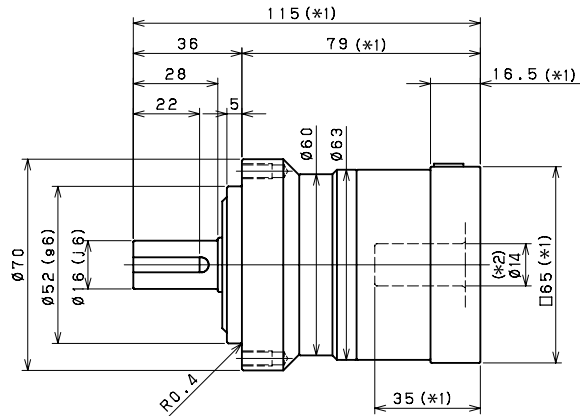
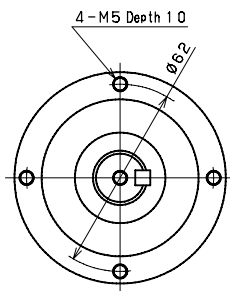
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRL 070
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-070 – 1-Stage Dimensions

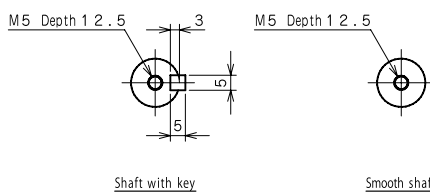
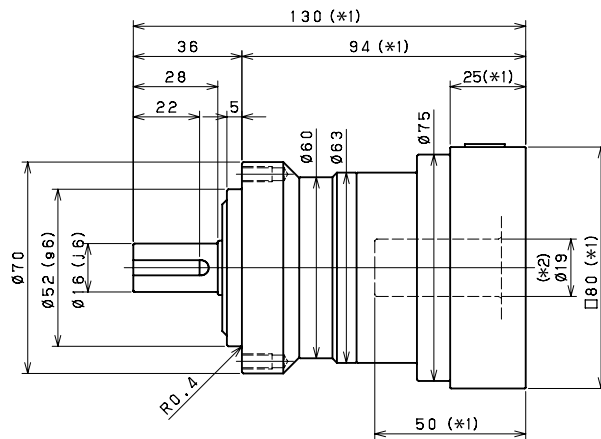
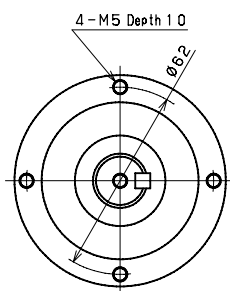
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

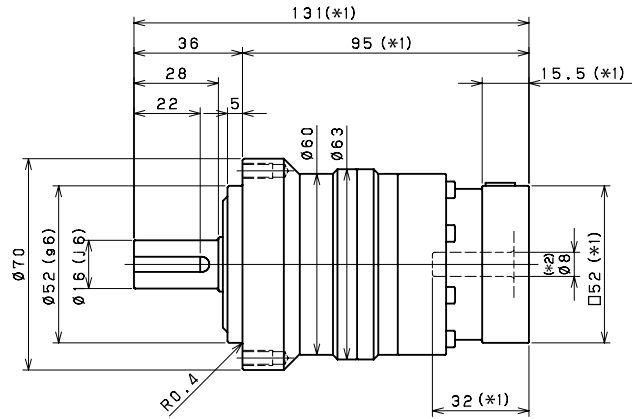
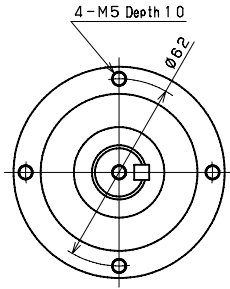


*1) Length will vary depending on motor

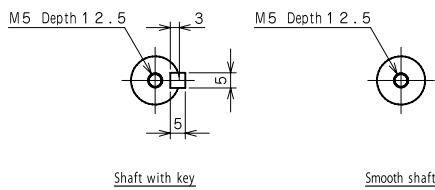
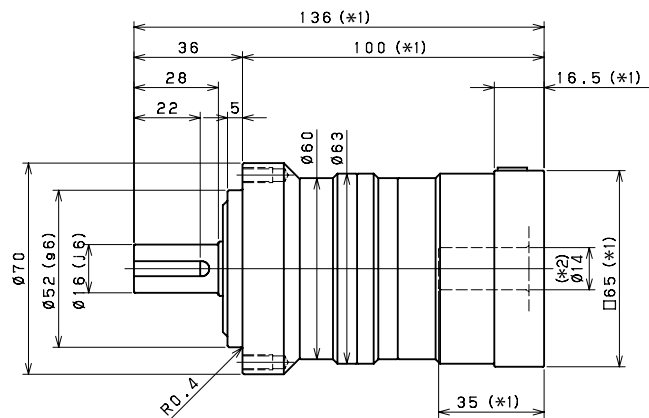
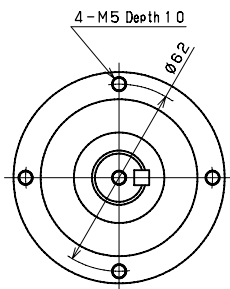
*2) Bushing will be inserted to adapt to motor shaft

VRL-070 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$

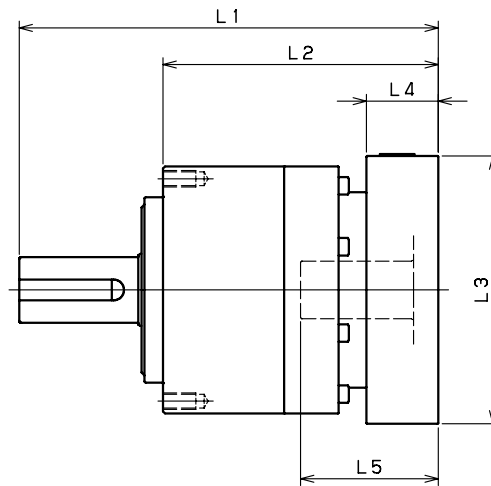


Input shaft bore $\leq \phi 14$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRL-070 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-070-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 112 | 96.5 | 76 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 117 | 96.5 | 81 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 112 | 96.5 | 76 | □60 | 15.5 | 32 |
| | BC·BF | 117 | 96.5 | 81 | □60 | 20.5 | 37 |
| | CA | 117 | 96.5 | 81 | □70 | 20.5 | 37 |
| VRL-070-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 115 | 98.5 | 79 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 120 | 98.5 | 84 | □65 | 21.5 | 40 |
| | BL | 125 | 98.5 | 89 | □65 | 26.5 | 45 |
| | CA·CC | 115 | 98.5 | 79 | □70 | 16.5 | 35 |
| | CB | 120 | 98.5 | 84 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 115 | 98.5 | 79 | □80 | 16.5 | 35 |
| | DE·DL | 120 | 98.5 | 84 | □80 | 21.5 | 40 |
| | DG·DK | 125 | 98.5 | 89 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 115 | 98.5 | 79 | □90 | 16.5 | 35 |
| | EJ·EM | 120 | 98.5 | 84 | □90 | 21.5 | 40 |
| | ED·EE·EH | 125 | 98.5 | 89 | □90 | 26.5 | 45 |
| | FA | 115 | 98.5 | 79 | □100 | 16.5 | 35 |
| | FB | 115 | 98.5 | 79 | □115 | 16.5 | 35 |
| VRL-070-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 130 | 105 | 94 | □80 | 25 | 50 |
| | DD | 140 | 105 | 104 | □80 | 35 | 60 |
| | DE | 135 | 105 | 99 | □80 | 30 | 55 |
| | EA | 135 | 105 | 99 | □90 | 30 | 55 |
| | EB·ED | 130 | 105 | 94 | □90 | 25 | 50 |
| | EC | 140 | 105 | 104 | □90 | 35 | 60 |
| | FA | 130 | 105 | 94 | □100 | 25 | 50 |
| FB | 140 | 105 | 104 | □100 | 35 | 60 | |

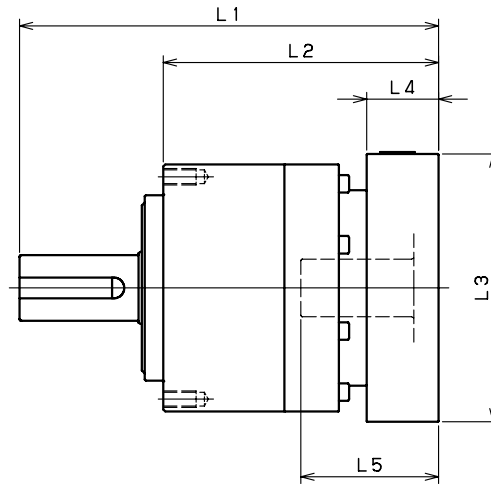
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-070 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-070-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 131 | 115.5 | 95 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 136 | 115.5 | 100 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 131 | 115.5 | 95 | □60 | 15.5 | 32 |
| | BC·BF | 136 | 115.5 | 100 | □60 | 20.5 | 37 |
| | CA | 136 | 115.5 | 100 | □70 | 20.5 | 37 |
| VRL-070-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 136 | 119.5 | 100 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 141 | 119.5 | 105 | □65 | 21.5 | 40 |
| | BL | 146 | 119.5 | 110 | □65 | 26.5 | 45 |
| | CA·CC | 136 | 119.5 | 100 | □70 | 16.5 | 35 |
| | CB | 141 | 119.5 | 105 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 136 | 119.5 | 100 | □80 | 16.5 | 35 |
| | DE·DL | 141 | 119.5 | 105 | □80 | 21.5 | 40 |
| | DG·DK | 146 | 119.5 | 110 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 136 | 119.5 | 100 | □90 | 16.5 | 35 |
| | EJ·EM | 141 | 119.5 | 105 | □90 | 21.5 | 40 |
| | ED·EE·EH | 146 | 119.5 | 110 | □90 | 26.5 | 45 |
| | FA | 136 | 119.5 | 100 | □100 | 16.5 | 35 |
| FB | 136 | 119.5 | 100 | □115 | 16.5 | 35 | |
| VRL-070-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 151 | 126 | 115 | □80 | 25 | 50 |
| | DD | 161 | 126 | 125 | □80 | 35 | 60 |
| | DE | 156 | 126 | 120 | □80 | 30 | 55 |
| | EA | 156 | 126 | 120 | □90 | 30 | 55 |
| | EB·ED | 151 | 126 | 115 | □90 | 25 | 50 |
| | EC | 161 | 126 | 125 | □90 | 35 | 60 |
| | FA | 151 | 126 | 115 | □100 | 25 | 50 |
| FB | 161 | 126 | 125 | □100 | 35 | 60 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-090 – 1-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 75 | 50 | 50 |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 125 | 80 | 80 |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 250 | 200 | 200 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.35 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 810 | 890 | 960 | 1000 | 1100 | 1100 | 1200 | 1200 |
| Permitted Axial Load | [N] | *8 | 930 | 1100 | 1200 | 1300 | 1300 | 1400 | 1500 | 1600 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.720 | 0.490 | 0.400 | 0.360 | 0.320 | 0.310 | 0.290 | 0.290 |
| Moment of Inertia ($\leq \varnothing 19$) | -- | -- | 1.200 | 0.950 | 0.860 | 0.820 | 0.790 | 0.770 | 0.760 | 0.750 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.200 | 3.000 | 2.900 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 3.5 | | | | | | | |

VRL-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 75 | 75 |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 125 | 125 |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 250 | 250 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.06 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1400 | 1400 | 1500 | 1600 | 1700 | 1700 | 1800 | 1900 |
| Permitted Axial Load | [N] | *8 | 1900 | 1900 | 2100 | 2200 | 2200 | 2200 | 2200 | 2200 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.130 | 0.150 | 0.130 | 0.120 | 0.140 | 0.100 | 0.120 | 0.099 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.280 | 0.300 | 0.280 | 0.280 | 0.290 | 0.250 | 0.270 | 0.250 |
| Moment of Inertia ($\leq \varnothing 19$) | -- | -- | 0.720 | 0.740 | 0.720 | 0.710 | 0.730 | 0.700 | 0.710 | 0.700 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 2.700 | 2.800 | 2.700 | 2.700 | 2.700 | 2.600 | 2.700 | 2.600 |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 4 | | | | | | | |

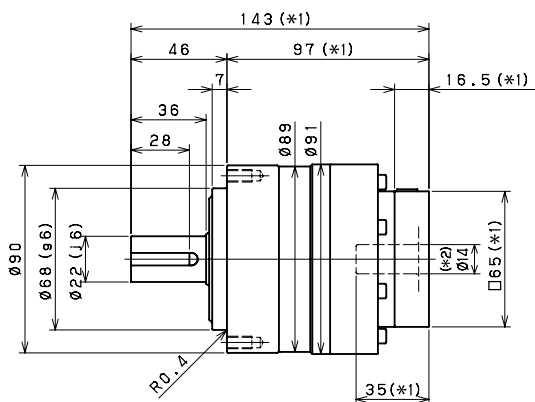
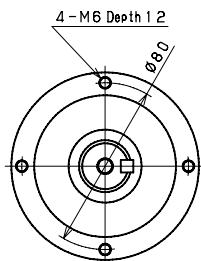
VRL-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 50 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 80 | | |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 200 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.06 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2000 | 2100 | 2200 | 2300 | 2400 | 2400 | 2400 | | |
| Permitted Axial Load | [N] | *8 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | | |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.120 | 0.098 | 0.098 | 0.097 | 0.097 | 0.097 | 0.097 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.270 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 19$) | -- | -- | 0.710 | 0.690 | 0.690 | 0.690 | 0.690 | 0.690 | 0.690 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 2.700 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4 | | | | | | | | |

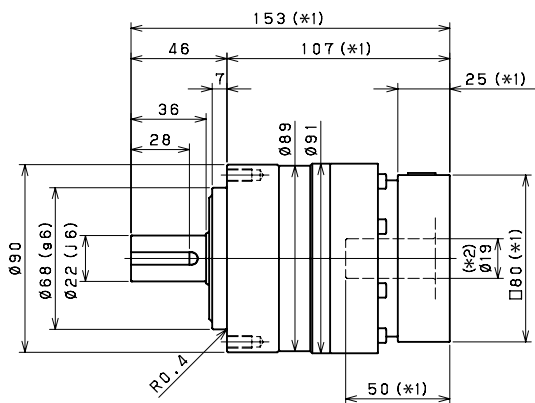
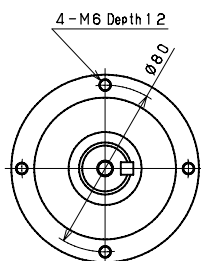
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRL 090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-090 – 1-Stage Dimensions

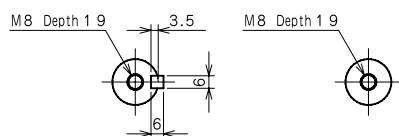
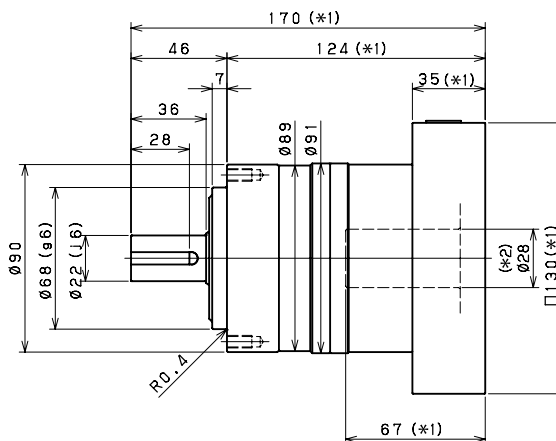
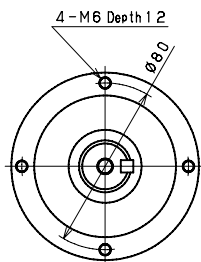
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Shaft with key

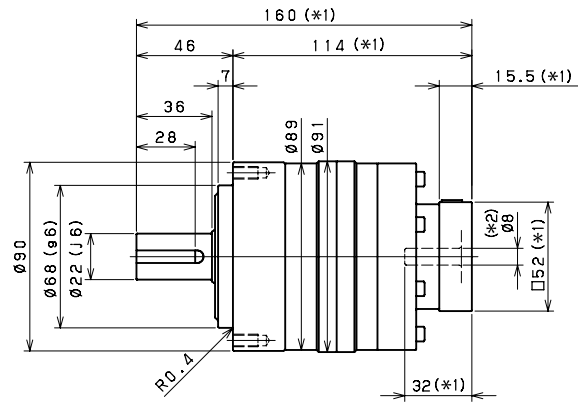
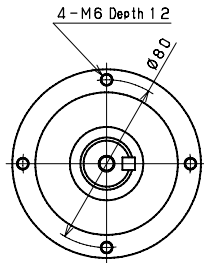
Smooth shaft

*1) Length will vary depending on motor

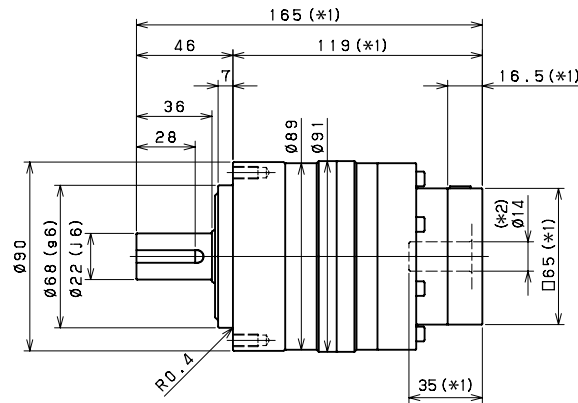
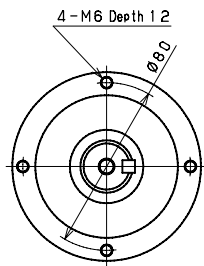
*2) Bushing will be inserted to adapt to motor shaft

VRL-090 – 2-Stage Dimensions

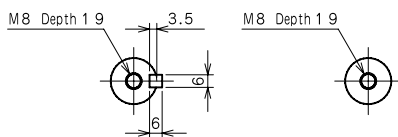
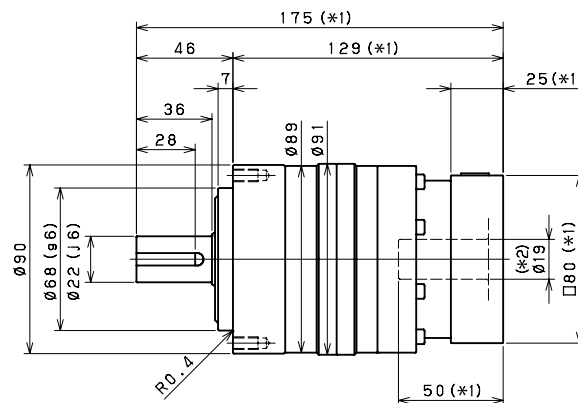
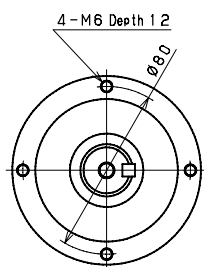
Input shaft bore $\cong \varnothing 8$



Input shaft bore $\cong \varnothing 14$



Input shaft bore $\cong \varnothing 19$



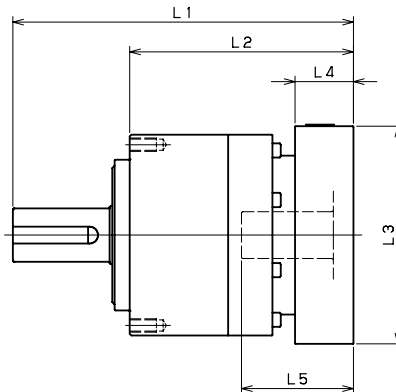
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

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

VRL-090 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-------|-----|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-090-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | -- | -- | -- | -- | -- | -- |
| | AB·AE·AH·AJ·AK | -- | -- | -- | -- | -- | -- |
| | BA·BB·BD·BE·BG·BH·BJ | -- | - | -- | -- | - | -- |
| | CA | -- | -- | -- | -- | -- | -- |
| VRL-090-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 143 | 126.5 | 97 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 148 | 126.5 | 102 | □65 | 21.5 | 40 |
| | CA·CC | 143 | 126.5 | 97 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 143 | 126.5 | 97 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 143 | 126.5 | 97 | □90 | 16.5 | 35 |
| | FA | 143 | 126.5 | 97 | □100 | 16.5 | 35 |
| | FB | 153 | 126.5 | 107 | □100 | 26.5 | 45 |
| VRL-090-□-□-19** (Input shaft bore ≤ φ19) | JA | 158 | 126.5 | 112 | □150 | 31.5 | 50 |
| | DA·DB·DC | 153 | 128 | 107 | □80 | 25 | 50 |
| | EB·ED | 153 | 128 | 107 | □90 | 25 | 50 |
| | FA | 153 | 128 | 107 | □100 | 25 | 50 |
| | FB | 163 | 128 | 117 | □100 | 35 | 60 |
| | GA·GC·GH | 158 | 128 | 112 | □115 | 30 | 55 |
| | GB·GD·GJ | 153 | 128 | 107 | □115 | 25 | 50 |
| | GE·GF | 163 | 128 | 117 | □115 | 35 | 60 |
| | HA | 153 | 128 | 107 | □130 | 25 | 50 |
| | HB | 168 | 128 | 122 | □130 | 40 | 65 |
| VRL-090-□-□-28** (Input shaft bore ≤ φ28) | HC·HD·HE | 158 | 128 | 112 | □130 | 30 | 55 |
| | JA | 163 | 128 | 117 | □150 | 35 | 60 |
| | JB | 168 | 128 | 122 | □150 | 40 | 65 |
| | FA·FB·FC | 170 | 135 | 124 | □100 | 35 | 67 |
| | FD·FE | 165 | 135 | 119 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 170 | 135 | 124 | □115 | 35 | 67 |
| | HA·HC·HD | 170 | 135 | 124 | □130 | 35 | 67 |
| | HB | 180 | 135 | 134 | □130 | 45 | 77 |
| | HE | 185 | 135 | 139 | □130 | 50 | 82 |
| | HF | 165 | 135 | 119 | □130 | 30 | 62 |
| VRL-090-□-□-28** (Input shaft bore ≤ φ28) | JA·JB·JC·JF | 170 | 135 | 124 | □150 | 35 | 67 |
| | JD | 190 | 135 | 144 | □150 | 55 | 87 |
| | JE | 180 | 135 | 134 | □150 | 45 | 77 |

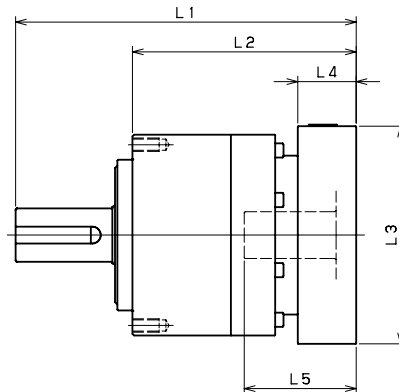
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-090 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-090-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 160 | 144.5 | 114 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 165 | 144.5 | 119 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 160 | 144.5 | 114 | □60 | 15.5 | 32 |
| | CA | 165 | 144.5 | 119 | □70 | 20.5 | 37 |
| VRL-090-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 165 | 148.5 | 119 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 170 | 148.5 | 124 | □65 | 21.5 | 40 |
| | CA·CC | 165 | 148.5 | 119 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 165 | 148.5 | 119 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 165 | 148.5 | 119 | □90 | 16.5 | 35 |
| | FA | 165 | 148.5 | 119 | □100 | 16.5 | 35 |
| | FB | 175 | 148.5 | 129 | □100 | 26.5 | 45 |
| VRL-090-□-□-19** (Input shaft bore ≤ φ19) | JA | 180 | 148.5 | 134 | □150 | 31.5 | 50 |
| | DA·DB·DC | 175 | 150 | 129 | □80 | 25 | 50 |
| | EB·ED | 175 | 150 | 129 | □90 | 25 | 50 |
| | FA | 175 | 150 | 129 | □100 | 25 | 50 |
| | FB | 185 | 150 | 139 | □100 | 35 | 60 |
| | GA·GC·GH | 180 | 150 | 134 | □115 | 30 | 55 |
| | GB·GD·GJ | 175 | 150 | 129 | □115 | 25 | 50 |
| | GE·GF | 185 | 150 | 139 | □115 | 35 | 60 |
| | HA | 175 | 150 | 129 | □130 | 25 | 50 |
| | HB | 190 | 150 | 144 | □130 | 40 | 65 |
| VRL-090-□-□-28** (Input shaft bore ≤ φ28) | HC·HD·HE | 180 | 150 | 134 | □130 | 30 | 55 |
| | JA | 185 | 150 | 139 | □150 | 35 | 60 |
| | JB | 190 | 150 | 144 | □150 | 40 | 65 |
| | FA·FB·FC | 194 | 159 | 148 | □100 | 35 | 67 |
| | FD·FE | 189 | 159 | 143 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 194 | 159 | 148 | □115 | 35 | 67 |
| | HA·HC·HD | 194 | 159 | 148 | □130 | 35 | 67 |
| | HB | 204 | 159 | 158 | □130 | 45 | 77 |
| | HE | 209 | 159 | 163 | □130 | 50 | 82 |
| HF | 189 | 159 | 143 | □130 | 30 | 62 | |
| JA·JB·JC·JF | 194 | 159 | 148 | □150 | 35 | 67 | |
| JD | 214 | 159 | 168 | □150 | 55 | 87 | |
| JE | 204 | 159 | 158 | □150 | 45 | n | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-120 – 1-Stage Specifications

| Frame Size | 120 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 120 | 120 | 180 | 180 | 180 | 180 | 120 | 120 |
| Maximum Output Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 330 | 225 | 225 |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 625 | 500 | 500 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *14 | 1.30 | | | | | | | |
| Permitted Radial Load | [N] | *6 | 1300 | 1500 | 1600 | 1700 | 1800 | 1900 | 1900 | 2000 |
| Permitted Axial Load | [N] | *7 | 1500 | 1700 | 1900 | 2000 | 2100 | 2300 | 2400 | 2500 |
| Maximum Radial Load | [N] | *8 | 4300 | | | | | | | |
| Maximum Axial Load | [N] | *9 | 3900 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | | 3.300 | 2.000 | 1.600 | 1.300 | 1.100 | 1.000 | 0.980 | 0.950 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | | 5.300 | 4.100 | 3.600 | 3.300 | 3.200 | 3.100 | 3.000 | 3.000 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | | 13.000 | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | |
| Protection Class | | *15 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | *16 | 90 | | | | | | | |
| Weight | [kg] | *10 | 7.8 | | | | | | | |

VRL-120 – 2-Stage Specifications

| Frame Size | 120 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 180 | 180 | 120 | 180 | 180 |
| Maximum Output Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 225 | 330 | 330 |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 500 | 625 | 625 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *14 | 0.42 | | | | | | | |
| Permitted Radial Load | [N] | *6 | 2300 | 2300 | 2500 | 2700 | 2800 | 2900 | 3000 | 3200 |
| Permitted Axial Load | [N] | *7 | 3000 | 3100 | 3400 | 3700 | 3900 | 3900 | 3900 | 3900 |
| Maximum Radial Load | [N] | *8 | 4300 | | | | | | | |
| Maximum Axial Load | [N] | *9 | 3900 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | | 0.430 | 0.480 | 0.400 | 0.380 | 0.440 | 0.290 | 0.370 | 0.280 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | | 0.860 | 0.920 | 0.830 | 0.820 | 0.880 | 0.740 | 0.810 | 0.730 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | | 2.800 | 2.900 | 2.800 | 2.800 | 2.800 | 2.700 | 2.700 | 2.700 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | |
| Protection Class | | *15 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | *16 | 90 | | | | | | | |
| Weight | [kg] | *10 | 8.7 | | | | | | | |

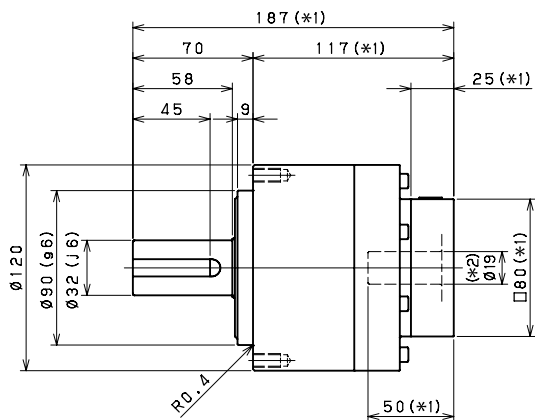
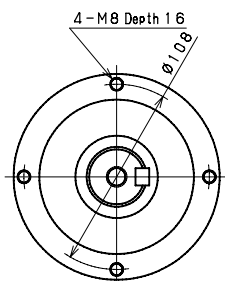
VRL-120 – 2-Stage Specifications

| Frame Size | 120 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 180 | 180 | 120 | 120 | | |
| Maximum Output Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 225 | 225 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 500 | 500 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *14 | 0.42 | | | | | | | | |
| Permitted Radial Load | [N] | *6 | 3300 | 3400 | 3600 | 3800 | 4000 | 4200 | 4300 | | |
| Permitted Axial Load | [N] | *7 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *8 | 4300 | | | | | | | | |
| Maximum Axial Load | [N] | *9 | 3900 | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | | 0.370 | 0.280 | 0.280 | 0.280 | 0.280 | 0.270 | 0.270 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | | 0.800 | 0.730 | 0.730 | 0.730 | 0.730 | 0.730 | 0.730 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | |
| Protection Class | | *15 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | *16 | 90 | | | | | | | | |
| Weight | [kg] | *10 | 8.7 | | | | | | | | |

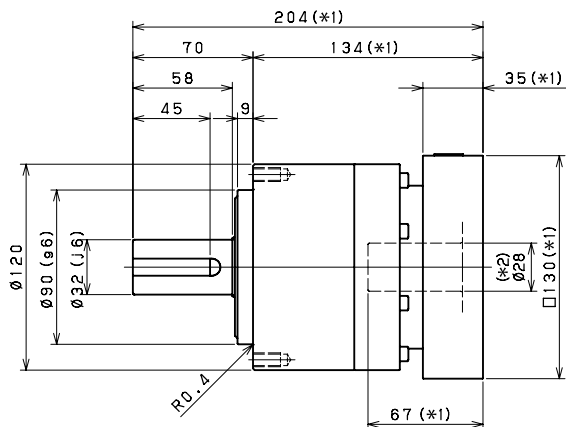
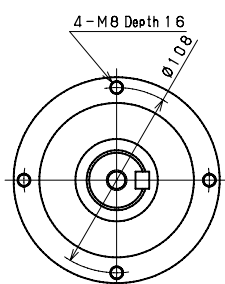
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRL 120
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-120 – 1-Stage Dimensions

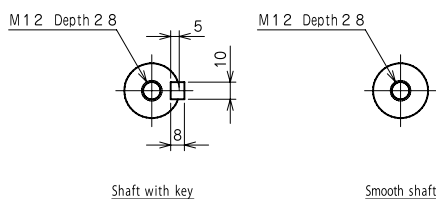
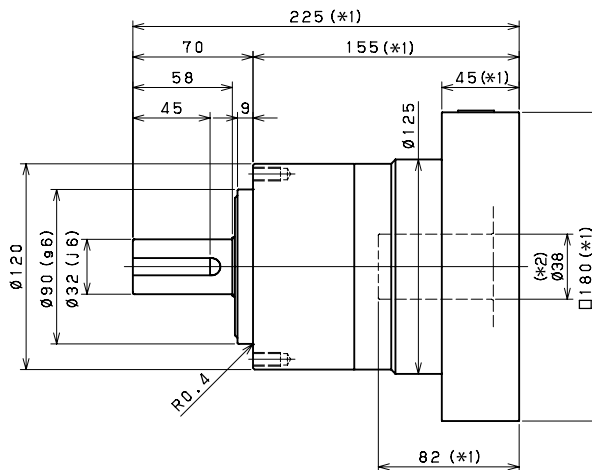
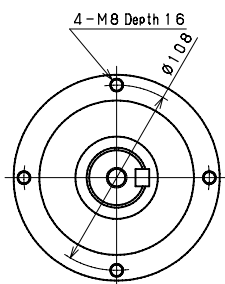
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



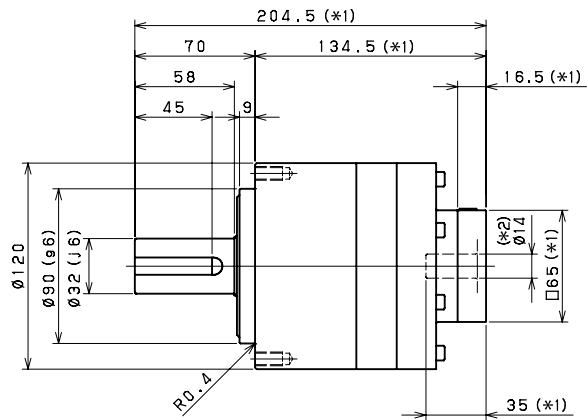
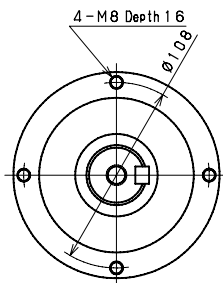
Input shaft bore $\leq \varnothing 38$



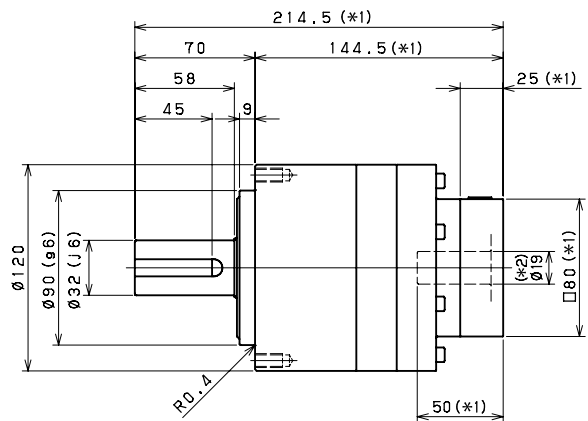
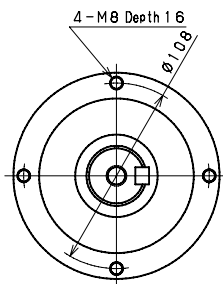
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRL-120 – 2-Stage Dimensions

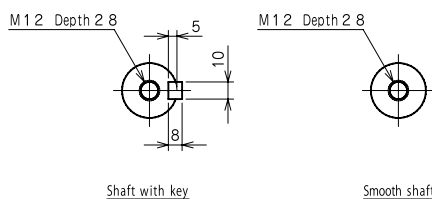
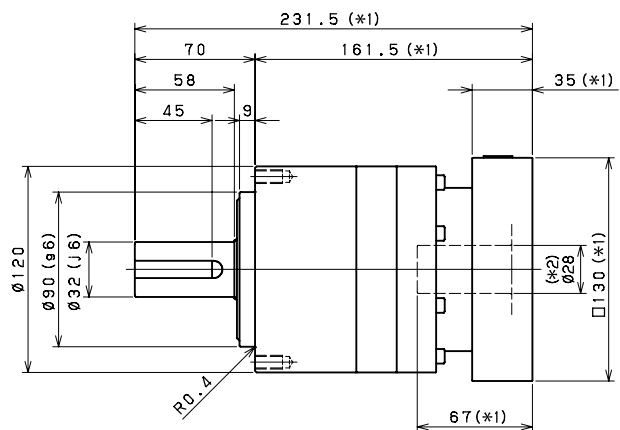
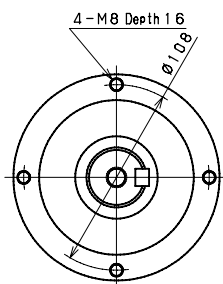
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



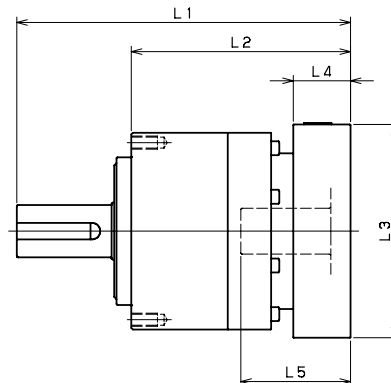
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

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

VRL-120 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-----|------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-120-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | -- | -- | -- | -- | -- | -- |
| | BC·BH·BM·BN | -- | -- | -- | -- | -- | -- |
| | CA·CC | -- | -- | -- | -- | -- | -- |
| | DA·DB·DC·DD·DF·DH·DJ | -- | -- | -- | -- | -- | -- |
| | EA·EB·EC·EF·EG·EK·EL | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| VRL-120-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 187 | 162 | 117 | □80 | 25 | 50 |
| | EB | 187 | 162 | 117 | □90 | 25 | 50 |
| | FA | 187 | 162 | 117 | □100 | 25 | 50 |
| | FB | 197 | 162 | 127 | □100 | 35 | 60 |
| | GB·GD | 187 | 162 | 117 | □115 | 25 | 50 |
| | HA | 197 | 162 | 127 | □115 | 35 | 60 |
| | -- | 187 | 162 | 117 | □130 | 25 | 50 |
| | -- | 202 | 162 | 132 | □130 | 40 | 65 |
| | -- | 192 | 162 | 122 | □130 | 30 | 55 |
| | HB | 197 | 162 | 127 | □150 | 35 | 60 |
| HC·HD·HE | 202 | 162 | 132 | □150 | 40 | 65 | |
| VRL-120-□-□-28** (Input shaft bore ≤ φ28) | FA·FB·FC | 204 | 169 | 134 | □100 | 35 | 67 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 204 | 169 | 134 | □115 | 35 | 67 |
| | HA·HC·HD | 204 | 169 | 134 | □130 | 35 | 67 |
| | HB | 214 | 169 | 144 | □130 | 45 | 77 |
| | HF | 199 | 169 | 129 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 204 | 169 | 134 | □150 | 35 | 67 |
| | JE | 214 | 169 | 144 | □150 | 45 | 77 |
| | KA·KB·KE | 204 | 169 | 134 | □180 | 35 | 67 |
| VRL-120-□-□-38** (Input shaft bore ≤ φ38) | KD | 214 | 169 | 144 | □180 | 45 | 77 |
| | HA | 225 | 180 | 155 | □130 | 45 | 82 |
| | HB·HE | 220 | 180 | 150 | □130 | 40 | 77 |
| | JA | 225 | 180 | 155 | □150 | 45 | 82 |
| | KA·KB·KC | 225 | 180 | 155 | □180 | 45 | 82 |
| | KD | 260 | 180 | 190 | □180 | 80 | 117 |
| KE | 240 | 180 | 170 | □180 | 60 | 97 | |

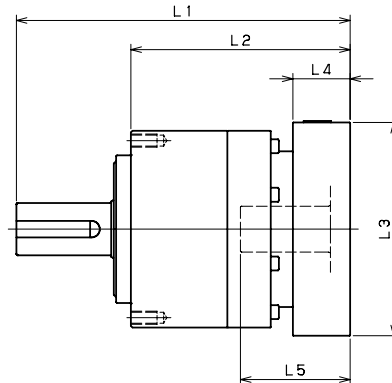
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-120 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-120-□-□-14** (Input shaft bore ≤ φ14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | 204.5 | 188 | 134.5 | □65 | 16.5 | 35 |
| | BC•BH•BM•BN | 209.5 | 188 | 139.5 | □65 | 21.5 | 40 |
| | CA•CC | 204.5 | 188 | 134.5 | □70 | 16.5 | 35 |
| | DA•DB•DC•DD•DF•DH•DJ | 204.5 | 188 | 134.5 | □80 | 16.5 | 35 |
| | EA•EB•EC•EF•EG•EK•EL | 204.5 | 188 | 134.5 | □90 | 16.5 | 35 |
| | FA | 204.5 | 188 | 134.5 | □100 | 16.5 | 35 |
| | FB | 214.5 | 188 | 144.5 | □100 | 26.5 | 45 |
| VRL-120-□-□-19** (Input shaft bore ≤ φ19) | DA•DB•DC | 214.5 | 189.5 | 144.5 | □80 | 25 | 50 |
| | EB | 214.5 | 189.5 | 144.5 | □90 | 25 | 50 |
| | FA | 214.5 | 189.5 | 144.5 | □100 | 25 | 50 |
| | FB | 224.5 | 189.5 | 154.5 | □100 | 35 | 60 |
| | GB•GD | 214.5 | 189.5 | 144.5 | □115 | 25 | 50 |
| | HA | 224.5 | 189.5 | 154.5 | □115 | 35 | 60 |
| | -- | 214.5 | 189.5 | 144.5 | □130 | 25 | 50 |
| | -- | 229.5 | 189.5 | 159.5 | □130 | 40 | 65 |
| | -- | 219.5 | 189.5 | 149.5 | □130 | 30 | 55 |
| | HB | 224.5 | 189.5 | 154.5 | □150 | 35 | 60 |
| HC•HD•HE | 229.5 | 189.5 | 159.5 | □150 | 40 | 65 | |
| VRL-120-□-□-28** (Input shaft bore ≤ φ28) | FA•FB•FC | 231.5 | 196.5 | 161.5 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 231.5 | 196.5 | 161.5 | □115 | 35 | 67 |
| | HA•HC•HD | 231.5 | 196.5 | 161.5 | □130 | 35 | 67 |
| | HB | 241.5 | 196.5 | 171.5 | □130 | 45 | 77 |
| | HF | 226.5 | 196.5 | 156.5 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 231.5 | 196.5 | 161.5 | □150 | 35 | 67 |
| | JE | 241.5 | 196.5 | 171.5 | □150 | 45 | 77 |
| | KA•KB•KE | 231.5 | 196.5 | 161.5 | □180 | 35 | 67 |
| VRL-120-□-□-38** (Input shaft bore ≤ φ38) | KD | 241.5 | 196.5 | 171.5 | □180 | 45 | 77 |
| | HA | 249 | 204 | 179 | □130 | 45 | 82 |
| | HB•HE | 244 | 204 | 174 | □130 | 40 | 77 |
| | JA | 249 | 204 | 179 | □150 | 45 | 82 |
| | KA•KB•KC | 249 | 204 | 179 | □180 | 45 | 82 |
| | KD | 284 | 204 | 214 | □180 | 80 | 117 |
| KE | 264 | 204 | 194 | □180 | 60 | 97 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRL-155 – 1-Stage Specifications

| Frame Size | 155 | | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 240 | 240 | 360 | 360 | 360 | 360 | 240 | 240 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 700 | 470 | 470 | | |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1250 | 1000 | 1000 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.63 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3200 | 3500 | 3800 | 4000 | 4200 | 4400 | 4600 | 4700 | | |
| Permitted Axial Load | [N] | *8 | 2400 | 2700 | 3000 | 3300 | 3500 | 3700 | 3900 | 4100 | | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 12.000 | 7.500 | 5.800 | 4.900 | 4.100 | 3.800 | 3.600 | 3.500 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 20.000 | 15.000 | 14.000 | 13.000 | 12.000 | 12.000 | 11.000 | 11.000 | | |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 42.000 | 37.000 | 36.000 | 35.000 | 34.000 | 34.000 | 34.000 | 34.000 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 16 | | | | | | | | | |

VRL-155 – 2-Stage Specifications

| Frame Size | 155 | | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 360 | 360 | 240 | 360 | 360 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 470 | 700 | 700 | | |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1000 | 1250 | 1250 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.56 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5400 | 5500 | 6000 | 6400 | 6700 | 6800 | 7200 | 7500 | | |
| Permitted Axial Load | [N] | *8 | 4900 | 5000 | 5500 | 6100 | 6400 | 6600 | 7000 | 7500 | | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 1.300 | 1.500 | 1.200 | 1.100 | 1.400 | 0.850 | 1.100 | 0.830 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 3.200 | 3.500 | 3.100 | 3.100 | 3.300 | 2.800 | 3.100 | 2.800 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 10.000 | 11.000 | 10.000 | | |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 18 | | | | | | | | | |

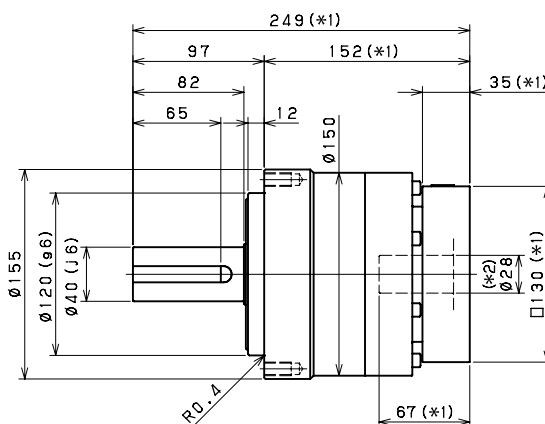
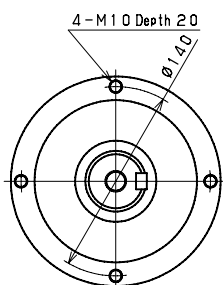
VRL-155 – 2-Stage Specifications

| Frame Size | 155 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 360 | 360 | 240 | 240 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 470 | 470 | | |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1000 | 1000 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 7800 | 8100 | 8600 | 9100 | 9100 | 9100 | 9100 | | |
| Permitted Axial Load | [N] | *8 | 7900 | 8200 | 8200 | 8200 | 8200 | 8200 | 8200 | | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.100 | 0.810 | 0.810 | 0.800 | 0.800 | 0.800 | 0.800 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.000 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 11.000 | 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 18 | | | | | | | | |

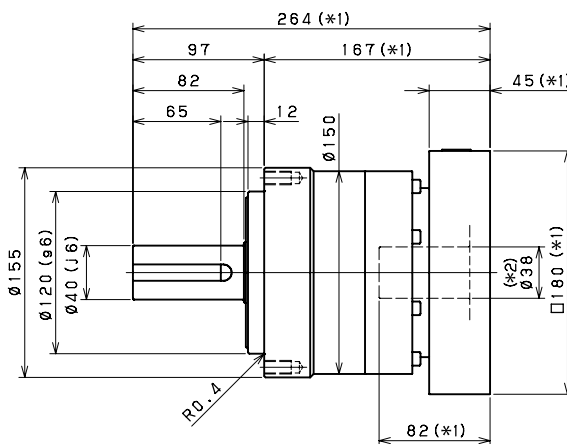
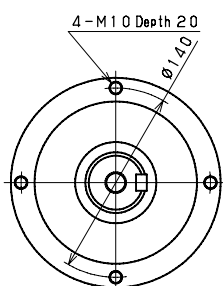
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRL155
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-155 – 1-Stage Dimensions

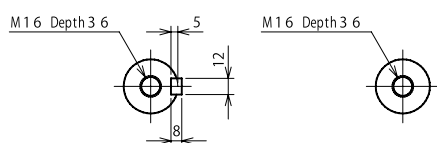
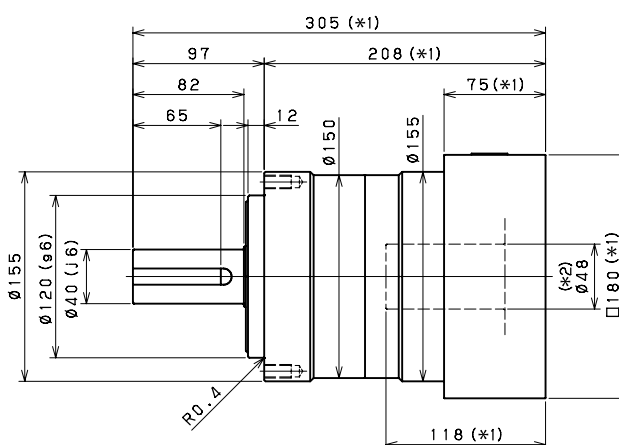
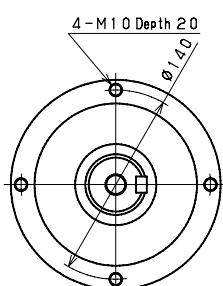
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Shaft with key

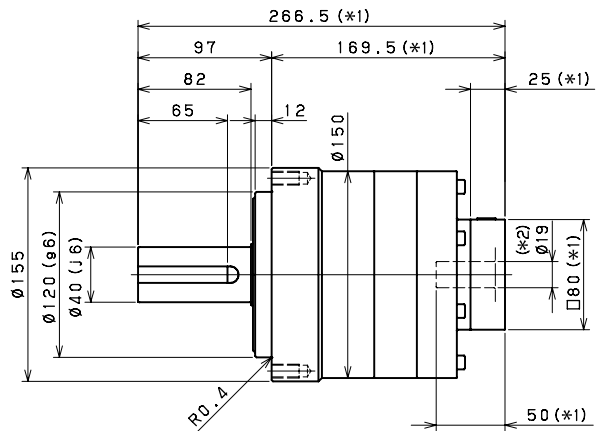
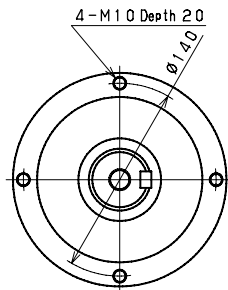
Smooth shaft

*1) Length will vary depending on motor

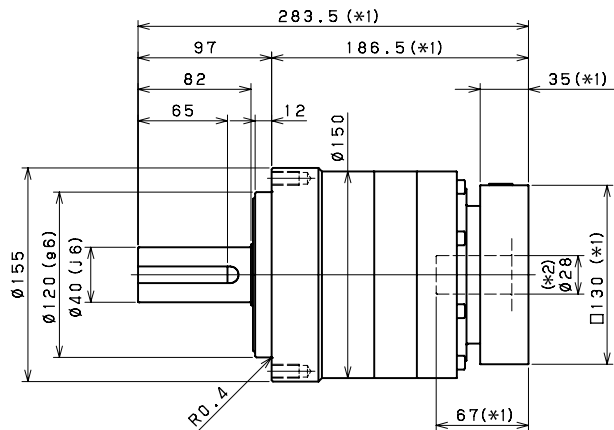
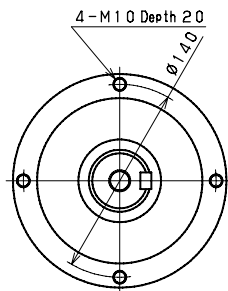
*2) Bushing will be inserted to adapt to motor shaft

VRL-155 – 2-Stage Dimensions

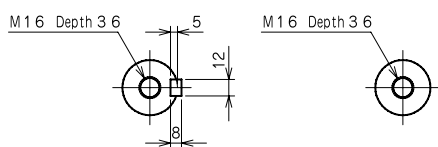
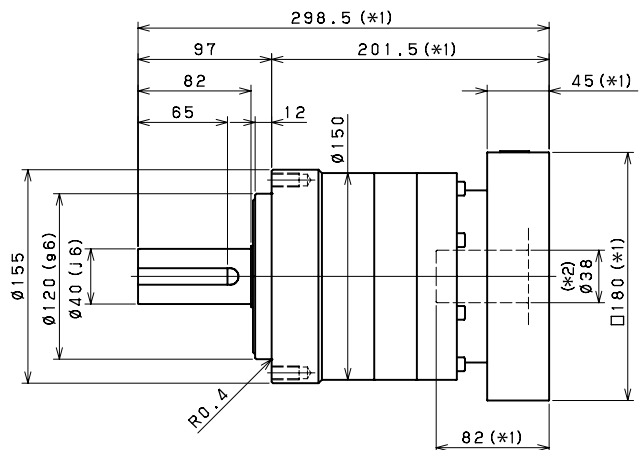
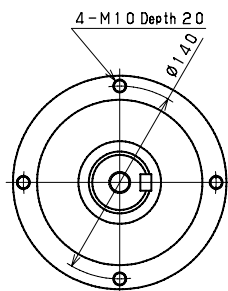
Input shaft bore $\cong \phi 19$



Input shaft bore $\cong \phi 28$



Input shaft bore $\cong \phi 38$



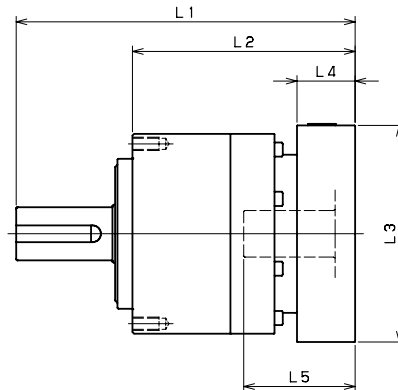
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

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

VRL-155 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-155-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | -- | -- | -- | -- | -- | -- |
| | EB-ED | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| | GB-GD-GJ | -- | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- | -- |
| VRL-155-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 249 | 214 | 152 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 249 | 214 | 152 | □115 | 35 | 67 |
| | HA-HC-HD | 249 | 214 | 152 | □130 | 35 | 67 |
| | HB | 259 | 214 | 162 | □130 | 45 | 77 |
| | HF | 244 | 214 | 147 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 249 | 214 | 152 | □150 | 35 | 67 |
| | KA-KB-KE | 249 | 214 | 152 | □180 | 35 | 67 |
| | LA | 249 | 214 | 152 | □200 | 35 | 67 |
| | LB | 259 | 214 | 162 | □200 | 45 | 77 |
| | MA | 249 | 214 | 152 | □220 | 35 | 67 |
| VRL-155-□-□-38** (Input shaft bore ≤ φ38) | MB | 259 | 214 | 162 | □220 | 45 | 77 |
| | HA | 264 | 219 | 167 | □130 | 45 | 82 |
| | HB-HE | 259 | 219 | 162 | □130 | 40 | 77 |
| | JA | 264 | 219 | 167 | □150 | 45 | 82 |
| | KA-KB-KC | 264 | 219 | 167 | □180 | 45 | 82 |
| | KD | 299 | 219 | 202 | □180 | 80 | 117 |
| | KE | 279 | 219 | 182 | □180 | 60 | 97 |
| | LB | 274 | 219 | 177 | □200 | 55 | 92 |
| | MA-MB | 264 | 219 | 167 | □220 | 45 | 82 |
| | MC | 279 | 219 | 182 | □220 | 60 | 97 |
| VRL-155-□-□-48** (Input shaft bore ≤ φ48) | MD | 274 | 219 | 177 | □220 | 55 | 92 |
| | KA | 305 | 230 | 208 | □180 | 75 | 118 |
| | KB-KC | 285 | 230 | 188 | □180 | 55 | 98 |
| | LA | 285 | 230 | 188 | □200 | 55 | 98 |
| | MA | 285 | 230 | 188 | □220 | 55 | 98 |
| | MB | 305 | 230 | 208 | □220 | 75 | 118 |

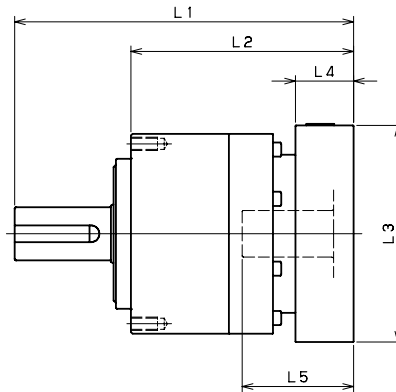
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-155 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-155-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 266.5 | 241.5 | 169.5 | □80 | 25 | 50 |
| | EB·ED | 266.5 | 241.5 | 169.5 | □90 | 25 | 50 |
| | FA | 266.5 | 241.5 | 169.5 | □100 | 25 | 50 |
| | FB | 276.5 | 241.5 | 179.5 | □100 | 35 | 60 |
| | GB·GD·GJ | 266.5 | 241.5 | 169.5 | □115 | 25 | 50 |
| | HA | 266.5 | 241.5 | 169.5 | □130 | 25 | 50 |
| | HB | 281.5 | 241.5 | 184.5 | □130 | 40 | 65 |
| VRL-155-□-□-28** (Input shaft bore ≤ φ28) | JA | 276.5 | 241.5 | 179.5 | □150 | 35 | 60 |
| | FA·FB·FC | 283.5 | 248.5 | 186.5 | □100 | 35 | 67 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 283.5 | 248.5 | 186.5 | □115 | 35 | 67 |
| | HA·HC·HD | 283.5 | 248.5 | 186.5 | □130 | 35 | 67 |
| | HB | 293.5 | 248.5 | 196.5 | □130 | 45 | 77 |
| | HF | 278.5 | 248.5 | 181.5 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 283.5 | 248.5 | 186.5 | □150 | 35 | 67 |
| | KA·KB·KE | 283.5 | 248.5 | 186.5 | □180 | 35 | 67 |
| | LA | 283.5 | 248.5 | 186.5 | □200 | 35 | 67 |
| | LB | 293.5 | 248.5 | 196.5 | □200 | 45 | 77 |
| VRL-155-□-□-38** (Input shaft bore ≤ φ38) | MA | 283.5 | 248.5 | 186.5 | □220 | 35 | 67 |
| | MB | 293.5 | 248.5 | 196.5 | □220 | 45 | 77 |
| | HA | 298.5 | 253.5 | 201.5 | □130 | 45 | 82 |
| | HB·HE | 293.5 | 253.5 | 196.5 | □130 | 40 | 77 |
| | JA | 298.5 | 253.5 | 201.5 | □150 | 45 | 82 |
| | KA·KB·KC | 298.5 | 253.5 | 201.5 | □180 | 45 | 82 |
| | KD | 333.5 | 253.5 | 236.5 | □180 | 80 | 117 |
| | KE | 313.5 | 253.5 | 216.5 | □180 | 60 | 97 |
| | LB | 308.5 | 253.5 | 211.5 | □200 | 55 | 92 |
| VRL-155-□-□-48** (Input shaft bore ≤ φ48) | MA·MB | 298.5 | 253.5 | 201.5 | □220 | 45 | 82 |
| | MC | 313.5 | 253.5 | 216.5 | □220 | 60 | 97 |
| | MD | 308.5 | 253.5 | 211.5 | □220 | 55 | 92 |
| | KA | 339.5 | 264.5 | 242.5 | □180 | 75 | 118 |
| | KB·KC | 319.5 | 264.5 | 222.5 | □180 | 55 | 98 |
| | LA | 319.5 | 264.5 | 222.5 | □200 | 55 | 98 |
| | MA | 319.5 | 264.5 | 222.5 | □220 | 55 | 98 |
| | MB | 339.5 | 264.5 | 242.5 | □220 | 75 | 118 |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-205 – 1-Stage Specifications

| Frame Size | 205 | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|--------|--------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 750 | 500 | 500 |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 1400 | 970 | 970 |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2750 | 2200 | 2200 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.68 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5600 | 6200 | 6700 | 7100 | 7400 | 7800 | 8100 | 8400 |
| Permitted Axial Load | [N] | *8 | 4300 | 4900 | 5400 | 5800 | 6300 | 6600 | 7000 | 7300 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 44.000 | 28.000 | 22.000 | 18.000 | 16.000 | 15.000 | 14.000 | 14.000 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 66.000 | 50.000 | 44.000 | 41.000 | 38.000 | 37.000 | 36.000 | 36.000 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 130.000 | 110.000 | 100.000 | 100.000 | 99.000 | 97.000 | 97.000 | 96.000 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | |

VRL-205 – 2-Stage Specifications

| Frame Size | 205 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 500 | 750 | 750 |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 970 | 1400 | 1400 |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2200 | 2750 | 2750 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.39 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9600 | 9800 | 11000 | 11000 | 12000 | 12000 | 13000 | 13000 |
| Permitted Axial Load | [N] | *8 | 8700 | 8900 | 9900 | 11000 | 11000 | 12000 | 13000 | 13000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.700 | 5.400 | 4.400 | 4.200 | 4.900 | 3.200 | 4.100 | 3.200 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 12.000 | 13.000 | 12.000 | 12.000 | 13.000 | 11.000 | 12.000 | 11.000 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 34.000 | 35.000 | 34.000 | 34.000 | 35.000 | 33.000 | 34.000 | 33.000 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 40 | | | | | | | |

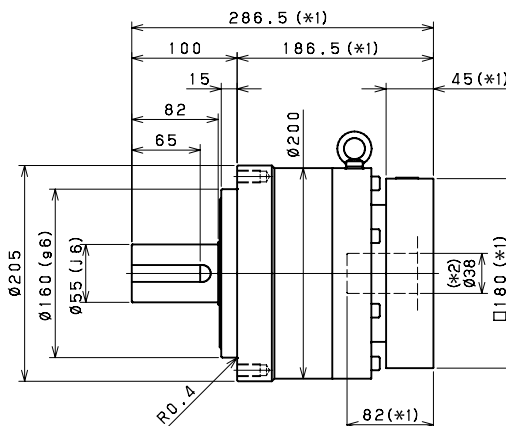
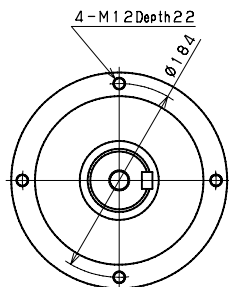
VRL-205 – 2-Stage Specifications

| Frame Size | 205 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 500 | 500 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 970 | 970 | | |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2200 | 2200 | | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.39 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.000 | 3.100 | 3.100 | 3.100 | 3.100 | 3.100 | 3.100 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 34.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 40 | | | | | | | | |

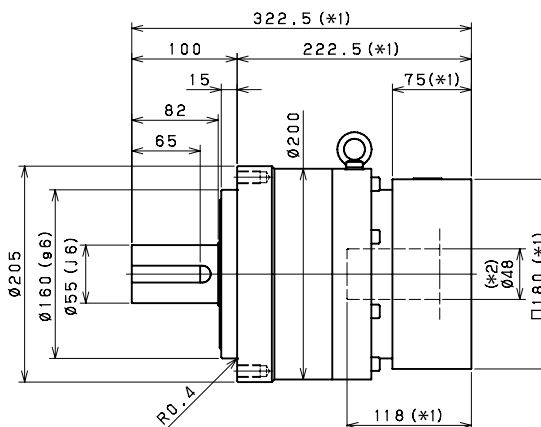
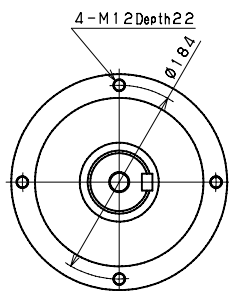
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRL205
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-205 – 1-Stage Dimensions

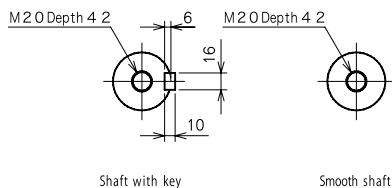
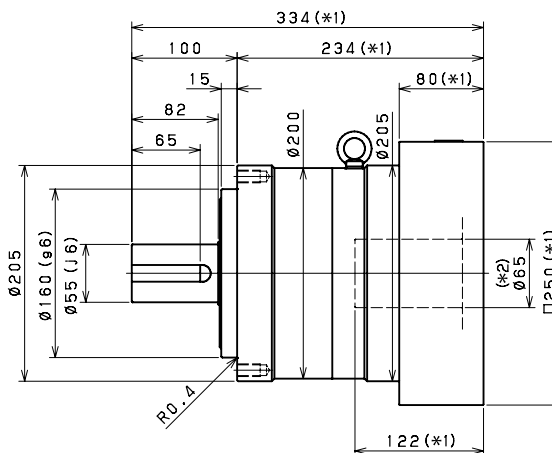
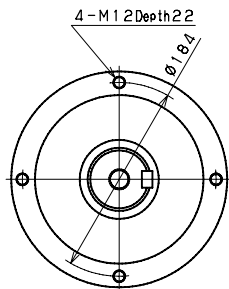
Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



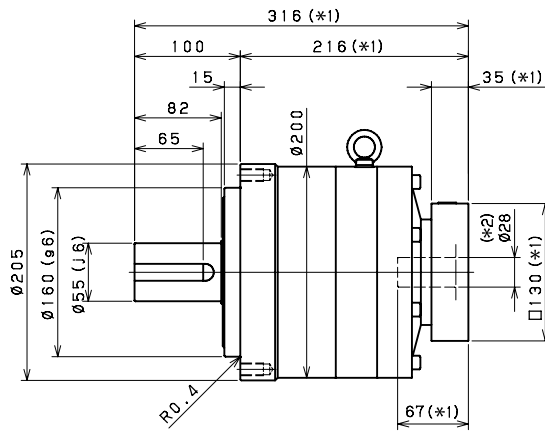
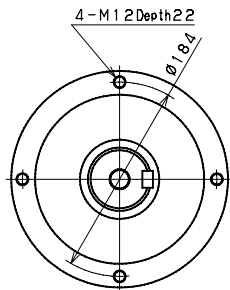
Input shaft bore $\leq \phi 65$



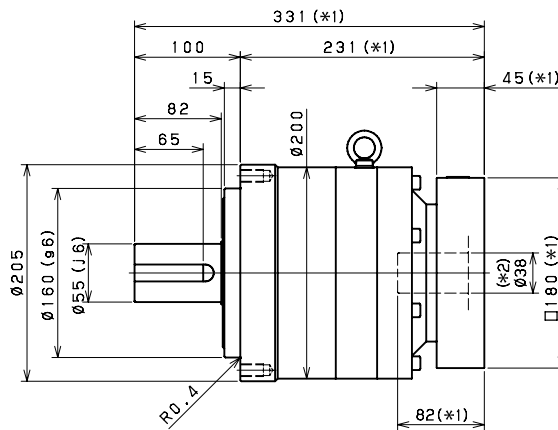
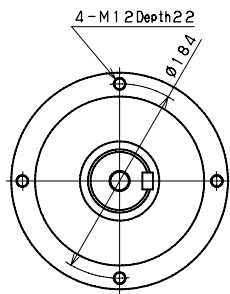
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRL-205 – 2-Stage Dimensions

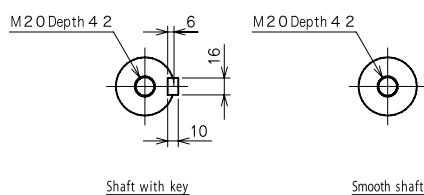
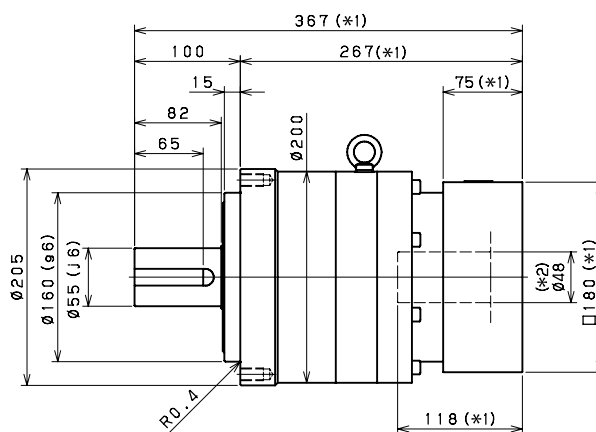
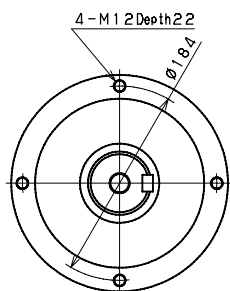
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$

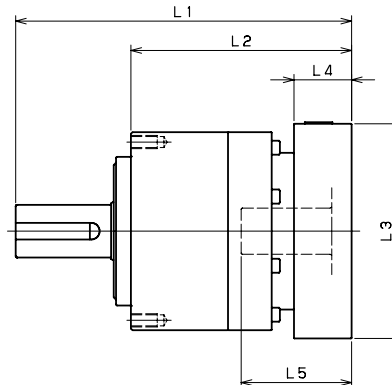


Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor
 *2) Bushing will be inserted to adapt to motor shaft

VRL-205 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-205-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | -- | -- | -- | -- | -- | -- |
| | GA-GB-GC-GD-GE-GF-GG-GH | -- | -- | -- | -- | -- | -- |
| | HA-HC-HD | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- | -- |
| | JA-JB-JC-JF | -- | -- | -- | -- | -- | -- |
| | KA-KB-KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| VRL-205-□-□-38** (Input shaft bore ≤ φ38) | HA | 286.5 | 241.5 | 186.5 | □130 | 45 | 82 |
| | HB-HE | 281.5 | 241.5 | 181.5 | □130 | 40 | 77 |
| | JA | 286.5 | 241.5 | 186.5 | □150 | 45 | 82 |
| | KA-KB-KC | 286.5 | 241.5 | 186.5 | □180 | 45 | 82 |
| | KD | 321.5 | 241.5 | 221.5 | □180 | 80 | 117 |
| | KE | 301.5 | 241.5 | 201.5 | □180 | 60 | 97 |
| | LB | 296.5 | 241.5 | 196.5 | □200 | 55 | 92 |
| | MA-MB | 286.5 | 241.5 | 186.5 | □220 | 45 | 82 |
| | MC | 301.5 | 241.5 | 201.5 | □220 | 60 | 97 |
| | MD | 296.5 | 241.5 | 196.5 | □220 | 55 | 92 |
| VRL-205-□-□-48** (Input shaft bore ≤ φ48) | NA | 286.5 | 241.5 | 186.5 | □250 | 45 | 82 |
| | KA | 322.5 | 247.5 | 222.5 | □180 | 75 | 118 |
| | KB-KC | 302.5 | 247.5 | 202.5 | □180 | 55 | 98 |
| | LA | 302.5 | 247.5 | 202.5 | □200 | 55 | 98 |
| | MA | 302.5 | 247.5 | 202.5 | □220 | 55 | 98 |
| | MB | 322.5 | 247.5 | 222.5 | □220 | 75 | 118 |
| | NA | 322.5 | 247.5 | 222.5 | □250 | 75 | 118 |
| VRL-205-□-□-65** (Input shaft bore ≤ φ65) | PA | 322.5 | 247.5 | 222.5 | □280 | 75 | 118 |
| | MA-MB-MC-MD | 334 | 254 | 234 | □220 | 80 | 122 |
| | NA-NC | 334 | 254 | 234 | □250 | 80 | 122 |
| | NB-ND | 364 | 254 | 264 | □250 | 110 | 152 |
| | PA | 354 | 254 | 254 | □280 | 100 | 142 |
| PB | 364 | 254 | 264 | □280 | 110 | 152 | |

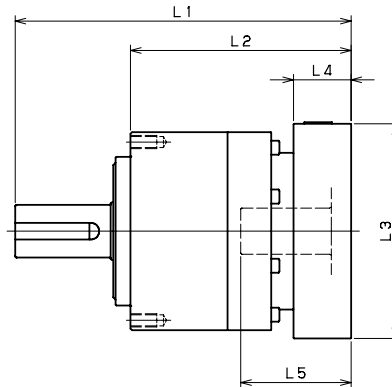
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-205 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-205-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 316 | 281 | 216 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 316 | 281 | 216 | □115 | 35 | 67 |
| | HA-HC-HD | 316 | 281 | 216 | □130 | 35 | 67 |
| | HB | 326 | 281 | 226 | □130 | 45 | 77 |
| | HF | 311 | 281 | 211 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 316 | 281 | 216 | □150 | 35 | 67 |
| | KA-KB-KE | 316 | 281 | 216 | □180 | 35 | 67 |
| | LA | 316 | 281 | 216 | □200 | 35 | 67 |
| | LB | 326 | 281 | 226 | □200 | 45 | 77 |
| | MA | 316 | 281 | 216 | □220 | 35 | 67 |
| VRL-205-□-□-38** (Input shaft bore ≤ φ38) | HA | 331 | 286 | 231 | □130 | 45 | 82 |
| | HB-HE | 326 | 286 | 226 | □130 | 40 | 77 |
| | JA | 331 | 286 | 231 | □150 | 45 | 82 |
| | KA-KB-KC | 331 | 286 | 231 | □180 | 45 | 82 |
| | KD | 366 | 286 | 266 | □180 | 80 | 117 |
| | KE | 346 | 286 | 246 | □180 | 60 | 97 |
| | LB | 341 | 286 | 241 | □200 | 55 | 92 |
| | MA-MB | 331 | 286 | 231 | □220 | 45 | 82 |
| | MC | 346 | 286 | 246 | □220 | 60 | 97 |
| | MD | 341 | 286 | 241 | □220 | 55 | 92 |
| VRL-205-□-□-48** (Input shaft bore ≤ φ48) | NA | 331 | 286 | 231 | □250 | 45 | 82 |
| | KA | 367 | 292 | 267 | □180 | 75 | 118 |
| | KB-KC | 347 | 292 | 247 | □180 | 55 | 98 |
| | LA | 347 | 292 | 247 | □200 | 55 | 98 |
| | MA | 347 | 292 | 247 | □220 | 55 | 98 |
| | MB | 367 | 292 | 267 | □220 | 75 | 118 |
| VRL-205-□-□-65** (Input shaft bore ≤ φ65) | NA | 367 | 292 | 267 | □250 | 75 | 118 |
| | PA | 367 | 292 | 267 | □280 | 75 | 118 |
| | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| PA | -- | -- | -- | -- | -- | -- | |
| PB | -- | -- | -- | -- | -- | -- | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-235 – 1-Stage Specifications

| Frame Size | 235 | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|---------|---------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1500 | 1000 | 1000 |
| Maximum Acceleration Torque | [Nm] | *2 | 1600 | 2300 | 2300 | 2300 | 2300 | 2200 | 1900 | 1600 |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 5000 | 4000 | 4000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.92 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5800 | 6400 | 6900 | 7300 | 7700 | 8000 | 8400 | 8700 |
| Permitted Axial Load | [N] | *8 | 6400 | 7200 | 7900 | 8600 | 9200 | 9700 | 10000 | 11000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 90.000 | 62.000 | 52.000 | 47.000 | 42.000 | 40.000 | 39.000 | 38.000 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 150.000 | 120.000 | 110.000 | 110.000 | 100.000 | 100.000 | 99.000 | 98.000 |
| Efficiency | [%] | *11 | 97 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 55 | | | | | | | |

VRL-235 – 2-Stage Specifications

| Frame Size | 235 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1000 | 1500 | 1500 |
| Maximum Acceleration Torque | [Nm] | *2 | 1600 | 2300 | 2300 | 2300 | 2300 | 1600 | 2300 | 2300 |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 4000 | 5000 | 5000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.14 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9900 | 10000 | 11000 | 12000 | 12000 | 13000 | 13000 | 14000 |
| Permitted Axial Load | [N] | *8 | 13000 | 13000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 14.000 | 16.000 | 14.000 | 14.000 | 15.000 | 12.000 | 13.000 | 12.000 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 36.000 | 37.000 | 35.000 | 35.000 | 36.000 | 34.000 | 35.000 | 33.000 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 92 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 57 | | | | | | | |

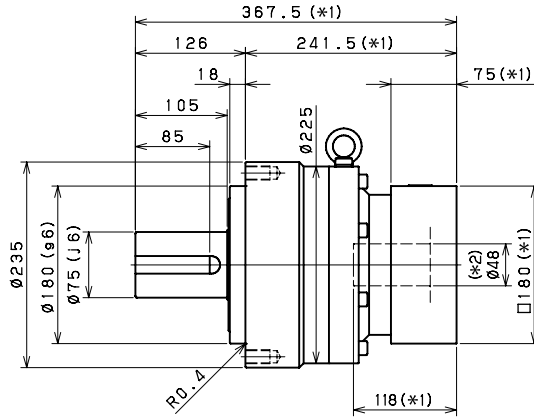
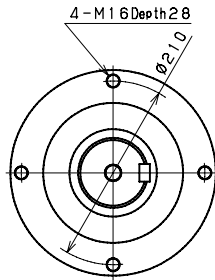
VRL-235 – 2-Stage Specifications

| Frame Size | 235 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1000 | 1000 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1300 | 2300 | 2300 | 2300 | 1800 | 1300 | 1200 | | |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 4000 | 4000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.14 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 35.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 92 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 57 | | | | | | | | |

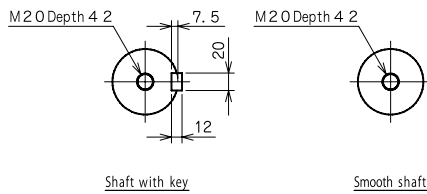
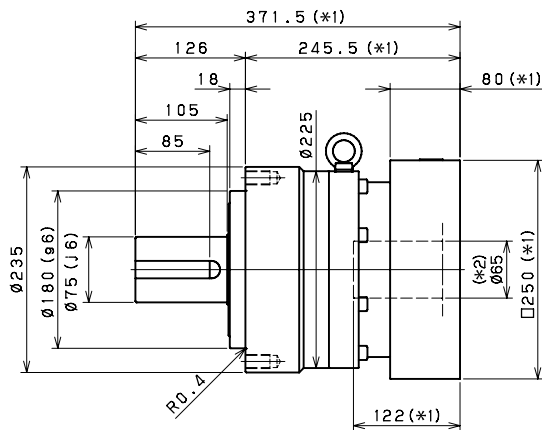
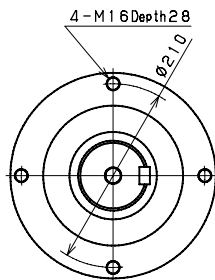
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRL235
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-235 – 1-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



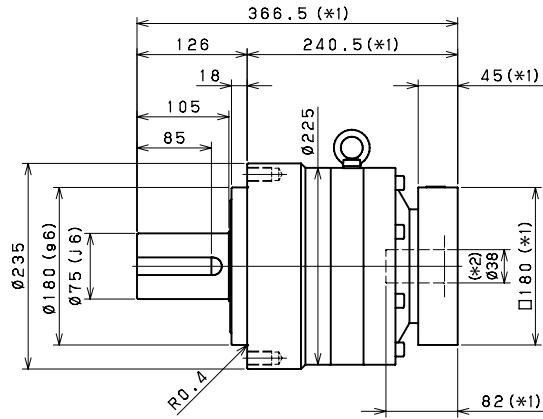
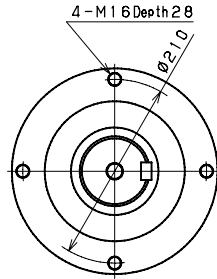
Input shaft bore $\leq \varnothing 65$



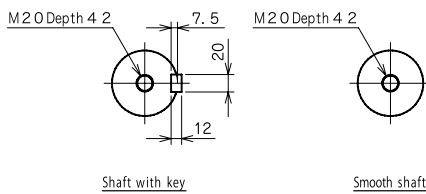
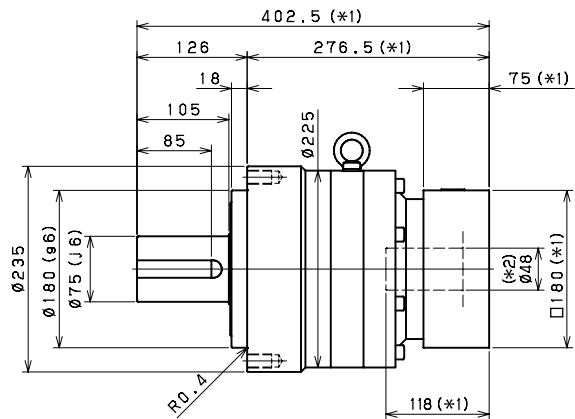
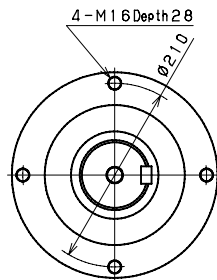
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRL-235 – 2-Stage Dimensions

Input shaft bore $\cong \phi 38$

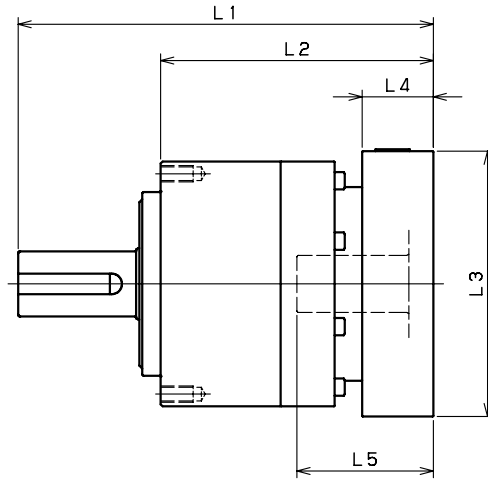


Input shaft bore $\cong \phi 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRL-235 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-235-□-□-38** (Input shaft bore ≤ φ38) | HA | -- | -- | -- | -- | -- | -- |
| | HB-HE | -- | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- | -- |
| | KA-KB-KC | -- | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA-MB | -- | -- | -- | -- | -- | -- |
| | MC | -- | -- | -- | -- | -- | -- |
| | MD | -- | -- | -- | -- | -- | -- |
| NA | -- | -- | -- | -- | -- | -- | |
| VRL-235-□-□-48** (Input shaft bore ≤ φ48) | KA | 367.5 | 292.5 | 241.5 | □180 | 75 | 118 |
| | KB-KC | 347.5 | 292.5 | 221.5 | □180 | 55 | 98 |
| | LA | 347.5 | 292.5 | 221.5 | □200 | 55 | 98 |
| | MA | 347.5 | 292.5 | 221.5 | □220 | 55 | 98 |
| | MB | 367.5 | 292.5 | 241.5 | □220 | 75 | 118 |
| | NA | 367.5 | 292.5 | 241.5 | □250 | 75 | 118 |
| | PA | 367.5 | 292.5 | 241.5 | □280 | 75 | 118 |
| VRL-235-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 371.5 | 291.5 | 245.5 | □220 | 80 | 122 |
| | NA-NC | 371.5 | 291.5 | 245.5 | □250 | 80 | 122 |
| | NB-ND | 401.5 | 291.5 | 275.5 | □250 | 110 | 152 |
| | PA | 391.5 | 291.5 | 265.5 | □280 | 100 | 142 |
| | PB | 401.5 | 291.5 | 275.5 | □280 | 110 | 152 |
| | QA-QB | 391.5 | 291.5 | 265.5 | □320 | 100 | 142 |

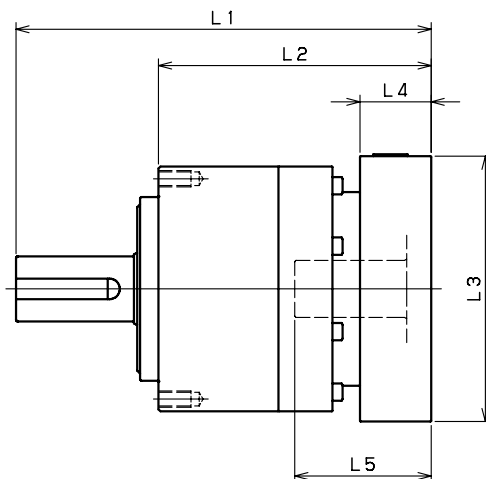
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-235 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRL-235-□-□-38** (Input shaft bore ≤ φ38) | HA | 366.5 | 321.5 | 240.5 | □130 | 45 | 82 |
| | HB-HE | 361.5 | 321.5 | 235.5 | □130 | 40 | 77 |
| | JA | 366.5 | 321.5 | 240.5 | □150 | 45 | 82 |
| | KA-KB-KC | 366.5 | 321.5 | 240.5 | □180 | 45 | 82 |
| | KD | 401.5 | 321.5 | 275.5 | □180 | 80 | 117 |
| | KE | 381.5 | 321.5 | 255.5 | □180 | 60 | 97 |
| | LA | 366.5 | 321.5 | 240.5 | □200 | 45 | 82 |
| | LB | 376.5 | 321.5 | 250.5 | □200 | 55 | 92 |
| | MA-MB | 366.5 | 321.5 | 240.5 | □220 | 45 | 82 |
| | MC | 381.5 | 321.5 | 255.5 | □220 | 60 | 97 |
| | MD | 376.5 | 321.5 | 250.5 | □220 | 55 | 92 |
| VRL-235-□-□-48** (Input shaft bore ≤ φ48) | NA | 366.5 | 321.5 | 240.5 | □250 | 45 | 82 |
| | KA | 402.5 | 327.5 | 276.5 | □180 | 75 | 118 |
| | KB-KC | 382.5 | 327.5 | 256.5 | □180 | 55 | 98 |
| | LA | 382.5 | 327.5 | 256.5 | □200 | 55 | 98 |
| | MA | 382.5 | 327.5 | 256.5 | □220 | 55 | 98 |
| | MB | 402.5 | 327.5 | 276.5 | □220 | 75 | 118 |
| VRL-235-□-□-65** (Input shaft bore ≤ φ65) | NA | 402.5 | 327.5 | 276.5 | □250 | 75 | 118 |
| | PA | 402.5 | 327.5 | 276.5 | □280 | 75 | 118 |
| | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- | -- |
| | QA-QB | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

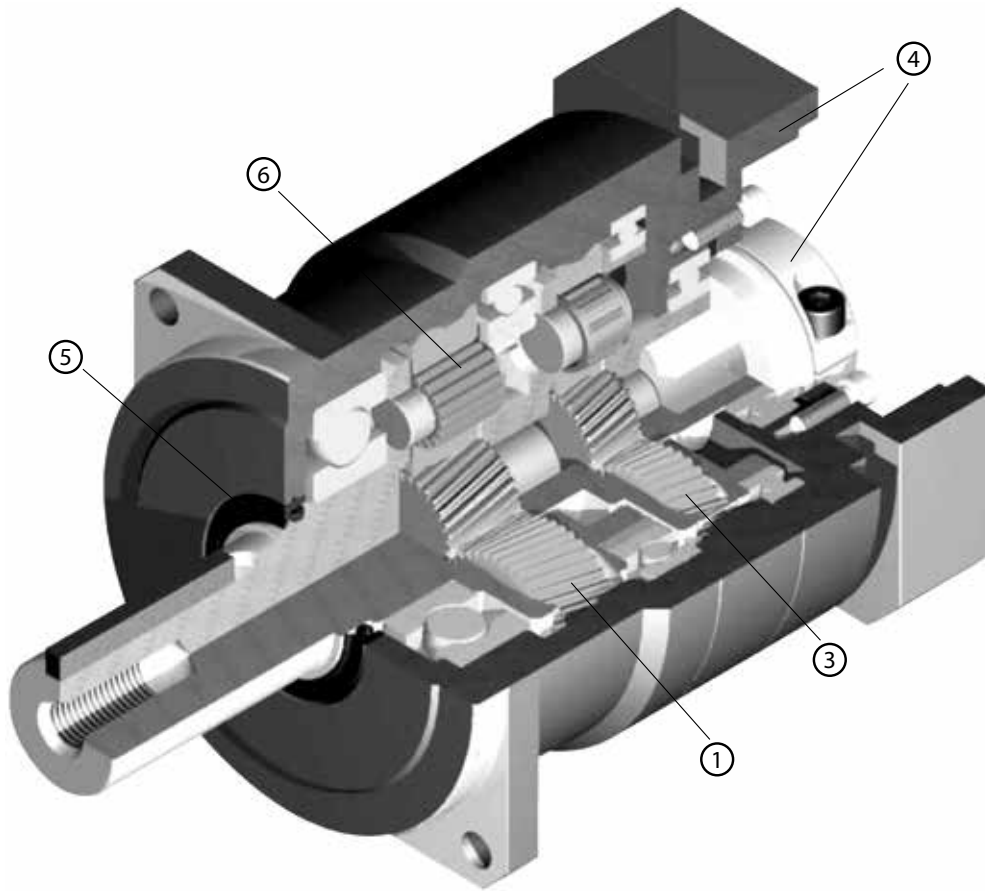
A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.



VRB-SERIES

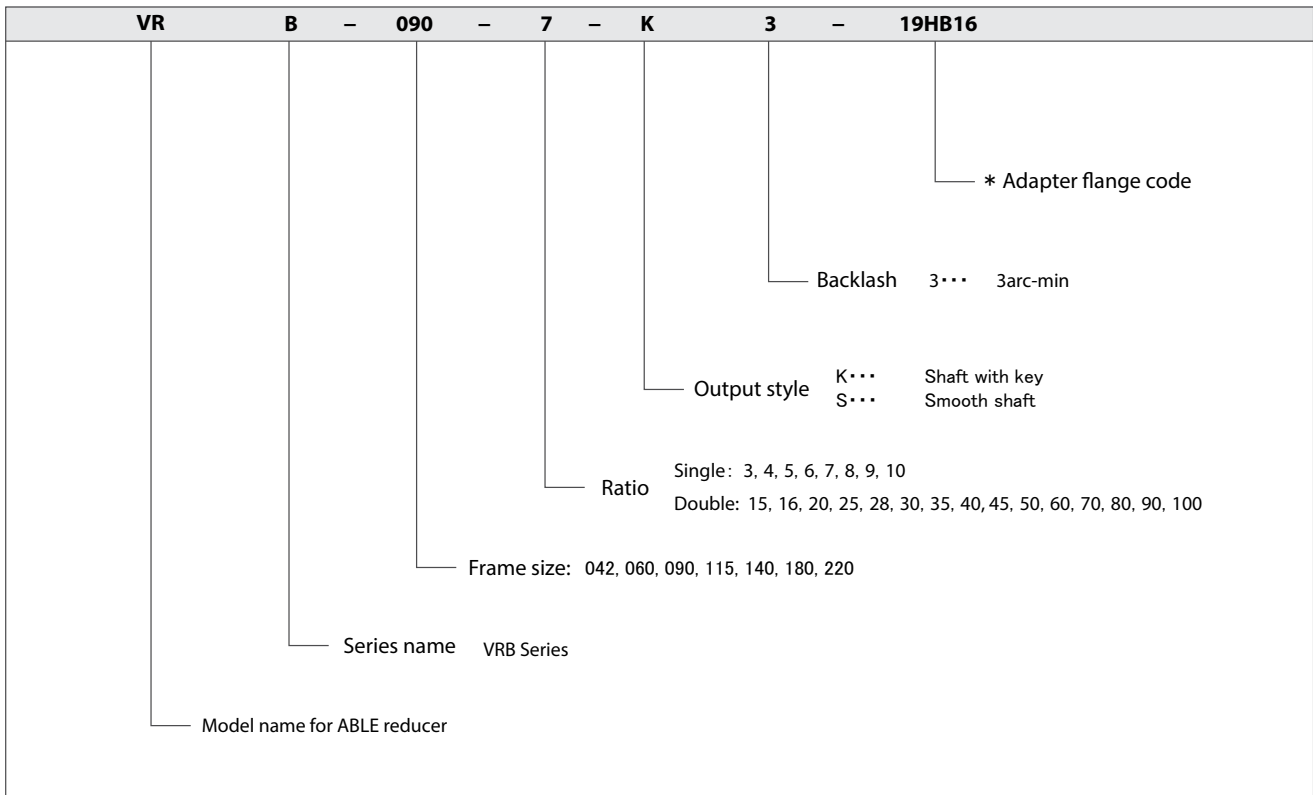
- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thru-bolt mounting style
- Best-in-class backlash (≤ 3 arc/min)

VRB-Series – Features



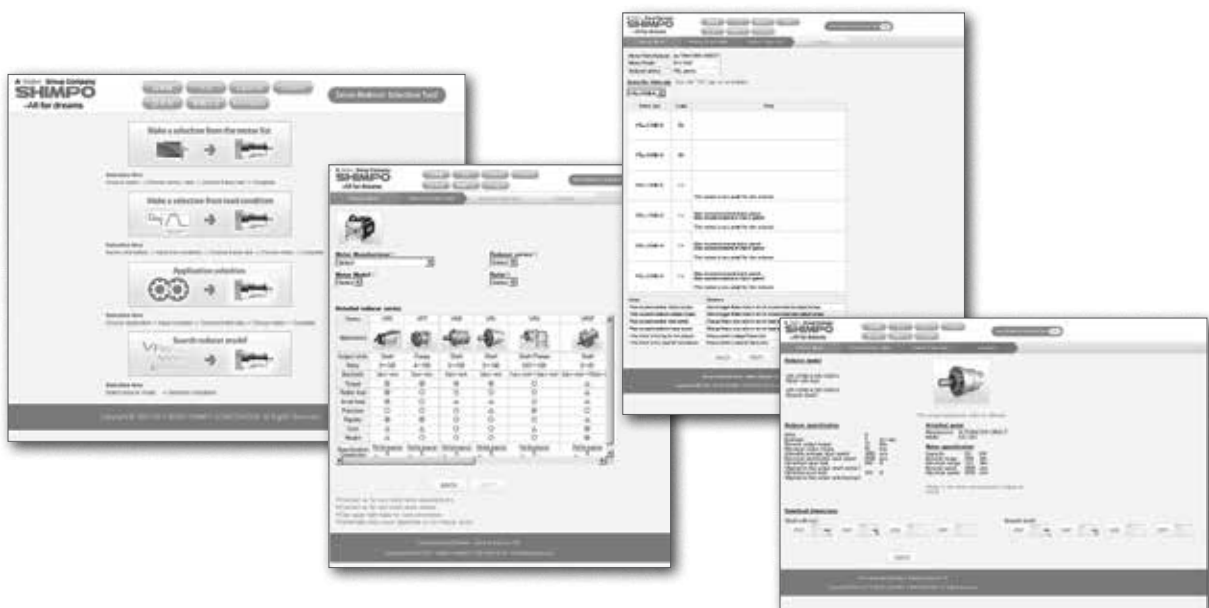
- ① Quiet operation: Helical cut gears contribute to reduced vibration and noise
- ② High precision: Standard backlash is 3 arc/min, ideal for higher levels of positional accuracy
- ③ High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

VRB-Series – Model Code



- *1) Adapter flange code
Adapter flange code varies depending on the motor
- *2) For all washdown intensive and food grade options, refer to pages 10 and 11

Contact us for additional information or refer to our online reducer selection tool.
Selection tool www.nidec-shimpo.co.jp/selection/eng



VRB-042 – 1-Stage Specifications

| Frame Size | 042 | | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Units | Notes | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 6 | 9 | 9 | 9 | 9 | 9 | 6 | 6 |
| Maximum Acceleration Torque | [Nm] | *2 | 12 | 18 | 18 | 18 | 18 | 18 | 12 | 12 |
| Emergency Stop Torque | [Nm] | *3 | 30 | 35 | 35 | 35 | 35 | 35 | 30 | 30 |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.03 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 240 | 270 | 290 | 310 | 320 | 340 | 350 | 360 |
| Permitted Axial Load | [N] | *8 | 270 | 300 | 330 | 360 | 380 | 410 | 430 | 450 |
| Maximum Radial Load | [N] | *9 | 710 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 640 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.053 | 0.041 | 0.036 | 0.034 | 0.032 | 0.031 | 0.031 | 0.030 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.091 | 0.079 | 0.074 | 0.072 | 0.071 | 0.070 | 0.069 | 0.069 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 0.6 | | | | | | | |

VRB-042 – 2-Stage Specifications

| Frame Size | 042 | | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Notes | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 6 | 9 | 9 | 9 | 9 | 6 | 9 | 9 |
| Maximum Acceleration Torque | [Nm] | *2 | 12 | 18 | 18 | 18 | 18 | 12 | 18 | 18 |
| Emergency Stop Torque | [Nm] | *3 | 30 | 35 | 35 | 35 | 35 | 30 | 35 | 35 |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.01 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 410 | 420 | 460 | 490 | 510 | 520 | 550 | 570 |
| Permitted Axial Load | [N] | *8 | 540 | 550 | 610 | 640 | 640 | 640 | 640 | 640 |
| Maximum Radial Load | [N] | *9 | 710 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 640 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.035 | 0.038 | 0.034 | 0.034 | 0.038 | 0.030 | 0.034 | 0.030 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 0.7 | | | | | | | |

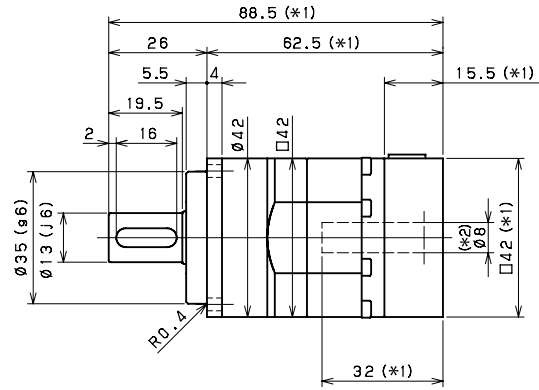
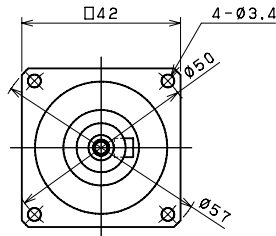
VRB-042 – 2-Stage Specifications

| Frame Size | 042 | | | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Units | Notes | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 6 | 9 | 9 | 9 | 9 | 6 | 6 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 12 | 18 | 18 | 18 | 18 | 12 | 12 | | |
| Emergency Stop Torque | [Nm] | *3 | 30 | 35 | 35 | 35 | 35 | 30 | 30 | | |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.01 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 600 | 620 | 660 | 690 | 710 | 710 | 710 | | |
| Permitted Axial Load | [N] | *8 | 640 | 640 | 640 | 640 | 640 | 640 | 640 | | |
| Maximum Radial Load | [N] | *9 | 710 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 640 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.034 | 0.030 | 0.030 | 0.030 | 0.030 | 0.030 | 0.030 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 0.7 | | | | | | | | |

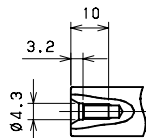
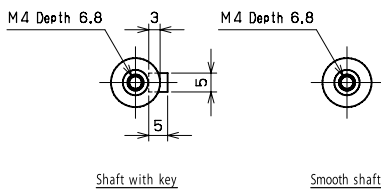
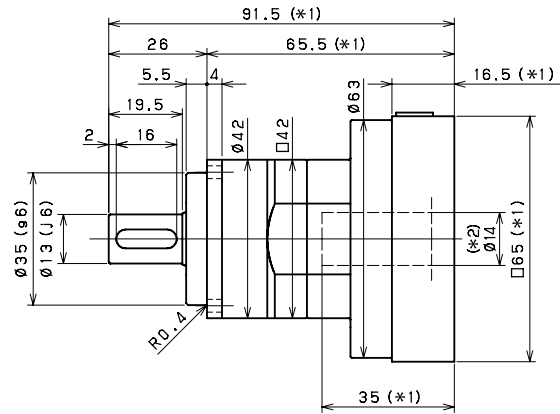
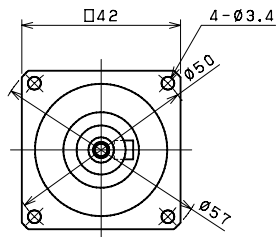
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRB 042
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-042 – 1-Stage Dimensions

Input shaft bore $\leq \phi 8$



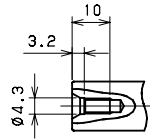
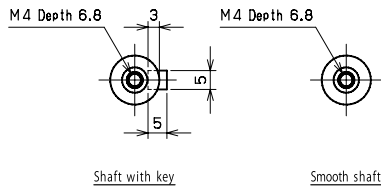
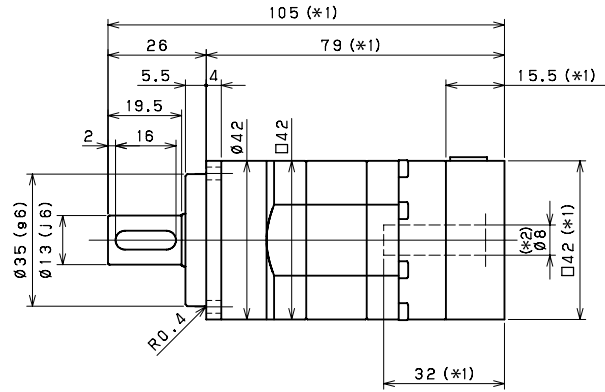
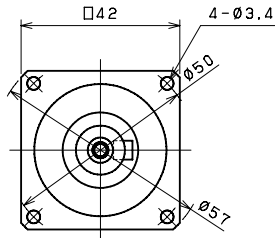
Input shaft bore $\leq \phi 14$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

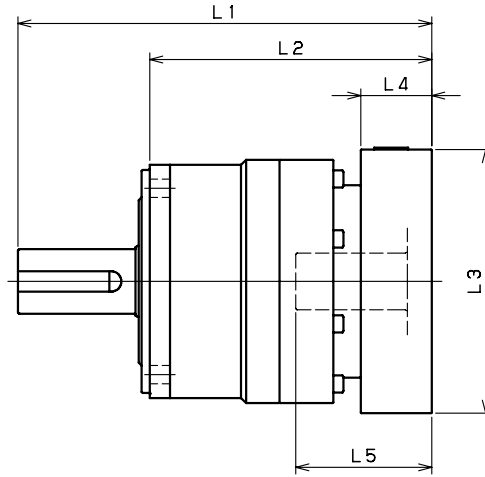
VRB-042 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-042 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|----------------------------|---------|----|----|-----|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-042-□-□-S8** (Input shaft bore ≤ φ8) | ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ | 88.5 | 73 | 64 | □42 | 15.5 | 32 |
| | ZB·ZE·ZH·ZJ·ZK | 93.5 | 73 | 69 | □42 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 88.5 | 73 | 64 | □60 | 15.5 | 32 |
| | BC·BF | 93.5 | 73 | 69 | □60 | 20.5 | 37 |
| VRB-042-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BJ·BK·BP | 91.5 | 75 | 67 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 96.5 | 75 | 72 | □65 | 21.5 | 40 |
| | BL | 101.5 | 75 | 77 | □65 | 26.5 | 45 |

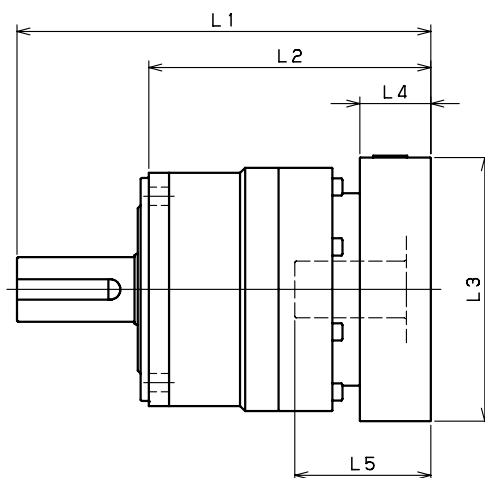
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-042 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|----------------------------|---------|------|------|-----|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-042-□-□-S8** (Input shaft bore ≤ φ8) | ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ | 105 | 89.5 | 80.5 | □42 | 15.5 | 32 |
| | ZB·ZE·ZH·ZJ·ZK | 110 | 89.5 | 85.5 | □42 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 105 | 89.5 | 80.5 | □60 | 15.5 | 32 |
| | BC·BF | 110 | 89.5 | 85.5 | □60 | 20.5 | 37 |
| VRB-042-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BJ·BK·BP | -- | -- | -- | -- | -- | -- |
| | BC·BH·BM·BN | -- | -- | -- | -- | -- | -- |
| | BL | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-o6o – 1-Stage Specifications

| Frame Size | 060 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 27 | 18 | 18 |
| Maximum Acceleration Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 50 | 35 | 35 |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 100 | 80 | 80 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.15 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 430 | 470 | 510 | 540 | 570 | 600 | 620 | 640 |
| Permitted Axial Load | [N] | *8 | 310 | 360 | 390 | 430 | 460 | 480 | 510 | 530 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.140 | 0.095 | 0.077 | 0.068 | 0.062 | 0.059 | 0.057 | 0.056 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.220 | 0.170 | 0.160 | 0.150 | 0.140 | 0.140 | 0.140 | 0.140 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.430 | 0.380 | 0.360 | 0.360 | 0.350 | 0.350 | 0.340 | 0.340 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 66 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.4 | | | | | | | |

VRB-o6o – 2-Stage Specifications

| Frame Size | 060 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 18 | 27 | 27 |
| Maximum Acceleration Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 35 | 50 | 50 |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 100 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 740 | 750 | 810 | 870 | 910 | 930 | 980 | 1000 |
| Permitted Axial Load | [N] | *8 | 630 | 650 | 720 | 790 | 830 | 860 | 920 | 970 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.055 | 0.057 | 0.054 | 0.053 | 0.055 | 0.049 | 0.053 | 0.049 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.140 | 0.140 | 0.130 | 0.130 | 0.140 | 0.130 | 0.130 | 0.130 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 66 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | | |

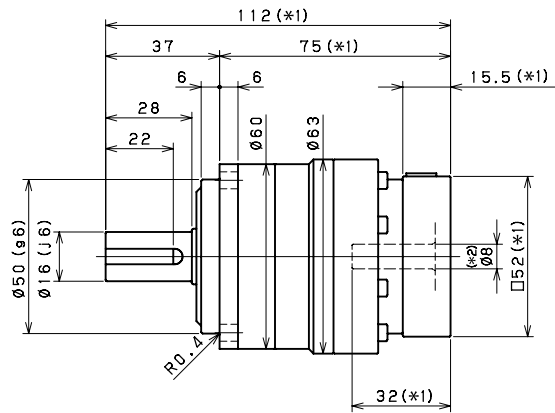
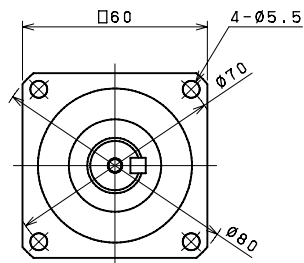
VRB-o6o – 2-Stage Specifications

| Frame Size | 060 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 18 | 18 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 35 | 35 | | |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 80 | 80 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1100 | 1100 | 1200 | 1200 | 1200 | 1200 | 1200 | | |
| Permitted Axial Load | [N] | *8 | 1000 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | | |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.053 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 66 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | | | |

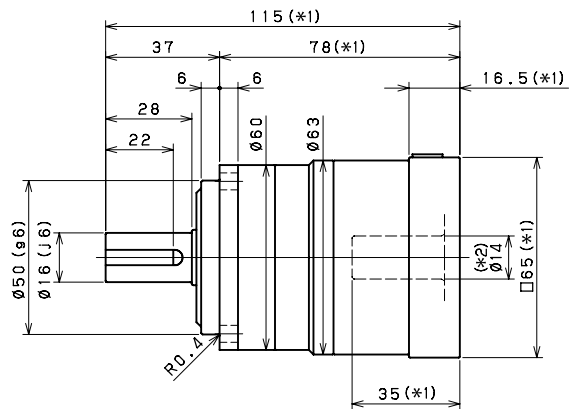
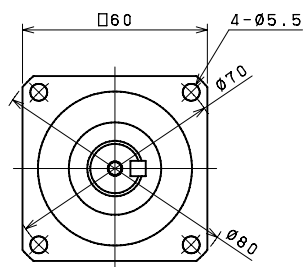
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB o6o
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-o60 – 1-Stage Dimensions

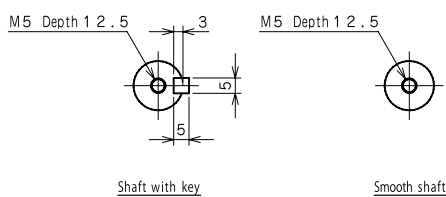
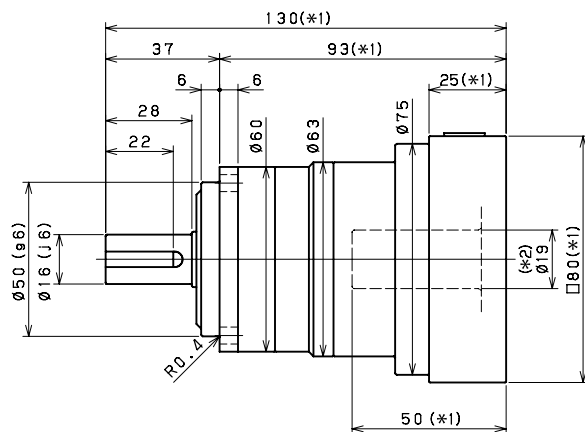
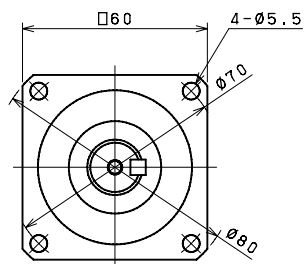
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

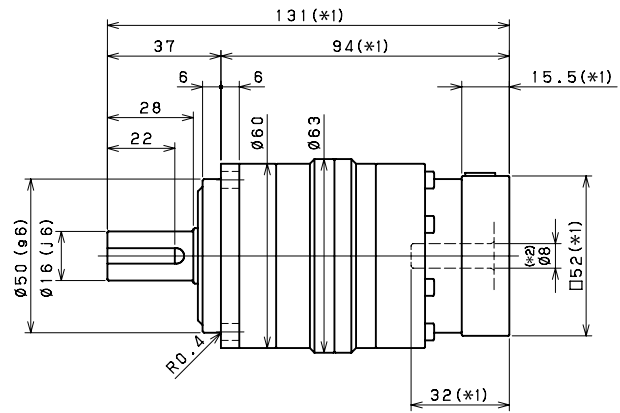
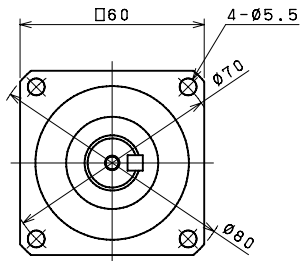


*1) Length will vary depending on motor

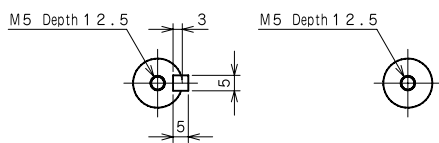
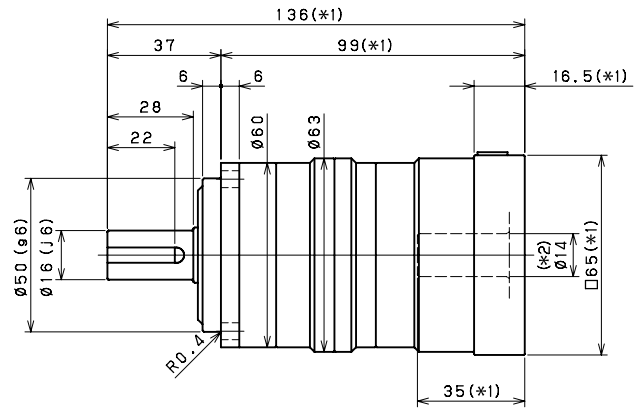
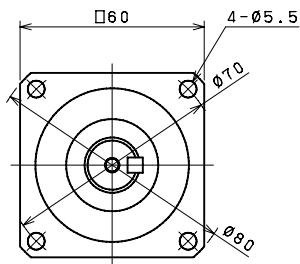
*2) Bushing will be inserted to adapt to motor shaft

VRB-o60 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



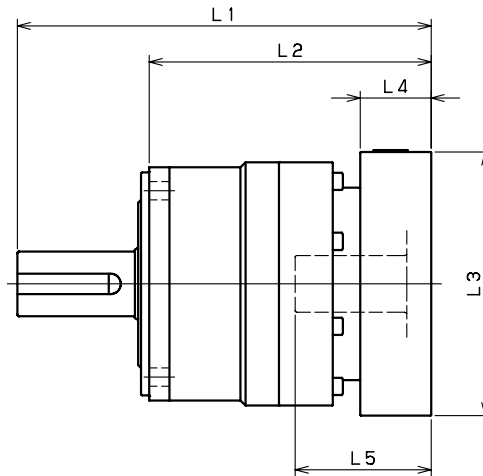
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

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

VRB-o6o – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|------|-----|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-060-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 112 | 96.5 | 75 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 117 | 96.5 | 80 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 112 | 96.5 | 75 | □60 | 15.5 | 32 |
| | BC·BF | 117 | 96.5 | 80 | □60 | 20.5 | 37 |
| | CA | 117 | 96.5 | 80 | □70 | 20.5 | 37 |
| VRB-060-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 115 | 98.5 | 78 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 120 | 98.5 | 83 | □65 | 21.5 | 40 |
| | BL | 125 | 98.5 | 88 | □65 | 26.5 | 45 |
| | CA·CC | 115 | 98.5 | 78 | □70 | 16.5 | 35 |
| | CB | 120 | 98.5 | 83 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 115 | 98.5 | 78 | □80 | 16.5 | 35 |
| | DE·DL | 120 | 98.5 | 83 | □80 | 21.5 | 40 |
| | DG·DK | 125 | 98.5 | 88 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 115 | 98.5 | 78 | □90 | 16.5 | 35 |
| | EJ·EM | 120 | 98.5 | 83 | □90 | 21.5 | 40 |
| | ED·EE·EH | 125 | 98.5 | 88 | □90 | 26.5 | 45 |
| | FA | 115 | 98.5 | 78 | □100 | 16.5 | 35 |
| | FB | 125 | 98.5 | 88 | □100 | 26.5 | 45 |
| VRB-060-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 130 | 105 | 93 | □80 | 25 | 50 |
| | DD | 140 | 105 | 103 | □80 | 35 | 60 |
| | DE | 135 | 105 | 98 | □80 | 30 | 55 |
| | EA | 135 | 105 | 98 | □90 | 30 | 55 |
| | EB·ED | 130 | 105 | 93 | □90 | 25 | 50 |
| | EC | 140 | 105 | 103 | □90 | 35 | 60 |
| | FA | 130 | 105 | 93 | □100 | 25 | 50 |
| | FB | 140 | 105 | 103 | □100 | 35 | 60 |

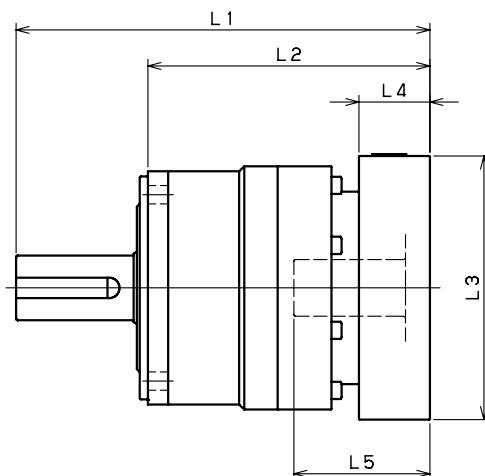
*1) Single reduction : 1/3 ~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-o6o – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-060-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 131 | 115.5 | 94 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 136 | 115.5 | 99 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 131 | 115.5 | 94 | □60 | 15.5 | 32 |
| | BC·BF | 136 | 115.5 | 99 | □60 | 20.5 | 37 |
| | CA | 136 | 115.5 | 99 | □70 | 20.5 | 37 |
| VRB-060-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 136 | 119.5 | 99 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 141 | 119.5 | 104 | □65 | 21.5 | 40 |
| | BL | 146 | 119.5 | 109 | □65 | 26.5 | 45 |
| | CA·CC | 136 | 119.5 | 99 | □70 | 16.5 | 35 |
| | CB | 141 | 119.5 | 104 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 136 | 119.5 | 99 | □80 | 16.5 | 35 |
| | DE·DL | 141 | 119.5 | 104 | □80 | 21.5 | 40 |
| | DG·DK | 146 | 119.5 | 109 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 136 | 119.5 | 99 | □90 | 16.5 | 35 |
| | EJ·EM | 141 | 119.5 | 104 | □90 | 21.5 | 40 |
| | ED·EE·EH | 146 | 119.5 | 109 | □90 | 26.5 | 45 |
| | FA | 136 | 119.5 | 99 | □100 | 16.5 | 35 |
| FB | 146 | 119.5 | 109 | □100 | 26.5 | 45 | |
| VRB-060-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 151 | 126 | 114 | □80 | 25 | 50 |
| | DD | 161 | 126 | 124 | □80 | 35 | 60 |
| | DE | 156 | 126 | 119 | □80 | 30 | 55 |
| | EA | 156 | 126 | 119 | □90 | 30 | 55 |
| | EB·ED | 151 | 126 | 114 | □90 | 25 | 50 |
| | EC | 161 | 126 | 124 | □90 | 35 | 60 |
| | FA | 151 | 126 | 114 | □100 | 25 | 50 |
| FB | 161 | 126 | 124 | □100 | 35 | 60 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRB-090 – 1-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 75 | 50 | 50 |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 125 | 80 | 80 |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 250 | 200 | 200 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.35 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 810 | 890 | 960 | 1000 | 1100 | 1100 | 1200 | 1200 |
| Permitted Axial Load | [N] | *8 | 930 | 1100 | 1200 | 1300 | 1300 | 1400 | 1500 | 1600 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.720 | 0.490 | 0.400 | 0.360 | 0.320 | 0.310 | 0.290 | 0.290 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 1.200 | 0.950 | 0.860 | 0.820 | 0.790 | 0.770 | 0.760 | 0.750 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 3.200 | 3.000 | 2.900 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 3.7 | | | | | | | |

VRB-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 75 | 75 |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 125 | 125 |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 250 | 250 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.06 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1400 | 1400 | 1500 | 1600 | 1700 | 1700 | 1800 | 1900 |
| Permitted Axial Load | [N] | *8 | 1900 | 1900 | 2100 | 2200 | 2200 | 2200 | 2200 | 2200 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | 0.130 | 0.150 | 0.130 | 0.120 | 0.140 | 0.100 | 0.120 | 0.099 |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.280 | 0.300 | 0.280 | 0.280 | 0.290 | 0.250 | 0.270 | 0.250 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.720 | 0.740 | 0.720 | 0.710 | 0.730 | 0.700 | 0.710 | 0.700 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 4.2 | | | | | | | |

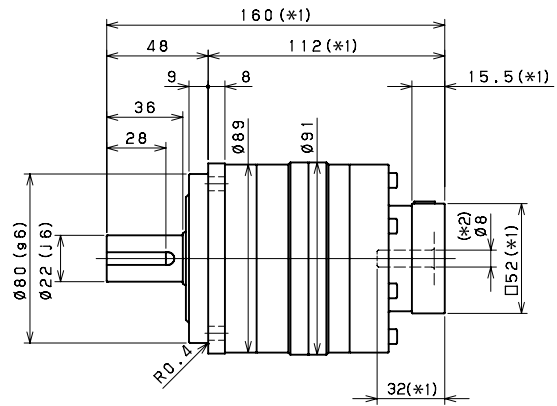
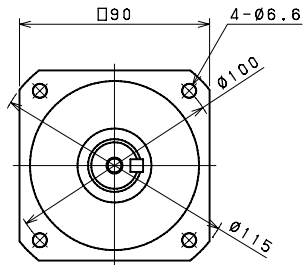
VRB-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 50 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 80 | | |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 200 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.06 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2000 | 2100 | 2200 | 2300 | 2400 | 2400 | 2400 | | |
| Permitted Axial Load | [N] | *8 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | | |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.120 | 0.098 | 0.098 | 0.097 | 0.097 | 0.097 | 0.097 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.270 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.710 | 0.690 | 0.690 | 0.690 | 0.690 | 0.690 | 0.690 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4.2 | | | | | | | | |

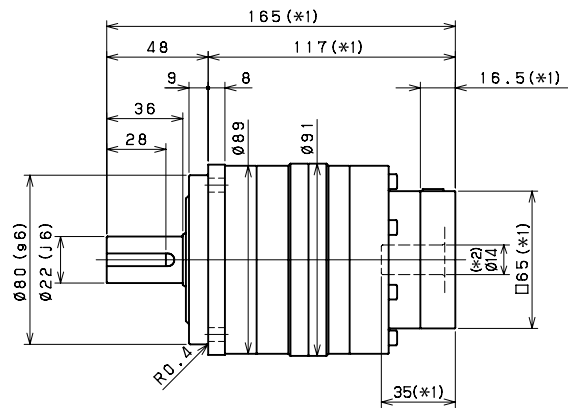
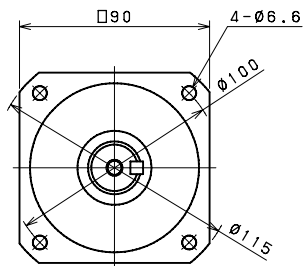
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB 090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-090 – 2-Stage Dimensions

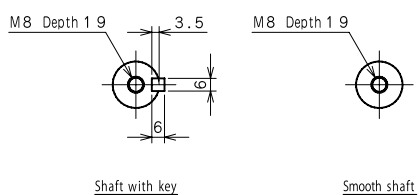
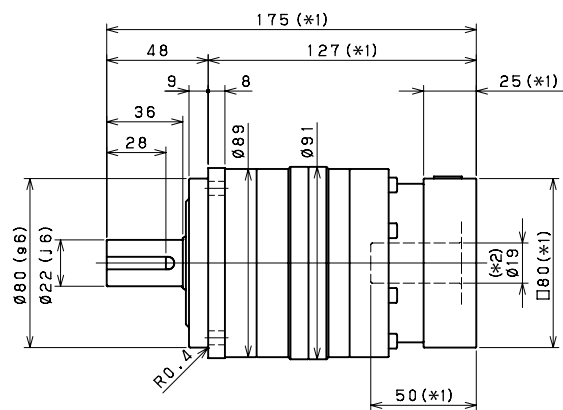
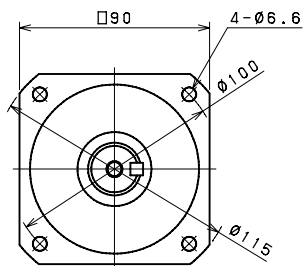
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$

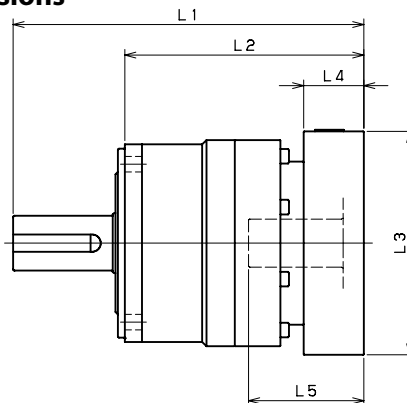


Input shaft bore $\leq \varnothing 19$



*1) Length will vary depending on motor
 *2) Bushing will be inserted to adapt to motor shaft

VRB-090 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-------|-----|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-090-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | -- | -- | -- | -- | -- | -- |
| | AB·AE·AH·AJ·AK | -- | -- | -- | -- | -- | -- |
| | BA·BB·BD·BE·BG·BH·BJ | -- | -- | -- | -- | -- | -- |
| | CA | -- | -- | -- | -- | -- | -- |
| VRB-090-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 143 | 126.5 | 95 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 148 | 126.5 | 100 | □65 | 21.5 | 40 |
| | CA·CC | 143 | 126.5 | 95 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 143 | 126.5 | 95 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 143 | 126.5 | 95 | □90 | 16.5 | 35 |
| | FA | 143 | 126.5 | 95 | □100 | 16.5 | 35 |
| | FB | 153 | 126.5 | 105 | □100 | 26.5 | 45 |
| VRB-090-□-□-19** (Input shaft bore ≤ φ19) | JA | 158 | 126.5 | 110 | □150 | 31.5 | 50 |
| | DA·DB·DC | 153 | 128 | 105 | □80 | 25 | 50 |
| | EB·ED | 153 | 128 | 105 | □90 | 25 | 50 |
| | FA | 153 | 128 | 105 | □100 | 25 | 50 |
| | FB | 163 | 128 | 115 | □100 | 35 | 60 |
| | GA·GC·GH | 158 | 128 | 110 | □115 | 30 | 55 |
| | GB·GD·GJ | 153 | 128 | 105 | □115 | 25 | 50 |
| | GE·GF | 163 | 128 | 115 | □115 | 35 | 60 |
| | HA | 153 | 128 | 105 | □130 | 25 | 50 |
| | HB | 168 | 128 | 120 | □130 | 40 | 65 |
| VRB-090-□-□-28** (Input shaft bore ≤ φ28) | HC·HD·HE | 158 | 128 | 110 | □130 | 30 | 55 |
| | JA | 163 | 128 | 115 | □150 | 35 | 60 |
| | JB | 168 | 128 | 120 | □150 | 40 | 65 |
| | FA·FB·FC | 170 | 135 | 122 | □100 | 35 | 67 |
| | FD·FE | 165 | 135 | 117 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 170 | 135 | 122 | □115 | 35 | 67 |
| | HA·HC·HD | 170 | 135 | 122 | □130 | 35 | 67 |
| | HB | 180 | 135 | 132 | □130 | 45 | 77 |
| | HE | 185 | 135 | 137 | □130 | 50 | 82 |
| | HF | 165 | 135 | 117 | □130 | 30 | 62 |
| VRB-090-□-□-28** (Input shaft bore ≤ φ28) | JA·JB·JC·JF | 170 | 135 | 122 | □150 | 35 | 67 |
| | JD | 190 | 135 | 142 | □150 | 55 | 87 |
| | JE | 180 | 135 | 132 | □150 | 45 | 77 |

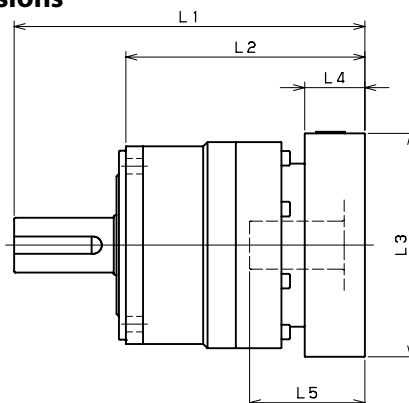
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-090 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-090-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 160 | 144.5 | 112 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 165 | 144.5 | 117 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 160 | 144.5 | 112 | □60 | 15.5 | 32 |
| | CA | 165 | 144.5 | 117 | □70 | 20.5 | 37 |
| VRB-090-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 165 | 148.5 | 117 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 170 | 148.5 | 122 | □65 | 21.5 | 40 |
| | CA·CC | 165 | 148.5 | 117 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 165 | 148.5 | 117 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 165 | 148.5 | 117 | □90 | 16.5 | 35 |
| | FA | 165 | 148.5 | 117 | □100 | 16.5 | 35 |
| | FB | 175 | 148.5 | 127 | □100 | 26.5 | 45 |
| VRB-090-□-□-19** (Input shaft bore ≤ φ19) | JA | 180 | 148.5 | 132 | □150 | 31.5 | 50 |
| | DA·DB·DC | 175 | 150 | 127 | □80 | 25 | 50 |
| | EB·ED | 175 | 150 | 127 | □90 | 25 | 50 |
| | FA | 175 | 150 | 127 | □100 | 25 | 50 |
| | FB | 185 | 150 | 137 | □100 | 35 | 60 |
| | GA·GC·GH | 180 | 150 | 132 | □115 | 30 | 55 |
| | GB·GD·GJ | 175 | 150 | 127 | □115 | 25 | 50 |
| | GE·GF | 185 | 150 | 137 | □115 | 35 | 60 |
| | HA | 175 | 150 | 127 | □130 | 25 | 50 |
| | HB | 190 | 150 | 142 | □130 | 40 | 65 |
| | HC·HD·HE | 180 | 150 | 132 | □130 | 30 | 55 |
| | JA | 185 | 150 | 137 | □150 | 35 | 60 |
| VRB-090-□-□-28** (Input shaft bore ≤ φ28) | JB | 190 | 150 | 142 | □150 | 40 | 65 |
| | FA·FB·FC | 194 | 159 | 146 | □100 | 35 | 67 |
| | FD·FE | 189 | 159 | 141 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 194 | 159 | 146 | □115 | 35 | 67 |
| | HA·HC·HD | 194 | 159 | 146 | □130 | 35 | 67 |
| | HB | 204 | 159 | 156 | □130 | 45 | 77 |
| | HE | 209 | 159 | 161 | □130 | 50 | 82 |
| | HF | 189 | 159 | 141 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 194 | 159 | 146 | □150 | 35 | 67 |
| JD | 214 | 159 | 166 | □150 | 55 | 87 | |
| JE | 204 | 159 | 156 | □150 | 45 | 77 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-115 – 1-Stage Specifications

| Frame Size | 115 | | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 120 | 180 | 180 | 180 | 180 | 120 | 120 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 330 | 225 | 225 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 625 | 500 | 500 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.30 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1300 | 1500 | 1600 | 1700 | 1800 | 1900 | 1900 | 2000 | | |
| Permitted Axial Load | [N] | *8 | 1500 | 1700 | 1900 | 2000 | 2100 | 2300 | 2400 | 2500 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 3.300 | 2.000 | 1.600 | 1.300 | 1.100 | 1.000 | 0.980 | 0.950 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 5.300 | 4.100 | 3.600 | 3.300 | 3.200 | 3.100 | 3.000 | 3.000 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 8 | | | | | | | | | |

VRB-115 – 2-Stage Specifications

| Frame Size | 115 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 180 | 180 | 120 | 180 | 180 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 225 | 330 | 330 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 500 | 625 | 625 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.42 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2300 | 2300 | 2500 | 2700 | 2800 | 2900 | 3000 | 3200 | | |
| Permitted Axial Load | [N] | *8 | 3000 | 3100 | 3400 | 3700 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.430 | 0.480 | 0.400 | 0.380 | 0.440 | 0.290 | 0.370 | 0.280 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.860 | 0.920 | 0.830 | 0.820 | 0.880 | 0.740 | 0.810 | 0.730 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 2.800 | 2.900 | 2.800 | 2.800 | 2.800 | 2.700 | 2.700 | 2.700 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 8.9 | | | | | | | | | |

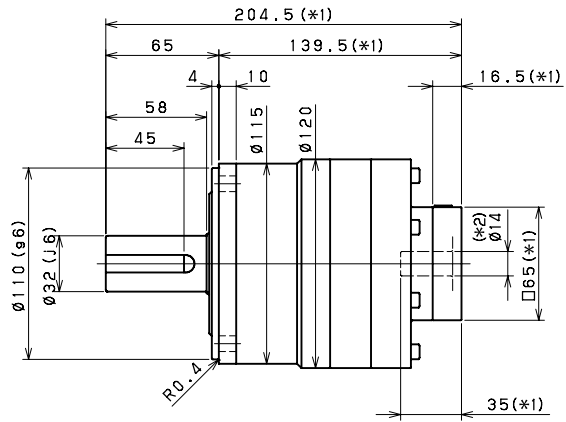
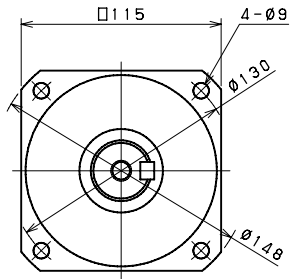
VRB-115 – 2-Stage Specifications

| Frame Size | 115 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 180 | 180 | 120 | 120 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 225 | 225 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 500 | 500 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.42 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3300 | 3400 | 3600 | 3800 | 4000 | 4200 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.370 | 0.280 | 0.280 | 0.280 | 0.280 | 0.270 | 0.270 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.800 | 0.730 | 0.730 | 0.730 | 0.730 | 0.730 | 0.730 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 8.9 | | | | | | | | |

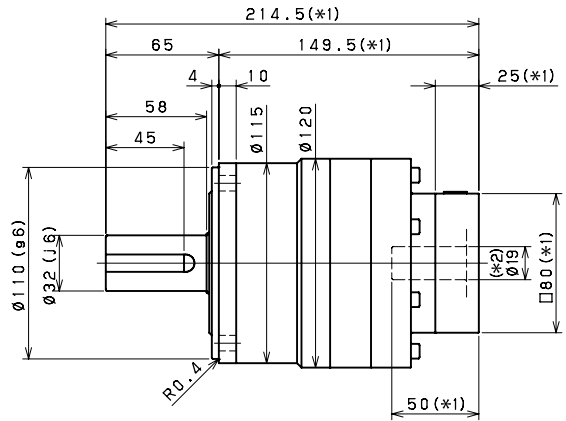
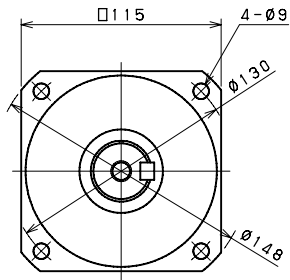
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB 115
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-115 – 2-Stage Dimensions

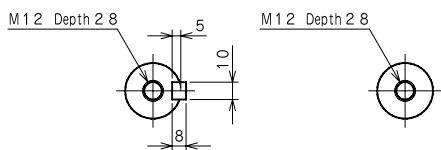
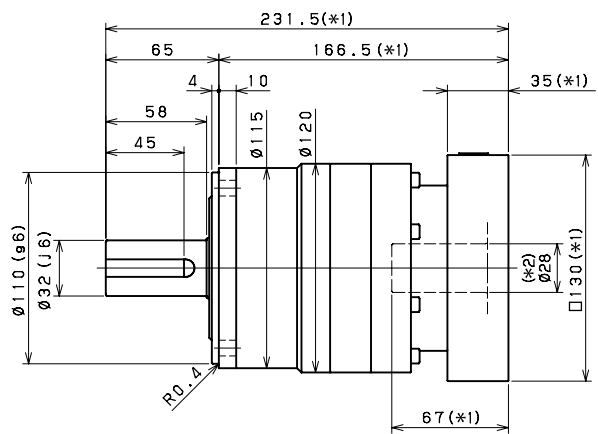
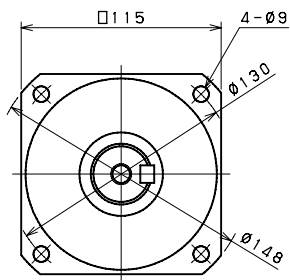
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$

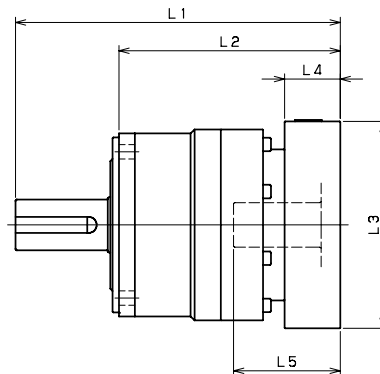


Shaft with key

Smooth shaft

- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-115 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-115-□-□-14** (Input shaft bore ≤ φ14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | -- | -- | -- | -- | -- | -- |
| | BC•BH•BM•BN | -- | -- | -- | -- | -- | -- |
| | CA•CC | -- | -- | -- | -- | -- | -- |
| | DA•DB•DC•DD•DF•DH•DJ | -- | -- | -- | -- | -- | -- |
| | EA•EB•EC•EF•EG•EK•EL | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| VRB-115-□-□-19** (Input shaft bore ≤ φ19) | DA•DB•DC | 187 | 162 | 122 | □80 | 25 | 50 |
| | EB•ED | 187 | 162 | 122 | □90 | 25 | 50 |
| | FA | 187 | 162 | 122 | □100 | 25 | 50 |
| | FB | 197 | 162 | 132 | □100 | 35 | 60 |
| | GB•GD•GJ | 187 | 162 | 122 | □115 | 25 | 50 |
| | HA | 187 | 162 | 122 | □130 | 25 | 50 |
| | HB | 202 | 162 | 137 | □130 | 40 | 65 |
| VRB-115-□-□-28** (Input shaft bore ≤ φ28) | JA | 197 | 162 | 132 | □150 | 35 | 60 |
| | FA•FB•FC | 204 | 169 | 139 | □100 | 35 | 67 |
| | FD•FE | 199 | 169 | 134 | □100 | 30 | 62 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 204 | 169 | 139 | □115 | 35 | 67 |
| | HA•HC•HD | 204 | 169 | 139 | □130 | 35 | 67 |
| | HB | 214 | 169 | 149 | □130 | 45 | 77 |
| | HE | 219 | 169 | 154 | □130 | 50 | 82 |
| | HF | 199 | 169 | 134 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 204 | 169 | 139 | □150 | 35 | 67 |
| | JD | 224 | 169 | 159 | □150 | 55 | 87 |
| | JE | 214 | 169 | 149 | □150 | 45 | 77 |
| VRB-115-□-□-38** (Input shaft bore ≤ φ38) | KA•KB•KE | 204 | 169 | 139 | □180 | 35 | 67 |
| | KD | 214 | 169 | 149 | □180 | 45 | 77 |
| | HA | 225 | 180 | 160 | □130 | 45 | 82 |
| | HB•HE | 220 | 180 | 155 | □130 | 40 | 77 |
| | JA | 225 | 180 | 160 | □150 | 45 | 82 |
| | KA•KB•KC | 225 | 180 | 160 | □180 | 45 | 82 |
| | KD | 260 | 180 | 195 | □180 | 80 | 117 |
| | KE | 240 | 180 | 175 | □180 | 60 | 97 |

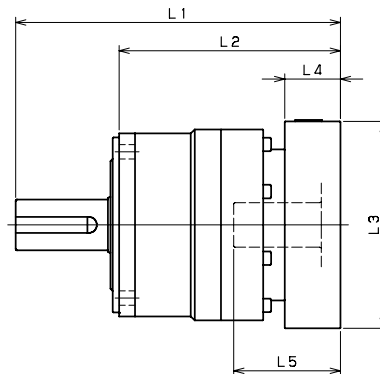
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-115 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-115-□-□-14** (Input shaft bore ≤ φ14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | 204.5 | 188 | 139.5 | □65 | 16.5 | 35 |
| | BC•BH•BM•BN | 209.5 | 188 | 144.5 | □65 | 21.5 | 40 |
| | CA•CC | 204.5 | 188 | 139.5 | □70 | 16.5 | 35 |
| | DA•DB•DC•DD•DF•DH•DJ | 204.5 | 188 | 139.5 | □80 | 16.5 | 35 |
| | EA•EB•EC•EF•EG•EK•EL | 204.5 | 188 | 139.5 | □90 | 16.5 | 35 |
| | FA | 204.5 | 188 | 139.5 | □100 | 16.5 | 35 |
| | FB | 214.5 | 188 | 149.5 | □100 | 26.5 | 45 |
| VRB-115-□-□-19** (Input shaft bore ≤ φ19) | JA | 219.5 | 188 | 154.5 | □150 | 31.5 | 50 |
| | DA•DB•DC | 214.5 | 189.5 | 149.5 | □80 | 25 | 50 |
| | EB•ED | 214.5 | 189.5 | 149.5 | □90 | 25 | 50 |
| | FA | 214.5 | 189.5 | 149.5 | □100 | 25 | 50 |
| | FB | 224.5 | 189.5 | 159.5 | □100 | 35 | 60 |
| | GB•GD•GJ | 214.5 | 189.5 | 149.5 | □115 | 25 | 50 |
| | HA | 214.5 | 189.5 | 149.5 | □130 | 25 | 50 |
| VRB-115-□-□-28** (Input shaft bore ≤ φ28) | HB | 229.5 | 189.5 | 164.5 | □130 | 40 | 65 |
| | JA | 224.5 | 189.5 | 159.5 | □150 | 35 | 60 |
| | FA•FB•FC | 231.5 | 196.5 | 166.5 | □100 | 35 | 67 |
| | FD•FE | 226.5 | 196.5 | 161.5 | □100 | 30 | 62 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 231.5 | 196.5 | 166.5 | □115 | 35 | 67 |
| | HA•HC•HD | 231.5 | 196.5 | 166.5 | □130 | 35 | 67 |
| | HB | 241.5 | 196.5 | 176.5 | □130 | 45 | 77 |
| | HE | 246.5 | 196.5 | 181.5 | □130 | 50 | 82 |
| | HF | 226.5 | 196.5 | 161.5 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 231.5 | 196.5 | 166.5 | □150 | 35 | 67 |
| | JD | 251.5 | 196.5 | 186.5 | □150 | 55 | 87 |
| VRB-115-□-□-38** (Input shaft bore ≤ φ38) | JE | 241.5 | 196.5 | 176.5 | □150 | 45 | 77 |
| | KA•KB•KE | 231.5 | 196.5 | 166.5 | □180 | 35 | 67 |
| | KD | 241.5 | 196.5 | 176.5 | □180 | 45 | 77 |
| | HA | 249 | 204 | 184 | □130 | 45 | 82 |
| | HB•HE | 244 | 204 | 179 | □130 | 40 | 77 |
| | JA | 249 | 204 | 184 | □150 | 45 | 82 |
| VRB-115-□-□-38** (Input shaft bore ≤ φ38) | KA•KB•KC | 249 | 204 | 184 | □180 | 45 | 82 |
| | KD | 284 | 204 | 219 | □180 | 80 | 117 |
| VRB-115-□-□-38** (Input shaft bore ≤ φ38) | KE | 264 | 204 | 199 | □180 | 60 | 97 |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-140 – 1-Stage Specifications

| Frame Size | 140 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 240 | 240 | 360 | 360 | 360 | 360 | 240 | 240 |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 700 | 470 | 470 |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1250 | 1000 | 1000 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.63 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3200 | 3500 | 3800 | 4000 | 4200 | 4400 | 4600 | 4700 |
| Permitted Axial Load | [N] | *8 | 2400 | 2700 | 3000 | 3300 | 3500 | 3700 | 3900 | 4100 |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 12.000 | 7.500 | 5.800 | 4.900 | 4.100 | 3.800 | 3.600 | 3.500 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 20.000 | 15.000 | 14.000 | 13.000 | 12.000 | 12.000 | 11.000 | 11.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 42.000 | 37.000 | 36.000 | 35.000 | 34.000 | 34.000 | 34.000 | 34.000 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 16 | | | | | | | |

VRB-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 360 | 360 | 240 | 360 | 360 |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 470 | 700 | 700 |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1000 | 1250 | 1250 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.56 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5400 | 5500 | 6000 | 6400 | 6700 | 6800 | 7200 | 7500 |
| Permitted Axial Load | [N] | *8 | 4900 | 5000 | 5500 | 6100 | 6400 | 6600 | 7000 | 7500 |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 1.300 | 1.500 | 1.200 | 1.100 | 1.400 | 0.850 | 1.100 | 0.830 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 3.200 | 3.500 | 3.100 | 3.100 | 3.300 | 2.800 | 3.100 | 2.800 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 10.000 | 11.000 | 10.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 17 | | | | | | | |

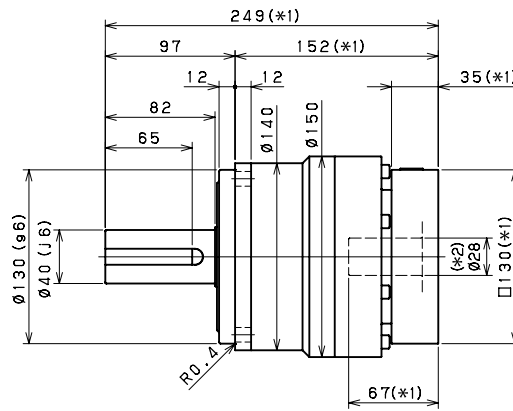
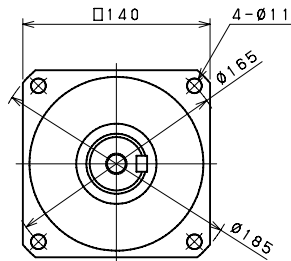
VRB-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 360 | 360 | 240 | 240 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 470 | 470 | | |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1000 | 1000 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 7800 | 8100 | 8600 | 9100 | 9100 | 9100 | 9100 | | |
| Permitted Axial Load | [N] | *8 | 7900 | 8200 | 8200 | 8200 | 8200 | 8200 | 8200 | | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.100 | 0.810 | 0.810 | 0.800 | 0.800 | 0.800 | 0.800 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.000 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 11.000 | 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 17 | | | | | | | | |

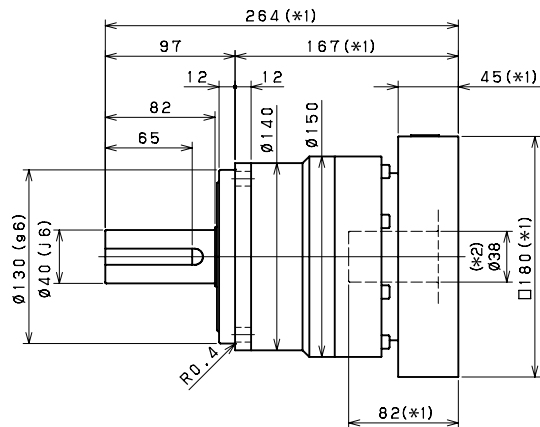
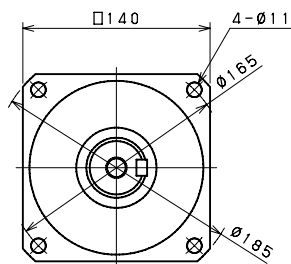
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRB140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-140 – 1-Stage Dimensions

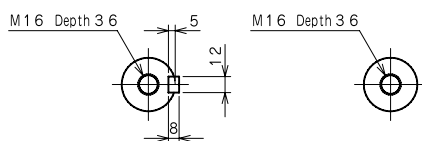
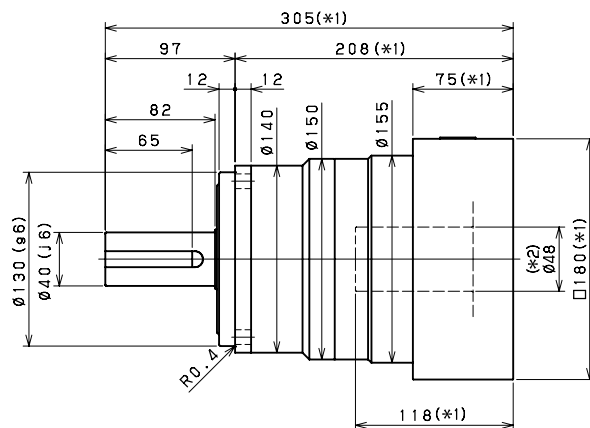
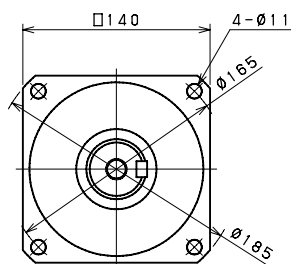
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Shaft with key

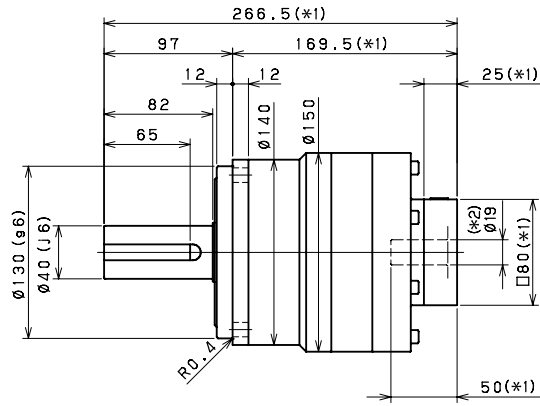
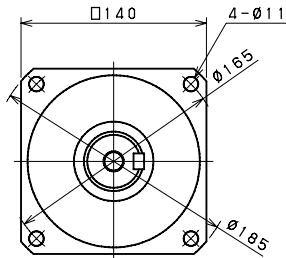
Smooth shaft

*1) Length will vary depending on motor

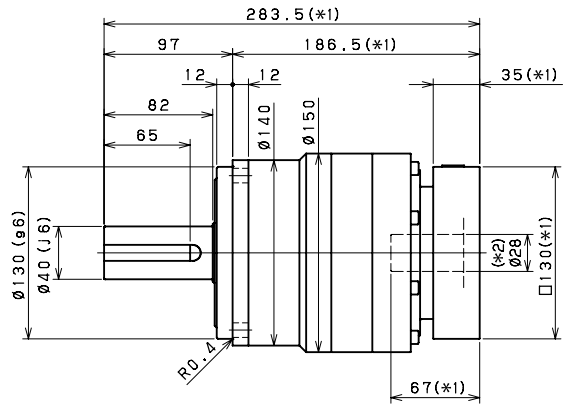
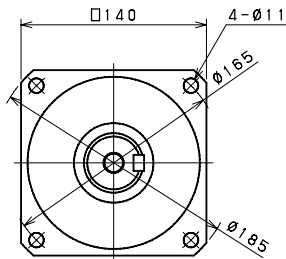
*2) Bushing will be inserted to adapt to motor shaft

VRB-140 – 2-Stage Dimensions

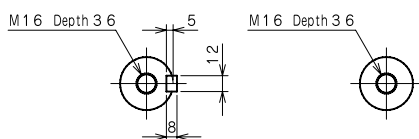
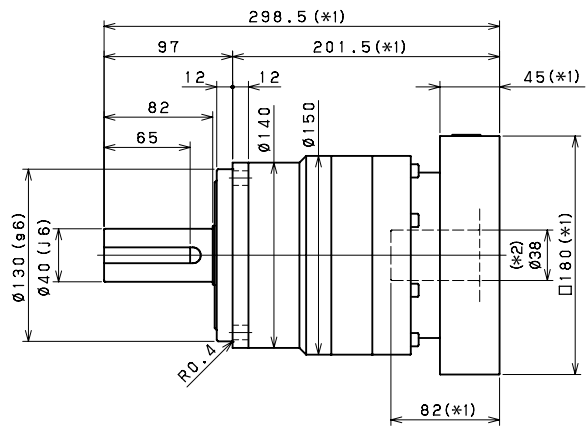
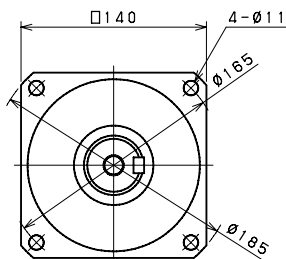
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



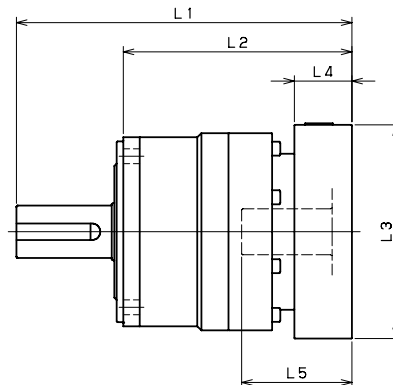
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

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

VRB-140 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------|---------|-----|------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-140-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | -- | -- | -- | -- | -- | -- |
| | EB-ED | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| | GB-GD-GJ | -- | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| VRB-140-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 249 | 214 | 152 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 249 | 214 | 152 | □115 | 35 | 67 |
| | HA-HC-HD | 249 | 214 | 152 | □130 | 35 | 67 |
| | HB | 259 | 214 | 162 | □130 | 45 | 77 |
| | HF | 244 | 214 | 147 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 249 | 214 | 152 | □150 | 35 | 67 |
| | KA-KB-KE | 249 | 214 | 152 | □180 | 35 | 67 |
| | LA | 249 | 214 | 152 | □200 | 35 | 67 |
| | LB | 259 | 214 | 162 | □200 | 45 | 77 |
| | MA | 249 | 214 | 152 | □220 | 35 | 67 |
| VRB-140-□-□-38** (Input shaft bore ≤ φ38) | MB | 259 | 214 | 162 | □220 | 45 | 77 |
| | HA | 264 | 219 | 167 | □130 | 45 | 82 |
| | HB-HE | 259 | 219 | 162 | □130 | 40 | 77 |
| | JA | 264 | 219 | 167 | □150 | 45 | 82 |
| | KA-KB-KC | 264 | 219 | 167 | □180 | 45 | 82 |
| | KD | 299 | 219 | 202 | □180 | 80 | 117 |
| | KE | 279 | 219 | 182 | □180 | 60 | 97 |
| | LB | 274 | 219 | 177 | □200 | 55 | 92 |
| | MA-MB | 264 | 219 | 167 | □220 | 45 | 82 |
| VRB-140-□-□-48** (Input shaft bore ≤ φ48) | MC | 279 | 219 | 182 | □220 | 60 | 97 |
| | MD | 274 | 219 | 177 | □220 | 55 | 92 |
| | KA | 305 | 230 | 208 | □180 | 75 | 118 |
| | KB-KC | 285 | 230 | 188 | □180 | 55 | 98 |
| | LA | 285 | 230 | 188 | □200 | 55 | 98 |
| MA | 285 | 230 | 188 | □220 | 55 | 98 | |
| MB | 305 | 230 | 208 | □220 | 75 | 118 | |

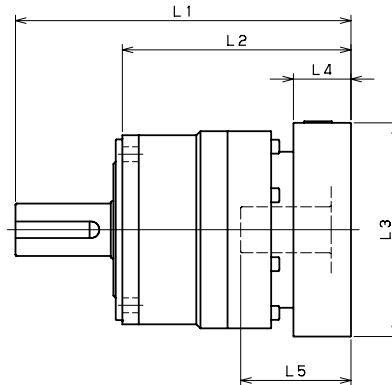
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-140 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-140-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | 266.5 | 241.5 | 169.5 | □80 | 25 | 50 |
| | EB-ED | 266.5 | 241.5 | 169.5 | □90 | 25 | 50 |
| | FA | 266.5 | 241.5 | 169.5 | □100 | 25 | 50 |
| | FB | 276.5 | 241.5 | 179.5 | □100 | 35 | 60 |
| | GB-GD-GJ | 266.5 | 241.5 | 169.5 | □115 | 25 | 50 |
| | HA | 266.5 | 241.5 | 169.5 | □130 | 25 | 50 |
| | HB | 281.5 | 241.5 | 184.5 | □130 | 40 | 65 |
| | JA | 276.5 | 241.5 | 179.5 | □150 | 35 | 60 |
| VRB-140-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 283.5 | 248.5 | 186.5 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 283.5 | 248.5 | 186.5 | □115 | 35 | 67 |
| | HA-HC-HD | 283.5 | 248.5 | 186.5 | □130 | 35 | 67 |
| | HB | 293.5 | 248.5 | 196.5 | □130 | 45 | 77 |
| | HF | 278.5 | 248.5 | 181.5 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 283.5 | 248.5 | 186.5 | □150 | 35 | 67 |
| | KA-KB-KE | 283.5 | 248.5 | 186.5 | □180 | 35 | 67 |
| | LA | 283.5 | 248.5 | 186.5 | □200 | 35 | 67 |
| | LB | 293.5 | 248.5 | 196.5 | □200 | 45 | 77 |
| | MA | 283.5 | 248.5 | 186.5 | □220 | 35 | 67 |
| VRB-140-□-□-38** (Input shaft bore ≤ φ38) | MB | 293.5 | 248.5 | 196.5 | □220 | 45 | 77 |
| | HA | 298.5 | 253.5 | 201.5 | □130 | 45 | 82 |
| | HB-HE | 293.5 | 253.5 | 196.5 | □130 | 40 | 77 |
| | JA | 298.5 | 253.5 | 201.5 | □150 | 45 | 82 |
| | KA-KB-KC | 298.5 | 253.5 | 201.5 | □180 | 45 | 82 |
| | KD | 333.5 | 253.5 | 236.5 | □180 | 80 | 117 |
| | KE | 313.5 | 253.5 | 216.5 | □180 | 60 | 97 |
| | LB | 308.5 | 253.5 | 211.5 | □200 | 55 | 92 |
| | MA-MB | 298.5 | 253.5 | 201.5 | □220 | 45 | 82 |
| | MC | 313.5 | 253.5 | 216.5 | □220 | 60 | 97 |
| VRB-140-□-□-48** (Input shaft bore ≤ φ48) | MD | 308.5 | 253.5 | 211.5 | □220 | 55 | 92 |
| | KA | 339.5 | 264.5 | 242.5 | □180 | 75 | 118 |
| | KB-KC | 319.5 | 264.5 | 222.5 | □180 | 55 | 98 |
| | LA | 319.5 | 264.5 | 222.5 | □200 | 55 | 98 |
| | MA | 319.5 | 264.5 | 222.5 | □220 | 55 | 98 |
| MB | 339.5 | 264.5 | 242.5 | □220 | 75 | 118 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-180 – 1-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|--------|--------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 750 | 500 | 500 |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 1400 | 970 | 970 |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2750 | 2200 | 2200 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.68 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5600 | 6200 | 6700 | 7100 | 7400 | 7800 | 8100 | 8400 |
| Permitted Axial Load | [N] | *8 | 4300 | 4900 | 5400 | 5800 | 6300 | 6600 | 7000 | 7300 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 44.000 | 28.000 | 22.000 | 18.000 | 16.000 | 15.000 | 14.000 | 14.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 66.000 | 50.000 | 44.000 | 41.000 | 38.000 | 37.000 | 36.000 | 36.000 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | 130.000 | 110.000 | 100.000 | 100.000 | 99.000 | 97.000 | 97.000 | 96.000 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 36 | | | | | | | |

VRB-180 – 2-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 500 | 750 | 750 |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 970 | 1400 | 1400 |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2200 | 2750 | 2750 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.39 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9600 | 9800 | 11000 | 11000 | 12000 | 12000 | 13000 | 13000 |
| Permitted Axial Load | [N] | *8 | 8700 | 8900 | 9900 | 11000 | 11000 | 12000 | 13000 | 13000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 4.700 | 5.400 | 4.400 | 4.200 | 4.900 | 3.200 | 4.100 | 3.200 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 12.000 | 13.000 | 12.000 | 12.000 | 13.000 | 11.000 | 12.000 | 11.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 34.000 | 35.000 | 34.000 | 34.000 | 35.000 | 33.000 | 34.000 | 33.000 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 37 | | | | | | | |

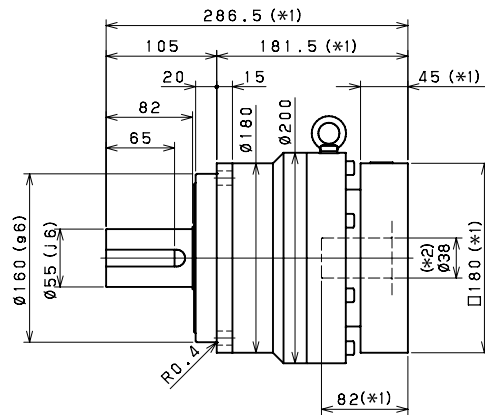
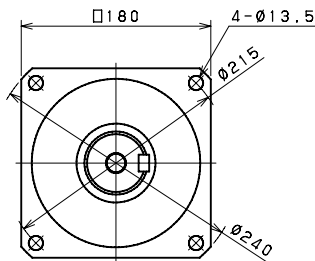
VRB-180 – 2-Stage Specifications

| Frame Size | 180 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 500 | 500 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 970 | 970 | | |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2200 | 2200 | | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.39 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.000 | 3.100 | 3.100 | 3.100 | 3.100 | 3.100 | 3.100 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 34.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 37 | | | | | | | | |

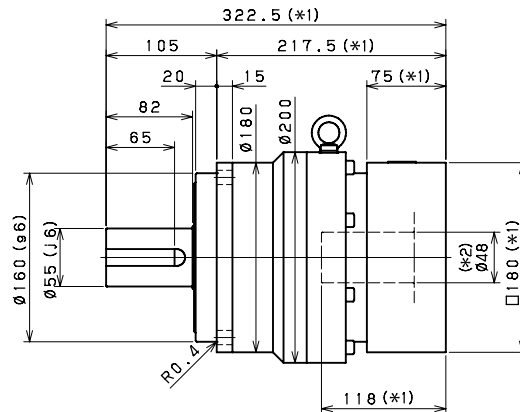
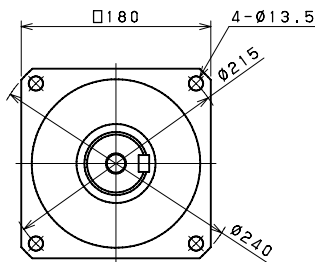
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRB180
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-180 – 1-Stage Dimensions

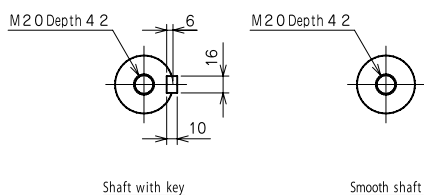
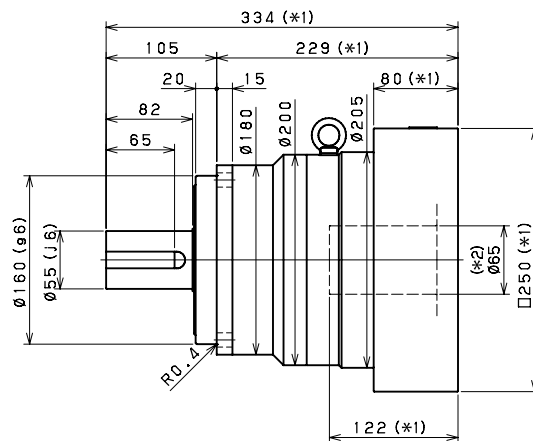
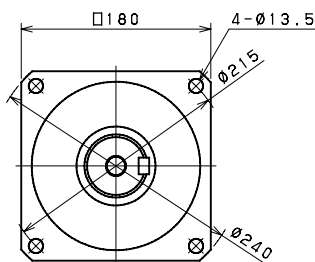
Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Input shaft bore $\leq \varnothing 65$

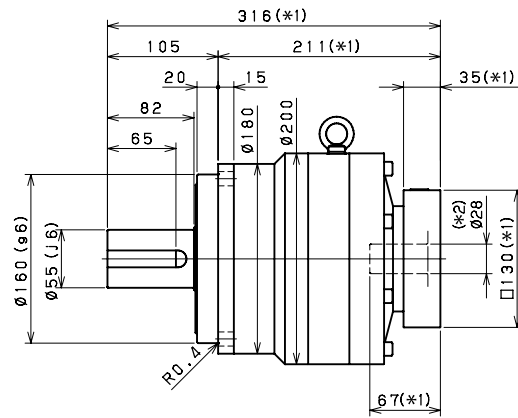
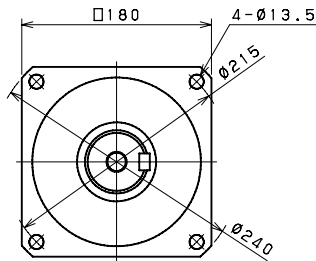


*1) Length will vary depending on motor

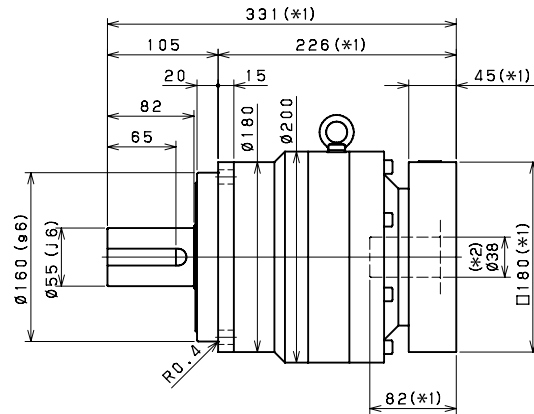
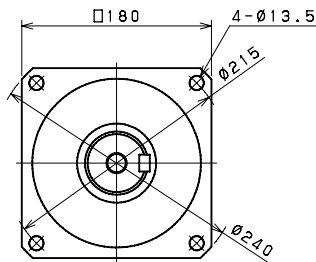
*2) Bushing will be inserted to adapt to motor shaft

VRB-180 – 2-Stage Dimensions

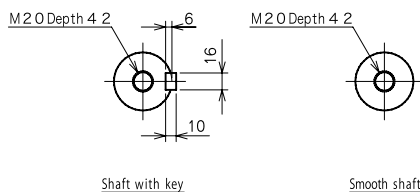
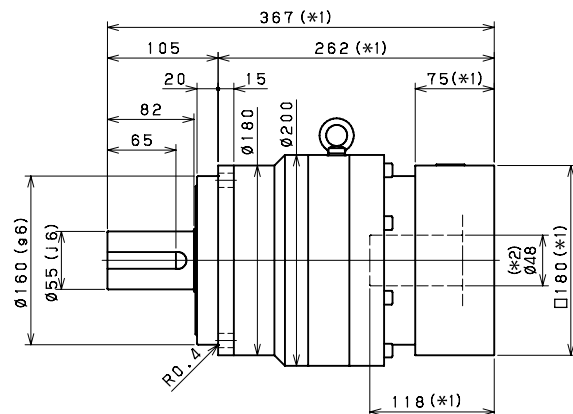
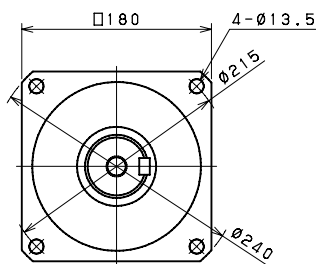
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$

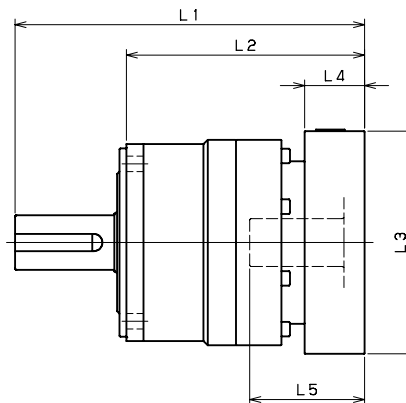


Input shaft bore $\leq \varnothing 48$



*1) Length will vary depending on motor
 *2) Bushing will be inserted to adapt to motor shaft

VRB-180 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-180-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | -- | -- | -- | -- | -- | -- |
| | GA-GB-GC-GD-GE-GF-GG-GH | -- | -- | -- | -- | -- | -- |
| | HA-HC-HD | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- | -- |
| | JA-JB-JC-JF | -- | -- | -- | -- | -- | -- |
| | KA-KB-KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- | -- |
| VRB-180-□-□-38** (Input shaft bore ≤ φ38) | HA | 286.5 | 241.5 | 181.5 | □130 | 45 | 82 |
| | HB-HE | 281.5 | 241.5 | 176.5 | □130 | 40 | 77 |
| | JA | 286.5 | 241.5 | 181.5 | □150 | 45 | 82 |
| | KA-KB-KC | 286.5 | 241.5 | 181.5 | □180 | 45 | 82 |
| | KD | 321.5 | 241.5 | 216.5 | □180 | 80 | 117 |
| | KE | 301.5 | 241.5 | 196.5 | □180 | 60 | 97 |
| | MA-MB | 286.5 | 241.5 | 181.5 | □220 | 45 | 82 |
| | MC | 301.5 | 241.5 | 196.5 | □220 | 60 | 97 |
| | MD | 296.5 | 241.5 | 191.5 | □220 | 55 | 92 |
| NA | 286.5 | 241.5 | 181.5 | □250 | 45 | 82 | |
| VRB-180-□-□-48** (Input shaft bore ≤ φ48) | KA | 322.5 | 247.5 | 217.5 | □180 | 75 | 118 |
| | KB-KC | 302.5 | 247.5 | 197.5 | □180 | 55 | 98 |
| | LA | 302.5 | 247.5 | 197.5 | □200 | 55 | 98 |
| | MA | 302.5 | 247.5 | 197.5 | □220 | 55 | 98 |
| | MB | 322.5 | 247.5 | 217.5 | □220 | 75 | 118 |
| | NA | 322.5 | 247.5 | 217.5 | □250 | 75 | 118 |
| | PA | 322.5 | 247.5 | 217.5 | □280 | 75 | 118 |
| VRB-180-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 334 | 254 | 229 | □220 | 80 | 122 |
| | NA-NC | 334 | 254 | 229 | □250 | 80 | 122 |
| | NB-ND | 364 | 254 | 259 | □250 | 110 | 152 |
| | PA | 354 | 254 | 249 | □280 | 100 | 142 |
| | PB | 364 | 254 | 259 | □280 | 110 | 152 |

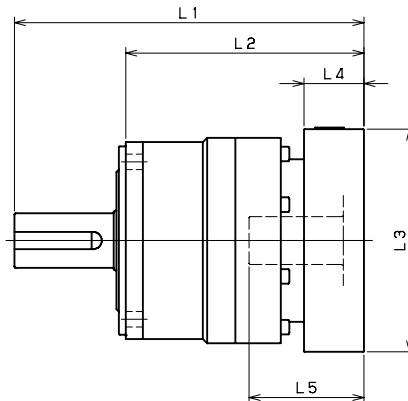
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-180 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------|---------|-----|------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-180-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 316 | 281 | 211 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 316 | 281 | 211 | □115 | 35 | 67 |
| | HA-HC-HD | 316 | 281 | 211 | □130 | 35 | 67 |
| | HB | 326 | 281 | 221 | □130 | 45 | 77 |
| | HF | 311 | 281 | 206 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 316 | 281 | 211 | □150 | 35 | 67 |
| | KA-KB-KE | 316 | 281 | 211 | □180 | 35 | 67 |
| | LA | 316 | 281 | 211 | □200 | 35 | 67 |
| | LB | 326 | 281 | 221 | □200 | 45 | 77 |
| | MA | 316 | 281 | 211 | □220 | 35 | 67 |
| | MB | 326 | 281 | 221 | □220 | 45 | 77 |
| VRB-180-□-□-38** (Input shaft bore ≤ φ38) | HA | 331 | 286 | 226 | □130 | 45 | 82 |
| | HB-HE | 326 | 286 | 221 | □130 | 40 | 77 |
| | JA | 331 | 286 | 226 | □150 | 45 | 82 |
| | KA-KB-KC | 331 | 286 | 226 | □180 | 45 | 82 |
| | KD | 366 | 286 | 261 | □180 | 80 | 117 |
| | KE | 346 | 286 | 241 | □180 | 60 | 97 |
| | MA-MB | 331 | 286 | 226 | □220 | 45 | 82 |
| | MC | 346 | 286 | 241 | □220 | 60 | 97 |
| | MD | 341 | 286 | 236 | □220 | 55 | 92 |
| NA | 331 | 286 | 226 | □250 | 45 | 82 | |
| VRB-180-□-□-48** (Input shaft bore ≤ φ48) | KA | 367 | 292 | 262 | □180 | 75 | 118 |
| | KB-KC | 347 | 292 | 242 | □180 | 55 | 98 |
| | LA | 347 | 292 | 242 | □200 | 55 | 98 |
| | MA | 347 | 292 | 242 | □220 | 55 | 98 |
| | MB | 367 | 292 | 262 | □220 | 75 | 118 |
| | NA | 367 | 292 | 262 | □250 | 75 | 118 |
| VRB-180-□-□-65** (Input shaft bore ≤ φ65) | PA | 367 | 292 | 262 | □280 | 75 | 118 |
| | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| PB | -- | -- | -- | -- | -- | -- | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-220 – 1-Stage Specifications

| Frame Size | 220 | | | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|---------|---------|--------|--------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1500 | 1000 | 1000 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1600 | 2300 | 2300 | 2300 | 2300 | 2200 | 1900 | 1600 | | |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 5000 | 4000 | 4000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.92 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5800 | 6400 | 6900 | 7300 | 7700 | 8000 | 8400 | 8700 | | |
| Permitted Axial Load | [N] | *8 | 6400 | 7200 | 7900 | 8600 | 9200 | 9700 | 10000 | 11000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 90.000 | 62.000 | 52.000 | 47.000 | 42.000 | 40.000 | 39.000 | 38.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 150.000 | 120.000 | 110.000 | 110.000 | 100.000 | 100.000 | 99.000 | 98.000 | | |
| Efficiency | [%] | *11 | 97 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 53 | | | | | | | | | |

VRB-220 – 2-Stage Specifications

| Frame Size | 220 | | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1000 | 1500 | 1500 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1600 | 2300 | 2300 | 2300 | 2300 | 1600 | 2300 | 2300 | | |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 4000 | 5000 | 5000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.14 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9900 | 10000 | 11000 | 12000 | 12000 | 13000 | 13000 | 14000 | | |
| Permitted Axial Load | [N] | *8 | 13000 | 13000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 14.000 | 16.000 | 14.000 | 14.000 | 15.000 | 12.000 | 13.000 | 12.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 36.000 | 37.000 | 35.000 | 35.000 | 36.000 | 34.000 | 35.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 92 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 54 | | | | | | | | | |

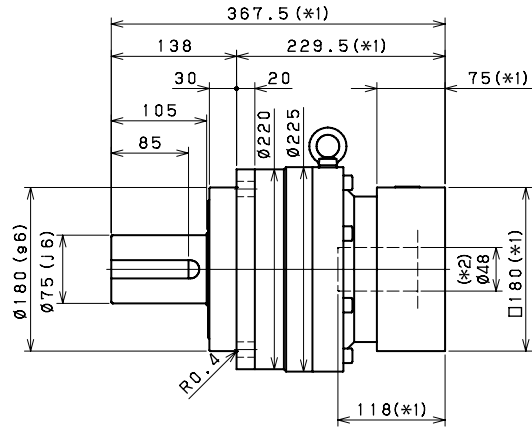
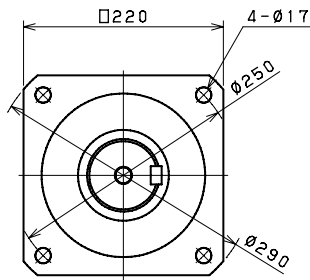
VRB-220 – 2-Stage Specifications

| Frame Size | 220 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1000 | 1000 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1300 | 2300 | 2300 | 2300 | 1800 | 1300 | 1200 | | |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 4000 | 4000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.14 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 35.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 92 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 54 | | | | | | | | |

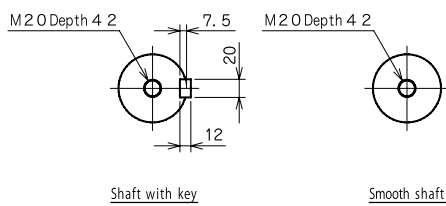
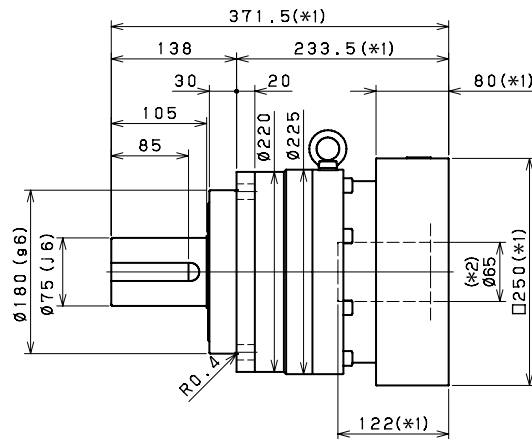
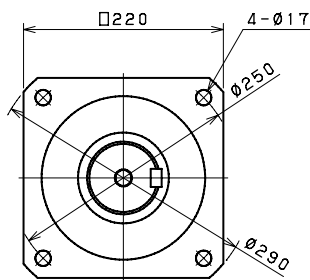
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRB220
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-220 – 1-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



Input shaft bore $\leq \varnothing 65$



Shaft with key

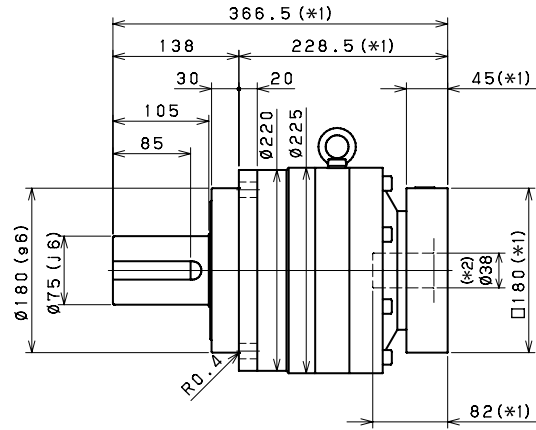
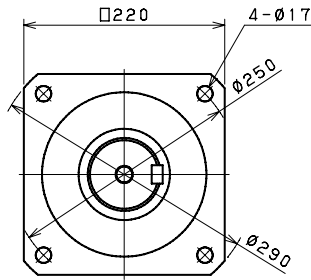
Smooth shaft

*1) Length will vary depending on motor

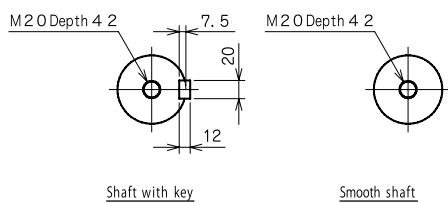
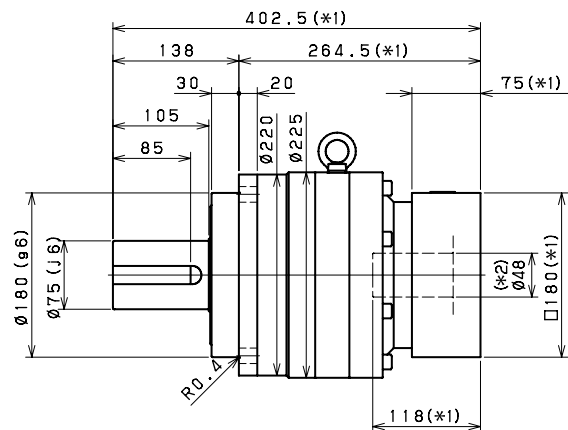
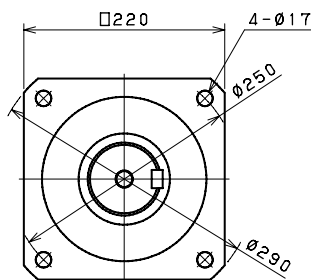
*2) Bushing will be inserted to adapt to motor shaft

VRB-220 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 38$

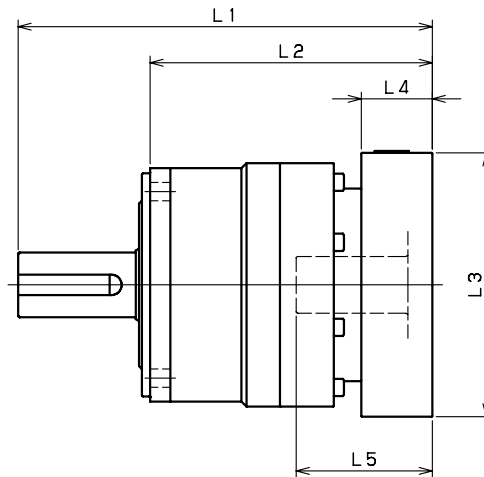


Input shaft bore $\leq \varnothing 48$



*1) Length will vary depending on motor
 *2) Bushing will be inserted to adapt to motor shaft

VRB-220 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-220-□-□-38** (Input shaft bore ≤ φ38) | HA | -- | -- | -- | -- | -- | -- |
| | HB-HE | -- | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- | -- |
| | KA-KB-KC | -- | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA-MB | -- | -- | -- | -- | -- | -- |
| | MC | -- | -- | -- | -- | -- | -- |
| MD | -- | -- | -- | -- | -- | -- | |
| NA | -- | -- | -- | -- | -- | -- | |
| VRB-220-□-□-48** (Input shaft bore ≤ φ48) | KA | 367.5 | 292.5 | 229.5 | □180 | 75 | 118 |
| | KB-KC | 347.5 | 292.5 | 209.5 | □180 | 55 | 98 |
| | LA | 347.5 | 292.5 | 209.5 | □200 | 55 | 98 |
| | MA | 347.5 | 292.5 | 209.5 | □220 | 55 | 98 |
| | MB | 367.5 | 292.5 | 229.5 | □220 | 75 | 118 |
| | NA | 367.5 | 292.5 | 229.5 | □250 | 75 | 118 |
| | PA | 367.5 | 292.5 | 229.5 | □280 | 75 | 118 |
| VRB-220-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 371.5 | 291.5 | 233.5 | □220 | 80 | 122 |
| | NA-NC | 371.5 | 291.5 | 233.5 | □250 | 80 | 122 |
| | NB-ND | 401.5 | 291.5 | 263.5 | □250 | 110 | 152 |
| | PA | 391.5 | 291.5 | 253.5 | □280 | 100 | 142 |
| | PB | 401.5 | 291.5 | 263.5 | □280 | 110 | 152 |
| | QA-QB | 391.5 | 291.5 | 253.5 | □320 | 100 | 142 |

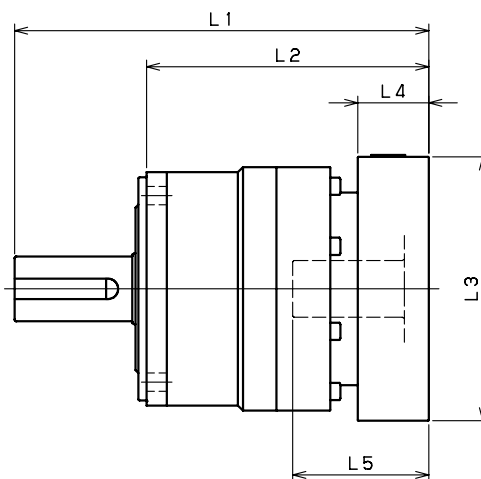
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-220 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRB-220-□-□-38** (Input shaft bore ≤ φ38) | HA | 366.5 | 321.5 | 228.5 | □130 | 45 | 82 |
| | HB-HE | 361.5 | 321.5 | 223.5 | □130 | 40 | 77 |
| | JA | 366.5 | 321.5 | 228.5 | □150 | 45 | 82 |
| | KA-KB-KC | 366.5 | 321.5 | 228.5 | □180 | 45 | 82 |
| | KD | 401.5 | 321.5 | 263.5 | □180 | 80 | 117 |
| | KE | 381.5 | 321.5 | 243.5 | □180 | 60 | 97 |
| | LA | 366.5 | 321.5 | 228.5 | □200 | 45 | 82 |
| | LB | 376.5 | 321.5 | 238.5 | □200 | 55 | 92 |
| | MA-MB | 366.5 | 321.5 | 228.5 | □220 | 45 | 82 |
| | MC | 381.5 | 321.5 | 243.5 | □220 | 60 | 97 |
| | MD | 376.5 | 321.5 | 238.5 | □220 | 55 | 92 |
| NA | 366.5 | 321.5 | 228.5 | □250 | 45 | 82 | |
| VRB-220-□-□-48** (Input shaft bore ≤ φ48) | KA | 402.5 | 327.5 | 264.5 | □180 | 75 | 118 |
| | KB-KC | 382.5 | 327.5 | 244.5 | □180 | 55 | 98 |
| | LA | 382.5 | 327.5 | 244.5 | □200 | 55 | 98 |
| | MA | 382.5 | 327.5 | 244.5 | □220 | 55 | 98 |
| | MB | 402.5 | 327.5 | 264.5 | □220 | 75 | 118 |
| | NA | 402.5 | 327.5 | 264.5 | □250 | 75 | 118 |
| | PA | 402.5 | 327.5 | 264.5 | □280 | 75 | 118 |
| VRB-220-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- | -- |
| | QA-QB | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

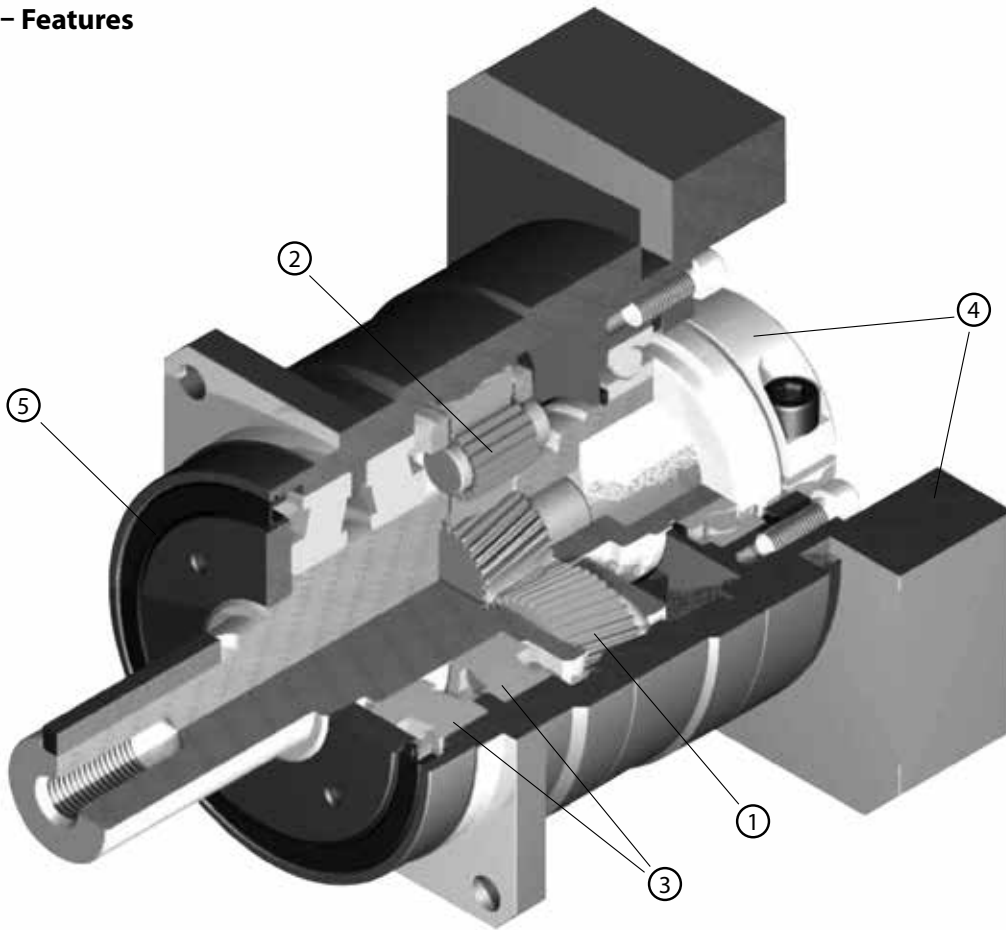


VRS

VRS-SERIES

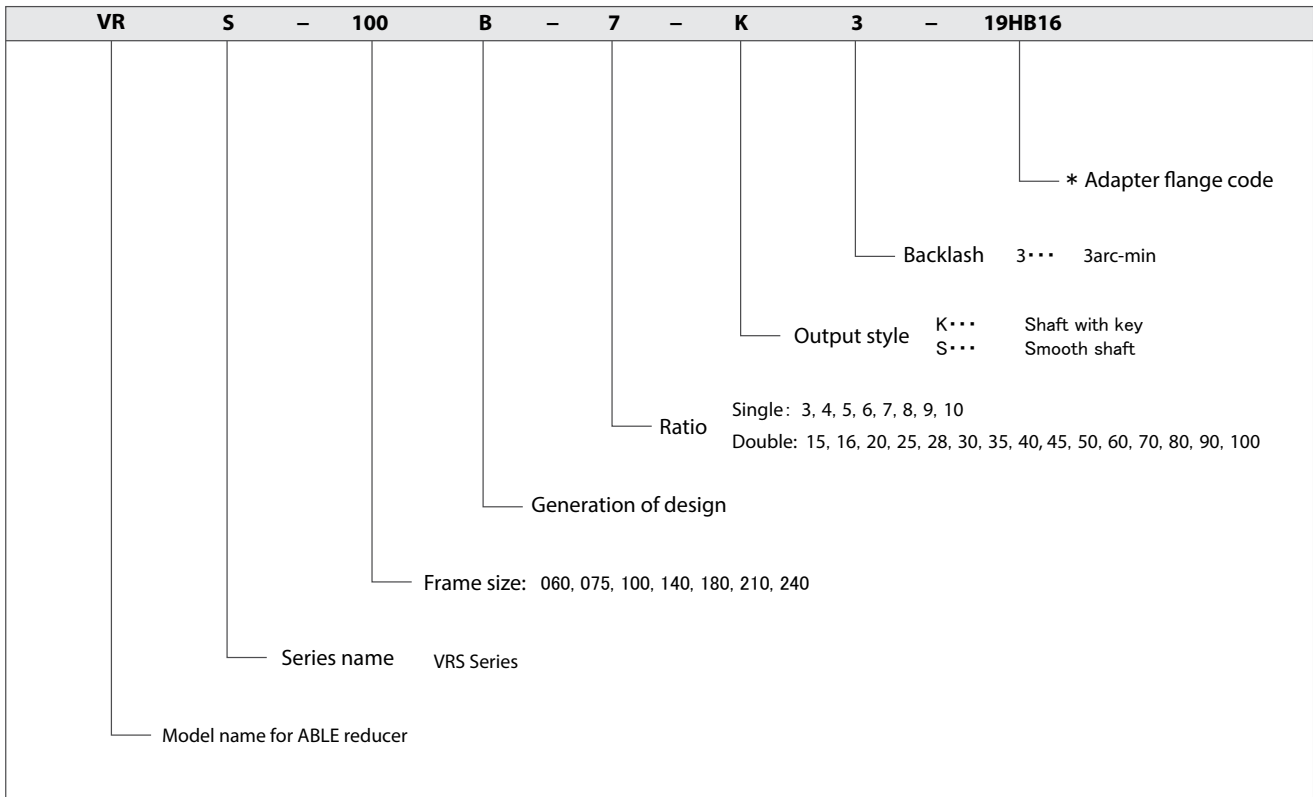
- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thru-bolt mounting style
- Best-in-class backlash (≤ 3 arc/min)
- Impressive radial and axial load ratings

VRS-Series – Features



- ① High precision: Standard backlash is 3 arc/min, ideal for higher levels of positional accuracy
- ② High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ High load capacity: Taper roller bearings were added to the output section to increase radial and axial load ratings
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

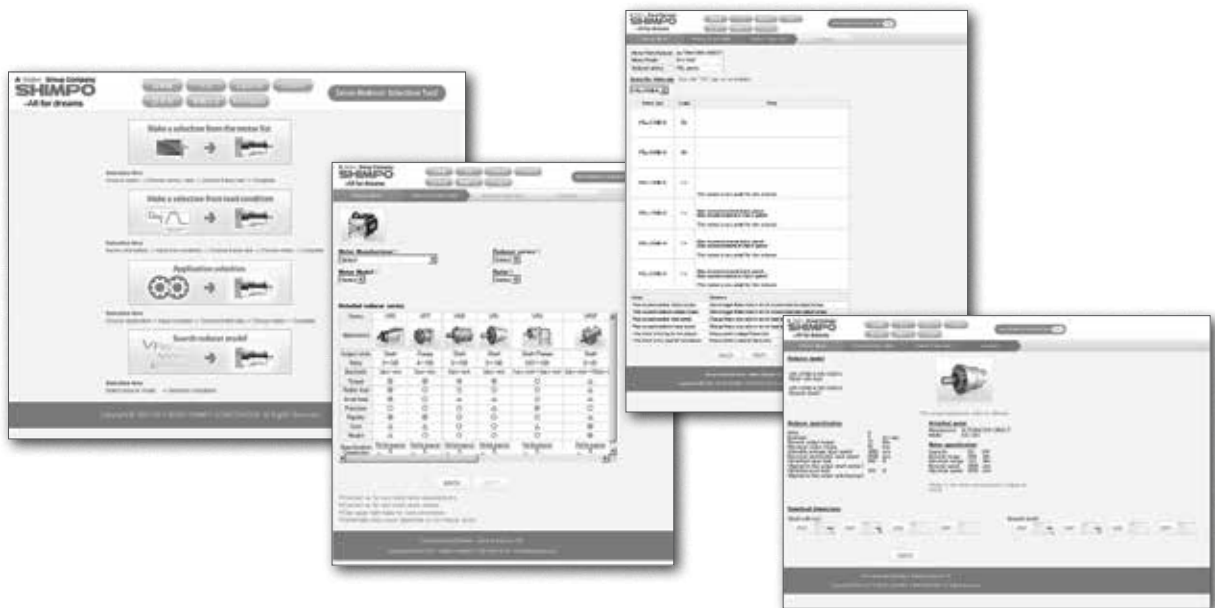
VRS-Series – Model Code



VRS

*1) Adapter flange code
 Adapter flange code varies depending on the motor

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



VRS-o6o – 1-Stage Specifications

| Frame Size | 060 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 27 | 18 | 18 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 50 | 35 | 35 | | |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 100 | 80 | 80 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.15 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1700 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2400 | | |
| Permitted Axial Load | [N] | *8 | 2300 | 2500 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | | |
| Maximum Radial Load | [N] | *9 | 3000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2700 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.150 | 0.100 | 0.080 | 0.070 | 0.064 | 0.060 | 0.058 | 0.056 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.230 | 0.180 | 0.160 | 0.150 | 0.140 | 0.140 | 0.140 | 0.140 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.440 | 0.390 | 0.370 | 0.360 | 0.350 | 0.350 | 0.350 | 0.340 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 66 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | | | | |

VRS-o6o – 2-Stage Specifications

| Frame Size | 060 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 18 | 27 | 27 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 35 | 50 | 50 | | |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 100 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2800 | 2800 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | | |
| Permitted Axial Load | [N] | *8 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | | |
| Maximum Radial Load | [N] | *9 | 3000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2700 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.055 | 0.057 | 0.054 | 0.053 | 0.055 | 0.049 | 0.053 | 0.049 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.140 | 0.140 | 0.130 | 0.130 | 0.140 | 0.130 | 0.130 | 0.130 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 66 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 1.8 | | | | | | | | | |

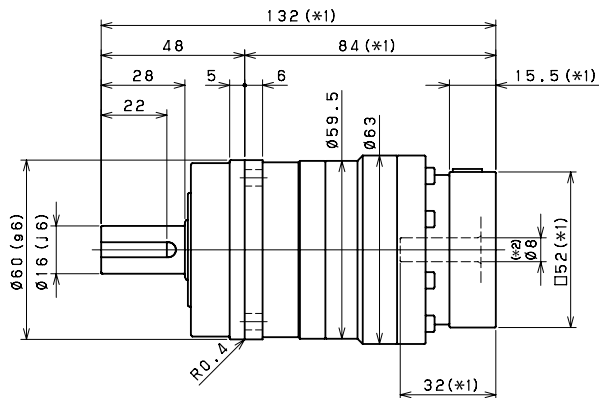
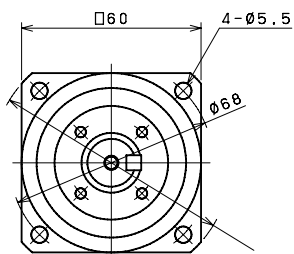
VRS-o6o – 2-Stage Specifications

| Frame Size | 060 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 18 | 27 | 27 | 27 | 27 | 18 | 18 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 35 | 50 | 50 | 50 | 50 | 35 | 35 | | |
| Emergency Stop Torque | [Nm] | *3 | 80 | 100 | 100 | 100 | 100 | 80 | 80 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | | |
| Permitted Axial Load | [N] | *8 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | | |
| Maximum Radial Load | [N] | *9 | 3000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2700 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.053 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 66 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.8 | | | | | | | | |

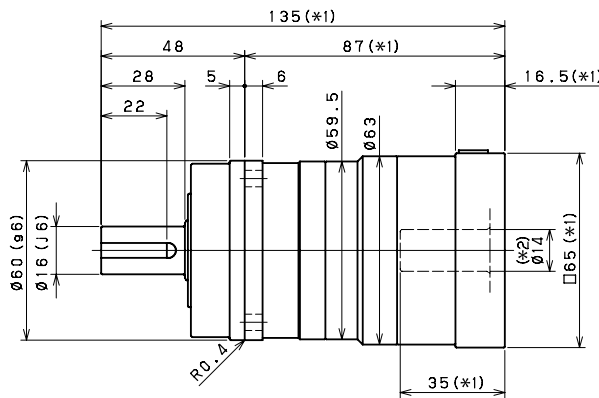
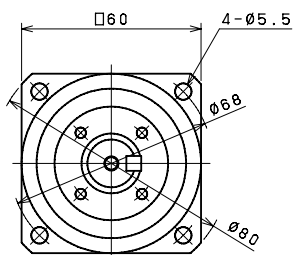
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRS060
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-o60 – 1-Stage Dimensions

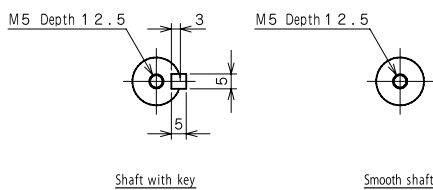
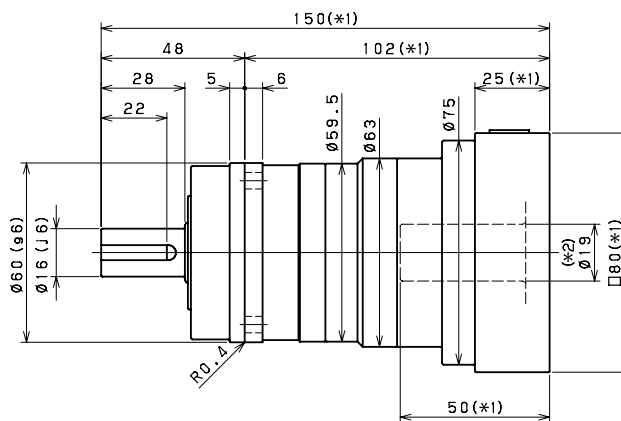
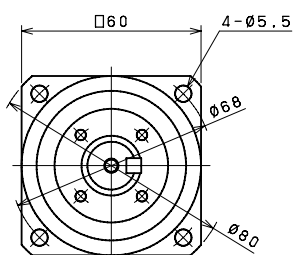
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



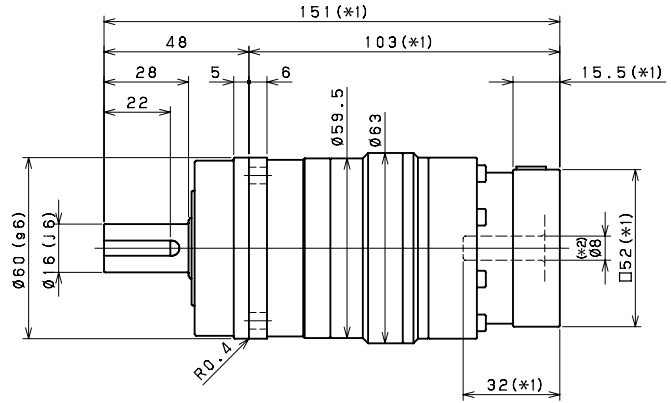
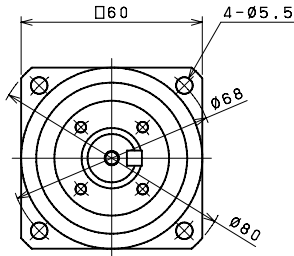
Input shaft bore $\leq \varnothing 19$



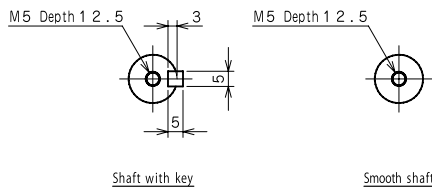
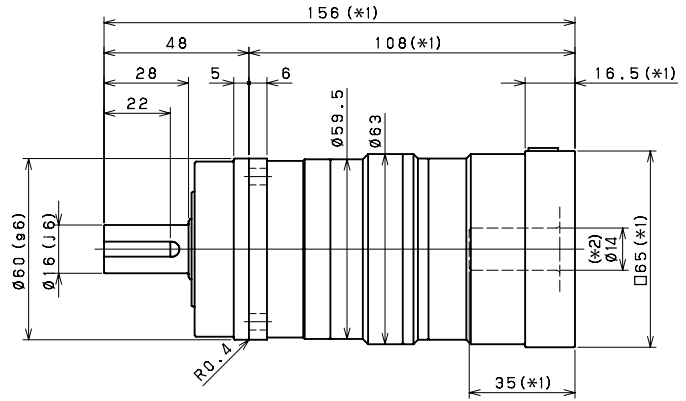
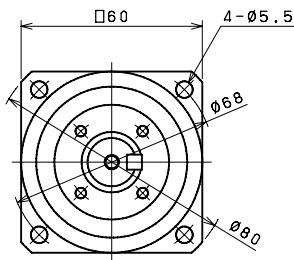
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-o60 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 8$

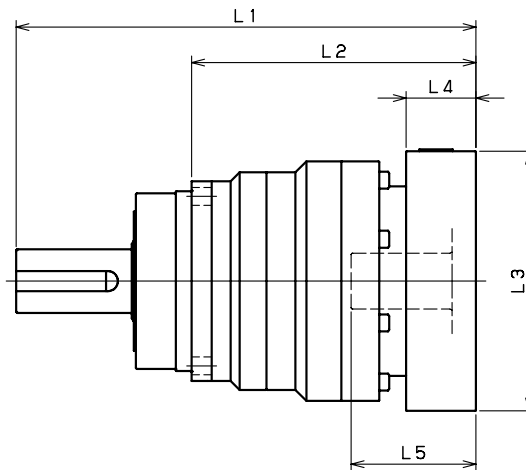


Input shaft bore $\leq \varnothing 14$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-o60 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-060-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 132 | 116.5 | 84 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 137 | 116.5 | 89 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 132 | 116.5 | 84 | □60 | 15.5 | 32 |
| | BC·BF | 137 | 116.5 | 89 | □60 | 20.5 | 37 |
| | CA | 137 | 116.5 | 89 | □70 | 20.5 | 37 |
| VRS-060-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 135 | 118.5 | 87 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 140 | 118.5 | 92 | □65 | 21.5 | 40 |
| | BL | 145 | 118.5 | 97 | □65 | 26.5 | 45 |
| | CA·CC | 135 | 118.5 | 87 | □70 | 16.5 | 35 |
| | CB | 140 | 118.5 | 92 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 135 | 118.5 | 87 | □80 | 16.5 | 35 |
| | DE·DL | 140 | 118.5 | 92 | □80 | 21.5 | 40 |
| | DG·DK | 145 | 118.5 | 97 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 135 | 118.5 | 87 | □90 | 16.5 | 35 |
| | EJ·EM | 140 | 118.5 | 92 | □90 | 21.5 | 40 |
| | ED·EE·EH | 145 | 118.5 | 97 | □90 | 26.5 | 45 |
| | FA | 135 | 118.5 | 87 | □100 | 16.5 | 35 |
| FB | 135 | 118.5 | 87 | □115 | 16.5 | 35 | |
| VRS-060-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 150 | 125 | 102 | □80 | 25 | 50 |
| | DD | 160 | 125 | 112 | □80 | 35 | 60 |
| | DE | 155 | 125 | 107 | □80 | 30 | 55 |
| | EA | 155 | 125 | 107 | □90 | 30 | 55 |
| | EB·ED | 150 | 125 | 102 | □90 | 25 | 50 |
| | EC | 160 | 125 | 112 | □90 | 35 | 60 |
| | FA | 150 | 125 | 102 | □100 | 25 | 50 |
| FB | 160 | 125 | 112 | □100 | 35 | 60 | |

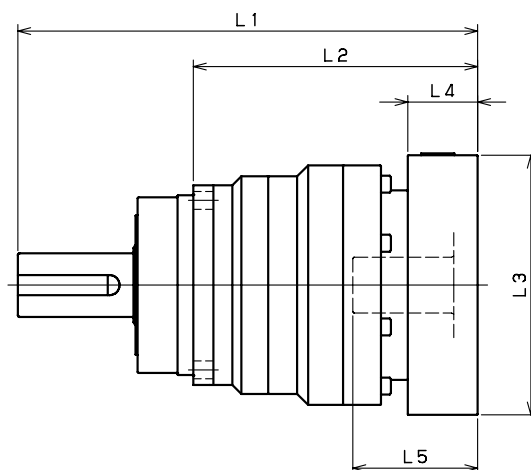
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-o6o – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-060-□-□-8** (Input shaft bore ≤ φ8) | AA-AC-AD-AF-AG-AL-AM-AN-AQ | 151 | 135.5 | 103 | □52 | 15.5 | 32 |
| | AB-AE-AH-AJ-AK | 156 | 135.5 | 108 | □52 | 20.5 | 37 |
| | BA-BB-BD-BE-BG-BH-BJ | 151 | 135.5 | 103 | □60 | 15.5 | 32 |
| | BC-BF | 156 | 135.5 | 108 | □60 | 20.5 | 37 |
| | CA | 156 | 135.5 | 108 | □70 | 20.5 | 37 |
| VRS-060-□-□-14** (Input shaft bore ≤ φ14) | BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP | 156 | 139.5 | 108 | □65 | 16.5 | 35 |
| | BC-BH-BM-BN | 161 | 139.5 | 113 | □65 | 21.5 | 40 |
| | BL | 166 | 139.5 | 118 | □65 | 26.5 | 45 |
| | CA-CC | 156 | 139.5 | 108 | □70 | 16.5 | 35 |
| | CB | 161 | 139.5 | 113 | □70 | 21.5 | 40 |
| | DA-DB-DC-DD-DF-DH-DJ | 156 | 139.5 | 108 | □80 | 16.5 | 35 |
| | DE-DL | 161 | 139.5 | 113 | □80 | 21.5 | 40 |
| | DG-DK | 166 | 139.5 | 118 | □80 | 26.5 | 45 |
| | EA-EB-EC-EF-EG-EK-EL | 156 | 139.5 | 108 | □90 | 16.5 | 35 |
| | EJ-EM | 161 | 139.5 | 113 | □90 | 21.5 | 40 |
| | ED-EE-EH | 166 | 139.5 | 118 | □90 | 26.5 | 45 |
| | FA | 156 | 139.5 | 108 | □100 | 16.5 | 35 |
| FB | 156 | 139.5 | 108 | □115 | 16.5 | 35 | |
| VRS-060-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | 171 | 146 | 123 | □80 | 25 | 50 |
| | DD | 181 | 146 | 133 | □80 | 35 | 60 |
| | DE | 176 | 146 | 128 | □80 | 30 | 55 |
| | EA | 176 | 146 | 128 | □90 | 30 | 55 |
| | EB-ED | 171 | 146 | 123 | □90 | 25 | 50 |
| | EC | 181 | 146 | 133 | □90 | 35 | 60 |
| | FA | 171 | 146 | 123 | □100 | 25 | 50 |
| FB | 181 | 146 | 133 | □100 | 35 | 60 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-075 – 1-Stage Specifications

| Frame Size | 075 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 75 | 50 | 50 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 125 | 80 | 80 | | |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 250 | 200 | 200 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.35 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2300 | 2500 | 2700 | 2800 | 3000 | 3100 | 3200 | 3300 | | |
| Permitted Axial Load | [N] | *8 | 3400 | 3700 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.670 | 0.470 | 0.380 | 0.340 | 0.310 | 0.300 | 0.290 | 0.290 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 1.100 | 0.930 | 0.850 | 0.810 | 0.780 | 0.760 | 0.750 | 0.750 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 3.100 | 2.900 | 2.900 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 3.4 | | | | | | | | | |

VRS-075 – 2-Stage Specifications

| Frame Size | 075 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 75 | 75 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 125 | 125 | | |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 250 | 250 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.06 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3700 | 3800 | 4000 | 4300 | 4300 | 4300 | 4300 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 8$) | [kgcm ²] | -- | 0.130 | 0.140 | 0.130 | 0.120 | 0.140 | 0.099 | 0.120 | 0.098 | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.280 | 0.300 | 0.280 | 0.280 | 0.290 | 0.250 | 0.270 | 0.250 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.720 | 0.730 | 0.720 | 0.710 | 0.730 | 0.700 | 0.710 | 0.690 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 3.8 | | | | | | | | | |

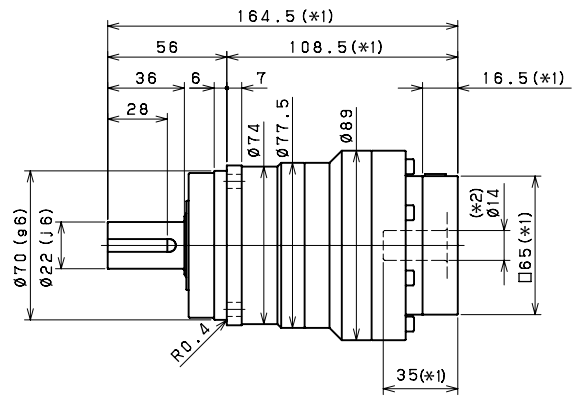
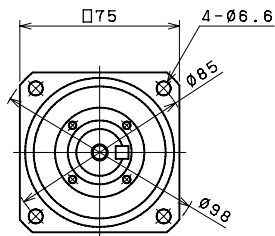
VRS-075 – 2-Stage Specifications

| Frame Size | 075 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 50 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 80 | | |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 200 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.06 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 4300 | 4300 | 4300 | 4300 | 4300 | 4300 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.120 | 0.098 | 0.098 | 0.097 | 0.097 | 0.097 | 0.097 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.270 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.710 | 0.690 | 0.690 | 0.690 | 0.690 | 0.690 | 0.690 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 3.8 | | | | | | | | |

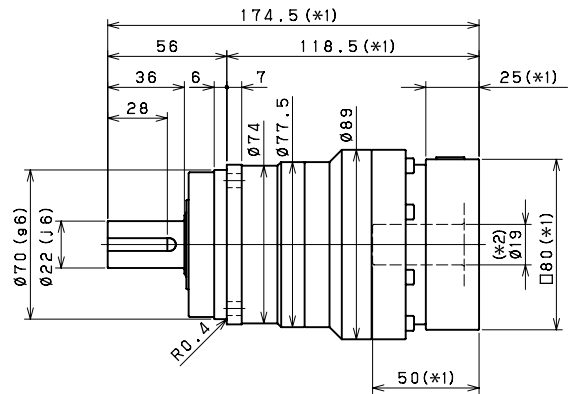
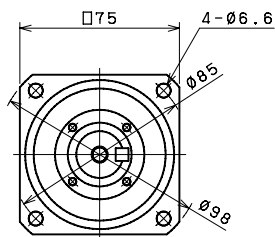
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRS075
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-075 - 1-Stage Dimensions

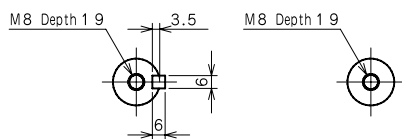
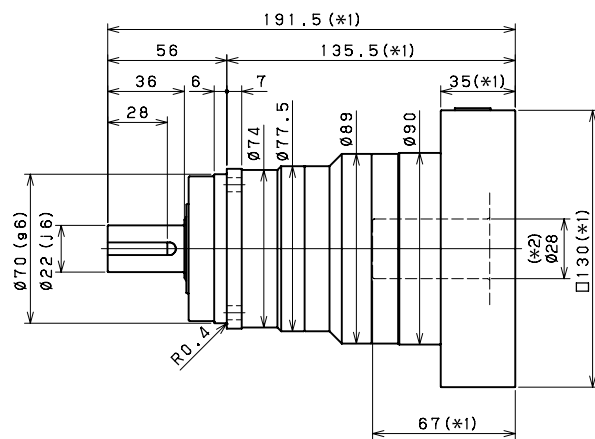
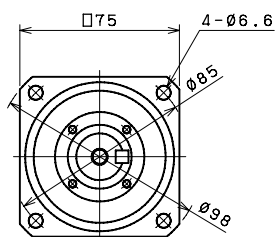
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Shaft with key

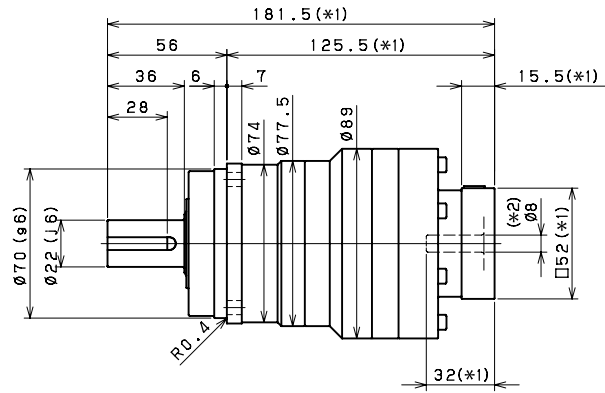
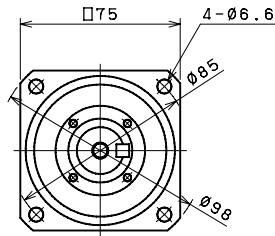
Smooth shaft

*1) Length will vary depending on motor

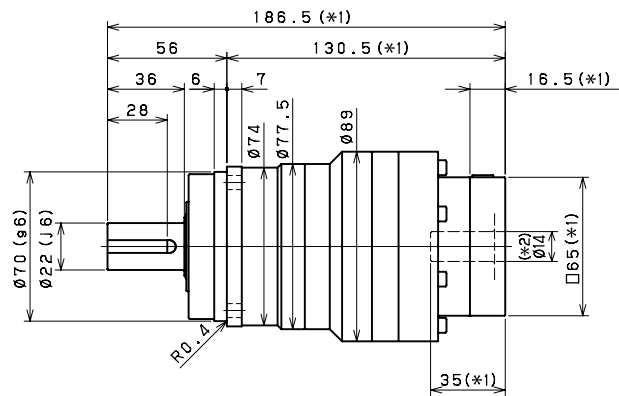
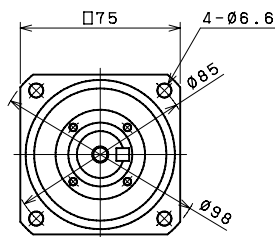
*2) Bushing will be inserted to adapt to motor shaft

VRS-075 - 2-Stage Dimensions

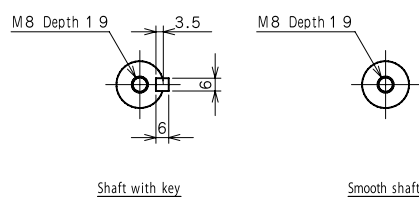
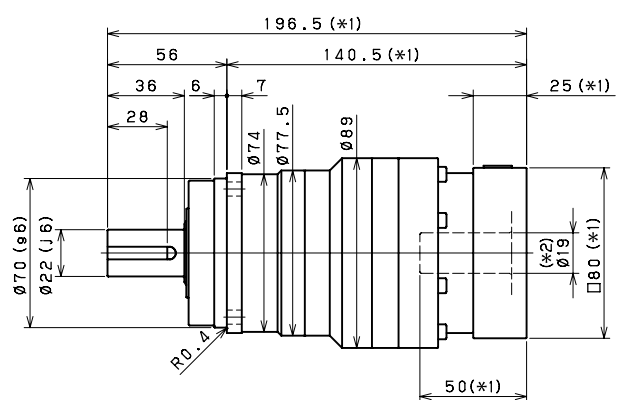
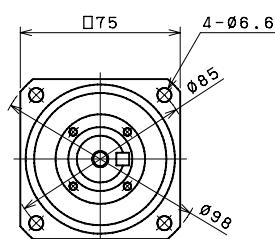
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



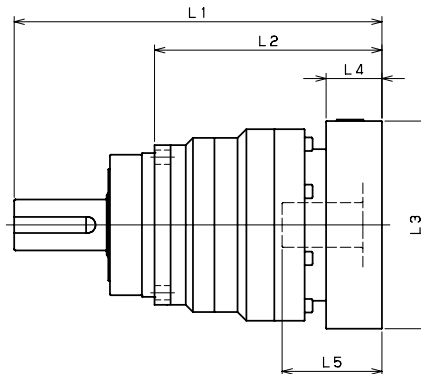
Input shaft bore $\leq \varnothing 19$



*1) Length will vary depending on motor

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

VRS-075 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-075-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | -- | -- | -- | -- | -- | -- |
| | AB·AE·AH·AJ·AK | -- | -- | -- | -- | -- | -- |
| | BA·BB·BD·BE·BG·BH·BJ | -- | -- | -- | -- | -- | -- |
| | CA | -- | -- | -- | -- | -- | -- |
| VRS-075-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 164.5 | 148 | 108.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 169.5 | 148 | 113.5 | □65 | 21.5 | 40 |
| | CA·CC | 164.5 | 148 | 108.5 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 164.5 | 148 | 108.5 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 164.5 | 148 | 108.5 | □90 | 16.5 | 35 |
| | FA | 164.5 | 148 | 108.5 | □100 | 16.5 | 35 |
| | FB | 174.5 | 148 | 118.5 | □100 | 26.5 | 45 |
| VRS-075-□-□-19** (Input shaft bore ≤ φ19) | JA | 179.5 | 148 | 123.5 | □150 | 31.5 | 50 |
| | DA·DB·DC | 174.5 | 149.5 | 118.5 | □80 | 25 | 50 |
| | EB·ED | 174.5 | 149.5 | 118.5 | □90 | 25 | 50 |
| | FA | 174.5 | 149.5 | 118.5 | □100 | 25 | 50 |
| | FB | 184.5 | 149.5 | 128.5 | □100 | 35 | 60 |
| | GA·GC·GH | 179.5 | 149.5 | 123.5 | □115 | 30 | 55 |
| | GB·GD·GJ | 174.5 | 149.5 | 118.5 | □115 | 25 | 50 |
| | GE·GF | 184.5 | 149.5 | 128.5 | □115 | 35 | 60 |
| | HA | 174.5 | 149.5 | 118.5 | □130 | 25 | 50 |
| | HB | 189.5 | 149.5 | 133.5 | □130 | 40 | 65 |
| | HC·HD·HE | 179.5 | 149.5 | 123.5 | □130 | 30 | 55 |
| VRS-075-□-□-28** (Input shaft bore ≤ φ28) | JA | 184.5 | 149.5 | 128.5 | □150 | 35 | 60 |
| | JB | 189.5 | 149.5 | 133.5 | □150 | 40 | 65 |
| | FA·FB·FC | 191.5 | 156.5 | 135.5 | □100 | 35 | 67 |
| | FD·FE | 186.5 | 156.5 | 130.5 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 191.5 | 156.5 | 135.5 | □115 | 35 | 67 |
| | HA·HC·HD | 191.5 | 156.5 | 135.5 | □130 | 35 | 67 |
| | HB | 201.5 | 156.5 | 145.5 | □130 | 45 | 77 |
| | HE | 206.5 | 156.5 | 150.5 | □130 | 50 | 82 |
| | HF | 186.5 | 156.5 | 130.5 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 191.5 | 156.5 | 135.5 | □150 | 35 | 67 |
| | JD | 211.5 | 156.5 | 155.5 | □150 | 55 | 87 |
| | JE | 201.5 | 156.5 | 145.5 | □150 | 45 | 77 |

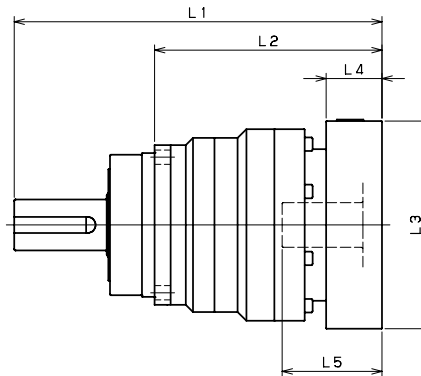
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-075 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-075-□-□-8** (Input shaft bore ≤ φ8) | AA-AC-AD-AF-AG-AL-AM-AN-AQ | 181.5 | 166 | 125.5 | □52 | 15.5 | 32 |
| | AB-AE-AH-AJ-AK | 186.5 | 166 | 130.5 | □52 | 20.5 | 37 |
| | BA-BB-BD-BE-BG-BH-BJ | 181.5 | 166 | 125.5 | □60 | 15.5 | 32 |
| | CA | 186.5 | 166 | 130.5 | □70 | 20.5 | 37 |
| VRS-075-□-□-14** (Input shaft bore ≤ φ14) | BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP | 186.5 | 170 | 130.5 | □65 | 16.5 | 35 |
| | BC-BH-BM-BN | 191.5 | 170 | 135.5 | □65 | 21.5 | 40 |
| | CA-CC | 186.5 | 170 | 130.5 | □70 | 16.5 | 35 |
| | DA-DB-DC-DD-DF-DH-DJ | 186.5 | 170 | 130.5 | □80 | 16.5 | 35 |
| | EA-EB-EC-EF-EG-EK-EL | 186.5 | 170 | 130.5 | □90 | 16.5 | 35 |
| | FA | 186.5 | 170 | 130.5 | □100 | 16.5 | 35 |
| | FB | 196.5 | 170 | 140.5 | □100 | 26.5 | 45 |
| VRS-075-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | 196.5 | 171.5 | 140.5 | □80 | 25 | 50 |
| | EB-ED | 196.5 | 171.5 | 140.5 | □90 | 25 | 50 |
| | FA | 196.5 | 171.5 | 140.5 | □100 | 25 | 50 |
| | FB | 206.5 | 171.5 | 150.5 | □100 | 35 | 60 |
| | GA-GC-GH | 201.5 | 171.5 | 145.5 | □115 | 30 | 55 |
| | GB-GD-GJ | 196.5 | 171.5 | 140.5 | □115 | 25 | 50 |
| | GE-GF | 206.5 | 171.5 | 150.5 | □115 | 35 | 60 |
| | HA | 196.5 | 171.5 | 140.5 | □130 | 25 | 50 |
| | HB | 211.5 | 171.5 | 155.5 | □130 | 40 | 65 |
| | HC-HD-HE | 201.5 | 171.5 | 145.5 | □130 | 30 | 55 |
| | JA | 206.5 | 171.5 | 150.5 | □150 | 35 | 60 |
| VRS-075-□-□-28** (Input shaft bore ≤ φ28) | JB | 211.5 | 171.5 | 155.5 | □150 | 40 | 65 |
| | FA-FB-FC | 215.5 | 180.5 | 159.5 | □100 | 35 | 67 |
| | FD-FE | 210.5 | 180.5 | 154.5 | □100 | 30 | 62 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 215.5 | 180.5 | 159.5 | □115 | 35 | 67 |
| | HA-HC-HD | 215.5 | 180.5 | 159.5 | □130 | 35 | 67 |
| | HB | 225.5 | 180.5 | 169.5 | □130 | 45 | 77 |
| | HE | 230.5 | 180.5 | 174.5 | □130 | 50 | 82 |
| | HF | 210.5 | 180.5 | 154.5 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 215.5 | 180.5 | 159.5 | □150 | 35 | 67 |
| | JD | 235.5 | 180.5 | 179.5 | □150 | 55 | 87 |
| | JE | 225.5 | 180.5 | 169.5 | □150 | 45 | 77 |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-100 – 1-Stage Specifications

| Frame Size | 100 | | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 120 | 180 | 180 | 180 | 180 | 120 | 120 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 330 | 225 | 225 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 625 | 500 | 500 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.30 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3400 | 3700 | 4000 | 4200 | 4400 | 4600 | 4800 | 4900 | | |
| Permitted Axial Load | [N] | *8 | 4800 | 5200 | 5600 | 5900 | 6100 | 6300 | 6300 | 6300 | | |
| Maximum Radial Load | [N] | *9 | 7000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 6300 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 3.200 | 2.000 | 1.500 | 1.300 | 1.100 | 1.000 | 0.960 | 0.930 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 5.200 | 4.000 | 3.600 | 3.300 | 3.100 | 3.000 | 3.000 | 3.000 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 8.1 | | | | | | | | | |

VRS-100 – 2-Stage Specifications

| Frame Size | 100 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 180 | 180 | 120 | 180 | 180 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 225 | 330 | 330 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 500 | 625 | 625 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.42 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5600 | 5700 | 6100 | 6500 | 6700 | 6900 | 7000 | 7000 | | |
| Permitted Axial Load | [N] | *8 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | | |
| Maximum Radial Load | [N] | *9 | 7000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 6300 | | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.420 | 0.480 | 0.400 | 0.380 | 0.440 | 0.290 | 0.370 | 0.280 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.860 | 0.910 | 0.830 | 0.820 | 0.870 | 0.740 | 0.810 | 0.730 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 2.800 | 2.900 | 2.800 | 2.800 | 2.800 | 2.700 | 2.700 | 2.700 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 8.8 | | | | | | | | | |

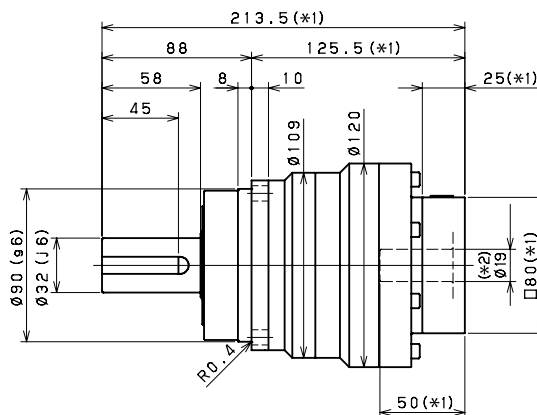
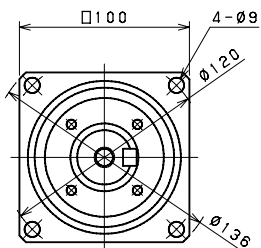
VRS-100 – 2-Stage Specifications

| Frame Size | 100 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 180 | 180 | 120 | 120 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 225 | 330 | 330 | 330 | 330 | 225 | 225 | | |
| Emergency Stop Torque | [Nm] | *3 | 500 | 625 | 625 | 625 | 625 | 500 | 500 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.42 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 7000 | 7000 | 7000 | 7000 | 7000 | 7000 | 7000 | | |
| Permitted Axial Load | [N] | *8 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | | |
| Maximum Radial Load | [N] | *9 | 7000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 6300 | | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 0.370 | 0.280 | 0.280 | 0.280 | 0.280 | 0.270 | 0.270 | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 0.800 | 0.730 | 0.730 | 0.730 | 0.730 | 0.730 | 0.730 | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | 2.700 | | |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 71 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 8.8 | | | | | | | | |

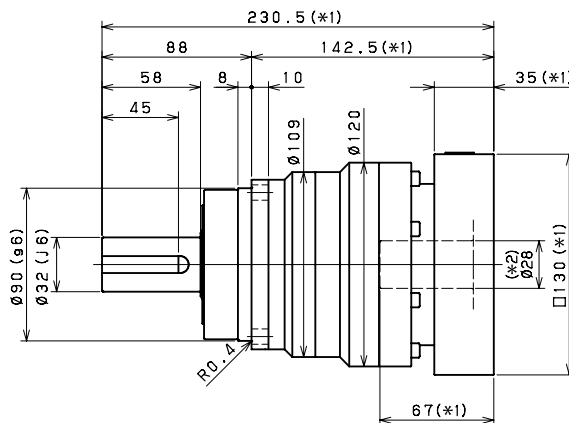
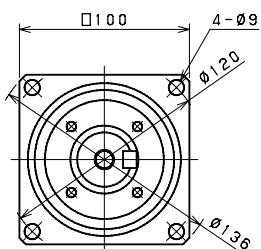
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRS100
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-100 - 1-Stage Dimensions

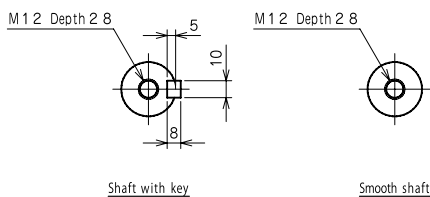
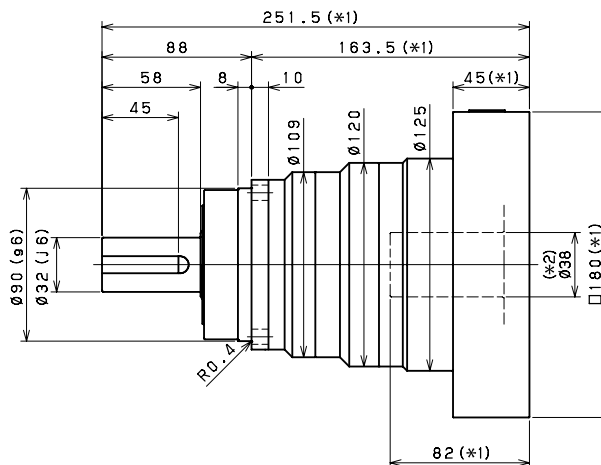
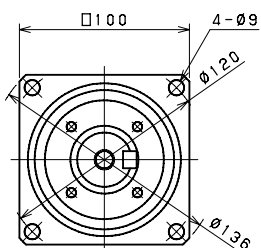
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$

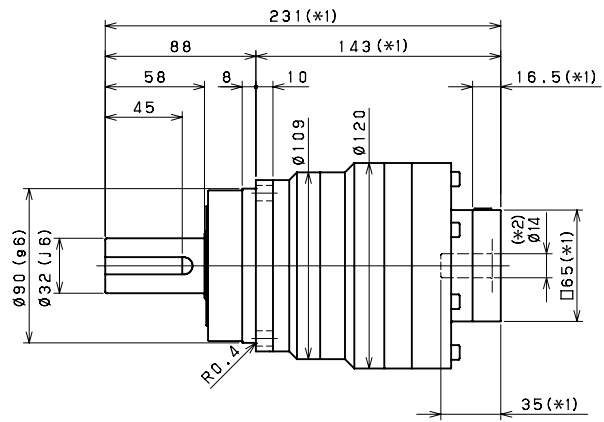
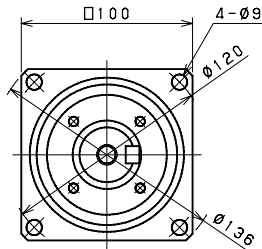


*1) Length will vary depending on motor

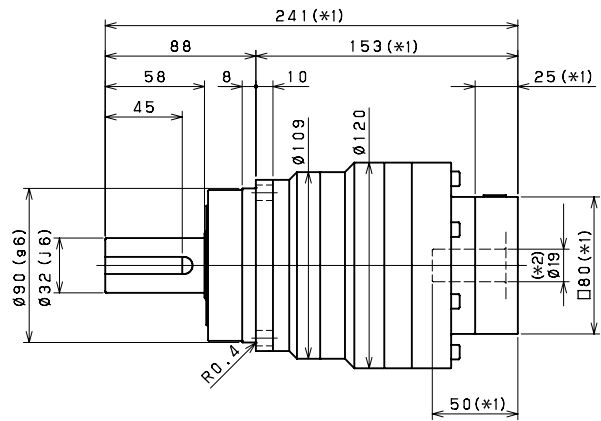
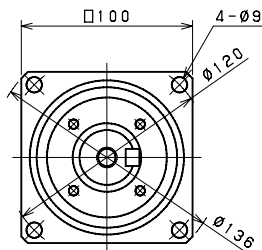
*2) Bushing will be inserted to adapt to motor shaft

VRS-100 – 2-Stage Dimensions

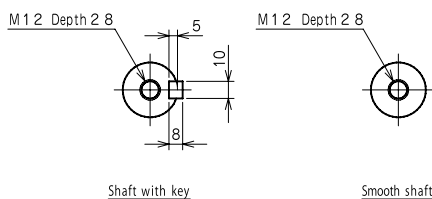
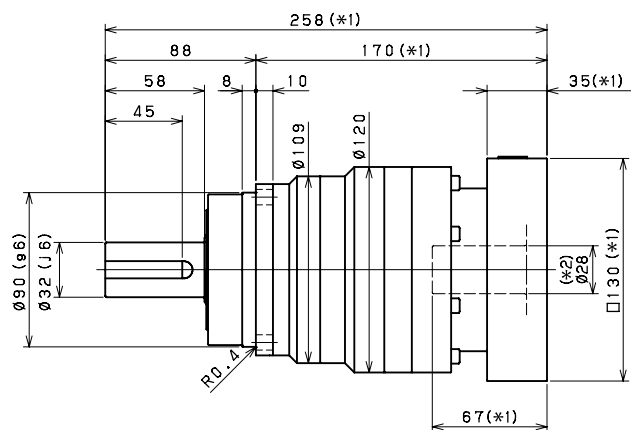
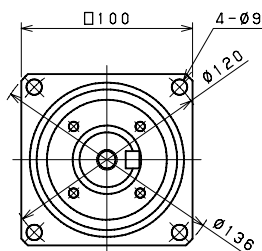
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

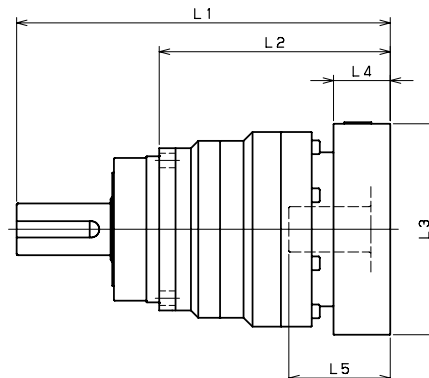


Input shaft bore $\leq \varnothing 28$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-100 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-100-□-□-14** (Input shaft bore ≤ φ14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | -- | -- | -- | -- | -- | -- |
| | BC•BH•BM•BN | -- | -- | -- | -- | -- | -- |
| | CA•CC | -- | -- | -- | -- | -- | -- |
| | DA•DB•DC•DD•DF•DH•DJ | -- | -- | -- | -- | -- | -- |
| | EA•EB•EC•EF•EG•EK•EL | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| VRS-100-□-□-19** (Input shaft bore ≤ φ19) | DA•DB•DC | 213.5 | 188.5 | 125.5 | □80 | 25 | 50 |
| | EB | 213.5 | 188.5 | 125.5 | □90 | 25 | 50 |
| | FA | 213.5 | 188.5 | 125.5 | □100 | 25 | 50 |
| | FB | 223.5 | 188.5 | 135.5 | □100 | 35 | 60 |
| | GB•GD | 213.5 | 188.5 | 125.5 | □115 | 25 | 50 |
| | HA | 223.5 | 188.5 | 135.5 | □115 | 35 | 60 |
| | -- | 213.5 | 188.5 | 125.5 | □130 | 25 | 50 |
| | -- | 228.5 | 188.5 | 140.5 | □130 | 40 | 65 |
| | -- | 218.5 | 188.5 | 130.5 | □130 | 30 | 55 |
| VRS-100-□-□-28** (Input shaft bore ≤ φ28) | FA•FB•FC | 230.5 | 195.5 | 142.5 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 230.5 | 195.5 | 142.5 | □115 | 35 | 67 |
| | HA•HC•HD | 230.5 | 195.5 | 142.5 | □130 | 35 | 67 |
| | HB | 240.5 | 195.5 | 152.5 | □130 | 45 | 77 |
| | HF | 225.5 | 195.5 | 137.5 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 230.5 | 195.5 | 142.5 | □150 | 35 | 67 |
| | JD | 250.5 | 195.5 | 162.5 | □150 | 55 | 87 |
| | JE | 240.5 | 195.5 | 152.5 | □150 | 45 | 77 |
| | KA•KB•KE | 230.5 | 195.5 | 142.5 | □180 | 35 | 67 |
| VRS-100-□-□-38** (Input shaft bore ≤ φ38) | KD | 240.5 | 195.5 | 152.5 | □180 | 45 | 77 |
| | HA | 251.5 | 206.5 | 163.5 | □130 | 45 | 82 |
| | HB•HE | 246.5 | 206.5 | 158.5 | □130 | 40 | 77 |
| | JA | 251.5 | 206.5 | 163.5 | □150 | 45 | 82 |
| | KA•KB•KC | 251.5 | 206.5 | 163.5 | □180 | 45 | 82 |
| | KD | 286.5 | 206.5 | 198.5 | □180 | 80 | 117 |
| KE | 266.5 | 206.5 | 178.5 | □180 | 60 | 97 | |

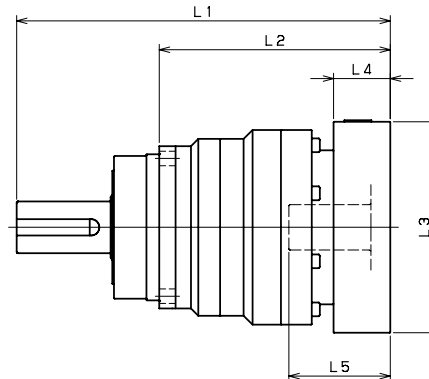
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-100 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-100-□-□-14** (Input shaft bore ≤ φ14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | 231 | 214.5 | 143 | □65 | 16.5 | 35 |
| | BC•BH•BM•BN | 236 | 214.5 | 148 | □65 | 21.5 | 40 |
| | CA•CC | 231 | 214.5 | 143 | □70 | 16.5 | 35 |
| | DA•DB•DC•DD•DF•DH•DJ | 231 | 214.5 | 143 | □80 | 16.5 | 35 |
| | EA•EB•EC•EF•EG•EK•EL | 231 | 214.5 | 143 | □90 | 16.5 | 35 |
| | FA | 231 | 214.5 | 143 | □100 | 16.5 | 35 |
| | FB | 241 | 214.5 | 153 | □100 | 26.5 | 45 |
| VRS-100-□-□-19** (Input shaft bore ≤ φ19) | DA•DB•DC | 241 | 216 | 153 | □80 | 25 | 50 |
| | EB | 241 | 216 | 153 | □90 | 25 | 50 |
| | FA | 241 | 216 | 153 | □100 | 25 | 50 |
| | FB | 251 | 216 | 163 | □100 | 35 | 60 |
| | GB•GD | 241 | 216 | 153 | □115 | 25 | 50 |
| | HA | 251 | 216 | 163 | □115 | 35 | 60 |
| | -- | 241 | 216 | 153 | □130 | 25 | 50 |
| | -- | 256 | 216 | 168 | □130 | 40 | 65 |
| | -- | 246 | 216 | 158 | □130 | 30 | 55 |
| VRS-100-□-□-28** (Input shaft bore ≤ φ28) | FA•FB•FC | 258 | 223 | 170 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 258 | 223 | 170 | □115 | 35 | 67 |
| | HA•HC•HD | 258 | 223 | 170 | □130 | 35 | 67 |
| | HB | 268 | 223 | 180 | □130 | 45 | 77 |
| | HF | 253 | 223 | 165 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 258 | 223 | 170 | □150 | 35 | 67 |
| | JD | 278 | 223 | 190 | □150 | 55 | 87 |
| | JE | 268 | 223 | 180 | □150 | 45 | 77 |
| | KA•KB•KE | 258 | 223 | 170 | □180 | 35 | 67 |
| VRS-100-□-□-38** (Input shaft bore ≤ φ38) | KD | 268 | 223 | 180 | □180 | 45 | 77 |
| | HA | 275.5 | 230.5 | 187.5 | □130 | 45 | 82 |
| | HB•HE | 270.5 | 230.5 | 182.5 | □130 | 40 | 77 |
| | JA | 275.5 | 230.5 | 187.5 | □150 | 45 | 82 |
| | KA•KB•KC | 275.5 | 230.5 | 187.5 | □180 | 45 | 82 |
| | KD | 310.5 | 230.5 | 222.5 | □180 | 80 | 117 |
| KE | 290.5 | 230.5 | 202.5 | □180 | 60 | 97 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-140 – 1-Stage Specifications

| Frame Size | 140 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 240 | 240 | 360 | 360 | 360 | 360 | 240 | 240 |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 700 | 470 | 470 |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1250 | 1000 | 1000 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.63 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 6700 | 7400 | 7900 | 8300 | 8700 | 9100 | 9400 | 9700 |
| Permitted Axial Load | [N] | *8 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 |
| Maximum Radial Load | [N] | *9 | 10000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 9000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 12.000 | 7.400 | 5.800 | 4.900 | 4.100 | 3.800 | 3.600 | 3.400 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 20.000 | 15.000 | 13.000 | 13.000 | 12.000 | 12.000 | 11.000 | 11.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 42.000 | 37.000 | 36.000 | 35.000 | 34.000 | 34.000 | 34.000 | 33.000 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 17 | | | | | | | |

VRS-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 360 | 360 | 240 | 360 | 360 |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 470 | 700 | 700 |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1000 | 1250 | 1250 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.56 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| Permitted Axial Load | [N] | *8 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 |
| Maximum Radial Load | [N] | *9 | 10000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 9000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 1.300 | 1.500 | 1.200 | 1.100 | 1.400 | 0.850 | 1.100 | 0.830 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 3.200 | 3.500 | 3.100 | 3.100 | 3.300 | 2.800 | 3.100 | 2.800 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 10.000 | 11.000 | 10.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 19 | | | | | | | |

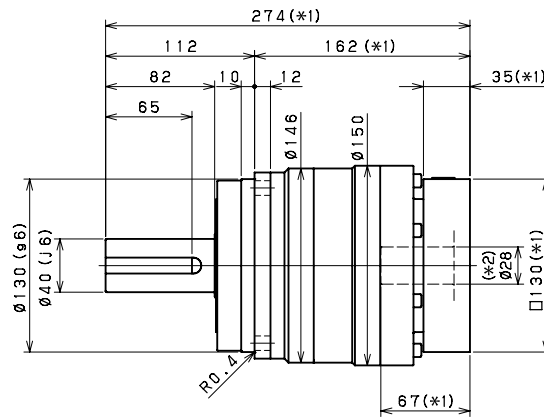
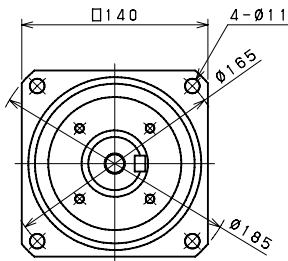
VRS-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 360 | 360 | 240 | 240 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 470 | 700 | 700 | 700 | 700 | 470 | 470 | | |
| Emergency Stop Torque | [Nm] | *3 | 1000 | 1250 | 1250 | 1250 | 1250 | 1000 | 1000 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | | |
| Permitted Axial Load | [N] | *8 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | | |
| Maximum Radial Load | [N] | *9 | 10000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 9000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.100 | 0.810 | 0.810 | 0.800 | 0.800 | 0.800 | 0.800 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.000 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 11.000 | 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 19 | | | | | | | | |

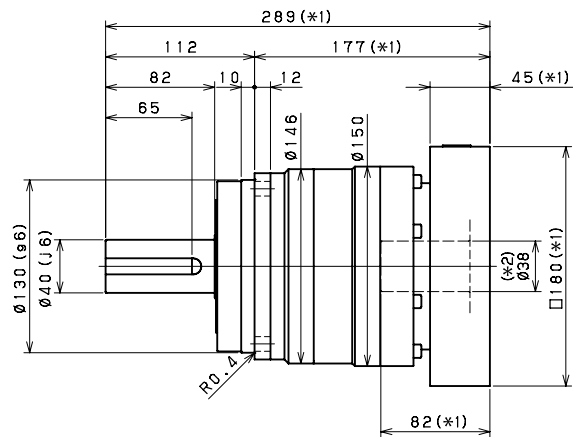
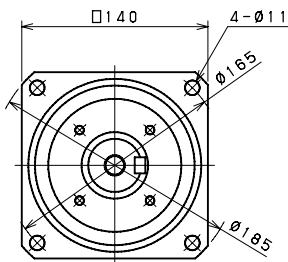
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRS140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-140 - 1-Stage Dimensions

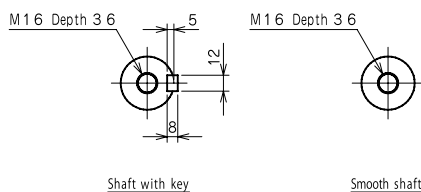
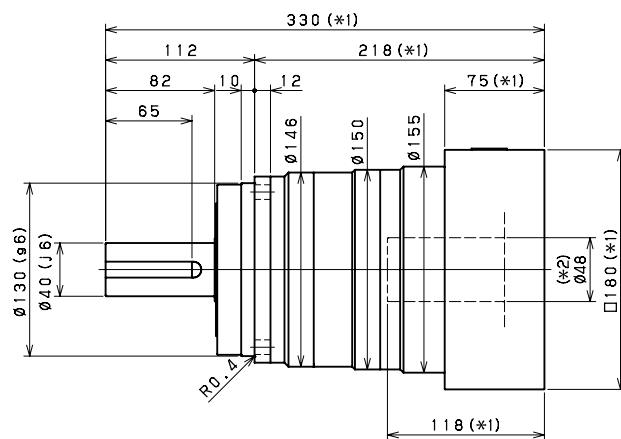
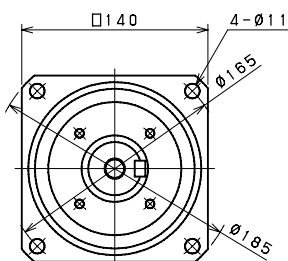
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$

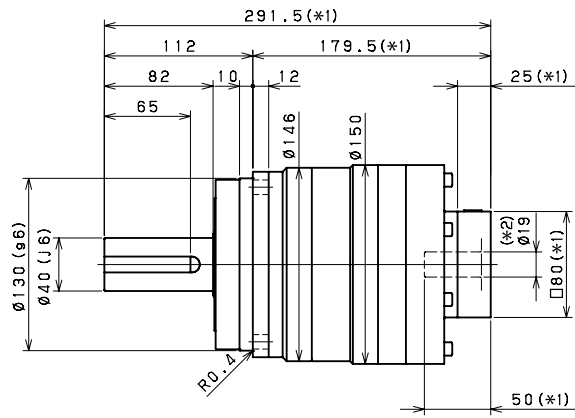
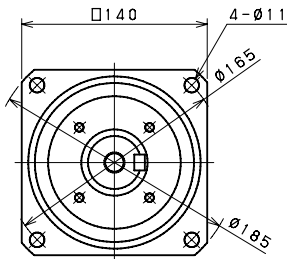


*1) Length will vary depending on motor

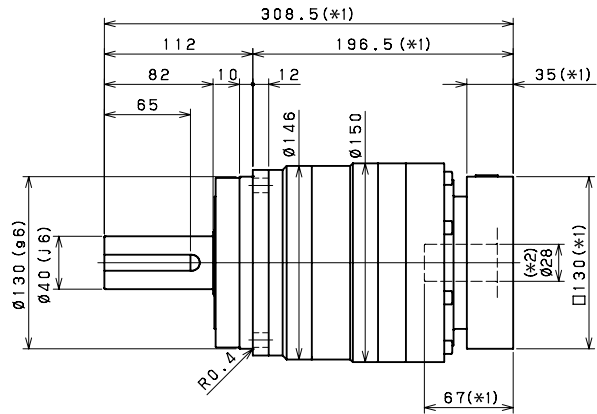
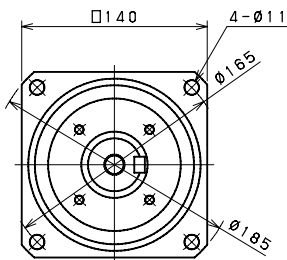
*2) Bushing will be inserted to adapt to motor shaft

VRS-140 – 2-Stage Dimensions

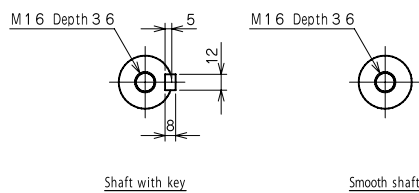
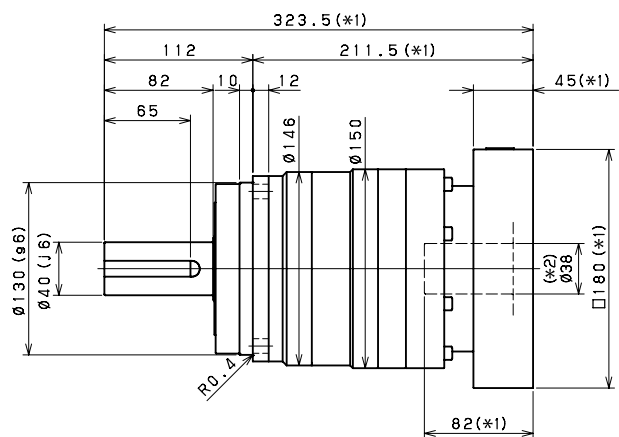
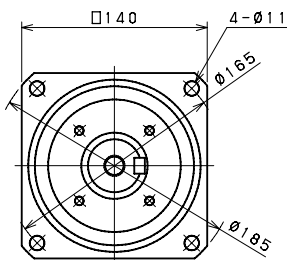
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



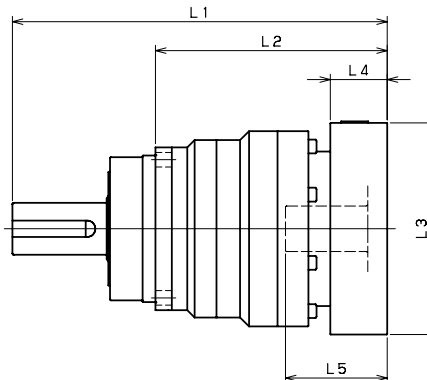
Input shaft bore $\leq \phi 38$



*1) Length will vary depending on motor

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

VRS-140 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------|---------|-----|------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-140-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | -- | -- | -- | -- | -- | -- |
| | EB-ED | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| | GB-GD-GJ | -- | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- | -- |
| VRS-140-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 274 | 239 | 162 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 274 | 239 | 162 | □115 | 35 | 67 |
| | HA-HC-HD | 274 | 239 | 162 | □130 | 35 | 67 |
| | HB | 284 | 239 | 172 | □130 | 45 | 77 |
| | HF | 269 | 239 | 157 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 274 | 239 | 162 | □150 | 35 | 67 |
| | KA-KB-KE | 274 | 239 | 162 | □180 | 35 | 67 |
| | LA | 274 | 239 | 162 | □200 | 35 | 67 |
| | LB | 284 | 239 | 172 | □200 | 45 | 77 |
| | MA | 274 | 239 | 162 | □220 | 35 | 67 |
| VRS-140-□-□-38** (Input shaft bore ≤ φ38) | MB | 284 | 239 | 172 | □220 | 45 | 77 |
| | HA | 289 | 244 | 177 | □130 | 45 | 82 |
| | HB-HE | 284 | 244 | 172 | □130 | 40 | 77 |
| | JA | 289 | 244 | 177 | □150 | 45 | 82 |
| | KA-KB-KC | 289 | 244 | 177 | □180 | 45 | 82 |
| | KD | 324 | 244 | 212 | □180 | 80 | 117 |
| | KE | 304 | 244 | 192 | □180 | 60 | 97 |
| | LB | 299 | 244 | 187 | □200 | 55 | 92 |
| | MA-MB | 289 | 244 | 177 | □220 | 45 | 82 |
| | MC | 304 | 244 | 192 | □220 | 60 | 97 |
| VRS-140-□-□-48** (Input shaft bore ≤ φ48) | MD | 299 | 244 | 187 | □220 | 55 | 92 |
| | KA | 330 | 255 | 218 | □180 | 75 | 118 |
| | KB-KC | 310 | 255 | 198 | □180 | 55 | 98 |
| | LA | 310 | 255 | 198 | □200 | 55 | 98 |
| | MA | 310 | 255 | 198 | □220 | 55 | 98 |
| MB | 330 | 255 | 218 | □220 | 75 | 118 | |

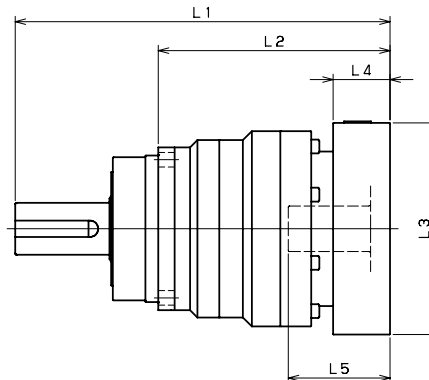
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-140 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-140-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | 291.5 | 266.5 | 179.5 | □80 | 25 | 50 |
| | EB-ED | 291.5 | 266.5 | 179.5 | □90 | 25 | 50 |
| | FA | 291.5 | 266.5 | 179.5 | □100 | 25 | 50 |
| | FB | 301.5 | 266.5 | 189.5 | □100 | 35 | 60 |
| | GB-GD-GJ | 291.5 | 266.5 | 179.5 | □115 | 25 | 50 |
| | HA | 291.5 | 266.5 | 179.5 | □130 | 25 | 50 |
| | HB | 306.5 | 266.5 | 194.5 | □130 | 40 | 65 |
| | JA | 301.5 | 266.5 | 189.5 | □150 | 35 | 60 |
| VRS-140-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | 308.5 | 273.5 | 196.5 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 308.5 | 273.5 | 196.5 | □115 | 35 | 67 |
| | HA-HC-HD | 308.5 | 273.5 | 196.5 | □130 | 35 | 67 |
| | HB | 318.5 | 273.5 | 206.5 | □130 | 45 | 77 |
| | HF | 303.5 | 273.5 | 191.5 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 308.5 | 273.5 | 196.5 | □150 | 35 | 67 |
| | KA-KB-KE | 308.5 | 273.5 | 196.5 | □180 | 35 | 67 |
| | LA | 308.5 | 273.5 | 196.5 | □200 | 35 | 67 |
| | LB | 318.5 | 273.5 | 206.5 | □200 | 45 | 77 |
| | MA | 308.5 | 273.5 | 196.5 | □220 | 35 | 67 |
| VRS-140-□-□-38** (Input shaft bore ≤ φ38) | MB | 318.5 | 273.5 | 206.5 | □220 | 45 | 77 |
| | HA | 323.5 | 278.5 | 211.5 | □130 | 45 | 82 |
| | HB-HE | 318.5 | 278.5 | 206.5 | □130 | 40 | 77 |
| | JA | 323.5 | 278.5 | 211.5 | □150 | 45 | 82 |
| | KA-KB-KC | 323.5 | 278.5 | 211.5 | □180 | 45 | 82 |
| | KD | 358.5 | 278.5 | 246.5 | □180 | 80 | 117 |
| | KE | 338.5 | 278.5 | 226.5 | □180 | 60 | 97 |
| | LB | 333.5 | 278.5 | 221.5 | □200 | 55 | 92 |
| | MA-MB | 323.5 | 278.5 | 211.5 | □220 | 45 | 82 |
| | MC | 338.5 | 278.5 | 226.5 | □220 | 60 | 97 |
| VRS-140-□-□-48** (Input shaft bore ≤ φ48) | MD | 333.5 | 278.5 | 221.5 | □220 | 55 | 92 |
| | KA | 364.5 | 289.5 | 252.5 | □180 | 75 | 118 |
| | KB-KC | 344.5 | 289.5 | 232.5 | □180 | 55 | 98 |
| | LA | 344.5 | 289.5 | 232.5 | □200 | 55 | 98 |
| | MA | 344.5 | 289.5 | 232.5 | □220 | 55 | 98 |
| MB | 364.5 | 289.5 | 252.5 | □220 | 75 | 118 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-180 – 1-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|--------|--------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 750 | 500 | 500 |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 1400 | 970 | 970 |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2750 | 2200 | 2200 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.68 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 12000 | 13000 | 14000 | 15000 | 16000 | 17000 | 17000 | 18000 |
| Permitted Axial Load | [N] | *8 | 16000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 |
| Maximum Radial Load | [N] | *9 | 19000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 17000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 42.000 | 27.000 | 21.000 | 18.000 | 16.000 | 15.000 | 14.000 | 14.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 64.000 | 49.000 | 43.000 | 40.000 | 38.000 | 37.000 | 36.000 | 36.000 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | 120.000 | 110.000 | 100.000 | 100.000 | 98.000 | 97.000 | 96.000 | 96.000 |
| Efficiency | [%] | *11 | 95 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | |

VRS-180 – 2-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 500 | 750 | 750 |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 970 | 1400 | 1400 |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2200 | 2750 | 2750 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.39 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 |
| Permitted Axial Load | [N] | *8 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 |
| Maximum Radial Load | [N] | *9 | 19000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 17000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 4.700 | 5.400 | 4.300 | 4.200 | 4.900 | 3.200 | 4.100 | 3.200 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 12.000 | 13.000 | 12.000 | 12.000 | 13.000 | 11.000 | 12.000 | 11.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 34.000 | 35.000 | 34.000 | 34.000 | 35.000 | 33.000 | 34.000 | 33.000 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 90 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | |

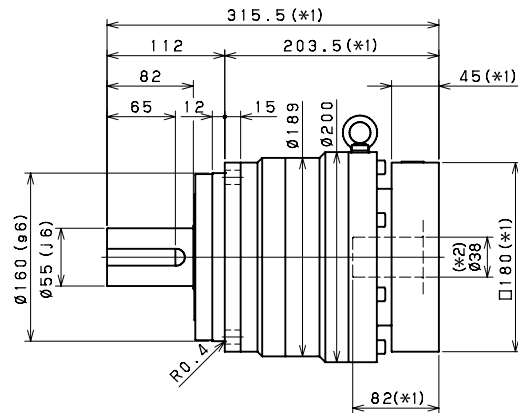
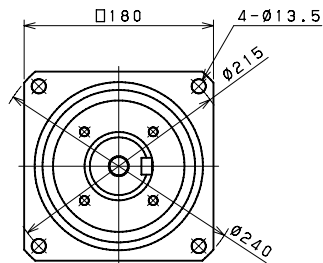
VRS-180 – 2-Stage Specifications

| Frame Size | 180 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 500 | 750 | 750 | 750 | 750 | 500 | 500 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 970 | 1400 | 1400 | 1400 | 1400 | 970 | 970 | | |
| Emergency Stop Torque | [Nm] | *3 | 2200 | 2750 | 2750 | 2750 | 2750 | 2200 | 2200 | | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.39 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | | |
| Permitted Axial Load | [N] | *8 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | | |
| Maximum Radial Load | [N] | *9 | 19000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 17000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.000 | 3.100 | 3.100 | 3.100 | 3.100 | 3.100 | 3.100 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 34.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | | |

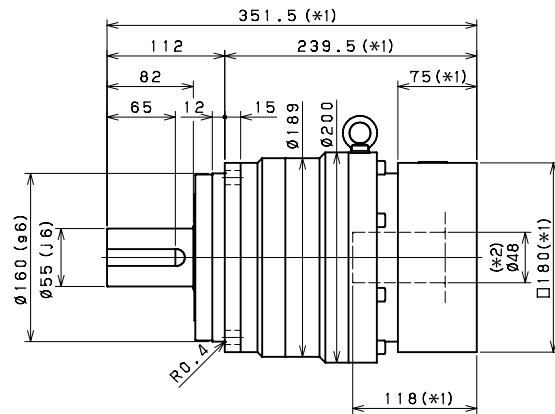
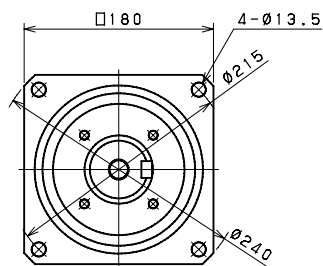
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRS180
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-180 – 1-Stage Dimensions

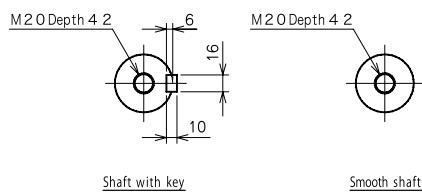
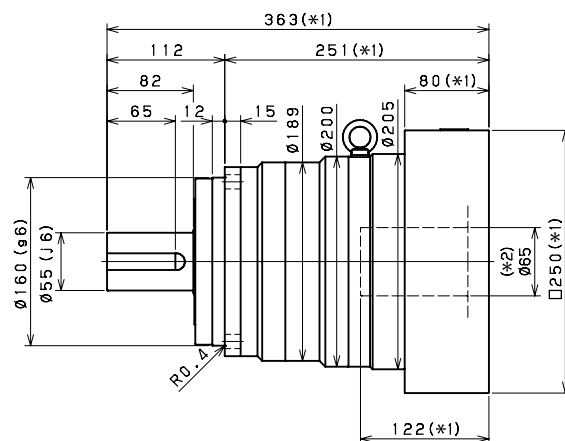
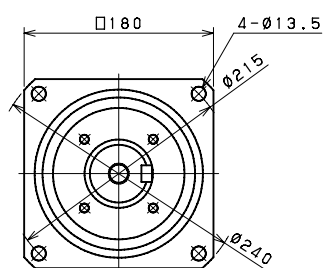
Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



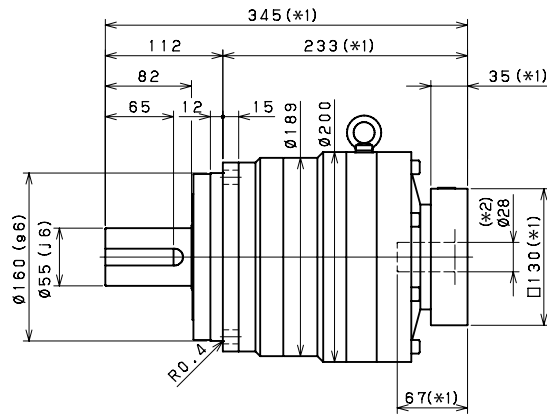
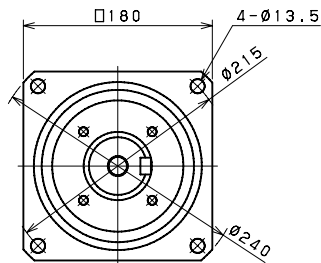
Input shaft bore $\leq \phi 65$



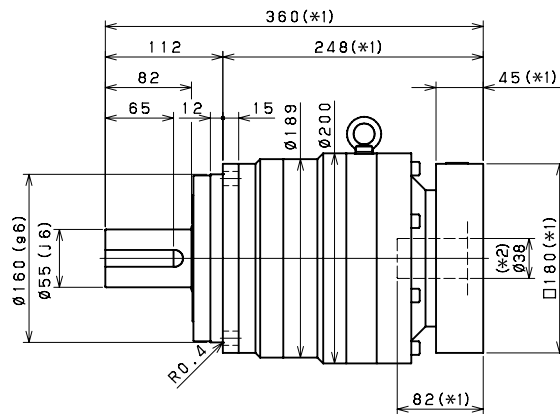
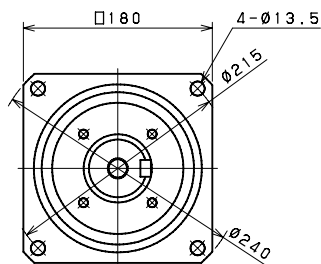
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-180 – 2-Stage Dimensions

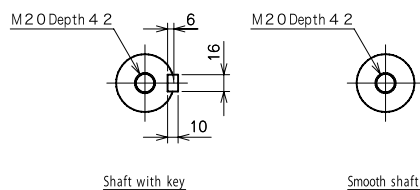
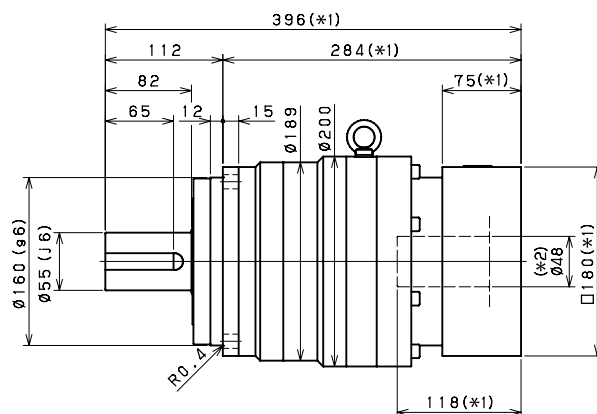
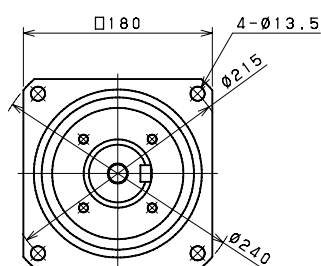
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



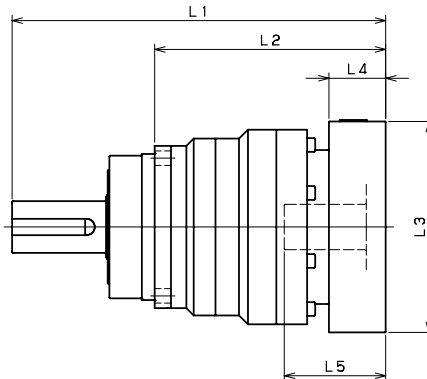
Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor

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

VRS-180 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-180-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | -- | -- | -- | -- | -- | -- |
| | GA-GB-GC-GD-GE-GF-GG-GH | -- | -- | -- | -- | -- | -- |
| | HA-HC-HD | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- | -- |
| | JA-JB-JC-JF | -- | -- | -- | -- | -- | -- |
| | KA-KB-KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- | -- |
| VRS-180-□-□-38** (Input shaft bore ≤ φ38) | HA | 315.5 | 270.5 | 203.5 | □130 | 45 | 82 |
| | HB-HE | 310.5 | 270.5 | 198.5 | □130 | 40 | 77 |
| | JA | 315.5 | 270.5 | 203.5 | □150 | 45 | 82 |
| | KA-KB-KC | 315.5 | 270.5 | 203.5 | □180 | 45 | 82 |
| | KD | 350.5 | 270.5 | 238.5 | □180 | 80 | 117 |
| | KE | 330.5 | 270.5 | 218.5 | □180 | 60 | 97 |
| | LB | 325.5 | 270.5 | 213.5 | □200 | 55 | 92 |
| | MA-MB | 315.5 | 270.5 | 203.5 | □220 | 45 | 82 |
| | MC | 330.5 | 270.5 | 218.5 | □220 | 60 | 97 |
| | MD | 325.5 | 270.5 | 213.5 | □220 | 55 | 92 |
| | NA | 315.5 | 270.5 | 203.5 | □250 | 45 | 82 |
| VRS-180-□-□-48** (Input shaft bore ≤ φ48) | KA | 351.5 | 276.5 | 239.5 | □180 | 75 | 118 |
| | KB-KC | 331.5 | 276.5 | 219.5 | □180 | 55 | 98 |
| | LA | 331.5 | 276.5 | 219.5 | □200 | 55 | 98 |
| | MA | 331.5 | 276.5 | 219.5 | □220 | 55 | 98 |
| | MB | 351.5 | 276.5 | 239.5 | □220 | 75 | 118 |
| | NA | 351.5 | 276.5 | 239.5 | □250 | 75 | 118 |
| | PA | 351.5 | 276.5 | 239.5 | □280 | 75 | 118 |
| VRS-180-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 363 | 283 | 251 | □220 | 80 | 122 |
| | NA-NC | 363 | 283 | 251 | □250 | 80 | 122 |
| | NB-ND | 393 | 283 | 281 | □250 | 110 | 152 |
| | PA | 383 | 283 | 271 | □280 | 100 | 142 |
| | PB | 393 | 283 | 281 | □280 | 110 | 152 |

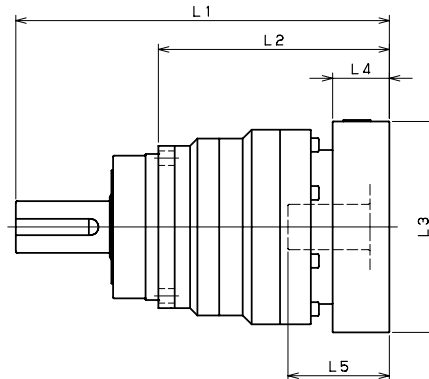
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-180 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | | |
|--|-------------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-180-□-□-28** (Input shaft bore ≤ φ28) | FA·FB·FC | 345 | 310 | 233 | □100 | 35 | 67 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 345 | 310 | 233 | □115 | 35 | 67 |
| | HA·HC·HD | 345 | 310 | 233 | □130 | 35 | 67 |
| | HB | 355 | 310 | 243 | □130 | 45 | 77 |
| | HF | 340 | 310 | 228 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 345 | 310 | 233 | □150 | 35 | 67 |
| | KA·KB·KE | 345 | 310 | 233 | □180 | 35 | 67 |
| | LA | 345 | 310 | 233 | □200 | 35 | 67 |
| | LB | 355 | 310 | 243 | □200 | 45 | 77 |
| | MA | 345 | 310 | 233 | □220 | 35 | 67 |
| | MB | 355 | 310 | 243 | □220 | 45 | 77 |
| VRS-180-□-□-38** (Input shaft bore ≤ φ38) | HA | 360 | 315 | 248 | □130 | 45 | 82 |
| | HB·HE | 355 | 315 | 243 | □130 | 40 | 77 |
| | JA | 360 | 315 | 248 | □150 | 45 | 82 |
| | KA·KB·KC | 360 | 315 | 248 | □180 | 45 | 82 |
| | KD | 395 | 315 | 283 | □180 | 80 | 117 |
| | KE | 375 | 315 | 263 | □180 | 60 | 97 |
| | LB | 370 | 315 | 258 | □200 | 55 | 92 |
| | MA·MB | 360 | 315 | 248 | □220 | 45 | 82 |
| | MC | 375 | 315 | 263 | □220 | 60 | 97 |
| | MD | 370 | 315 | 258 | □220 | 55 | 92 |
| VRS-180-□-□-48** (Input shaft bore ≤ φ48) | NA | 360 | 315 | 248 | □250 | 45 | 82 |
| | KA | 396 | 321 | 284 | □180 | 75 | 118 |
| | KB·KC | 376 | 321 | 264 | □180 | 55 | 98 |
| | LA | 376 | 321 | 264 | □200 | 55 | 98 |
| | MA | 376 | 321 | 264 | □220 | 55 | 98 |
| | MB | 396 | 321 | 284 | □220 | 75 | 118 |
| VRS-180-□-□-65** (Input shaft bore ≤ φ65) | NA | 396 | 321 | 284 | □250 | 75 | 118 |
| | PA | 396 | 321 | 284 | □280 | 75 | 118 |
| | MA·MB·MC·MD | -- | -- | -- | -- | -- | -- |
| | NA·NC | -- | -- | -- | -- | -- | -- |
| | NB·ND | -- | -- | -- | -- | -- | -- |
| PA | -- | -- | -- | -- | -- | -- | |
| PB | -- | -- | -- | -- | -- | -- | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-210 – 1-Stage Specifications

| Frame Size | 210 | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|---------|---------|--------|--------|
| Stage | 1-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1500 | 1000 | 1000 |
| Maximum Acceleration Torque | [Nm] | *2 | 1600 | 2300 | 2300 | 2300 | 2300 | 2200 | 1900 | 1600 |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 5000 | 4000 | 4000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.92 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 17000 | 18000 | 20000 | 21000 | 22000 | 23000 | 24000 | 24000 |
| Permitted Axial Load | [N] | *8 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 |
| Maximum Radial Load | [N] | *9 | 24000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 22000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 92.000 | 63.000 | 53.000 | 47.000 | 43.000 | 40.000 | 39.000 | 38.000 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 150.000 | 120.000 | 110.000 | 110.000 | 100.000 | 100.000 | 99.000 | 98.000 |
| Efficiency | [%] | *11 | 97 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 59 | | | | | | | |

VRS-210 – 2-Stage Specifications

| Frame Size | 210 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1000 | 1500 | 1500 |
| Maximum Acceleration Torque | [Nm] | *2 | 1600 | 2300 | 2300 | 2300 | 2300 | 1600 | 2300 | 2300 |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 4000 | 5000 | 5000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.14 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 |
| Permitted Axial Load | [N] | *8 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 |
| Maximum Radial Load | [N] | *9 | 24000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 22000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 14.000 | 16.000 | 14.000 | 14.000 | 15.000 | 12.000 | 13.000 | 12.000 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 36.000 | 37.000 | 36.000 | 35.000 | 36.000 | 34.000 | 35.000 | 33.000 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 92 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 60 | | | | | | | |

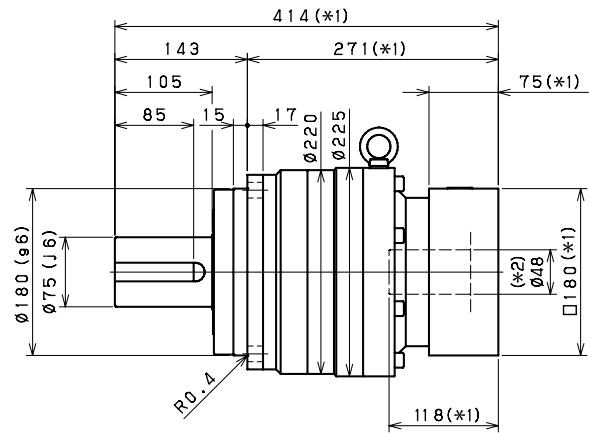
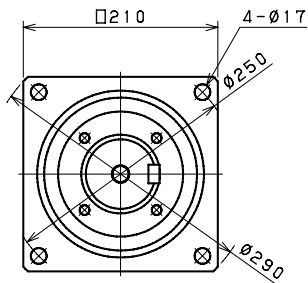
VRS-210 – 2-Stage Specifications

| Frame Size | 210 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 1000 | 1500 | 1500 | 1500 | 1500 | 1000 | 1000 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1300 | 2300 | 2300 | 2300 | 1800 | 1300 | 1200 | | |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5000 | 5000 | 5000 | 5000 | 4000 | 4000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.14 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | | |
| Permitted Axial Load | [N] | *8 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | | |
| Maximum Radial Load | [N] | *9 | 24000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 22000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 35.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 92 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 60 | | | | | | | | |

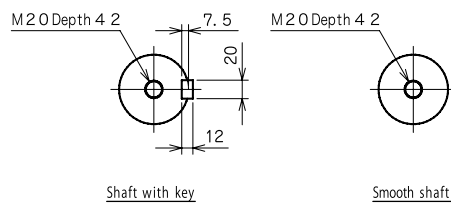
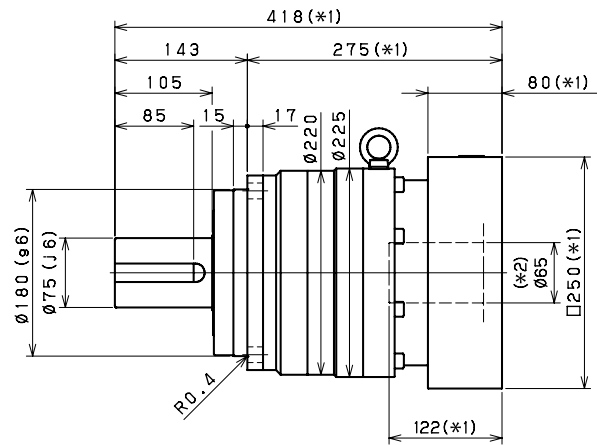
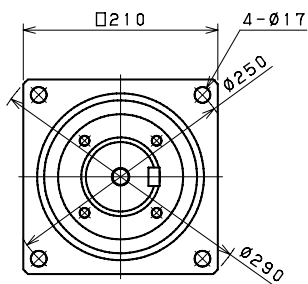
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,5000 rpm for VRS210;
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-210 – 1-Stage Dimensions

Input shaft bore $\leq \phi 48$



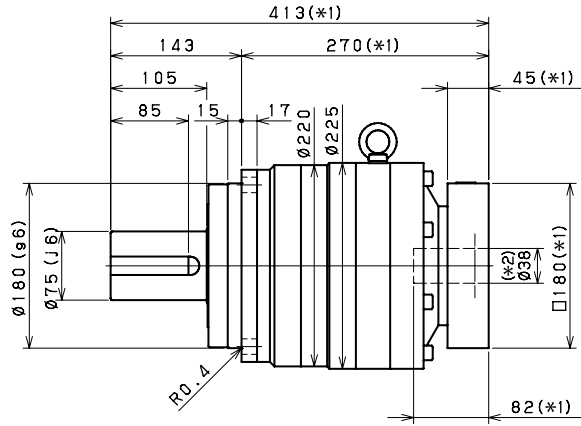
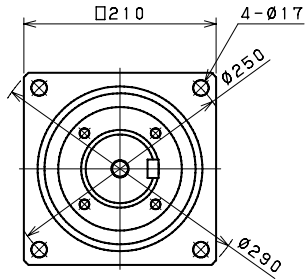
Input shaft bore $\leq \phi 65$



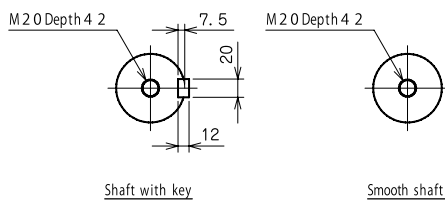
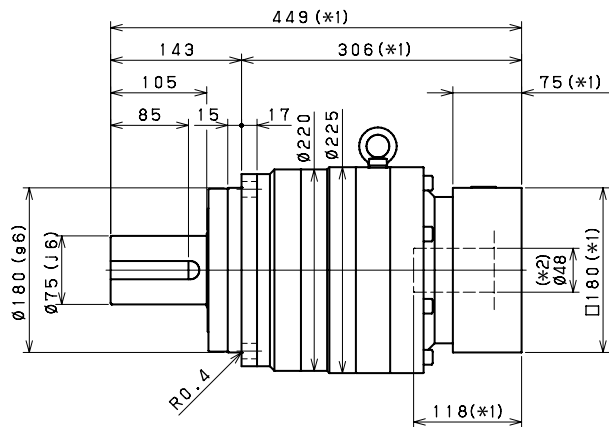
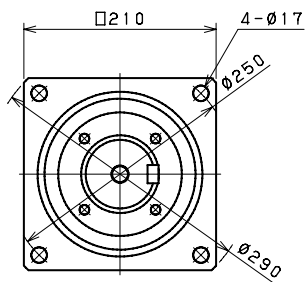
- *1) Length will vary depending on motor.
- *2) Bushing will be inserted to adapt to motor shaft

VRS-210 – 2-Stage Dimensions

Input shaft bore $\cong \varnothing 38$

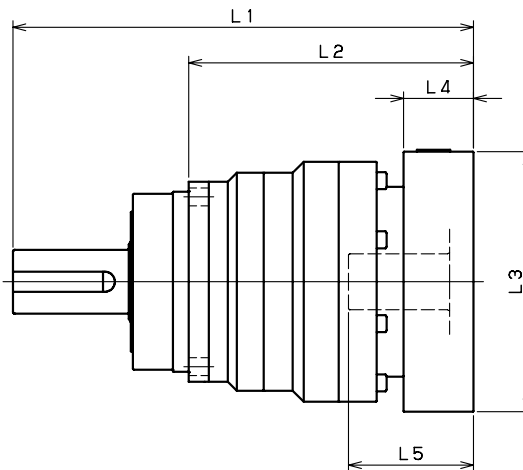


Input shaft bore $\cong \varnothing 48$



- *1) Length will vary depending on motor.
- *2) Bushing will be inserted to adapt to motor shaft

VRS-210 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|------------------|---------|-----|-----|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-210-□-□-38** (Input shaft bore ≤ φ38) | HA | -- | -- | -- | -- | -- | -- |
| | HB-HE | -- | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- | -- |
| | KA-KB-KC | -- | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA-MB | -- | -- | -- | -- | -- | -- |
| | MC | -- | -- | -- | -- | -- | -- |
| | MD | -- | -- | -- | -- | -- | -- |
| VRS-210-□-□-48** (Input shaft bore ≤ φ48) | KA | 414 | 339 | 271 | □180 | 75 | 118 |
| | KB-KC | 394 | 339 | 251 | □180 | 55 | 98 |
| | LA | 394 | 339 | 251 | □200 | 55 | 98 |
| | MA | 394 | 339 | 251 | □220 | 55 | 98 |
| | MB | 414 | 339 | 271 | □220 | 75 | 118 |
| | NA | 414 | 339 | 271 | □250 | 75 | 118 |
| | PA | 414 | 339 | 271 | □280 | 75 | 118 |
| VRS-210-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 418 | 338 | 275 | □220 | 80 | 122 |
| | NA-NC | 418 | 338 | 275 | □250 | 80 | 122 |
| | NB-ND | 448 | 338 | 305 | □250 | 110 | 152 |
| | PA | 438 | 338 | 295 | □280 | 100 | 142 |
| | PB | 448 | 338 | 305 | □280 | 110 | 152 |
| | QA-QB | 438 | 338 | 295 | □320 | 100 | 142 |

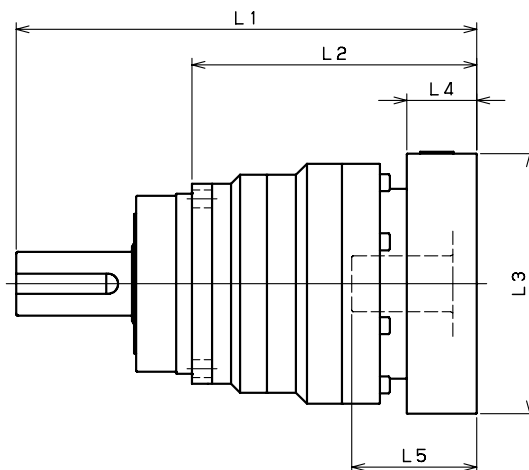
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-210 – 2-Stage Adapter Dimensions



VRS

| Model number | **: Adapter code | 2-Stage | | | | | |
|--|------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-210-□-□-38** (Input shaft bore ≤ φ38) | HA | 413 | 368 | 270 | □130 | 45 | 82 |
| | HB-HE | 408 | 368 | 265 | □130 | 40 | 77 |
| | JA | 413 | 368 | 270 | □150 | 45 | 82 |
| | KA-KB-KC | 413 | 368 | 270 | □180 | 45 | 82 |
| | KD | 448 | 368 | 305 | □180 | 80 | 117 |
| | KE | 428 | 368 | 285 | □180 | 60 | 97 |
| | LA | 413 | 368 | 270 | □200 | 45 | 82 |
| | LB | 423 | 368 | 280 | □200 | 55 | 92 |
| | MA-MB | 413 | 368 | 270 | □220 | 45 | 82 |
| | MC | 428 | 368 | 285 | □220 | 60 | 97 |
| | MD | 423 | 368 | 280 | □220 | 55 | 92 |
| VRS-210-□-□-48** (Input shaft bore ≤ φ48) | NA | 413 | 368 | 270 | □250 | 45 | 82 |
| | KA | 449 | 374 | 306 | □180 | 75 | 118 |
| | KB-KC | 429 | 374 | 286 | □180 | 55 | 98 |
| | LA | 429 | 374 | 286 | □200 | 55 | 98 |
| | MA | 429 | 374 | 286 | □220 | 55 | 98 |
| | MB | 449 | 374 | 306 | □220 | 75 | 118 |
| | NA | 449 | 374 | 306 | □250 | 75 | 118 |
| VRS-210-□-□-65** (Input shaft bore ≤ φ65) | PA | 449 | 374 | 306 | □280 | 75 | 118 |
| | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- | -- |
| QA-QB | -- | -- | -- | -- | -- | -- | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-240 – 1-Stage Specifications

| Frame Size | 240 | | | | | | | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|---------|---------|---------|---------|--|--|
| Stage | 1-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 1600 | 2400 | 2400 | 2400 | 2400 | 2400 | 1600 | 1600 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 2500 | 3700 | 3700 | 3700 | 3700 | 3600 | 3000 | 2600 | | |
| Emergency Stop Torque | [Nm] | *3 | 6000 | 8000 | 8000 | 8000 | 8000 | 8000 | 6000 | 6000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 5.96 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 21000 | 22000 | 24000 | 25000 | 26000 | 28000 | 29000 | 29000 | | |
| Permitted Axial Load | [N] | *8 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | | |
| Maximum Radial Load | [N] | *9 | 30000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 27000 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 220.000 | 160.000 | 130.000 | 120.000 | 110.000 | 110.000 | 110.000 | 100.000 | | |
| Efficiency | [%] | *11 | 97 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 550 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 62 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 85 | | | | | | | | | |

VRS-240 – 2-Stage Specifications

| Frame Size | 240 | | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 1600 | 2400 | 2400 | 2400 | 2400 | 1600 | 2400 | 2400 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 2500 | 3700 | 3700 | 3700 | 3700 | 2500 | 3700 | 3700 | | |
| Emergency Stop Torque | [Nm] | *3 | 6000 | 8000 | 8000 | 8000 | 8000 | 6000 | 8000 | 8000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.28 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | | |
| Permitted Axial Load | [N] | *8 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | | |
| Maximum Radial Load | [N] | *9 | 30000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 27000 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 40.000 | 43.000 | 39.000 | 39.000 | 41.000 | 35.000 | 38.000 | 35.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 92 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 550 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | | |
| Noise Level | [dB] | *13 | 62 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 89 | | | | | | | | | |

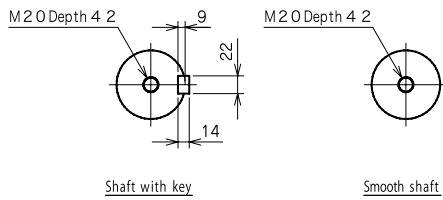
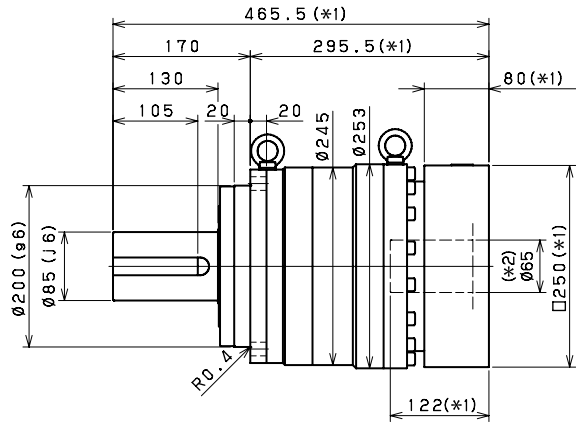
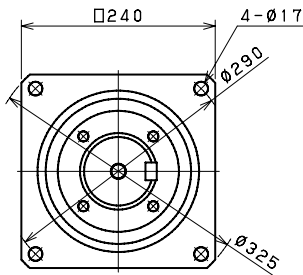
VRS-240 – 2-Stage Specifications

| Frame Size | 240 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 1600 | 2400 | 2400 | 2400 | 2400 | 1600 | 1600 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 2100 | 3700 | 3700 | 3700 | 2700 | 2100 | 1800 | | |
| Emergency Stop Torque | [Nm] | *3 | 6000 | 8000 | 8000 | 8000 | 8000 | 6000 | 6000 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.28 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | | |
| Permitted Axial Load | [N] | *8 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | | |
| Maximum Radial Load | [N] | *9 | 30000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 27000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 38.000 | 35.000 | 35.000 | 34.000 | 34.000 | 34.000 | 34.000 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 92 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 550 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | 62 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 89 | | | | | | | | |

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRS240
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-240 – 1-Stage Dimensions

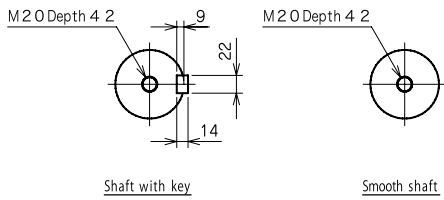
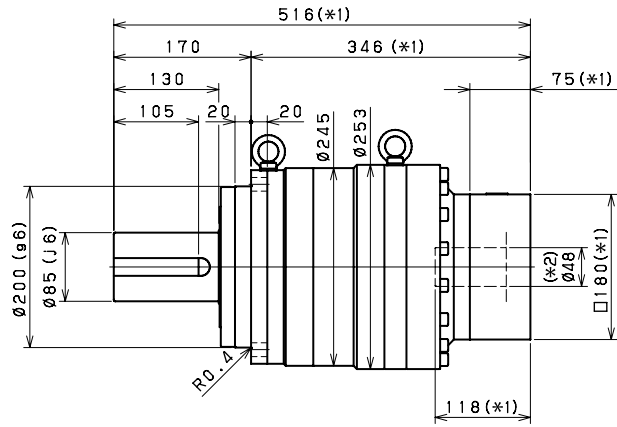
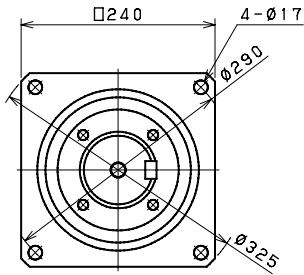
Input shaft bore $\leq \phi 65$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

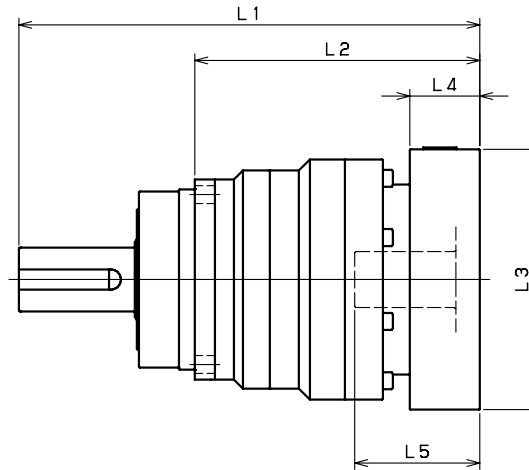
VRS-240 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-240 – 1-Stage Adapter Dimensions



| Model number | **: Adapter code | 1-Stage | | | | | |
|--|------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-240-□-□-48** (Input shaft bore ≤ φ48) | KA | -- | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- | -- |
| | NA | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| VRS-240-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 465.5 | 385.5 | 295.5 | □220 | 80 | 122 |
| | NA-NC | 465.5 | 385.5 | 295.5 | □250 | 80 | 122 |
| | NB-ND | 495.5 | 385.5 | 325.5 | □250 | 110 | 152 |
| | PA | 485.5 | 385.5 | 315.5 | □280 | 100 | 142 |
| | PB | 495.5 | 385.5 | 325.5 | □280 | 110 | 152 |
| | QA-QB | 485.5 | 385.5 | 315.5 | □320 | 100 | 142 |

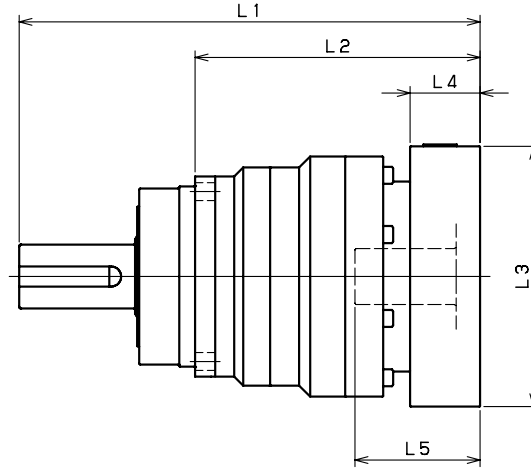
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-240 – 2-Stage Adapter Dimensions



VRS

| Model number | **: Adapter code | 2-Stage | | | | | |
|--|------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRS-240-□-□-48** (Input shaft bore ≤ φ48) | KA | 516 | 441 | 346 | □180 | 75 | 118 |
| | KB-KC | 496 | 441 | 326 | □180 | 55 | 98 |
| | LA | 496 | 441 | 326 | □200 | 55 | 98 |
| | MA | 496 | 441 | 326 | □220 | 55 | 98 |
| | MB | 516 | 441 | 346 | □220 | 75 | 118 |
| | NA | 516 | 441 | 346 | □250 | 75 | 118 |
| | PA | 516 | 441 | 346 | □280 | 75 | 118 |
| VRS-240-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- | -- |
| | QA-QB | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/15~ 1/100

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

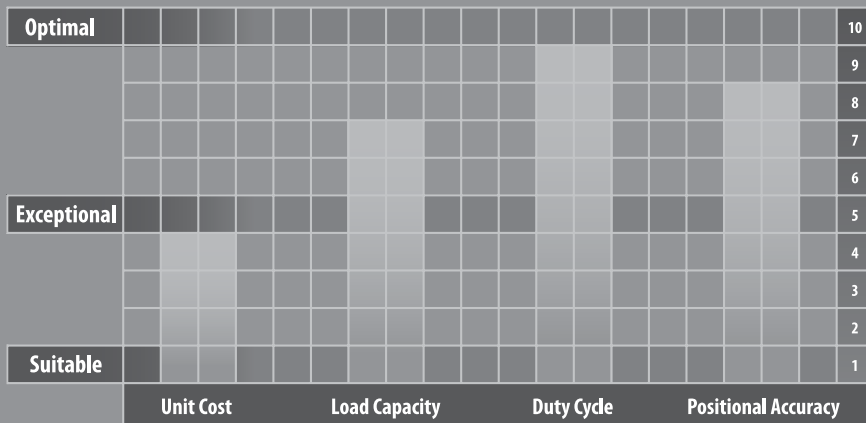
For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-SERIES

The VRT series sets the new standard in applications requiring extremely high-torque ratings and rigidity. The compact design and hub-style output is ideal for equipment requiring high speed, high precision indexing movement. The remarkable torsional stiffness and the low backlash of the planetary gearing combine to provide outstanding positioning accuracy.

With a backlash rating less than 3 arc/minutes and exceptional torque handling capabilities, the VRT offers a high performance robust planetary solution for OEM customers. The VRT reducer is often used for larger indexing applications and dial tables commonly found in packaging and filling equipment and assembly automation systems.



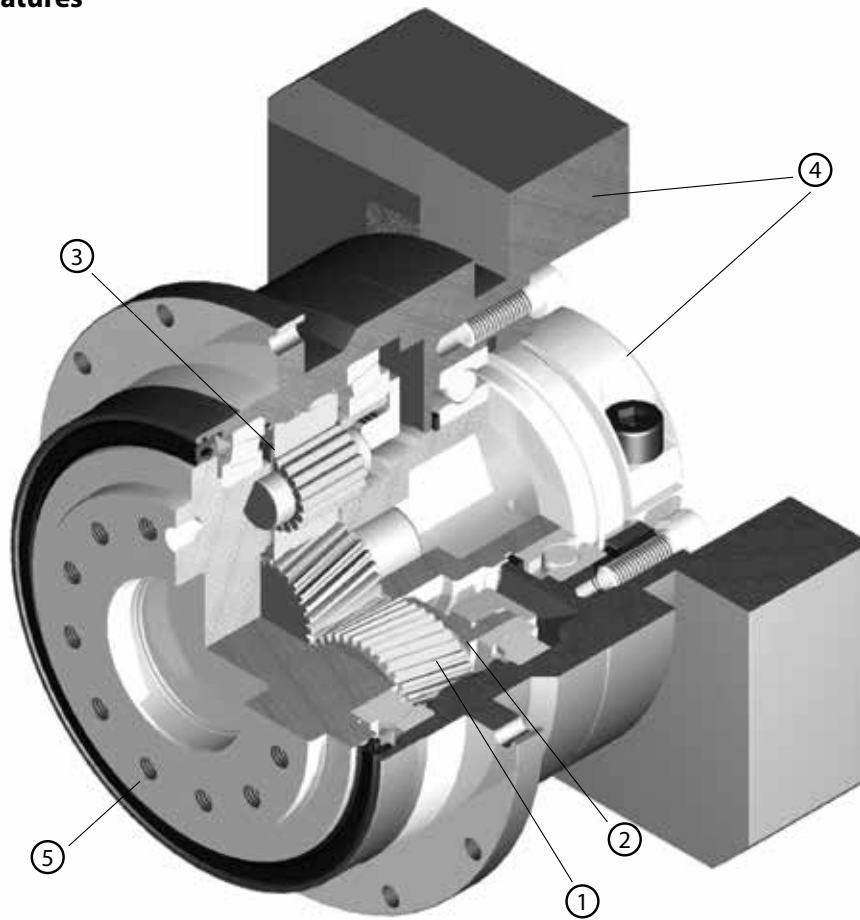


VRT

VRT-SERIES

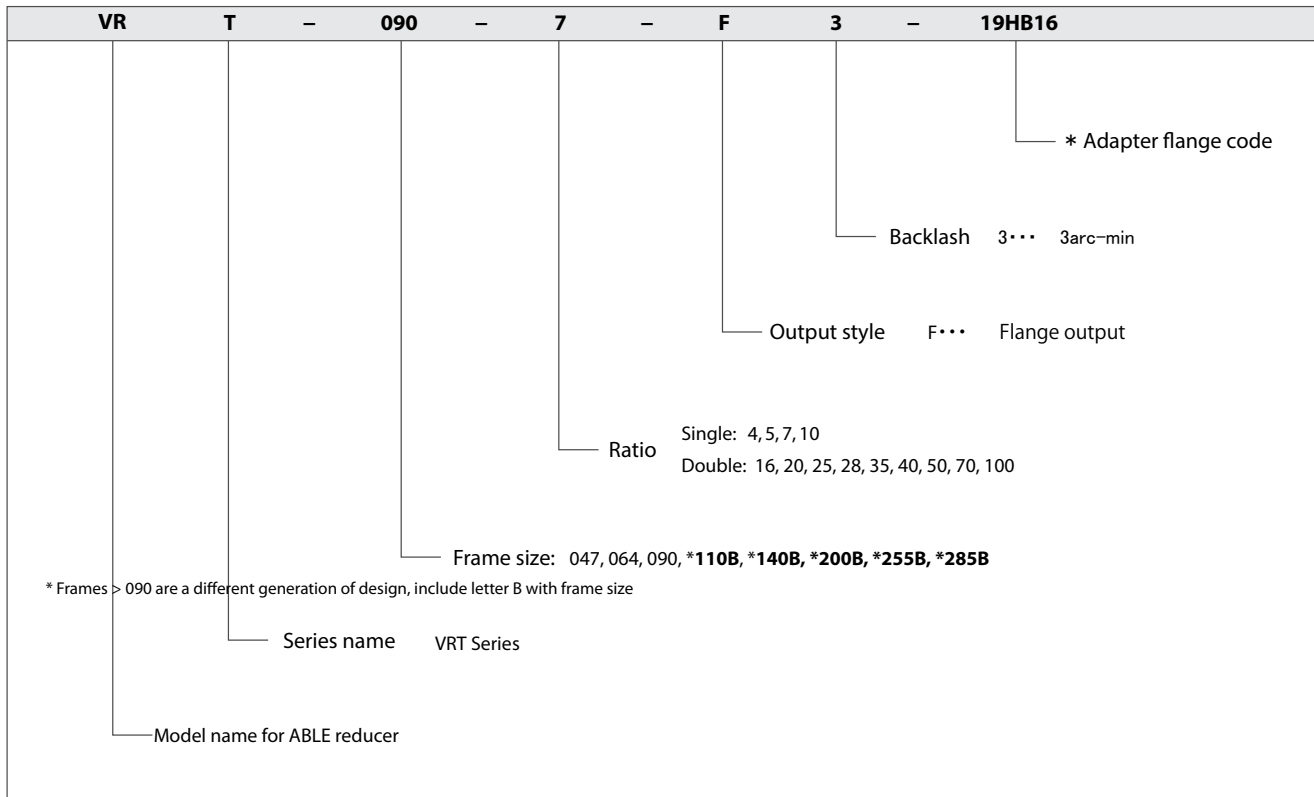
- ISO9409 robotics industry mounting interface
- Superior flexibility in mounting of pinions, pulleys and turntables
- Exceptional torsional rigidity for high positional accuracy needs
- Nice compact and robust design
- Impressive radial and axial load capability

VRT-Series – Features



- ① High precision: Standard backlash is 3 arc/min, ideal for higher levels of positional accuracy
- ② High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ High load capacity: Tapered roller bearings were added to the output section to increase radial and axial load ratings on most frame sizes
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

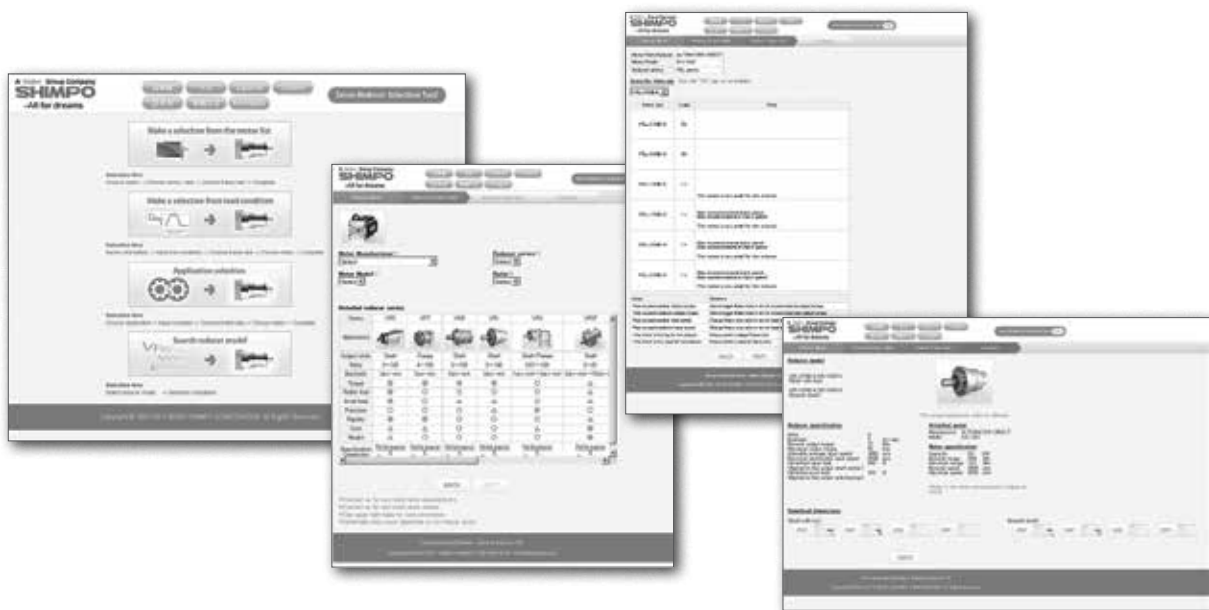
VRT-Series – Model Code



VRT

*1) Adapter flange code
 Adapter flange code varies depending on the motor.

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



VRT-047 – 1-Stage Specifications

| Frame Size | 047 | | | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 1-Stage | | | | | | | | | | |
| Ratio | Unit | Notes | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 9 | 9 | 9 | 9 | 9 | 6 | 6 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 18 | 18 | 18 | 18 | 18 | 12 | 12 | | |
| Emergency Stop Torque | [Nm] | *3 | 35 | 35 | 35 | 35 | 35 | 30 | 30 | | |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.03 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 270 | 300 | 310 | 330 | 350 | 360 | 370 | | |
| Permitted Axial Load | [N] | *8 | 300 | 330 | 360 | 390 | 410 | 430 | 450 | | |
| Maximum Radial Load | [N] | *9 | 1100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 550 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.052 | 0.043 | 0.038 | 0.036 | 0.034 | 0.033 | 0.032 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.090 | 0.081 | 0.077 | 0.074 | 0.072 | 0.071 | 0.071 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 0.7 | | | | | | | | |

VRT-047 – 2-Stage Specifications

| Frame Size | 047 | | | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Notes | 16 | 20 | 25 | 28 | 35 | 40 | 45 | | |
| Nominal Output Torque | [Nm] | *1 | 9 | 9 | 9 | 9 | 9 | 9 | 6 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 18 | 18 | 18 | 18 | 18 | 18 | 12 | | |
| Emergency Stop Torque | [Nm] | *3 | 35 | 35 | 35 | 35 | 35 | 35 | 30 | | |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.01 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 440 | 470 | 510 | 530 | 570 | 590 | 620 | | |
| Permitted Axial Load | [N] | *8 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | | |
| Maximum Radial Load | [N] | *9 | 1100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 550 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.039 | 0.035 | 0.034 | 0.038 | 0.034 | 0.030 | 0.034 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 61 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 0.8 | | | | | | | | |

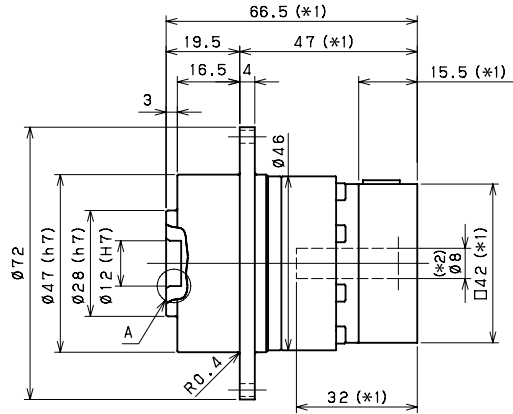
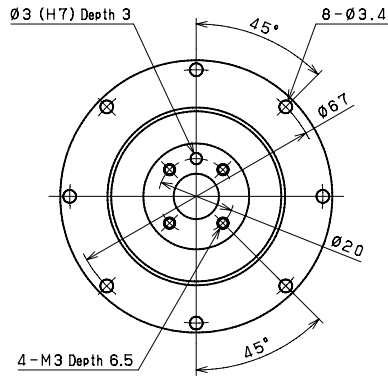
VRT-047 – 2-Stage Specifications

| Frame Size | 047 | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|--|
| Stage | 2-Stage | | | | | | | | |
| Ratio | Unit | Notes | 50 | 60 | 70 | 80 | 90 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 9 | 9 | 9 | 9 | 6 | 6 | |
| Maximum Acceleration Torque | [Nm] | *2 | 18 | 18 | 18 | 18 | 12 | 12 | |
| Emergency Stop Torque | [Nm] | *3 | 35 | 35 | 35 | 35 | 30 | 30 | |
| Nominal Input Speed | [rpm] | *4 | 4000 | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 8000 | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.01 | | | | | | |
| Permitted Radial Load | [N] | *7 | 640 | 680 | 710 | 750 | 780 | 800 | |
| Permitted Axial Load | [N] | *8 | 550 | 550 | 550 | 550 | 550 | 550 | |
| Maximum Radial Load | [N] | *9 | 1100 | | | | | | |
| Maximum Axial Load | [N] | *10 | 550 | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.030 | 0.030 | 0.030 | 0.030 | 0.030 | 0.030 | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | |
| Efficiency | [%] | *11 | 90 | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 2 | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 5 | | | | | | |
| Noise Level | [dB] | *13 | ≤ 61 | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | |
| Weight | [kg] | *15 | 0.8 | | | | | | |

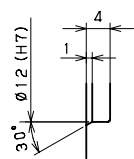
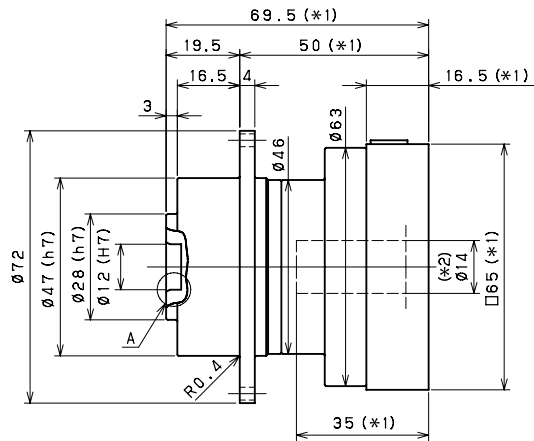
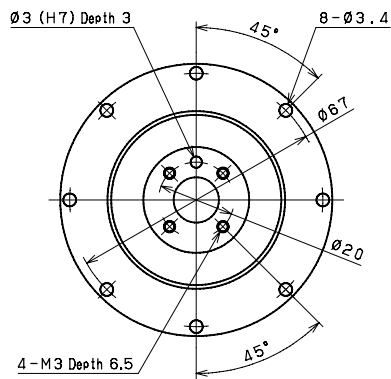
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRT 047
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-047 – 1-Stage Dimensions

Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



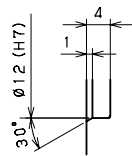
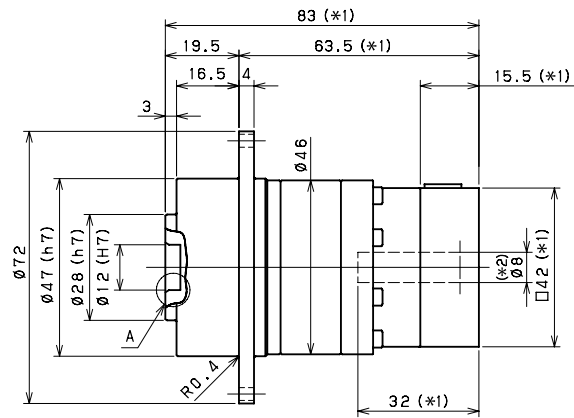
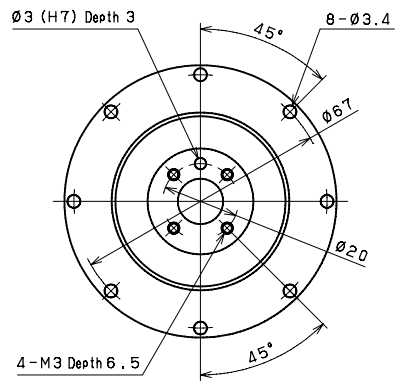
Enlarged detail A

*1) Length will vary depending on motor

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

VRT-047 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



Enlarged detail A

*1) Length will vary depending on motor

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

VRT-o64 – 1-Stage Specifications

| Frame Size | 064 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 1-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 27 | 27 | 27 | 27 | 27 | 18 | 18 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 50 | 50 | 50 | 50 | 50 | 35 | 35 | | |
| Emergency Stop Torque | [Nm] | *3 | 100 | 100 | 100 | 100 | 100 | 80 | 80 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.08 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 370 | 400 | 420 | 440 | 460 | 480 | 500 | | |
| Permitted Axial Load | [N] | *8 | 360 | 390 | 430 | 460 | 480 | 510 | 530 | | |
| Maximum Radial Load | [N] | *9 | 1500 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 750 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.130 | 0.100 | 0.085 | 0.075 | 0.068 | 0.064 | 0.062 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.210 | 0.180 | 0.170 | 0.150 | 0.150 | 0.140 | 0.140 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.400 | 0.400 | 0.400 | 0.400 | 0.400 | 0.400 | 0.400 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 66 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.4 | | | | | | | | |

VRT-o64 – 2-Stage Specifications

| Frame Size | 064 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 | 35 | 40 | 45 | | |
| Nominal Output Torque | [Nm] | *1 | 27 | 27 | 27 | 27 | 27 | 27 | 18 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 50 | 50 | 50 | 50 | 50 | 50 | 35 | | |
| Emergency Stop Torque | [Nm] | *3 | 100 | 100 | 100 | 100 | 100 | 100 | 80 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 580 | 630 | 680 | 700 | 760 | 790 | 820 | | |
| Permitted Axial Load | [N] | *8 | 650 | 720 | 750 | 750 | 750 | 750 | 750 | | |
| Maximum Radial Load | [N] | *9 | 1500 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 750 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.059 | 0.055 | 0.054 | 0.056 | 0.053 | 0.049 | 0.530 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.140 | 0.140 | 0.130 | 0.140 | 0.130 | 0.130 | 0.130 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.360 | 0.350 | 0.350 | 0.360 | 0.350 | 0.340 | 0.350 | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 66 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | | | |

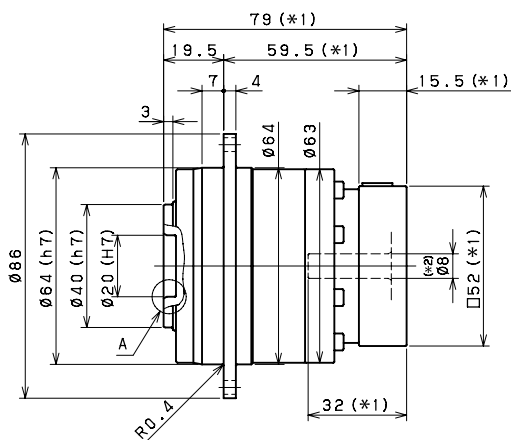
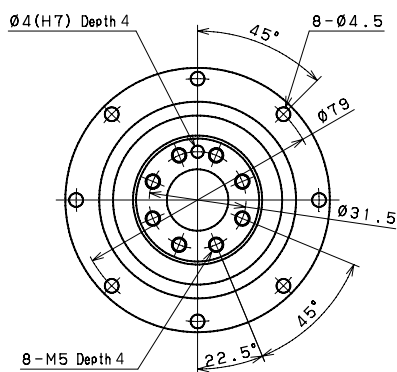
VRT-o64 – 2-Stage Specifications

| Frame Size | 064 | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|--|
| Stage | 2-Stage | | | | | | | | |
| Ratio | Unit | Note | 50 | 60 | 70 | 80 | 90 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 27 | 27 | 27 | 27 | 18 | 18 | |
| Maximum Acceleration Torque | [Nm] | *2 | 50 | 50 | 50 | 50 | 35 | 35 | |
| Emergency Stop Torque | [Nm] | *3 | 100 | 100 | 100 | 100 | 80 | 80 | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.04 | | | | | | |
| Permitted Radial Load | [N] | *7 | 850 | 910 | 950 | 1000 | 1000 | 1100 | |
| Permitted Axial Load | [N] | *8 | 750 | 750 | 750 | 750 | 750 | 750 | |
| Maximum Radial Load | [N] | *9 | 1500 | | | | | | |
| Maximum Axial Load | [N] | *10 | 750 | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | 0.049 | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | 0.130 | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | |
| Efficiency | [%] | *11 | 90 | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | |
| Noise Level | [dB] | *13 | ≤ 66 | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | |

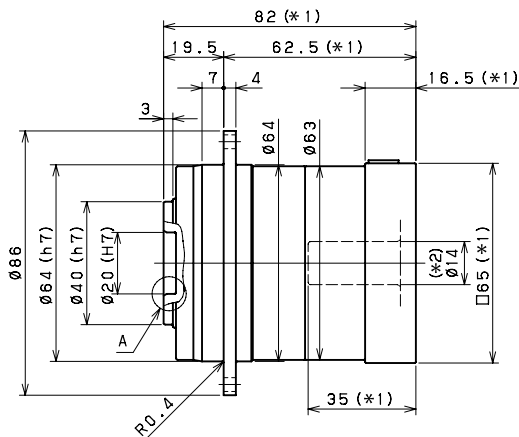
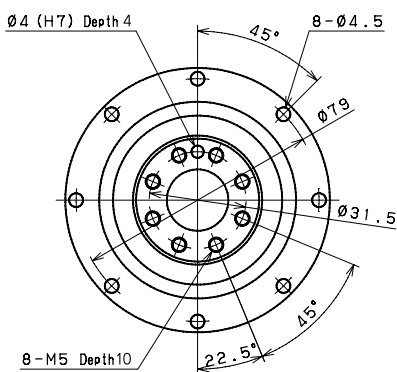
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRT o64
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-064 – 1-Stage Dimensions

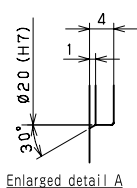
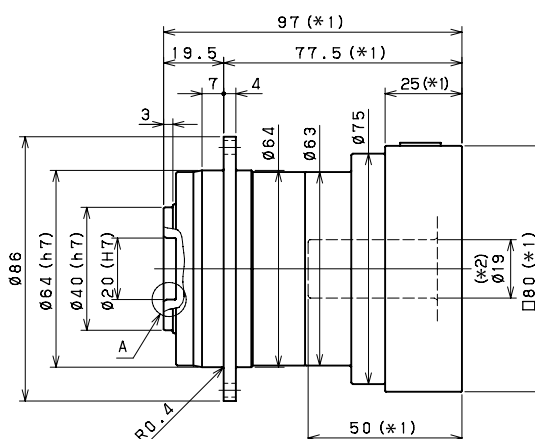
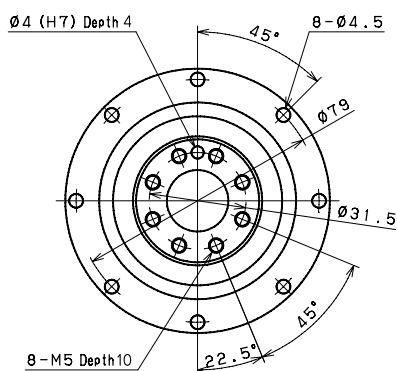
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$

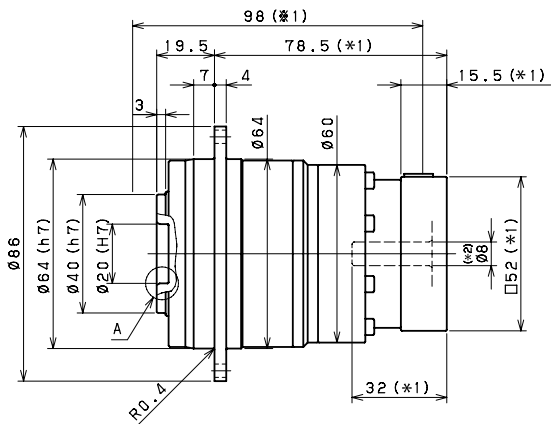
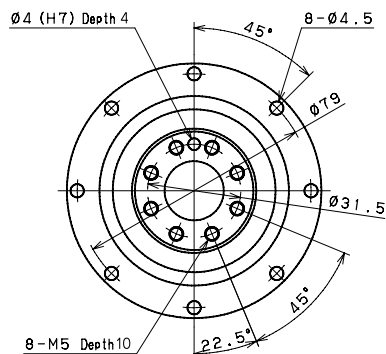


*1) Length will vary depending on motor

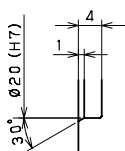
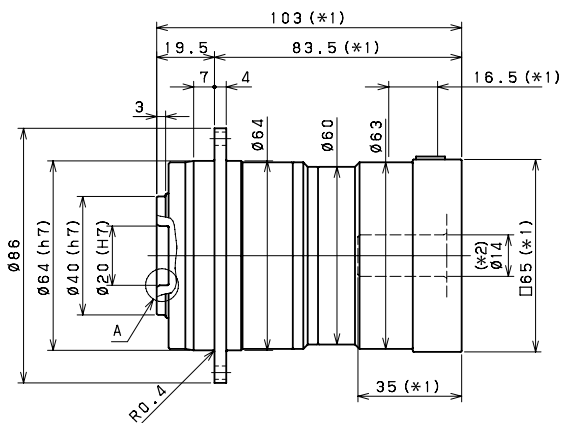
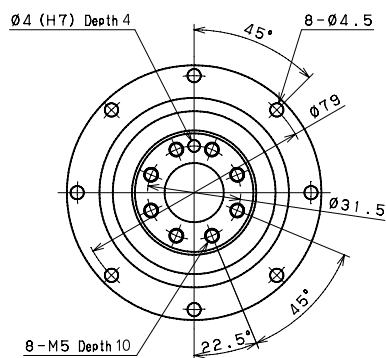
*2) Bushing will be inserted to adapt to motor shaft

VRT-o64 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$

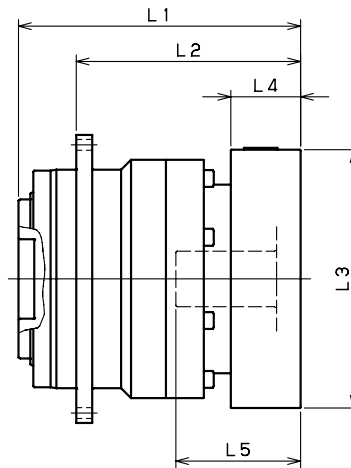


Enlarged detail A

*1) Length will vary depending on motor

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

VRT-o64 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|-------------------------------|---------|------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-064-□-□-8** (Input shaft bore ≤ φ8) | AA-AC-AD-AF-AG-AL-AM-AN-AQ | 79 | 63.5 | 59.5 | □52 | 15.5 | 32 |
| | AB-AE-AH-AJ-AK | 84 | 63.5 | 64.5 | □52 | 20.5 | 37 |
| | BA-BB-BD-BE-BG-BH-BJ | 79 | 63.5 | 59.5 | □60 | 15.5 | 32 |
| | BC-BF | 84 | 63.5 | 64.5 | □60 | 20.5 | 37 |
| | CA | 84 | 63.5 | 64.5 | □70 | 20.5 | 37 |
| VRT-064-□-□-14** (Input shaft bore ≤ φ14) | BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP | 82 | 65.5 | 62.5 | □65 | 16.5 | 35 |
| | BC-BH-BM-BN | 87 | 65.5 | 67.5 | □65 | 21.5 | 40 |
| | BL | 92 | 65.5 | 72.5 | □65 | 26.5 | 45 |
| | CA-CC | 82 | 65.5 | 62.5 | □70 | 16.5 | 35 |
| | CB | 87 | 65.5 | 67.5 | □70 | 21.5 | 40 |
| | DA-DB-DC-DD-DF-DH-DJ | 82 | 65.5 | 62.5 | □80 | 16.5 | 35 |
| | DE-DL | 87 | 65.5 | 67.5 | □80 | 21.5 | 40 |
| | DG-DK | 92 | 65.5 | 72.5 | □80 | 26.5 | 45 |
| | EA-EB-EC-EF-EG-EK-EL | 82 | 65.5 | 62.5 | □90 | 16.5 | 35 |
| | EJ-EM | 87 | 65.5 | 67.5 | □90 | 21.5 | 40 |
| | ED-EE-EH | 92 | 65.5 | 72.5 | □90 | 26.5 | 45 |
| VRT-064-□-□-19** (Input shaft bore ≤ φ19) | FA | 82 | 65.5 | 62.5 | □100 | 16.5 | 35 |
| | FB | 82 | 65.5 | 62.5 | □115 | 16.5 | 35 |
| | DA-DB-DC | 97 | 72 | 77.5 | □80 | 25 | 50 |
| | DD | 107 | 72 | 87.5 | □80 | 35 | 60 |
| | DE | 102 | 72 | 82.5 | □80 | 30 | 55 |
| | EA | 102 | 72 | 82.5 | □90 | 30 | 55 |
| | EB-ED | 97 | 72 | 77.5 | □90 | 25 | 50 |
| EC | 107 | 72 | 87.5 | □90 | 35 | 60 | |
| FA | 97 | 72 | 77.5 | □100 | 25 | 50 | |
| FB | 107 | 72 | 87.5 | □100 | 35 | 60 | |

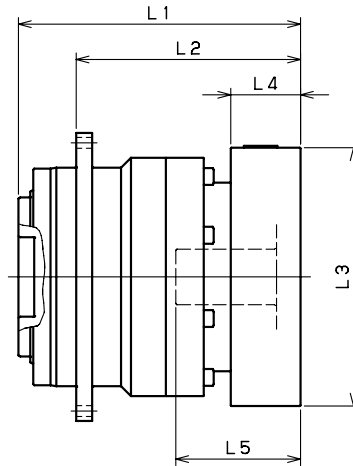
*1) Single reduction : 1/4 - 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-064 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-064-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 98 | 82.5 | 78.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 103 | 82.5 | 83.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 98 | 82.5 | 78.5 | □60 | 15.5 | 32 |
| | BC·BF | 103 | 82.5 | 83.5 | □60 | 20.5 | 37 |
| | CA | 103 | 82.5 | 83.5 | □70 | 20.5 | 37 |
| VRT-064-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 103 | 86.5 | 83.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 108 | 86.5 | 88.5 | □65 | 21.5 | 40 |
| | BL | 113 | 86.5 | 93.5 | □65 | 26.5 | 45 |
| | CA·CC | 103 | 86.5 | 83.5 | □70 | 16.5 | 35 |
| | CB | 108 | 86.5 | 88.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 103 | 86.5 | 83.5 | □80 | 16.5 | 35 |
| | DE·DL | 108 | 86.5 | 88.5 | □80 | 21.5 | 40 |
| | DG·DK | 113 | 86.5 | 93.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 103 | 86.5 | 83.5 | □90 | 16.5 | 35 |
| | EJ·EM | 108 | 86.5 | 88.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 113 | 86.5 | 93.5 | □90 | 26.5 | 45 |
| | FA | 103 | 86.5 | 83.5 | □100 | 16.5 | 35 |
| FB | 103 | 86.5 | 83.5 | □115 | 16.5 | 35 | |
| VRT-064-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 118 | 93 | 98.5 | □80 | 25 | 50 |
| | DD | 128 | 93 | 108.5 | □80 | 35 | 60 |
| | DE | 123 | 93 | 103.5 | □80 | 30 | 55 |
| | EA | 123 | 93 | 103.5 | □90 | 30 | 55 |
| | EB·ED | 118 | 93 | 98.5 | □90 | 25 | 50 |
| | EC | 128 | 93 | 108.5 | □90 | 35 | 60 |
| | FA | 118 | 93 | 98.5 | □100 | 25 | 50 |
| FB | 128 | 93 | 108.5 | □100 | 35 | 60 | |

*1) Double reduction : 1/16 - 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-090 – 1-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 1-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 75 | 75 | 75 | 75 | 75 | 50 | 50 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 125 | 125 | 125 | 125 | 125 | 80 | 80 | | |
| Emergency Stop Torque | [Nm] | *3 | 250 | 250 | 250 | 250 | 250 | 200 | 200 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.17 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 720 | 780 | 830 | 870 | 910 | 950 | 980 | | |
| Permitted Axial Load | [N] | *8 | 620 | 680 | 740 | 790 | 830 | 880 | 920 | | |
| Maximum Radial Load | [N] | *9 | 3300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1700 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | - | - | - | - | - | - | - | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.770 | 0.580 | 0.480 | 0.410 | 0.370 | 0.350 | 0.330 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.200 | 1.000 | 0.940 | 0.880 | 0.840 | 0.810 | 0.800 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 2.900 | 2.900 | 2.800 | 2.800 | 2.800 | 2.800 | 2.800 | | |
| Efficiency | [%] | *11 | 95 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 3.6 | | | | | | | | |

VRT-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-----|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 | 35 | 40 | | | |
| Nominal Output Torque | [Nm] | *1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | | |
| Emergency Stop Torque | [Nm] | *3 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.05 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1200 | 1200 | 1300 | 1400 | 1500 | 1600 | | | |
| Permitted Axial Load | [N] | *8 | 1100 | 1200 | 1400 | 1400 | 1600 | 1700 | | | |
| Maximum Radial Load | [N] | *9 | 3300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1700 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.160 | 0.140 | 0.130 | 0.140 | 0.130 | 0.100 | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.310 | 0.290 | 0.280 | 0.300 | 0.280 | 0.250 | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.750 | 0.730 | 0.720 | 0.730 | 0.720 | 0.700 | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 2.800 | 2.700 | 2.700 | 2.800 | 2.700 | 2.600 | | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4 | | | | | | | | |

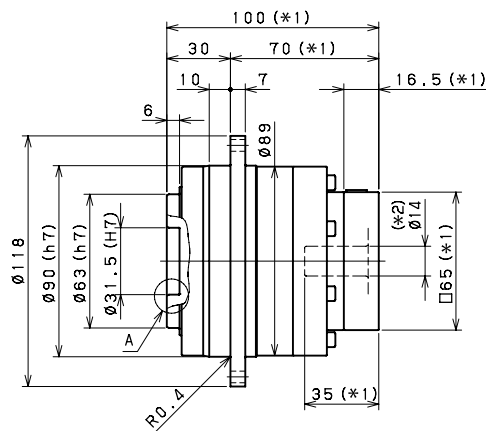
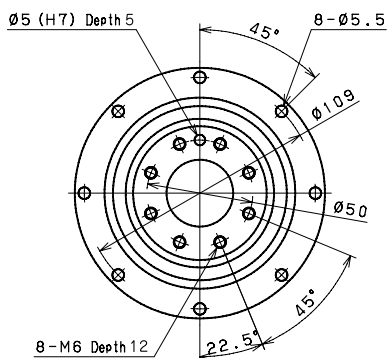
VRT-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 50 | 75 | 75 | 75 | 75 | 50 | 50 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 80 | 125 | 125 | 125 | 125 | 80 | 80 | | |
| Emergency Stop Torque | [Nm] | *3 | 200 | 250 | 250 | 250 | 250 | 200 | 200 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.05 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1600 | 1700 | 1800 | 1900 | 2000 | 2000 | 2100 | | |
| Permitted Axial Load | [N] | *8 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | | |
| Maximum Radial Load | [N] | *9 | 3300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1700 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.120 | 0.100 | 0.099 | 0.098 | 0.098 | 0.098 | 0.098 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.270 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.710 | 0.700 | 0.700 | 0.690 | 0.690 | 0.690 | 0.690 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 2.700 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | 2.600 | | |
| Efficiency | [%] | *11 | 90 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 67 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4 | | | | | | | | |

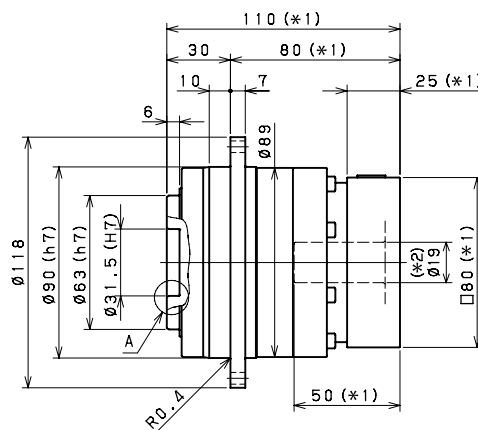
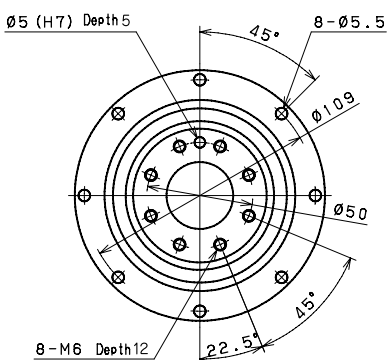
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRT 090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-090 – 1-Stage Dimensions

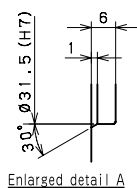
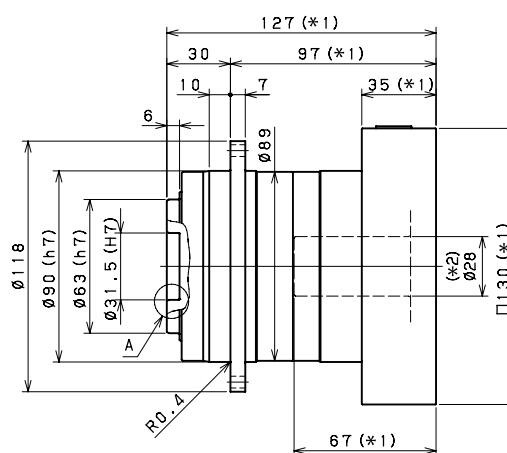
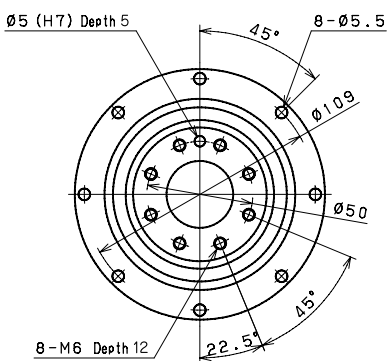
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$

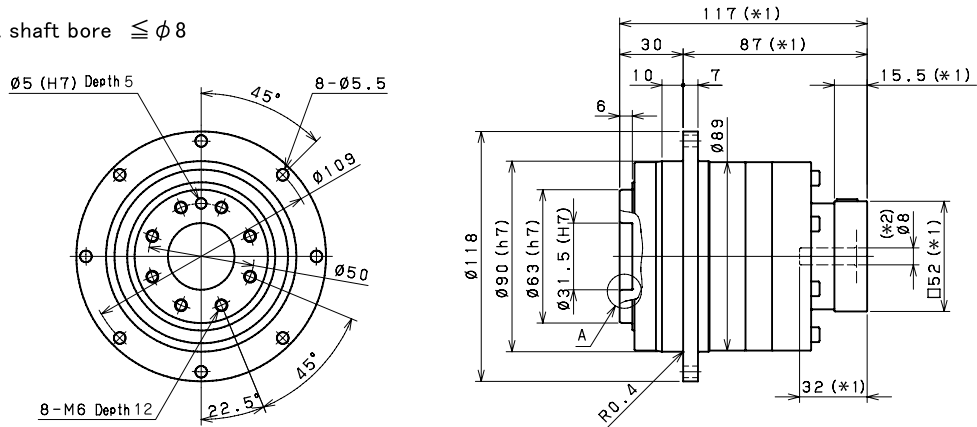


*1) Length will vary depending on motor

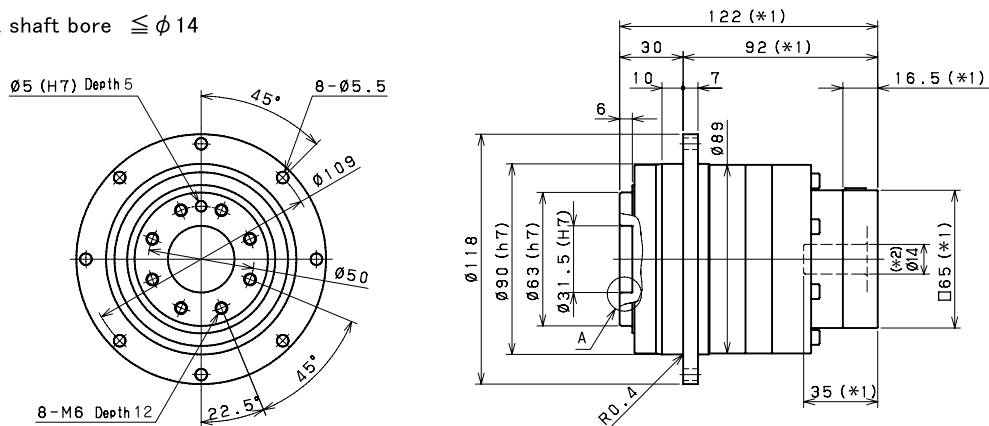
*2) Bushing will be inserted to adapt to motor shaft

VRT-090 – 2-Stage Dimensions

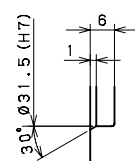
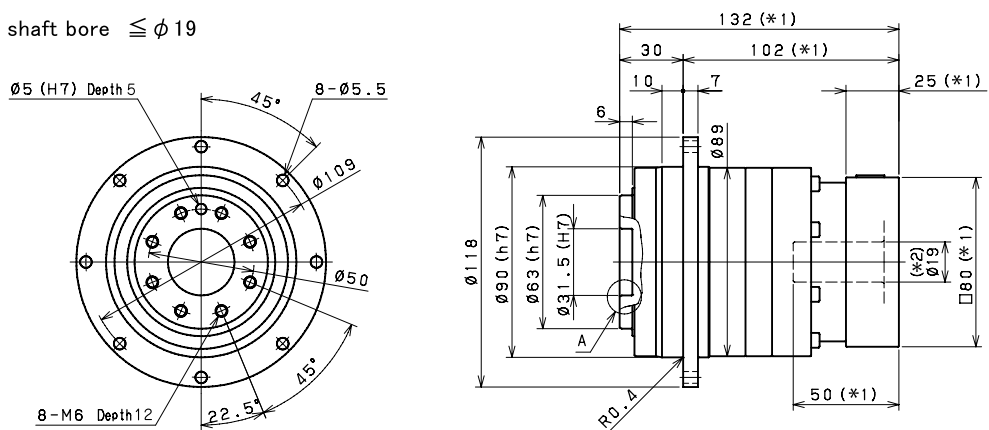
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$

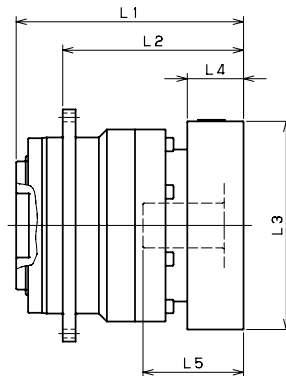


Enlarged detail A

*1) Length will vary depending on motor

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

VRT-090 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|-------------------------------|---------|------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-090-□-□-8** (Input shaft bore ≤ φ8) | AA-AC-AD-AF-AG-AL-AM-AN-AQ | -- | -- | -- | -- | -- | -- |
| | AB-AE-AH-AJ-AK | -- | -- | -- | -- | -- | -- |
| | BA-BB-BD-BE-BG-BH-BJ | -- | -- | -- | -- | -- | -- |
| | CA | -- | -- | -- | -- | -- | -- |
| VRT-090-□-□-14** (Input shaft bore ≤ φ14) | BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP | 100 | 83.5 | 70 | □65 | 16.5 | 35 |
| | BC-BH-BM-BN | 105 | 83.5 | 75 | □65 | 21.5 | 40 |
| | CA-CC | 100 | 83.5 | 70 | □70 | 16.5 | 35 |
| | DA-DB-DC-DD-DF-DH-DJ | 100 | 83.5 | 70 | □80 | 16.5 | 35 |
| | EA-EB-EC-EF-EG-EK-EL | 100 | 83.5 | 70 | □90 | 16.5 | 35 |
| | FA | 100 | 83.5 | 70 | □100 | 16.5 | 35 |
| | FB | 110 | 83.5 | 80 | □100 | 26.5 | 45 |
| VRT-090-□-□-19** (Input shaft bore ≤ φ19) | DA-DB-DC | 110 | 85 | 80 | □80 | 25 | 50 |
| | EB-ED | 110 | 85 | 80 | □90 | 25 | 50 |
| | FA | 110 | 85 | 80 | □100 | 25 | 50 |
| | FB | 120 | 85 | 90 | □100 | 35 | 60 |
| | GA-GC-GH | 115 | 85 | 85 | □115 | 30 | 55 |
| | GB-GD-GJ | 110 | 85 | 80 | □115 | 25 | 50 |
| | GE-GF | 120 | 85 | 90 | □115 | 35 | 60 |
| | HA | 110 | 85 | 80 | □130 | 25 | 50 |
| | HB | 125 | 85 | 95 | □130 | 40 | 65 |
| | HC-HD-HE | 115 | 85 | 85 | □130 | 30 | 55 |
| | JA | 120 | 85 | 90 | □150 | 35 | 60 |
| VRT-090-□-□-28** (Input shaft bore ≤ φ28) | JB | 125 | 85 | 95 | □150 | 40 | 65 |
| | FA-FB-FC | 127 | 92 | 97 | □100 | 35 | 67 |
| | FD-FE | 122 | 92 | 92 | □100 | 30 | 62 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 127 | 92 | 97 | □115 | 35 | 67 |
| | HA-HC-HD | 127 | 92 | 97 | □130 | 35 | 67 |
| | HB | 137 | 92 | 107 | □130 | 45 | 77 |
| | HE | 142 | 92 | 112 | □130 | 50 | 82 |
| | HF | 122 | 92 | 92 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 127 | 92 | 97 | □150 | 35 | 67 |
| JD | 147 | 92 | 117 | □150 | 55 | 87 | |
| JE | 137 | 92 | 107 | □150 | 45 | 77 | |

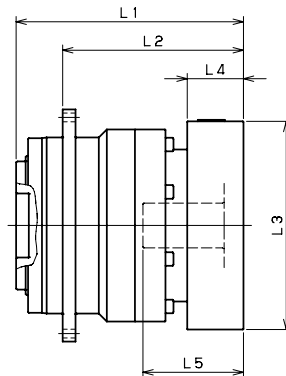
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-090 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|------|------|------|----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-090-□-□-8** (Input shaft bore ≤ φ8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 117 | 101.5 | 87 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 122 | 101.5 | 92 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 117 | 101.5 | 87 | □60 | 15.5 | 32 |
| | CA | 122 | 101.5 | 92 | □70 | 20.5 | 37 |
| VRT-090-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 122 | 105.5 | 92 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 127 | 105.5 | 97 | □65 | 21.5 | 40 |
| | CA·CC | 122 | 105.5 | 92 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 122 | 105.5 | 92 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 122 | 105.5 | 92 | □90 | 16.5 | 35 |
| | FA | 122 | 105.5 | 92 | □100 | 16.5 | 35 |
| | FB | 132 | 105.5 | 102 | □100 | 26.5 | 45 |
| | JA | 137 | 105.5 | 107 | □150 | 31.5 | 50 |
| VRT-090-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 132 | 107 | 102 | □80 | 25 | 50 |
| | EB·ED | 132 | 107 | 102 | □90 | 25 | 50 |
| | FA | 132 | 107 | 102 | □100 | 25 | 50 |
| | FB | 142 | 107 | 112 | □100 | 35 | 60 |
| | GA·GC·GH | 137 | 107 | 107 | □115 | 30 | 55 |
| | GB·GD·GJ | 132 | 107 | 102 | □115 | 25 | 50 |
| | GE·GF | 142 | 107 | 112 | □115 | 35 | 60 |
| | HA | 132 | 107 | 102 | □130 | 25 | 50 |
| | HB | 147 | 107 | 117 | □130 | 40 | 65 |
| | HC·HD·HE | 137 | 107 | 107 | □130 | 30 | 55 |
| | JA | 142 | 107 | 112 | □150 | 35 | 60 |
| | JB | 147 | 107 | 117 | □150 | 40 | 65 |
| VRT-090-□-□-28** (Input shaft bore ≤ φ28) | FA·FB·FC | 151 | 116 | 121 | □100 | 35 | 67 |
| | FD·FE | 146 | 116 | 116 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 151 | 116 | 121 | □115 | 35 | 67 |
| | HA·HC·HD | 151 | 116 | 121 | □130 | 35 | 67 |
| | HB | 161 | 116 | 131 | □130 | 45 | 77 |
| | HE | 166 | 116 | 136 | □130 | 50 | 82 |
| | HF | 146 | 116 | 116 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 151 | 116 | 121 | □150 | 35 | 67 |
| JD | 171 | 116 | 141 | □150 | 55 | 87 | |
| JE | 161 | 116 | 131 | □150 | 45 | 77 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-110 – 1-Stage Specifications

| Frame Size | 110 | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|
| Stage | 1-Stage | | | | | |
| Ratio | Unit | Note | 4 | 5 | 7 | 10 |
| Nominal Output Torque | [Nm] | *1 | 120 | 180 | 180 | 120 |
| Maximum Output Torque | [Nm] | *2 | 330 | 330 | 330 | 225 |
| Emergency Stop Torque | [Nm] | *3 | 625 | 625 | 625 | 500 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | |
| No Load Running Torque | [Nm] | *6 | 0.77 | | | |
| Permitted Radial Load | [N] | *7 | 4700 | 5000 | 5600 | 6200 |
| Permitted Axial Load | [N] | *8 | 3200 | 3400 | 3800 | 4200 |
| Maximum Radial Load | [N] | *9 | 12000 | | | |
| Maximum Axial Load | [N] | *10 | 8800 | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 3.100 | 2.300 | 1.500 | 1.100 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 5.100 | 4.300 | 3.500 | 3.100 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 11.000 | 11.000 |
| Efficiency | [%] | *11 | 95 | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | |
| Noise Level | [dB] | *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 | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|
| Stage | 2-Stage | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 |
| Nominal Output Torque | [Nm] | *1 | 180 | 180 | 180 | 180 |
| Maximum Output Torque | [Nm] | *2 | 330 | 330 | 330 | 330 |
| Emergency Stop Torque | [Nm] | *3 | 625 | 625 | 625 | 625 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | |
| No Load Running Torque | [Nm] | *6 | 0.17 | | | |
| Permitted Radial Load | [N] | *7 | 7100 | 7600 | 8200 | 8500 |
| Permitted Axial Load | [N] | *8 | 4800 | 5200 | 5500 | 5700 |
| Maximum Radial Load | [N] | *9 | 12000 | | | |
| Maximum Axial Load | [N] | *10 | 8800 | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 1.000 | 0.800 | 0.700 | 0.900 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.500 | 1.200 | 1.200 | 1.400 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.400 | 3.100 | 3.100 | 3.300 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 11.000 | 11.000 | 11.000 | 11.000 |
| Efficiency | [%] | *11 | 90 | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | |
| Noise Level | [dB] | *13 | ≤ 71 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 8.6 | | | |

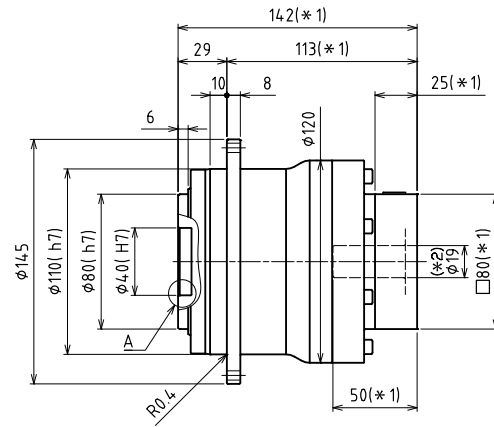
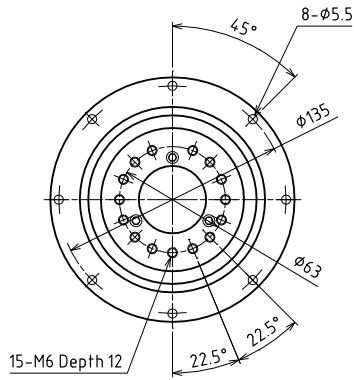
VRT-110 – 2-Stage Specifications

| Frame Size | 110 | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--|
| Stage | 2-Stage | | | | | | | |
| Ratio | Unit | Note | 35 | 40 | 50 | 70 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 180 | 180 | 180 | 180 | 120 | |
| Maximum Output Torque | [Nm] | *2 | 330 | 330 | 330 | 330 | 225 | |
| Emergency Stop Torque | [Nm] | *3 | 625 | 625 | 625 | 625 | 500 | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.17 | | | | | |
| Permitted Radial Load | [N] | *7 | 9000 | 9400 | 10000 | 11000 | 12000 | |
| Permitted Axial Load | [N] | *8 | 6100 | 6400 | 6800 | 7500 | 8400 | |
| Maximum Radial Load | [N] | *9 | 12000 | | | | | |
| Maximum Axial Load | [N] | *10 | 8800 | | | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.700 | 0.400 | 0.400 | 0.400 | 0.400 | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 1.100 | 0.800 | 0.800 | 0.800 | 0.800 | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 3.100 | 2.800 | 2.800 | 2.700 | 2.700 | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 11.000 | 10.000 | 10.000 | 10.000 | 10.000 | |
| Efficiency | [%] | *11 | -- | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 3 | | | | | |
| Noise Level | [dB] | *13 | ≤ 71 | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | |
| Weight | [kg] | *15 | 8.6 | | | | | |

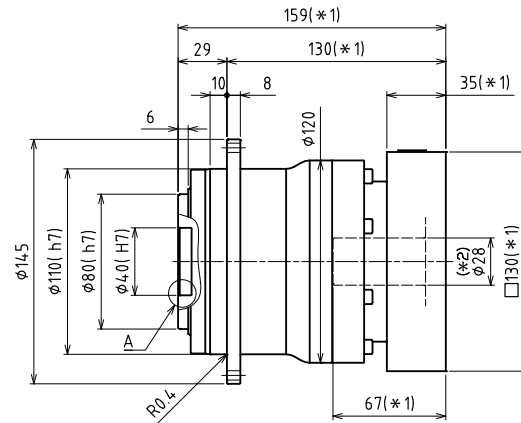
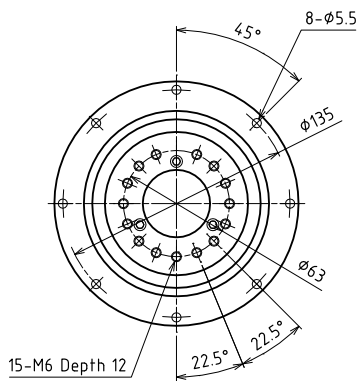
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRT 110
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-110 – 1-Stage Dimensions

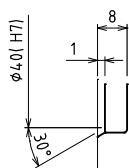
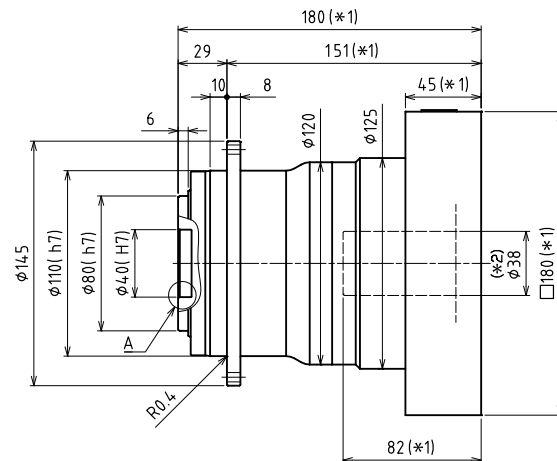
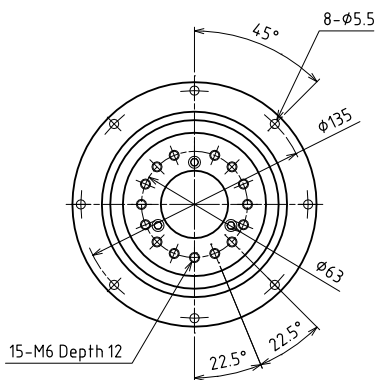
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



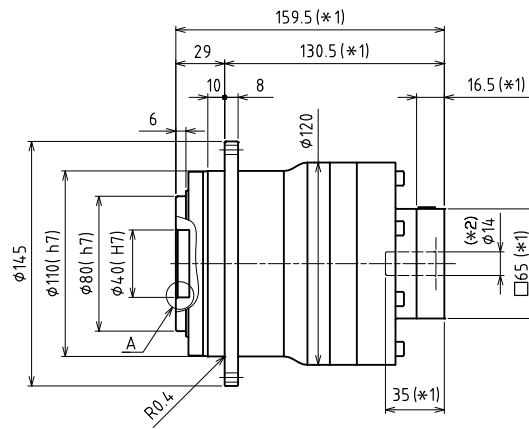
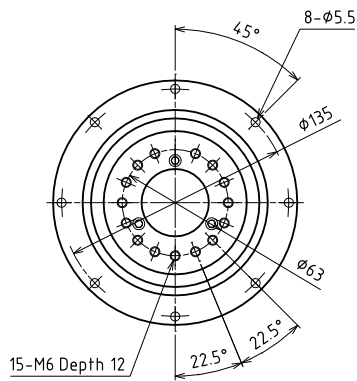
Enlarged detail A

*1) Length will vary depending on motor

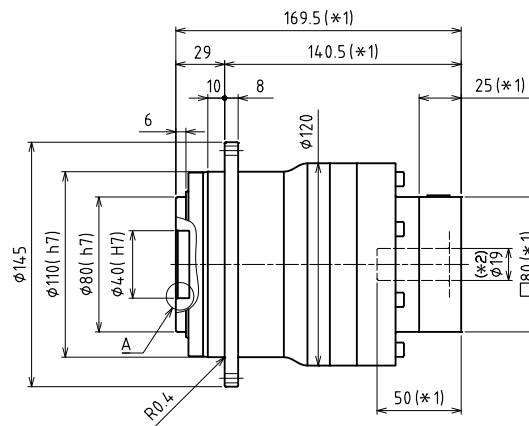
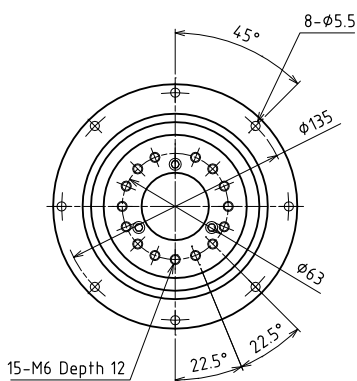
*2) Bushing will be inserted to adapt to motor shaft

VRT-110 – 2-Stage Dimensions

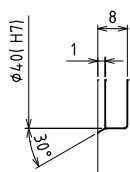
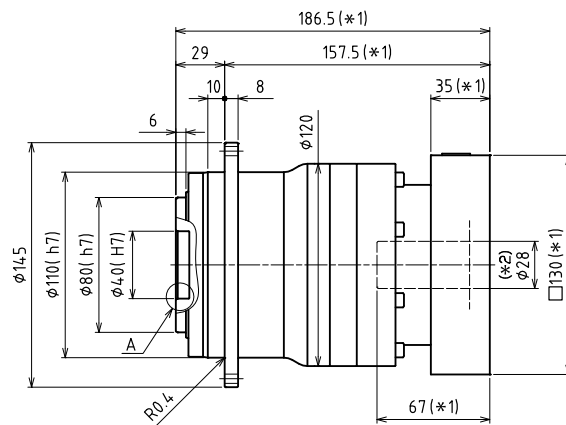
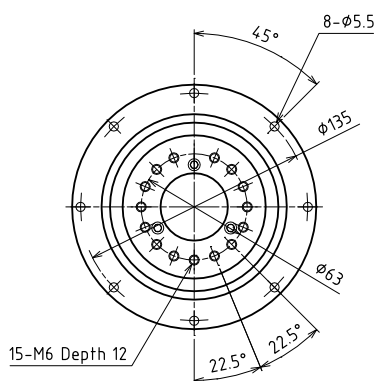
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



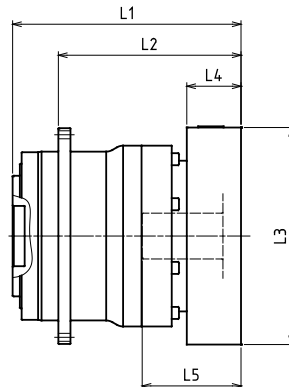
Enlarged detail A

*1) Length will vary depending on motor

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

VRT

VRT-110 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-110-□-□-14** (Input shaft bore ≤ φ14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | -- | -- | -- | -- | -- | -- |
| | BC·BH·BM·BN | -- | -- | -- | -- | -- | -- |
| | CA·CC | -- | -- | -- | -- | -- | -- |
| | DA·DB·DC·DD·DF·DH·DJ | -- | -- | -- | -- | -- | -- |
| | EA·EB·EC·EF·EG·EK·EL | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| VRT-110-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 124.5 | 99.5 | 95.5 | □80 | 25 | 50 |
| | EB | 124.5 | 99.5 | 95.5 | □90 | 25 | 50 |
| | FA | 124.5 | 99.5 | 95.5 | □100 | 25 | 50 |
| | FB | 134.5 | 99.5 | 105.5 | □100 | 35 | 60 |
| | GB·GD | 124.5 | 99.5 | 95.5 | □115 | 25 | 50 |
| | HA | 134.5 | 99.5 | 105.5 | □115 | 35 | 60 |
| | -- | 124.5 | 99.5 | 95.5 | □130 | 25 | 50 |
| | -- | 139.5 | 99.5 | 110.5 | □130 | 40 | 65 |
| | -- | 129.5 | 99.5 | 100.5 | □130 | 30 | 55 |
| VRT-110-□-□-28** (Input shaft bore ≤ φ28) | HB | 134.5 | 99.5 | 105.5 | □150 | 35 | 60 |
| | FA·FB·FC | 141.5 | 106.5 | 112.5 | □100 | 35 | 67 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 141.5 | 106.5 | 112.5 | □115 | 35 | 67 |
| | HA·HC·HD | 141.5 | 106.5 | 112.5 | □130 | 35 | 67 |
| | HB | 151.5 | 106.5 | 122.5 | □130 | 45 | 77 |
| | HF | 136.5 | 106.5 | 107.5 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 141.5 | 106.5 | 112.5 | □150 | 35 | 67 |
| | JD | 161.5 | 106.5 | 132.5 | □150 | 55 | 87 |
| | JE | 151.5 | 106.5 | 122.5 | □150 | 45 | 77 |
| VRT-110-□-□-38** (Input shaft bore ≤ φ38) | KA·KB·KE | 141.5 | 106.5 | 112.5 | □180 | 35 | 67 |
| | KD | 151.5 | 106.5 | 122.5 | □180 | 45 | 77 |
| | HA | 162.5 | 117.5 | 133.5 | □130 | 45 | 82 |
| | HB·HE | 157.5 | 117.5 | 128.5 | □130 | 40 | 77 |
| | JA | 162.5 | 117.5 | 133.5 | □150 | 45 | 82 |
| | KA·KB·KC | 162.5 | 117.5 | 133.5 | □180 | 45 | 82 |
| | KD | 197.5 | 117.5 | 168.5 | □180 | 80 | 117 |
| | KE | 177.5 | 117.5 | 148.5 | □180 | 60 | 97 |

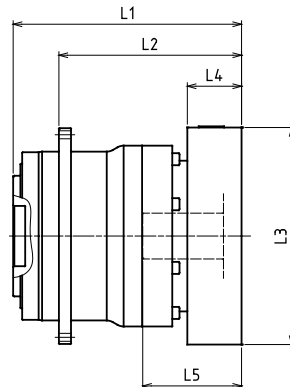
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-110 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|-------------------------------|---------|-------|-------|------|------|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-110-□-□-14** (Input shaft bore ≤ φ14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | 142 | 125.5 | 113 | □65 | 16.5 | 35 |
| | BC•BH•BM•BN | 147 | 125.5 | 118 | □65 | 21.5 | 40 |
| | CA•CC | 142 | 125.5 | 113 | □70 | 16.5 | 35 |
| | DA•DB•DC•DD•DF•DH•DJ | 142 | 125.5 | 113 | □80 | 16.5 | 35 |
| | EA•EB•EC•EF•EG•EK•EL | 142 | 125.5 | 113 | □90 | 16.5 | 35 |
| | FA | 142 | 125.5 | 113 | □100 | 16.5 | 35 |
| | FB | 152 | 125.5 | 123 | □100 | 26.5 | 45 |
| VRT-110-□-□-19** (Input shaft bore ≤ φ19) | JA | 157 | 125.5 | 128 | □150 | 31.5 | 50 |
| | DA • DB • DC | 152 | 127 | 123 | □80 | 25 | 50 |
| | EB | 152 | 127 | 123 | □90 | 25 | 50 |
| | FA | 152 | 127 | 123 | □100 | 25 | 50 |
| | FB | 162 | 127 | 133 | □100 | 35 | 60 |
| | GB • GD | 152 | 127 | 123 | □115 | 25 | 50 |
| | HA | 162 | 127 | 133 | □115 | 35 | 60 |
| | -- | 152 | 127 | 123 | □130 | 25 | 50 |
| | -- | 167 | 127 | 138 | □130 | 40 | 65 |
| -- | 157 | 127 | 128 | □130 | 30 | 55 | |
| VRT-110-□-□-28** (Input shaft bore ≤ φ28) | HB | 162 | 127 | 133 | □150 | 35 | 60 |
| | FA•FB•FC | 169 | 134 | 140 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 169 | 134 | 140 | □115 | 35 | 67 |
| | HA•HC•HD | 169 | 134 | 140 | □130 | 35 | 67 |
| | HB | 179 | 134 | 150 | □130 | 45 | 77 |
| | HF | 164 | 134 | 135 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 169 | 134 | 140 | □150 | 35 | 67 |
| | JD | 189 | 134 | 160 | □150 | 55 | 87 |
| | JE | 179 | 134 | 150 | □150 | 45 | 77 |
| VRT-110-□-□-38** (Input shaft bore ≤ φ38) | KA•KB•KE | 169 | 134 | 140 | □180 | 35 | 67 |
| | KD | 179 | 134 | 150 | □180 | 45 | 77 |
| | HA | 186.5 | 141.5 | 157.5 | □130 | 45 | 82 |
| | HB•HE | 181.5 | 141.5 | 152.5 | □130 | 40 | 77 |
| | JA | 186.5 | 141.5 | 157.5 | □150 | 45 | 82 |
| | KA•KB•KC | 186.5 | 141.5 | 157.5 | □180 | 45 | 82 |
| | KD | 221.5 | 141.5 | 192.5 | □180 | 80 | 117 |
| | KE | 201.5 | 141.5 | 172.5 | □180 | 60 | 97 |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-140 – 1-Stage Specifications

| Frame Size | 140 | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|
| Stage | 1-Stage | | | | | |
| Ratio | Unit | Note | 4 | 5 | 7 | 10 |
| Nominal Output Torque | [Nm] | *1 | 240 | 360 | 360 | 240 |
| Maximum Output Torque | [Nm] | *2 | 700 | 700 | 700 | 470 |
| Emergency Stop Torque | [Nm] | *3 | 1250 | 1250 | 1250 | 1000 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | |
| No Load Running Torque | [Nm] | *13 | 1.00 | | | |
| Permitted Radial Load | [N] | *6 | 8000 | 8500 | 9400 | 10000 |
| Permitted Axial Load | [N] | *7 | 5600 | 6000 | 6700 | 7400 |
| Maximum Radial Load | [N] | *8 | 19000 | | | |
| Maximum Axial Load | [N] | *9 | 14000 | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *10 | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 11.000 | 8.400 | 5.400 | 4.100 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 19.000 | 16.000 | 13.000 | 12.000 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 41.000 | 38.000 | 35.000 | 34.000 |
| Efficiency | [%] | -- | 95 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 60 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 67 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 15 | | | |

VRT-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|
| Stage | 2-Stage | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 |
| Nominal Output Torque | [Nm] | *1 | 360 | 360 | 360 | 360 |
| Maximum Output Torque | [Nm] | *2 | 700 | 700 | 700 | 700 |
| Emergency Stop Torque | [Nm] | *3 | 1250 | 1250 | 1250 | 1250 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | |
| No Load Running Torque | [Nm] | *13 | 0.54 | | | |
| Permitted Radial Load | [N] | *6 | 12000 | 13000 | 14000 | 14000 |
| Permitted Axial Load | [N] | *7 | 8500 | 9100 | 9800 | 10000 |
| Maximum Radial Load | [N] | *8 | 19000 | | | |
| Maximum Axial Load | [N] | *9 | 14000 | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *10 | 3.800 | 2.600 | 2.500 | 3.400 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 5.800 | 4.600 | 4.500 | 5.400 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 13.000 | 12.000 | 12.000 | 13.000 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 35.000 | 34.000 | 34.000 | 35.000 |
| Efficiency | [%] | -- | 90 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 60 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 67 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 17 | | | |

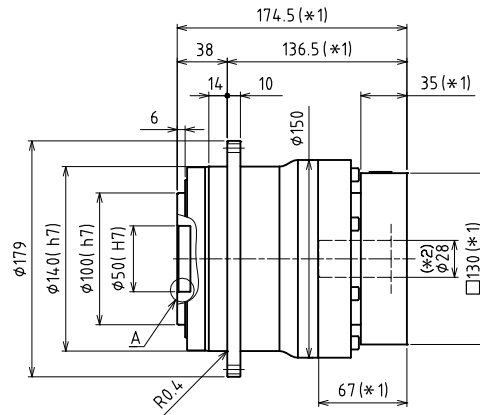
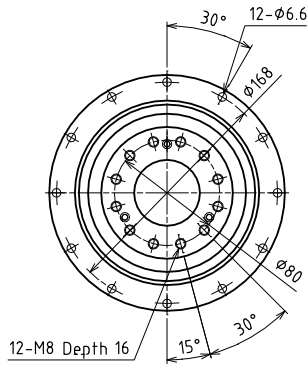
VRT-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--|
| Stage | 2-Stage | | | | | | | |
| Ratio | Unit | Note | 35 | 40 | 50 | 70 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 360 | 360 | 360 | 360 | 240 | |
| Maximum Output Torque | [Nm] | *2 | 700 | 700 | 700 | 700 | 470 | |
| Emergency Stop Torque | [Nm] | *3 | 1250 | 1250 | 1250 | 1250 | 1000 | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | |
| No Load Running Torque | [Nm] | *13 | 0.54 | | | | | |
| Permitted Radial Load | [N] | *6 | 15000 | 16000 | 17000 | 19000 | 19000 | |
| Permitted Axial Load | [N] | *7 | 11000 | 11000 | 12000 | 13000 | 14000 | |
| Maximum Radial Load | [N] | *8 | 19000 | | | | | |
| Maximum Axial Load | [N] | *9 | 14000 | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *10 | 2.400 | 1.200 | 1.100 | 1.100 | 1.100 | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.400 | 3.100 | 3.100 | 3.100 | 3.100 | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 12.000 | 11.000 | 11.000 | 11.000 | 11.000 | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 34.000 | 33.000 | 33.000 | 33.000 | 33.000 | |
| Efficiency | [%] | -- | 90 | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 60 | | | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | | | |
| Noise Level | [dB] | -- | ≤ 67 | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | |
| Weight | [kg] | *15 | 17 | | | | | |

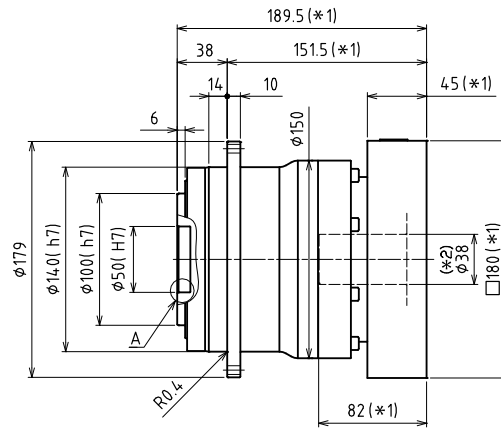
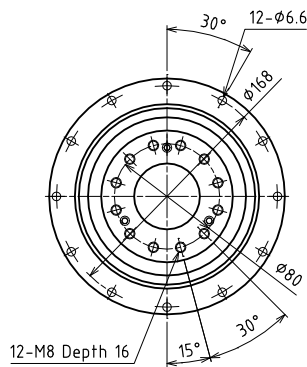
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRT140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-140 – 1-Stage Dimensions

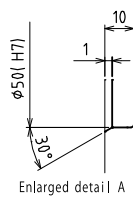
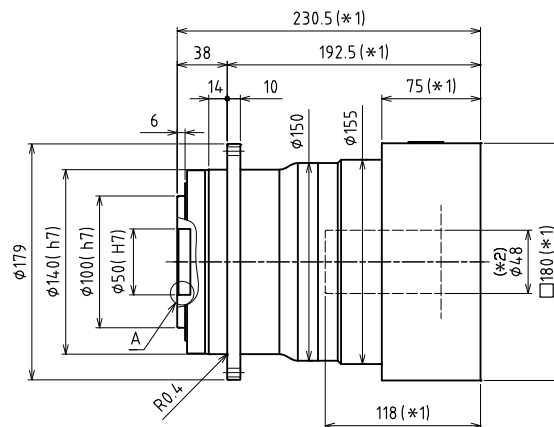
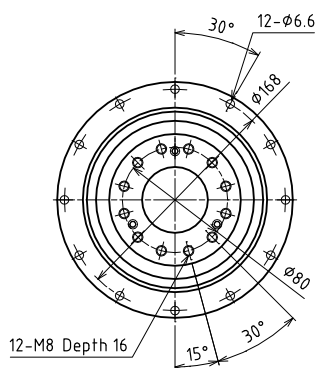
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$

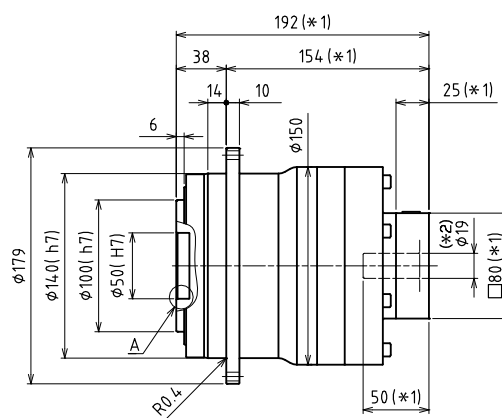
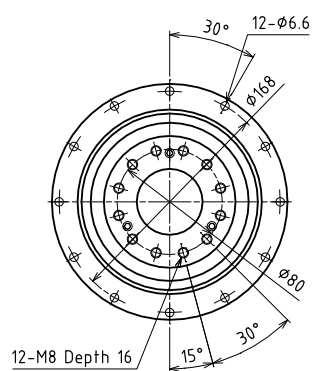


*1) Length will vary depending on motor.

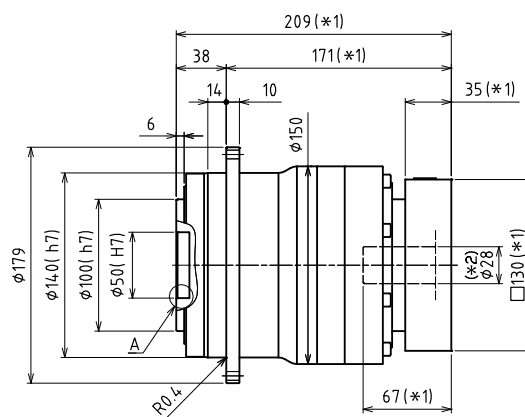
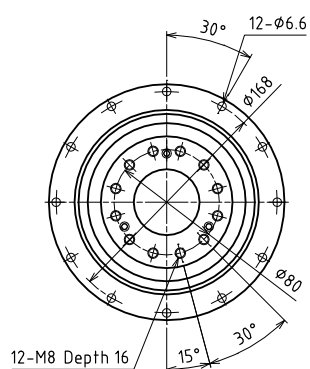
*2) Bushing will be inserted to adapt to motor shaft

VRT-140 – 2-Stage Dimensions

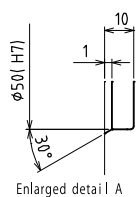
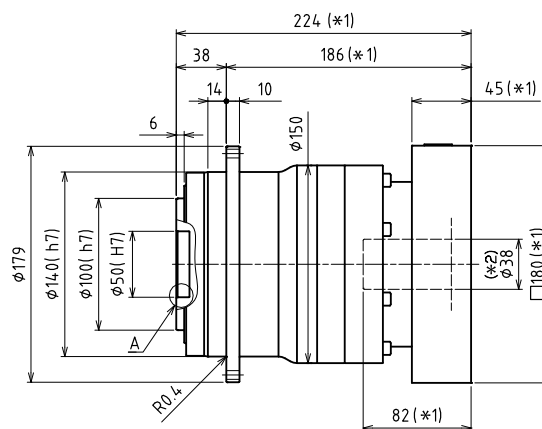
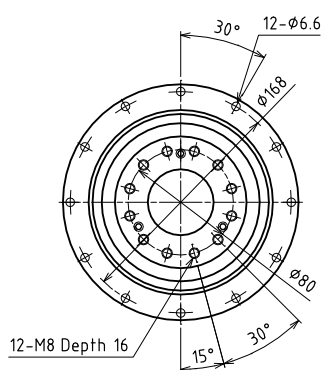
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$

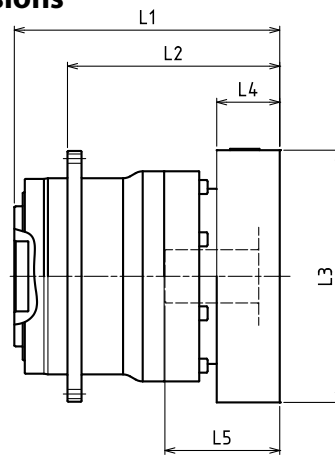


Enlarged detail A

*1) Length will vary depending on motor.

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

VRT-140 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|-------------------------|---------|-----|------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-140-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | -- | -- | -- | -- | -- | -- |
| | EB·ED | -- | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- | -- |
| | GB·GD·GJ | -- | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| VRT-140-□-□-28** (Input shaft bore ≤ φ28) | FA·FB·FC | 154 | 119 | 116 | □100 | 35 | 67 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 154 | 119 | 116 | □115 | 35 | 67 |
| | HA·HC·HD | 154 | 119 | 116 | □130 | 35 | 67 |
| | HB | 164 | 119 | 126 | □130 | 45 | 77 |
| | HF | 149 | 119 | 111 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 154 | 119 | 116 | □150 | 35 | 67 |
| | KA·KB·KE | 154 | 119 | 116 | □180 | 35 | 67 |
| | LA | 154 | 119 | 116 | □200 | 35 | 67 |
| | LB | 164 | 119 | 126 | □200 | 45 | 77 |
| | MA | 154 | 119 | 116 | □220 | 35 | 67 |
| VRT-140-□-□-38** (Input shaft bore ≤ φ38) | MB | 164 | 119 | 126 | □220 | 45 | 77 |
| | HA | 169 | 124 | 131 | □130 | 45 | 82 |
| | HB·HE | 164 | 124 | 126 | □130 | 40 | 77 |
| | JA | 169 | 124 | 131 | □150 | 45 | 82 |
| | KA·KB·KC | 169 | 124 | 131 | □180 | 45 | 82 |
| | KD | 204 | 124 | 166 | □180 | 80 | 117 |
| | KE | 184 | 124 | 146 | □180 | 60 | 97 |
| | LB | 179 | 124 | 141 | □200 | 55 | 92 |
| | MA·MB | 169 | 124 | 131 | □220 | 45 | 82 |
| | MC | 184 | 124 | 146 | □220 | 60 | 97 |
| VRT-140-□-□-48** (Input shaft bore ≤ φ48) | MD | 179 | 124 | 141 | □220 | 55 | 92 |
| | KA | 210 | 135 | 172 | □180 | 75 | 118 |
| | KB·KC | 190 | 135 | 152 | □180 | 55 | 98 |
| | LA | 190 | 135 | 152 | □200 | 55 | 98 |
| | MA | 190 | 135 | 152 | □220 | 55 | 98 |
| MB | 210 | 135 | 172 | □220 | 75 | 118 | |

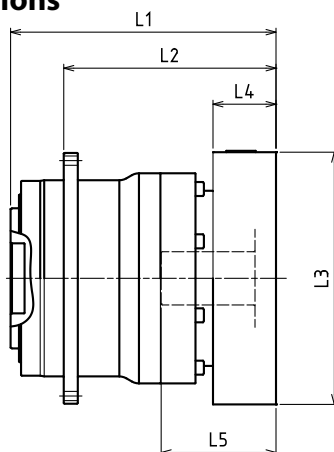
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-140 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-140-□-□-19** (Input shaft bore ≤ φ19) | DA·DB·DC | 171.5 | 146.5 | 133.5 | □80 | 25 | 50 |
| | EB·ED | 171.5 | 146.5 | 133.5 | □90 | 25 | 50 |
| | FA | 171.5 | 146.5 | 133.5 | □100 | 25 | 50 |
| | FB | 181.5 | 146.5 | 143.5 | □100 | 35 | 60 |
| | GB·GD·GJ | 171.5 | 146.5 | 133.5 | □115 | 25 | 50 |
| | HA | 171.5 | 146.5 | 133.5 | □130 | 25 | 50 |
| | HB | 186.5 | 146.5 | 148.5 | □130 | 40 | 65 |
| VRT-140-□-□-28** (Input shaft bore ≤ φ28) | JA | 181.5 | 146.5 | 143.5 | □150 | 35 | 60 |
| | FA·FB·FC | 188.5 | 153.5 | 150.5 | □100 | 35 | 67 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 188.5 | 153.5 | 150.5 | □115 | 35 | 67 |
| | HA·HC·HD | 188.5 | 153.5 | 150.5 | □130 | 35 | 67 |
| | HB | 198.5 | 153.5 | 160.5 | □130 | 45 | 77 |
| | HF | 183.5 | 153.5 | 145.5 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 188.5 | 153.5 | 150.5 | □150 | 35 | 67 |
| | KA·KB·KE | 188.5 | 153.5 | 150.5 | □180 | 35 | 67 |
| | LA | 188.5 | 153.5 | 150.5 | □200 | 35 | 67 |
| | LB | 198.5 | 153.5 | 160.5 | □200 | 45 | 77 |
| VRT-140-□-□-38** (Input shaft bore ≤ φ38) | MA | 188.5 | 153.5 | 150.5 | □220 | 35 | 67 |
| | MB | 198.5 | 153.5 | 160.5 | □220 | 45 | 77 |
| | HA | 203.5 | 158.5 | 165.5 | □130 | 45 | 82 |
| | HB·HE | 198.5 | 158.5 | 160.5 | □130 | 40 | 77 |
| | JA | 203.5 | 158.5 | 165.5 | □150 | 45 | 82 |
| | KA·KB·KC | 203.5 | 158.5 | 165.5 | □180 | 45 | 82 |
| | KD | 238.5 | 158.5 | 200.5 | □180 | 80 | 117 |
| | KE | 218.5 | 158.5 | 180.5 | □180 | 60 | 97 |
| | LB | 213.5 | 158.5 | 175.5 | □200 | 55 | 92 |
| | MA·MB | 203.5 | 158.5 | 165.5 | □220 | 45 | 82 |
| VRT-140-□-□-48** (Input shaft bore ≤ φ48) | MC | 218.5 | 158.5 | 180.5 | □220 | 60 | 97 |
| | MD | 213.5 | 158.5 | 175.5 | □220 | 55 | 92 |
| | KA | 244.5 | 169.5 | 206.5 | □180 | 75 | 118 |
| | KB·KC | 224.5 | 169.5 | 186.5 | □180 | 55 | 98 |
| | LA | 224.5 | 169.5 | 186.5 | □200 | 55 | 98 |
| MA | 224.5 | 169.5 | 186.5 | □220 | 55 | 98 | |
| MB | 244.5 | 169.5 | 206.5 | □220 | 75 | 118 | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-200 – 1-Stage Specifications

| Frame Size | 200 | | | | | |
|---|----------------------|------|-------------|---------|---------|---------|
| Stage | 1-Stage | | | | | |
| Ratio | Unit | Note | 4 | 5 | 7 | 10 |
| Nominal Output Torque | [Nm] | *1 | 750 | 750 | 750 | 500 |
| Maximum Output Torque | [Nm] | *2 | 1400 | 1400 | 1400 | 970 |
| Emergency Stop Torque | [Nm] | *3 | 2750 | 2750 | 2750 | 2200 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | |
| No Load Running Torque | [Nm] | *13 | 1.9 | | | |
| Permitted Radial Load | [N] | *6 | 18000 | 19000 | 21000 | 23000 |
| Permitted Axial Load | [N] | *7 | 12000 | 13000 | 14000 | 16000 |
| Maximum Radial Load | [N] | *8 | 40000 | | | |
| Maximum Axial Load | [N] | *9 | 30000 | | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | *10 | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 54.000 | 39.000 | 25.000 | 18.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 76.000 | 61.000 | 47.000 | 40.000 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | 140.000 | 120.000 | 110.000 | 100.000 |
| Efficiency | [%] | -- | 95 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 175 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 67 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 42 | | | |

VRT-200 – 2-Stage Specifications

| Frame Size | 200 | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|
| Stage | 2-Stage | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 |
| Nominal Output Torque | [Nm] | *1 | 750 | 750 | 750 | 750 |
| Maximum Output Torque | [Nm] | *2 | 1400 | 1400 | 1400 | 1400 |
| Emergency Stop Torque | [Nm] | *3 | 2750 | 2750 | 2750 | 2750 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | |
| No Load Running Torque | [Nm] | *13 | 1.3 | | | |
| Permitted Radial Load | [N] | *6 | 27000 | 28000 | 30000 | 31000 |
| Permitted Axial Load | [N] | *7 | 18000 | 19000 | 21000 | 21000 |
| Maximum Radial Load | [N] | *8 | 40000 | | | |
| Maximum Axial Load | [N] | *9 | 30000 | | | |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | *10 | 13.000 | 9.400 | 8.800 | 11.000 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 21.000 | 17.000 | 16.000 | 19.000 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 43.000 | 39.000 | 38.000 | 41.000 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | -- | -- | -- | -- |
| Efficiency | [%] | -- | 90 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 175 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 67 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 43 | | | |

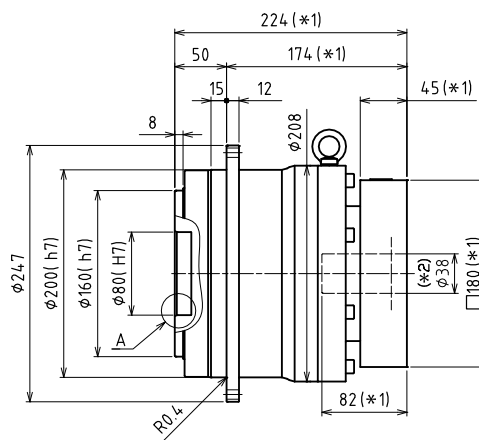
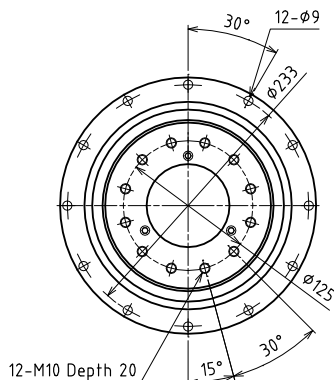
VRT-200 – 2-Stage Specifications

| Frame Size | 200 | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--|
| Stage | 2-Stage | | | | | | | |
| Ratio | Unit | Note | 35 | 40 | 50 | 70 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 750 | 750 | 750 | 750 | 500 | |
| Maximum Output Torque | [Nm] | *2 | 1400 | 1400 | 1400 | 1400 | 970 | |
| Emergency Stop Torque | [Nm] | *3 | 2750 | 2750 | 2750 | 2750 | 2200 | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | |
| No Load Running Torque | [Nm] | *13 | 1.3 | | | | | |
| Permitted Radial Load | [N] | *6 | 34000 | 35000 | 37000 | 40000 | 40000 | |
| Permitted Axial Load | [N] | *7 | 23000 | 24000 | 25000 | 28000 | 30000 | |
| Maximum Radial Load | [N] | *8 | 40000 | | | | | |
| Maximum Axial Load | [N] | *9 | 30000 | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | *10 | 8.200 | 4.400 | 4.200 | 4.100 | 4.000 | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 16.000 | 12.000 | 12.000 | 12.000 | 12.000 | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 38.000 | 34.000 | 34.000 | 34.000 | 34.000 | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | |
| Efficiency | [%] | -- | 90 | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 175 | | | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | | | |
| Noise Level | [dB] | -- | ≤ 67 | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | |
| Weight | [kg] | *15 | 43 | | | | | |

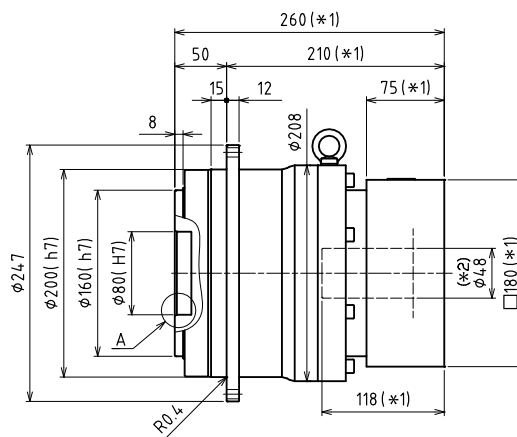
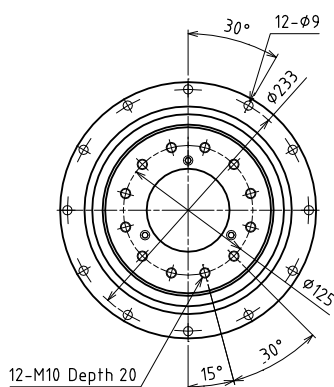
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRT 200
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-200 – 1-Stage Dimensions

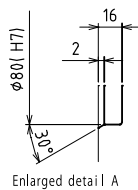
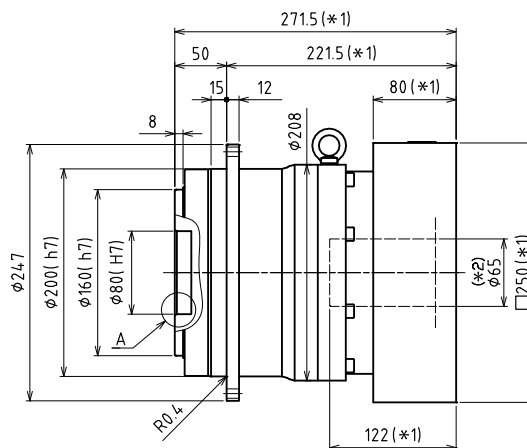
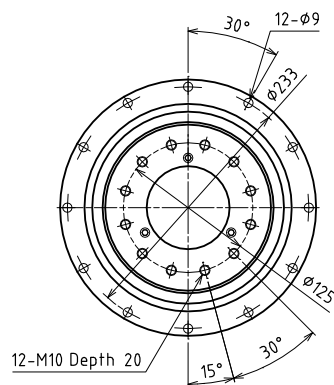
Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



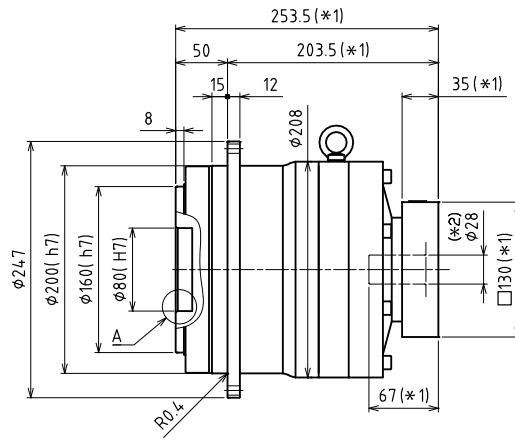
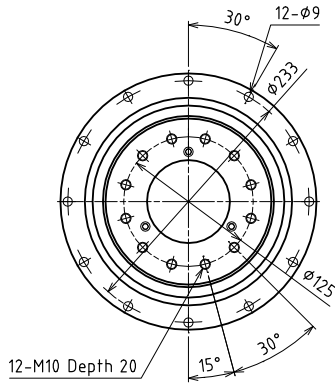
Input shaft bore $\leq \phi 65$



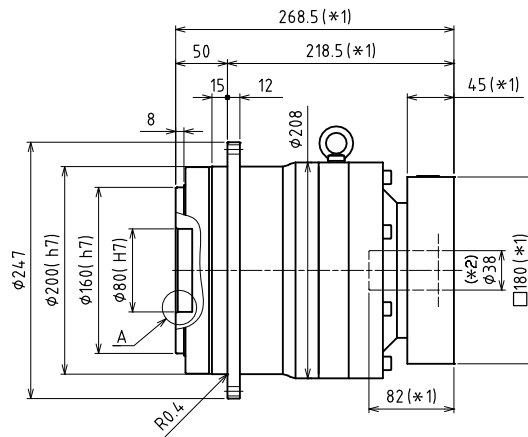
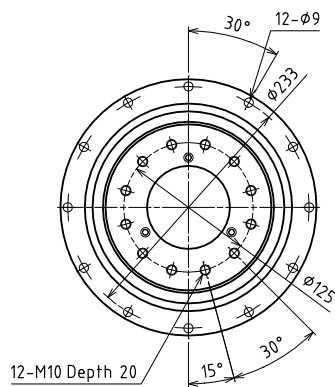
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRT-200 – 2-Stage Dimensions

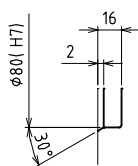
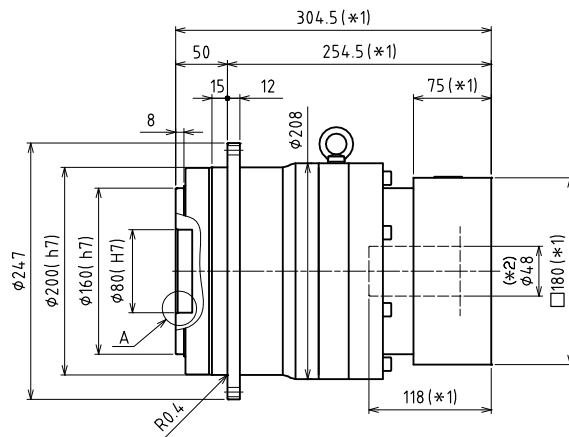
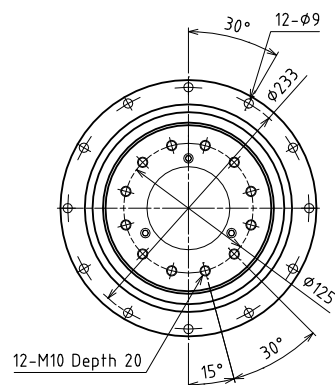
Input shaft bore $\cong \phi 28$



Input shaft bore $\cong \phi 38$



Input shaft bore $\cong \phi 48$

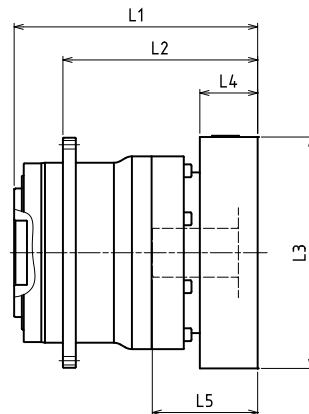


Enlarged detail A

*1) Length will vary depending on motor

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

VRT-200 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-200-□-□-28** (Input shaft bore ≤ φ28) | FA-FB-FC | -- | -- | -- | -- | -- | -- |
| | GA-GB-GC-GD-GE-GF-GG-GH | -- | -- | -- | -- | -- | -- |
| | HA-HC-HD | -- | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- | -- |
| | JA-JB-JC-JF | -- | -- | -- | -- | -- | -- |
| | KA-KB-KE | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- | -- |
| VRT-200-□-□-38** (Input shaft bore ≤ φ38) | HA | 192 | 147 | 142 | □130 | 45 | 82 |
| | HB-HE | 187 | 147 | 137 | □130 | 40 | 77 |
| | JA | 192 | 147 | 142 | □150 | 45 | 82 |
| | KA-KB-KC | 192 | 147 | 142 | □180 | 45 | 82 |
| | KD | 227 | 147 | 177 | □180 | 80 | 117 |
| | KE | 207 | 147 | 157 | □180 | 60 | 97 |
| | LB | 202 | 147 | 152 | □200 | 55 | 92 |
| | MA-MB | 192 | 147 | 142 | □220 | 45 | 82 |
| | MC | 207 | 147 | 157 | □220 | 60 | 97 |
| | MD | 202 | 147 | 152 | □220 | 55 | 92 |
| | NA | 192 | 147 | 142 | □250 | 45 | 82 |
| VRT-200-□-□-48** (Input shaft bore ≤ φ48) | KA | 228 | 153 | 178 | □180 | 75 | 118 |
| | KB-KC | 208 | 153 | 158 | □180 | 55 | 98 |
| | LA | 208 | 153 | 158 | □200 | 55 | 98 |
| | MA | 208 | 153 | 158 | □220 | 55 | 98 |
| | MB | 228 | 153 | 178 | □220 | 75 | 118 |
| | NA | 228 | 153 | 178 | □250 | 75 | 118 |
| | PA | 228 | 153 | 178 | □280 | 75 | 118 |
| VRT-200-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 239.5 | 159.5 | 189.5 | □220 | 80 | 122 |
| | NA-NC | 239.5 | 159.5 | 189.5 | □250 | 80 | 122 |
| | NB-ND | 269.5 | 159.5 | 219.5 | □250 | 110 | 152 |
| | PA | 259.5 | 159.5 | 209.5 | □280 | 100 | 142 |
| | PB | 269.5 | 159.5 | 219.5 | □280 | 110 | 152 |

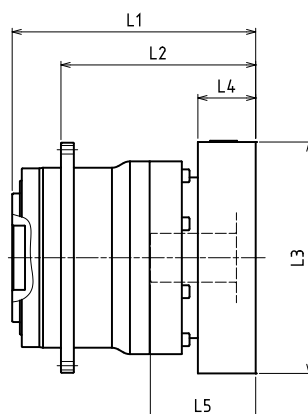
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-200 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|-------------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-200-□-□-28** (Input shaft bore ≤ φ28) | FA•FB•FC | 221.5 | 186.5 | 171.5 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 221.5 | 186.5 | 171.5 | □115 | 35 | 67 |
| | HA•HC•HD | 221.5 | 186.5 | 171.5 | □130 | 35 | 67 |
| | HB | 231.5 | 186.5 | 181.5 | □130 | 45 | 77 |
| | HF | 216.5 | 186.5 | 166.5 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 221.5 | 186.5 | 171.5 | □150 | 35 | 67 |
| | KA•KB•KE | 221.5 | 186.5 | 171.5 | □180 | 35 | 67 |
| | LA | 221.5 | 186.5 | 171.5 | □200 | 35 | 67 |
| | LB | 231.5 | 186.5 | 181.5 | □200 | 45 | 77 |
| | MA | 221.5 | 186.5 | 171.5 | □220 | 35 | 67 |
| | MB | 231.5 | 186.5 | 181.5 | □220 | 45 | 77 |
| VRT-200-□-□-38** (Input shaft bore ≤ φ38) | HA | 236.5 | 191.5 | 186.5 | □130 | 45 | 82 |
| | HB•HE | 231.5 | 191.5 | 181.5 | □130 | 40 | 77 |
| | JA | 236.5 | 191.5 | 186.5 | □150 | 45 | 82 |
| | KA•KB•KC | 236.5 | 191.5 | 186.5 | □180 | 45 | 82 |
| | KD | 271.5 | 191.5 | 221.5 | □180 | 80 | 117 |
| | KE | 251.5 | 191.5 | 201.5 | □180 | 60 | 97 |
| | LB | 246.5 | 191.5 | 196.5 | □200 | 55 | 92 |
| | MA•MB | 236.5 | 191.5 | 186.5 | □220 | 45 | 82 |
| | MC | 251.5 | 191.5 | 201.5 | □220 | 60 | 97 |
| | MD | 246.5 | 191.5 | 196.5 | □220 | 55 | 92 |
| NA | 236.5 | 191.5 | 186.5 | □250 | 45 | 82 | |
| VRT-200-□-□-48** (Input shaft bore ≤ φ48) | KA | 272.5 | 197.5 | 222.5 | □180 | 75 | 118 |
| | KB•KC | 252.5 | 197.5 | 202.5 | □180 | 55 | 98 |
| | LA | 252.5 | 197.5 | 202.5 | □200 | 55 | 98 |
| | MA | 252.5 | 197.5 | 202.5 | □220 | 55 | 98 |
| | MB | 272.5 | 197.5 | 222.5 | □220 | 75 | 118 |
| | NA | 272.5 | 197.5 | 222.5 | □250 | 75 | 118 |
| VRT-200-□-□-65** (Input shaft bore ≤ φ65) | PA | 272.5 | 197.5 | 222.5 | □280 | 75 | 118 |
| | MA•MB•MC•MD | -- | -- | -- | -- | -- | -- |
| | NA•NC | -- | -- | -- | -- | -- | -- |
| | NB•ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| PB | -- | -- | -- | -- | -- | -- | |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-255 – 1-Stage Specifications

| Frame Size | 255 | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|
| Stage | 1-Stage | | | | | |
| Ratio | Unit | Note | 4 | 5 | 7 | 10 |
| Nominal Output Torque | [Nm] | *1 | 2400 | 2400 | 2400 | 1600 |
| Maximum Output Torque | [Nm] | *2 | 3700 | 3700 | 3700 | 2600 |
| Emergency Stop Torque | [Nm] | *3 | 8000 | 8000 | 8000 | 6000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | |
| No Load Running Torque | [Nm] | *13 | 2.5 | | | |
| Permitted Radial Load | [N] | *6 | 31000 | 33000 | 36000 | 40000 |
| Permitted Axial Load | [N] | *7 | 22000 | 24000 | 26000 | 29000 |
| Maximum Radial Load | [N] | *8 | 64000 | | | |
| Maximum Axial Load | [N] | *9 | 48000 | | | |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | *10 | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | 200 | 170 | 130 | 110 |
| Efficiency | [%] | -- | 95 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 550 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 62 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 84 | | | |

VRT-255 – 2-Stage Specifications

| Frame Size | 255 | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|
| Stage | 2-Stage | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 |
| Nominal Output Torque | [Nm] | *1 | 2400 | 2400 | 2400 | 2400 |
| Maximum Output Torque | [Nm] | *2 | 3700 | 3700 | 3700 | 3700 |
| Emergency Stop Torque | [Nm] | *3 | 8000 | 8000 | 8000 | 8000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | |
| No Load Running Torque | [Nm] | *13 | 1.0 | | | |
| Permitted Radial Load | [N] | *6 | 46000 | 49000 | 53000 | 55000 |
| Permitted Axial Load | [N] | *7 | 34000 | 36000 | 38000 | 40000 |
| Maximum Radial Load | [N] | *8 | 64000 | | | |
| Maximum Axial Load | [N] | *9 | 48000 | | | |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | *10 | 64.0 | 53.0 | 51.0 | 59.0 |
| Moment of Inertia ($\leq \emptyset 65$) | [kgcm ²] | -- | -- | -- | -- | -- |
| Efficiency | [%] | -- | 90 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 550 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 62 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 89 | | | |

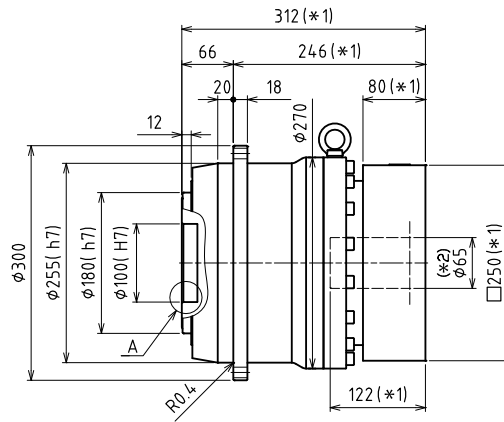
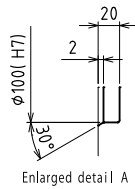
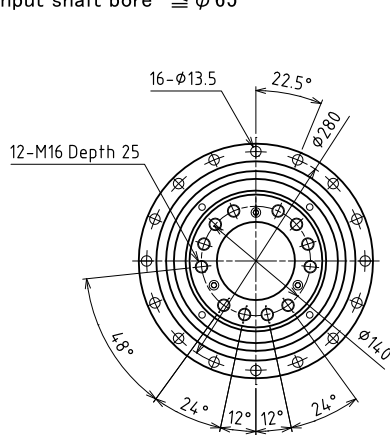
VRT-255 – 2-Stage Specifications

| Frame Size | 255 | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|--|
| Stage | 2-Stage | | | | | | | |
| Ratio | Unit | Note | 35 | 40 | 50 | 70 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 2400 | 2400 | 2400 | 2400 | 1600 | |
| Maximum Output Torque | [Nm] | *2 | 3700 | 3700 | 3700 | 3700 | 1800 | |
| Emergency Stop Torque | [Nm] | *3 | 8000 | 8000 | 8000 | 8000 | 6000 | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | |
| No Load Running Torque | [Nm] | *13 | 1.0 | | | | | |
| Permitted Radial Load | [N] | *6 | 59000 | 61000 | 64000 | 64000 | 64000 | |
| Permitted Axial Load | [N] | *7 | 42000 | 44000 | 47000 | 48000 | 48000 | |
| Maximum Radial Load | [N] | *8 | 64000 | | | | | |
| Maximum Axial Load | [N] | *9 | 48000 | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | *10 | 50.0 | 38.0 | 38.0 | 37.0 | 37.0 | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | |
| Efficiency | [%] | -- | 90 | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 550 | | | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | | | |
| Noise Level | [dB] | -- | ≤ 62 | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | |
| Weight | [kg] | *15 | 89 | | | | | |

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for 255
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-255 – 1-Stage Dimensions

Input shaft bore $\leq \phi 65$

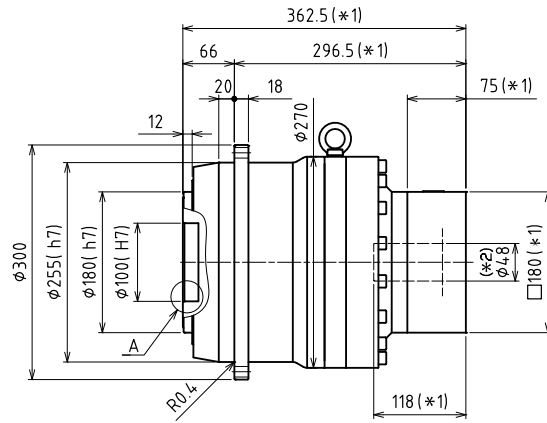
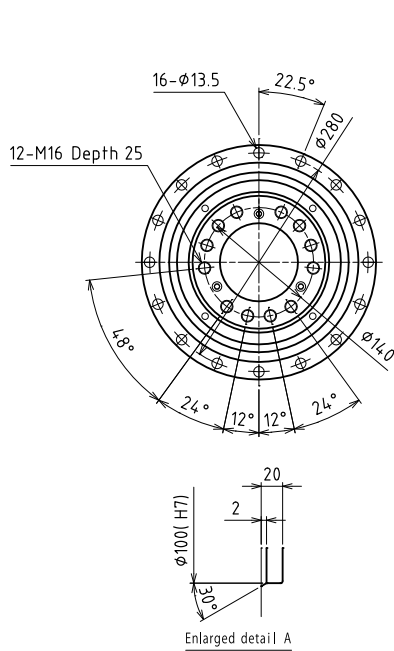


*1) Length will vary depending on motor

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

VRT-255 – 2-Stage Dimensions

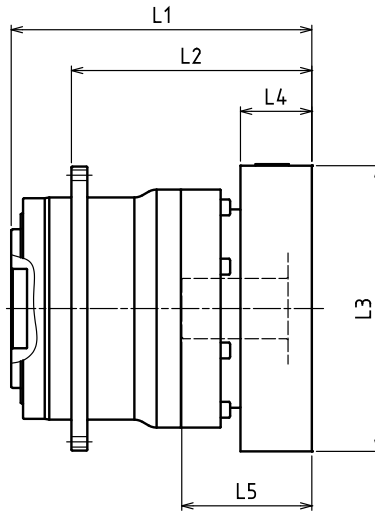
Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor

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

VRT-255 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|------------------|---------|-----|-----|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-255-□-□-48** (Input shaft bore ≤ φ48) | KA | -- | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- | -- |
| | NA | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| VRT-255-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 272 | 192 | 206 | □220 | 80 | 122 |
| | NA-NC | 272 | 192 | 206 | □250 | 80 | 122 |
| | NB-ND | 302 | 192 | 236 | □250 | 110 | 152 |
| | PA | 292 | 192 | 226 | □280 | 100 | 142 |
| | PB | 302 | 192 | 236 | □280 | 110 | 152 |
| | QA-QB | 292 | 192 | 226 | □320 | 100 | 142 |

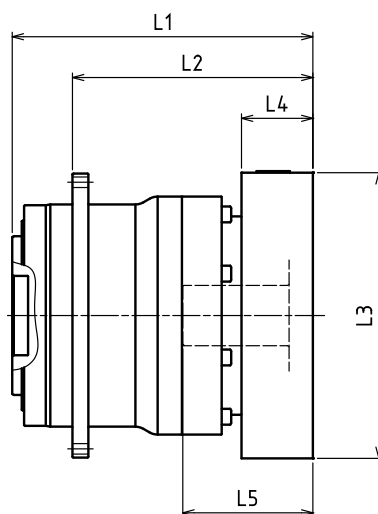
*1) Single reduction : 1/4 - 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-255 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|------------------|---------|-------|-------|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-255-□-□-48** (Input shaft bore ≤ φ48) | KA | 322.5 | 247.5 | 256.5 | □180 | 75 | 118 |
| | KB-KC | 302.5 | 247.5 | 236.5 | □180 | 55 | 98 |
| | LA | 302.5 | 247.5 | 236.5 | □200 | 55 | 98 |
| | MA | 302.5 | 247.5 | 236.5 | □220 | 55 | 98 |
| | MB | 322.5 | 247.5 | 256.5 | □220 | 75 | 118 |
| | NA | 322.5 | 247.5 | 256.5 | □250 | 75 | 118 |
| | PA | 322.5 | 247.5 | 256.5 | □280 | 75 | 118 |
| VRT-255-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- | -- |
| | QA-QB | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/16 - 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-285 – 1-Stage Specifications

| Frame Size | 285 | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|
| Stage | 1-Stage | | | | | |
| Ratio | Unit | Note | 4 | 5 | 7 | 10 |
| Nominal Output Torque | [Nm] | *1 | 3300 | 3300 | 3300 | 2200 |
| Maximum Output Torque | [Nm] | *2 | 5300 | 5300 | 5300 | 3700 |
| Emergency Stop Torque | [Nm] | *3 | 12000 | 12000 | 12000 | 10000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | |
| No Load Running Torque | [Nm] | *13 | 2.7 | | | |
| Permitted Radial Load | [N] | *6 | 40000 | 42000 | 47000 | 52000 |
| Permitted Axial Load | [N] | *7 | 34000 | 36000 | 40000 | 45000 |
| Maximum Radial Load | [N] | *8 | 86000 | | | |
| Maximum Axial Load | [N] | *9 | 64000 | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | *10 | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 250 | 200 | 140 | 120 |
| Efficiency | [%] | -- | 95 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 850 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 63 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 110 | | | |

VRT-285 – 2-Stage Specifications

| Frame Size | 285 | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|
| Stage | 2-Stage | | | | | |
| Ratio | Unit | Note | 16 | 20 | 25 | 28 |
| Nominal Output Torque | [Nm] | *1 | 2750 | 3300 | 3300 | 3300 |
| Maximum Output Torque | [Nm] | *2 | 5300 | 5300 | 5300 | 5300 |
| Emergency Stop Torque | [Nm] | *3 | 12000 | 12000 | 12000 | 12000 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | |
| No Load Running Torque | [Nm] | *13 | 0.6 | | | |
| Permitted Radial Load | [N] | *6 | 60000 | 64000 | 69000 | 71000 |
| Permitted Axial Load | [N] | *7 | 51000 | 55000 | 59000 | 61000 |
| Maximum Radial Load | [N] | *8 | 86000 | | | |
| Maximum Axial Load | [N] | *9 | 64000 | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | *10 | 48.0 | 42.0 | 41.0 | 42.0 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- |
| Efficiency | [%] | -- | 90 | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 850 | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | |
| Noise Level | [dB] | -- | ≤ 63 | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | |
| Weight | [kg] | *15 | 120 | | | |

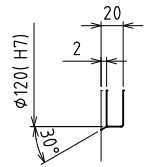
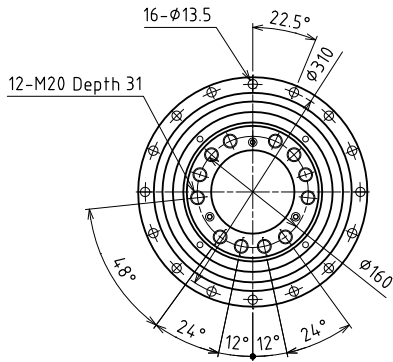
VRT-285 – 2-Stage Specifications

| Frame Size | 285 | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|--|
| Stage | 2-Stage | | | | | | | |
| Ratio | Unit | Note | 35 | 40 | 50 | 70 | 100 | |
| Nominal Output Torque | [Nm] | *1 | 3300 | 3300 | 3300 | 3300 | 2200 | |
| Maximum Output Torque | [Nm] | *2 | 5300 | 5300 | 5300 | 5300 | 2500 | |
| Emergency Stop Torque | [Nm] | *3 | 12000 | 12000 | 12000 | 12000 | 10000 | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | |
| No Load Running Torque | [Nm] | *13 | 0.6 | | | | | |
| Permitted Radial Load | [N] | *6 | 76000 | 79000 | 85000 | 86000 | 86000 | |
| Permitted Axial Load | [N] | *7 | 64000 | 64000 | 64000 | 64000 | 64000 | |
| Maximum Radial Load | [N] | *8 | 86000 | | | | | |
| Maximum Axial Load | [N] | *9 | 64000 | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | *10 | 39.0 | 36.0 | 35.0 | 35.0 | 35.0 | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | |
| Efficiency | [%] | -- | 90 | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *11 | 850 | | | | | |
| Maximum Torsional Backlash | [arc/min] | *12 | ≤ 3 | | | | | |
| Noise Level | [dB] | -- | ≤ 63 | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | |
| Ambient Temperature | [°C] | -- | 0 - 40 | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | |
| Weight | [kg] | *15 | 120 | | | | | |

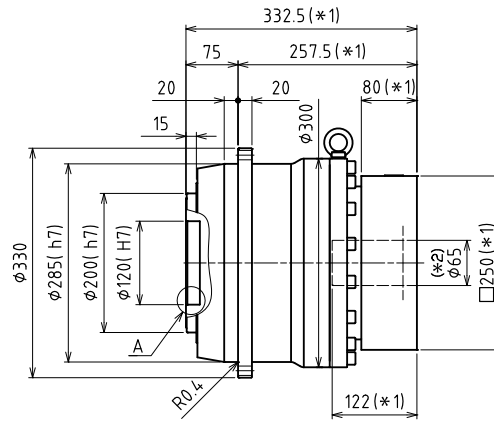
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRT285
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-285 – 1-Stage Dimensions

Input shaft bore $\leq \phi 65$



Enlarged detail A

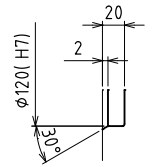
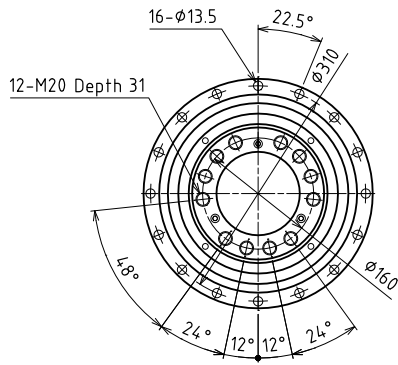


*1) Length will vary depending on motor

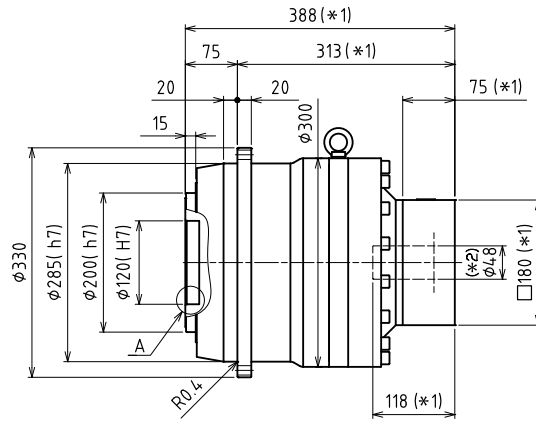
*2) Bushing will be inserted to adapt to motor shaft

VRT-285 – 2-Stage Dimensions

Input shaft bore $\leq \phi 48$



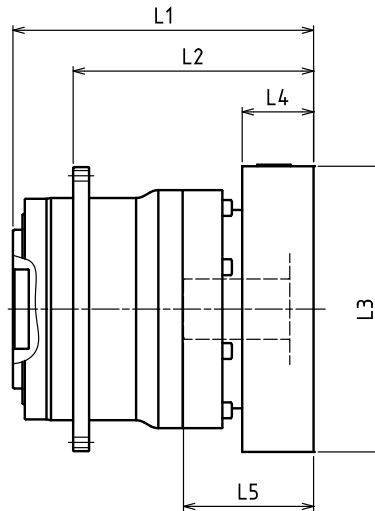
Enlarged detail A



*1) Length will vary depending on motor

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

VRT-285 – 1-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 1-Stage | | | | | |
|--|------------------|---------|-------|-------|------|-----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-285-□-□-48** (Input shaft bore ≤ φ48) | KA | -- | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- | -- |
| | NA | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| VRT-285-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | 283.5 | 203.5 | 208.5 | □220 | 80 | 122 |
| | NA-NC | 283.5 | 203.5 | 208.5 | □250 | 80 | 122 |
| | NB-ND | 313.5 | 203.5 | 238.5 | □250 | 110 | 152 |
| | PA | 303.5 | 203.5 | 228.5 | □280 | 100 | 142 |
| | PB | 313.5 | 203.5 | 238.5 | □280 | 110 | 152 |
| | QA-QB | 303.5 | 203.5 | 228.5 | □320 | 100 | 142 |

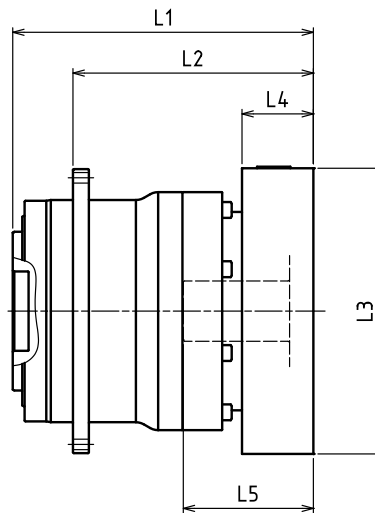
*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-285 – 2-Stage Adapter Dimensions



| Model Number | **: Adapter Code | 2-Stage | | | | | |
|--|------------------|---------|-----|-----|------|----|-----|
| | | L1 | L* | L2 | L3 | L4 | L5 |
| VRT-285-□-□-48** (Input shaft bore ≤ φ48) | KA | 339 | 264 | 264 | □180 | 75 | 118 |
| | KB-KC | 319 | 264 | 244 | □180 | 55 | 98 |
| | LA | 319 | 264 | 244 | □200 | 55 | 98 |
| | MA | 319 | 264 | 244 | □220 | 55 | 98 |
| | MB | 339 | 264 | 264 | □220 | 75 | 118 |
| | NA | 339 | 264 | 264 | □250 | 75 | 118 |
| | PA | 339 | 264 | 264 | □280 | 75 | 118 |
| VRT-285-□-□-65** (Input shaft bore ≤ φ65) | MA-MB-MC-MD | -- | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- | -- |
| | QA-QB | -- | -- | -- | -- | -- | -- |

*1) Double reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-SERIES

The right-angle equivalent to the VRL series, the EVL provides the customer with an excellent solution when space and clearance are a serious limitation. For a right-angle solution, the EVL Series is an intelligent choice providing impressive precision and durability at an exceptional value. Using a 1:1 spiral bevel gear for the right-angle connection, a 6 arc/min backlash rating can be achieved by the EVL series at 2 stage reduction ratios.

The EVL planetary gearbox is a perfect solution for OEM equipment such as packaging, assembly automation, and any advanced conveyor systems implementing sortation or multi-speed/positioning. The EVL series gearheads are offered in a variety of frame sizes and ratios, and they can handle maximum loads approaching 600 Nm.

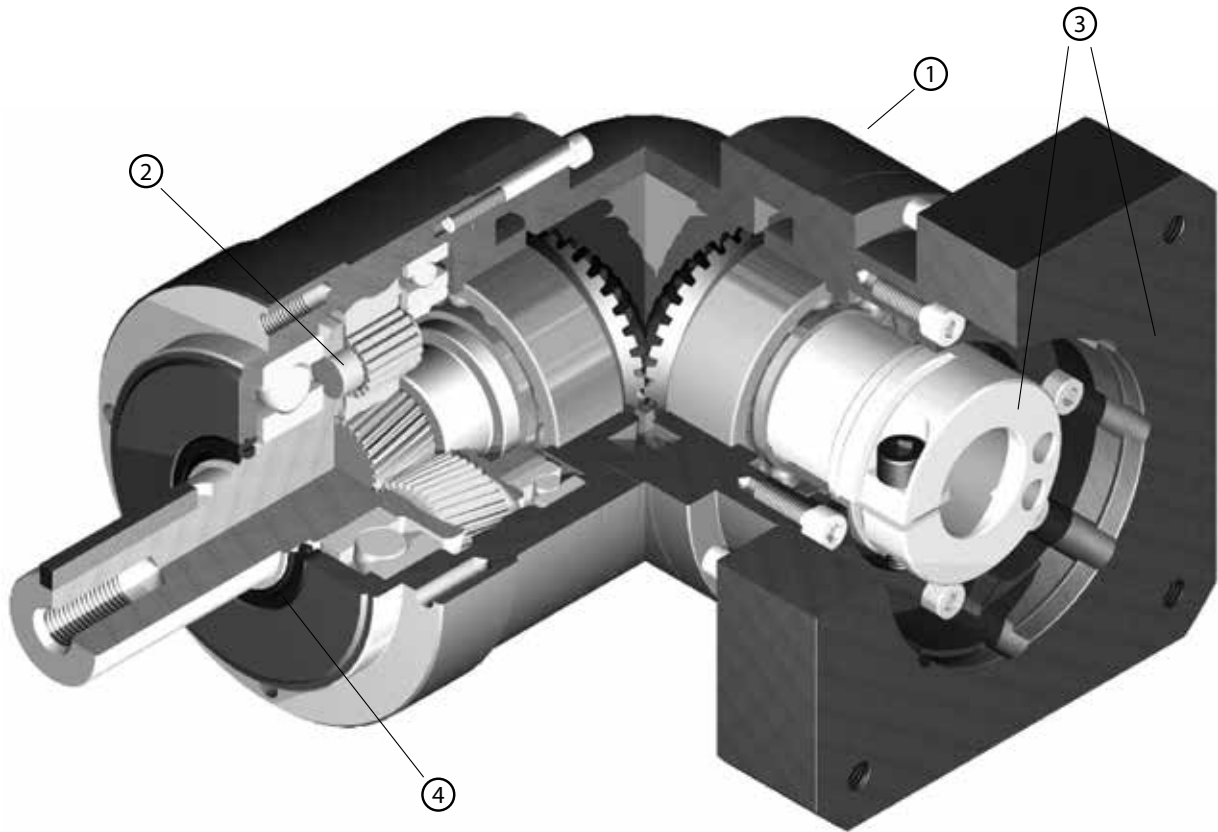
| | | | | | | | | | | | | | | | | | | | | | | |
|-------------|-----------|--|--|---------------|--|--|--|------------|--|--|--|---------------------|--|--|--|--|--|--|--|--|----|---|
| Optimal | | | | | | | | | | | | | | | | | | | | | 10 | |
| | | | | | | | | | | | | | | | | | | | | | | 9 |
| | | | | | | | | | | | | | | | | | | | | | | 8 |
| | | | | | | | | | | | | | | | | | | | | | | 7 |
| Exceptional | | | | | | | | | | | | | | | | | | | | | | 6 |
| | | | | | | | | | | | | | | | | | | | | | | 5 |
| | | | | | | | | | | | | | | | | | | | | | | 4 |
| Suitable | | | | | | | | | | | | | | | | | | | | | | 3 |
| | | | | | | | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | 1 |
| | Unit Cost | | | Load Capacity | | | | Duty Cycle | | | | Positional Accuracy | | | | | | | | | | |



EVL-SERIES

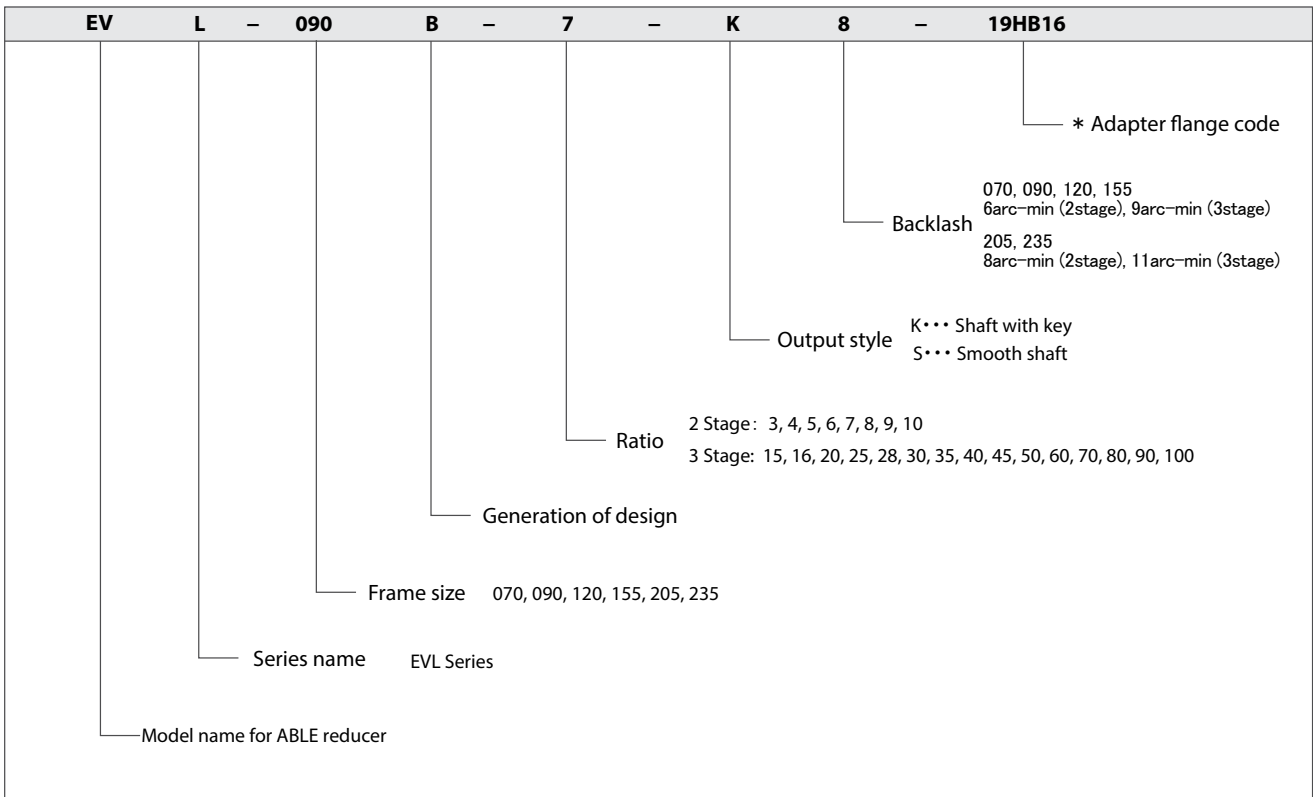
- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thread-in mounting style
- Best-in-class value for right-angle reducers
- Low backlash (≤ 6 arc/min)
- Space-saving design when minimal envelope available
- Readily available

EVL-Series – Features



- ① Space-saving features, motor can be located at a 90 degree position from the reducer providing a more compact footprint
- ② High rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ Adapter-bushing connection, enable a simple, effective attachment to most servo motors
- ④ No leakage through the seal, high viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑤ No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

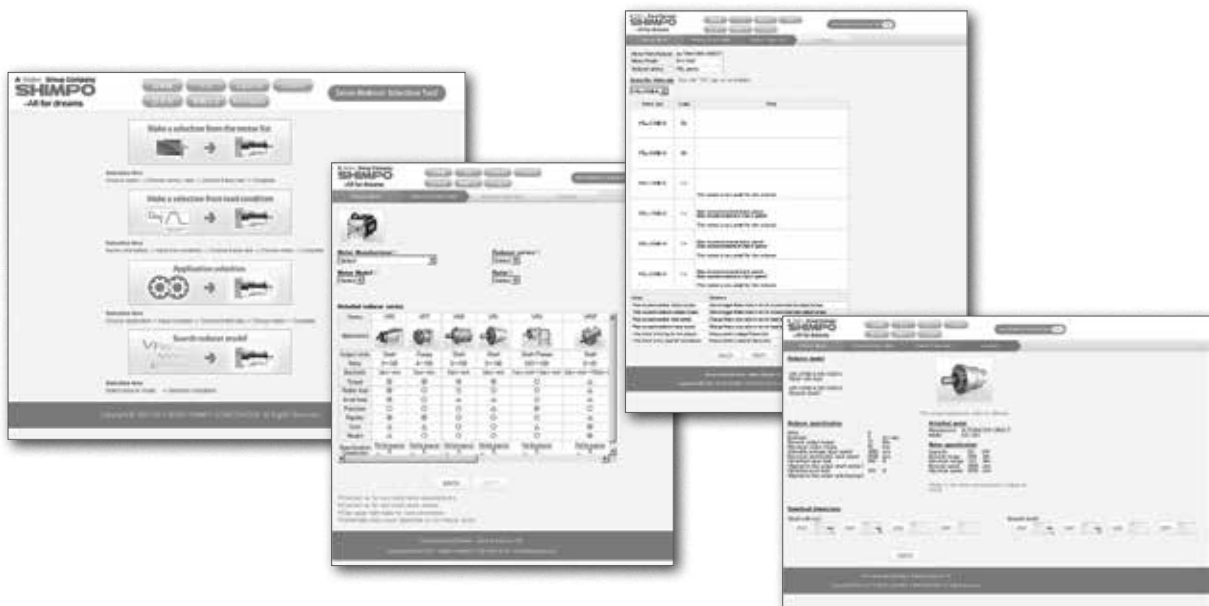
EVL-Series – Model Code



EVL

*1) Adapter flange code
 Adapter flange code varies depending on the motor.

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



EVL-070 – 2-Stage Specifications

| Frame Size | 070 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 12 | 16 | 22 | 24 | 24 | 24 | 16 | 16 |
| Maximum Acceleration Torque | [Nm] | *2 | 24 | 32 | 40 | 45 | 45 | 45 | 32 | 32 |
| Emergency Stop Torque | [Nm] | *3 | 50 | 65 | 80 | 90 | 90 | 90 | 65 | 65 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.33 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 430 | 470 | 510 | 540 | 570 | 600 | 620 | 640 |
| Permitted Axial Load | [N] | *8 | 310 | 360 | 390 | 430 | 460 | 480 | 510 | 530 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.310 | 0.270 | 0.250 | 0.240 | 0.230 | 0.230 | 0.230 | 0.230 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.390 | 0.340 | 0.320 | 0.310 | 0.310 | 0.310 | 0.300 | 0.300 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.580 | 0.530 | 0.510 | 0.500 | 0.500 | 0.500 | 0.490 | 0.490 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.9 | | | | | | | |

EVL-070 – 3-Stage Specifications

| Frame Size | 070 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 16 | 24 | 24 | 24 | 24 | 16 | 24 | 24 |
| Maximum Acceleration Torque | [Nm] | *2 | 32 | 45 | 45 | 45 | 45 | 32 | 45 | 45 |
| Emergency Stop Torque | [Nm] | *3 | 65 | 90 | 90 | 90 | 90 | 65 | 90 | 90 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.20 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 740 | 750 | 810 | 870 | 910 | 930 | 980 | 100 |
| Permitted Axial Load | [N] | *8 | 630 | 650 | 720 | 790 | 830 | 860 | 920 | 970 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.073 | 0.079 | 0.071 | 0.071 | 0.077 | 0.062 | 0.070 | 0.061 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.118 | 0.124 | 0.116 | 0.115 | 0.122 | 0.106 | 0.115 | 0.106 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.7 | | | | | | | |

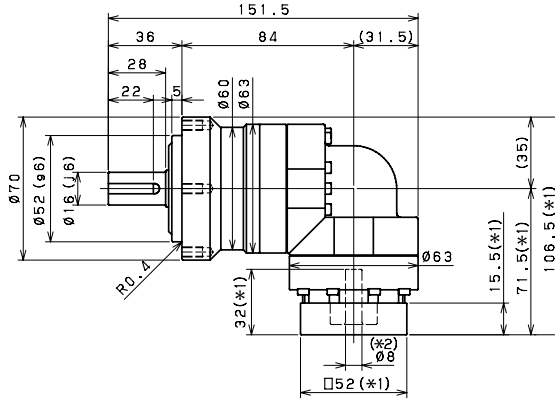
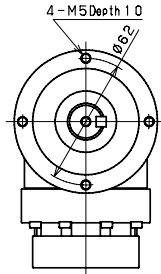
EVL-070 – 3-Stage Specifications

| Frame Size | 070 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 16 | 24 | 24 | 24 | 24 | 16 | 16 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 32 | 45 | 45 | 45 | 45 | 32 | 32 | | |
| Emergency Stop Torque | [Nm] | *3 | 65 | 90 | 90 | 90 | 90 | 65 | 65 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.20 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1100 | 1100 | 1200 | 1200 | 1200 | 1200 | 1200 | | |
| Permitted Axial Load | [N] | *8 | 1000 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | | |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.070 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.115 | 0.106 | 0.106 | 0.105 | 0.105 | 0.105 | 0.105 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.7 | | | | | | | | |

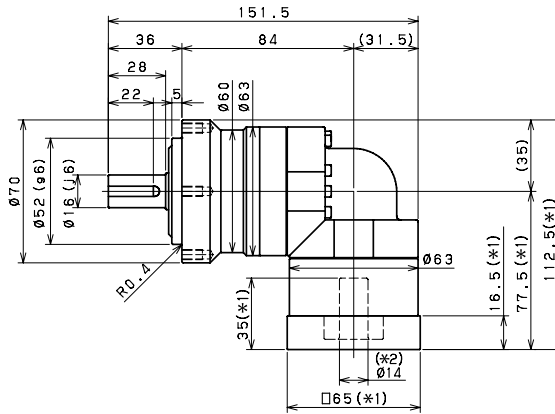
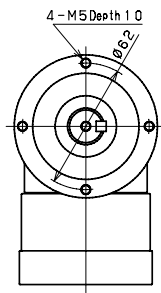
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVL070
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVL-070 – 2-Stage Dimensions

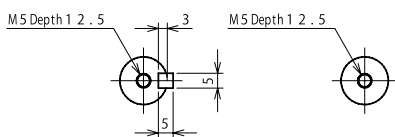
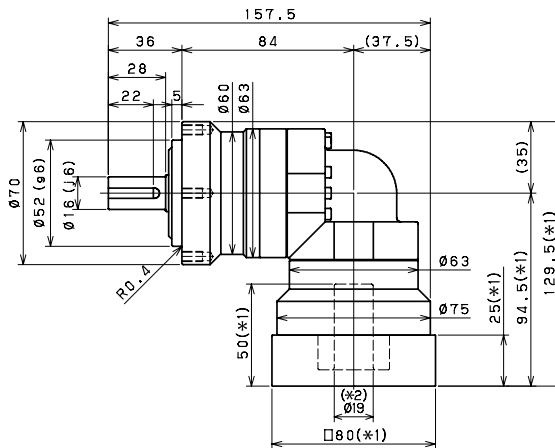
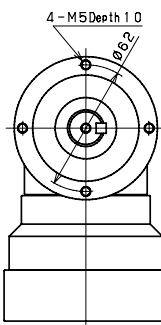
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



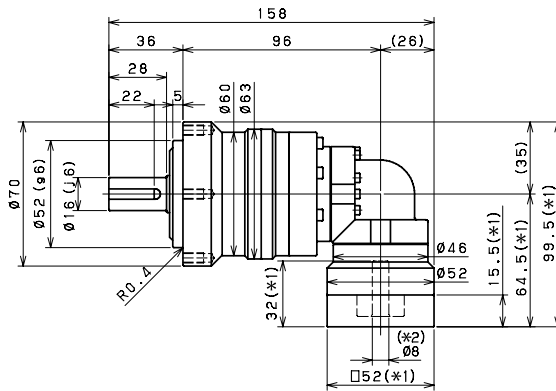
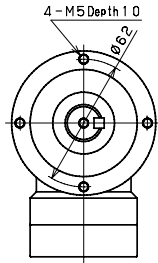
Shaft with key

Smooth shaft

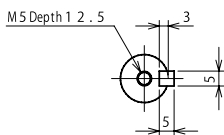
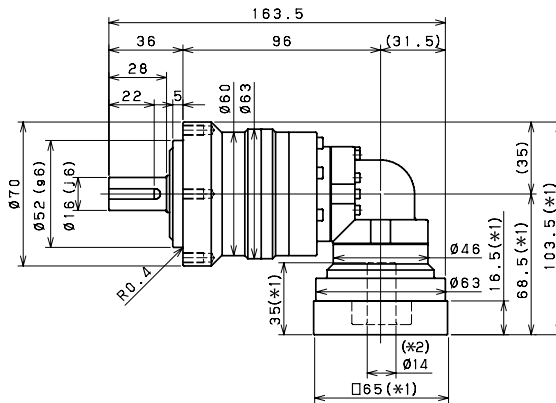
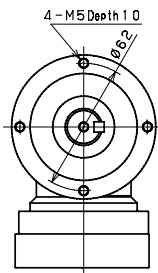
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVL-070 - 3-Stage Dimensions

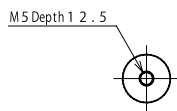
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



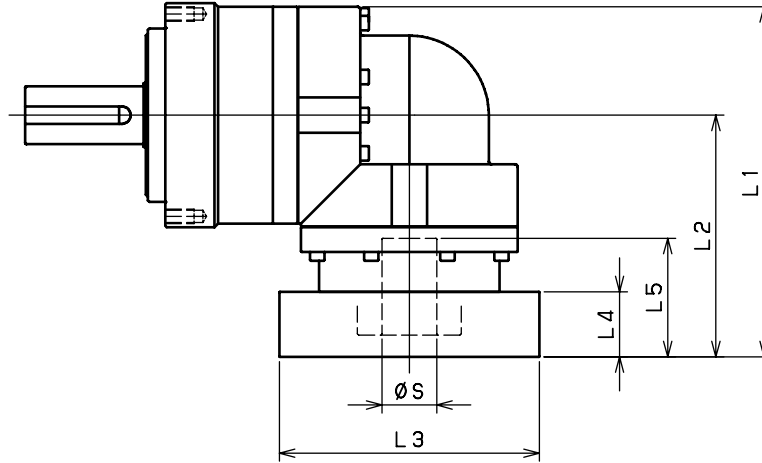
Shaft with key



Smooth shaft

- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVL-070 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-070-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 106.5 | 71.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 111.5 | 76.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 106.5 | 71.5 | □60 | 15.5 | 32 |
| | BC·BF | 111.5 | 76.5 | □60 | 20.5 | 37 |
| | CA | 111.5 | 76.5 | □70 | 20.5 | 37 |
| EVL-070-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 112.5 | 77.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 117.5 | 82.5 | □65 | 21.5 | 40 |
| | BL | 122.5 | 87.5 | □65 | 26.5 | 45 |
| | CA·CC | 112.5 | 77.5 | □70 | 16.5 | 35 |
| | CB | 117.5 | 82.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 112.5 | 77.5 | □80 | 16.5 | 35 |
| | DE·DL | 117.5 | 82.5 | □80 | 21.5 | 40 |
| | DG·DK | 122.5 | 87.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 112.5 | 77.5 | □90 | 16.5 | 35 |
| | EJ·EM | 117.5 | 82.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 122.5 | 87.5 | □90 | 26.5 | 45 |
| | FA | 112.5 | 77.5 | □100 | 16.5 | 35 |
| FB | 122.5 | 87.5 | □100 | 26.5 | 45 | |
| EVL-070-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 129.5 | 94.5 | □80 | 25 | 50 |
| | DD | 139.5 | 104.5 | □80 | 35 | 60 |
| | DE | 134.5 | 99.5 | □80 | 30 | 55 |
| | EA | 134.5 | 99.5 | □90 | 30 | 55 |
| | EB·ED | 129.5 | 94.5 | □90 | 25 | 50 |
| | EC | 139.5 | 104.5 | □90 | 35 | 60 |
| | FA | 129.5 | 94.5 | □100 | 25 | 50 |
| FB | 139.5 | 104.5 | □100 | 35 | 60 | |

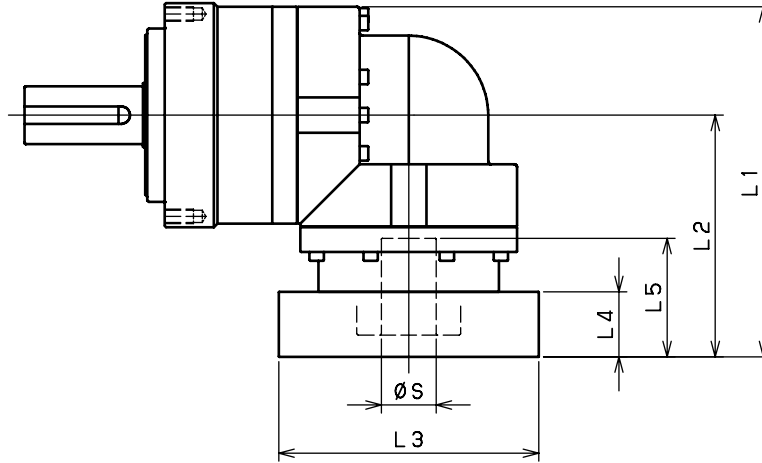
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-070 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-070-□-□-8** (5 ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 99.5 | 64.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 104.5 | 69.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 99.5 | 64.5 | □60 | 15.5 | 32 |
| | BC·BF | 104.5 | 69.5 | □60 | 20.5 | 37 |
| | CA | 104.5 | 69.5 | □70 | 20.5 | 37 |
| EVL-070-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 103.5 | 68.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 108.5 | 73.5 | □65 | 21.5 | 40 |
| | BL | 113.5 | 78.5 | □65 | 26.5 | 45 |
| | CA·CC | 103.5 | 68.5 | □70 | 16.5 | 35 |
| | CB | 108.5 | 73.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 103.5 | 68.5 | □80 | 16.5 | 35 |
| | DE·DL | 108.5 | 73.5 | □80 | 21.5 | 40 |
| | DG·DK | 113.5 | 78.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 103.5 | 68.5 | □90 | 16.5 | 35 |
| | EJ·EM | 108.5 | 73.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 113.5 | 78.5 | □90 | 26.5 | 45 |
| | FA | 103.5 | 68.5 | □100 | 16.5 | 35 |
| FB | 113.5 | 78.5 | □100 | 26.5 | 45 | |
| EVL-070-□-□-19** (14 < S ≤ 19) | DA·DB·DC | -- | -- | -- | -- | -- |
| | DD | -- | -- | -- | -- | -- |
| | DE | -- | -- | -- | -- | -- |
| | EA | -- | -- | -- | -- | -- |
| | EB·ED | -- | -- | -- | -- | -- |
| | EC | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 45 | 60 | 65 | 65 | 65 | 65 | 45 | 45 |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 90 | 90 | 90 | 90 | 90 | 65 | 65 |
| Emergency Stop Torque | [Nm] | *3 | 130 | 170 | 220 | 220 | 220 | 220 | 170 | 170 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.13 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 810 | 890 | 960 | 1000 | 1100 | 1100 | 1200 | 1200 |
| Permitted Axial Load | [N] | *8 | 930 | 1100 | 1200 | 1300 | 1300 | 1400 | 1500 | 1600 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.120 | 1.890 | 1.800 | 1.760 | 1.730 | 1.710 | 1.700 | 1.690 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.450 | 2.220 | 2.130 | 2.090 | 2.060 | 2.040 | 2.030 | 2.020 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.570 | 4.350 | 4.260 | 4.210 | 4.180 | 4.170 | 4.160 | 4.150 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 4.9 | | | | | | | |

EVL-090 – 3-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 45 | 65 | 65 | 65 | 65 | 45 | 65 | 65 |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 110 | 110 | 110 | 110 | 65 | 110 | 110 |
| Emergency Stop Torque | [Nm] | *3 | 170 | 220 | 220 | 220 | 220 | 170 | 220 | 220 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.55 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1400 | 1400 | 1500 | 1600 | 1700 | 1700 | 1800 | 1900 |
| Permitted Axial Load | [N] | *8 | 1900 | 1900 | 2100 | 2200 | 2200 | 2200 | 2200 | 2200 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.340 | 0.380 | 0.330 | 0.320 | 0.370 | 0.250 | 0.320 | 0.250 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.410 | 0.460 | 0.400 | 0.400 | 0.450 | 0.330 | 0.400 | 0.320 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.600 | 0.650 | 0.590 | 0.590 | 0.640 | 0.510 | 0.590 | 0.510 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 4.3 | | | | | | | |

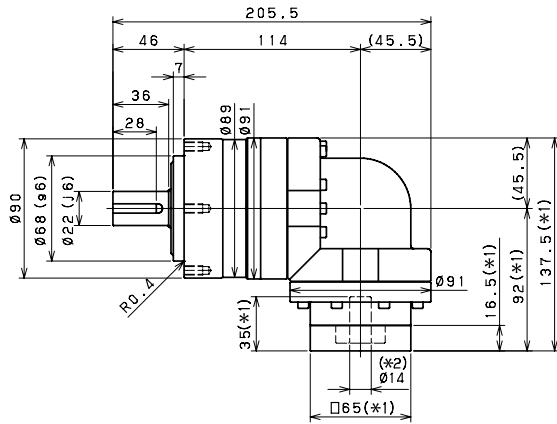
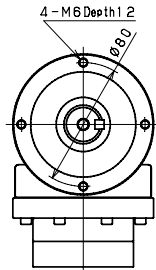
EVL-090 – 3-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 45 | 65 | 65 | 65 | 65 | 45 | 45 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 110 | 1110 | 110 | 110 | 65 | 65 | | |
| Emergency Stop Torque | [Nm] | *3 | 170 | 220 | 220 | 220 | 220 | 170 | 170 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.55 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2000 | 2100 | 2200 | 2300 | 2400 | 2400 | 2400 | | |
| Permitted Axial Load | [N] | *8 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | | |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.320 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.390 | 0.320 | 0.320 | 0.320 | 0.320 | 0.320 | 0.320 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.580 | 0.510 | 0.510 | 0.510 | 0.510 | 0.510 | 0.510 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4.3 | | | | | | | | |

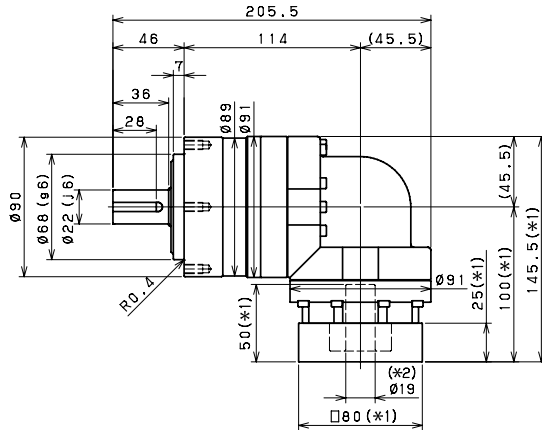
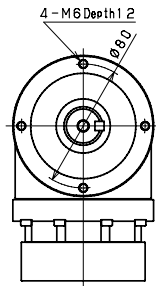
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVL090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVL-090 – 2-Stage Dimensions

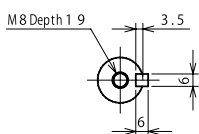
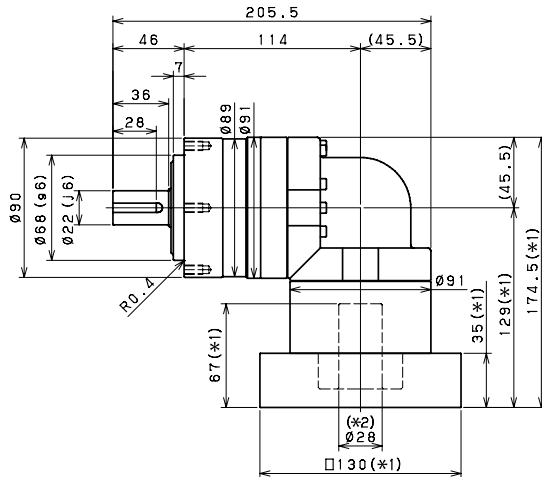
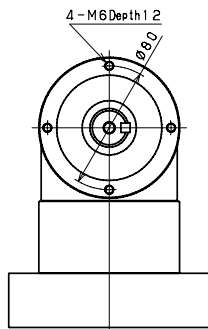
Input shaft bore $\leq \varnothing 14$



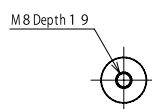
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Shaft with key



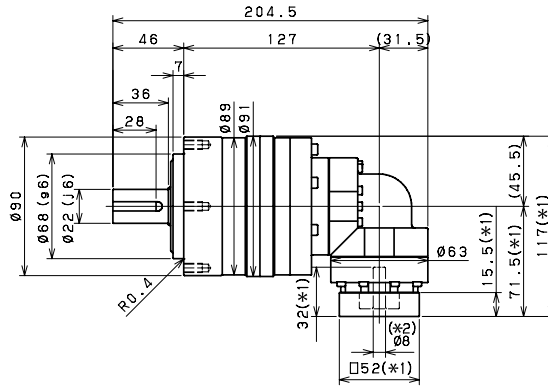
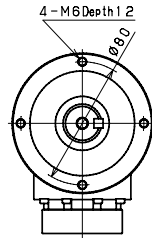
Smooth shaft

*1) Length will vary depending on motor.

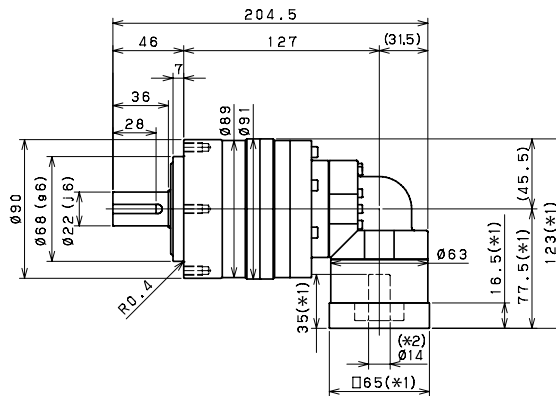
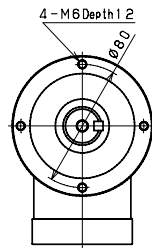
*2) Bushing will be inserted to adapt to motor shaft

EVL-090 – 3-Stage Dimensions

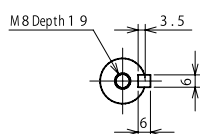
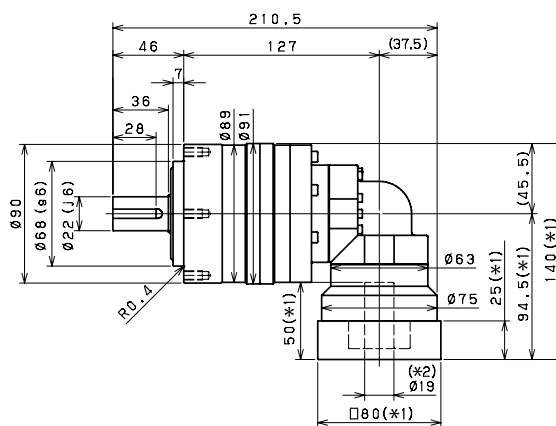
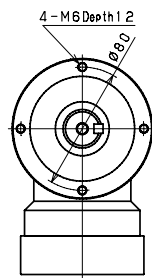
Input shaft bore $\leq \varnothing 8$



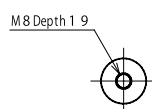
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



Shaft with key

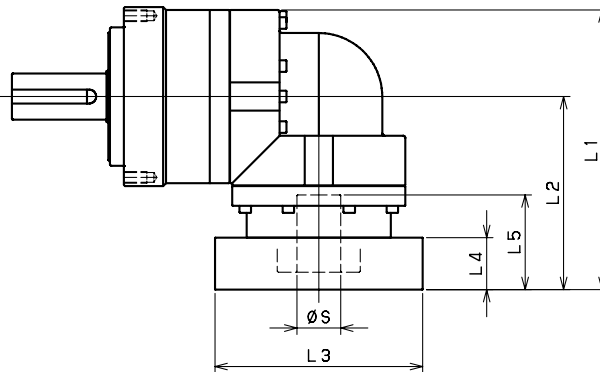


Smooth shaft

*1) Length will vary depending on motor.

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

EVL-090 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-090-□-□-8** (8 ≤ S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | -- | -- | -- | -- | -- |
| | AB·AE·AH·AJ·AK | -- | -- | -- | -- | -- |
| | BA·BB·BD·BE·BG·BH·BJ | -- | -- | -- | -- | -- |
| | CA | -- | -- | -- | -- | -- |
| EVL-090-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 137.5 | 92 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 142.5 | 97 | □65 | 21.5 | 40 |
| | CA·CC | 137.5 | 92 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 137.5 | 92 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 137.5 | 92 | □90 | 16.5 | 35 |
| | FA | 137.5 | 92 | □100 | 16.5 | 35 |
| | FB | 147.5 | 102 | □100 | 26.5 | 45 |
| EVL-090-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 145.5 | 100 | □80 | 25 | 50 |
| | EB·ED | 145.5 | 100 | □90 | 25 | 50 |
| | FA | 145.5 | 100 | □100 | 25 | 50 |
| | FB | 155.5 | 110 | □100 | 35 | 60 |
| | GA·GC·GH | 150.5 | 105 | □115 | 30 | 55 |
| | GB·GD·GJ | 145.5 | 100 | □115 | 25 | 50 |
| | GE·GF | 155.5 | 110 | □115 | 35 | 60 |
| | HA | 145.5 | 100 | □130 | 25 | 50 |
| | HB | 160.5 | 115 | □130 | 40 | 65 |
| | HC·HD·HE | 150.5 | 105 | □130 | 30 | 55 |
| EVL-090-□-□-28** (19 < S ≤ 28) | FA·FB·FC | 174.5 | 129 | □100 | 35 | 67 |
| | FD·FE | 169.5 | 124 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 174.5 | 129 | □115 | 35 | 67 |
| | HA·HC·HD | 174.5 | 129 | □130 | 35 | 67 |
| | HB | 184.5 | 139 | □130 | 45 | 77 |
| | HE | 189.5 | 144 | □130 | 50 | 82 |
| | HF | 169.5 | 124 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 174.5 | 129 | □150 | 35 | 67 |
| | JD | 194.5 | 149 | □150 | 55 | 87 |
| JE | 184.5 | 139 | □150 | 45 | 77 | |

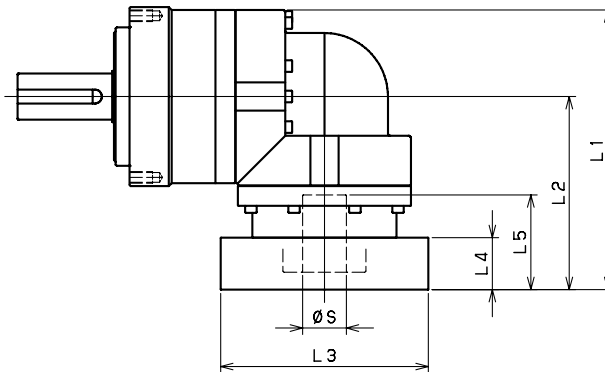
*1) Double reduction : 1/3 ~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-090 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-090-□-□-8** (8 ≤ S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 117 | 71.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 122 | 76.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 117 | 71.5 | □60 | 15.5 | 32 |
| | CA | 122 | 76.5 | □70 | 20.5 | 37 |
| EVL-090-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 123 | 77.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 128 | 82.5 | □65 | 21.5 | 40 |
| | CA·CC | 123 | 77.5 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 123 | 77.5 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 123 | 77.5 | □90 | 16.5 | 35 |
| | FA | 123 | 77.5 | □100 | 16.5 | 35 |
| | FB | 133 | 87.5 | □100 | 26.5 | 45 |
| EVL-090-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 140 | 94.5 | □80 | 25 | 50 |
| | EB·ED | 140 | 94.5 | □90 | 25 | 50 |
| | FA | 140 | 94.5 | □100 | 25 | 50 |
| | FB | 150 | 104.5 | □100 | 35 | 60 |
| | GA·GC·GH | 145 | 99.5 | □115 | 30 | 55 |
| | GB·GD·GJ | 140 | 94.5 | □115 | 25 | 50 |
| | GE·GF | 150 | 104.5 | □115 | 35 | 60 |
| | HA | 140 | 94.5 | □130 | 25 | 50 |
| | HB | 155 | 109.5 | □130 | 40 | 65 |
| | HC·HD·HE | 145 | 99.5 | □130 | 30 | 55 |
| EVL-090-□-□-28** (19 < S ≤ 28) | JA | 150 | 104.5 | □150 | 35 | 60 |
| | JB | 155 | 109.5 | □150 | 40 | 65 |
| | FA·FB·FC | -- | -- | -- | -- | -- |
| | FD·FE | -- | -- | -- | -- | -- |
| | GA·GB·GC·GD·GE·GF·GG·GH | -- | -- | -- | -- | -- |
| | HA·HC·HD | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | HE | -- | -- | -- | -- | -- |
| HF | -- | -- | -- | -- | -- | |
| JA·JB·JC·JF | -- | -- | -- | -- | -- | |
| JD | -- | -- | -- | -- | -- | |
| JE | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-120 – 2-Stage Specifications

| Frame Size | 120 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 75 | 100 | 120 | 150 | 150 | 150 | 110 | 110 |
| Maximum Acceleration Torque | [Nm] | *2 | 150 | 200 | 240 | 300 | 300 | 300 | 200 | 200 |
| Emergency Stop Torque | [Nm] | *3 | 320 | 430 | 500 | 550 | 550 | 550 | 450 | 450 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.88 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1300 | 1500 | 1600 | 1700 | 1800 | 1900 | 1900 | 2000 |
| Permitted Axial Load | [N] | *8 | 1500 | 1700 | 1900 | 2000 | 2100 | 2300 | 2400 | 2500 |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 6.740 | 5.490 | 5.020 | 4.770 | 4.650 | 4.550 | 4.490 | 4.460 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 8.340 | 7.080 | 6.610 | 6.360 | 6.240 | 6.140 | 6.080 | 6.050 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 15.410 | 14.150 | 13.690 | 13.430 | 13.310 | 13.220 | 13.160 | 13.120 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 10.2 | | | | | | | |

EVL-120 – 3-Stage Specifications

| Frame Size | 120 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 110 | 130 | 150 | 150 | 150 | 110 | 150 | 150 |
| Maximum Acceleration Torque | [Nm] | *2 | 200 | 260 | 300 | 300 | 300 | 200 | 300 | 300 |
| Emergency Stop Torque | [Nm] | *3 | 450 | 550 | 550 | 550 | 550 | 450 | 550 | 550 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.11 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2300 | 2300 | 2500 | 2700 | 2800 | 2900 | 3000 | 3200 |
| Permitted Axial Load | [N] | *8 | 3000 | 3100 | 3400 | 3700 | 3900 | 3900 | 3900 | 3900 |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 2.250 | 2.460 | 2.200 | 2.180 | 2.400 | 1.870 | 2.160 | 1.860 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 2.580 | 2.790 | 2.530 | 2.510 | 2.730 | 2.200 | 2.490 | 2.190 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 4.700 | 4.910 | 4.650 | 4.640 | 4.860 | 4.330 | 4.620 | 4.320 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 10 | | | | | | | |

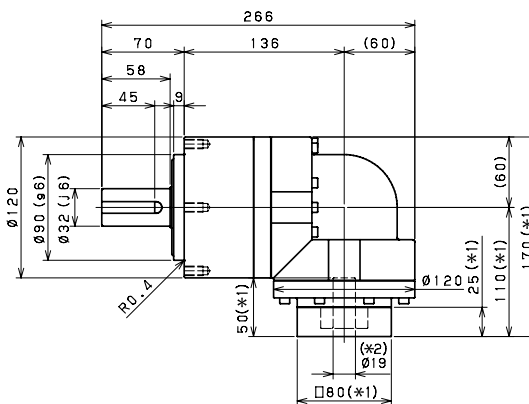
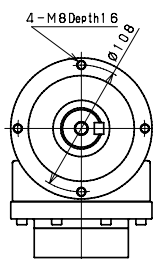
EVL-120 – 3-Stage Specifications

| Frame Size | 120 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 110 | 150 | 150 | 150 | 150 | 110 | 110 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 200 | 300 | 300 | 300 | 300 | 200 | 200 | | |
| Emergency Stop Torque | [Nm] | *3 | 450 | 550 | 550 | 550 | 550 | 450 | 450 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.11 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3300 | 3400 | 3600 | 3800 | 4000 | 4200 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.150 | 1.860 | 1.850 | 1.850 | 1.850 | 1.850 | 1.850 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.480 | 2.190 | 2.180 | 2.180 | 2.180 | 2.180 | 2.180 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.610 | 4.310 | 4.310 | 4.310 | 4.310 | 4.310 | 4.310 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 10 | | | | | | | | |

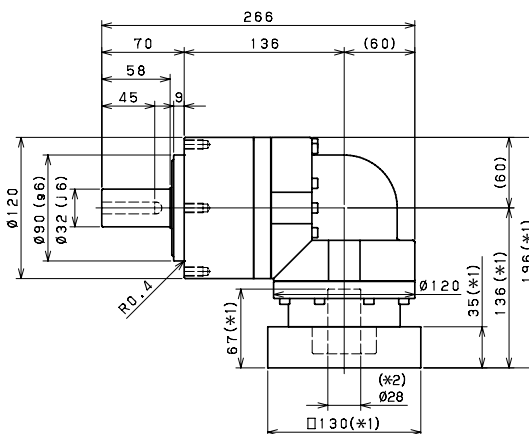
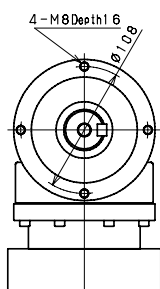
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVL120
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVL-120 – 2-Stage Dimensions

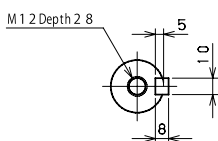
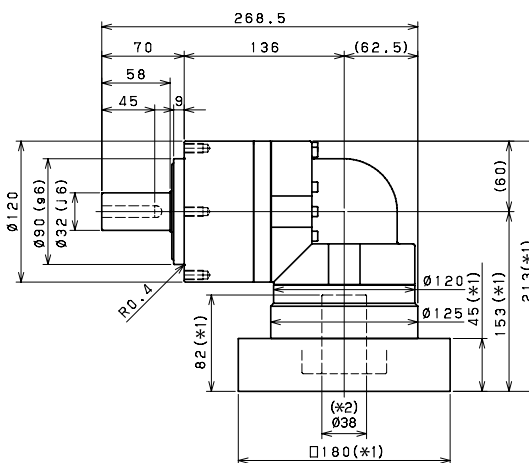
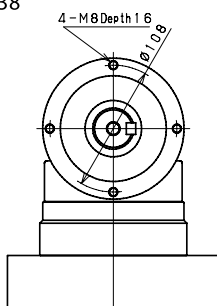
Input shaft bore $\leq \varnothing 19$



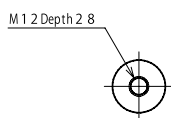
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Shaft with key

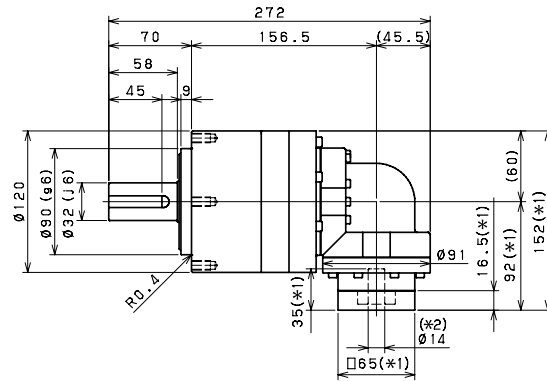
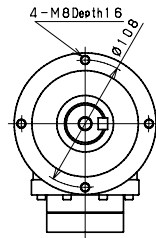


Smooth shaft

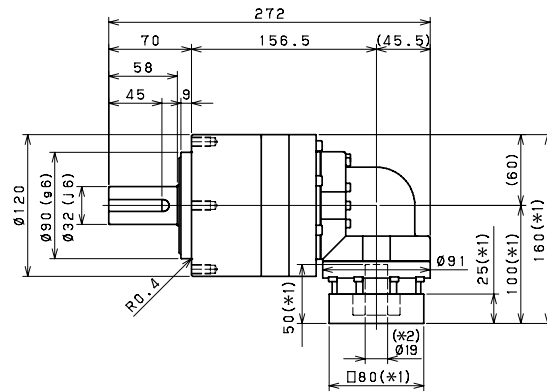
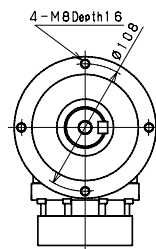
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVL-120 – 3-Stage Dimensions

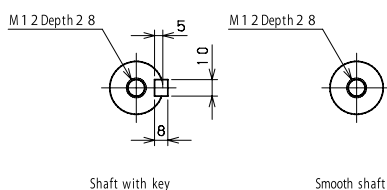
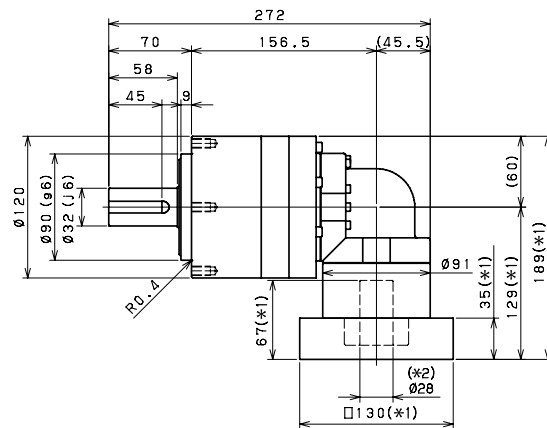
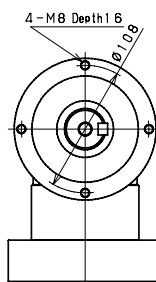
Input shaft bore $\cong \varnothing 14$



Input shaft bore $\cong \varnothing 19$

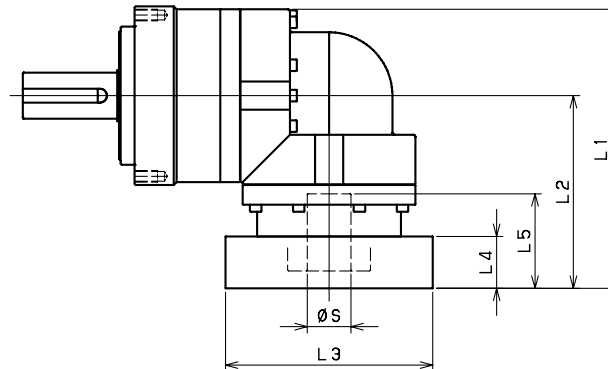


Input shaft bore $\cong \varnothing 28$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVL-120 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-120-□-□-14** (S ≤ 14) | BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP | -- | -- | -- | -- | -- |
| | BC-BH-BM-BN | -- | -- | -- | -- | -- |
| | CA-CC | -- | -- | -- | -- | -- |
| | DA-DB-DC-DD-DF-DH-DJ | -- | -- | -- | -- | -- |
| | EA-EB-EC-EF-EG-EK-EL | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- |
| EVL-120-□-□-19** (14 < S ≤ 19) | DA-DB-DC | 170 | 110 | □80 | 25 | 50 |
| | EB-ED | 170 | 110 | □90 | 25 | 50 |
| | FA | 170 | 110 | □100 | 25 | 50 |
| | FB | 180 | 120 | □100 | 35 | 60 |
| | GB-GD-GJ | 170 | 110 | □115 | 25 | 50 |
| | HA | 170 | 110 | □130 | 25 | 50 |
| | HB | 185 | 125 | □130 | 40 | 65 |
| EVL-120-□-□-28** (19 < S ≤ 28) | JA | 180 | 120 | □150 | 35 | 60 |
| | FA-FB-FC | 196 | 136 | □100 | 35 | 67 |
| | FD-FE | 191 | 131 | □100 | 30 | 62 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 196 | 136 | □115 | 35 | 67 |
| | HA-HC-HD | 196 | 136 | □130 | 35 | 67 |
| | HB | 206 | 146 | □130 | 45 | 77 |
| | HE | 211 | 151 | □130 | 50 | 82 |
| | HF | 191 | 131 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 196 | 136 | □150 | 35 | 67 |
| | JD | 216 | 156 | □150 | 55 | 87 |
| EVL-120-□-□-38** (28 < S ≤ 38) | JE | 206 | 146 | □150 | 45 | 77 |
| | KA-KB-KE | 196 | 136 | □180 | 35 | 67 |
| | KD | 206 | 146 | □180 | 45 | 77 |
| | HA | 213 | 153 | □130 | 45 | 82 |
| | HB-HE | 208 | 148 | □130 | 40 | 77 |
| | JA | 213 | 153 | □150 | 45 | 82 |
| | KA-KB-KC | 213 | 153 | □180 | 45 | 82 |
| | KD | 248 | 188 | □180 | 80 | 117 |
| | KE | 228 | 168 | □180 | 60 | 97 |

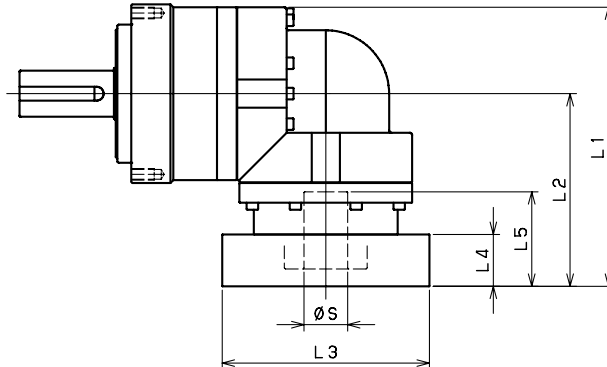
*1) Double reduction : 1/3~1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-120 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-----|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-120-□-□-14** (S ≤ 14) | BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP | 152 | 92 | □65 | 16.5 | 35 |
| | BC•BH•BM•BN | 157 | 97 | □65 | 21.5 | 40 |
| | CA•CC | 152 | 92 | □70 | 16.5 | 35 |
| | DA•DB•DC•DD•DF•DH•DJ | 152 | 92 | □80 | 16.5 | 35 |
| | EA•EB•EC•EF•EG•EK•EL | 152 | 92 | □90 | 16.5 | 35 |
| | FA | 152 | 92 | □100 | 16.5 | 35 |
| | FB | 162 | 102 | □100 | 26.5 | 45 |
| EVL-120-□-□-19** (14 < S ≤ 19) | DA•DB•DC | 160 | 100 | □80 | 25 | 50 |
| | EB•ED | 160 | 100 | □90 | 25 | 50 |
| | FA | 160 | 100 | □100 | 25 | 50 |
| | FB | 170 | 110 | □100 | 35 | 60 |
| | GB•GD•GJ | 160 | 100 | □115 | 25 | 50 |
| | HA | 160 | 100 | □130 | 25 | 50 |
| | HB | 175 | 115 | □130 | 40 | 65 |
| EVL-120-□-□-28** (19 < S ≤ 28) | JA | 170 | 110 | □150 | 35 | 60 |
| | FA•FB•FC | 189 | 129 | □100 | 35 | 67 |
| | FD•FE | 184 | 124 | □100 | 30 | 62 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 189 | 129 | □115 | 35 | 67 |
| | HA•HC•HD | 189 | 129 | □130 | 35 | 67 |
| | HB | 199 | 139 | □130 | 45 | 77 |
| | HE | 204 | 144 | □130 | 50 | 82 |
| | HF | 184 | 124 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 189 | 129 | □150 | 35 | 67 |
| | JD | 209 | 149 | □150 | 55 | 87 |
| EVL-120-□-□-38** (28 < S ≤ 38) | JE | 199 | 139 | □150 | 45 | 77 |
| | KA•KB•KE | 189 | 129 | □180 | 35 | 67 |
| | KD | 199 | 139 | □180 | 45 | 77 |
| | HA | -- | -- | -- | -- | -- |
| | HB•HE | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| | KA•KB•KC | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-155 – 2-Stage Specifications

| Frame Size | 155 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 130 | 170 | 200 | 260 | 300 | 300 | 200 | 200 |
| Maximum Acceleration Torque | [Nm] | *2 | 260 | 340 | 400 | 520 | 600 | 600 | 400 | 400 |
| Emergency Stop Torque | [Nm] | *3 | 700 | 950 | 1100 | 1100 | 1100 | 1100 | 750 | 750 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 3.26 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3200 | 3500 | 3800 | 4000 | 4200 | 4400 | 4600 | 4700 |
| Permitted Axial Load | [N] | *8 | 2400 | 2700 | 3000 | 3300 | 3500 | 3700 | 3900 | 4100 |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 23.130 | 18.570 | 16.910 | 16.010 | 15.580 | 15.230 | 14.770 | 14.660 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 27.500 | 22.940 | 21.280 | 20.380 | 19.950 | 19.610 | 19.410 | 19.030 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 40.730 | 36.170 | 34.510 | 33.610 | 33.180 | 32.840 | 32.370 | 32.260 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 19.8 | | | | | | | |

EVL-155 – 3-Stage Specifications

| Frame Size | 155 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 200 | 300 | 300 | 300 | 300 | 200 | 300 | 300 |
| Maximum Acceleration Torque | [Nm] | *2 | 400 | 600 | 600 | 600 | 600 | 400 | 600 | 600 |
| Emergency Stop Torque | [Nm] | *3 | 750 | 1100 | 1100 | 1100 | 1100 | 750 | 1100 | 1100 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.56 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5400 | 5500 | 6000 | 6400 | 6700 | 6800 | 7200 | 7500 |
| Permitted Axial Load | [N] | *8 | 4900 | 5000 | 5500 | 6100 | 6400 | 6600 | 7000 | 7500 |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 6.400 | 7.290 | 6.220 | 6.150 | 7.090 | 4.990 | 6.090 | 4.950 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 8.000 | 8.880 | 7.810 | 7.750 | 8.680 | 6.580 | 7.690 | 6.540 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 15.070 | 15.960 | 14.890 | 14.820 | 15.760 | 13.660 | 14.760 | 13.610 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 20.4 | | | | | | | |

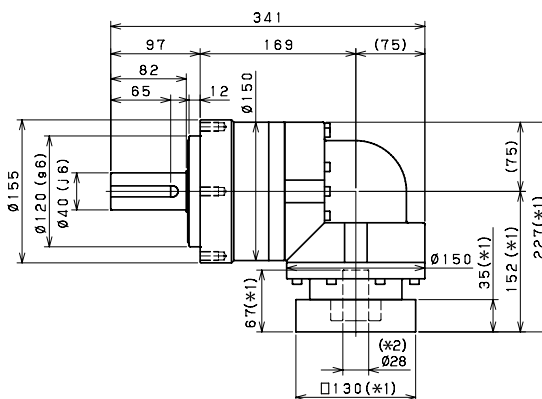
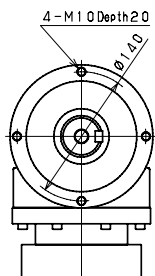
EVL-155 – 3-Stage Specifications

| Frame Size | 155 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 200 | 300 | 300 | 300 | 300 | 200 | 200 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 400 | 600 | 600 | 600 | 600 | 400 | 400 | | |
| Emergency Stop Torque | [Nm] | *3 | 750 | 1100 | 1100 | 1100 | 1100 | 750 | 750 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 7800 | 8100 | 8600 | 9100 | 9100 | 9100 | 9100 | | |
| Permitted Axial Load | [N] | *8 | 7900 | 8200 | 8200 | 8200 | 8200 | 8200 | 8200 | | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 6.070 | 4.930 | 4.920 | 4.910 | 4.910 | 4.910 | 4.910 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 7.660 | 6.520 | 6.510 | 6.510 | 6.500 | 6.500 | 6.500 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 14.740 | 13.590 | 13.590 | 13.580 | 13.580 | 13.570 | 13.570 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 20.4 | | | | | | | | |

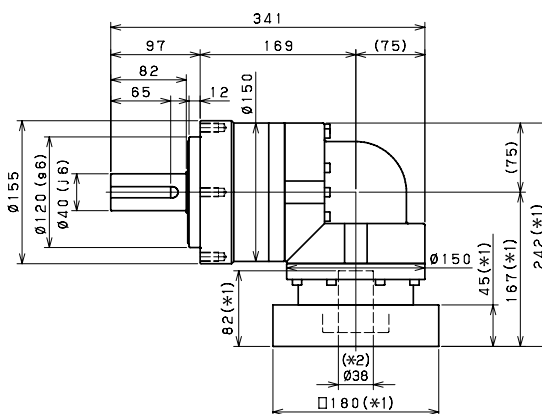
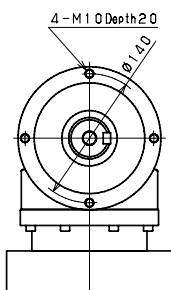
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2000 rpm for EVL155
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVL-155 – 2-Stage Dimensions

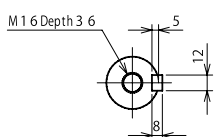
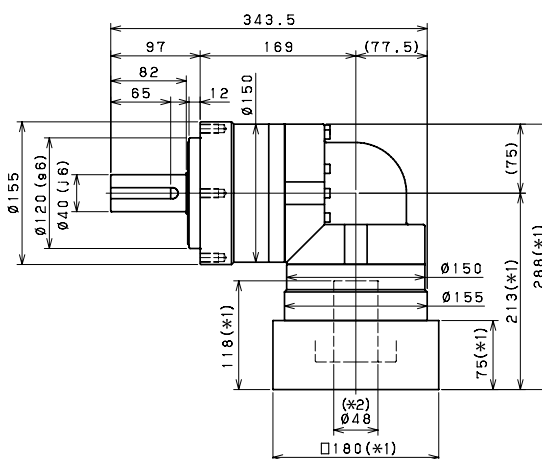
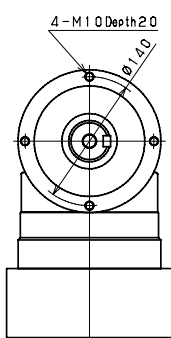
Input shaft bore $\leq \varnothing 28$



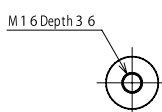
Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Shaft with key



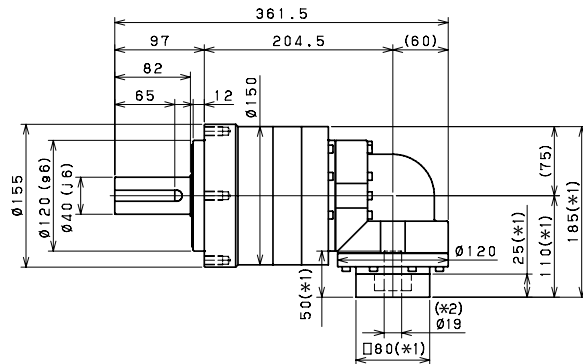
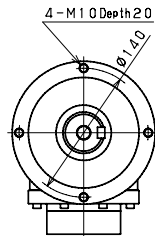
Smooth shaft

*1) Length will vary depending on motor.

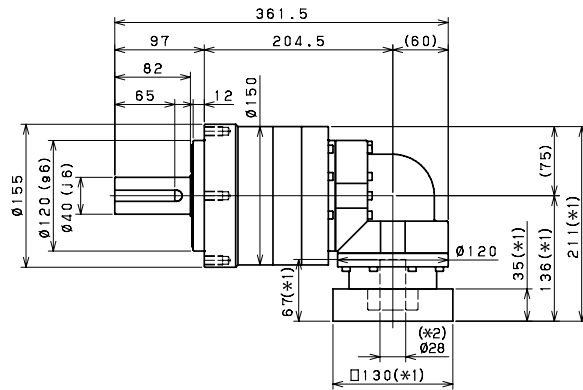
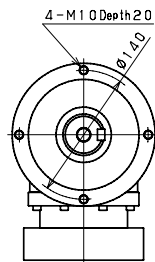
*2) Bushing will be inserted to adapt to motor shaft

EVL-155 – 3-Stage Dimensions

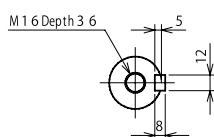
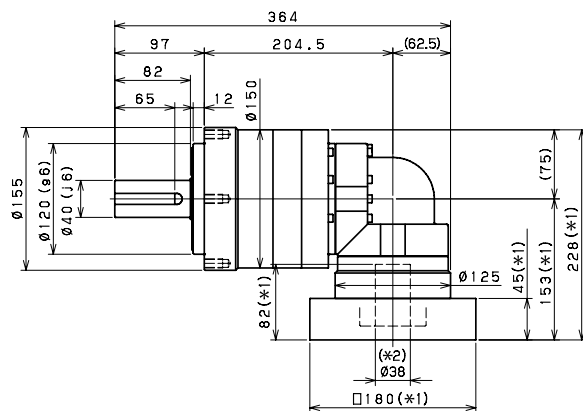
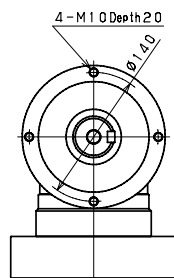
Input shaft bore $\leq \varnothing 19$



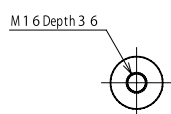
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Shaft with key

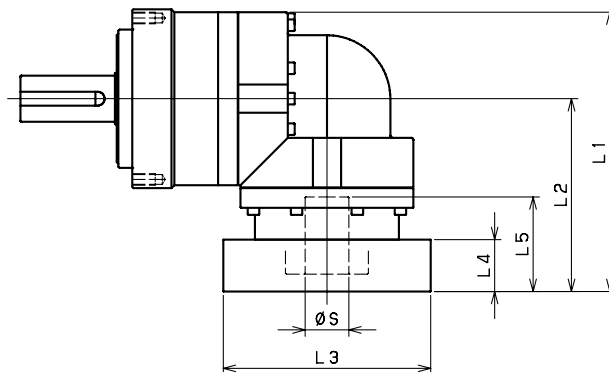


Smooth shaft

*1) Length will vary depending on motor.

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

EVL-155 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|---------------------------------|-------------------------|---------|------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-155-□-□-19** (S≤19) | DA-DB-DC | -- | -- | -- | -- | -- |
| | EB-ED | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- |
| | GB-GD-GJ | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| EVL-155-□-□-28** (19< S≤ 28) | FA-FB-FC | 229.5 | 152 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 229.5 | 152 | □115 | 35 | 67 |
| | HA-HC-HD | 229.5 | 152 | □130 | 35 | 67 |
| | HB | 239.5 | 162 | □130 | 45 | 77 |
| | HF | 224.5 | 147 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 229.5 | 152 | □150 | 35 | 67 |
| | KA-KB-KE | 229.5 | 152 | □180 | 35 | 67 |
| | LA | 229.5 | 152 | □200 | 35 | 67 |
| | LB | 239.5 | 162 | □200 | 45 | 77 |
| | MA | 229.5 | 152 | □220 | 35 | 67 |
| EVL-155-□-□-38** (28< S≤ 38) | MB | 239.5 | 162 | □220 | 45 | 77 |
| | HA | 244.5 | 167 | □130 | 45 | 82 |
| | HB-HE | 239.5 | 162 | □130 | 40 | 77 |
| | JA | 244.5 | 167 | □150 | 45 | 82 |
| | KA-KB-KC | 244.5 | 167 | □180 | 45 | 82 |
| | KD | 279.5 | 202 | □180 | 80 | 117 |
| | KE | 259.5 | 182 | □180 | 60 | 97 |
| | LB | 254.5 | 177 | □200 | 55 | 92 |
| | MA-MB | 244.5 | 167 | □220 | 45 | 82 |
| EVL-155-□-□-48** (38< S≤ 48) | MC | 259.5 | 182 | □220 | 60 | 97 |
| | MD | 254.5 | 177 | □220 | 55 | 92 |
| | KA | 290.5 | 213 | □180 | 75 | 118 |
| | KB-KC | 270.5 | 193 | □180 | 55 | 98 |
| | LA | 270.5 | 193 | □200 | 55 | 98 |
| MA | 270.5 | 193 | □220 | 55 | 98 | |
| MB | 290.5 | 213 | □220 | 75 | 118 | |

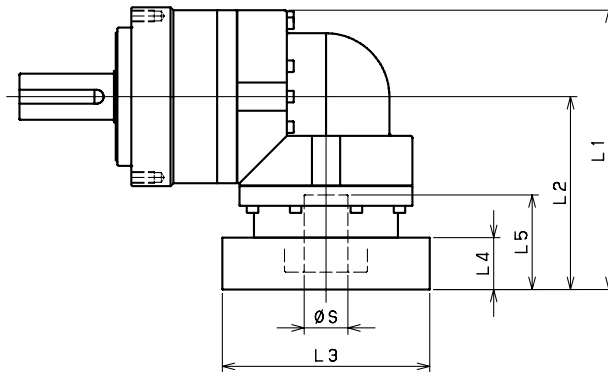
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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EVL-155 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-------------------------------|-------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-155-□-□-19** (S≤19) | DA-DB-DC | 187.5 | 110 | □80 | 25 | 50 |
| | EB-ED | 187.5 | 110 | □90 | 25 | 50 |
| | FA | 187.5 | 110 | □100 | 25 | 50 |
| | FB | 197.5 | 120 | □100 | 35 | 60 |
| | GB-GD-GJ | 187.5 | 110 | □115 | 25 | 50 |
| | HA | 187.5 | 110 | □130 | 25 | 50 |
| | HB | 202.5 | 125 | □130 | 40 | 65 |
| EVL-155-□-□-28** (19<S≤28) | JA | 197.5 | 120 | □150 | 35 | 60 |
| | FA-FB-FC | 213.5 | 136 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 213.5 | 136 | □115 | 35 | 67 |
| | HA-HC-HD | 213.5 | 136 | □130 | 35 | 67 |
| | HB | 223.5 | 146 | □130 | 45 | 77 |
| | HF | 208.5 | 131 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 213.5 | 136 | □150 | 35 | 67 |
| | KA-KB-KE | 213.5 | 136 | □180 | 35 | 67 |
| | LA | 213.5 | 136 | □200 | 35 | 67 |
| | LB | 223.5 | 146 | □200 | 45 | 77 |
| EVL-155-□-□-38** (28<S≤38) | MA | 213.5 | 136 | □220 | 35 | 67 |
| | MB | 223.5 | 146 | □220 | 45 | 77 |
| | HA | 230.5 | 153 | □130 | 45 | 82 |
| | HB-HE | 225.5 | 148 | □130 | 40 | 77 |
| | JA | 230.5 | 153 | □150 | 45 | 82 |
| | KA-KB-KC | 230.5 | 153 | □180 | 45 | 82 |
| | KD | 265.5 | 188 | □180 | 80 | 117 |
| | KE | 245.5 | 168 | □180 | 60 | 97 |
| | LB | 240.5 | 163 | □200 | 55 | 92 |
| EVL-155-□-□-48** (38<S≤48) | MA-MB | 230.5 | 153 | □220 | 45 | 82 |
| | MC | 245.5 | 168 | □220 | 60 | 97 |
| | MD | 240.5 | 163 | □220 | 55 | 92 |
| | KA | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- |
| EVL-155-□-□-48** (38<S≤48) | LA | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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EVL-205 – 2-Stage Specifications

| Frame Size | 205 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 400 | 575 | 600 | 600 | 600 | 600 | 400 | 400 |
| Maximum Acceleration Torque | [Nm] | *2 | 575 | 770 | 960 | 1120 | 1120 | 1120 | 775 | 775 |
| Emergency Stop Torque | [Nm] | *3 | 1300 | 1700 | 2000 | 2500 | 2500 | 2500 | 2000 | 2000 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.8 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5600 | 6200 | 6700 | 7100 | 7400 | 7800 | 8100 | 8400 |
| Permitted Axial Load | [N] | *8 | 4300 | 4900 | 5400 | 5800 | 6300 | 6600 | 7000 | 7300 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 93.71 | 77.72 | 71.89 | 68.74 | 66.43 | 65.27 | 64.60 | 64.28 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 128.6 | 112.6 | 106.8 | 103.6 | 101.3 | 100.1 | 99.46 | 99.14 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 214.2 | 198.2 | 192.4 | 189.2 | 186.9 | 185.7 | 185.1 | 184.7 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 8 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 52 | | | | | | | |

EVL-205 – 3-Stage Specifications

| Frame Size | 205 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 400 | 555 | 600 | 600 | 600 | 400 | 600 | 600 |
| Maximum Acceleration Torque | [Nm] | *2 | 775 | 1120 | 1120 | 1120 | 1120 | 775 | 1120 | 1120 |
| Emergency Stop Torque | [Nm] | *3 | 2000 | 2500 | 2500 | 2500 | 2500 | 2000 | 2500 | 2500 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 4.7 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9600 | 9800 | 11000 | 11000 | 12000 | 12000 | 13000 | 13000 |
| Permitted Axial Load | [N] | *8 | 8700 | 8900 | 9900 | 11000 | 11000 | 12000 | 13000 | 13000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 11.49 | 12.09 | 11.15 | 10.98 | 11.59 | 10.33 | 10.83 | 10.24 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 20.28 | 20.88 | 19.94 | 19.77 | 20.38 | 19.11 | 19.62 | 19.03 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 25.10 | 25.70 | 24.76 | 24.59 | 25.20 | 23.94 | 24.44 | 23.85 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 11 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | |

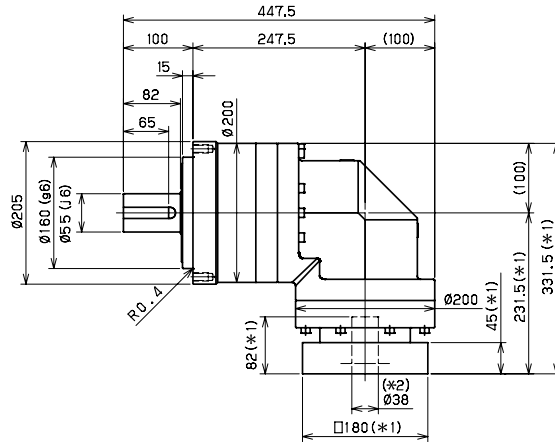
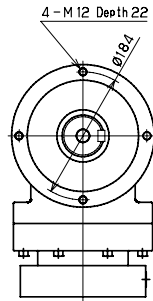
EVL-205 – 3-Stage Specifications

| Frame Size | 205 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 400 | 600 | 600 | 600 | 600 | 400 | 400 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 775 | 1120 | 1120 | 1120 | 1120 | 775 | 775 | | |
| Emergency Stop Torque | [Nm] | *3 | 2000 | 2500 | 2500 | 2500 | 2500 | 2000 | 2000 | | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 4.7 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 10.76 | 10.20 | 10.18 | 10.16 | 10.15 | 10.15 | 10.14 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 19.55 | 18.99 | 18.96 | 18.95 | 18.94 | 18.93 | 18.93 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 24.37 | 23.81 | 23.78 | 23.77 | 23.76 | 23.75 | 23.75 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 11 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | | |

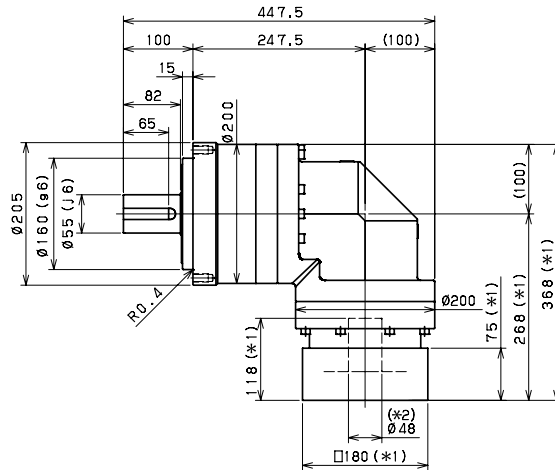
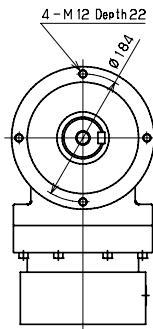
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1500 rpm for EVL205
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVL-205 – 2-Stage Dimensions

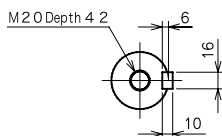
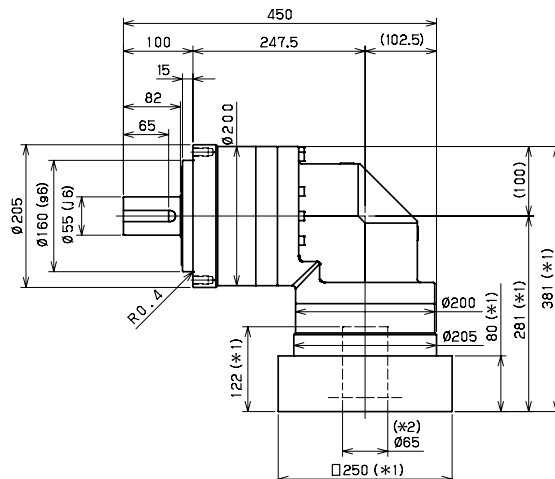
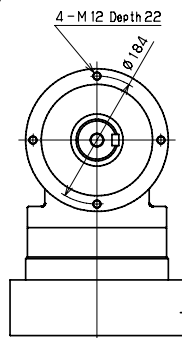
Input shaft bore $\leq \varnothing 38$



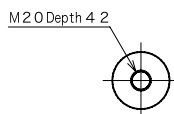
Input shaft bore $\leq \varnothing 48$



Input shaft bore $\leq \varnothing 65$



Shaft with key



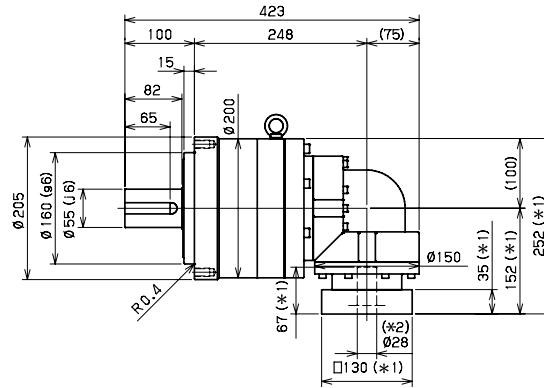
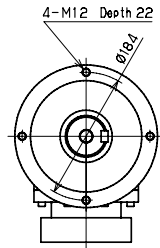
Smooth shaft

*1) Length will vary depending on motor.

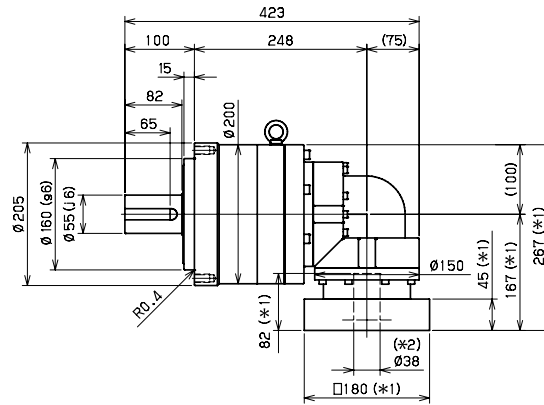
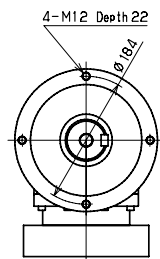
*2) Bushing will be inserted to adapt to motor shaft

EVL-205 – 3-Stage Dimensions

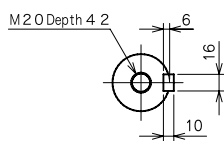
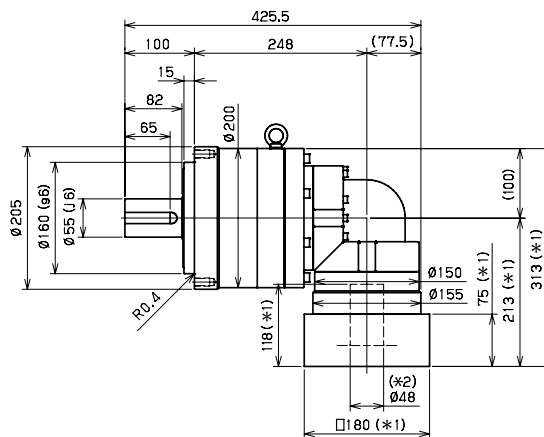
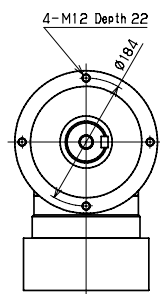
Input shaft bore $\leq \varnothing 28$



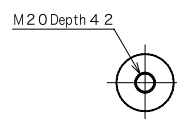
Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Shaft with key

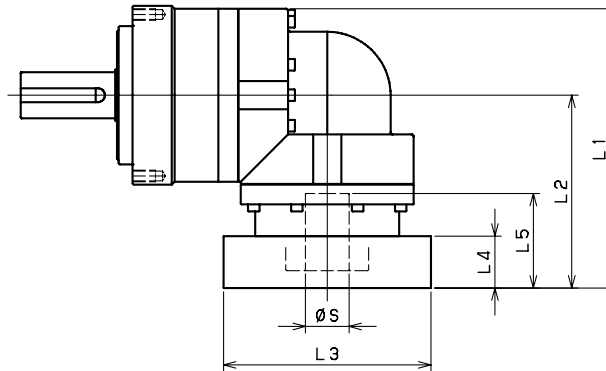


Smooth shaft

*1) Length will vary depending on motor.

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

EVL-205 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|--|-------------------------|---------|-------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-205-□-□-28** ($S \leq 28$) | FA•FB•FC | -- | -- | -- | -- | -- |
| | GA•GB•GC•GD•GE•GF•GG•GH | -- | -- | -- | -- | -- |
| | HA•HC•HD | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- |
| | JA•JB•JC•JF | -- | -- | -- | -- | -- |
| | KA•KB•KE | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- |
| EVL-205-□-□-38** ($28 < S \leq 38$) | HA | 331.5 | 231.5 | □130 | 45 | 82 |
| | HB•HE | 326.5 | 226.5 | □130 | 40 | 77 |
| | JA | 331.5 | 231.5 | □150 | 45 | 82 |
| | KA•KB•KC | 331.5 | 231.5 | □180 | 45 | 82 |
| | KD | 366.5 | 266.5 | □180 | 80 | 117 |
| | KE | 346.5 | 246.5 | □180 | 60 | 97 |
| | LA | 331.5 | 231.5 | □200 | 45 | 82 |
| | LB | 341.5 | 241.5 | □200 | 55 | 92 |
| | MA•MB | 331.5 | 231.5 | □220 | 45 | 82 |
| | MC | 346.5 | 246.5 | □220 | 60 | 97 |
| EVL-205-□-□-48** ($38 < S \leq 48$) | MD | 341.5 | 241.5 | □220 | 55 | 92 |
| | NA | 331.5 | 231.5 | □250 | 45 | 82 |
| | KA | 368 | 268 | □180 | 75 | 118 |
| | KB•KC | 348 | 248 | □180 | 55 | 98 |
| | LA | 348 | 248 | □200 | 55 | 98 |
| | MA | 348 | 248 | □220 | 55 | 98 |
| | MB | 368 | 268 | □220 | 75 | 118 |
| EVL-205-□-□-65** ($48 < S \leq 65$) | NA | 368 | 268 | □250 | 75 | 118 |
| | PA | 368 | 268 | □280 | 75 | 118 |
| | MA•MB•MC•MD | 381 | 281 | □220 | 80 | 122 |
| | NA•NC | 381 | 281 | □250 | 80 | 122 |
| | NB•ND | 411 | 311 | □250 | 110 | 152 |
| PA | 401 | 301 | □280 | 100 | 142 | |
| PB | 411 | 311 | □280 | 110 | 152 | |

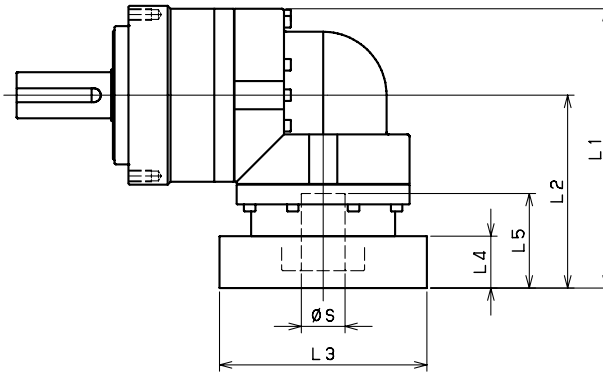
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-205 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------|---------|------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-205-□-□-28** (S ≤ 28) | FA•FB•FC | 252 | 152 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 252 | 152 | □115 | 35 | 67 |
| | HA•HC•HD | 252 | 152 | □130 | 35 | 67 |
| | HB | 262 | 162 | □130 | 45 | 77 |
| | HF | 247 | 147 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 252 | 152 | □150 | 35 | 67 |
| | KA•KB•KE | 252 | 152 | □180 | 35 | 67 |
| | LA | 252 | 152 | □200 | 35 | 67 |
| | LB | 262 | 162 | □200 | 45 | 77 |
| | MA | 252 | 152 | □220 | 35 | 67 |
| MB | 262 | 162 | □220 | 45 | 77 | |
| EVL-205-□-□-38** (28 < S ≤ 38) | HA | 267 | 167 | □130 | 45 | 82 |
| | HB•HE | 262 | 162 | □130 | 40 | 77 |
| | JA | 267 | 167 | □150 | 45 | 82 |
| | KA•KB•KC | 267 | 167 | □180 | 45 | 82 |
| | KD | 302 | 202 | □180 | 80 | 117 |
| | KE | 282 | 182 | □180 | 60 | 97 |
| | LA | 267 | 167 | □200 | 45 | 82 |
| | LB | 277 | 177 | □200 | 55 | 92 |
| | MA•MB | 267 | 167 | □220 | 45 | 82 |
| | MC | 282 | 182 | □220 | 60 | 97 |
| MD | 277 | 177 | □220 | 55 | 92 | |
| NA | 267 | 167 | □250 | 45 | 82 | |
| EVL-205-□-□-48** (38 < S ≤ 48) | KA | 313 | 213 | □180 | 75 | 118 |
| | KB•KC | 293 | 193 | □180 | 55 | 98 |
| | LA | 293 | 193 | □200 | 55 | 98 |
| | MA | 293 | 193 | □220 | 55 | 98 |
| | MB | 313 | 213 | □220 | 75 | 118 |
| | NA | 313 | 213 | □250 | 75 | 118 |
| PA | 313 | 213 | □280 | 75 | 118 | |
| EVL-205-□-□-65** (48 < S ≤ 65) | MA•MB•MC•MD | -- | -- | -- | -- | -- |
| | NA•NC | -- | -- | -- | -- | -- |
| | NB•ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-235 – 2-Stage Specifications

| Frame Size | 235 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 575 | 765 | 960 | 1150 | 1200 | 1200 | 800 | 800 |
| Maximum Acceleration Torque | [Nm] | *2 | 1015 | 1355 | 1695 | 1840 | 1840 | 1760 | 1520 | 1280 |
| Emergency Stop Torque | [Nm] | *3 | 2500 | 3300 | 4000 | 4500 | 4500 | 4500 | 3600 | 3600 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 14.5 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5800 | 6400 | 6900 | 7300 | 7700 | 8000 | 8400 | 8700 |
| Permitted Axial Load | [N] | *8 | 6400 | 7200 | 7900 | 8600 | 9200 | 9700 | 10000 | 11000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 148.00 | 122.90 | 113.30 | 108.10 | 104.70 | 102.70 | 101.60 | 101.00 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 223.20 | 198.10 | 188.60 | 183.30 | 180.00 | 178.00 | 176.80 | 176.20 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 8 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 68 | | | | | | | |

EVL-235 – 3-Stage Specifications

| Frame Size | 235 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 800 | 1200 | 1200 | 1200 | 1200 | 800 | 1200 | 1200 |
| Maximum Acceleration Torque | [Nm] | *2 | 1280 | 1840 | 1840 | 1840 | 1840 | 1280 | 1840 | 1840 |
| Emergency Stop Torque | [Nm] | *3 | 3600 | 4500 | 4500 | 4500 | 4500 | 3600 | 4500 | 4500 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.2 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9900 | 10000 | 11000 | 12000 | 12000 | 13000 | 13000 | 14000 |
| Permitted Axial Load | [N] | *8 | 13000 | 13000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 36.32 | 37.24 | 35.75 | 35.47 | 36.39 | 34.39 | 35.21 | 34.25 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 66.14 | 67.06 | 65.57 | 65.28 | 66.21 | 64.21 | 65.03 | 64.07 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 11 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 70 | | | | | | | |

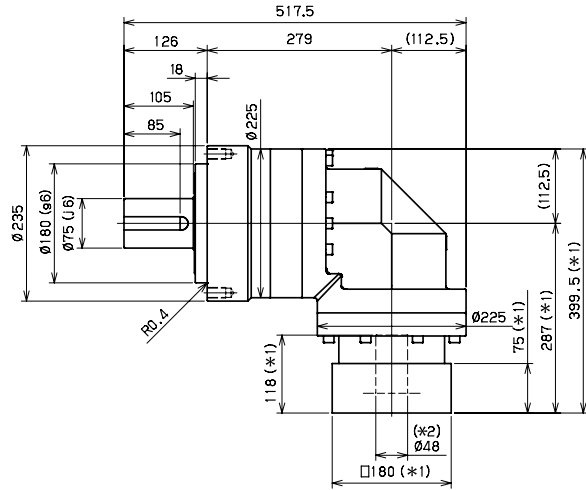
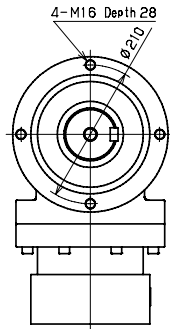
EVL-235 – 3-Stage Specifications

| Frame Size | 235 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 800 | 1200 | 1200 | 1200 | 1200 | 800 | 800 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1040 | 1840 | 1840 | 1840 | 1440 | 1040 | 960 | | |
| Emergency Stop Torque | [Nm] | *3 | 3600 | 4500 | 4500 | 4500 | 4500 | 3600 | 3600 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.2 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 35.10 | 34.18 | 34.14 | 34.11 | 34.10 | 34.09 | 34.08 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 64.92 | 63.99 | 63.95 | 63.93 | 63.91 | 63.90 | 63.90 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 11 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 70 | | | | | | | | |

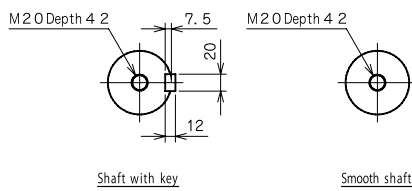
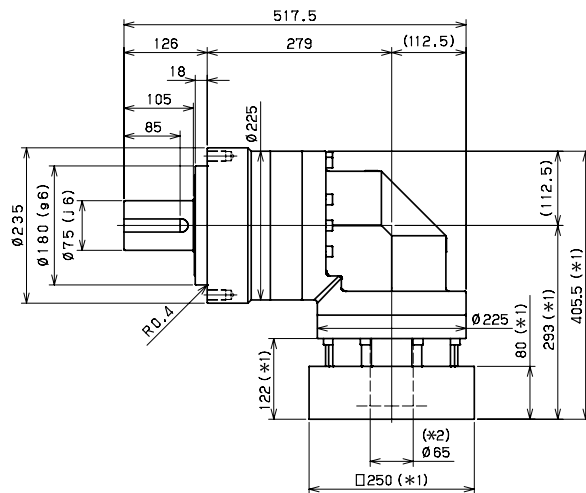
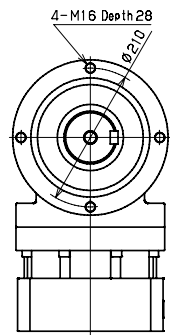
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1000 rpm for EVL235
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVL-235 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



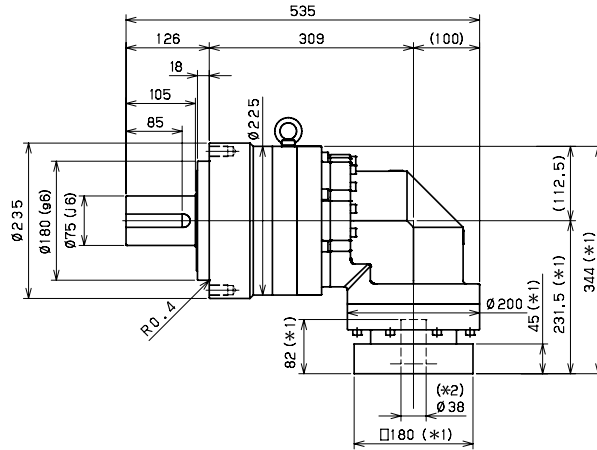
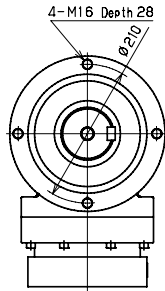
Input shaft bore $\leq \varnothing 65$



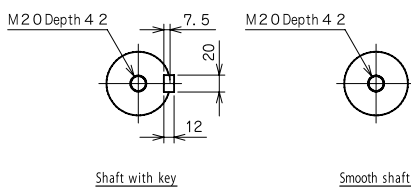
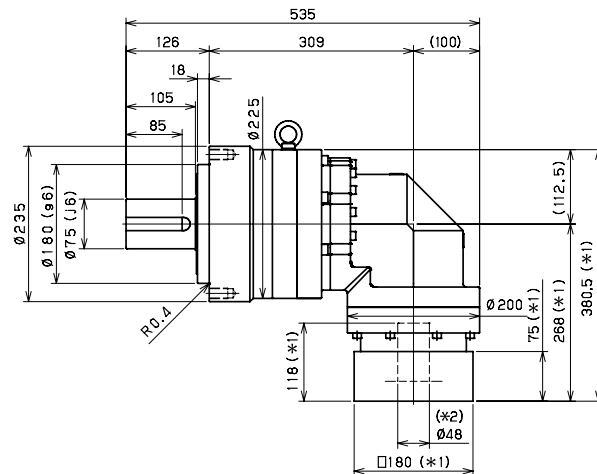
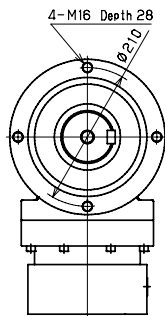
- *1) Length will vary depending on motor.
- *2) Bushing will be inserted to adapt to motor shaft

EVL-235 – 3-Stage Dimensions

Input shaft bore $\leq \varnothing 38$

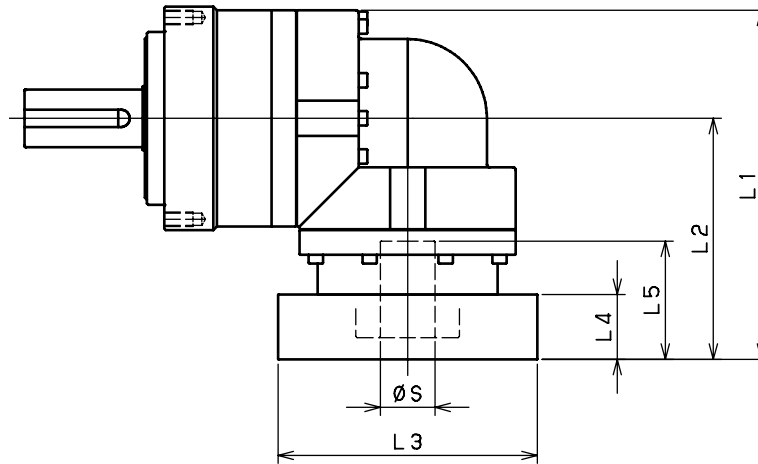


Input shaft bore $\leq \varnothing 48$



- *1) Length will vary depending on motor.
- *2) Bushing will be inserted to adapt to motor shaft

EVL-235 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|------------------|---------|-----|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-235-□-□-38** (S ≤ 38) | HA | -- | -- | -- | -- | -- |
| | HB-HE | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| | KA-KB-KC | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- |
| | MA-MB | -- | -- | -- | -- | -- |
| | MC | -- | -- | -- | -- | -- |
| | MD | -- | -- | -- | -- | -- |
| EVL-235-□-□-48** (38 < S ≤ 48) | KA | 399.5 | 287 | □180 | 75 | 118 |
| | KB-KC | 379.5 | 267 | □180 | 55 | 98 |
| | LA | 379.5 | 267 | □200 | 55 | 98 |
| | MA | 379.5 | 267 | □220 | 55 | 98 |
| | MB | 399.5 | 287 | □220 | 75 | 118 |
| | NA | 399.5 | 287 | □250 | 75 | 118 |
| | PA | 399.5 | 287 | □280 | 75 | 118 |
| EVL-235-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | 405.5 | 293 | □220 | 80 | 122 |
| | NA-NC | 405.5 | 293 | □250 | 80 | 122 |
| | NB-ND | 435.5 | 323 | □250 | 110 | 152 |
| | PA | 425.5 | 313 | □280 | 100 | 142 |
| | PB | 435.5 | 323 | □280 | 110 | 152 |
| | QA-QB | 425.5 | 313 | □320 | 100 | 142 |

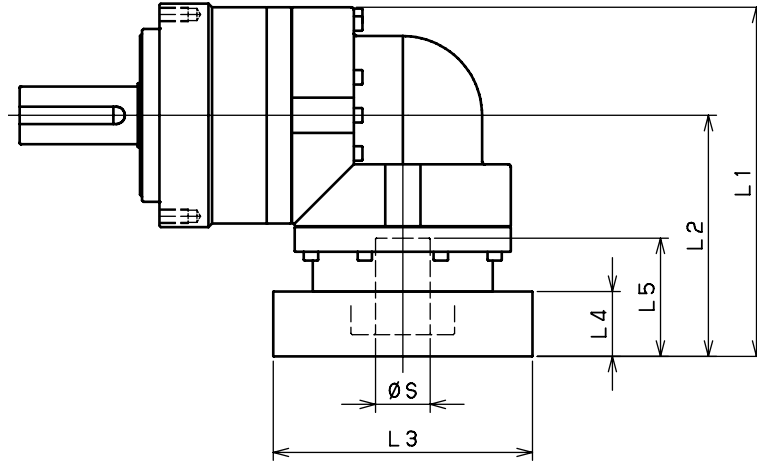
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVL-235 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|------------------|---------|-------|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVL-235-□-□-38** (S ≤ 38) | HA | 344 | 231.5 | □130 | 45 | 82 |
| | HB-HE | 339 | 226.5 | □130 | 40 | 77 |
| | JA | 344 | 231.5 | □150 | 45 | 82 |
| | KA-KB-KC | 344 | 231.5 | □180 | 45 | 82 |
| | KD | 379 | 266.5 | □180 | 80 | 117 |
| | KE | 359 | 246.5 | □180 | 60 | 97 |
| | LA | 344 | 231.5 | □200 | 45 | 82 |
| | LB | 354 | 241.5 | □200 | 55 | 92 |
| | MA-MB | 344 | 231.5 | □220 | 45 | 82 |
| | MC | 359 | 246.5 | □220 | 60 | 97 |
| | MD | 354 | 241.5 | □220 | 55 | 92 |
| NA | 344 | 231.5 | □250 | 45 | 82 | |
| EVL-235-□-□-48** (38 < S ≤ 48) | KA | 380.5 | 268 | □180 | 75 | 118 |
| | KB-KC | 360.5 | 248 | □180 | 55 | 98 |
| | LA | 360.5 | 248 | □200 | 55 | 98 |
| | MA | 360.5 | 248 | □220 | 55 | 98 |
| | MB | 380.5 | 268 | □220 | 75 | 118 |
| | NA | 380.5 | 268 | □250 | 75 | 118 |
| EVL-235-□-□-65** (48 < S ≤ 65) | PA | 380.5 | 268 | □280 | 75 | 118 |
| | MA-MB-MC-MD | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| PB | -- | -- | -- | -- | -- | |
| QA-QB | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

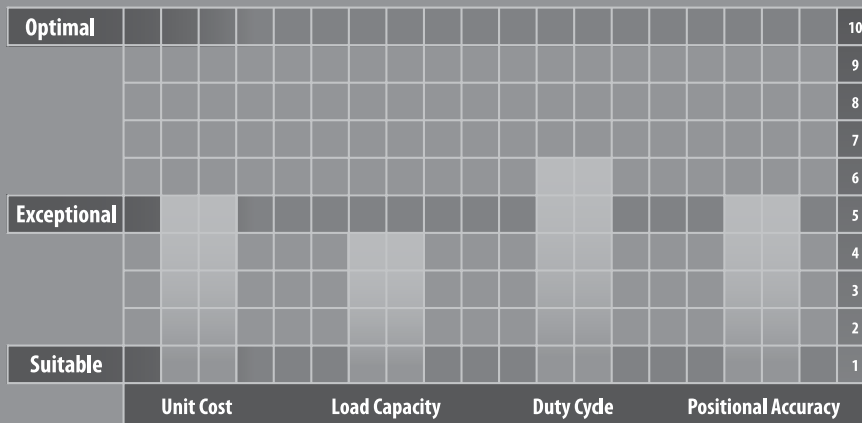
For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-SERIES

This gearbox series is the right-angle version of the VRB, offering a compact configuration and output design that provides an OEM with maximum versatility. The through-bolt flange design at the output makes it much easier to assemble the reducer onto machinery. A 1:1 spiral bevel gear for the right-angle connection maintains good positional accuracy at ratios ranging from 3:1 – 100:1. The EVB units will have a minimum backlash of 4 arc/minutes and maximum loads approaching 600 Nm.

Equipment manufacturers building custom assembly automation systems will find the flexibility and space-saving features of the EVB an ideal fit for their unique projects. The EVB provides an excellent option when performance, space, and cost all equally impact your reducer selection.

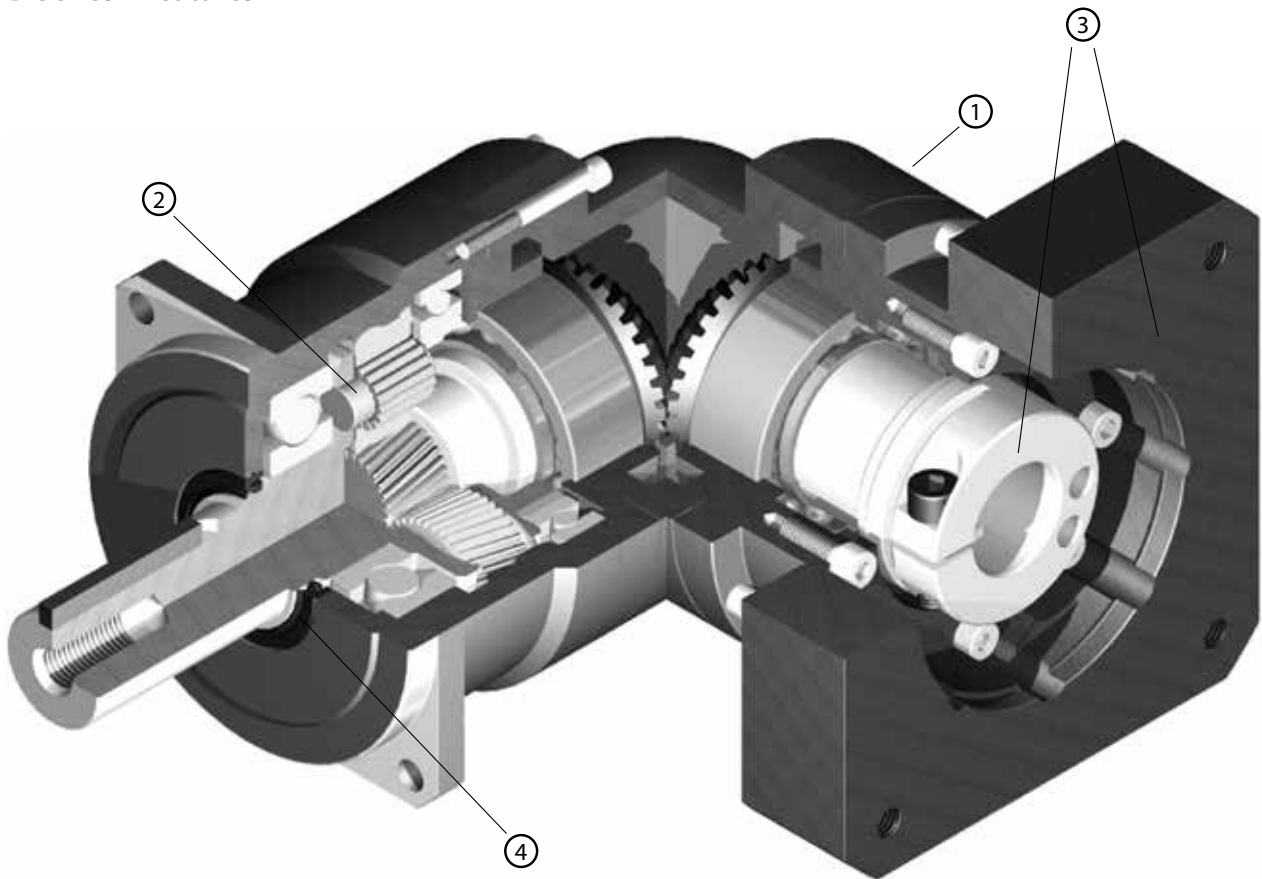




EVB-SERIES

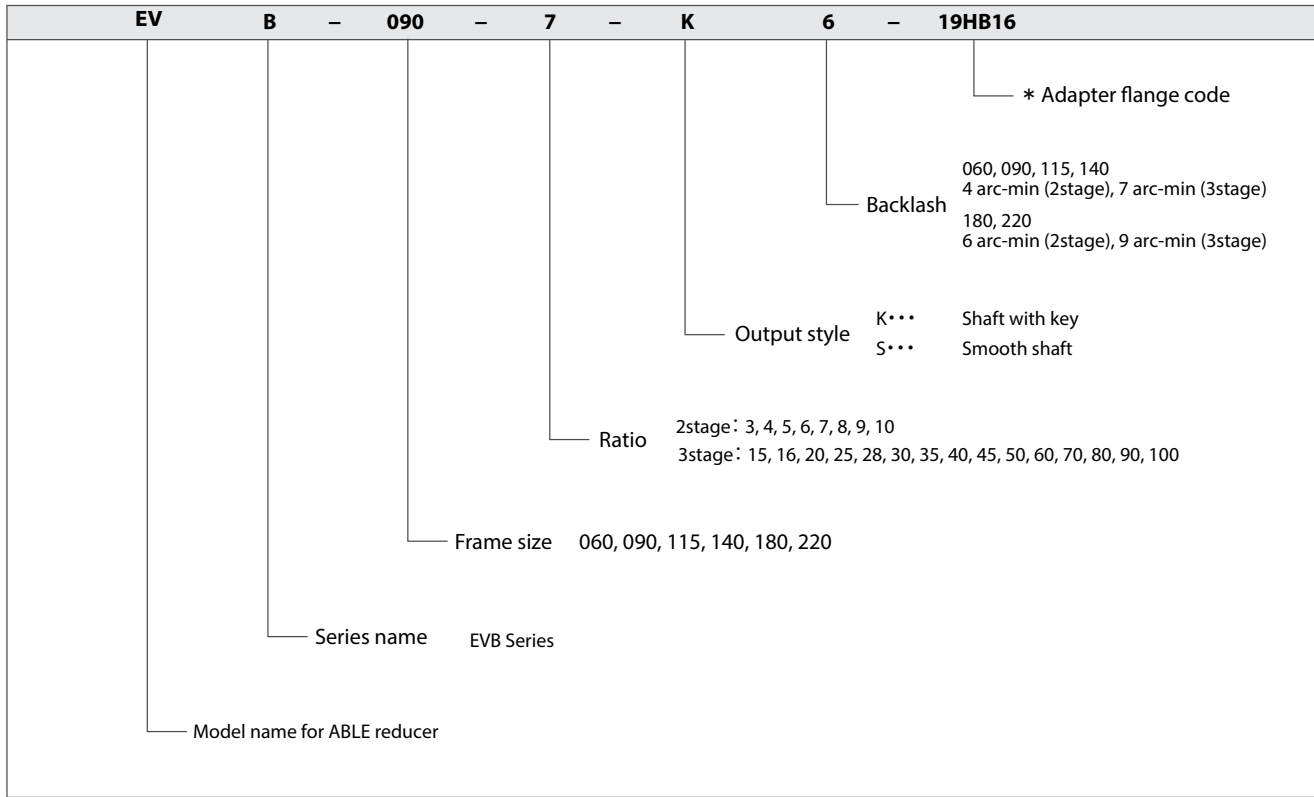
- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thru-bolt mounting style
- Maximum flexibility for mounting and clearance constraints
- Low backlash (≤ 4 arc/min)
- Space-saving design, when minimal envelope required
- Readily available

EVB-Series – Features



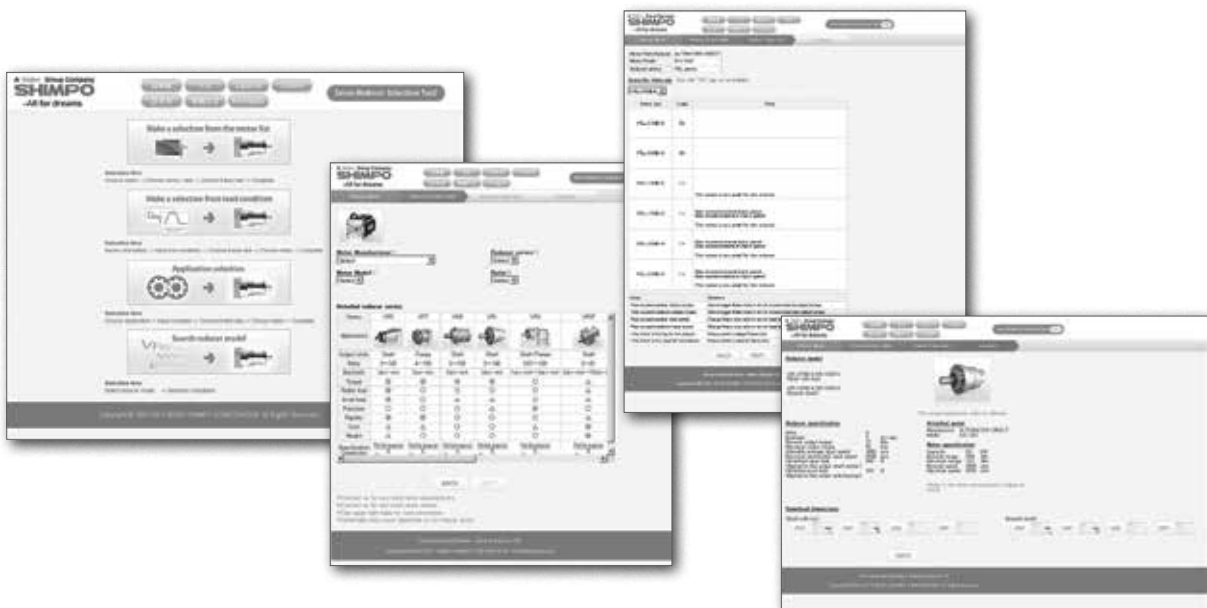
- ① Space-saving features; motor can be located at a 90 degree position from the reducer providing a more compact footprint
- ② High rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ Adapter-bushing connection; enable a simple, effective attachment to most servo motors
- ④ No leakage through the seal; high viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑤ No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

EVB-Series – Model Code



*1) Adapter flange code
 Adapter flange code varies depending on the motor.

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



EVB

EVB-o6o – 2-Stage Specifications

| Frame Size | 060 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 12 | 16 | 22 | 24 | 24 | 24 | 16 | 16 |
| Maximum Acceleration Torque | [Nm] | *2 | 24 | 32 | 40 | 45 | 45 | 45 | 32 | 32 |
| Emergency Stop Torque | [Nm] | *3 | 50 | 65 | 80 | 90 | 90 | 90 | 65 | 65 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.33 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 430 | 470 | 510 | 540 | 570 | 600 | 620 | 640 |
| Permitted Axial Load | [N] | *8 | 310 | 360 | 390 | 430 | 460 | 480 | 510 | 530 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.310 | 0.270 | 0.250 | 0.240 | 0.230 | 0.230 | 0.230 | 0.230 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.390 | 0.340 | 0.320 | 0.310 | 0.310 | 0.310 | 0.300 | 0.300 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.580 | 0.530 | 0.510 | 0.500 | 0.500 | 0.500 | 0.490 | 0.490 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.8 | | | | | | | |

EVB-o6o – 3-Stage Specifications

| Frame Size | 060 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 16 | 24 | 24 | 24 | 24 | 16 | 24 | 24 |
| Maximum Acceleration Torque | [Nm] | *2 | 32 | 45 | 45 | 45 | 45 | 32 | 45 | 45 |
| Emergency Stop Torque | [Nm] | *3 | 65 | 90 | 90 | 90 | 90 | 65 | 90 | 90 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.20 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 740 | 750 | 810 | 870 | 910 | 930 | 980 | 1000 |
| Permitted Axial Load | [N] | *8 | 630 | 650 | 720 | 790 | 830 | 860 | 920 | 970 |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.073 | 0.079 | 0.071 | 0.071 | 0.077 | 0.062 | 0.070 | 0.061 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.118 | 0.124 | 0.116 | 0.115 | 0.122 | 0.106 | 0.115 | 0.106 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | | |

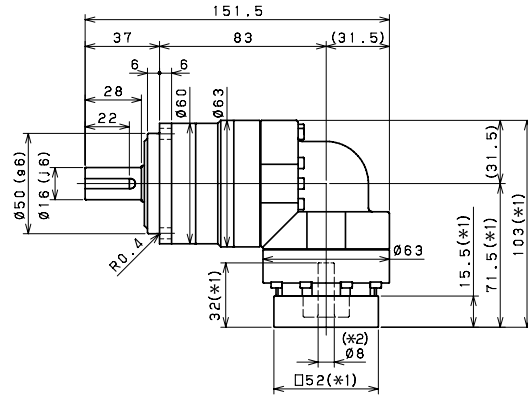
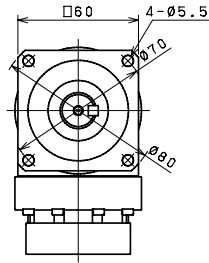
EVB-o6o – 3-Stage Specifications

| Frame Size | 060 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 16 | 24 | 24 | 24 | 24 | 16 | 16 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 32 | 45 | 45 | 45 | 45 | 32 | 32 | | |
| Emergency Stop Torque | [Nm] | *3 | 65 | 90 | 90 | 90 | 90 | 65 | 65 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.20 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1100 | 1100 | 1200 | 1200 | 1200 | 1200 | 1200 | | |
| Permitted Axial Load | [N] | *8 | 1000 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | | |
| Maximum Radial Load | [N] | *9 | 1200 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 1100 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.070 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.115 | 0.106 | 0.106 | 0.105 | 0.105 | 0.105 | 0.105 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.6 | | | | | | | | |

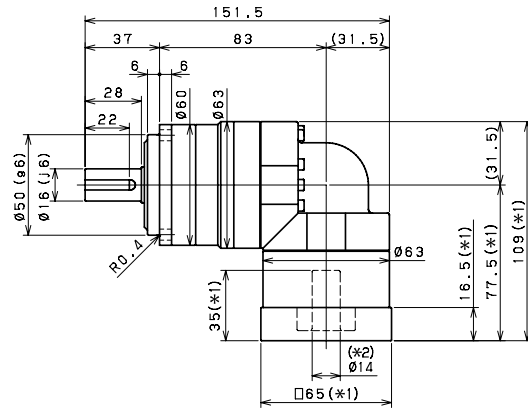
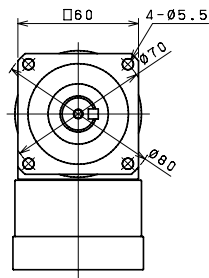
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVBo6o
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVB-o60 – 2-Stage Dimensions

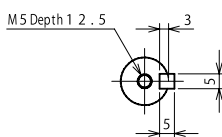
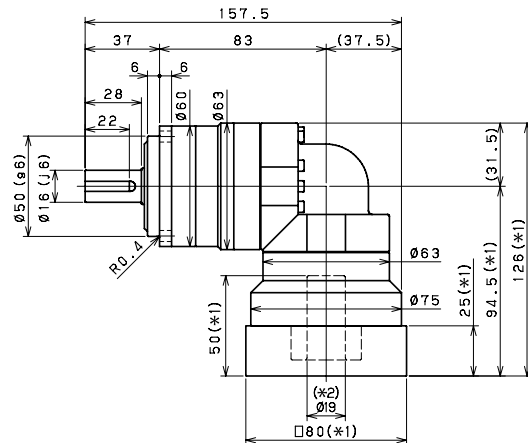
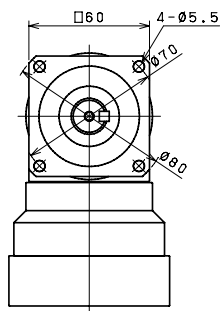
Input shaft bore $\cong \varnothing 8$



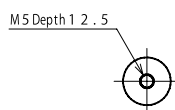
Input shaft bore $\cong \varnothing 14$



Input shaft bore $\cong \varnothing 19$



Shaft with key

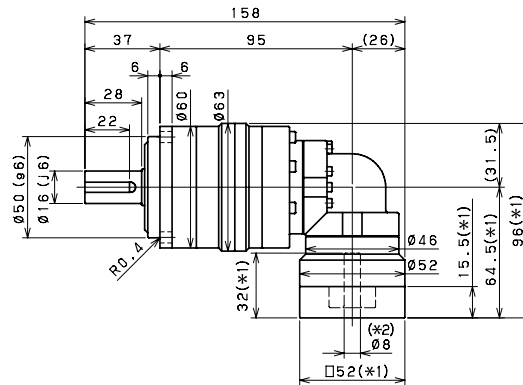
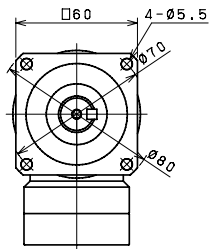


Smooth shaft

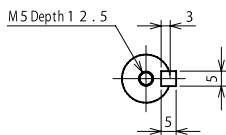
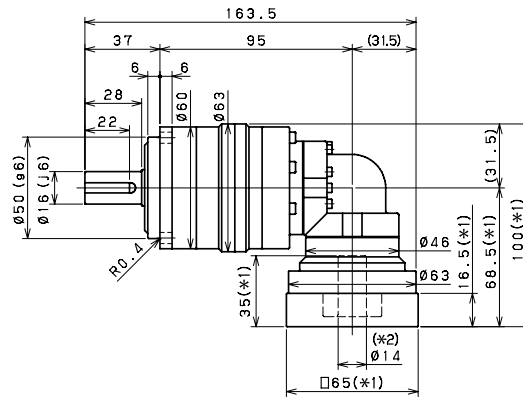
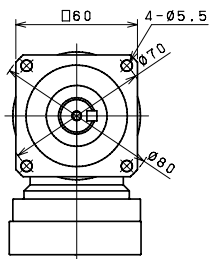
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-o6o – 3-Stage Dimensions

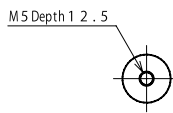
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



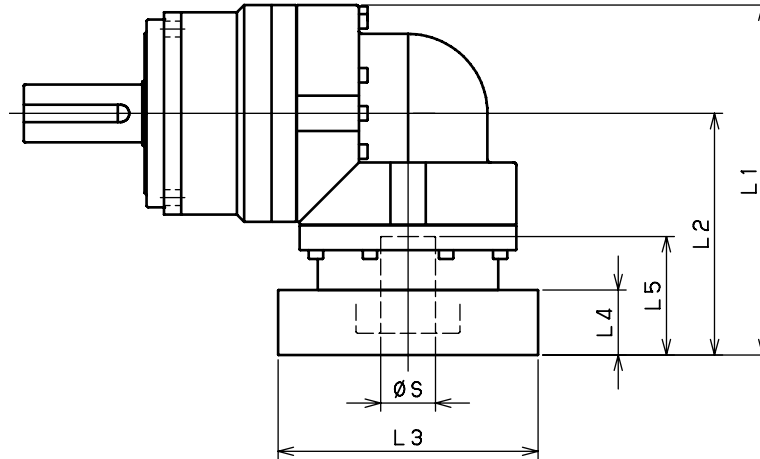
Shaft with key



Smooth shaft

- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-o6o – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-060-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 103 | 71.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 108 | 76.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 103 | 71.5 | □60 | 15.5 | 32 |
| | BC·BF | 108 | 76.5 | □60 | 20.5 | 37 |
| | CA | 108 | 76.5 | □70 | 20.5 | 37 |
| EVB-060-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 109 | 77.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 114 | 82.5 | □65 | 21.5 | 40 |
| | BL | 119 | 87.5 | □65 | 26.5 | 45 |
| | CA·CC | 109 | 77.5 | □70 | 16.5 | 35 |
| | CB | 114 | 82.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 109 | 77.5 | □80 | 16.5 | 35 |
| | DE·DL | 114 | 82.5 | □80 | 21.5 | 40 |
| | DG·DK | 119 | 87.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 109 | 77.5 | □90 | 16.5 | 35 |
| | EJ·EM | 114 | 82.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 119 | 87.5 | □90 | 26.5 | 45 |
| | FA | 109 | 77.5 | □100 | 16.5 | 35 |
| FB | 119 | 87.5 | □100 | 26.5 | 45 | |
| EVB-060-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 126 | 94.5 | □80 | 25 | 50 |
| | DD | 136 | 104.5 | □80 | 35 | 60 |
| | DE | 131 | 99.5 | □80 | 30 | 55 |
| | EA | 131 | 99.5 | □90 | 30 | 55 |
| | EB·ED | 126 | 94.5 | □90 | 25 | 50 |
| | EC | 136 | 104.5 | □90 | 35 | 60 |
| | FA | 126 | 94.5 | □100 | 25 | 50 |
| FB | 136 | 104.5 | □100 | 35 | 60 | |

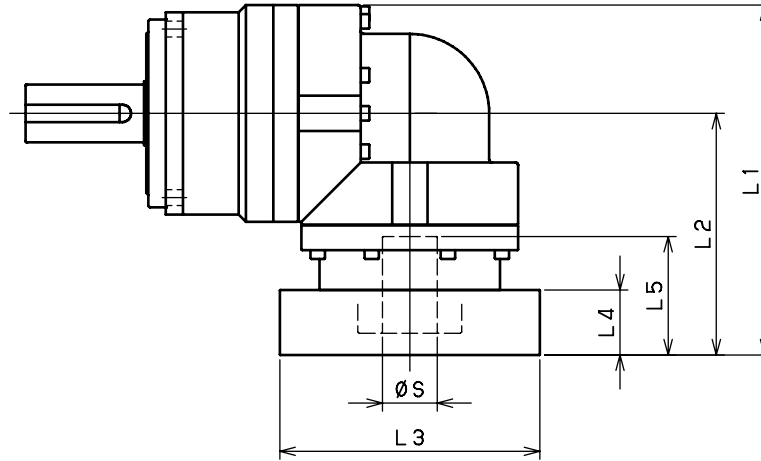
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-o6o – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-060-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 96 | 64.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 101 | 69.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 96 | 64.5 | □60 | 15.5 | 32 |
| | BC·BF | 101 | 69.5 | □60 | 20.5 | 37 |
| | CA | 101 | 69.5 | □70 | 20.5 | 37 |
| EVB-060-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 100 | 68.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 105 | 73.5 | □65 | 21.5 | 40 |
| | BL | 110 | 78.5 | □65 | 26.5 | 45 |
| | CA·CC | 100 | 68.5 | □70 | 16.5 | 35 |
| | CB | 105 | 73.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 100 | 68.5 | □80 | 16.5 | 35 |
| | DE·DL | 105 | 73.5 | □80 | 21.5 | 40 |
| | DG·DK | 110 | 78.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 100 | 68.5 | □90 | 16.5 | 35 |
| | EJ·EM | 105 | 73.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 110 | 78.5 | □90 | 26.5 | 45 |
| | FA | 100 | 68.5 | □100 | 16.5 | 35 |
| FB | 110 | 78.5 | □100 | 26.5 | 45 | |
| EVB-060-□-□-19** (14 < S ≤ 19) | DA·DB·DC | -- | -- | -- | -- | -- |
| | DD | -- | -- | -- | -- | -- |
| | DE | -- | -- | -- | -- | -- |
| | EA | -- | -- | -- | -- | -- |
| | EB·ED | -- | -- | -- | -- | -- |
| | EC | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| FB | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-090 – 2-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 45 | 60 | 65 | 65 | 65 | 65 | 45 | 45 |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 90 | 90 | 90 | 90 | 90 | 65 | 65 |
| Emergency Stop Torque | [Nm] | *3 | 130 | 170 | 220 | 220 | 220 | 220 | 170 | 170 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.13 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 810 | 890 | 960 | 1000 | 1100 | 1100 | 1200 | 1200 |
| Permitted Axial Load | [N] | *8 | 930 | 1100 | 1200 | 1300 | 1300 | 1400 | 1500 | 1600 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.120 | 1.890 | 1.800 | 1.760 | 1.730 | 1.710 | 1.700 | 1.690 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.450 | 2.220 | 2.130 | 2.090 | 2.060 | 2.040 | 2.030 | 2.020 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.570 | 4.350 | 4.260 | 4.210 | 4.180 | 4.170 | 4.160 | 4.150 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 5.1 | | | | | | | |

EVB-090 – 3-Stage Specifications

| Frame Size | 090 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 45 | 65 | 65 | 65 | 65 | 45 | 65 | 65 |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 110 | 110 | 110 | 110 | 65 | 110 | 110 |
| Emergency Stop Torque | [Nm] | *3 | 170 | 220 | 220 | 220 | 220 | 170 | 220 | 220 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.55 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1400 | 1400 | 1500 | 1600 | 1700 | 1700 | 1800 | 1900 |
| Permitted Axial Load | [N] | *8 | 1900 | 1900 | 2100 | 2200 | 2200 | 2200 | 2200 | 2200 |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.340 | 0.380 | 0.330 | 0.320 | 0.370 | 0.250 | 0.320 | 0.250 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.410 | 0.460 | 0.400 | 0.400 | 0.450 | 0.330 | 0.400 | 0.320 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.600 | 0.650 | 0.590 | 0.590 | 0.640 | 0.510 | 0.590 | 0.510 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 4.4 | | | | | | | |

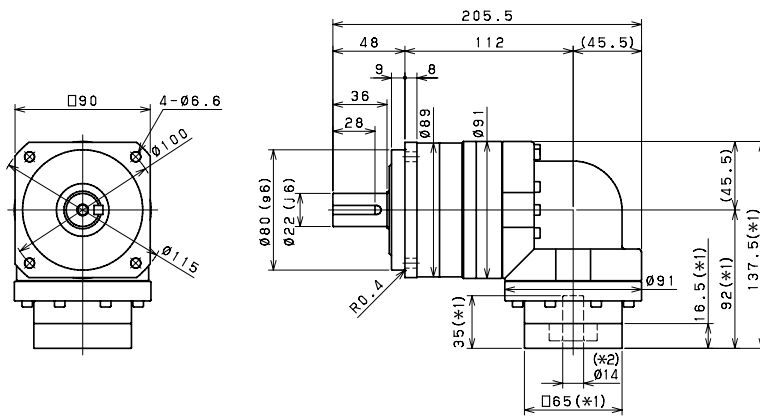
EVB-090 – 3-Stage Specifications

| Frame Size | 090 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 45 | 65 | 65 | 65 | 65 | 45 | 45 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 110 | 110 | 110 | 110 | 65 | 65 | | |
| Emergency Stop Torque | [Nm] | *3 | 170 | 220 | 220 | 220 | 220 | 170 | 170 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.55 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2000 | 2100 | 2200 | 2300 | 2400 | 2400 | 2400 | | |
| Permitted Axial Load | [N] | *8 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | | |
| Maximum Radial Load | [N] | *9 | 2400 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.320 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.390 | 0.320 | 0.320 | 0.320 | 0.320 | 0.320 | 0.320 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.580 | 0.510 | 0.510 | 0.510 | 0.510 | 0.510 | 0.510 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4.4 | | | | | | | | |

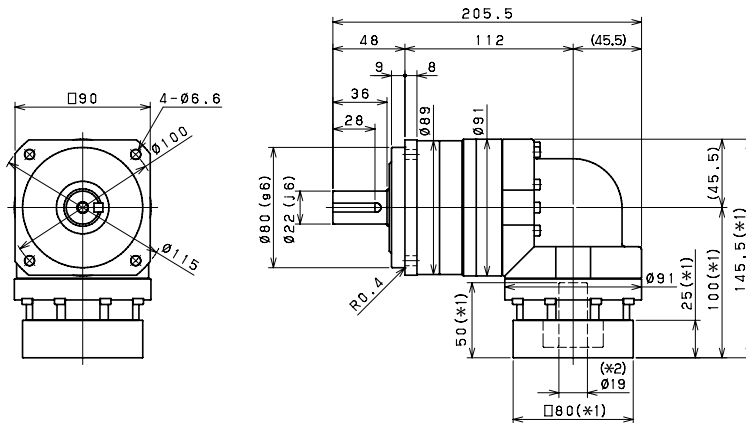
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVB090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVB-090 – 2-Stage Dimensions

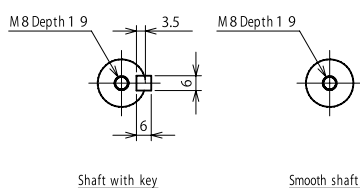
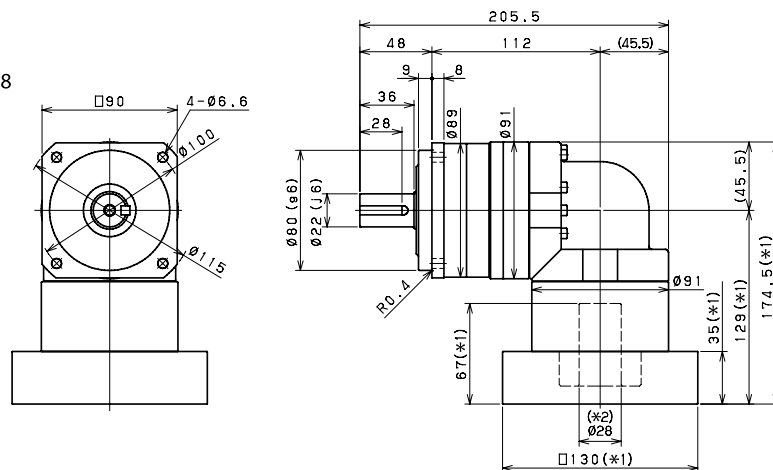
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



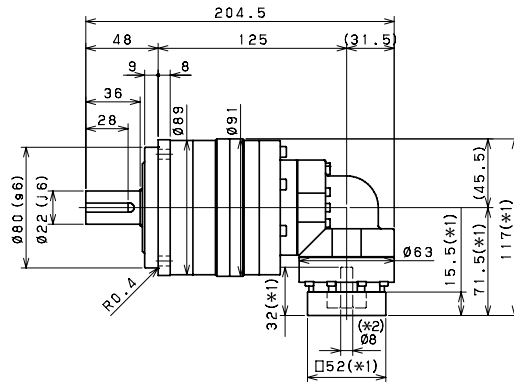
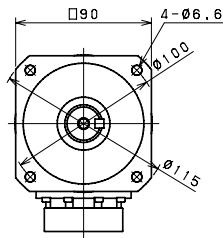
Input shaft bore $\leq \varnothing 28$



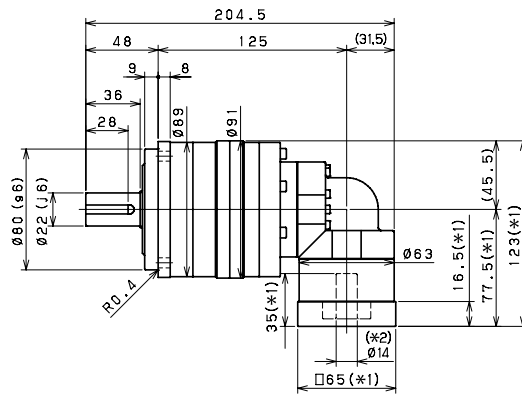
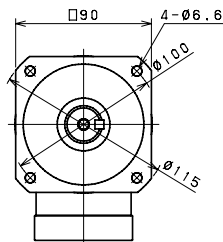
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-090 – 3-Stage Dimensions

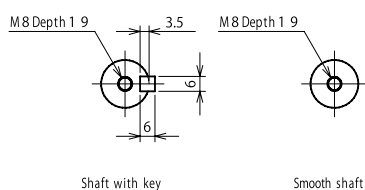
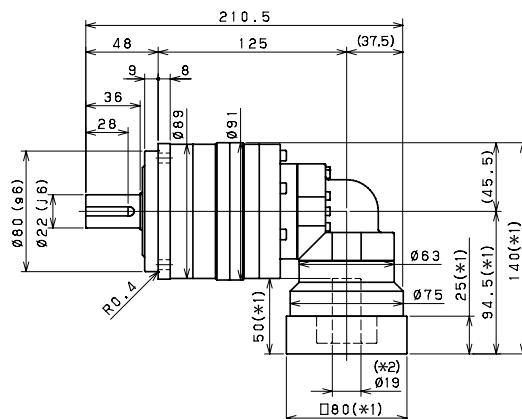
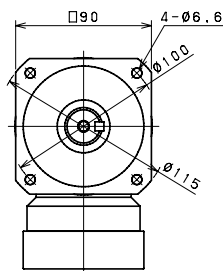
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$

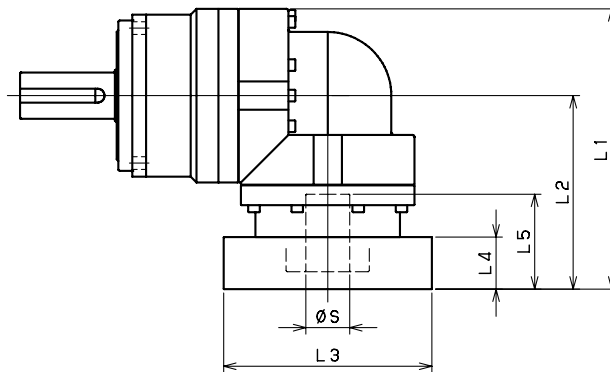


Input shaft bore $\leq \varnothing 19$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-090 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-090-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | -- | -- | -- | -- | -- |
| | AB·AE·AH·AJ·AK | -- | -- | -- | -- | -- |
| | BA·BB·BD·BE·BG·BH·BJ | -- | -- | -- | -- | -- |
| | CA | -- | -- | -- | -- | -- |
| EVB-090-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 137.5 | 92 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 142.5 | 97 | □65 | 21.5 | 40 |
| | CA·CC | 137.5 | 92 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 137.5 | 92 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 137.5 | 92 | □90 | 16.5 | 35 |
| | FA | 137.5 | 92 | □100 | 16.5 | 35 |
| | FB | 147.5 | 102 | □100 | 26.5 | 45 |
| EVB-090-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 145.5 | 100 | □80 | 25 | 50 |
| | EB·ED | 145.5 | 100 | □90 | 25 | 50 |
| | FA | 145.5 | 100 | □100 | 25 | 50 |
| | FB | 155.5 | 110 | □100 | 35 | 60 |
| | GA·GC·GH | 150.5 | 105 | □115 | 30 | 55 |
| | GB·GD·GJ | 145.5 | 100 | □115 | 25 | 50 |
| | GE·GF | 155.5 | 110 | □115 | 35 | 60 |
| | HA | 145.5 | 100 | □130 | 25 | 50 |
| | HB | 160.5 | 115 | □130 | 40 | 65 |
| | HC·HD·HE | 150.5 | 105 | □130 | 30 | 55 |
| | JA | 155.5 | 110 | □150 | 35 | 60 |
| EVB-090-□-□-28** (19 < S ≤ 28) | JB | 160.5 | 115 | □150 | 40 | 65 |
| | FA·FB·FC | 174.5 | 129 | □100 | 35 | 67 |
| | FD·FE | 169.5 | 124 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 174.5 | 129 | □115 | 35 | 67 |
| | HA·HC·HD | 174.5 | 129 | □130 | 35 | 67 |
| | HB | 184.5 | 139 | □130 | 45 | 77 |
| | HE | 189.5 | 144 | □130 | 50 | 82 |
| | HF | 169.5 | 124 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 174.5 | 129 | □150 | 35 | 67 |
| JD | 194.5 | 149 | □150 | 55 | 87 | |
| JE | 184.5 | 139 | □150 | 45 | 77 | |

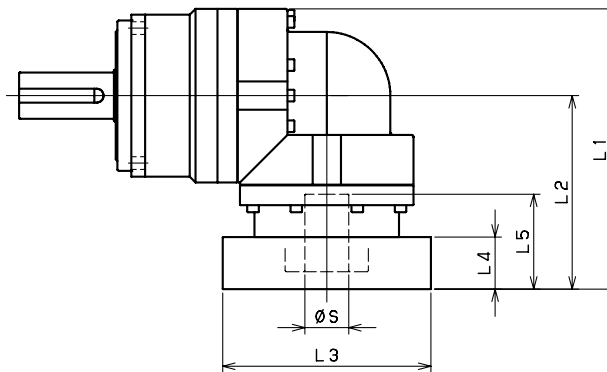
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-090 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-090-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 117 | 71.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 122 | 76.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 117 | 71.5 | □60 | 15.5 | 32 |
| | CA | 122 | 76.5 | □70 | 20.5 | 37 |
| EVB-090-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 123 | 77.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 128 | 82.5 | □65 | 21.5 | 40 |
| | CA·CC | 123 | 77.5 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 123 | 77.5 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 123 | 77.5 | □90 | 16.5 | 35 |
| | FA | 123 | 77.5 | □100 | 16.5 | 35 |
| | FB | 133 | 87.5 | □100 | 26.5 | 45 |
| EVB-090-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 140 | 94.5 | □80 | 25 | 50 |
| | EB·ED | 140 | 94.5 | □90 | 25 | 50 |
| | FA | 140 | 94.5 | □100 | 25 | 50 |
| | FB | 150 | 104.5 | □100 | 35 | 60 |
| | GA·GC·GH | 145 | 99.5 | □115 | 30 | 55 |
| | GB·GD·GJ | 140 | 94.5 | □115 | 25 | 50 |
| | GE·GF | 150 | 104.5 | □115 | 35 | 60 |
| | HA | 140 | 94.5 | □130 | 25 | 50 |
| | HB | 155 | 109.5 | □130 | 40 | 65 |
| | HC·HD·HE | 145 | 99.5 | □130 | 30 | 55 |
| | JA | 150 | 104.5 | □150 | 35 | 60 |
| EVB-090-□-□-28** (19 < S ≤ 28) | JB | 155 | 109.5 | □150 | 40 | 65 |
| | FA·FB·FC | -- | -- | -- | -- | -- |
| | FD·FE | -- | -- | -- | -- | -- |
| | GA·GB·GC·GD·GE·GF·GG·GH | -- | -- | -- | -- | -- |
| | HA·HC·HD | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | HE | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- |
| JA·JB·JC·JF | -- | -- | -- | -- | -- | |
| JD | -- | -- | -- | -- | -- | |
| JE | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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EVB-115 – 2-Stage Specifications

| Frame Size | 115 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 75 | 100 | 120 | 150 | 150 | 150 | 110 | 110 |
| Maximum Acceleration Torque | [Nm] | *2 | 150 | 200 | 240 | 300 | 300 | 300 | 200 | 200 |
| Emergency Stop Torque | [Nm] | *3 | 320 | 430 | 500 | 550 | 550 | 550 | 450 | 450 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.88 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1300 | 1500 | 1600 | 1700 | 1800 | 1900 | 1900 | 2000 |
| Permitted Axial Load | [N] | *8 | 1500 | 1700 | 1900 | 2000 | 2100 | 2300 | 2400 | 2500 |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 6.740 | 5.490 | 5.020 | 4.770 | 4.650 | 4.550 | 4.490 | 4.460 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 8.340 | 7.080 | 6.610 | 6.360 | 6.240 | 6.140 | 6.080 | 6.050 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 15.410 | 14.150 | 13.690 | 13.430 | 13.310 | 13.220 | 13.160 | 13.120 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 10.4 | | | | | | | |

EVB-115 – 3-Stage Specifications

| Frame Size | 115 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 110 | 130 | 150 | 150 | 150 | 110 | 150 | 150 |
| Maximum Acceleration Torque | [Nm] | *2 | 200 | 260 | 300 | 300 | 300 | 200 | 300 | 300 |
| Emergency Stop Torque | [Nm] | *3 | 450 | 550 | 550 | 550 | 550 | 450 | 550 | 550 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.11 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2300 | 2300 | 2500 | 2700 | 2800 | 2900 | 3000 | 3200 |
| Permitted Axial Load | [N] | *8 | 3000 | 3100 | 3400 | 3700 | 3900 | 3900 | 3900 | 3900 |
| Maximum Radial Load | [N] | *9 | 3900 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 14$) | [kgcm ²] | -- | 2.250 | 2.460 | 2.200 | 2.180 | 2.400 | 1.870 | 2.160 | 1.860 |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 2.580 | 2.790 | 2.530 | 2.510 | 2.730 | 2.200 | 2.490 | 2.190 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 4.700 | 4.910 | 4.650 | 4.640 | 4.860 | 4.330 | 4.620 | 4.320 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 10.1 | | | | | | | |

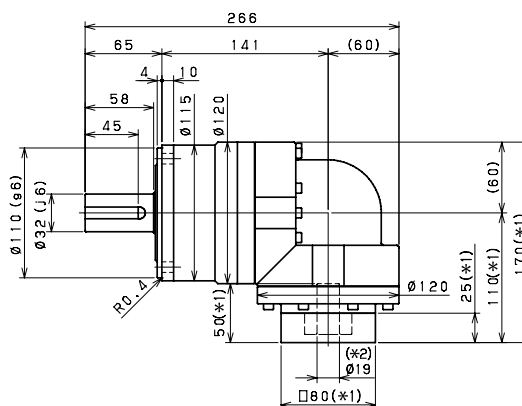
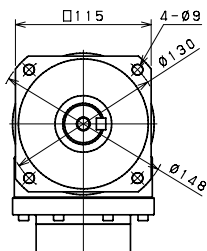
EVB-115 – 3-Stage Specifications

| Frame Size | 115 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 110 | 150 | 150 | 150 | 150 | 110 | 110 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 200 | 300 | 300 | 300 | 300 | 200 | 200 | | |
| Emergency Stop Torque | [Nm] | *3 | 450 | 550 | 550 | 550 | 550 | 450 | 450 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.11 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3300 | 3400 | 3600 | 3800 | 4000 | 4200 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.150 | 1.860 | 1.850 | 1.850 | 1.850 | 1.850 | 1.850 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.480 | 2.190 | 2.180 | 2.180 | 2.180 | 2.180 | 2.180 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.610 | 4.310 | 4.310 | 4.310 | 4.310 | 4.310 | 4.310 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 10.1 | | | | | | | | |

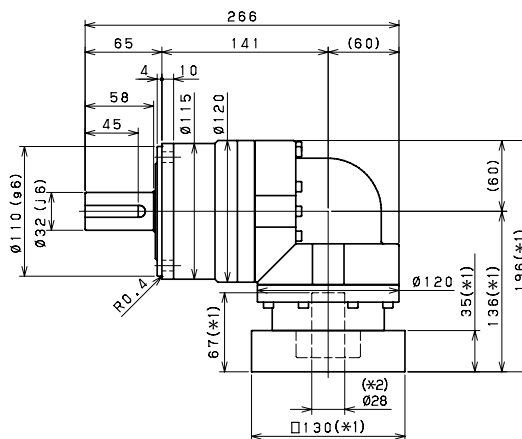
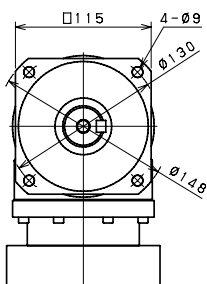
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVB115
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVB-115 – 2-Stage Dimensions

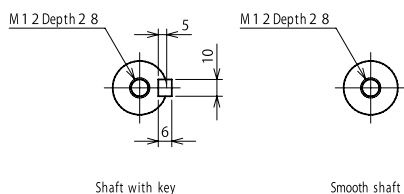
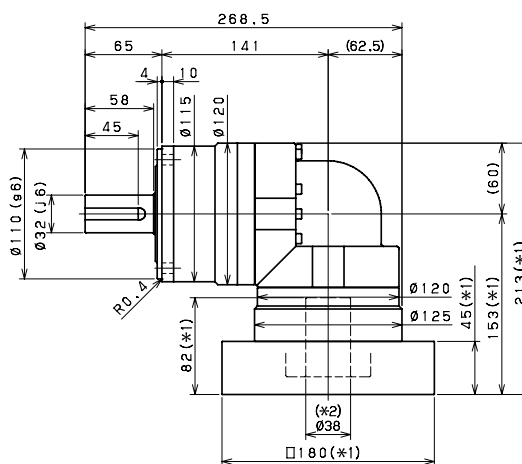
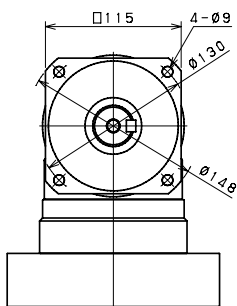
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



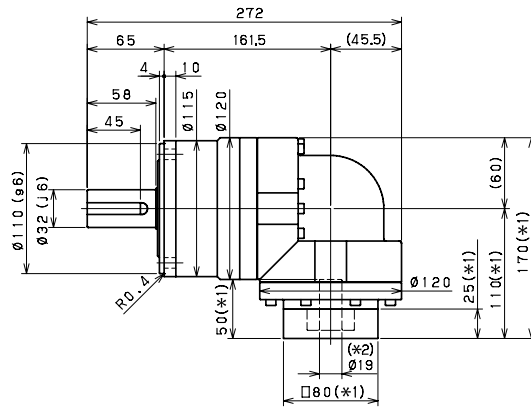
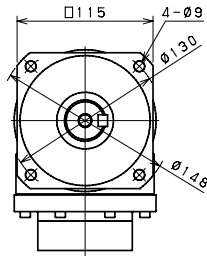
Input shaft bore $\leq \varnothing 38$



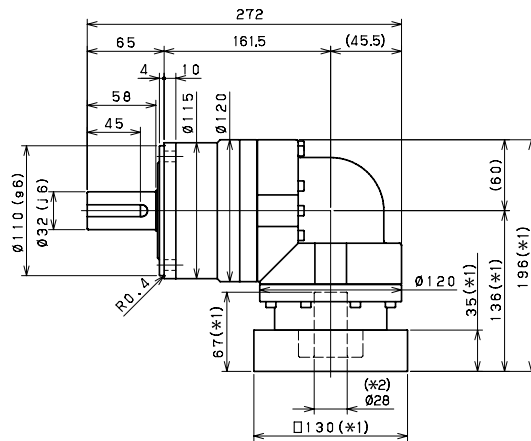
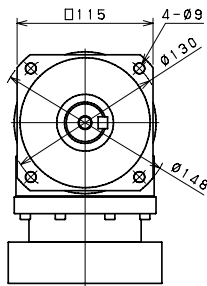
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-115 – 3-Stage Dimensions

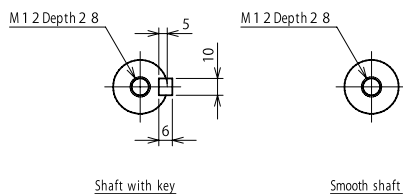
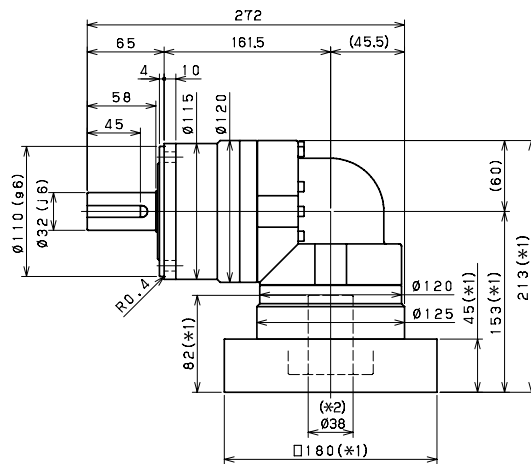
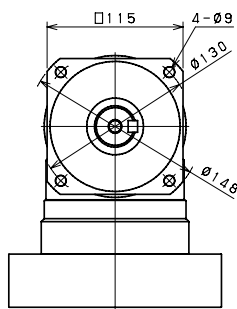
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

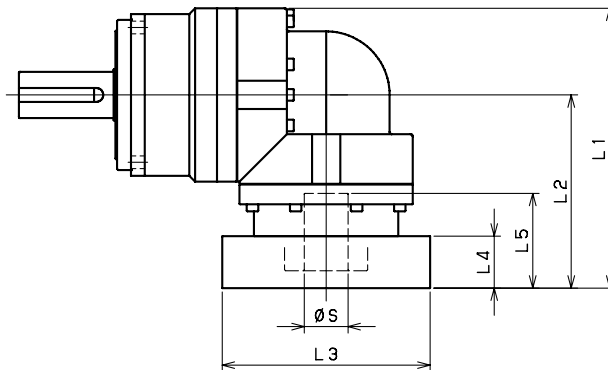


Input shaft bore $\leq \varnothing 28$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-115 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|--|-------------------------------|---------|---------------|---------------|-----|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-115-□-□-14** ($S \leq 14$) | BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP | -- | -- | -- | -- | -- |
| | BC-BH-BM-BN | -- | -- | -- | -- | -- |
| | CA-CC | -- | -- | -- | -- | -- |
| | DA-DB-DC-DD-DF-DH-DJ | -- | -- | -- | -- | -- |
| | EA-EB-EC-EF-EG-EK-EL | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- |
| EVB-115-□-□-19** ($14 < S \leq 19$) | DA-DB-DC | 170 | 110 | $\square 80$ | 25 | 50 |
| | EB-ED | 170 | 110 | $\square 90$ | 25 | 50 |
| | FA | 170 | 110 | $\square 100$ | 25 | 50 |
| | FB | 180 | 120 | $\square 100$ | 35 | 60 |
| | GB-GD-GJ | 170 | 110 | $\square 115$ | 25 | 50 |
| | HA | 170 | 110 | $\square 130$ | 25 | 50 |
| | HB | 185 | 125 | $\square 130$ | 40 | 65 |
| EVB-115-□-□-28** ($19 < S \leq 28$) | FA-FB-FC | 196 | 136 | $\square 100$ | 35 | 67 |
| | FD-FE | 191 | 131 | $\square 100$ | 30 | 62 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 196 | 136 | $\square 115$ | 35 | 67 |
| | HA-HC-HD | 196 | 136 | $\square 130$ | 35 | 67 |
| | HB | 206 | 146 | $\square 130$ | 45 | 77 |
| | HE | 211 | 151 | $\square 130$ | 50 | 82 |
| | HF | 191 | 131 | $\square 130$ | 30 | 62 |
| | JA-JB-JC-JF | 196 | 136 | $\square 150$ | 35 | 67 |
| | JD | 216 | 156 | $\square 150$ | 55 | 87 |
| | JE | 206 | 146 | $\square 150$ | 45 | 77 |
| | KA-KB-KE | 196 | 136 | $\square 180$ | 35 | 67 |
| EVB-115-□-□-38** ($28 < S \leq 38$) | KD | 206 | 146 | $\square 180$ | 45 | 77 |
| | HA | 213 | 153 | $\square 130$ | 45 | 82 |
| | HB-HE | 208 | 148 | $\square 130$ | 40 | 77 |
| | JA | 213 | 153 | $\square 150$ | 45 | 82 |
| | KA-KB-KC | 213 | 153 | $\square 180$ | 45 | 82 |
| KE | 248 | 188 | $\square 180$ | 80 | 117 | |
| | | 228 | 168 | $\square 180$ | 60 | 97 |

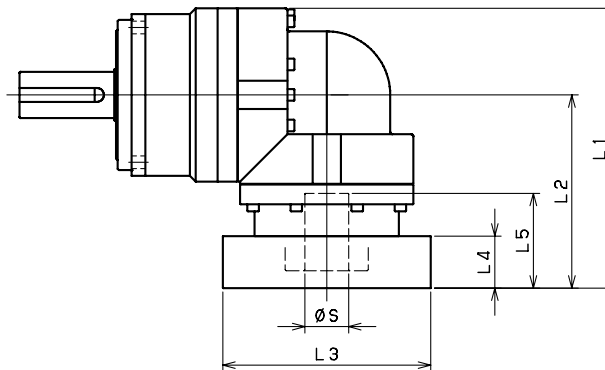
*1) Double reduction : 1/3 ~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-115 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-----|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-115-□-□-14** (S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 152 | 92 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 157 | 97 | □65 | 21.5 | 40 |
| | CA·CC | 152 | 92 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 152 | 92 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 152 | 92 | □90 | 16.5 | 35 |
| | FA | 152 | 92 | □100 | 16.5 | 35 |
| | FB | 162 | 102 | □100 | 26.5 | 45 |
| EVB-115-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 160 | 100 | □80 | 25 | 50 |
| | EB·ED | 160 | 100 | □90 | 25 | 50 |
| | FA | 160 | 100 | □100 | 25 | 50 |
| | FB | 170 | 110 | □100 | 35 | 60 |
| | GB·GD·GJ | 160 | 100 | □115 | 25 | 50 |
| | HA | 160 | 100 | □130 | 25 | 50 |
| | HB | 175 | 115 | □130 | 40 | 65 |
| EVB-115-□-□-28** (19 < S ≤ 28) | FA·FB·FC | 189 | 129 | □100 | 35 | 67 |
| | FD·FE | 184 | 124 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 189 | 129 | □115 | 35 | 67 |
| | HA·HC·HD | 189 | 129 | □130 | 35 | 67 |
| | HB | 199 | 139 | □130 | 45 | 77 |
| | HE | 204 | 144 | □130 | 50 | 82 |
| | HF | 184 | 124 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 189 | 129 | □150 | 35 | 67 |
| | JD | 209 | 149 | □150 | 55 | 87 |
| | JE | 199 | 139 | □150 | 45 | 77 |
| | KA·KB·KE | 189 | 129 | □180 | 35 | 67 |
| EVB-115-□-□-38** (28 < S ≤ 38) | KD | 199 | 139 | □180 | 45 | 77 |
| | HA | -- | -- | -- | -- | -- |
| | HB·HE | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| | KA·KB·KC | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|
| Stage | 2-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| Nominal Output Torque | [Nm] | *1 | 130 | 170 | 200 | 260 | 300 | 300 | 200 | 200 | |
| Maximum Acceleration Torque | [Nm] | *2 | 260 | 340 | 400 | 520 | 600 | 600 | 400 | 400 | |
| Emergency Stop Torque | [Nm] | *3 | 700 | 950 | 1100 | 1100 | 1100 | 1100 | 750 | 750 | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 3.26 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3200 | 3500 | 3800 | 4000 | 4200 | 4400 | 4600 | 4700 | |
| Permitted Axial Load | [N] | *8 | 2400 | 2700 | 3000 | 3300 | 3500 | 3700 | 3900 | 4100 | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 23.130 | 18.570 | 16.910 | 16.010 | 15.580 | 15.230 | 14.770 | 14.660 | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 27.500 | 22.940 | 21.280 | 20.380 | 19.950 | 19.610 | 19.410 | 19.030 | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 40.730 | 36.170 | 34.510 | 33.610 | 33.180 | 32.840 | 32.370 | 32.260 | |
| Efficiency | [%] | *11 | 93 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 19.1 | | | | | | | | |

EVB-140 – 3-Stage Specifications

| Frame Size | 140 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | |
| Nominal Output Torque | [Nm] | *1 | 200 | 300 | 300 | 300 | 300 | 200 | 300 | 300 | |
| Maximum Acceleration Torque | [Nm] | *2 | 400 | 600 | 600 | 600 | 600 | 400 | 600 | 600 | |
| Emergency Stop Torque | [Nm] | *3 | 750 | 1100 | 1100 | 1100 | 1100 | 750 | 1100 | 1100 | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5400 | 5500 | 6000 | 6400 | 6700 | 6800 | 7200 | 7500 | |
| Permitted Axial Load | [N] | *8 | 4900 | 5000 | 5500 | 6100 | 6400 | 6600 | 7000 | 7500 | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 6.400 | 7.290 | 6.220 | 6.150 | 7.090 | 4.990 | 6.090 | 4.950 | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 8.000 | 8.880 | 7.810 | 7.750 | 8.680 | 6.580 | 7.690 | 6.540 | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 15.070 | 15.960 | 14.890 | 14.820 | 15.760 | 13.660 | 14.760 | 13.610 | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 19.6 | | | | | | | | |

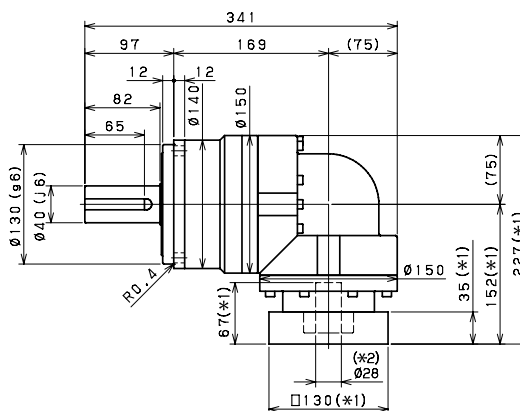
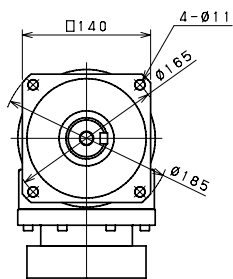
EVB-140 – 3-Stage Specifications

| Frame Size | 140 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 200 | 300 | 300 | 300 | 300 | 200 | 200 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 400 | 600 | 600 | 600 | 600 | 400 | 400 | | |
| Emergency Stop Torque | [Nm] | *3 | 750 | 1100 | 1100 | 1100 | 1100 | 750 | 750 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 7800 | 8100 | 8600 | 9100 | 9100 | 9100 | 9100 | | |
| Permitted Axial Load | [N] | *8 | 7900 | 8200 | 8200 | 8200 | 8200 | 8200 | 8200 | | |
| Maximum Radial Load | [N] | *9 | 9100 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 8200 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 6.070 | 4.930 | 4.920 | 4.910 | 4.910 | 4.910 | 4.910 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 7.660 | 6.520 | 6.510 | 6.510 | 6.500 | 6.500 | 6.500 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 14.740 | 13.590 | 13.590 | 13.580 | 13.580 | 13.570 | 13.570 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 19.6 | | | | | | | | |

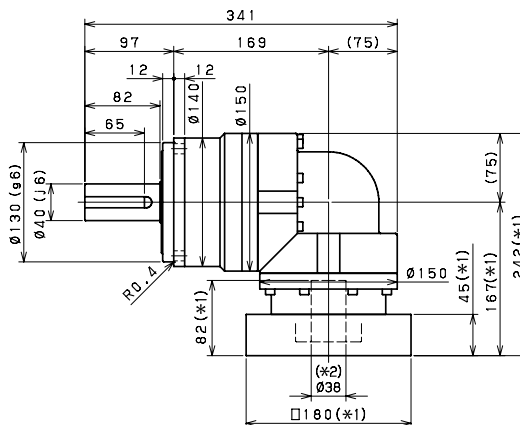
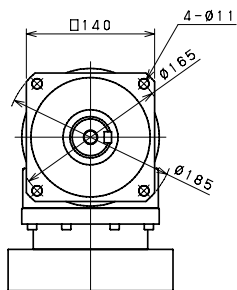
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2000 rpm for EVB140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVB-140 – 2-Stage Dimensions

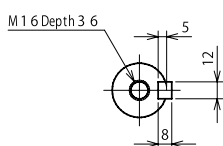
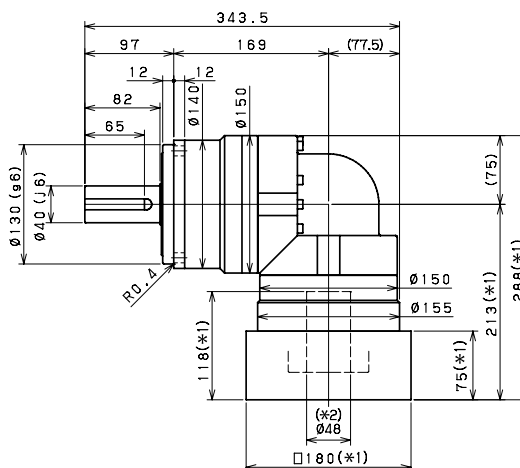
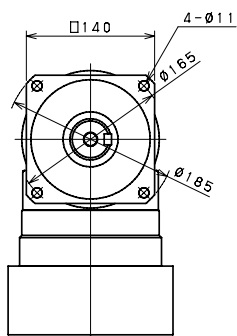
Input shaft bore $\leq \varnothing 28$



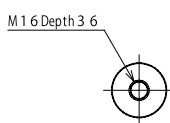
Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Shaft with key



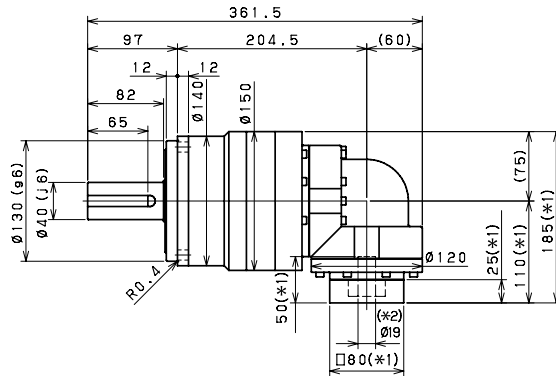
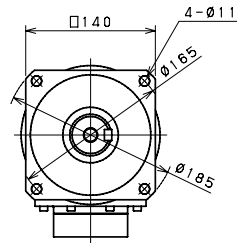
Smooth shaft

*1) Length will vary depending on motor

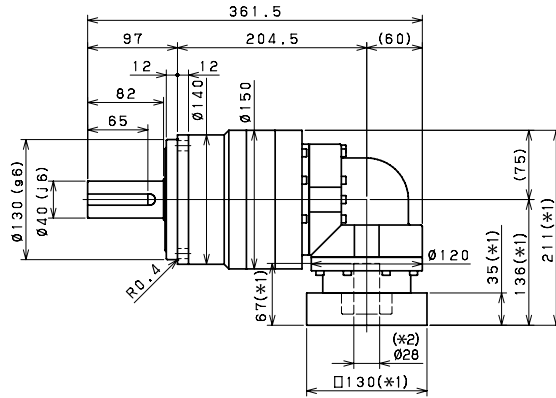
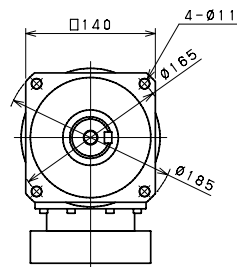
*2) Bushing will be inserted to adapt to motor shaft

EVB-140 – 3-Stage Dimensions

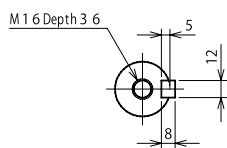
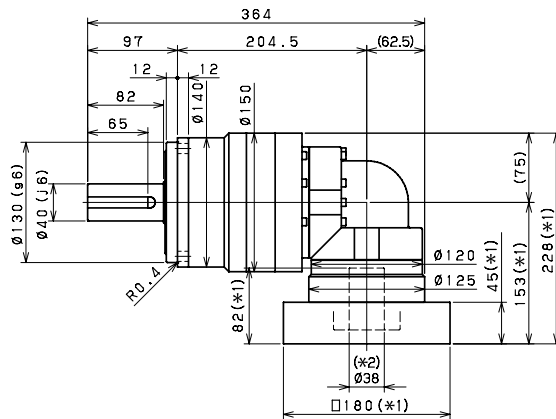
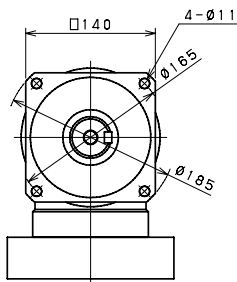
Input shaft bore $\leq \varnothing 19$



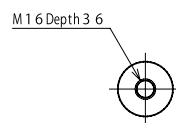
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Shaft with key

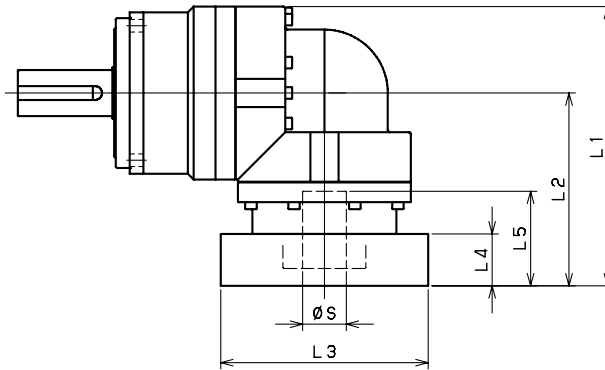


Smooth shaft

*1) Length will vary depending on motor

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

EVB-140 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------|---------|------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-140-□-□-19** (S ≤ 19) | DA-DB-DC | -- | -- | -- | -- | -- |
| | EB-ED | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- |
| | GB-GD-GJ | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| EVB-140-□-□-28** (19 < S ≤ 28) | FA-FB-FC | 227 | 152 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 227 | 152 | □115 | 35 | 67 |
| | HA-HC-HD | 227 | 152 | □130 | 35 | 67 |
| | HB | 237 | 162 | □130 | 45 | 77 |
| | HF | 222 | 147 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 227 | 152 | □150 | 35 | 67 |
| | KA-KB-KE | 227 | 152 | □180 | 35 | 67 |
| | LA | 227 | 152 | □200 | 35 | 67 |
| | LB | 237 | 162 | □200 | 45 | 77 |
| | MA | 227 | 152 | □220 | 35 | 67 |
| EVB-140-□-□-38** (28 < S ≤ 38) | MB | 237 | 162 | □220 | 45 | 77 |
| | HA | 242 | 167 | □130 | 45 | 82 |
| | HB-HE | 237 | 162 | □130 | 40 | 77 |
| | JA | 242 | 167 | □150 | 45 | 82 |
| | KA-KB-KC | 242 | 167 | □180 | 45 | 82 |
| | KD | 277 | 202 | □180 | 80 | 117 |
| | KE | 257 | 182 | □180 | 60 | 97 |
| | LA | 242 | 167 | □200 | 45 | 82 |
| | LB | 252 | 177 | □200 | 55 | 92 |
| | MA-MB | 242 | 167 | □220 | 45 | 82 |
| EVB-140-□-□-48** (38 < S ≤ 48) | MC | 257 | 182 | □220 | 60 | 97 |
| | MD | 252 | 177 | □220 | 55 | 92 |
| | KA | 288 | 213 | □180 | 75 | 118 |
| | KB-KC | 268 | 193 | □180 | 55 | 98 |
| | LA | 268 | 193 | □200 | 55 | 98 |
| MA | 268 | 193 | □220 | 55 | 98 | |
| MB | 288 | 213 | □220 | 75 | 118 | |

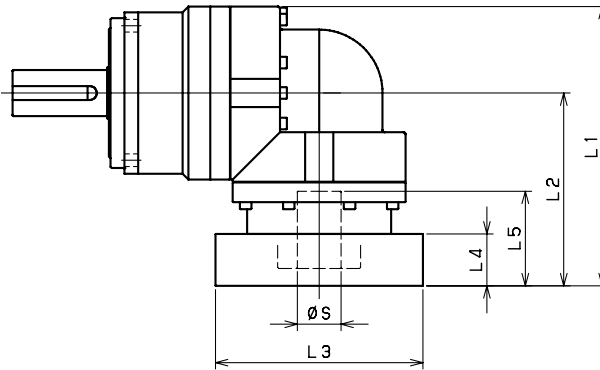
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-140 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-140-□-□-19** (S ≤ 19) | DA-DB-DC | 185 | 110 | □80 | 25 | 50 |
| | EB-ED | 185 | 110 | □90 | 25 | 50 |
| | FA | 185 | 110 | □100 | 25 | 50 |
| | FB | 195 | 120 | □100 | 35 | 60 |
| | GB-GD-GJ | 185 | 110 | □115 | 25 | 50 |
| | HA | 185 | 110 | □130 | 25 | 50 |
| | HB | 200 | 125 | □130 | 40 | 65 |
| | JA | 195 | 120 | □150 | 35 | 60 |
| EVB-140-□-□-28** (19 < S ≤ 28) | FA-FB-FC | 211 | 136 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 211 | 136 | □115 | 35 | 67 |
| | HA-HC-HD | 211 | 136 | □130 | 35 | 67 |
| | HB | 221 | 146 | □130 | 45 | 77 |
| | HF | 206 | 131 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 211 | 136 | □150 | 35 | 67 |
| | KA-KB-KE | 211 | 136 | □180 | 35 | 67 |
| | LA | 211 | 136 | □200 | 35 | 67 |
| | LB | 221 | 146 | □200 | 45 | 77 |
| | MA | 211 | 136 | □220 | 35 | 67 |
| EVB-140-□-□-38** (28 < S ≤ 38) | MB | 221 | 146 | □220 | 45 | 77 |
| | HA | 228 | 153 | □130 | 45 | 82 |
| | HB-HE | 223 | 148 | □130 | 40 | 77 |
| | JA | 228 | 153 | □150 | 45 | 82 |
| | KA-KB-KC | 228 | 153 | □180 | 45 | 82 |
| | KD | 263 | 188 | □180 | 80 | 117 |
| | KE | 243 | 168 | □180 | 60 | 97 |
| | LA | 228 | 153 | □200 | 45 | 82 |
| | LB | 238 | 163 | □200 | 55 | 92 |
| | MA-MB | 228 | 153 | □220 | 45 | 82 |
| EVB-140-□-□-48** (38 < S ≤ 48) | MC | 243 | 168 | □220 | 60 | 97 |
| | MD | 238 | 163 | □220 | 55 | 92 |
| | KA | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| MA | -- | -- | -- | -- | -- | |
| MB | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-180 – 2-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 400 | 575 | 600 | 600 | 600 | 600 | 400 | 400 |
| Maximum Acceleration Torque | [Nm] | *2 | 575 | 770 | 960 | 1120 | 1120 | 1120 | 775 | 775 |
| Emergency Stop Torque | [Nm] | *3 | 1300 | 1700 | 2000 | 2500 | 2500 | 2500 | 2000 | 2000 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.8 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5600 | 6200 | 6700 | 7100 | 7400 | 7800 | 8100 | 8400 |
| Permitted Axial Load | [N] | *8 | 4300 | 4900 | 5400 | 5800 | 6300 | 6600 | 7000 | 7300 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 93.71 | 77.72 | 71.89 | 68.74 | 66.43 | 65.27 | 64.60 | 64.28 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 128.6 | 112.6 | 106.8 | 103.6 | 101.3 | 100.1 | 99.46 | 99.14 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 214.2 | 198.2 | 192.4 | 189.2 | 186.9 | 185.7 | 185.1 | 184.7 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 49 | | | | | | | |

EVB-180 – 3-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 400 | 555 | 600 | 600 | 600 | 400 | 600 | 600 |
| Maximum Acceleration Torque | [Nm] | *2 | 775 | 1120 | 1120 | 1120 | 1120 | 775 | 1120 | 1120 |
| Emergency Stop Torque | [Nm] | *3 | 2000 | 2500 | 2500 | 2500 | 2500 | 2000 | 2500 | 2500 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 4.7 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9600 | 9800 | 11000 | 11000 | 12000 | 12000 | 13000 | 13000 |
| Permitted Axial Load | [N] | *8 | 8700 | 8900 | 9900 | 11000 | 11000 | 12000 | 13000 | 13000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 11.49 | 12.09 | 11.15 | 10.98 | 11.59 | 10.33 | 10.83 | 10.24 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 20.28 | 20.88 | 19.94 | 19.77 | 20.38 | 19.11 | 19.62 | 19.03 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 25.10 | 25.70 | 24.76 | 24.59 | 25.20 | 23.94 | 24.44 | 23.85 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 36 | | | | | | | |

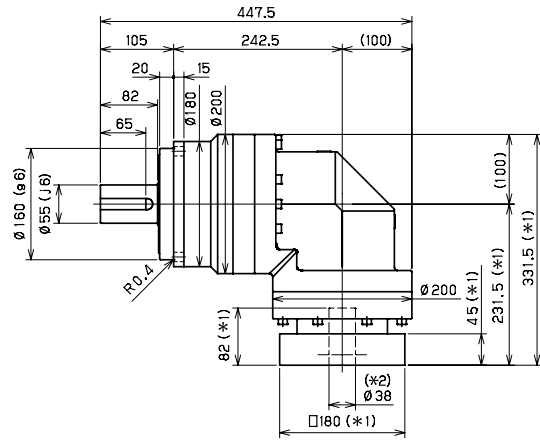
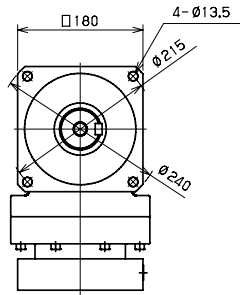
EVB-180 – 3-Stage Specifications

| Frame Size | 180 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 400 | 600 | 600 | 600 | 600 | 400 | 400 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 775 | 1120 | 1120 | 1120 | 1120 | 775 | 775 | | |
| Emergency Stop Torque | [Nm] | *3 | 2000 | 2500 | 2500 | 2500 | 2500 | 2000 | 2000 | | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 4.7 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 10.76 | 10.20 | 10.18 | 10.16 | 10.15 | 10.15 | 10.14 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 19.55 | 18.99 | 18.96 | 18.95 | 18.94 | 18.93 | 18.93 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 24.37 | 23.81 | 23.78 | 23.77 | 23.76 | 23.75 | 23.75 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 36 | | | | | | | | |

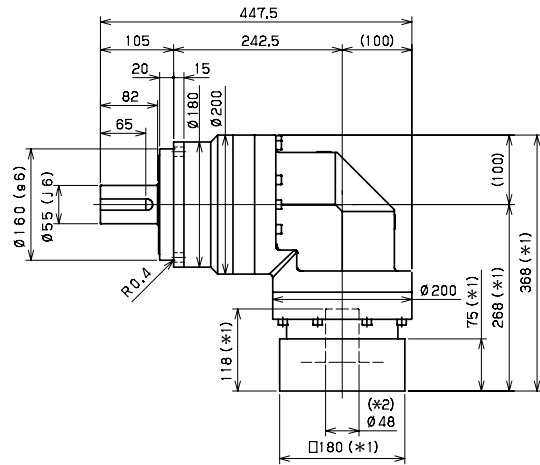
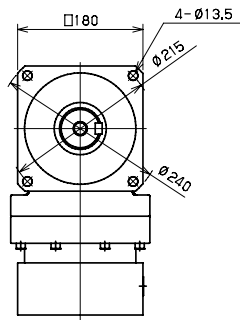
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1500 rpm for EVB180
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVB-180 – 2-Stage Dimensions

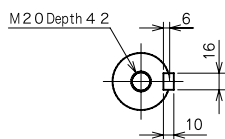
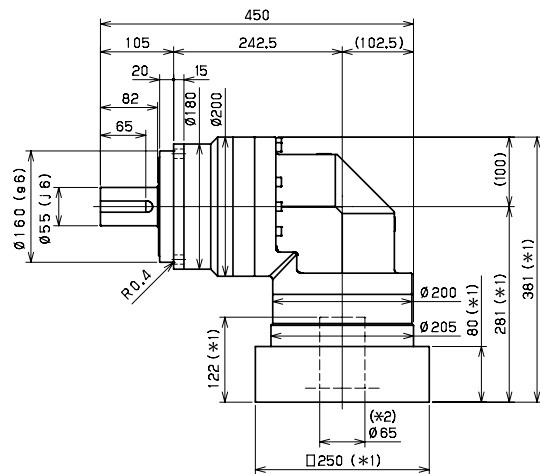
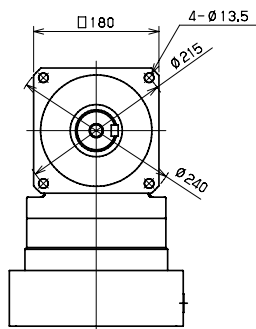
Input shaft bore $\leq \varnothing 38$



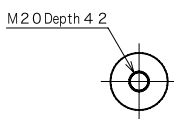
Input shaft bore $\leq \varnothing 48$



Input shaft bore $\leq \varnothing 65$



Shaft with key



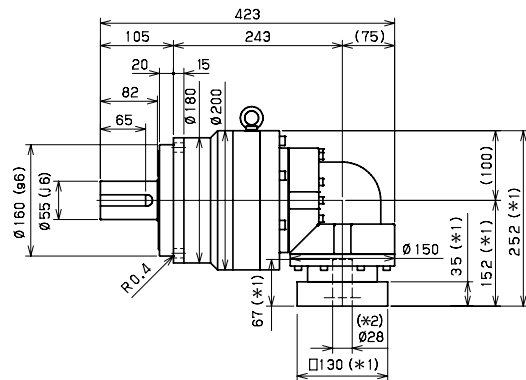
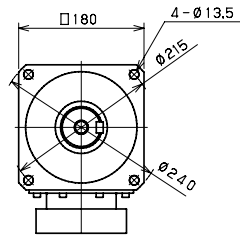
Smooth shaft

*1) Length will vary depending on motor

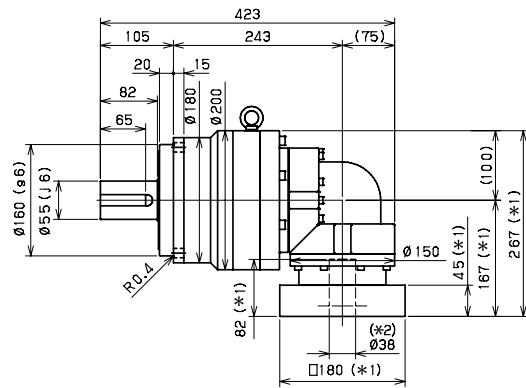
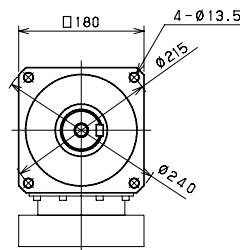
*2) Bushing will be inserted to adapt to motor shaft

EVB-180 – 3-Stage Dimensions

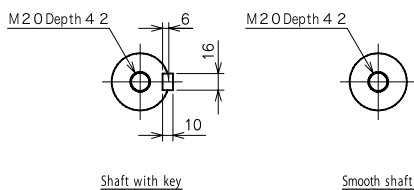
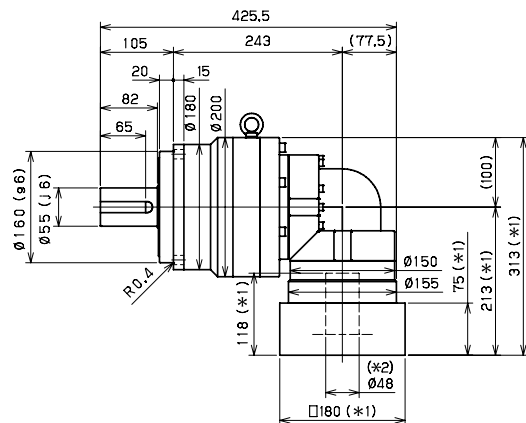
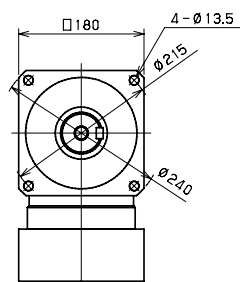
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$

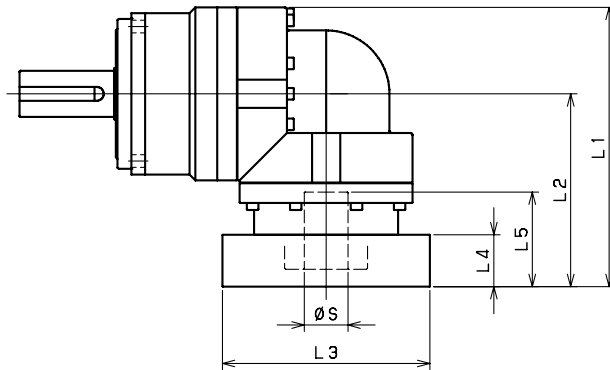


Input shaft bore $\leq \varnothing 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-180 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------|---------|-------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-180-□-□-28** (S ≤ 28) | FA·FB·FC | -- | -- | -- | -- | -- |
| | GA·GB·GC·GD·GE·GF·GG·GH | -- | -- | -- | -- | -- |
| | HA·HC·HD | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- |
| | JA·JB·JC·JF | -- | -- | -- | -- | -- |
| | KA·KB·KE | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- |
| EVB-180-□-□-38** (28 < S ≤ 38) | HA | 331.5 | 231.5 | □130 | 45 | 82 |
| | HB·HE | 326.5 | 226.5 | □130 | 40 | 77 |
| | JA | 331.5 | 231.5 | □150 | 45 | 82 |
| | KA·KB·KC | 331.5 | 231.5 | □180 | 45 | 82 |
| | KD | 366.5 | 266.5 | □180 | 80 | 117 |
| | KE | 346.5 | 246.5 | □180 | 60 | 97 |
| | LB | 341.5 | 241.5 | □200 | 55 | 92 |
| | MA·MB | 331.5 | 231.5 | □220 | 45 | 82 |
| | MC | 346.5 | 246.5 | □220 | 60 | 97 |
| | MD | 341.5 | 241.5 | □220 | 55 | 92 |
| EVB-180-□-□-48** (38 < S ≤ 48) | KA | 368 | 268 | □180 | 75 | 118 |
| | KB·KC | 348 | 248 | □180 | 55 | 98 |
| | LA | 348 | 248 | □200 | 55 | 98 |
| | MA | 348 | 248 | □220 | 55 | 98 |
| | MB | 368 | 268 | □220 | 75 | 118 |
| | NA | 368 | 268 | □250 | 75 | 118 |
| | PA | 368 | 268 | □280 | 75 | 118 |
| EVB-180-□-□-65** (48 < S ≤ 65) | MA·MB·MC·MD | 381 | 281 | □220 | 80 | 122 |
| | NA·NC | 381 | 281 | □250 | 80 | 122 |
| | NB·ND | 411 | 311 | □250 | 110 | 152 |
| | PA | 401 | 301 | □280 | 100 | 142 |
| | PB | 411 | 311 | □280 | 110 | 152 |

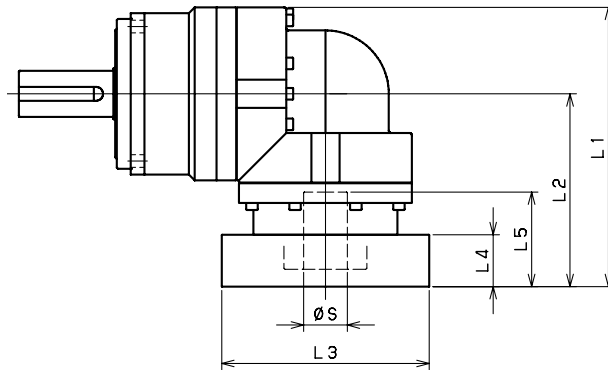
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-180 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-180-□-□-28** (S ≤ 28) | FA•FB•FC | 252 | 152 | □100 | 35 | 67 |
| | GA•GB•GC•GD•GE•GF•GG•GH | 252 | 152 | □115 | 35 | 67 |
| | HA•HC•HD | 252 | 152 | □130 | 35 | 67 |
| | HB | 262 | 162 | □130 | 45 | 77 |
| | HF | 247 | 147 | □130 | 30 | 62 |
| | JA•JB•JC•JF | 252 | 152 | □150 | 35 | 67 |
| | KA•KB•KE | 252 | 152 | □180 | 35 | 67 |
| | LA | 252 | 152 | □200 | 35 | 67 |
| | LB | 262 | 162 | □200 | 45 | 77 |
| | MA | 252 | 152 | □220 | 35 | 67 |
| EVB-180-□-□-38** (28 < S ≤ 38) | MB | 262 | 162 | □220 | 45 | 77 |
| | HA | 267 | 167 | □130 | 45 | 82 |
| | HB•HE | 262 | 162 | □130 | 40 | 77 |
| | JA | 267 | 167 | □150 | 45 | 82 |
| | KA•KB•KC | 267 | 167 | □180 | 45 | 82 |
| | KD | 302 | 202 | □180 | 80 | 117 |
| | KE | 282 | 182 | □180 | 60 | 97 |
| | LB | 277 | 177 | □200 | 55 | 92 |
| | MA•MB | 267 | 167 | □220 | 45 | 82 |
| | MC | 282 | 182 | □220 | 60 | 97 |
| EVB-180-□-□-48** (38 < S ≤ 48) | MD | 277 | 177 | □220 | 55 | 92 |
| | NA | 267 | 167 | □250 | 45 | 82 |
| | KA | 313 | 213 | □180 | 75 | 118 |
| | KB•KC | 293 | 193 | □180 | 55 | 98 |
| | LA | 293 | 193 | □200 | 55 | 98 |
| | MA | 293 | 193 | □220 | 55 | 98 |
| | MB | 313 | 213 | □220 | 75 | 118 |
| EVB-180-□-□-65** (48 < S ≤ 65) | NA | 313 | 213 | □250 | 75 | 118 |
| | PA | 313 | 213 | □280 | 75 | 118 |
| | MA•MB•MC•MD | -- | -- | -- | -- | -- |
| | NA•NC | -- | -- | -- | -- | -- |
| | NB•ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVB-220 – 2-Stage Specifications

| Frame Size | 220 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 575 | 765 | 960 | 1150 | 1200 | 1200 | 800 | 800 |
| Maximum Acceleration Torque | [Nm] | *2 | 1015 | 1355 | 1695 | 1840 | 1840 | 1760 | 1520 | 1280 |
| Emergency Stop Torque | [Nm] | *3 | 2500 | 3300 | 4000 | 4500 | 4500 | 4500 | 3600 | 3600 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 14.5 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5800 | 6400 | 6900 | 7300 | 7700 | 8000 | 8400 | 8700 |
| Permitted Axial Load | [N] | *8 | 6400 | 7200 | 7900 | 8600 | 9200 | 9700 | 10000 | 11000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 148.0 | 122.9 | 113.3 | 108.1 | 104.7 | 102.7 | 101.6 | 101.0 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 223.2 | 198.1 | 188.6 | 183.3 | 180.0 | 178.0 | 176.8 | 176.2 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 66 | | | | | | | |

EVB-220 – 3-Stage Specifications

| Frame Size | 220 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 800 | 1200 | 1200 | 1200 | 1200 | 800 | 1200 | 1200 |
| Maximum Acceleration Torque | [Nm] | *2 | 1280 | 1840 | 1840 | 1840 | 1840 | 1280 | 1840 | 1840 |
| Emergency Stop Torque | [Nm] | *3 | 3600 | 4500 | 4500 | 4500 | 4500 | 3600 | 4500 | 4500 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.2 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 9900 | 10000 | 11000 | 12000 | 12000 | 13000 | 13000 | 14000 |
| Permitted Axial Load | [N] | *8 | 13000 | 13000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 36.32 | 37.24 | 35.75 | 35.47 | 36.39 | 34.39 | 35.21 | 34.25 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 66.14 | 67.06 | 65.57 | 65.28 | 66.21 | 64.21 | 65.03 | 64.07 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 67 | | | | | | | |

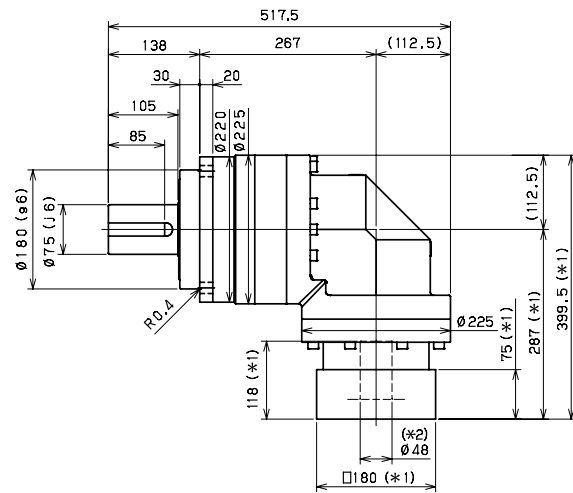
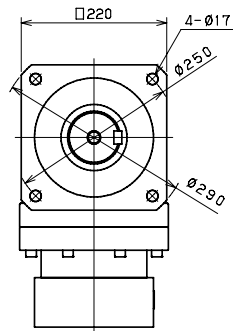
EVB-220 – 3-Stage Specifications

| Frame Size | 220 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 800 | 1200 | 1200 | 1200 | 1200 | 800 | 800 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1040 | 1840 | 1840 | 1840 | 1440 | 1040 | 960 | | |
| Emergency Stop Torque | [Nm] | *3 | 3600 | 4500 | 4500 | 4500 | 4500 | 3600 | 3600 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.2 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 14000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | | |
| Permitted Axial Load | [N] | *8 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | | |
| Maximum Radial Load | [N] | *9 | 15000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 14000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 35.10 | 34.18 | 34.14 | 34.11 | 34.10 | 34.09 | 34.08 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 64.92 | 63.99 | 63.95 | 63.93 | 63.91 | 63.90 | 63.90 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 67 | | | | | | | | |

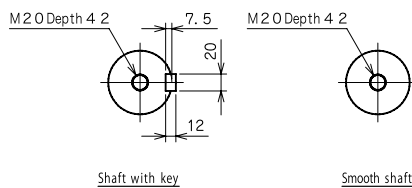
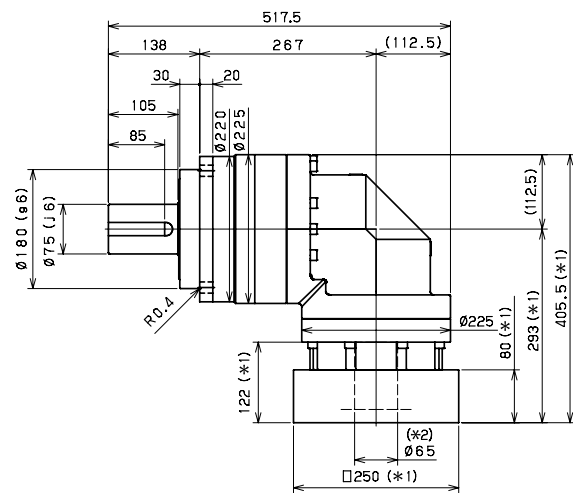
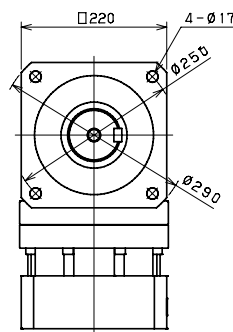
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1000 rpm for EVB220
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVB-220 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



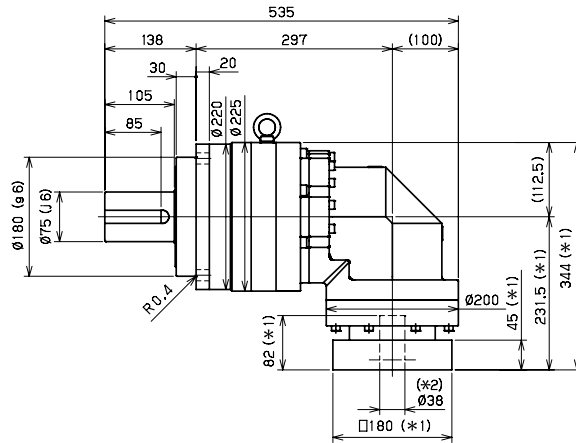
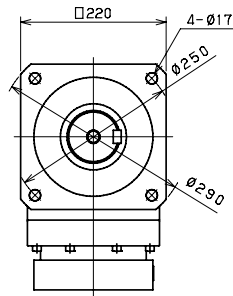
Input shaft bore $\leq \varnothing 65$



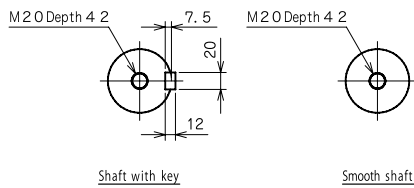
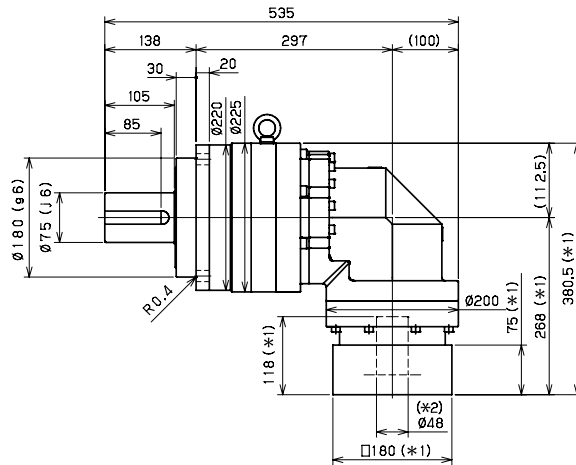
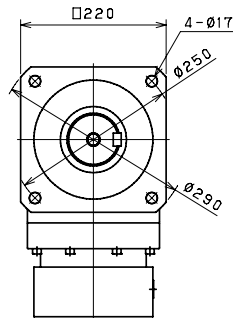
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-220 – 3-Stage Dimensions

Input shaft bore $\leq \phi 38$

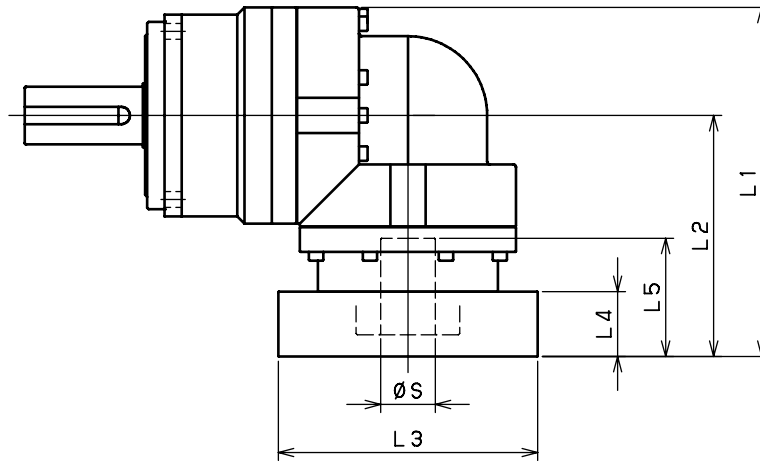


Input shaft bore $\leq \phi 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVB-220 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|--|------------------|---------|-----|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-220-□-□-38** ($S \leq 38$) | HA | -- | -- | -- | -- | -- |
| | HB-HE | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| | KA-KB-KC | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- |
| | MA-MB | -- | -- | -- | -- | -- |
| | MC | -- | -- | -- | -- | -- |
| | MD | -- | -- | -- | -- | -- |
| EVB-220-□-□-48** ($38 < S \leq 48$) | KA | 399.5 | 287 | □180 | 75 | 118 |
| | KB-KC | 379.5 | 267 | □180 | 55 | 98 |
| | LA | 379.5 | 267 | □200 | 55 | 98 |
| | MA | 379.5 | 267 | □220 | 55 | 98 |
| | MB | 399.5 | 287 | □220 | 75 | 118 |
| | NA | 399.5 | 287 | □250 | 75 | 118 |
| | PA | 399.5 | 287 | □280 | 75 | 118 |
| EVB-220-□-□-65** ($48 < S \leq 65$) | MA-MB-MC-MD | 405.5 | 293 | □220 | 80 | 122 |
| | NA-NC | 405.5 | 293 | □250 | 80 | 122 |
| | NB-ND | 435.5 | 323 | □250 | 110 | 152 |
| | PA | 425.5 | 313 | □280 | 100 | 142 |
| | PB | 435.5 | 323 | □280 | 110 | 152 |
| | QA-QB | 425.5 | 313 | □320 | 100 | 142 |

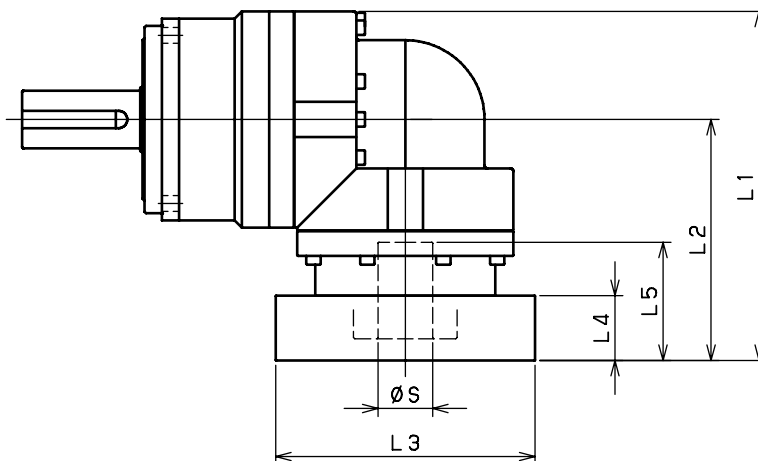
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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EVB-220 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|------------------|---------|-------|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVB-220-□-□-38** (S ≤ 38) | HA | 344 | 231.5 | □130 | 45 | 82 |
| | HB-HE | 339 | 226.5 | □130 | 40 | 77 |
| | JA | 344 | 231.5 | □150 | 45 | 82 |
| | KA-KB-KC | 344 | 231.5 | □180 | 45 | 82 |
| | KD | 379 | 266.5 | □180 | 80 | 117 |
| | KE | 359 | 246.5 | □180 | 60 | 97 |
| | LA | 344 | 231.5 | □200 | 45 | 82 |
| | LB | 354 | 241.5 | □200 | 55 | 92 |
| | MA-MB | 344 | 231.5 | □220 | 45 | 82 |
| | MC | 359 | 246.5 | □220 | 60 | 97 |
| | MD | 354 | 241.5 | □220 | 55 | 92 |
| EVB-220-□-□-48** (38 < S ≤ 48) | KA | 380.5 | 268 | □180 | 75 | 118 |
| | KB-KC | 360.5 | 248 | □180 | 55 | 98 |
| | LA | 360.5 | 248 | □200 | 55 | 98 |
| | MA | 360.5 | 248 | □220 | 55 | 98 |
| | MB | 380.5 | 268 | □220 | 75 | 118 |
| | NA | 380.5 | 268 | □250 | 75 | 118 |
| | PA | 380.5 | 268 | □280 | 75 | 118 |
| EVB-220-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- |
| QA-QB | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

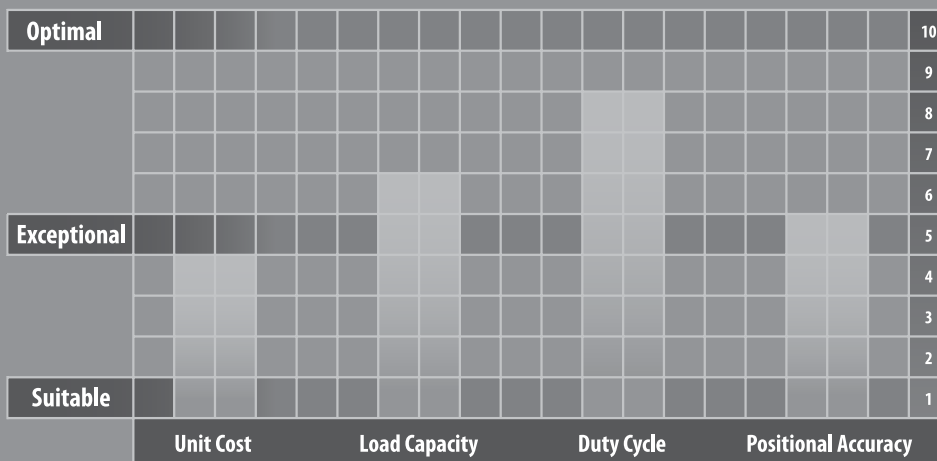
For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-SERIES

For applications that require exceptional load handling capabilities in an optimum foot print, the EVS series is the performance leader. The right-angle equivalent to the VRS, the EVS internal design provides an extremely smooth running, quiet reducer even when challenging static forces are applied. The tapered roller bearings at the output side allow the EVS to handle larger radial and thrust load forces than the typical planetary gearbox.

The EVS series is a high precision right-angle gearhead having a maximum 4 arc/min backlash rating, while handling a peak output torque reaching 600 Nm. The series is commonly utilized in custom assembly applications or in robotic tooling. Very low backlash and off-set load handling capabilities are critical characteristics for these types of applications.

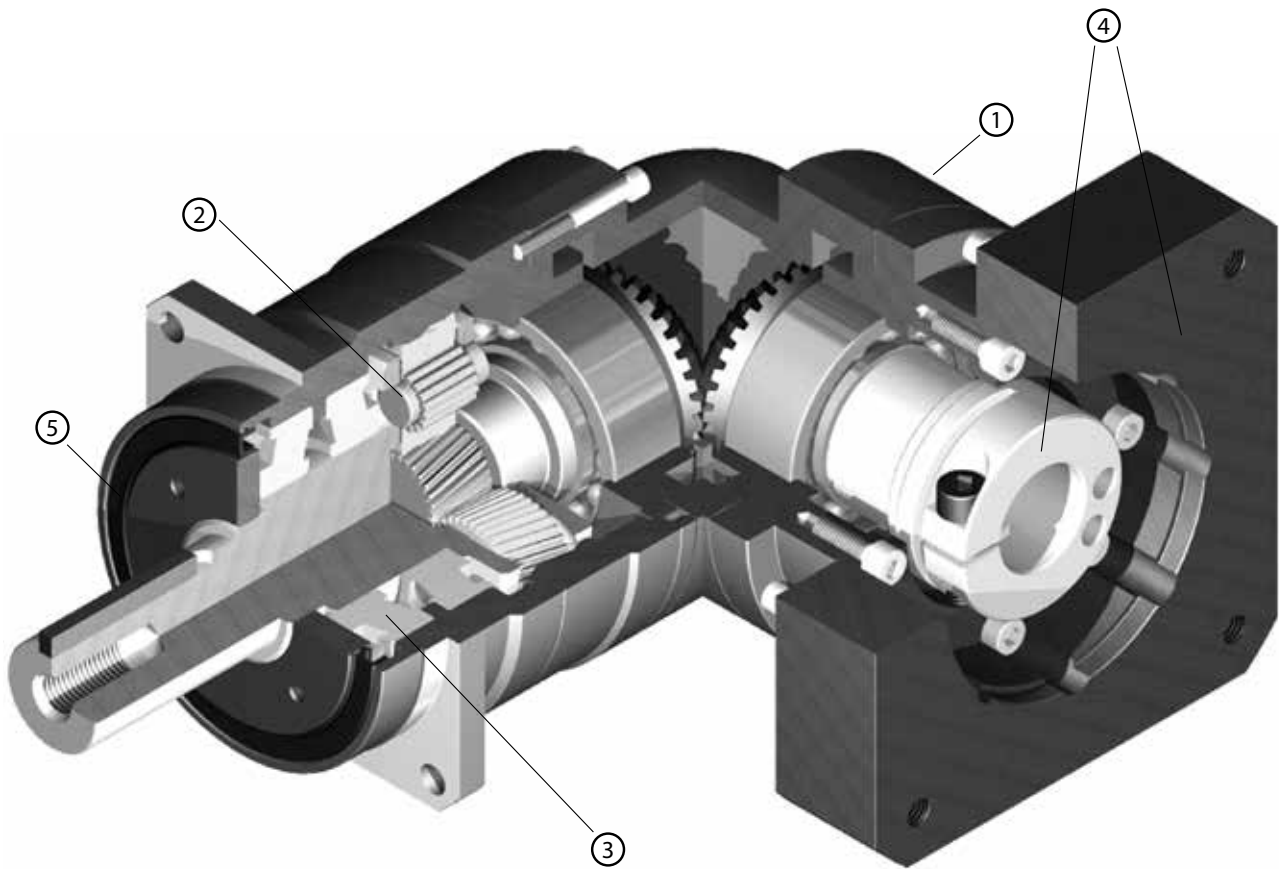




EVS-SERIES

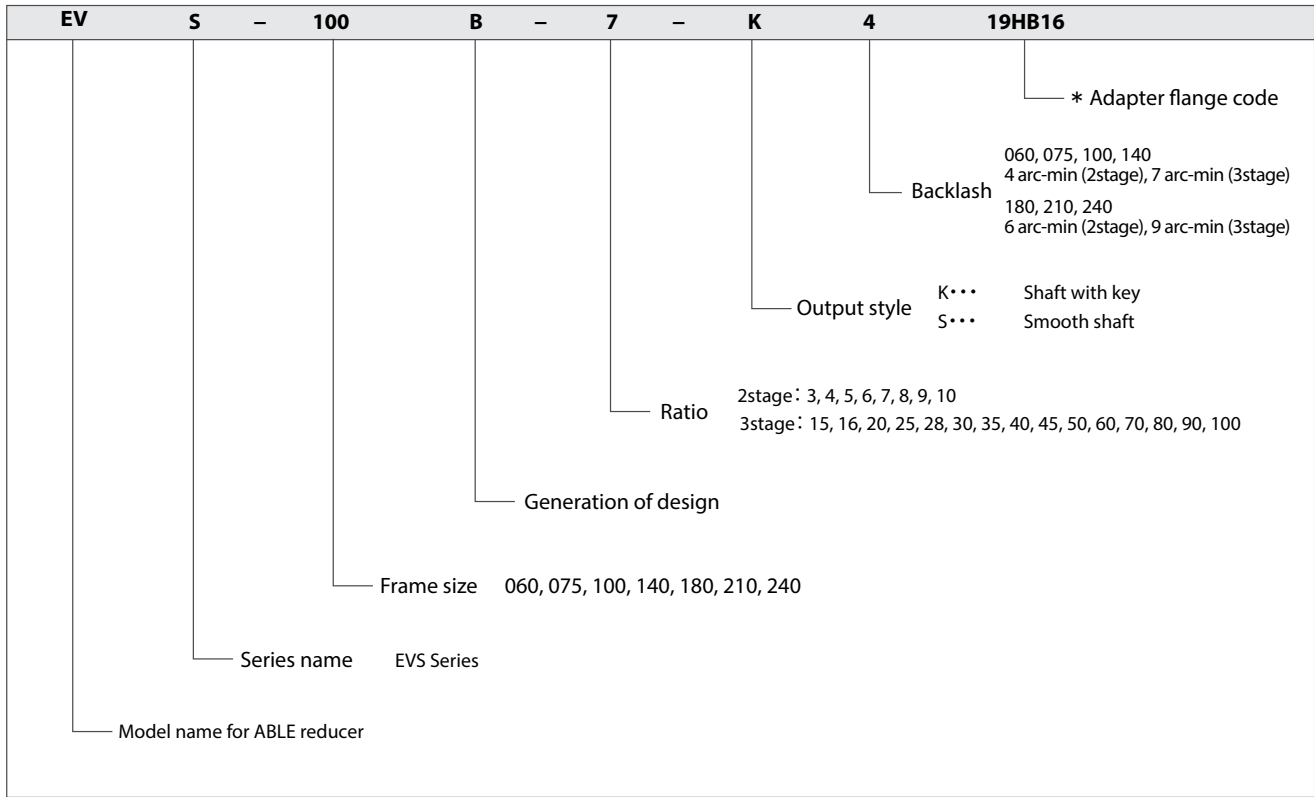
- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thru-bolt mounting style
- Low backlash (≤ 4 arc/min)
- Space-saving design, when minimal envelope available
- Highest radial and axial load ratings among right-angle options
- Readily available

EVS-Series – Features



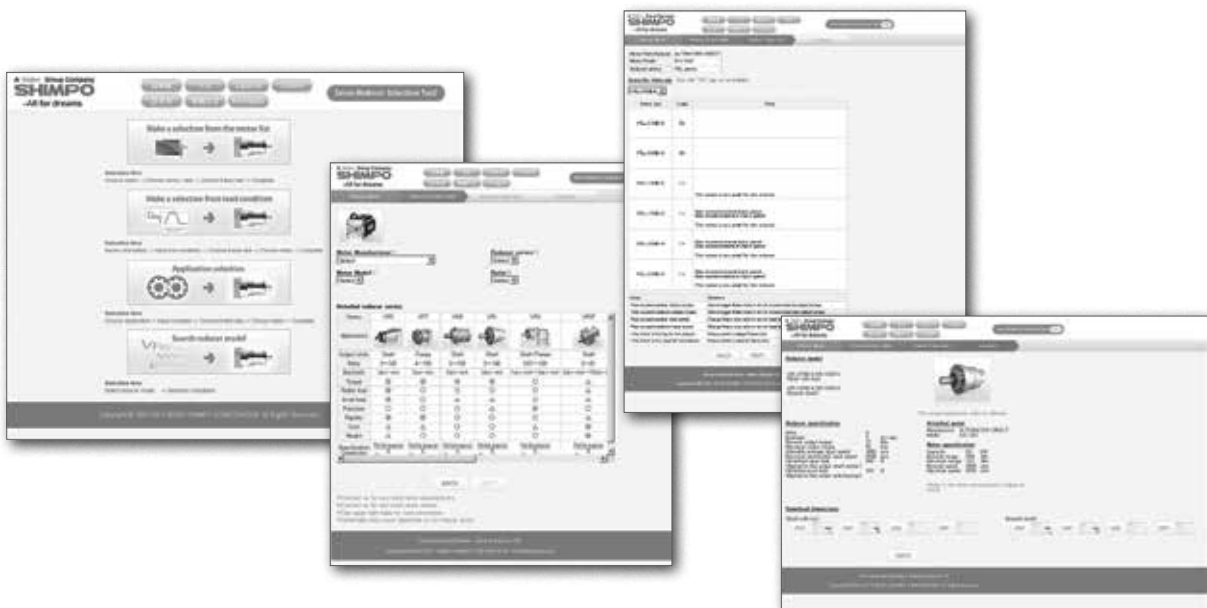
- ① Space-saving features; motor can be located at a 90 degree position from the reducer providing a more compact footprint
- ② High rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ High load capacity: Tapered roller bearings were added to the output section to increase radial and axial load ratings
- ④ Adapter-bushing connection enable a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal; high viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

EVS-Series – Model Code



*1) Adapter flange code
 Adapter flange code varies depending on the motor.

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



EVS-o6o – 2-Stage Specifications

| Frame Size | 060 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 12 | 16 | 22 | 24 | 24 | 24 | 16 | 16 |
| Maximum Acceleration Torque | [Nm] | *2 | 24 | 32 | 40 | 45 | 45 | 45 | 32 | 32 |
| Emergency Stop Torque | [Nm] | *3 | 50 | 65 | 80 | 90 | 90 | 90 | 65 | 65 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.33 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 1700 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2400 |
| Permitted Axial Load | [N] | *8 | 2300 | 2500 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 |
| Maximum Radial Load | [N] | *9 | 3000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2700 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.320 | 0.271 | 0.251 | 0.242 | 0.235 | 0.232 | 0.229 | 0.228 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.395 | 0.346 | 0.326 | 0.317 | 0.310 | 0.307 | 0.304 | 0.303 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.584 | 0.535 | 0.516 | 0.506 | 0.500 | 0.496 | 0.494 | 0.492 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 2 | | | | | | | |

EVS-o6o – 3-Stage Specifications

| Frame Size | 060 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 16 | 24 | 24 | 24 | 24 | 16 | 24 | 24 |
| Maximum Acceleration Torque | [Nm] | *2 | 32 | 45 | 45 | 45 | 45 | 32 | 45 | 45 |
| Emergency Stop Torque | [Nm] | *3 | 65 | 90 | 90 | 90 | 90 | 65 | 90 | 90 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.20 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2800 | 2800 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Permitted Axial Load | [N] | *8 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 |
| Maximum Radial Load | [N] | *9 | 3000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2700 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.074 | 0.079 | 0.072 | 0.071 | 0.077 | 0.062 | 0.070 | 0.061 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.118 | 0.124 | 0.116 | 0.115 | 0.122 | 0.106 | 0.115 | 0.106 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 1.8 | | | | | | | |

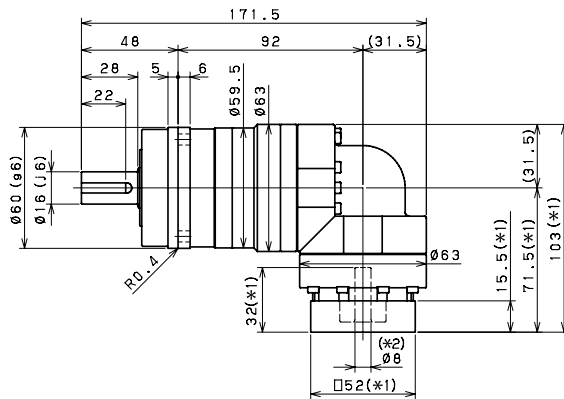
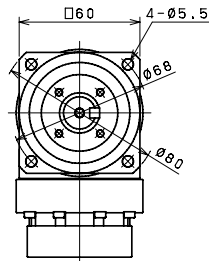
EVS-o6o – 3-Stage Specifications

| Frame Size | 060 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 16 | 24 | 24 | 24 | 24 | 16 | 16 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 32 | 45 | 45 | 45 | 45 | 32 | 32 | | |
| Emergency Stop Torque | [Nm] | *3 | 65 | 90 | 90 | 90 | 90 | 65 | 65 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.20 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | | |
| Permitted Axial Load | [N] | *8 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | | |
| Maximum Radial Load | [N] | *9 | 3000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 2700 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.070 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.115 | 0.106 | 0.106 | 0.106 | 0.105 | 0.105 | 0.105 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 3 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 1.8 | | | | | | | | |

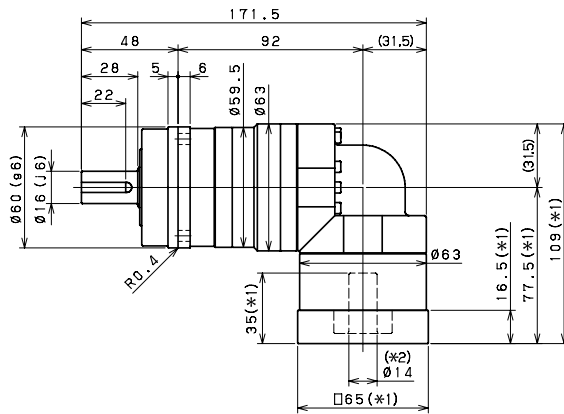
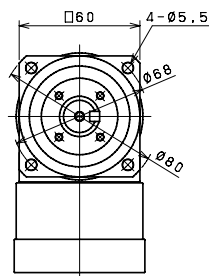
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVSo6o
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-o60 – 2-Stage Dimensions

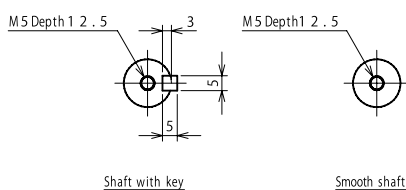
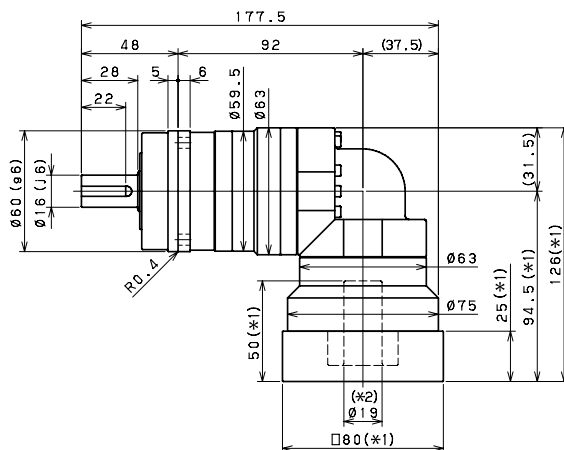
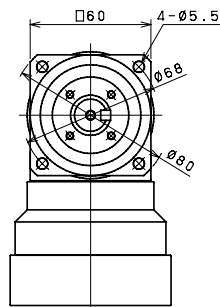
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



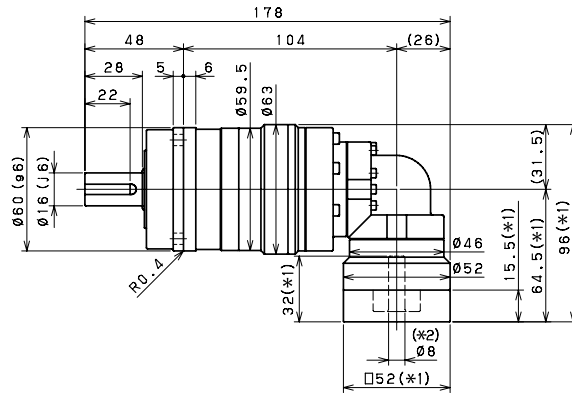
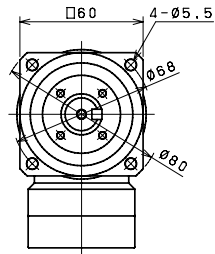
Input shaft bore $\leq \varnothing 19$



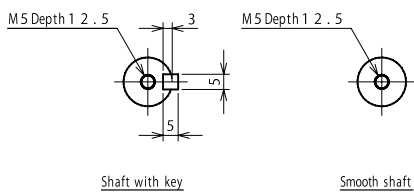
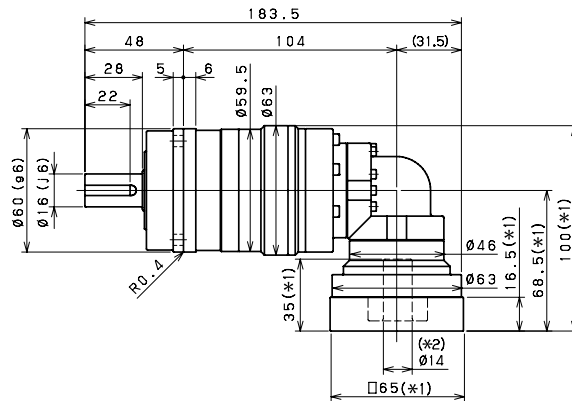
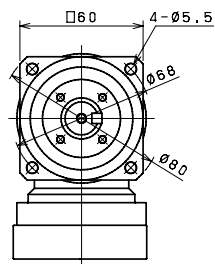
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVS-o6o – 3-Stage Dimensions

Input shaft bore $\leq \phi 8$



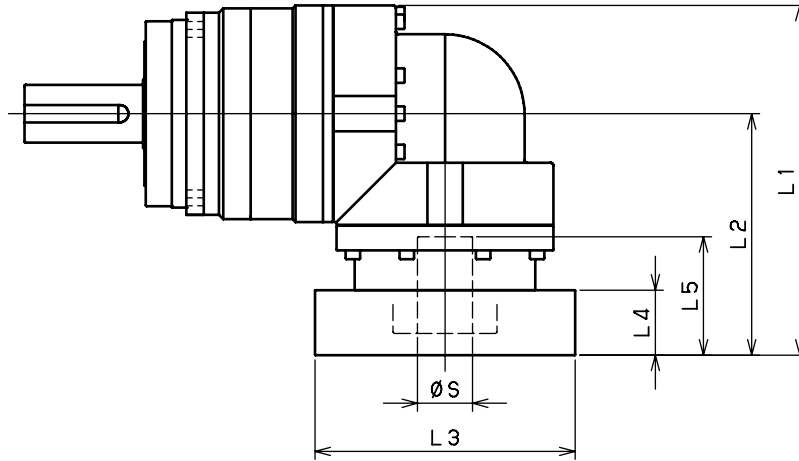
Input shaft bore $\leq \phi 14$



*1) Length will vary depending on motor

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

EVS-060 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-060-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 103 | 71.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 108 | 76.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 103 | 71.5 | □60 | 15.5 | 32 |
| | BC·BF | 108 | 76.5 | □60 | 20.5 | 37 |
| | CA | 108 | 76.5 | □70 | 20.5 | 37 |
| EVS-060-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 109 | 77.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 114 | 82.5 | □65 | 21.5 | 40 |
| | BL | 119 | 87.5 | □65 | 26.5 | 45 |
| | CA·CC | 109 | 77.5 | □70 | 16.5 | 35 |
| | CB | 114 | 82.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 109 | 77.5 | □80 | 16.5 | 35 |
| | DE·DL | 114 | 82.5 | □80 | 21.5 | 40 |
| | DG·DK | 119 | 87.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 109 | 77.5 | □90 | 16.5 | 35 |
| | EJ·EM | 114 | 82.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 119 | 87.5 | □90 | 26.5 | 45 |
| | FA | 109 | 77.5 | □100 | 16.5 | 35 |
| FB | 119 | 87.5 | □100 | 26.5 | 45 | |
| EVS-060-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 126 | 94.5 | □80 | 25 | 50 |
| | DD | 136 | 104.5 | □80 | 35 | 60 |
| | DE | 131 | 99.5 | □80 | 30 | 55 |
| | EA | 131 | 99.5 | □90 | 30 | 55 |
| | EB·ED | 126 | 94.5 | □90 | 25 | 50 |
| | EC | 136 | 104.5 | □90 | 35 | 60 |
| | FA | 126 | 94.5 | □100 | 25 | 50 |
| FB | 136 | 104.5 | □100 | 35 | 60 | |

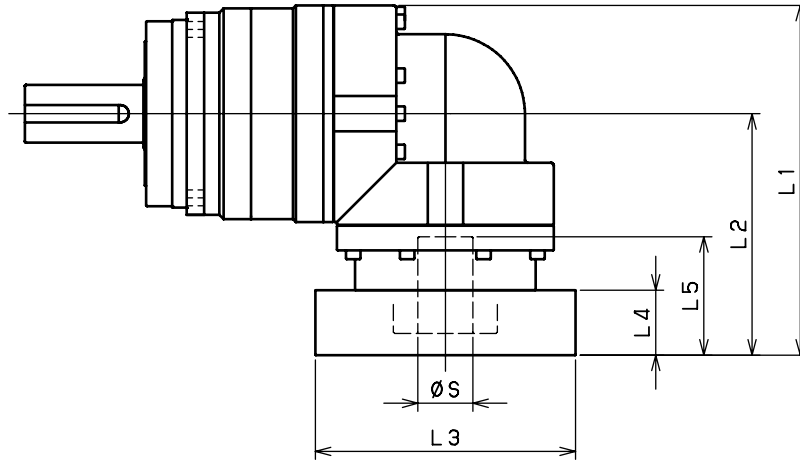
*1) Double reduction : 1/3 ~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-060 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-060-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 96 | 64.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 101 | 69.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 96 | 64.5 | □60 | 15.5 | 32 |
| | BC·BF | 101 | 69.5 | □60 | 20.5 | 37 |
| | CA | 101 | 69.5 | □70 | 20.5 | 37 |
| EVS-060-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 100 | 68.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 105 | 73.5 | □65 | 21.5 | 40 |
| | BL | 110 | 78.5 | □65 | 26.5 | 45 |
| | CA·CC | 100 | 68.5 | □70 | 16.5 | 35 |
| | CB | 105 | 73.5 | □70 | 21.5 | 40 |
| | DA·DB·DC·DD·DF·DH·DJ | 100 | 68.5 | □80 | 16.5 | 35 |
| | DE·DL | 105 | 73.5 | □80 | 21.5 | 40 |
| | DG·DK | 110 | 78.5 | □80 | 26.5 | 45 |
| | EA·EB·EC·EF·EG·EK·EL | 100 | 68.5 | □90 | 16.5 | 35 |
| | EJ·EM | 105 | 73.5 | □90 | 21.5 | 40 |
| | ED·EE·EH | 110 | 78.5 | □90 | 26.5 | 45 |
| | FA | 100 | 68.5 | □100 | 16.5 | 35 |
| FB | 110 | 78.5 | □100 | 26.5 | 45 | |
| EVS-060-□-□-19** (14 < S ≤ 19) | DA·DB·DC | -- | -- | -- | -- | -- |
| | DD | -- | -- | -- | -- | -- |
| | DE | -- | -- | -- | -- | -- |
| | EA | -- | -- | -- | -- | -- |
| | EB·ED | -- | -- | -- | -- | -- |
| | EC | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-075 – 2-Stage Specifications

| Frame Size | 075 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 45 | 60 | 65 | 65 | 65 | 65 | 45 | 45 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 90 | 90 | 90 | 90 | 90 | 65 | 65 | | |
| Emergency Stop Torque | [Nm] | *3 | 130 | 170 | 220 | 220 | 220 | 220 | 170 | 170 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.13 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 2300 | 2500 | 2700 | 2800 | 3000 | 3100 | 3200 | 3300 | | |
| Permitted Axial Load | [N] | *8 | 3400 | 3700 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.070 | 1.870 | 1.780 | 1.740 | 1.720 | 1.700 | 1.690 | 1.690 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.400 | 2.200 | 2.110 | 2.070 | 2.050 | 2.030 | 2.020 | 2.020 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.530 | 4.320 | 4.240 | 4.200 | 4.170 | 4.160 | 4.150 | 4.150 | | |
| Efficiency | [%] | *11 | 93 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 4.8 | | | | | | | | | |

EVS-075 – 3-Stage Specifications

| Frame Size | 075 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 45 | 65 | 65 | 65 | 65 | 45 | 65 | 65 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 110 | 110 | 110 | 110 | 65 | 110 | 110 | | |
| Emergency Stop Torque | [Nm] | *3 | 170 | 220 | 220 | 220 | 220 | 170 | 220 | 220 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.55 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3700 | 3800 | 4000 | 4300 | 4300 | 4300 | 4300 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.330 | 0.380 | 0.330 | 0.320 | 0.370 | 0.250 | 0.320 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.410 | 0.460 | 0.400 | 0.400 | 0.450 | 0.320 | 0.400 | 0.320 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.600 | 0.650 | 0.590 | 0.590 | 0.640 | 0.510 | 0.580 | 0.510 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 4.1 | | | | | | | | | |

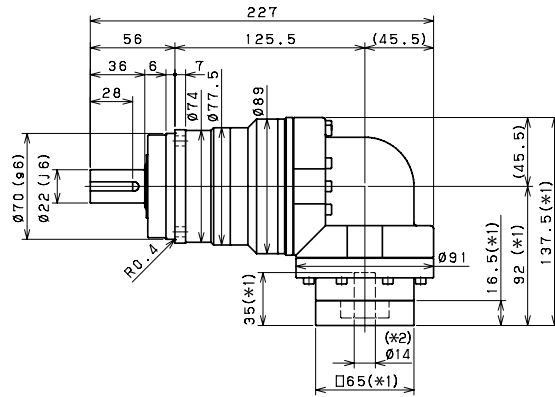
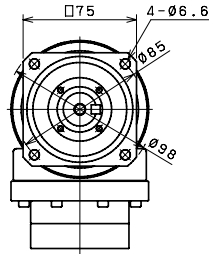
EVS-075 – 3-Stage Specifications

| Frame Size | 075 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 45 | 65 | 65 | 65 | 65 | 45 | 45 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 65 | 110 | 110 | 110 | 110 | 65 | 65 | | |
| Emergency Stop Torque | [Nm] | *3 | 170 | 220 | 220 | 220 | 220 | 170 | 170 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 0.55 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 4300 | 4300 | 4300 | 4300 | 4300 | 4300 | 4300 | | |
| Permitted Axial Load | [N] | *8 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | 3900 | | |
| Maximum Radial Load | [N] | *9 | 4300 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 3900 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | -- | 0.320 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 0.390 | 0.320 | 0.320 | 0.320 | 0.320 | 0.320 | 0.320 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 0.580 | 0.510 | 0.510 | 0.510 | 0.510 | 0.510 | 0.510 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 10 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 80 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 4.1 | | | | | | | | |

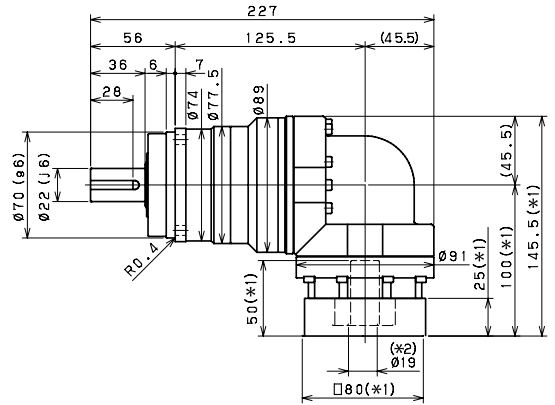
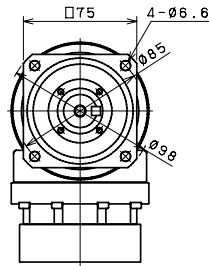
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVS075
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-075 – 2-Stage Dimensions

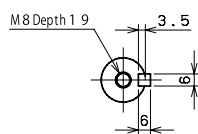
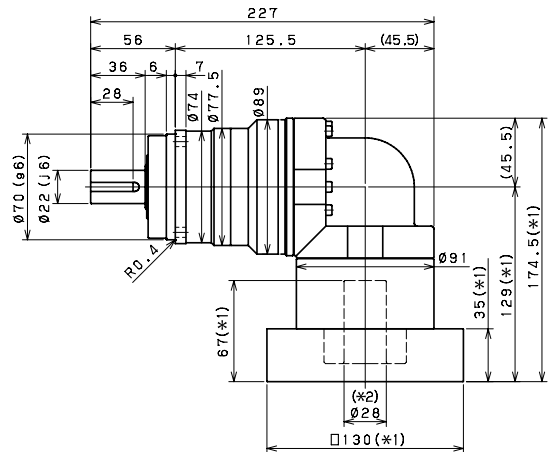
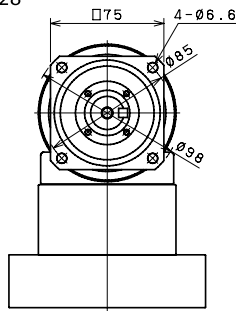
Input shaft bore $\leq \varnothing 14$



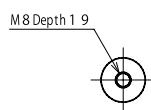
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Shaft with key



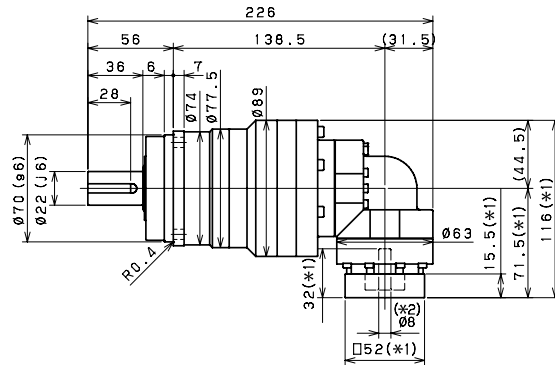
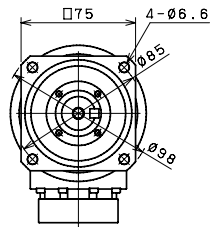
Smooth shaft

*1) Length will vary depending on motor

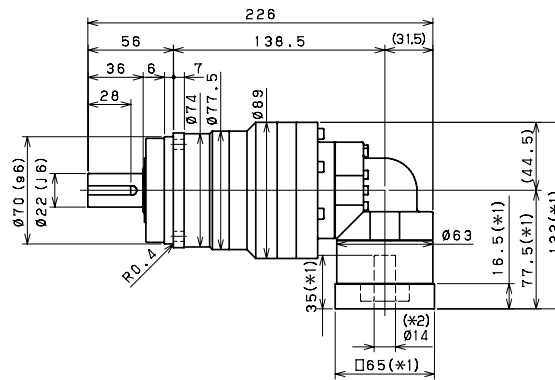
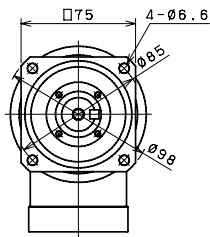
*2) Bushing will be inserted to adapt to motor shaft

EVS-075 – 3-Stage Dimensions

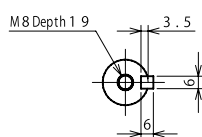
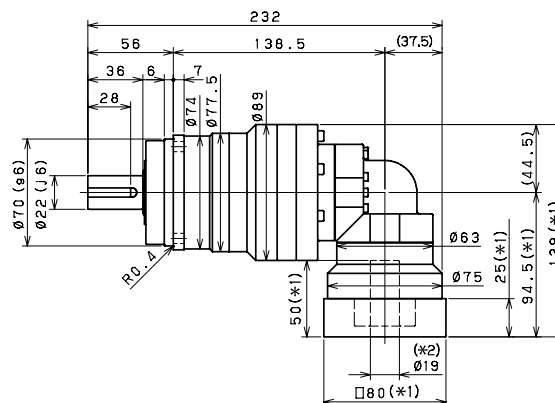
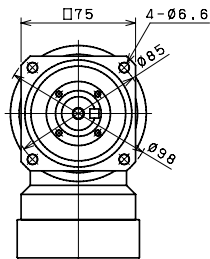
Input shaft bore $\leq \phi 8$



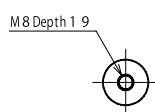
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Shaft with key

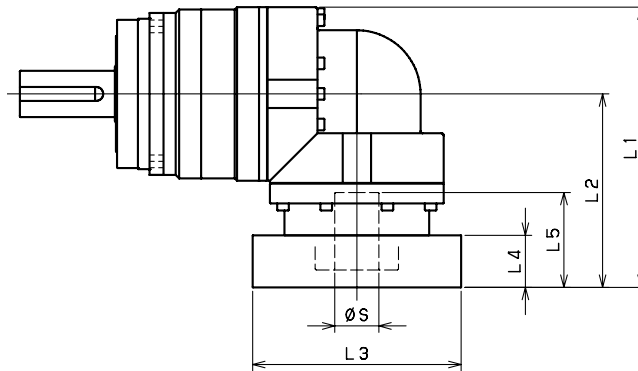


Smooth shaft

*1) Length will vary depending on motor

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

EVS-075 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-075-□-□-8** (S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | -- | -- | -- | -- | -- |
| | AB·AE·AH·AJ·AK | -- | -- | -- | -- | -- |
| | BA·BB·BD·BE·BG·BH·BJ | -- | -- | -- | -- | -- |
| | CA | -- | -- | -- | -- | -- |
| EVS-075-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 137.5 | 92 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 142.5 | 97 | □65 | 21.5 | 40 |
| | CA·CC | 137.5 | 92 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 137.5 | 92 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 137.5 | 92 | □90 | 16.5 | 35 |
| | FA | 137.5 | 92 | □100 | 16.5 | 35 |
| | FB | 147.5 | 102 | □100 | 26.5 | 45 |
| EVS-075-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 145.5 | 100 | □80 | 25 | 50 |
| | EB·ED | 145.5 | 100 | □90 | 25 | 50 |
| | FA | 145.5 | 100 | □100 | 25 | 50 |
| | FB | 155.5 | 110 | □100 | 35 | 60 |
| | GA·GC·GH | 150.5 | 105 | □115 | 30 | 55 |
| | GB·GD·GJ | 145.5 | 100 | □115 | 25 | 50 |
| | GE·GF | 155.5 | 110 | □115 | 35 | 60 |
| | HA | 145.5 | 100 | □130 | 25 | 50 |
| | HB | 160.5 | 115 | □130 | 40 | 65 |
| | HC·HD·HE | 150.5 | 105 | □130 | 30 | 55 |
| | JA | 155.5 | 110 | □150 | 35 | 60 |
| EVS-075-□-□-28** (19 < S ≤ 28) | FA·FB·FC | 174.5 | 129 | □100 | 35 | 67 |
| | FD·FE | 169.5 | 124 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 174.5 | 129 | □115 | 35 | 67 |
| | HA·HC·HD | 174.5 | 129 | □130 | 35 | 67 |
| | HB | 184.5 | 139 | □130 | 45 | 77 |
| | HE | 189.5 | 144 | □130 | 50 | 82 |
| | HF | 169.5 | 124 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 174.5 | 129 | □150 | 35 | 67 |
| | JD | 194.5 | 149 | □150 | 55 | 87 |
| JE | 184.5 | 139 | □150 | 45 | 77 | |

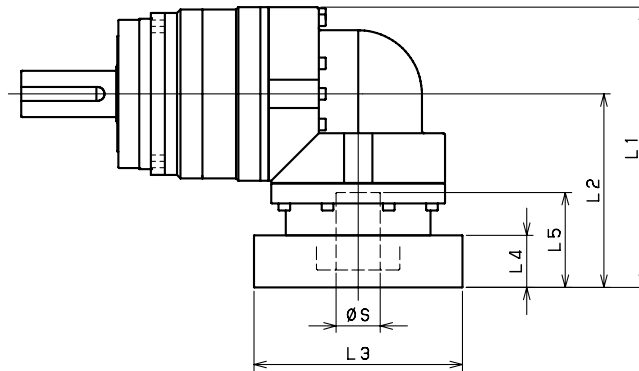
*1) Double reduction : 1/3 ~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-075 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-------|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-075-□-□-8** (8 ≤ S ≤ 8) | AA·AC·AD·AF·AG·AL·AM·AN·AQ | 116 | 71.5 | □52 | 15.5 | 32 |
| | AB·AE·AH·AJ·AK | 121 | 76.5 | □52 | 20.5 | 37 |
| | BA·BB·BD·BE·BG·BH·BJ | 116 | 71.5 | □60 | 15.5 | 32 |
| | CA | 121 | 76.5 | □70 | 20.5 | 37 |
| EVS-075-□-□-14** (8 < S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 122 | 77.5 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 127 | 82.5 | □65 | 21.5 | 40 |
| | CA·CC | 122 | 77.5 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 122 | 77.5 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 122 | 77.5 | □90 | 16.5 | 35 |
| | FA | 122 | 77.5 | □100 | 16.5 | 35 |
| | FB | 132 | 87.5 | □100 | 26.5 | 45 |
| EVS-075-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 139 | 94.5 | □80 | 25 | 50 |
| | EB·ED | 139 | 94.5 | □90 | 25 | 50 |
| | FA | 139 | 94.5 | □100 | 25 | 50 |
| | FB | 149 | 104.5 | □100 | 35 | 60 |
| | GA·GC·GH | 144 | 99.5 | □115 | 30 | 55 |
| | GB·GD·GJ | 139 | 94.5 | □115 | 25 | 50 |
| | GE·GF | 149 | 104.5 | □115 | 35 | 60 |
| | HA | 139 | 94.5 | □130 | 25 | 50 |
| | HB | 154 | 109.5 | □130 | 40 | 65 |
| | HC·HD·HE | 144 | 99.5 | □130 | 30 | 55 |
| | JA | 149 | 104.5 | □150 | 35 | 60 |
| EVS-075-□-□-28** (19 < S ≤ 28) | JB | 154 | 109.5 | □150 | 40 | 65 |
| | FA·FB·FC | -- | -- | -- | -- | -- |
| | FD·FE | -- | -- | -- | -- | -- |
| | GA·GB·GC·GD·GE·GF·GG·GH | -- | -- | -- | -- | -- |
| | HA·HC·HD | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | HE | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- |
| JA·JB·JC·JF | -- | -- | -- | -- | -- | |
| JD | -- | -- | -- | -- | -- | |
| JE | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-100 – 2-Stage Specifications

| Frame Size | 100 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 75 | 100 | 120 | 150 | 150 | 150 | 110 | 110 |
| Maximum Acceleration Torque | [Nm] | *2 | 150 | 200 | 240 | 300 | 300 | 300 | 200 | 200 |
| Emergency Stop Torque | [Nm] | *3 | 320 | 430 | 500 | 550 | 550 | 550 | 450 | 450 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.88 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 3400 | 3700 | 4000 | 4200 | 4400 | 4600 | 4800 | 4900 |
| Permitted Axial Load | [N] | *8 | 4800 | 5200 | 5600 | 5900 | 6100 | 6300 | 6300 | 6300 |
| Maximum Radial Load | [N] | *9 | 7000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 6300 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 6.610 | 5.410 | 4.970 | 4.730 | 4.620 | 4.530 | 4.470 | 4.450 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 8.210 | 7.010 | 6.570 | 6.330 | 6.220 | 6.120 | 6.070 | 6.040 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 15.280 | 14.080 | 13.640 | 13.400 | 13.290 | 13.200 | 13.140 | 13.110 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 10.5 | | | | | | | |

EVS-100 – 3-Stage Specifications

| Frame Size | 100 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 110 | 130 | 150 | 150 | 150 | 110 | 150 | 150 |
| Maximum Acceleration Torque | [Nm] | *2 | 200 | 260 | 300 | 300 | 300 | 200 | 300 | 300 |
| Emergency Stop Torque | [Nm] | *3 | 450 | 550 | 550 | 550 | 550 | 450 | 550 | 550 |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.11 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 5600 | 5700 | 6100 | 6500 | 6700 | 6900 | 7000 | 7000 |
| Permitted Axial Load | [N] | *8 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 |
| Maximum Radial Load | [N] | *9 | 7000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 6300 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.240 | 2.450 | 2.190 | 2.180 | 2.400 | 1.870 | 2.160 | 1.860 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.570 | 2.780 | 2.520 | 2.510 | 2.730 | 2.200 | 2.490 | 2.190 |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.700 | 4.910 | 4.650 | 4.630 | 4.860 | 4.330 | 4.620 | 4.320 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 10.1 | | | | | | | |

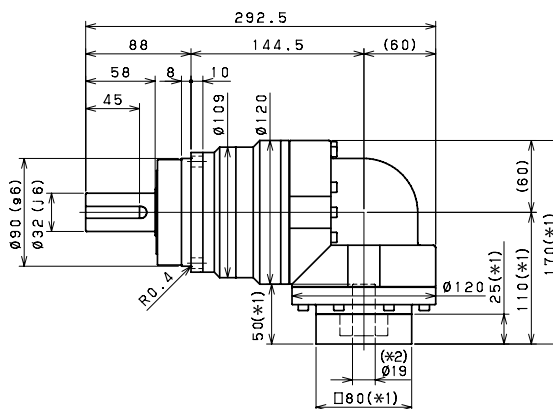
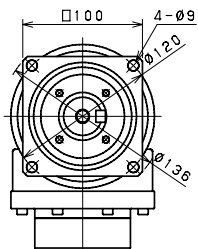
EVS-100 – 3-Stage Specifications

| Frame Size | 100 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 110 | 150 | 150 | 150 | 150 | 110 | 110 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 200 | 300 | 300 | 300 | 300 | 200 | 200 | | |
| Emergency Stop Torque | [Nm] | *3 | 450 | 550 | 550 | 550 | 550 | 450 | 450 | | |
| Nominal Input Speed | [rpm] | *4 | 3000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 6000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 1.11 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 7000 | 7000 | 7000 | 7000 | 7000 | 7000 | 7000 | | |
| Permitted Axial Load | [N] | *8 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | 6300 | | |
| Maximum Radial Load | [N] | *9 | 7000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 6300 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | -- | 2.150 | 1.860 | 1.850 | 1.850 | 1.850 | 1.850 | 1.850 | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 2.480 | 2.190 | 2.180 | 2.180 | 2.180 | 2.180 | 2.180 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 4.610 | 4.310 | 4.310 | 4.310 | 4.310 | 4.310 | 4.310 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 31 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 10.1 | | | | | | | | |

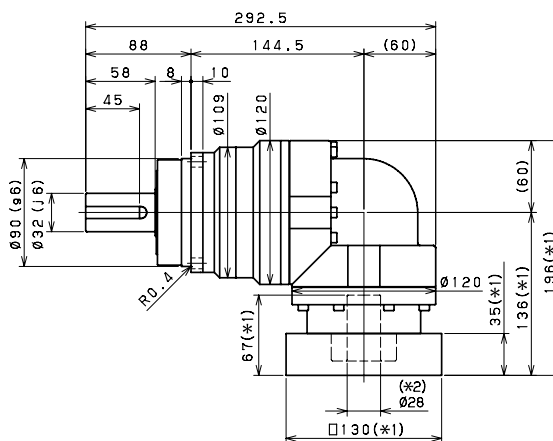
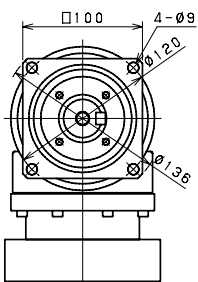
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3000 rpm for EVS100
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-100 – 2-Stage Dimensions

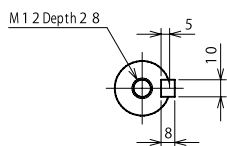
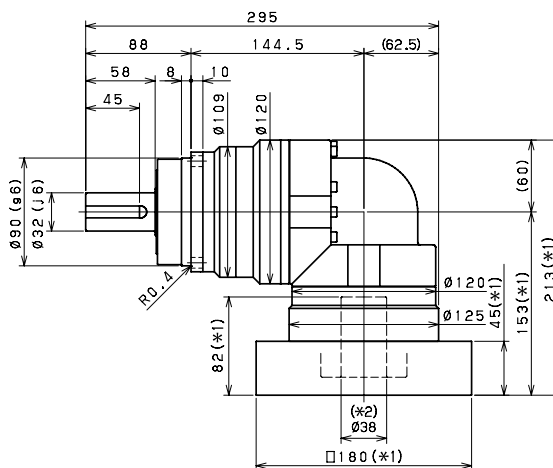
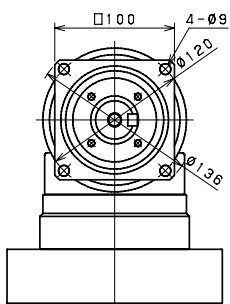
Input shaft bore $\leq \phi 19$



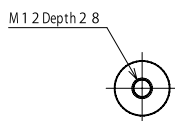
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Shaft with key



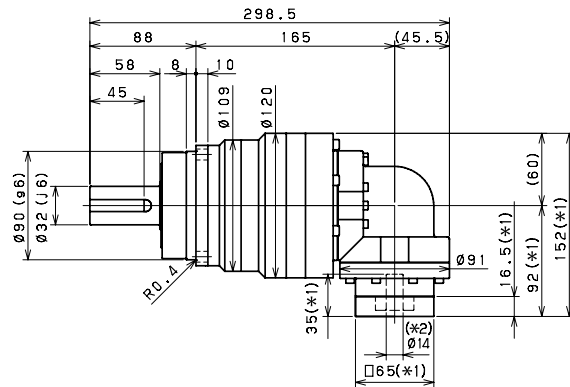
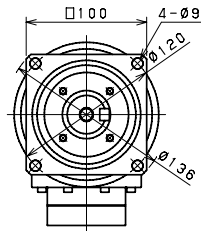
Smooth shaft

*1) Length will vary depending on motor

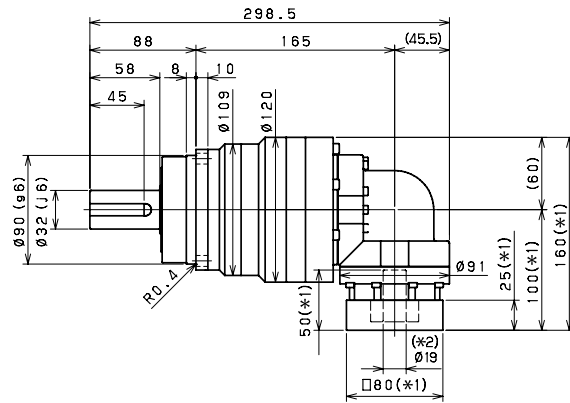
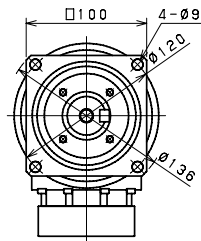
*2) Bushing will be inserted to adapt to motor shaft

EVS-100 – 3-Stage Dimensions

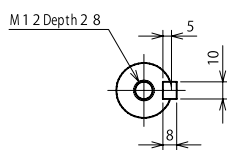
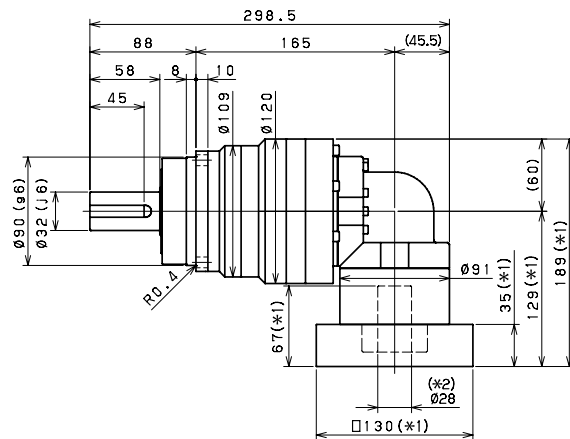
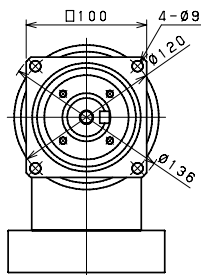
Input shaft bore $\leq \phi 14$



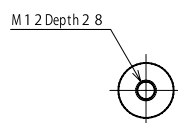
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Shaft with key

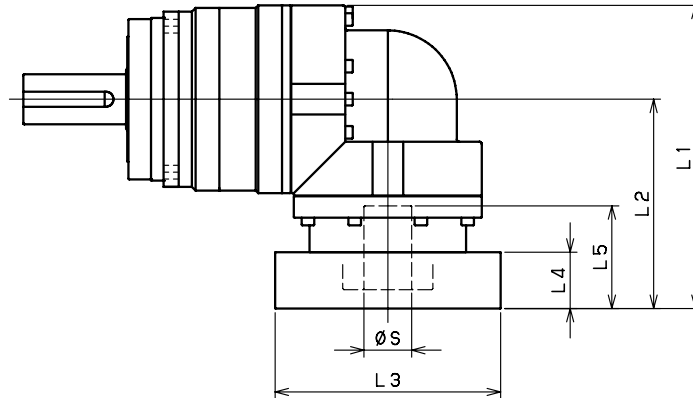


Smooth shaft

*1) Length will vary depending on motor

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

EVS-100 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-100-□-□-14** (S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | -- | -- | -- | -- | -- |
| | BC·BH·BM·BN | -- | -- | -- | -- | -- |
| | CA·CC | -- | -- | -- | -- | -- |
| | DA·DB·DC·DD·DF·DH·DJ | -- | -- | -- | -- | -- |
| | EA·EB·EC·EF·EG·EK·EL | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- |
| EVS-100-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 170 | 110 | □80 | 25 | 50 |
| | EB·ED | 170 | 110 | □90 | 25 | 50 |
| | FA | 170 | 110 | □100 | 25 | 50 |
| | FB | 180 | 120 | □100 | 35 | 60 |
| | GB·GD·GJ | 170 | 110 | □115 | 25 | 50 |
| | HA | 170 | 110 | □130 | 25 | 50 |
| | HB | 185 | 125 | □130 | 40 | 65 |
| EVS-100-□-□-28** (19 < S ≤ 28) | JA | 180 | 120 | □150 | 35 | 60 |
| | FA·FB·FC | 196 | 136 | □100 | 35 | 67 |
| | FD·FE | 191 | 131 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 196 | 136 | □115 | 35 | 67 |
| | HA·HC·HD | 196 | 136 | □130 | 35 | 67 |
| | HB | 206 | 146 | □130 | 45 | 77 |
| | HE | 211 | 151 | □130 | 50 | 82 |
| | HF | 191 | 131 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 196 | 136 | □150 | 35 | 67 |
| | JD | 216 | 156 | □150 | 55 | 87 |
| EVS-100-□-□-38** (28 < S ≤ 38) | JE | 206 | 146 | □150 | 45 | 77 |
| | KA·KB·KE | 196 | 136 | □180 | 35 | 67 |
| | KD | 206 | 146 | □180 | 45 | 77 |
| | HA | 213 | 153 | □130 | 45 | 82 |
| | HB·HE | 208 | 148 | □130 | 40 | 77 |
| | JA | 213 | 153 | □150 | 45 | 82 |
| | KA·KB·KC | 213 | 153 | □180 | 45 | 82 |
| | KD | 248 | 188 | □180 | 80 | 117 |
| | KE | 228 | 168 | □180 | 60 | 97 |

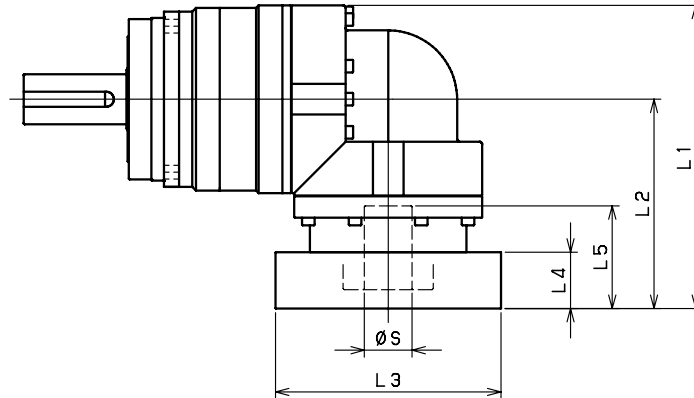
*1) Double reduction : 1/3 ~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-100 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------------|---------|-----|------|------|----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-100-□-□-14** (S ≤ 14) | BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP | 152 | 92 | □65 | 16.5 | 35 |
| | BC·BH·BM·BN | 157 | 97 | □65 | 21.5 | 40 |
| | CA·CC | 152 | 92 | □70 | 16.5 | 35 |
| | DA·DB·DC·DD·DF·DH·DJ | 152 | 92 | □80 | 16.5 | 35 |
| | EA·EB·EC·EF·EG·EK·EL | 152 | 92 | □90 | 16.5 | 35 |
| | FA | 152 | 92 | □100 | 16.5 | 35 |
| | FB | 162 | 102 | □100 | 26.5 | 45 |
| EVS-100-□-□-19** (14 < S ≤ 19) | DA·DB·DC | 160 | 100 | □80 | 25 | 50 |
| | EB·ED | 160 | 100 | □90 | 25 | 50 |
| | FA | 160 | 100 | □100 | 25 | 50 |
| | FB | 170 | 110 | □100 | 35 | 60 |
| | GB·GD·GJ | 160 | 100 | □115 | 25 | 50 |
| | HA | 160 | 100 | □130 | 25 | 50 |
| | HB | 175 | 115 | □130 | 40 | 65 |
| EVS-100-□-□-28** (19 < S ≤ 28) | JA | 170 | 110 | □150 | 35 | 60 |
| | FA·FB·FC | 189 | 129 | □100 | 35 | 67 |
| | FD·FE | 184 | 124 | □100 | 30 | 62 |
| | GA·GB·GC·GD·GE·GF·GG·GH | 189 | 129 | □115 | 35 | 67 |
| | HA·HC·HD | 189 | 129 | □130 | 35 | 67 |
| | HB | 199 | 139 | □130 | 45 | 77 |
| | HE | 204 | 144 | □130 | 50 | 82 |
| | HF | 184 | 124 | □130 | 30 | 62 |
| | JA·JB·JC·JF | 189 | 129 | □150 | 35 | 67 |
| | JD | 209 | 149 | □150 | 55 | 87 |
| EVS-100-□-□-38** (28 < S ≤ 38) | JE | 199 | 139 | □150 | 45 | 77 |
| | KA·KB·KE | 189 | 129 | □180 | 35 | 67 |
| | KD | 199 | 139 | □180 | 45 | 77 |
| | HA | -- | -- | -- | -- | -- |
| | HB·HE | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| | KA·KB·KC | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-140 – 2-Stage Specifications

| Frame Size | 140 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Unit | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 130 | 170 | 200 | 260 | 300 | 300 | 200 | 200 |
| Maximum Acceleration Torque | [Nm] | *2 | 260 | 340 | 400 | 520 | 600 | 600 | 400 | 400 |
| Emergency Stop Torque | [Nm] | *3 | 700 | 950 | 1100 | 1100 | 1100 | 1100 | 750 | 750 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 3.26 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 6700 | 7400 | 7900 | 8300 | 8700 | 9100 | 9400 | 9700 |
| Permitted Axial Load | [N] | *8 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 |
| Maximum Radial Load | [N] | *9 | 10000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 9000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 23.010 | 18.490 | 16.850 | 15.970 | 15.550 | 15.210 | 14.750 | 14.640 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 27.380 | 22.860 | 21.220 | 20.340 | 19.920 | 19.580 | 19.120 | 19.020 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | 40.610 | 36.090 | 34.450 | 33.570 | 33.150 | 32.810 | 32.250 | 32.250 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 4 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 20.6 | | | | | | | |

EVS-140 – 3-Stage Specifications

| Frame Size | 140 | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Unit | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 200 | 300 | 300 | 300 | 300 | 200 | 300 | 300 |
| Maximum Acceleration Torque | [Nm] | *2 | 400 | 600 | 600 | 600 | 600 | 400 | 600 | 600 |
| Emergency Stop Torque | [Nm] | *3 | 750 | 1100 | 1100 | 1100 | 1100 | 750 | 1100 | 1100 |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.56 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| Permitted Axial Load | [N] | *8 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 |
| Maximum Radial Load | [N] | *9 | 10000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 9000 | | | | | | | |
| Moment of Inertia ($\leq \emptyset 19$) | [kgcm ²] | -- | 6.400 | 7.290 | 6.220 | 6.150 | 7.090 | 4.990 | 6.090 | 4.940 |
| Moment of Inertia ($\leq \emptyset 28$) | [kgcm ²] | -- | 7.990 | 8.880 | 7.810 | 7.750 | 8.680 | 6.580 | 7.680 | 6.540 |
| Moment of Inertia ($\leq \emptyset 38$) | [kgcm ²] | -- | 15.060 | 15.950 | 14.880 | 14.820 | 15.750 | 13.660 | 14.760 | 13.610 |
| Moment of Inertia ($\leq \emptyset 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 20.7 | | | | | | | |

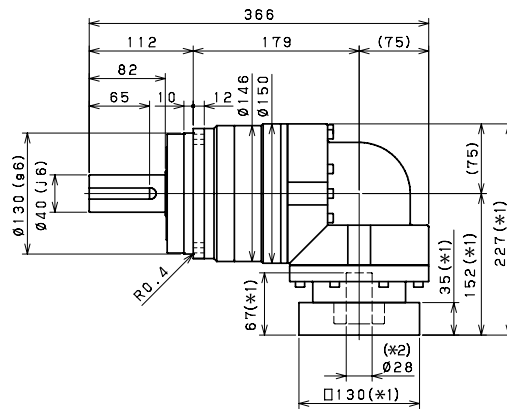
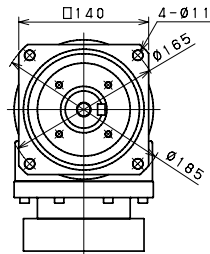
EVS-140 – 3-Stage Specifications

| Frame Size | 140 | | | | | | | | | | |
|---|----------------------|------|-------------|--------|--------|--------|--------|--------|--------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Unit | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 200 | 300 | 300 | 300 | 300 | 200 | 200 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 400 | 600 | 600 | 600 | 600 | 400 | 400 | | |
| Emergency Stop Torque | [Nm] | *3 | 750 | 1100 | 1100 | 1100 | 1100 | 750 | 750 | | |
| Nominal Input Speed | [rpm] | *4 | 2000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 4000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 2.56 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | | |
| Permitted Axial Load | [N] | *8 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | 9000 | | |
| Maximum Radial Load | [N] | *9 | 10000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 9000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | -- | 6.070 | 4.930 | 4.920 | 4.910 | 4.910 | 4.910 | 4.910 | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 7.660 | 6.520 | 6.510 | 6.510 | 6.500 | 6.500 | 6.500 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 14.730 | 13.590 | 13.590 | 13.580 | 13.580 | 13.570 | 13.570 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 60 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 7 | | | | | | | | |
| Noise Level | [dB] | *13 | 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 20.7 | | | | | | | | |

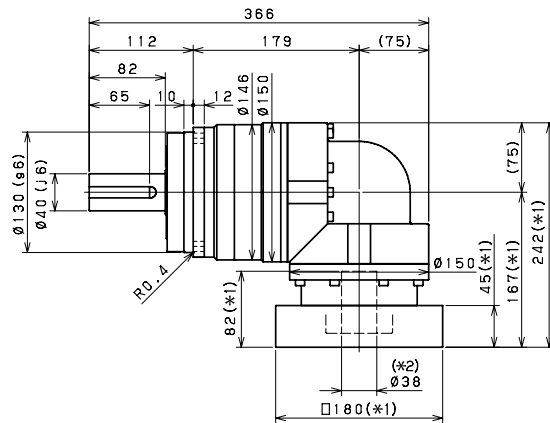
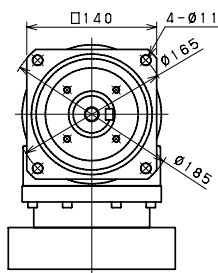
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2000 rpm for EVS140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-140 – 2-Stage Dimensions

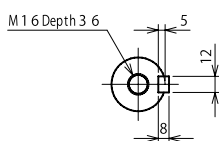
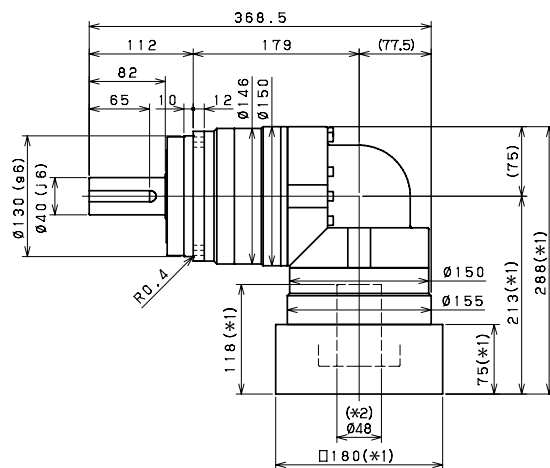
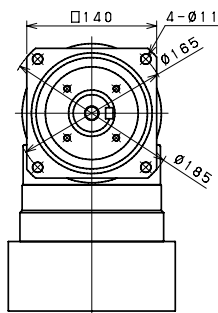
Input shaft bore $\leq \varnothing 28$



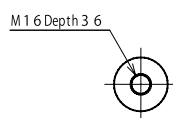
Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Shaft with key



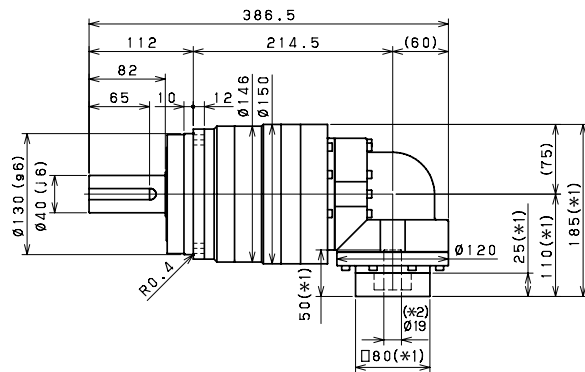
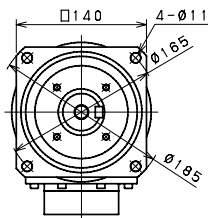
Smooth shaft

*1) Length will vary depending on motor

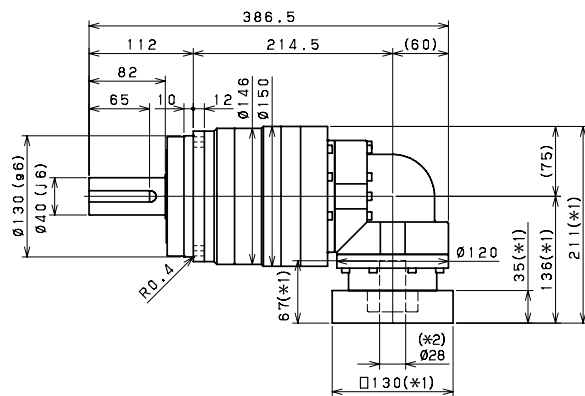
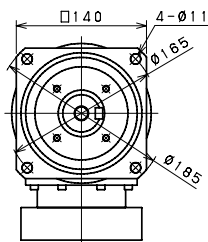
*2) Bushing will be inserted to adapt to motor shaft

EVS-140 – 3-Stage Dimensions

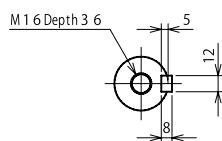
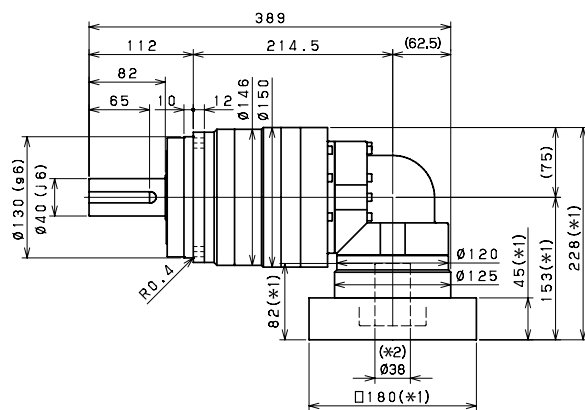
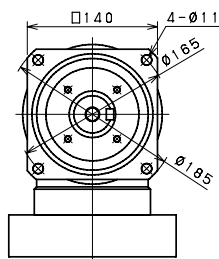
Input shaft bore $\leq \phi 19$



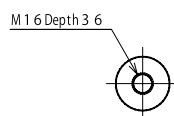
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



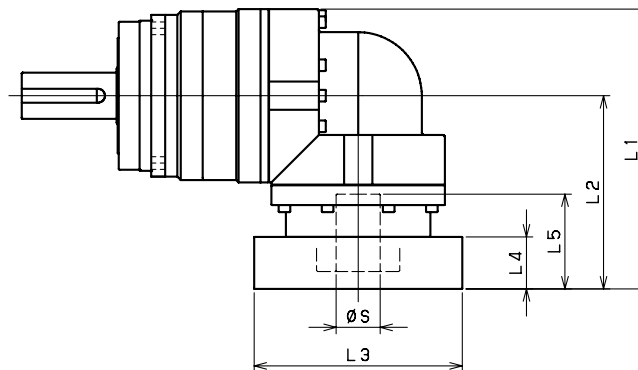
Shaft with key



Smooth shaft

- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVS-140 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------|---------|------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-140-□-□-19** (S ≤ 19) | DA-DB-DC | -- | -- | -- | -- | -- |
| | EB-ED | -- | -- | -- | -- | -- |
| | FA | -- | -- | -- | -- | -- |
| | FB | -- | -- | -- | -- | -- |
| | GB-GD-GJ | -- | -- | -- | -- | -- |
| | HA | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| EVS-140-□-□-28** (19 ≤ S ≤ 28) | FA-FB-FC | 227 | 152 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 227 | 152 | □115 | 35 | 67 |
| | HA-HC-HD | 227 | 152 | □130 | 35 | 67 |
| | HB | 237 | 162 | □130 | 45 | 77 |
| | HF | 222 | 147 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 227 | 152 | □150 | 35 | 67 |
| | KA-KB-KE | 227 | 152 | □180 | 35 | 67 |
| | LA | 227 | 152 | □200 | 35 | 67 |
| | LB | 237 | 162 | □200 | 45 | 77 |
| | MA | 227 | 152 | □220 | 35 | 67 |
| EVS-140-□-□-38** (28 < S ≤ 38) | MB | 237 | 162 | □220 | 45 | 77 |
| | HA | 242 | 167 | □130 | 45 | 82 |
| | HB-HE | 237 | 162 | □130 | 40 | 77 |
| | JA | 242 | 167 | □150 | 45 | 82 |
| | KA-KB-KC | 242 | 167 | □180 | 45 | 82 |
| | KD | 277 | 202 | □180 | 80 | 117 |
| | KE | 257 | 182 | □180 | 60 | 97 |
| | LB | 252 | 177 | □200 | 55 | 92 |
| | MA-MB | 242 | 167 | □220 | 45 | 82 |
| EVS-140-□-□-48** (38 < S ≤ 48) | MC | 257 | 182 | □220 | 60 | 97 |
| | MD | 252 | 177 | □220 | 55 | 92 |
| | KA | 288 | 213 | □180 | 75 | 118 |
| | KB-KC | 268 | 193 | □180 | 55 | 98 |
| | LA | 268 | 193 | □200 | 55 | 98 |
| MA | 268 | 193 | □220 | 55 | 98 | |
| MB | 288 | 213 | □220 | 75 | 118 | |

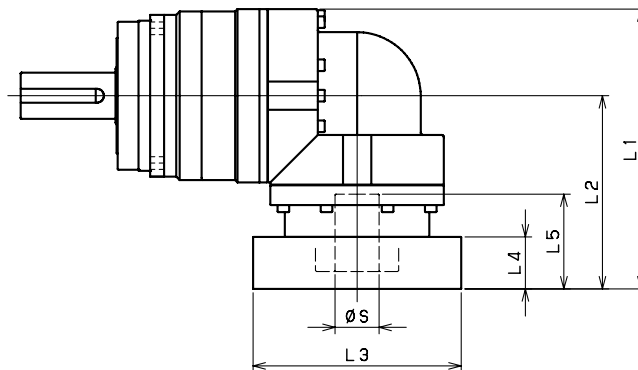
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-140 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-140-□-□-19** (S ≤ 19) | DA-DB-DC | 185 | 110 | □80 | 25 | 50 |
| | EB-ED | 185 | 110 | □90 | 25 | 50 |
| | FA | 185 | 110 | □100 | 25 | 50 |
| | FB | 195 | 120 | □100 | 35 | 60 |
| | GB-GD-GJ | 185 | 110 | □115 | 25 | 50 |
| | HA | 185 | 110 | □130 | 25 | 50 |
| | HB | 200 | 125 | □130 | 40 | 65 |
| EVS-140-□-□-28** (19 ≤ S ≤ 28) | JA | 195 | 120 | □150 | 35 | 60 |
| | FA-FB-FC | 211 | 136 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 211 | 136 | □115 | 35 | 67 |
| | HA-HC-HD | 211 | 136 | □130 | 35 | 67 |
| | HB | 221 | 146 | □130 | 45 | 77 |
| | HF | 206 | 131 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 211 | 136 | □150 | 35 | 67 |
| | KA-KB-KE | 211 | 136 | □180 | 35 | 67 |
| | LA | 211 | 136 | □200 | 35 | 67 |
| | LB | 221 | 146 | □200 | 45 | 77 |
| EVS-140-□-□-38** (28 < S ≤ 38) | MA | 211 | 136 | □220 | 35 | 67 |
| | MB | 221 | 146 | □220 | 45 | 77 |
| | HA | 228 | 153 | □130 | 45 | 82 |
| | HB-HE | 223 | 148 | □130 | 40 | 77 |
| | JA | 228 | 153 | □150 | 45 | 82 |
| | KA-KB-KC | 228 | 153 | □180 | 45 | 82 |
| | KD | 263 | 188 | □180 | 80 | 117 |
| | KE | 243 | 168 | □180 | 60 | 97 |
| | LB | 238 | 163 | □200 | 55 | 92 |
| EVS-140-□-□-48** (38 < S ≤ 48) | MA-MB | 228 | 153 | □220 | 45 | 82 |
| | MC | 243 | 168 | □220 | 60 | 97 |
| | MD | 238 | 163 | □220 | 55 | 92 |
| | KA | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- |
| EVS-140-□-□-48** (38 < S ≤ 48) | LA | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-180 – 2-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 400 | 575 | 600 | 600 | 600 | 600 | 400 | 400 |
| Maximum Acceleration Torque | [Nm] | *2 | 575 | 770 | 960 | 1120 | 1120 | 1120 | 775 | 775 |
| Emergency Stop Torque | [Nm] | *3 | 1300 | 1700 | 2000 | 2500 | 2500 | 2500 | 2000 | 2000 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.8 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 12000 | 13000 | 14000 | 15000 | 16000 | 17000 | 17000 | 18000 |
| Permitted Axial Load | [N] | *8 | 16000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 |
| Maximum Radial Load | [N] | *9 | 19000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 17000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 92.00 | 76.72 | 71.23 | 68.28 | 66.08 | 65.00 | 64.38 | 64.10 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 126.9 | 111.6 | 106.1 | 103.1 | 100.9 | 99.86 | 99.25 | 98.97 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 212.5 | 197.2 | 191.7 | 188.7 | 186.6 | 185.5 | 184.9 | 184.6 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 52 | | | | | | | |

EVS-180 – 3-Stage Specifications

| Frame Size | 180 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 400 | 555 | 600 | 600 | 600 | 400 | 600 | 600 |
| Maximum Acceleration Torque | [Nm] | *2 | 775 | 1120 | 1120 | 1120 | 1120 | 775 | 1120 | 1120 |
| Emergency Stop Torque | [Nm] | *3 | 2000 | 2500 | 2500 | 2500 | 2500 | 2000 | 2500 | 2500 |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 4.7 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 |
| Permitted Axial Load | [N] | *8 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 |
| Maximum Radial Load | [N] | *9 | 19000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 17000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 11.42 | 12.03 | 11.11 | 10.96 | 11.57 | 10.31 | 10.82 | 10.23 |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 20.21 | 20.82 | 19.90 | 19.74 | 20.36 | 19.10 | 19.60 | 19.02 |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 25.03 | 25.64 | 24.72 | 24.56 | 25.18 | 23.92 | 24.42 | 23.84 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | |

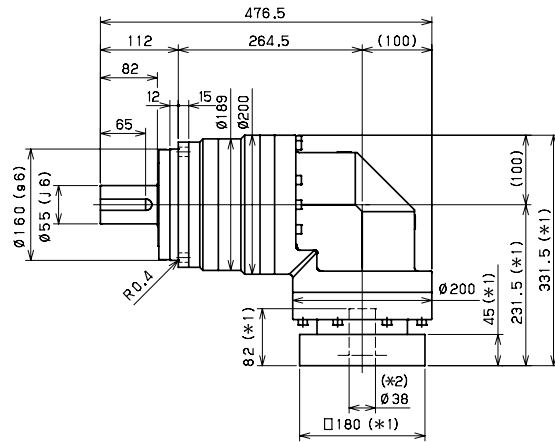
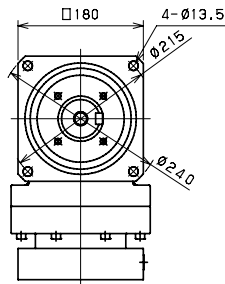
EVS-180 – 3-Stage Specifications

| Frame Size | 180 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 400 | 600 | 600 | 600 | 600 | 400 | 400 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 775 | 1120 | 1120 | 1120 | 1120 | 775 | 775 | | |
| Emergency Stop Torque | [Nm] | *3 | 2000 | 2500 | 2500 | 2500 | 2500 | 2000 | 2000 | | |
| Nominal Input Speed | [rpm] | *4 | 1500 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 3000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 4.7 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | 19000 | | |
| Permitted Axial Load | [N] | *8 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | | |
| Maximum Radial Load | [N] | *9 | 19000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 17000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 28$) | [kgcm ²] | -- | 10.76 | 10.19 | 10.17 | 10.16 | 10.15 | 10.14 | 10.14 | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 19.54 | 18.98 | 18.96 | 18.94 | 18.94 | 18.93 | 18.93 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 24.36 | 23.80 | 23.78 | 23.77 | 23.76 | 23.75 | 23.75 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 175 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 39 | | | | | | | | |

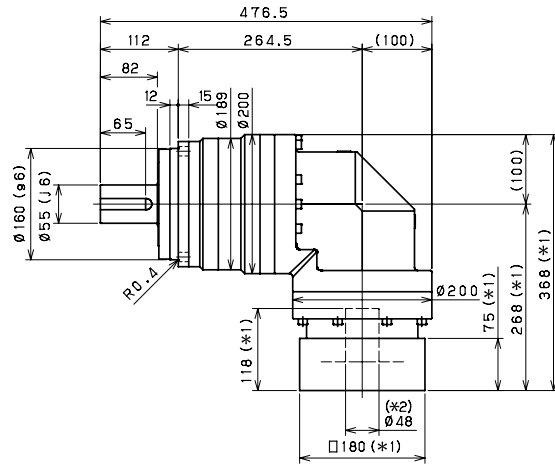
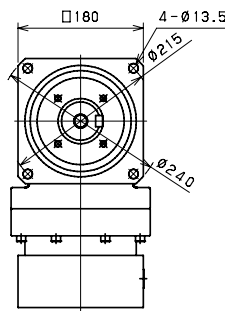
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1500 rpm for EVS180
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-180 – 2-Stage Dimensions

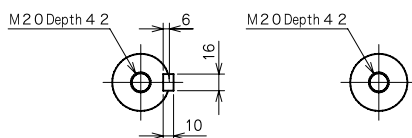
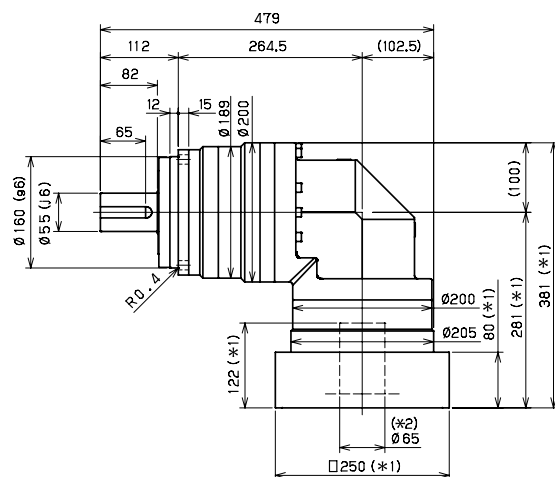
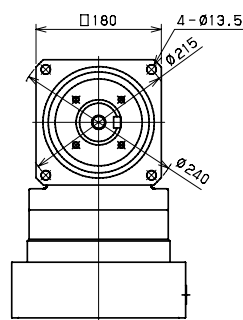
Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$



Input shaft bore $\leq \varnothing 65$



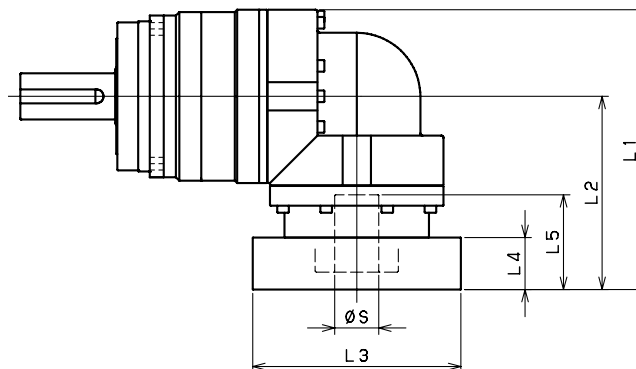
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

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

EVS-180 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|-------------------------|---------|-------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-180-□-□-28** (S ≤ 28) | FA-FB-FC | -- | -- | -- | -- | -- |
| | GA-GB-GC-GD-GE-GF-GG-GH | -- | -- | -- | -- | -- |
| | HA-HC-HD | -- | -- | -- | -- | -- |
| | HB | -- | -- | -- | -- | -- |
| | HF | -- | -- | -- | -- | -- |
| | JA-JB-JC-JF | -- | -- | -- | -- | -- |
| | KA-KB-KE | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- |
| EVS-180-□-□-38** (28 < S ≤ 38) | HA | 331.5 | 231.5 | □130 | 45 | 82 |
| | HB-HE | 326.5 | 226.5 | □130 | 40 | 77 |
| | JA | 331.5 | 231.5 | □150 | 45 | 82 |
| | KA-KB-KC | 331.5 | 231.5 | □180 | 45 | 82 |
| | KD | 366.5 | 266.5 | □180 | 80 | 117 |
| | KE | 346.5 | 246.5 | □180 | 60 | 97 |
| | LB | 341.5 | 241.5 | □200 | 55 | 92 |
| | MA-MB | 331.5 | 231.5 | □220 | 45 | 82 |
| | MC | 346.5 | 246.5 | □220 | 60 | 97 |
| | MD | 341.5 | 241.5 | □220 | 55 | 92 |
| EVS-180-□-□-48** (38 < S ≤ 48) | KA | 368 | 268 | □180 | 75 | 118 |
| | KB-KC | 348 | 248 | □180 | 55 | 98 |
| | LA | 348 | 248 | □200 | 55 | 98 |
| | MA | 348 | 248 | □220 | 55 | 98 |
| | MB | 368 | 268 | □220 | 75 | 118 |
| | NA | 368 | 268 | □250 | 75 | 118 |
| | PA | 368 | 268 | □280 | 75 | 118 |
| EVS-180-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | 381 | 281 | □220 | 80 | 122 |
| | NA-NC | 381 | 281 | □250 | 80 | 122 |
| | NB-ND | 411 | 311 | □250 | 110 | 152 |
| | PA | 401 | 301 | □280 | 100 | 142 |
| | PB | 411 | 311 | □280 | 110 | 152 |

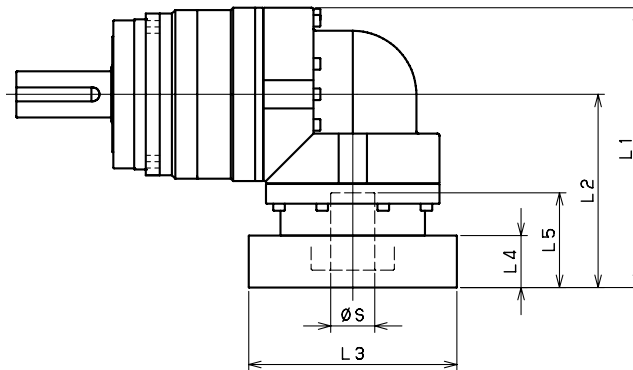
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-180 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|-------------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-180-□-□-28** (S ≤ 28) | FA-FB-FC | 252 | 152 | □100 | 35 | 67 |
| | GA-GB-GC-GD-GE-GF-GG-GH | 252 | 152 | □115 | 35 | 67 |
| | HA-HC-HD | 252 | 152 | □130 | 35 | 67 |
| | HB | 262 | 162 | □130 | 45 | 77 |
| | HF | 247 | 147 | □130 | 30 | 62 |
| | JA-JB-JC-JF | 252 | 152 | □150 | 35 | 67 |
| | KA-KB-KE | 252 | 152 | □180 | 35 | 67 |
| | LA | 252 | 152 | □200 | 35 | 67 |
| | LB | 262 | 162 | □200 | 45 | 77 |
| | MA | 252 | 152 | □220 | 35 | 67 |
| EVS-180-□-□-38** (28 < S ≤ 38) | MB | 262 | 162 | □220 | 45 | 77 |
| | HA | 267 | 167 | □130 | 45 | 82 |
| | HB-HE | 262 | 162 | □130 | 40 | 77 |
| | JA | 267 | 167 | □150 | 45 | 82 |
| | KA-KB-KC | 267 | 167 | □180 | 45 | 82 |
| | KD | 302 | 202 | □180 | 80 | 117 |
| | KE | 282 | 182 | □180 | 60 | 97 |
| | LB | 277 | 177 | □200 | 55 | 92 |
| | MA-MB | 267 | 167 | □220 | 45 | 82 |
| | MC | 282 | 182 | □220 | 60 | 97 |
| EVS-180-□-□-48** (38 < S ≤ 48) | MD | 277 | 177 | □220 | 55 | 92 |
| | NA | 267 | 167 | □250 | 45 | 82 |
| | PA | 313 | 213 | □280 | 75 | 118 |
| | KA | 313 | 213 | □180 | 75 | 118 |
| | KB-KC | 293 | 193 | □180 | 55 | 98 |
| | LA | 293 | 193 | □200 | 55 | 98 |
| EVS-180-□-□-65** (48 < S ≤ 65) | MA | 293 | 193 | □220 | 55 | 98 |
| | MB | 313 | 213 | □220 | 75 | 118 |
| | NA | 313 | 213 | □250 | 75 | 118 |
| | PA | 313 | 213 | □280 | 75 | 118 |
| EVS-180-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| EVS-180-□-□-65** (48 < S ≤ 65) | PB | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-210 – 2-Stage Specifications

| Frame Size | 210 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 2-Stage | | | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Nominal Output Torque | [Nm] | *1 | 575 | 765 | 960 | 1150 | 1200 | 1200 | 800 | 800 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1015 | 1355 | 1695 | 1840 | 1840 | 1760 | 1520 | 1280 | | |
| Emergency Stop Torque | [Nm] | *3 | 2500 | 3300 | 4000 | 4500 | 4500 | 4500 | 3600 | 3600 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 14.5 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 17000 | 18000 | 20000 | 21000 | 22000 | 23000 | 24000 | 24000 | | |
| Permitted Axial Load | [N] | *8 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | | |
| Maximum Radial Load | [N] | *9 | 24000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 22000 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 149.7 | 123.8 | 113.9 | 108.5 | 105.0 | 103.0 | 101.7 | 101.1 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 224.9 | 199.0 | 189.1 | 183.7 | 180.3 | 178.2 | 176.9 | 176.3 | | |
| Efficiency | [%] | *11 | 93 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 71 | | | | | | | | | |

EVS-210 – 3-Stage Specifications

| Frame Size | 210 | | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 | | |
| Nominal Output Torque | [Nm] | *1 | 800 | 1200 | 1200 | 1200 | 1200 | 800 | 1200 | 1200 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1280 | 1840 | 1840 | 1840 | 1840 | 1280 | 1840 | 1840 | | |
| Emergency Stop Torque | [Nm] | *3 | 3600 | 4500 | 4500 | 4500 | 4500 | 3600 | 4500 | 4500 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.2 | | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | | |
| Permitted Axial Load | [N] | *8 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | | |
| Maximum Radial Load | [N] | *9 | 24000 | | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 22000 | | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 36.39 | 37.30 | 35.79 | 35.49 | 36.41 | 34.41 | 35.22 | 34.26 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 66.21 | 67.12 | 65.61 | 65.31 | 66.23 | 64.23 | 65.04 | 64.08 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | | |
| Weight | [kg] | *15 | 73 | | | | | | | | | |

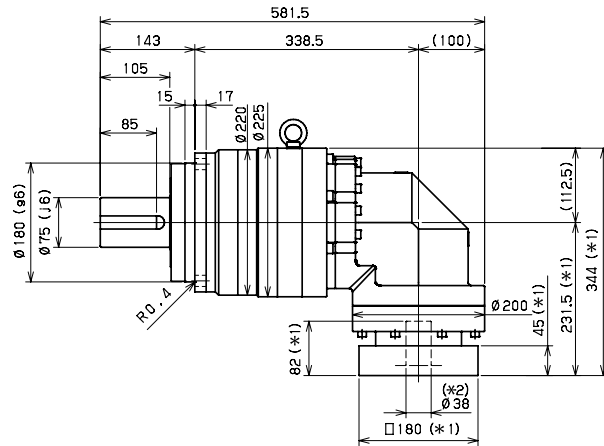
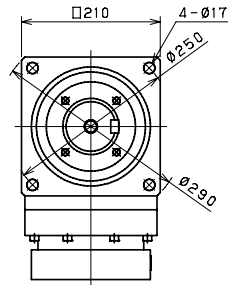
EVS-210 – 3-Stage Specifications

| Frame Size | 210 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 800 | 1200 | 1200 | 1200 | 1200 | 800 | 800 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1040 | 1840 | 1840 | 1840 | 1440 | 1040 | 960 | | |
| Emergency Stop Torque | [Nm] | *3 | 3600 | 4500 | 4500 | 4500 | 4500 | 3600 | 3600 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 10.2 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | 24000 | | |
| Permitted Axial Load | [N] | *8 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | 22000 | | |
| Maximum Radial Load | [N] | *9 | 24000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 22000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 38$) | [kgcm ²] | -- | 35.11 | 34.18 | 34.14 | 34.12 | 34.10 | 34.09 | 34.08 | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 64.92 | 64.00 | 63.96 | 63.93 | 63.92 | 63.90 | 63.90 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 400 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 73 | | | | | | | | |

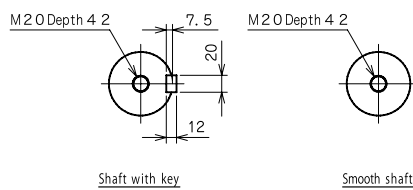
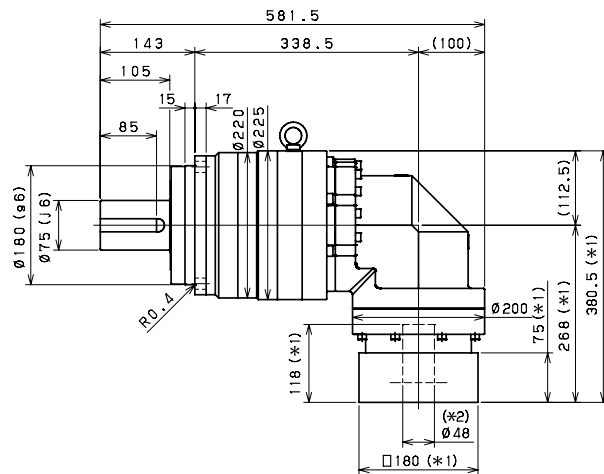
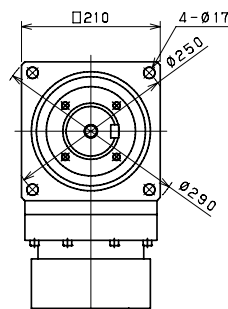
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1000 rpm for EVS210
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-210 – 3-Stage Dimensions

Input shaft bore $\cong \varnothing 38$

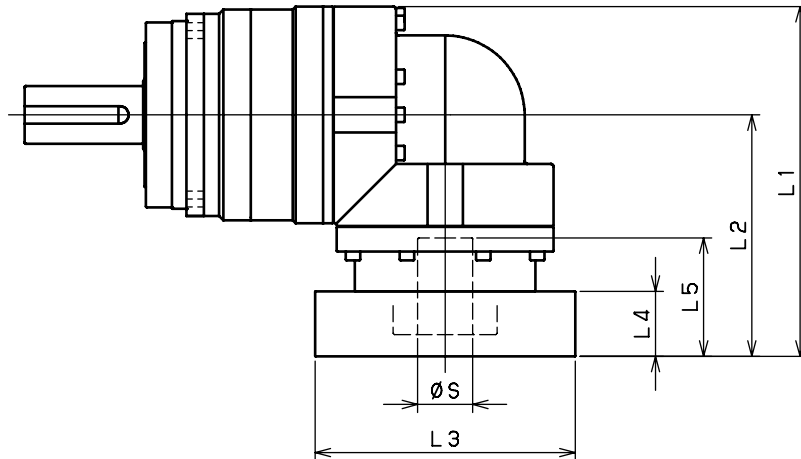


Input shaft bore $\cong \varnothing 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVS-210 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|------------------|---------|------|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-210-□-□-38** (S ≤ 38) | HA | -- | -- | -- | -- | -- |
| | HB-HE | -- | -- | -- | -- | -- |
| | JA | -- | -- | -- | -- | -- |
| | KA-KB-KC | -- | -- | -- | -- | -- |
| | KD | -- | -- | -- | -- | -- |
| | KE | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | LB | -- | -- | -- | -- | -- |
| | MA-MB | -- | -- | -- | -- | -- |
| | MC | -- | -- | -- | -- | -- |
| | MD | -- | -- | -- | -- | -- |
| EVS-210-□-□-48** (38 < S ≤ 48) | KA | 399.5 | 287 | □180 | 75 | 118 |
| | KB-KC | 379.5 | 267 | □180 | 55 | 98 |
| | LA | 379.5 | 267 | □200 | 55 | 98 |
| | MA | 379.5 | 267 | □220 | 55 | 98 |
| | MB | 399.5 | 287 | □220 | 75 | 118 |
| | NA | 399.5 | 287 | □250 | 75 | 118 |
| | PA | 399.5 | 287 | □280 | 75 | 118 |
| EVS-210-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | 405.5 | 293 | □220 | 80 | 122 |
| | NA-NC | 405.5 | 293 | □250 | 80 | 122 |
| | NB-ND | 435.5 | 323 | □250 | 110 | 152 |
| | PA | 425.5 | 313 | □280 | 100 | 142 |
| | PB | 435.5 | 323 | □280 | 110 | 152 |
| QA-QB | 425.5 | 313 | □320 | 100 | 142 | |

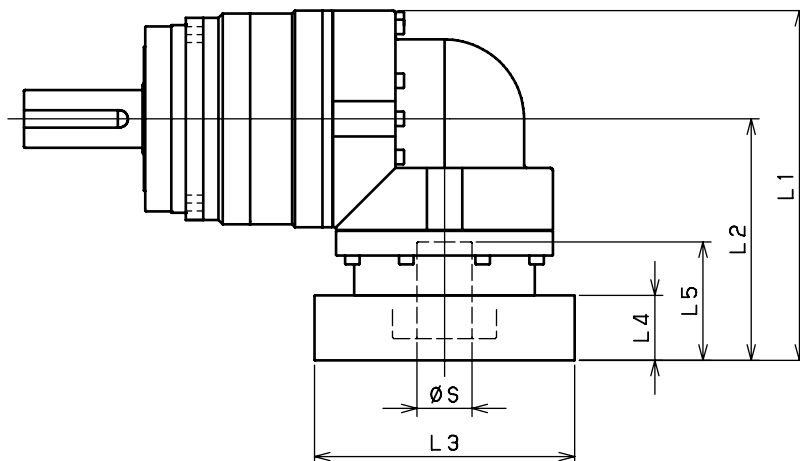
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-210 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|------------------|---------|-------|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-210-□-□-38** (S ≤ 38) | HA | 344 | 231.5 | □130 | 45 | 82 |
| | HB-HE | 339 | 226.5 | □130 | 40 | 77 |
| | JA | 344 | 231.5 | □150 | 45 | 82 |
| | KA-KB-KC | 344 | 231.5 | □180 | 45 | 82 |
| | KD | 379 | 266.5 | □180 | 80 | 117 |
| | KE | 359 | 246.5 | □180 | 60 | 97 |
| | LA | 344 | 231.5 | □200 | 45 | 82 |
| | LB | 354 | 241.5 | □200 | 55 | 92 |
| | MA-MB | 344 | 231.5 | □220 | 45 | 82 |
| | MC | 359 | 246.5 | □220 | 60 | 97 |
| | MD | 354 | 241.5 | □220 | 55 | 92 |
| EVS-210-□-□-48** (38 < S ≤ 48) | KA | 380.5 | 268 | □180 | 75 | 118 |
| | KB-KC | 360.5 | 248 | □180 | 55 | 98 |
| | LA | 360.5 | 248 | □200 | 55 | 98 |
| | MA | 360.5 | 248 | □220 | 55 | 98 |
| | MB | 380.5 | 268 | □220 | 75 | 118 |
| | NA | 380.5 | 268 | □250 | 75 | 118 |
| | PA | 380.5 | 268 | □280 | 75 | 118 |
| EVS-210-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- |
| QA-QB | -- | -- | -- | -- | -- | |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

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EVS-240 – 2-Stage Specifications

| Frame Size | 240 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 2-Stage | | | | | | | | | |
| Ratio | Units | Note | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Nominal Output Torque | [Nm] | *1 | 1005 | 1340 | 1680 | 1920 | 1920 | 1920 | 1280 | 1280 |
| Maximum Acceleration Torque | [Nm] | *2 | 2000 | 2960 | 2960 | 2960 | 2960 | 2880 | 2400 | 2080 |
| Emergency Stop Torque | [Nm] | *3 | 4000 | 5400 | 6500 | 7200 | 7200 | 7200 | 5400 | 5400 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 25.3 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 21000 | 22000 | 24000 | 25000 | 26000 | 28000 | 29000 | 29000 |
| Permitted Axial Load | [N] | *8 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 |
| Maximum Radial Load | [N] | *9 | 30000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 27000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | 217.5 | 156.7 | 134.5 | 122.4 | 112.9 | 108.3 | 105.5 | 104.0 |
| Efficiency | [%] | *11 | 93 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 550 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 6 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 122 | | | | | | | |

EVS-240 – 3-Stage Specifications

| Frame Size | 240 | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Note | 15 | 16 | 20 | 25 | 28 | 30 | 35 | 40 |
| Nominal Output Torque | [Nm] | *1 | 1280 | 1920 | 1920 | 1920 | 1920 | 1280 | 1920 | 1920 |
| Maximum Acceleration Torque | [Nm] | *2 | 2000 | 2960 | 2960 | 2960 | 2960 | 2000 | 2960 | 2960 |
| Emergency Stop Torque | [Nm] | *3 | 5400 | 7200 | 7200 | 7200 | 7200 | 5400 | 7200 | 7200 |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 16.4 | | | | | | | |
| Permitted Radial Load | [N] | *7 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 |
| Permitted Axial Load | [N] | *8 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 |
| Maximum Radial Load | [N] | *9 | 30000 | | | | | | | |
| Maximum Axial Load | [N] | *10 | 27000 | | | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 40.47 | 42.59 | 39.21 | 38.59 | 40.73 | 35.09 | 38.02 | 34.78 |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Efficiency | [%] | *11 | 88 | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 550 | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | |
| Weight | [kg] | *15 | 113 | | | | | | | |

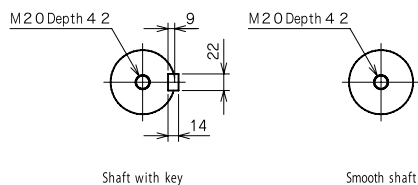
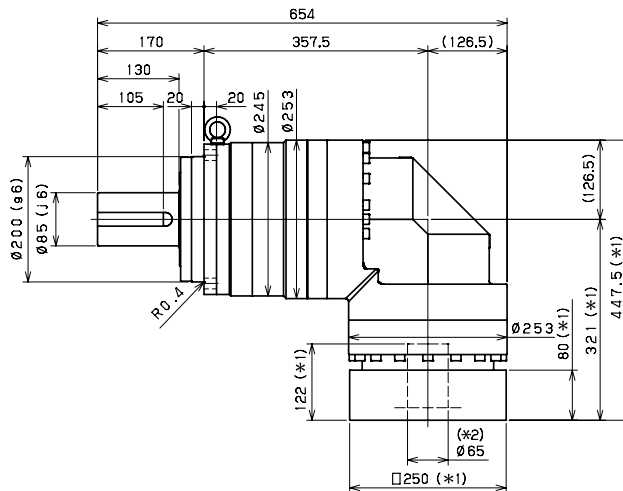
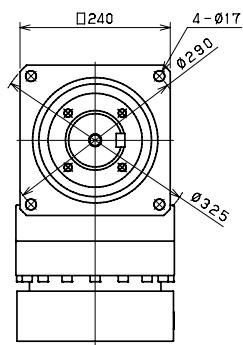
EVS-240 – 3-Stage Specifications

| Frame Size | 240 | | | | | | | | | | |
|---|----------------------|------|-------------|-------|-------|-------|-------|-------|-------|--|--|
| Stage | 3-Stage | | | | | | | | | | |
| Ratio | Units | Note | 45 | 50 | 60 | 70 | 80 | 90 | 100 | | |
| Nominal Output Torque | [Nm] | *1 | 1280 | 1920 | 1920 | 1920 | 1920 | 1280 | 1280 | | |
| Maximum Acceleration Torque | [Nm] | *2 | 1680 | 2960 | 2960 | 2960 | 2160 | 1680 | 1440 | | |
| Emergency Stop Torque | [Nm] | *3 | 5400 | 7200 | 7200 | 7200 | 7200 | 5400 | 5400 | | |
| Nominal Input Speed | [rpm] | *4 | 1000 | | | | | | | | |
| Maximum Input Speed | [rpm] | *5 | 2000 | | | | | | | | |
| No Load Running Torque | [Nm] | *6 | 16.4 | | | | | | | | |
| Permitted Radial Load | [N] | *7 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | 30000 | | |
| Permitted Axial Load | [N] | *8 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | | |
| Maximum Radial Load | [N] | *9 | 30000 | | | | | | | | |
| Maximum Axial Load | [N] | *10 | 27000 | | | | | | | | |
| Moment of Inertia ($\leq \varnothing 48$) | [kgcm ²] | -- | 37.78 | 34.62 | 34.53 | 34.48 | 34.45 | 34.42 | 34.41 | | |
| Moment of Inertia ($\leq \varnothing 65$) | [kgcm ²] | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Efficiency | [%] | *11 | 88 | | | | | | | | |
| Torsional Rigidity | [Nm/arc/min] | *12 | 550 | | | | | | | | |
| Maximum Torsional Backlash | [arc/min] | -- | ≤ 9 | | | | | | | | |
| Noise Level | [dB] | *13 | ≤ 85 | | | | | | | | |
| Protection Class | -- | *14 | IP54 (IP65) | | | | | | | | |
| Ambient Temperature | [°C] | -- | 0-40 | | | | | | | | |
| Permitted Housing Temperature | [°C] | -- | 90 | | | | | | | | |
| Weight | [kg] | *15 | 113 | | | | | | | | |

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1000 rpm for EVS210
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

EVS-240 – 2-Stage Dimensions

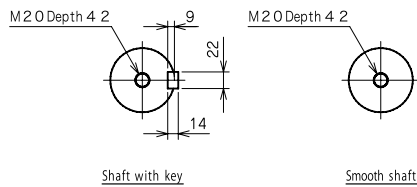
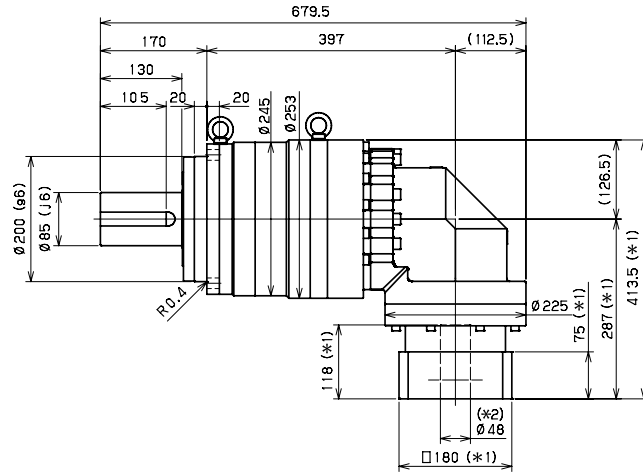
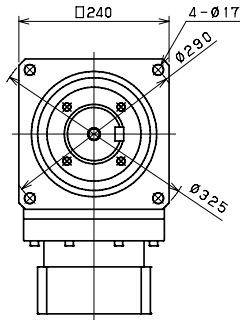
Input shaft bore $\leq \varnothing 65$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

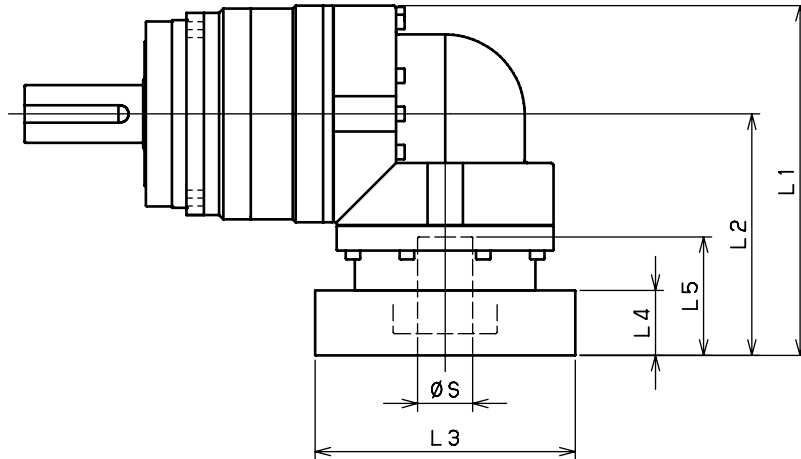
EVS-240 – 3-Stage Dimensions

Input shaft bore $\cong \varnothing 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVS-240 – 2-Stage Adapter Dimensions



| Model number | **: Adapter code | 2-Stage | | | | |
|-----------------------------------|------------------|---------|-----|------|-----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-240-□-□-48** (S ≤ 48) | KA | -- | -- | -- | -- | -- |
| | KB-KC | -- | -- | -- | -- | -- |
| | LA | -- | -- | -- | -- | -- |
| | MA | -- | -- | -- | -- | -- |
| | MB | -- | -- | -- | -- | -- |
| | NA | -- | -- | -- | -- | -- |
| EVS-240-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | 447.5 | 321 | □220 | 80 | 122 |
| | NA-NC | 447.5 | 321 | □250 | 80 | 122 |
| | NB-ND | 477.5 | 351 | □250 | 110 | 152 |
| | PA | 467.5 | 341 | □280 | 100 | 142 |
| | PB | 477.5 | 351 | □280 | 110 | 152 |
| | QA-QB | 467.5 | 341 | □320 | 100 | 142 |

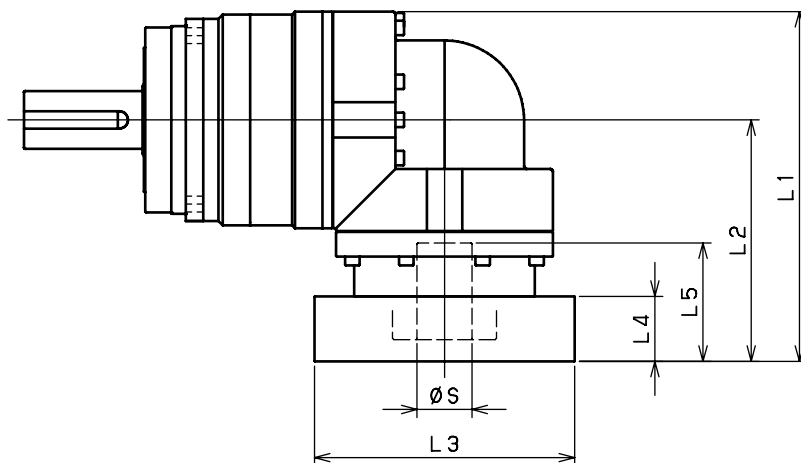
*1) Double reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

EVS-240 – 3-Stage Adapter Dimensions



| Model number | **: Adapter code | 3-Stage | | | | |
|-----------------------------------|------------------|---------|-----|------|----|-----|
| | | L1 | L2 | L3 | L4 | L5 |
| EVS-240-□-□-48** (S ≤ 48) | KA | 413.5 | 287 | □180 | 75 | 118 |
| | KB-KC | 393.5 | 267 | □180 | 55 | 98 |
| | LA | 393.5 | 267 | □200 | 55 | 98 |
| | MA | 393.5 | 267 | □220 | 55 | 98 |
| | MB | 413.5 | 287 | □220 | 75 | 118 |
| | NA | 413.5 | 287 | □250 | 75 | 118 |
| | PA | 413.5 | 287 | □280 | 75 | 118 |
| EVS-240-□-□-65** (48 < S ≤ 65) | MA-MB-MC-MD | -- | -- | -- | -- | -- |
| | NA-NC | -- | -- | -- | -- | -- |
| | NB-ND | -- | -- | -- | -- | -- |
| | PA | -- | -- | -- | -- | -- |
| | PB | -- | -- | -- | -- | -- |
| | QA-QB | -- | -- | -- | -- | -- |

*1) Triple reduction : 1/15~ 1/100

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

For an explanation on the Adapter Flange Code, please turn to page 366.

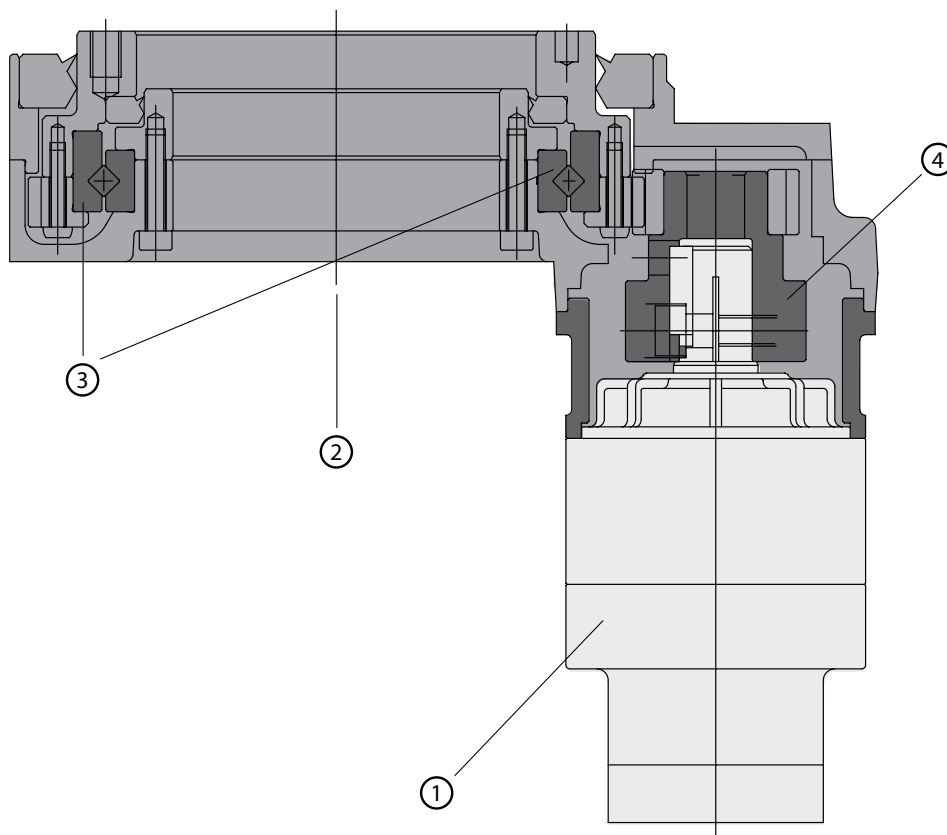
A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.



STH-SERIES

- 85 mm pass-through hole allows use of air lines or wiring
- Input is compatible with most servo motor brands
- Exceptional value for small to mid-range indexing applications
- Available ratios range from 12:1 through 400:1

STH-Series – Features



- ① One or two stage planetary reducer
- ② 85 mm hollow bore diameter
- ③ Heavy duty cross-roller bearing
- ④ Final stage primary gear

STHVL7 and STHEL7 Series – Model Code

| STH | V | L | 7 | U | 1 | 0 | 0 | 9 | 1 | 9 | H | A | 1 | 9 | 0 | 0 |
|-------|-------|---|----------------------|-------|---|---|----------|--------------------|---|------------------|---|----------------|---|---------------|---|---|
| Model | Input | | Input Unit Direction | Ratio | | | Backlash | Reducer Input Bore | | Motor Attachment | | Motor Shaft OD | | Modifications | | |

Model

Order Code

| | |
|-----|---------------|
| STH | Hollow output |
|-----|---------------|

Input

Order Code

| | |
|-----|---------|
| VL7 | VRL-070 |
| EL7 | EVL-070 |

Input Unit Direction

Order Code

| | |
|---|-------------|
| 0 | VRL input |
| U | R/A - Up |
| D | R/A - Down |
| R | R/A - Right |
| L | R/A - Left |

Backlash

Order Code

| | |
|---|-----------|
| 2 | 2 Arc-min |
| 8 | 8 Arc-min |
| | |
| | |

Ratio

Order Code

| | | | |
|-----|-------------------------|----------------------------|-------|
| 012 | Double Reduction w/ VRL | 12:1 | |
| 016 | | 16:1 | |
| 020 | | 20:1 | |
| 028 | Triple Reduction w/ EVL | 28:1 | |
| 040 | | 40:1 | |
| 060 | Triple Reduction w/ VRL | 60:1 | |
| 080 | | 80:1 | |
| 100 | | 100:1 | |
| 120 | | 120:1 | |
| 140 | | 140:1 | |
| 160 | | Quadruple Reduction w/ EVL | 160:1 |
| 200 | | | 200:1 |
| 280 | | | 280:1 |
| 400 | 400:1 | | |

Reducer Input Bore

Order Code

| | |
|----|-------|
| 08 | 8 mm |
| 14 | 14 mm |
| 19 | 19 mm |
| | |

Motor Shaft OD

Order Code

| | |
|----|-----------|
| 05 | 5 mm |
| 06 | 6 mm |
| N1 | 6.35 mm |
| 07 | 7 mm |
| 08 | 8 mm |
| 09 | 9 mm |
| N2 | 9.525 mm |
| 10 | 10 mm |
| 11 | 11 mm |
| 12 | 12 mm |
| N3 | 12.7 mm |
| 14 | 14 mm |
| N4 | 15.875 mm |
| 16 | 16 mm |
| 17 | 17 mm |
| 19 | 19 mm |
| | |
| | |
| | |
| | |

Modifications/Motor Attachment Tapped Holes

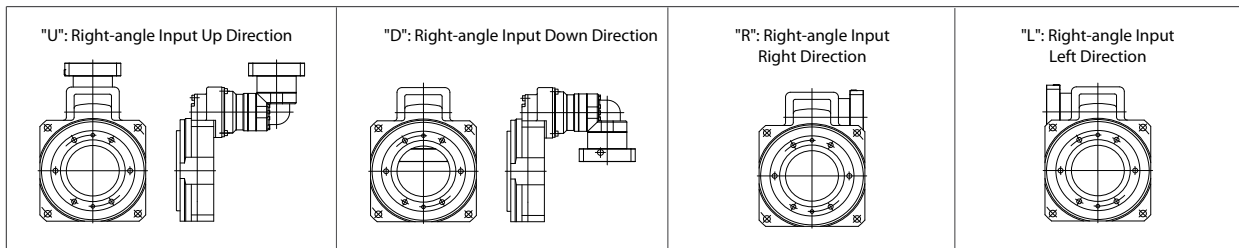
Order Code

| | |
|----|--|
| 00 | Standard |
| I | IP65 - standard grease |
| F | N/A |
| G | N/A |
| S | Steel-It paint - standard grease - IP65 |
| W | White epoxy paint - standard grease - IP65 |
| X | N/A |
| F | N/A |
| T | Re-tap adapter flange one size larger |
| H | Through hole on motor attachment flange |
| L | Larger through hole on adapter flange |
| B | Pilot diameter reduced |
| R | Deeper adapter flange/add spacer plate |
| A_ | Specify |

Notes:

Use 0's (zeros) for unused modification.

Input Unit Direction (Right-angle Detail)



STHVL7 2-Stage & 3-Stage Specifications

| Frame Size | STHVL7 | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------------|-------|
| Stage | Units | Notes | 2-Stage | | | | | 3-Stage | |
| Ratio | -- | *1 | 12:1 | 16:1 | 20:1 | 28:1 | 40:1 | 60:1 | 80:1 |
| Nominal Torque 1 | [Nm] | *2 | 65 | 85 | 85 | 85 | 68 | 68 | 85 |
| Acceleration Torque | [Nm] | -- | 126 | 170 | 170 | 170 | 133 | 133 | 170 |
| Emergency Stop Torque | [Nm] | -- | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| Nominal Input Speed | [rpm] | -- | 3000 | | | | | 3000 | |
| Max. Input Speed | [rpm] | -- | 6000 | | | | | 6000 | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | *3 | 1.109 | 0.640 | 0.426 | 0.240 | 0.143 | 0.094 | 0.076 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | *3 | 1.189 | 0.715 | 0.509 | 0.318 | 0.227 | 0.179 | 0.152 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *3 | 1.399 | 0.925 | 0.709 | 0.528 | 0.427 | 0.389 | 0.372 |
| Backlash | [arc/min] | -- | 2 | | | | | 2 | |
| Accuracy | [arc/sec] | -- | ± 60 | | | | | ± 60 | |
| Torsional Stiffness | [Nm/arc/min] | -- | 7.6 | | | | | 7.6 | |
| Weight | [kg] | -- | 7.6 | | | | | 7.8 | |
| Max. Axial Load | [N] | -- | 4000 | | | | | 4000 | |
| Max. Radial Load | [N] | -- | 5000 | | | | | 5000 | |
| Max. Tilting Moment Load | [Nm] | -- | 200 | | | | | 200 | |
| Max. Surface Runout | [mm] | -- | 0.070 | | | | | 0.070 | |
| Max. Deflection | [mm] | -- | 0.70 | | | | | 0.70 | |
| Efficiency | [%] | -- | 86 | 86 | 90 | 90 | 90 | 86 | 86 |
| Noise Level | [dB] | -- | 72 | 72 | 65 | 65 | 65 | 65 | 65 |
| Max. Ambient Temperature | $^{\circ}\text{C}$ | -- | 0-40 | | | | | 0-40 | |
| Max. Surface Temperature | $^{\circ}\text{C}$ | -- | 90 | | | | | 90 | |
| Lubrication | -- | -- | Grease | | | | | Grease | |
| Protection | -- | *4 | IP54 (IP65) | | | | | IP54 (IP65) | |
| Unit Life | hr | -- | 20000 | | | | | 20000 | |

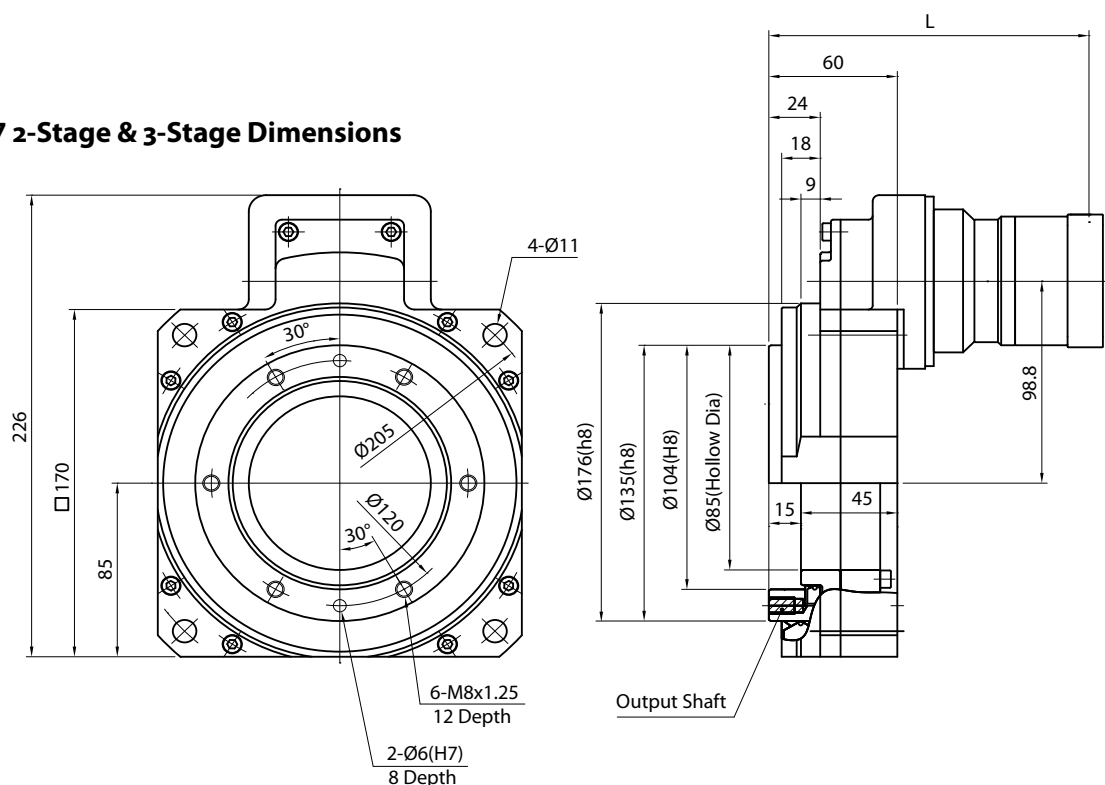
*1) Contact SIT S.P.A. for more optional ratios

*2) At nominal input speed

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STHVL7 2-Stage & 3-Stage Dimensions



STHVL7 3-Stage Specifications

| Frame Size | STHVL7 | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|
| Stage | Units | Notes | 3-Stage | | | | | | |
| Ratio | -- | *1 | 100:1 | 120:1 | 140:1 | 160:1 | 200:1 | 280:1 | 400:1 |
| Nominal Torque 1 | [Nm] | *2 | 85 | 68 | 85 | 85 | 85 | 85 | 68 |
| Acceleration Torque | [Nm] | -- | 170 | 133 | 170 | 170 | 170 | 170 | 133 |
| Emergency Stop Torque | [Nm] | -- | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| Nominal Input Speed | [rpm] | -- | 3000 | | | | | | |
| Max. Input Speed | [rpm] | -- | 6000 | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | *3 | 0.067 | 0.059 | 0.060 | 0.054 | 0.052 | 0.051 | 0.050 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | *3 | 0.144 | 0.140 | 0.137 | 0.135 | 0.133 | 0.132 | 0.131 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *3 | 0.364 | 0.350 | 0.357 | 0.345 | 0.343 | 0.342 | 0.341 |
| Backlash | [arc/min] | -- | 2 | | | | | | |
| Accuracy | [arc/sec] | -- | ± 60 | | | | | | |
| Torsional Stiffness | [Nm/arc/min] | -- | 7.6 | | | | | | |
| Weight | [kg] | -- | 7.8 | | | | | | |
| Max. Axial Load | [N] | -- | 4000 | | | | | | |
| Max. Radial Load | [N] | -- | 5000 | | | | | | |
| Max. Tilting Moment Load | [Nm] | -- | 200 | | | | | | |
| Max. Surface Runout | [mm] | -- | 0.070 | | | | | | |
| Max. Deflection | [mm] | -- | 0.70 | | | | | | |
| Efficiency | [%] | -- | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Noise Level | [dB] | -- | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| Max. Ambient Temperature | $^{\circ}\text{C}$ | -- | 0-40 | | | | | | |
| Max. Surface Temperature | $^{\circ}\text{C}$ | -- | 90 | | | | | | |
| Lubrication | -- | -- | Grease | | | | | | |
| Protection | -- | *4 | IP54 (IP65) | | | | | | |
| Unit Life | hr | -- | 20000 | | | | | | |

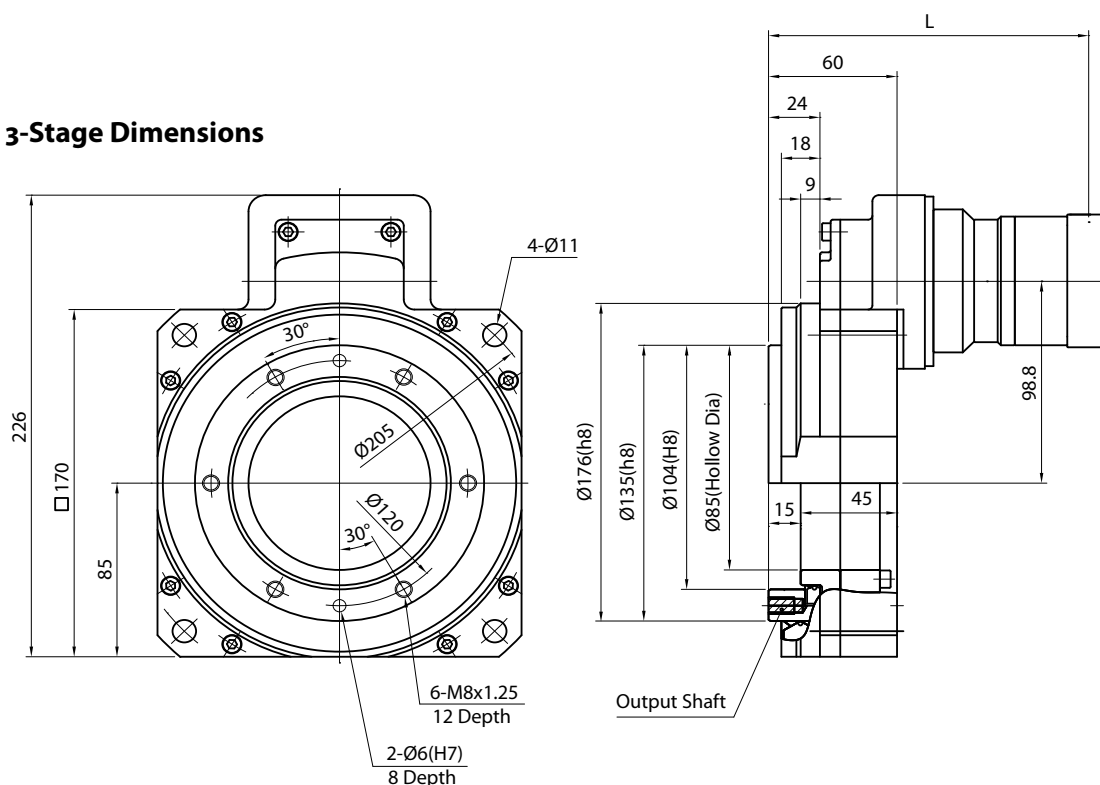
*1) Contact SIT S.P.A. for more optional ratios

*2) At nominal input speed

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STHVL7 3-Stage Dimensions



STHEL7 2-Stage & 3-Stage Specifications

| Frame Size | STHEL7 | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------------|-------|
| Stage | Units | Notes | 2-Stage | | | | | 3-Stage | |
| Ratio | -- | *1 | 12:1 | 16:1 | 20:1 | 28:1 | 40:1 | 60:1 | 80:1 |
| Nominal Torque 1 | [Nm] | *2 | 43 | 58 | 84 | 85 | 61 | 61 | 85 |
| Acceleration Torque | [Nm] | -- | 86 | 115 | 152 | 170 | 122 | 122 | 170 |
| Emergency Stop Torque | [Nm] | -- | 180 | 234 | 240 | 240 | 204 | 240 | 240 |
| Nominal Input Speed | [rpm] | -- | 3000 | | | | | 3000 | |
| Max. Input Speed | [rpm] | -- | 6000 | | | | | 6000 | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | *3 | 1.280 | 0.811 | 0.597 | 0.412 | 0.314 | 0.112 | 0.093 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | *3 | 1.355 | 0.886 | 0.672 | 0.487 | 0.389 | 0.157 | 0.138 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *3 | 1.544 | 1.075 | 0.862 | 0.676 | 0.578 | -- | -- |
| Backlash | [arc/min] | -- | 8 | | | | | 8 | |
| Accuracy | [arc/sec] | -- | ± 60 | | | | | ± 60 | |
| Torsional Stiffness | [Nm/arc/min] | -- | 7.6 | | | | | 7.6 | |
| Weight | [kg] | -- | 8.0 | | | | | 7.8 | |
| Max. Axial Load | [N] | -- | 4000 | | | | | 4000 | |
| Max. Radial Load | [N] | -- | 5000 | | | | | 5000 | |
| Max. Tilting Moment Load | [Nm] | -- | 200 | | | | | 200 | |
| Max. Surface Runout | [mm] | -- | 0.070 | | | | | 0.070 | |
| Max. Deflection | [mm] | -- | 0.70 | | | | | 0.70 | |
| Efficiency | [%] | -- | 84 | 84 | 88 | 88 | 88 | 84 | 84 |
| Noise Level | [dB] | -- | 72 | 72 | 65 | 65 | 65 | 65 | 65 |
| Max. Ambient Temperature | $^{\circ}\text{C}$ | -- | 0-40 | | | | | 0-40 | |
| Max. Surface Temperature | $^{\circ}\text{C}$ | -- | 90 | | | | | 90 | |
| Lubrication | -- | -- | Grease | | | | | Grease | |
| Protection | -- | *4 | IP54 (IP65) | | | | | IP54 (IP65) | |
| Unit Life | hr | -- | 20000 | | | | | 20000 | |

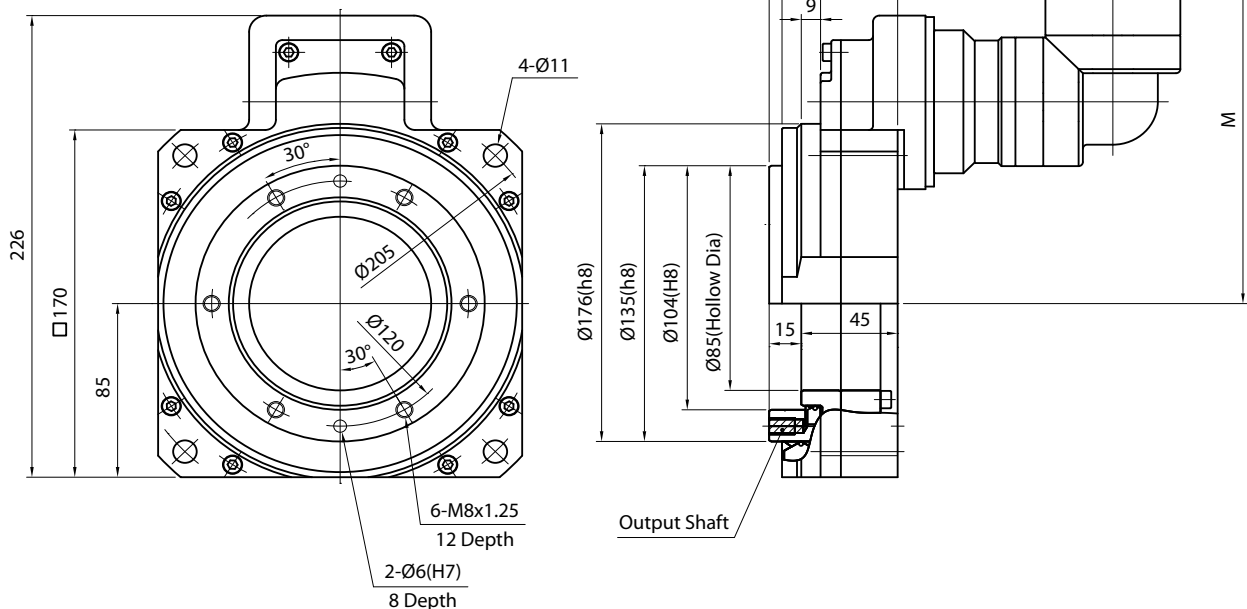
*1) Contact SIT S.P.A. for more optional ratios

*2) At nominal input speed

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STHEL7 2-Stage & 3-Stage Dimensions



STHEL7 3-Stage Specifications

| Frame Size | STHEL7 | | | | | | | | |
|---|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|
| Stage | Units | Notes | 3-Stage | | | | | | |
| Ratio | -- | *1 | 100:1 | 120:1 | 140:1 | 160:1 | 200:1 | 280:1 | 400:1 |
| Nominal Torque 1 | [Nm] | *2 | 85 | 61 | 85 | 85 | 85 | 85 | 61 |
| Acceleration Torque | [Nm] | -- | 170 | 122 | 170 | 170 | 170 | 170 | 122 |
| Emergency Stop Torque | [Nm] | -- | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| Nominal Input Speed | [rpm] | -- | 3000 | | | | | | |
| Max. Input Speed | [rpm] | -- | 6000 | | | | | | |
| Moment of Inertia ($\leq \varnothing 8$) | [kgcm ²] | *3 | 0.085 | 0.072 | 0.077 | 0.066 | 0.064 | 0.063 | 0.062 |
| Moment of Inertia ($\leq \varnothing 14$) | [kgcm ²] | *3 | 0.129 | 0.116 | 0.122 | 0.111 | 0.108 | 0.106 | 0.106 |
| Moment of Inertia ($\leq \varnothing 19$) | [kgcm ²] | *3 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 8 | | | | | | |
| Accuracy | [arc/sec] | -- | ± 60 | | | | | | |
| Torsional Stiffness | [Nm/arc/min] | -- | 7.6 | | | | | | |
| Weight | [kg] | -- | 7.8 | | | | | | |
| Max. Axial Load | [N] | -- | 4000 | | | | | | |
| Max. Radial Load | [N] | -- | 5000 | | | | | | |
| Max. Tilting Moment Load | [Nm] | -- | 200 | | | | | | |
| Max. Surface Runout | [mm] | -- | 0.070 | | | | | | |
| Max. Deflection | [mm] | -- | 0.70 | | | | | | |
| Efficiency | [%] | -- | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Noise Level | [dB] | -- | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| Max. Ambient Temperature | $^{\circ}\text{C}$ | -- | 0-40 | | | | | | |
| Max. Surface Temperature | $^{\circ}\text{C}$ | -- | 90 | | | | | | |
| Lubrication | -- | -- | Grease | | | | | | |
| Protection | -- | *4 | IP54 (IP65) | | | | | | |
| Unit Life | hr | -- | 20000 | | | | | | |

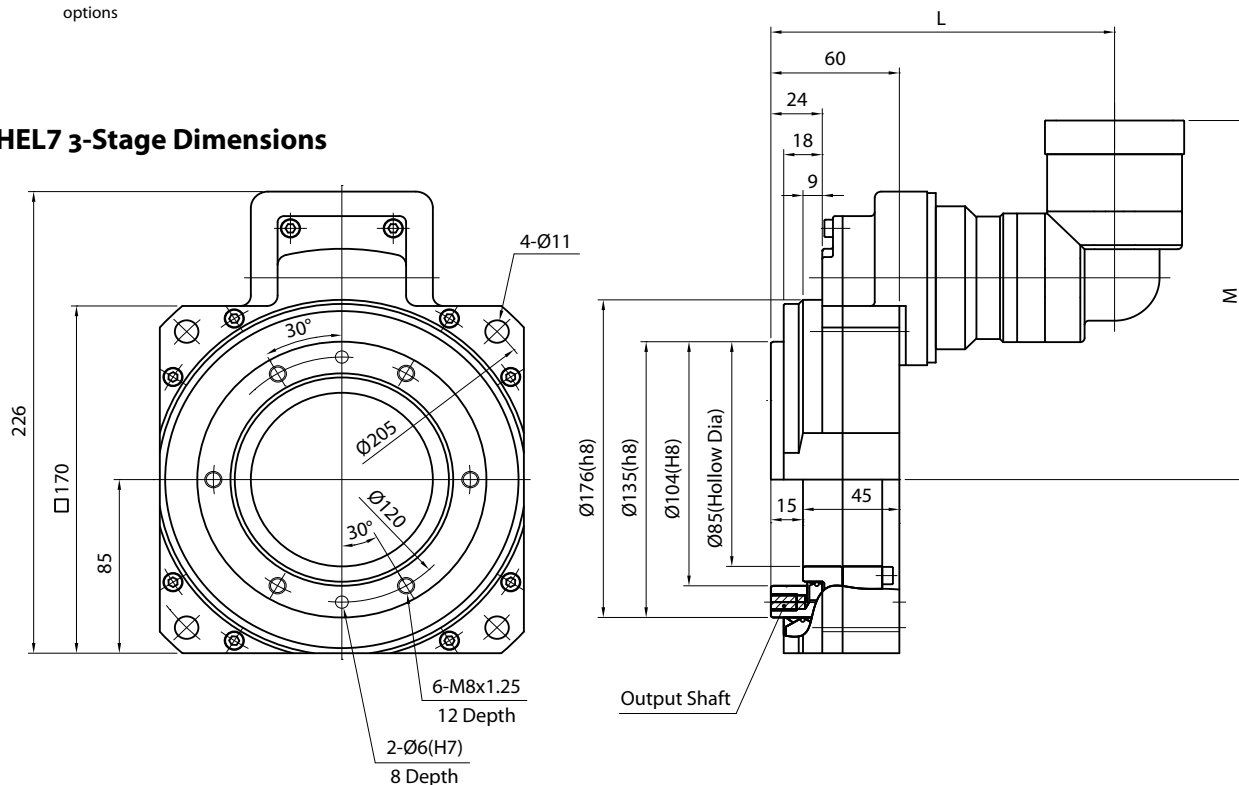
*1) Contact SIT S.P.A. for more optional ratios

*2) At nominal input speed

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STHEL7 3-Stage Dimensions

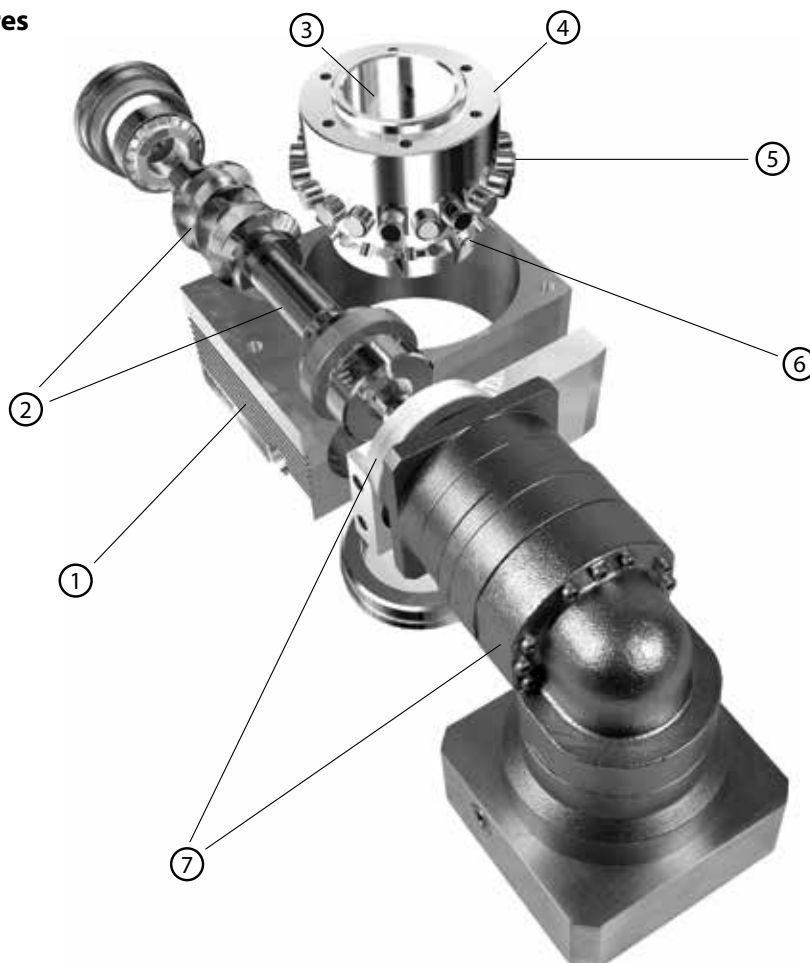




STR-SERIES

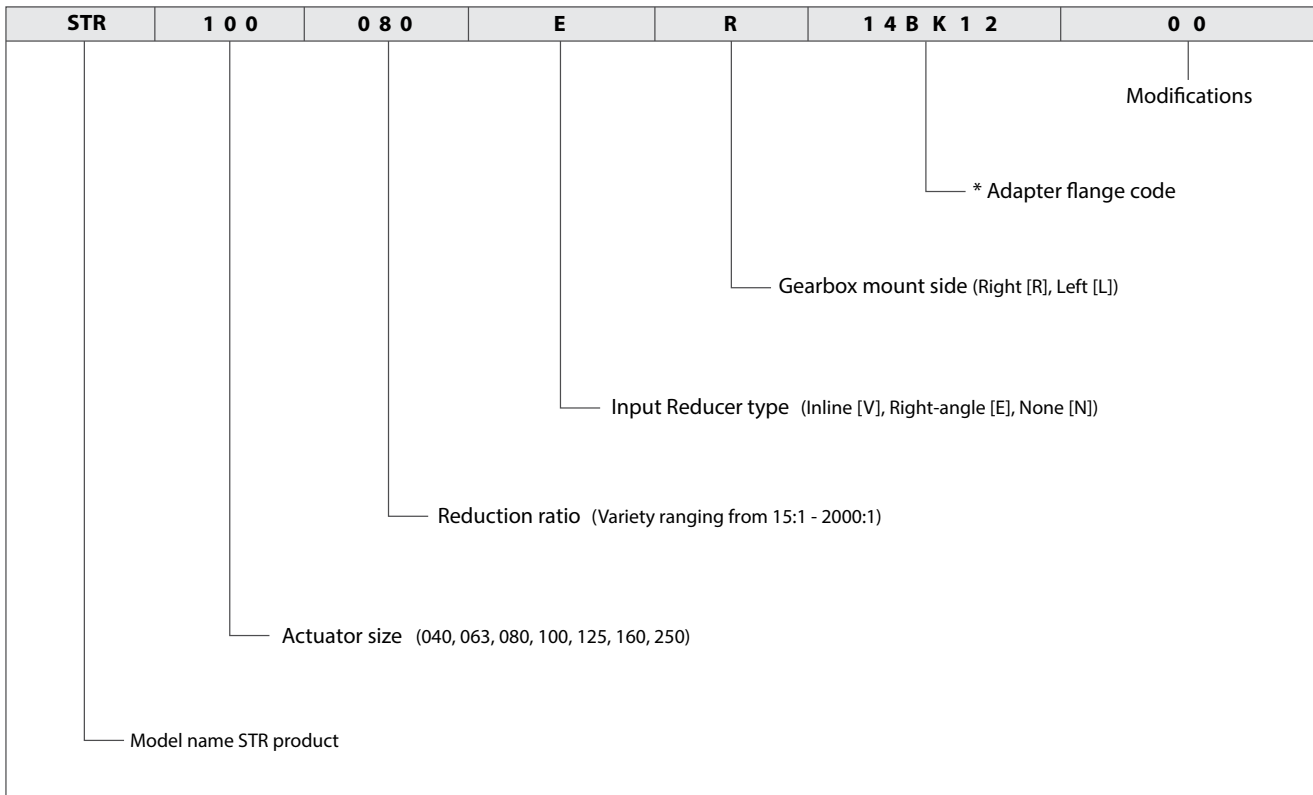
- Compatible with nearly any servo motor
- High output torque, high rigidity, high moment loads
- Large variety of reduction ratios to choose from
- Zero backlash, with precision as tight as 20 arc/secs
- Large hollow shaft design allows use of air lines or wiring
- Multiple ratios to match application requirements

STR-Series – Features



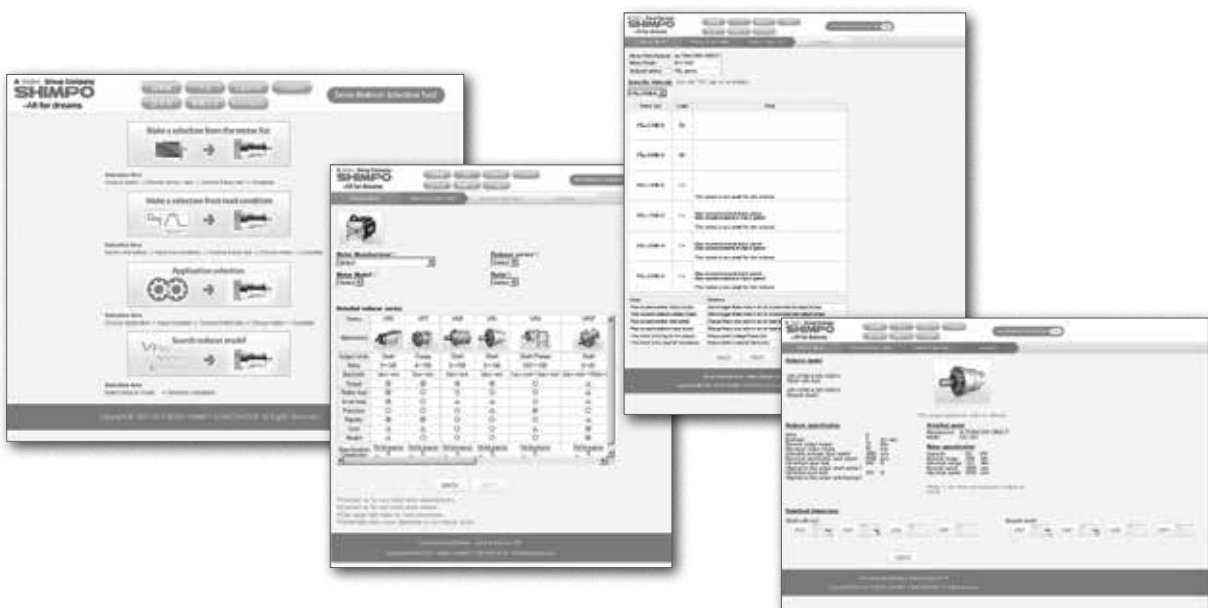
- ① Housing constructed from aluminum alloy
- ② Special worm input shaft providing screw like transmission
- ③ Hollow-bore output shaft
- ④ Output shaft
- ⑤ Cam roller followers
- ⑥ Cross-roller bearing
- ⑦ Direct connection to VRB or EVB planetary reducer

STR-Series – Model Code



*1) Adapter flange code
 Adapter flange code varies depending on the motor.

Contact us for additional information or refer to our online reducer selection tool.
 Selection tool www.nidec-shimpo.co.jp/selection/eng



STR-040V – 1-Stage and 2-Stage Specifications with VRSF-B

| Frame Size | 040V | | | | | |
|--------------------------------|--|-------|-------------|-------|---------|-------|
| | | | 1-Stage | | 2-Stage | |
| Stage | Units | Notes | 15 | 45 | 75 | 135 |
| Ratio | [Nm] | *1 | 27 | 27 | 27 | 27 |
| Nominal Torque | [Nm] | -- | 58 | 58 | 58 | 58 |
| Acceleration Torque | [Nm] | *1 | 0.5 | 0.2 | 0.2 | 0.2 |
| No Load Torque | [rpm] | *2 | 900 | 2700 | 3000 | 3000 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 5000 | 5000 | 5000 |
| Maximum Input Speed | [kg·m ² ·10 ⁻⁴] | *3 | 0.292 | -- | -- | -- |
| Reflected Inertia (Single) | [kg·m ² ·10 ⁻⁴] | *3 | -- | 0.082 | 0.06 | 0.053 |
| Reflected Inertia (≤Ø 8) | [kg·m ² ·10 ⁻⁴] | *3 | -- | 0.151 | 0.131 | 0.121 |
| Reflected Inertia (≤Ø 14) | [arc/min] | -- | 0 | 0 | 0 | 0 |
| Backlash | [arc/min] | -- | ≤ 1.5 | ≤ 1.5 | | |
| Angular Transmission Accuracy | [arc/min] | -- | ± 0.2 | ± 0.2 | | |
| Angular Repeatability Accuracy | [µm (max)] | -- | 10 | 10 | 10 | 10 |
| Surface Runout | [kg] | -- | 2.5 | 3.2 | 3.2 | 3.2 |
| Weight | [N] | -- | 999 | 999 | 999 | 999 |
| Maximum Axial Load | [N] | -- | 669 | 669 | 669 | 669 |
| Maximum Radial Load | [Nm] | -- | 33 | 33 | 33 | 33 |
| Maximum Tilting Moment Load | [%] | -- | 80 | 76 | 76 | 76 |
| Efficiency | | | IP54 (IP65) | | | |
| Protection Class | | | | | | |

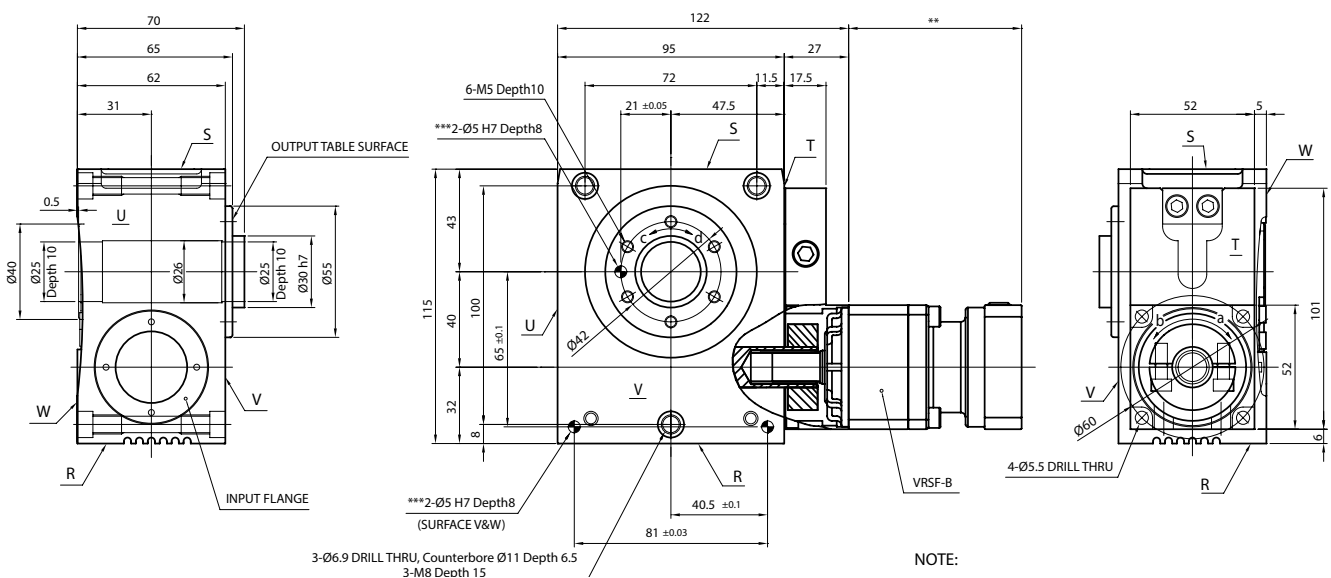
*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-040 Dimensions with VRSF-B



NOTE:

** Refer to VRSF B-Frame dimensions

*** Optional

ROTATION:

a=d

a=c (upon special request)

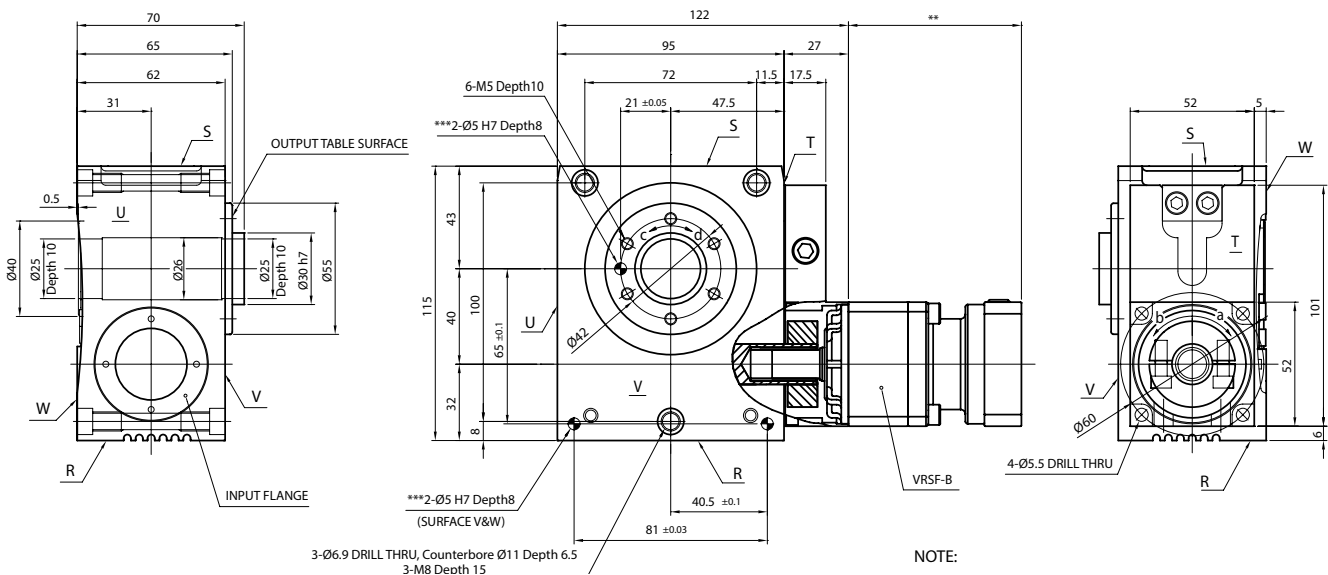
NOTE: Planetary Gearbox VRSF-B on request.

STR-040V – 3-Stage Specifications with VRSF-B

| Frame Size | 040V | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|
| Stage | 3-Stage | | | | | |
| Ratio | Units | Notes | 225 | 300 | 375 | 525 |
| Nominal Torque | [Nm] | *1 | 27 | 27 | 27 | 27 |
| Acceleration Torque | [Nm] | -- | 58 | 58 | 58 | 58 |
| No Load Torque | [Nm] | *1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 5000 | 5000 | 5000 | 5000 |
| Reflected Inertia (Single) | [kg-m ² x10 ⁻⁴] | *3 | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg-m ² x10 ⁻⁴] | *3 | 0.058 | 0.057 | 0.057 | 0.053 |
| Reflected Inertia (≤Ø 14) | [kg-m ² x10 ⁻⁴] | *3 | 0.131 | 0.131 | 0.131 | 0.121 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.2 | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 3.4 | 3.4 | 3.4 | 3.4 |
| Maximum Axial Load | [N] | -- | 999 | 999 | 999 | 999 |
| Maximum Radial Load | [N] | -- | 669 | 669 | 669 | 669 |
| Maximum Tilting Moment Load | [Nm] | -- | 33 | 33 | 33 | 33 |
| Efficiency | [%] | -- | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-040 Dimensions with VRSF-B



NOTE: Planetary Gearbox VRSF-B on request.

NOTE:
 ** Refer to VRSF B-Frame dimensions
 *** Optional

ROTATION:
 a=d
 a=c (upon special request)

STR

STR-063V – 1-Stage and 2-Stage Specifications with VRB-060

| Frame Size | 063V | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Acceleration Torque | [Nm] | -- | 129 | 129 | 129 | 129 | 129 | 129 | 129 | 129 |
| No Load Torque | [Nm] | *1 | 0.8 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 800 | 2400 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 3000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 0.862 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.142 | 0.097 | 0.079 | 0.070 | 0.064 | 0.061 | 0.059 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.222 | 0.172 | 0.162 | 0.152 | 0.142 | 0.142 | 0.142 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.432 | 0.382 | 0.362 | 0.362 | 0.352 | 0.352 | 0.342 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.0 | ≤ 1.0 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.1 | ± 0.1 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 5.6 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Maximum Axial Load | [N] | -- | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 |
| Maximum Radial Load | [N] | -- | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 |
| Maximum Tilting Moment Load | [Nm] | -- | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Efficiency | [%] | -- | 82 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-063V – 2-Stage and 3-Stage Specifications with VRB-060

| Frame Size | 063V | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Acceleration Torque | [Nm] | -- | 129 | 129 | 129 | 129 | 129 | 129 | 129 | 129 |
| No Load Torque | [Nm] | *1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.058 | 0.057 | 0.059 | 0.056 | 0.055 | 0.057 | 0.051 | 0.055 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.142 | 0.142 | 0.142 | 0.132 | 0.132 | 0.142 | 0.132 | 0.132 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.342 | 0.352 | 0.362 | 0.352 | 0.352 | 0.362 | 0.342 | 0.352 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.0 | ≤ 1.0 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.1 | ± 0.1 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 7.0 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 |
| Maximum Axial Load | [N] | -- | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 |
| Maximum Radial Load | [N] | -- | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 |
| Maximum Tilting Moment Load | [Nm] | -- | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Efficiency | [%] | -- | 78 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

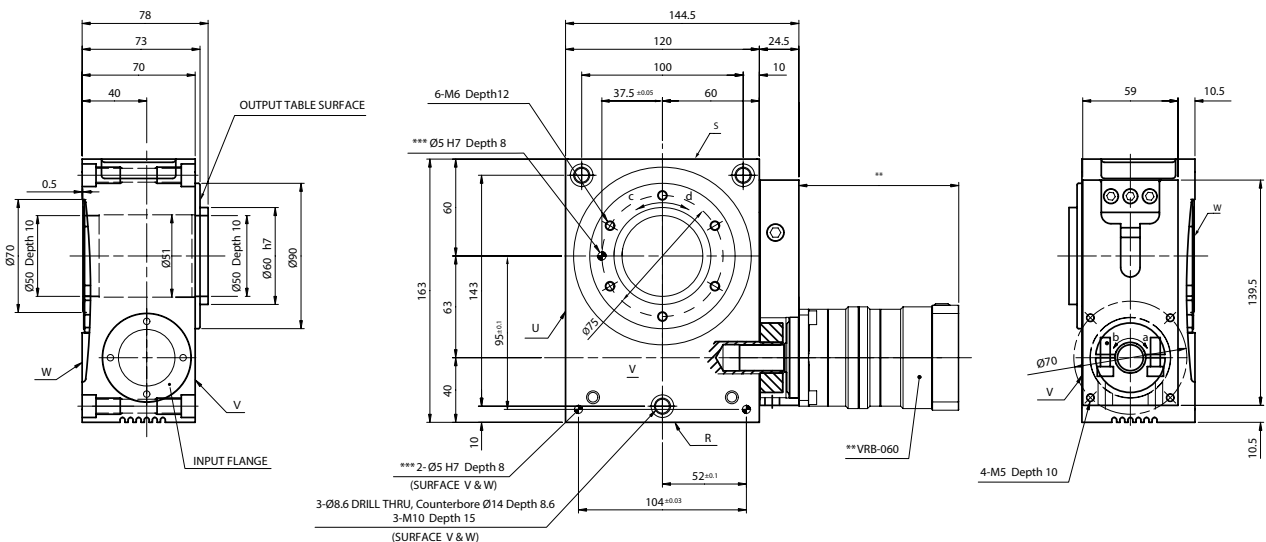
*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-063V – 3-Stage Specifications with VRB-060

| Frame Size | 063V | | | | | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Acceleration Torque | [Nm] | -- | 129 | 129 | 129 | 129 | 129 | 129 | 129 | 129 |
| No Load Torque | [Nm] | *1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | --- | --- | --- | --- | --- | --- | --- | --- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.051 | 0.055 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 | 0.132 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.342 | 0.352 | 0.342 | 0.342 | 0.342 | 0.342 | 0.342 | 0.342 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.0 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.1 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 |
| Maximum Axial Load | [N] | -- | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 |
| Maximum Radial Load | [N] | -- | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 |
| Maximum Tilting Moment Load | [Nm] | -- | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Efficiency | [%] | -- | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-063 Dimensions with VRB-060



NOTE:
 ** Refer to page 66, for VRB-060 dimensions
 *** Optional

ROTATION:
 a=d
 a=c (upon special request)

STR-063E – 1-Stage and 2-Stage Specifications with EVB-060

| Frame Size | 063E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Acceleration Torque | [Nm] | -- | 129 | 129 | 129 | 129 | 129 | 129 | 129 | 129 |
| No Load Torque | [Nm] | *1 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Nominal Input Speed | [rpm] | *2 | 800 | 2400 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 3000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 0.862 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.311 | 0.266 | 0.248 | 0.239 | 0.234 | 0.230 | 0.228 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.386 | 0.341 | 0.323 | 0.314 | 0.309 | 0.305 | 0.303 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.575 | 0.53 | 0.513 | 0.504 | 0.498 | 0.495 | 0.493 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.0 | ≤ 1.0 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.1 | ± 0.1 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 5.6 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 |
| Maximum Axial Load | [N] | -- | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 |
| Maximum Radial Load | [N] | -- | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 |
| Maximum Tilting Moment Load | [Nm] | -- | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Efficiency | [%] | -- | 82 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-063E – 2-Stage and 3-Stage Specifications with EVB-060

| Frame Size | 063E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Acceleration Torque | [Nm] | -- | 129 | 129 | 129 | 129 | 129 | 129 | 129 | 129 |
| No Load Torque | [Nm] | *1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.227 | 0.073 | 0.079 | 0.071 | 0.071 | 0.077 | 0.062 | 0.07 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.302 | 0.118 | 0.124 | 0.116 | 0.115 | 0.122 | 0.106 | 0.115 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.491 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.0 | ≤ 1.0 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.1 | ± 0.1 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 7.4 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 |
| Maximum Axial Load | [N] | -- | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 |
| Maximum Radial Load | [N] | -- | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 |
| Maximum Tilting Moment Load | [Nm] | -- | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Efficiency | [%] | -- | 74 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

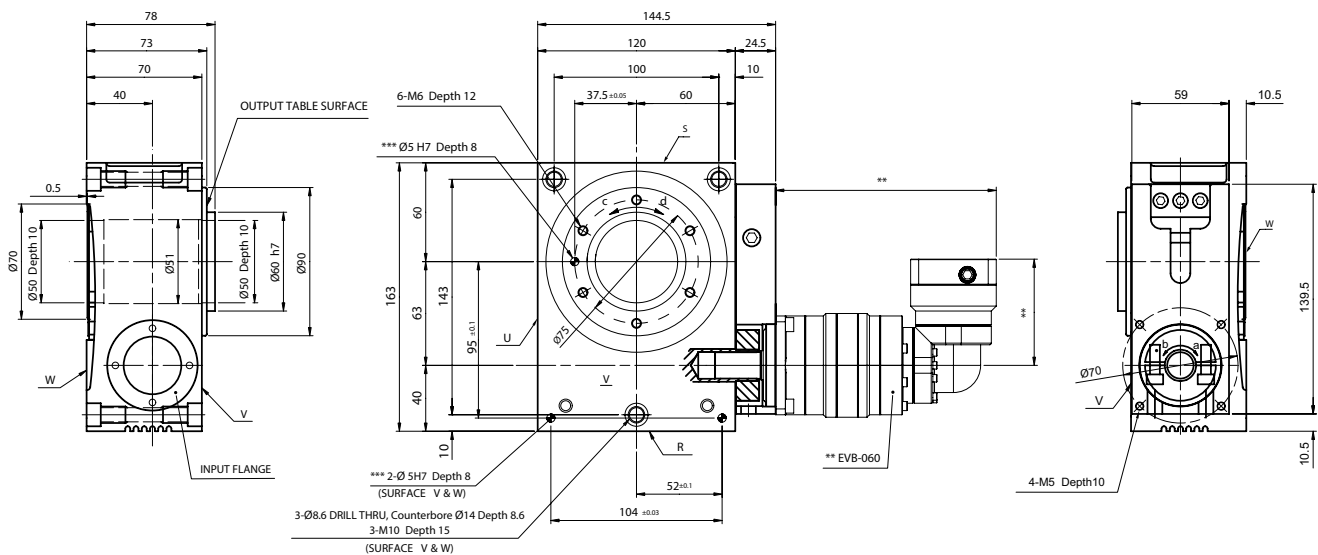
*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-063E – 3-Stage Specifications with EVB-060

| Frame Size | 063E | | | | | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Acceleration Torque | [Nm] | -- | 129 | 129 | 129 | 129 | 129 | 129 | 129 | 129 |
| No Load Torque | [Nm] | *1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.061 | 0.07 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 | 0.061 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.106 | 0.115 | 0.106 | 0.106 | 0.105 | 0.105 | 0.105 | 0.105 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.0 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.1 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 |
| Maximum Axial Load | [N] | -- | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 | 1657 |
| Maximum Radial Load | [N] | -- | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 | 1359 |
| Maximum Tilting Moment Load | [Nm] | -- | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Efficiency | [%] | -- | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-063 Dimensions with EVB-060



NOTE:
 ** Refer to page 244, for EVB-060 dimensions
 *** Optional

ROTATION:
 a=d
 a=c (upon special request)

STR-o80V – 1-Stage and 2-Stage Specifications with VRB-o60

| Frame Size | 080V | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| Acceleration Torque | [Nm] | -- | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| No Load Torque | [Nm] | *1 | 1.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 700 | 2100 | 2800 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 2500 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 3.066 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.148 | 0.103 | 0.085 | 0.076 | 0.070 | 0.067 | 0.065 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.228 | 0.178 | 0.168 | 0.158 | 0.148 | 0.148 | 0.148 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.438 | 0.388 | 0.368 | 0.368 | 0.358 | 0.358 | 0.348 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | ≤ 0.7 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | ± 0.08 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 11.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| Maximum Axial Load | [N] | -- | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 |
| Maximum Radial Load | [N] | -- | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 |
| Maximum Tilting Moment Load | [Nm] | -- | 210 | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| Efficiency | [%] | -- | 80 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-o80V – 2-Stage and 3-Stage Specifications with VRB-o60

| Frame Size | 080V | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| Acceleration Torque | [Nm] | -- | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| No Load Torque | [Nm] | *1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.064 | 0.063 | 0.065 | 0.062 | 0.061 | 0.063 | 0.057 | 0.061 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.148 | 0.148 | 0.148 | 0.138 | 0.138 | 0.148 | 0.138 | 0.138 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.348 | 0.358 | 0.368 | 0.358 | 0.358 | 0.368 | 0.348 | 0.358 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | ≤ 0.7 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | ± 0.08 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 13.0 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 |
| Maximum Axial Load | [N] | -- | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 |
| Maximum Radial Load | [N] | -- | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 |
| Maximum Tilting Moment Load | [Nm] | -- | 210 | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| Efficiency | [%] | -- | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

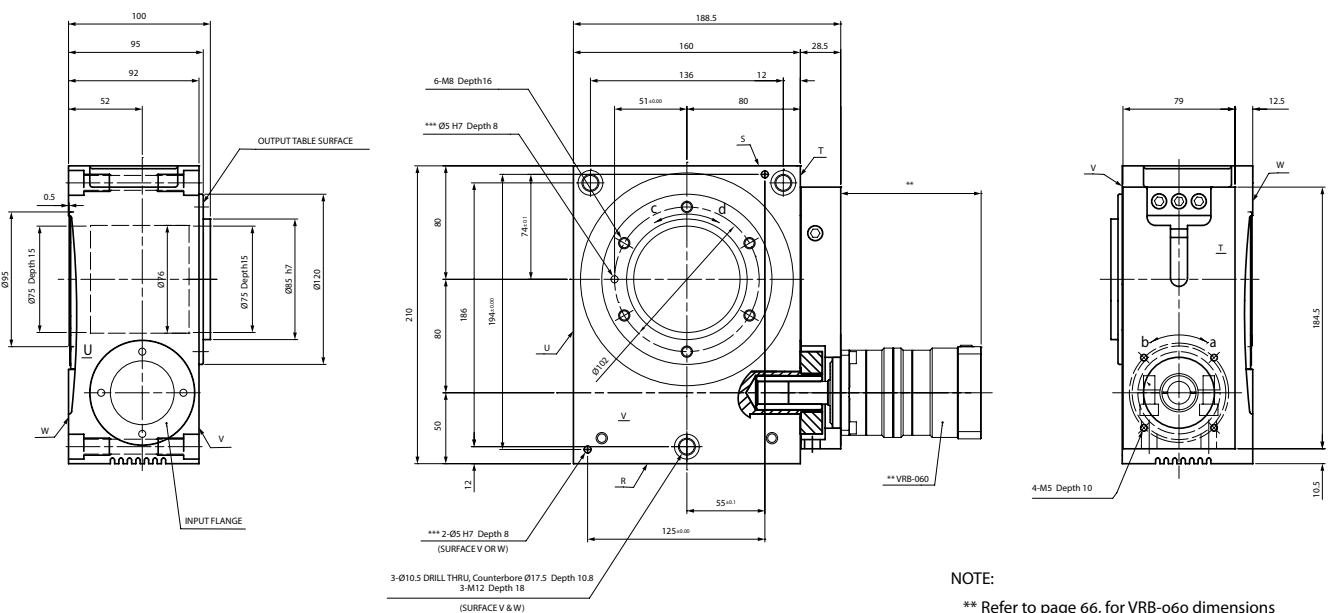
- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-o8oV – 3-Stage Specifications with VRB-o6o

| Frame Size | 080V | | | | | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| Acceleration Torque | [Nm] | -- | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| No Load Torque | [Nm] | *1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.057 | 0.061 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.138 | 0.138 | 0.138 | 0.138 | 0.138 | 0.138 | 0.138 | 0.138 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.348 | 0.358 | 0.348 | 0.348 | 0.348 | 0.348 | 0.348 | 0.348 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 |
| Maximum Axial Load | [N] | -- | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 |
| Maximum Radial Load | [N] | -- | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 |
| Maximum Tilting Moment Load | [Nm] | -- | 210 | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| Efficiency | [%] | -- | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-o8oV Dimensions with VRB-o6o



NOTE:

- ** Refer to page 66, for VRB-o6o dimensions
- *** Optional

ROTATION:

- a=d
- a=c (upon special request)

STR-o8oE – 1-Stage and 2-Stage Specifications with EVB-o6o

| Frame Size | 080E | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|---------|-------|-------|-------|-------|-------|
| Stage | | | 1-Stage | | 2-Stage | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| Acceleration Torque | [Nm] | -- | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| No Load Torque | [Nm] | *1 | 1.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Nominal Input Speed | [rpm] | *2 | 700 | 2100 | 2800 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 2500 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 3.066 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.319 | 0.274 | 0.256 | 0.247 | 0.242 | 0.238 | 0.236 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.394 | 0.349 | 0.331 | 0.322 | 0.317 | 0.313 | 0.311 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.583 | 0.538 | 0.521 | 0.512 | 0.506 | 0.503 | 0.501 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | ≤ 0.7 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | ± 0.08 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 11.6 | 13.4 | 13.4 | 13.4 | 13.4 | 13.4 | 13.4 | 13.4 |
| Maximum Axial Load | [N] | -- | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 |
| Maximum Radial Load | [N] | -- | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 |
| Maximum Tilting Moment Load | [Nm] | -- | 210 | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| Efficiency | [%] | -- | 80 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-o8oE – 2-Stage and 3-Stage Specifications with EVB-o6o

| Frame Size | 080E | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|---------|-------|-------|-------|-------|-------|
| Stage | | | 2-Stage | | 3-Stage | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| Acceleration Torque | [Nm] | -- | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| No Load Torque | [Nm] | *1 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.235 | 0.081 | 0.087 | 0.079 | 0.079 | 0.085 | 0.070 | 0.078 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.310 | 0.126 | 0.132 | 0.124 | 0.123 | 0.130 | 0.114 | 0.123 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.499 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | ≤ 0.7 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | ± 0.08 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 13.4 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 |
| Maximum Axial Load | [N] | -- | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 |
| Maximum Radial Load | [N] | -- | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 |
| Maximum Tilting Moment Load | [Nm] | -- | 210 | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| Efficiency | [%] | -- | 72 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

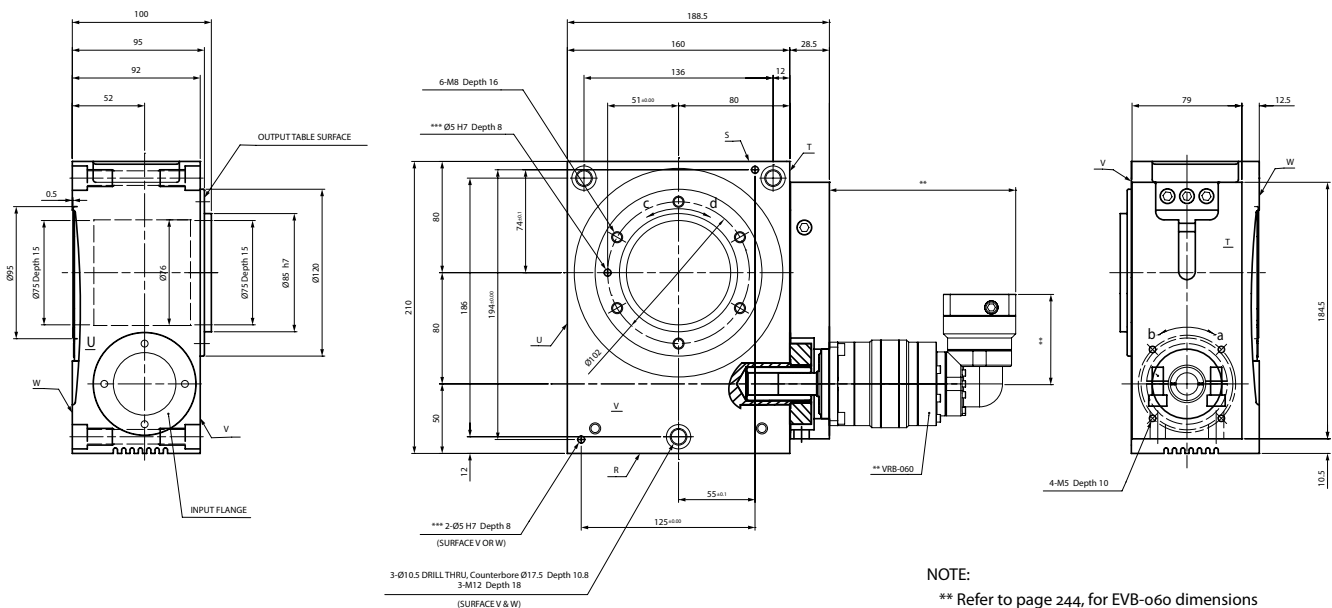
*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-o8oE – 3-Stage Specifications with EVB-o6o

| Frame Size | 080E | | | | | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| Acceleration Torque | [Nm] | -- | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| No Load Torque | [Nm] | *1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.069 | 0.078 | 0.069 | 0.069 | 0.069 | 0.069 | 0.069 | 0.069 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.114 | 0.123 | 0.114 | 0.114 | 0.113 | 0.113 | 0.113 | 0.113 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 |
| Maximum Axial Load | [N] | -- | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 | 3302 |
| Maximum Radial Load | [N] | -- | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 | 2819 |
| Maximum Tilting Moment Load | [Nm] | -- | 210 | 210 | 210 | 210 | 210 | 210 | 210 | 210 |
| Efficiency | [%] | -- | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-o8oE Dimensions with EVB-o6o



NOTE:
 ** Refer to page 244, for EVB-o6o dimensions
 *** Optional

ROTATION:
 a=d
 a=c (upon special request)

STR-100V – 1-Stage and 2-Stage Specifications with VRB-090

| Frame Size | 100V | | | | | | | | | |
|--------------------------------|--|-------|---------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 |
| Acceleration Torque | [Nm] | -- | 565 | 565 | 565 | 565 | 565 | 565 | 565 | 565 |
| No Load Torque | [Nm] | *1 | 2.6 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal Input Speed | [rpm] | *2 | 600 | 1800 | 2400 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 2000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 8.687 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.742 | 0.512 | 0.422 | 0.382 | 0.342 | 0.332 | 0.312 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 1.222 | 0.972 | 0.882 | 0.842 | 0.812 | 0.792 | 0.782 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 3.222 | 3.022 | 2.922 | 2.822 | 2.822 | 2.822 | 2.822 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | ≤ 0.7 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | ± 0.08 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 21.5 | 25.2 | 25.2 | 25.2 | 25.2 | 25.2 | 25.2 | 25.2 |
| Maximum Axial Load | [N] | -- | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 |
| Maximum Radial Load | [N] | -- | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 |
| Maximum Tilting Moment Load | [Nm] | -- | 284 | 284 | 284 | 284 | 284 | 284 | 284 | 284 |
| Efficiency | [%] | -- | 82 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Protection Class | IP54 (IP65) | | | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-100V – 2-Stage and 3-Stage Specifications with VRB-090

| Frame Size | 100V | | | | | | | | | |
|--------------------------------|--|-------|---------|---------|-------|-------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 |
| Acceleration Torque | [Nm] | -- | 565 | 565 | 565 | 565 | 565 | 565 | 565 | 565 |
| No Load Torque | [Nm] | *1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.152 | 0.172 | 0.152 | 0.142 | 0.162 | 0.122 | 0.142 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.312 | 0.302 | 0.322 | 0.302 | 0.302 | 0.312 | 0.272 | 0.292 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.772 | 0.742 | 0.762 | 0.742 | 0.732 | 0.752 | 0.722 | 0.732 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 2.822 | 2.722 | 2.822 | 2.722 | 2.722 | 2.722 | 2.622 | 2.722 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | ≤ 0.7 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | ± 0.08 | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 25.2 | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 |
| Maximum Axial Load | [N] | -- | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 |
| Maximum Radial Load | [N] | -- | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 |
| Maximum Tilting Moment Load | [Nm] | -- | 284 | 284 | 284 | 284 | 284 | 284 | 284 | 284 |
| Efficiency | [%] | -- | 78 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| Protection Class | IP54 (IP65) | | | | | | | | | |

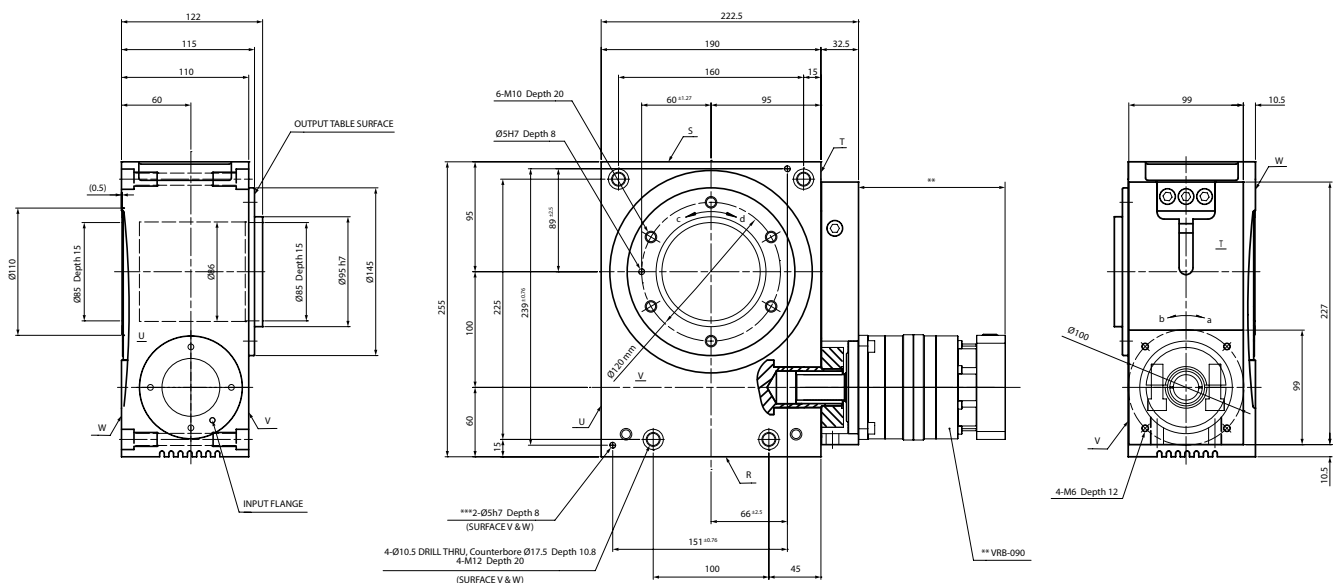
- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-100V – 1-Stage and 3-Stage Specifications with VRB-090

| Frame Size | 100V | | | | | | | | | |
|--------------------------------|--|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 |
| Acceleration Torque | [Nm] | -- | 565 | 565 | 565 | 565 | 565 | 565 | 565 | 565 |
| No Load Torque | [Nm] | *1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.121 | 0.142 | 0.120 | 0.120 | 0.119 | 0.119 | 0.119 | 0.119 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.272 | 0.292 | 0.272 | 0.272 | 0.272 | 0.272 | 0.272 | 0.272 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.722 | 0.732 | 0.712 | 0.712 | 0.712 | 0.712 | 0.712 | 0.712 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 2.622 | 2.722 | 2.622 | 2.622 | 2.622 | 2.622 | 2.622 | 2.622 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 | 25.7 |
| Maximum Axial Load | [N] | -- | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 |
| Maximum Radial Load | [N] | -- | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 |
| Maximum Tilting Moment Load | [Nm] | -- | 284 | 284 | 284 | 284 | 284 | 284 | 284 | 284 |
| Efficiency | [%] | -- | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| Protection Class | IP54 (IP65) | | | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-100 Dimensions with VRB-090



NOTE:
 ** Refer to page 72, for VRB-090 dimensions
 *** Optional

ROTATION:
 a=d
 a=c (upon special request)

STR-100E – 1-Stage and 2-Stage Specifications with EVB-090

| Frame Size | 100E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|-------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 |
| Acceleration Torque | [Nm] | -- | 565 | 565 | 565 | 565 | 565 | 565 | 565 | 565 |
| No Load Torque | [Nm] | *1 | 2.6 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Nominal Input Speed | [rpm] | *2 | 600 | 1800 | 2400 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 2000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia | [kg·m ² ×10 ⁻⁴] | *3 | 8.687 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 2.132 | 1.912 | 1.822 | 1.782 | 1.752 | 1.732 | 1.722 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 2.462 | 2.242 | 2.152 | 2.112 | 2.082 | 2.062 | 2.052 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 4.592 | 4.372 | 4.282 | 4.232 | 4.202 | 4.192 | 4.182 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | ≤ 0.7 | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | ± 0.08 | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 21.5 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 |
| Maximum Axial Load | [N] | -- | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 |
| Maximum Radial Load | [N] | -- | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 |
| Maximum Tilting Moment Load | [Nm] | -- | 284 | 284 | 284 | 284 | 284 | 284 | 284 | 284 |
| Efficiency | [%] | -- | 82 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-100E – 2-Stage and 3-Stage Specifications with EVB-090

| Frame Size | 100E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|-------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 |
| Acceleration Torque | [Nm] | -- | 565 | 565 | 565 | 565 | 565 | 565 | 565 | 565 |
| No Load Torque | [Nm] | *1 | 1.3 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.362 | 0.402 | 0.352 | 0.342 | 0.392 | 0.272 | 0.342 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 1.712 | 0.432 | 0.482 | 0.422 | 0.422 | 0.472 | 0.352 | 0.422 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 2.042 | 0.622 | 0.672 | 0.612 | 0.612 | 0.662 | 0.532 | 0.612 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 4.172 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | ≤ 0.7 | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | ± 0.08 | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 26.6 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 |
| Maximum Axial Load | [N] | -- | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 |
| Maximum Radial Load | [N] | -- | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 | 3109 |
| Maximum Tilting Moment Load | [Nm] | -- | 284 | 284 | 284 | 284 | 284 | 284 | 284 | 284 |
| Efficiency | [%] | -- | 74 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125V – 1-Stage and 2-Stage Specifications with VRB-090

| Frame Size | 125V | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|--------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| Acceleration Torque | [Nm] | -- | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 |
| No Load Torque | [Nm] | *1 | 3.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Nominal Input Speed | [rpm] | *2 | 600 | 1800 | 2400 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 1600 | 4800 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 14.85 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.757 | 0.527 | 0.437 | 0.397 | 0.357 | 0.347 | 0.327 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 1.237 | 0.987 | 0.897 | 0.857 | 0.827 | 0.807 | 0.797 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 3.237 | 3.037 | 2.937 | 2.837 | 2.837 | 2.837 | 2.837 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | ≤ 0.7 | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | ± 0.08 | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 36.3 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Maximum Axial Load | [N] | -- | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 |
| Maximum Radial Load | [N] | -- | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 |
| Maximum Tilting Moment Load | [Nm] | -- | 764 | 764 | 764 | 764 | 764 | 764 | 764 | 764 |
| Efficiency | [%] | -- | 80 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125V – 2-Stage and 3-Stage Specifications with VRB-090

| Frame Size | 125V | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|--------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| Acceleration Torque | [Nm] | -- | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 |
| No Load Torque | [Nm] | *1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.167 | 0.187 | 0.167 | 0.157 | 0.177 | 0.137 | 0.157 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.327 | 0.317 | 0.337 | 0.317 | 0.317 | 0.327 | 0.287 | 0.307 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.787 | 0.757 | 0.777 | 0.757 | 0.747 | 0.767 | 0.737 | 0.747 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 2.837 | 2.737 | 2.837 | 2.737 | 2.737 | 2.737 | 2.637 | 2.737 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | ≤ 0.7 | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | ± 0.08 | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 40.0 | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 |
| Maximum Axial Load | [N] | -- | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 |
| Maximum Radial Load | [N] | -- | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 |
| Maximum Tilting Moment Load | [Nm] | -- | 764 | 764 | 764 | 764 | 764 | 764 | 764 | 764 |
| Efficiency | [%] | -- | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

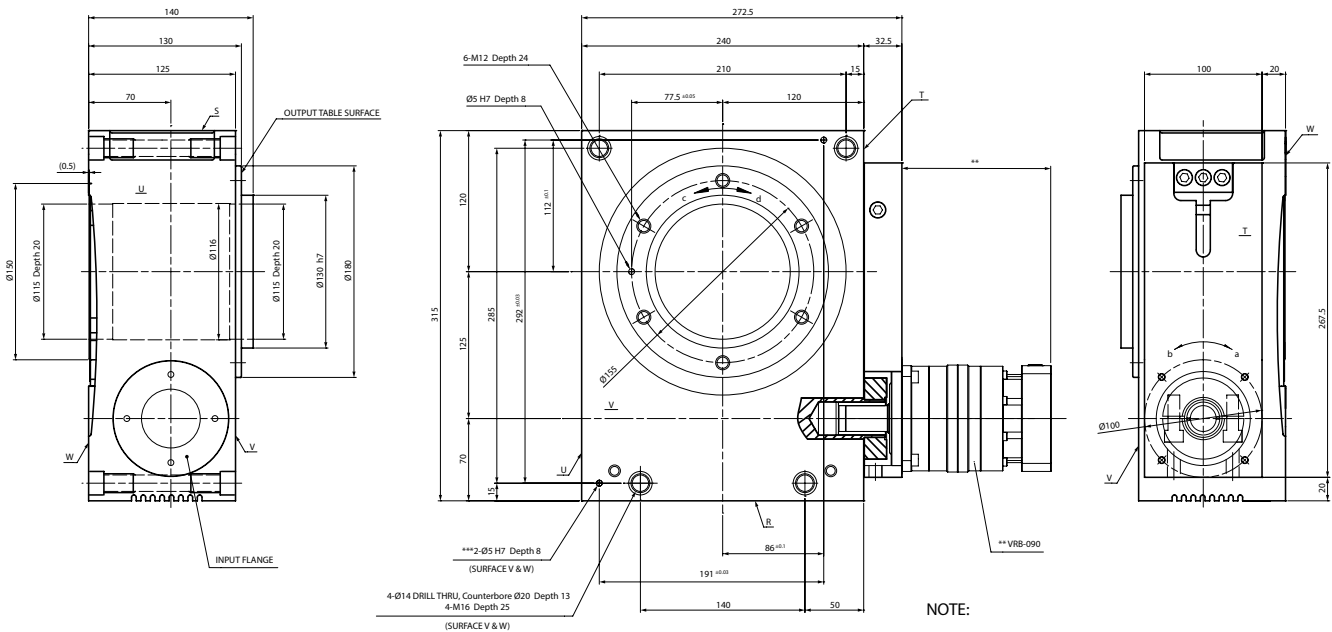
*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125V – 3-Stage Specifications with VRB-090

| Frame Size | 125V | | | | | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| Acceleration Torque | [Nm] | -- | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 |
| No Load Torque | [Nm] | *1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.136 | 0.157 | 0.135 | 0.135 | 0.134 | 0.134 | 0.134 | 0.134 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.287 | 0.307 | 0.287 | 0.287 | 0.287 | 0.287 | 0.287 | 0.287 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.737 | 0.747 | 0.727 | 0.727 | 0.727 | 0.727 | 0.727 | 0.727 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 2.637 | 2.737 | 2.637 | 2.637 | 2.637 | 2.637 | 2.637 | 2.637 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 | 40.5 |
| Maximum Axial Load | [N] | -- | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 |
| Maximum Radial Load | [N] | -- | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 |
| Maximum Tilting Moment Load | [Nm] | -- | 764 | 764 | 764 | 764 | 764 | 764 | 764 | 764 |
| Efficiency | [%] | -- | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125 Dimensions with VRB-090



NOTE:
 ** Refer to page 72, for VRB-090 dimensions
 *** Optional

ROTATION:
 a=d
 a=c (upon special request)

STR-125E – 1-Stage and 2-Stage Specifications with EVB-090

| Frame Size | 125E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|--------|-------|-------|-------|-------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| Acceleration Torque | [Nm] | -- | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 |
| No Load Torque | [Nm] | *1 | 3.8 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Nominal Input Speed | [rpm] | *2 | 600 | 1800 | 2400 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 1600 | 4800 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 14.85 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 2.147 | 1.927 | 1.837 | 1.797 | 1.767 | 1.747 | 1.737 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 2.477 | 2.257 | 2.167 | 2.127 | 2.097 | 2.077 | 2.067 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 4.607 | 4.387 | 4.297 | 4.247 | 4.217 | 4.207 | 4.197 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | ≤ 0.7 | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | ± 0.08 | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 36.3 | 41.4 | 41.4 | 41.4 | 41.4 | 41.4 | 41.4 | 41.4 |
| Maximum Axial Load | [N] | -- | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 |
| Maximum Radial Load | [N] | -- | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 |
| Maximum Tilting Moment Load | [Nm] | -- | 764 | 764 | 764 | 764 | 764 | 764 | 764 | 764 |
| Efficiency | [%] | -- | 80 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125E – 2-Stage and 3-Stage Specifications with EVB-090

| Frame Size | 125E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|-------|--------|-------|-------|-------|-------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| Acceleration Torque | [Nm] | -- | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 |
| No Load Torque | [Nm] | *1 | 1.3 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.377 | 0.417 | 0.367 | 0.357 | 0.407 | 0.287 | 0.357 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 1.727 | 0.447 | 0.497 | 0.437 | 0.437 | 0.487 | 0.367 | 0.437 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 2.057 | 0.637 | 0.687 | 0.627 | 0.627 | 0.677 | 0.547 | 0.627 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 4.187 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | ≤ 0.7 | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | ± 0.08 | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 41.4 | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 |
| Maximum Axial Load | [N] | -- | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 |
| Maximum Radial Load | [N] | -- | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 |
| Maximum Tilting Moment Load | [Nm] | -- | 764 | 764 | 764 | 764 | 764 | 764 | 764 | 764 |
| Efficiency | [%] | -- | 72 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

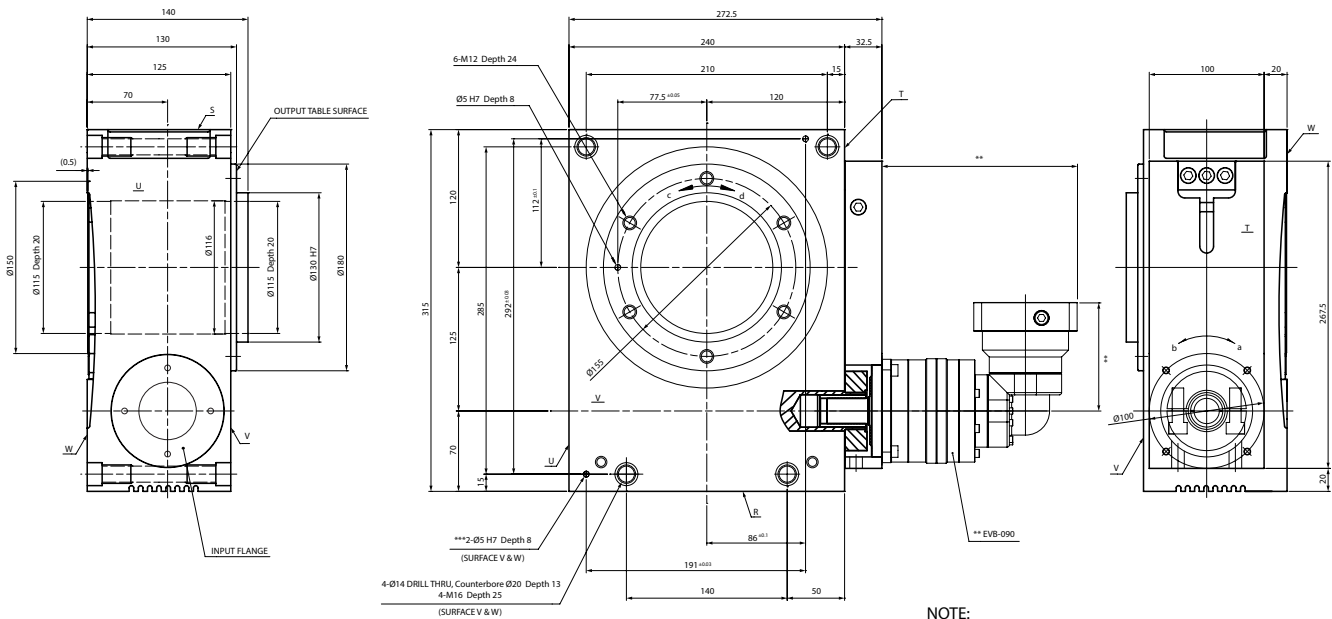
- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125E – 3-Stage Specifications with EVB-090

| Frame Size | 125E | | | | | | | | | |
|--------------------------------|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| Acceleration Torque | [Nm] | -- | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 |
| No Load Torque | [Nm] | *1 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 8) | [kg·m ² ×10 ⁻⁴] | *3 | 0.287 | 0.357 | 0.287 | 0.287 | 0.287 | 0.287 | 0.287 | 0.287 |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.357 | 0.427 | 0.357 | 0.357 | 0.357 | 0.357 | 0.357 | 0.357 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.547 | 0.617 | 0.547 | 0.547 | 0.547 | 0.547 | 0.547 | 0.547 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 0.7 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.08 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weight | [kg] | -- | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 | 40.7 |
| Maximum Axial Load | [N] | -- | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 | 8178 |
| Maximum Radial Load | [N] | -- | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 | 7452 |
| Maximum Tilting Moment Load | [Nm] | -- | 764 | 764 | 764 | 764 | 764 | 764 | 764 | 764 |
| Efficiency | [%] | -- | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-125 Dimensions with EVB-090



STR

STR-160V – 1-Stage and 2-Stage Specifications with VRB-115

| Frame Size | 160V | | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|--------|--------|--------|--------|--------|--|
| Stage | | | 1-Stage | 2-Stage | | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | |
| Nominal Torque | [Nm] | *1 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | |
| Acceleration Torque | [Nm] | -- | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | |
| No Load Torque | [Nm] | *1 | 6.6 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | |
| Nominal Input Speed | [rpm] | *2 | 500 | 1500 | 2000 | 2500 | 3000 | 3000 | 3000 | 3000 | |
| Maximum Input Speed | [rpm] | *2 | 1000 | 3000 | 4000 | 5000 | 6000 | 6000 | 6000 | 6000 | |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 46.99 | -- | -- | -- | -- | -- | -- | -- | |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- | |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 3.417 | 2.117 | 1.717 | 1.417 | 1.217 | 1.117 | 1.097 | |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 5.417 | 4.217 | 3.717 | 3.417 | 3.317 | 3.217 | 3.117 | |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 13.12 | 12.12 | 11.12 | 11.12 | 11.12 | 11.12 | 11.12 | |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | ≤ 1.5 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | ± 0.15 | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Weight | [kg] | -- | 126 | 134 | 134 | 134 | 134 | 134 | 134 | 134 | |
| Maximum Axial Load | [N] | -- | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | |
| Maximum Radial Load | [N] | -- | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | |
| Maximum Tilting Moment Load | [Nm] | -- | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | |
| Efficiency | [%] | -- | 80 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-160V – 2-Stage and 3-Stage Specifications with VRB-115

| Frame Size | 160V | | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|--------|--------|--------|--------|--------|--|
| Stage | | | 2-Stage | 3-Stage | | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 | |
| Nominal Torque | [Nm] | *1 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | |
| Acceleration Torque | [Nm] | -- | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | |
| No Load Torque | [Nm] | *1 | 1.1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- | |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 0.547 | 0.597 | 0.517 | 0.497 | 0.557 | 0.407 | 0.487 | |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 1.097 | 0.977 | 1.037 | 0.947 | 0.937 | 0.997 | 0.857 | 0.927 | |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 3.117 | 2.917 | 3.017 | 2.917 | 2.917 | 2.917 | 2.817 | 2.817 | |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | 11.12 | 11.12 | 11.12 | 11.12 | 11.12 | 11.12 | 10.12 | 11.12 | |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | ≤ 1.5 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | ± 0.15 | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Weight | [kg] | -- | 134 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | |
| Maximum Axial Load | [N] | -- | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | |
| Maximum Radial Load | [N] | -- | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | |
| Maximum Tilting Moment Load | [Nm] | -- | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | |
| Efficiency | [%] | -- | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | | |

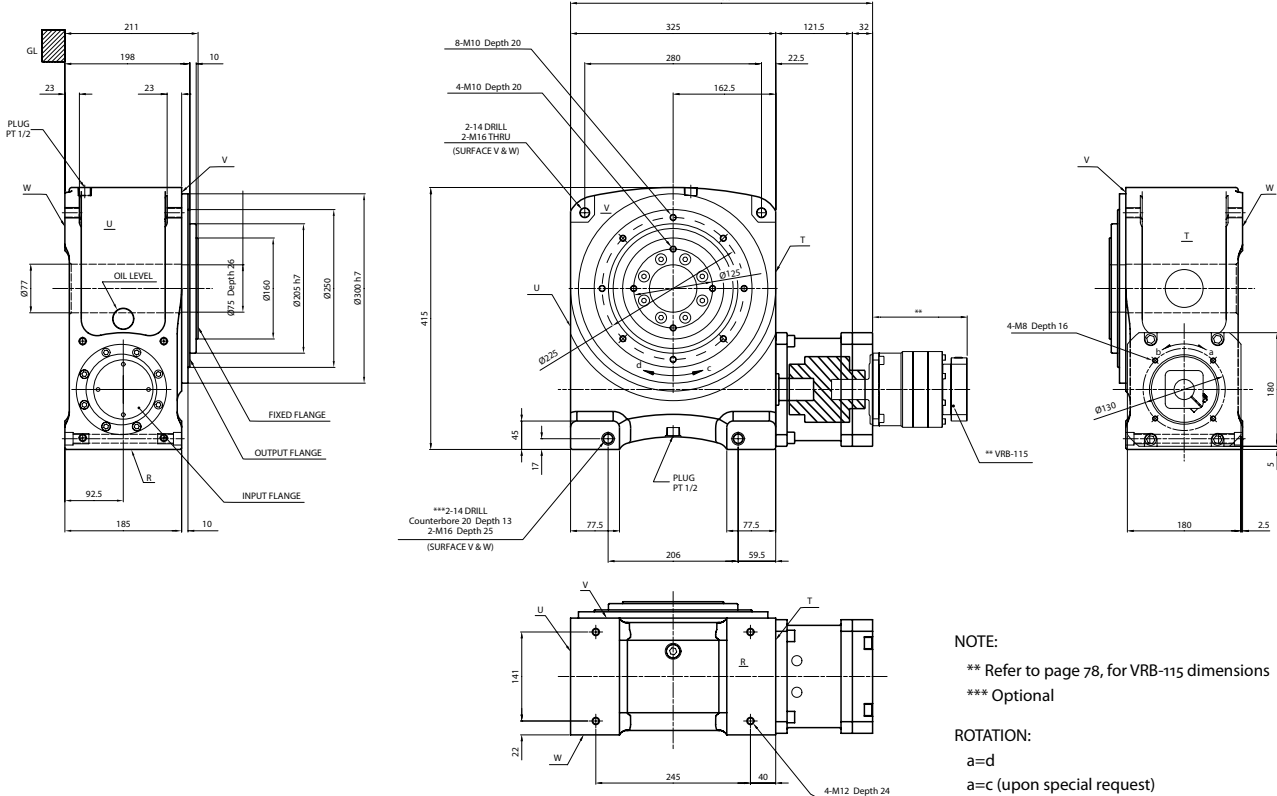
- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-160V – 3-Stage Specifications with VRB-115

| Frame Size | 160V | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 |
| Acceleration Torque | [Nm] | -- | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 |
| No Load Torque | [Nm] | *1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 0.397 | 0.487 | 0.397 | 0.397 | 0.397 | 0.397 | 0.387 | 0.387 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 0.847 | 0.917 | 0.847 | 0.847 | 0.847 | 0.847 | 0.847 | 0.847 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 2.817 | 2.817 | 2.817 | 2.817 | 2.817 | 2.817 | 2.817 | 2.817 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | 10.12 | 11.12 | 10.12 | 10.12 | 10.12 | 10.12 | 10.12 | 10.12 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 |
| Maximum Axial Load | [N] | -- | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 |
| Maximum Radial Load | [N] | -- | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 |
| Maximum Tilting Moment Load | [Nm] | -- | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 |
| Efficiency | [%] | -- | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-160 Dimensions with VRB-115



STR-160E – 1-Stage and 2-Stage Specifications with EVB-115

| Frame Size | 160E | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|--------|---------|--------|--------|--------|--------|
| Stage | | | 1-Stage | | | 2-Stage | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 |
| Acceleration Torque | [Nm] | -- | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 |
| No Load Torque | [Nm] | *1 | 6.6 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| Nominal Input Speed | [rpm] | *2 | 500 | 1500 | 2000 | 2500 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 1000 | 3000 | 4000 | 5000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 46.99 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 6.857 | 5.607 | 5.137 | 4.887 | 4.767 | 4.667 | 4.607 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 8.457 | 7.197 | 6.727 | 6.477 | 6.357 | 6.257 | 6.197 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 15.53 | 14.27 | 13.81 | 13.55 | 13.43 | 13.34 | 13.28 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | | ≤ 1.5 | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | | ± 0.15 | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 126 | 137 | 137 | 137 | 137 | 137 | 137 | 137 |
| Maximum Axial Load | [N] | -- | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 |
| Maximum Radial Load | [N] | -- | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 |
| Maximum Tilting Moment Load | [Nm] | -- | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 |
| Efficiency | [%] | -- | 80 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-160E – 2-Stage and 3-Stage Specifications with EVB-115

| Frame Size | 160E | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|--------|---------|--------|--------|--------|--------|
| Stage | | | 2-Stage | | | 3-Stage | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 | 1165 |
| Acceleration Torque | [Nm] | -- | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 |
| No Load Torque | [Nm] | *1 | 2.2 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| Nominal Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum Input Speed | [rpm] | *2 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 2.367 | 2.577 | 2.317 | 2.297 | 2.517 | 1.987 | 2.277 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 4.577 | 2.697 | 2.907 | 2.647 | 2.627 | 2.847 | 2.317 | 2.607 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 6.167 | 4.817 | 5.027 | 4.767 | 4.757 | 4.977 | 4.447 | 4.737 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | 13.24 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | | ≤ 1.5 | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | | ± 0.15 | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 137 | 136 | 136 | 136 | 136 | 136 | 136 | 136 |
| Maximum Axial Load | [N] | -- | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 | 17170 |
| Maximum Radial Load | [N] | -- | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 | 7283 |
| Maximum Tilting Moment Load | [Nm] | -- | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 | 1216.3 |
| Efficiency | [%] | -- | 72 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250V – 1-Stage and 2-Stage Specifications with VRB-180

| Frame Size | 250V | | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|--------|--------|--------|--------|--------|--|
| Stage | | | 1-Stage | 2-Stage | | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | |
| Nominal Torque | [Nm] | *1 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | |
| Acceleration Torque | [Nm] | -- | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | |
| No Load Torque | [Nm] | *1 | 14.5 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | |
| Nominal Input Speed | [rpm] | *2 | 400 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | |
| Maximum Input Speed | [rpm] | *2 | 800 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 430.0 | -- | -- | -- | -- | -- | -- | -- | |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- | |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 45.08 | 29.08 | 23.08 | 19.08 | 17.08 | 16.08 | 15.08 | |
| Reflected Inertia (≤Ø 48) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 67.08 | 51.08 | 45.08 | 42.08 | 39.08 | 38.08 | 37.08 | |
| Reflected Inertia (≤Ø 65) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 131.1 | 111.1 | 101.1 | 101.1 | 100.1 | 98.08 | 98.08 | |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | ≤ 1.5 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | ± 0.15 | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Weight | [kg] | -- | 383 | 419 | 419 | 419 | 419 | 419 | 419 | 419 | |
| Maximum Axial Load | [N] | -- | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | |
| Maximum Radial Load | [N] | -- | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | |
| Maximum Tilting Moment Load | [Nm] | -- | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | |
| Efficiency | [%] | -- | 80 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250V – 2-Stage and 3-Stage Specifications with VRB-180

| Frame Size | 250V | | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|--------|--------|--------|--------|--------|--|
| Stage | | | 2-Stage | 3-Stage | | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 | |
| Nominal Torque | [Nm] | *1 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | |
| Acceleration Torque | [Nm] | -- | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | |
| No Load Torque | [Nm] | *1 | 2.6 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Nominal Input Speed | [rpm] | *2 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | |
| Maximum Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- | |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 5.775 | 6.475 | 5.475 | 5.275 | 5.975 | 4.275 | 5.175 | |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | 15.08 | 13.08 | 14.08 | 13.08 | 13.08 | 14.08 | 12.08 | 13.08 | |
| Reflected Inertia (≤Ø 48) | [kg·m ² ×10 ⁻⁴] | *3 | 37.08 | 35.08 | 36.08 | 35.08 | 35.08 | 36.08 | 34.08 | 35.08 | |
| Reflected Inertia (≤Ø 65) | [kg·m ² ×10 ⁻⁴] | *3 | 97.08 | -- | -- | -- | -- | -- | -- | -- | |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | ≤ 1.5 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | ± 0.15 | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Weight | [kg] | -- | 419 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | |
| Maximum Axial Load | [N] | -- | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | |
| Maximum Radial Load | [N] | -- | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | |
| Maximum Tilting Moment Load | [Nm] | -- | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | |
| Efficiency | [%] | -- | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | | |

*1) At nominal input speed

*2) Speeds are at the actuator input. Limits when used with additional gearbox are higher

*3) At input shaft

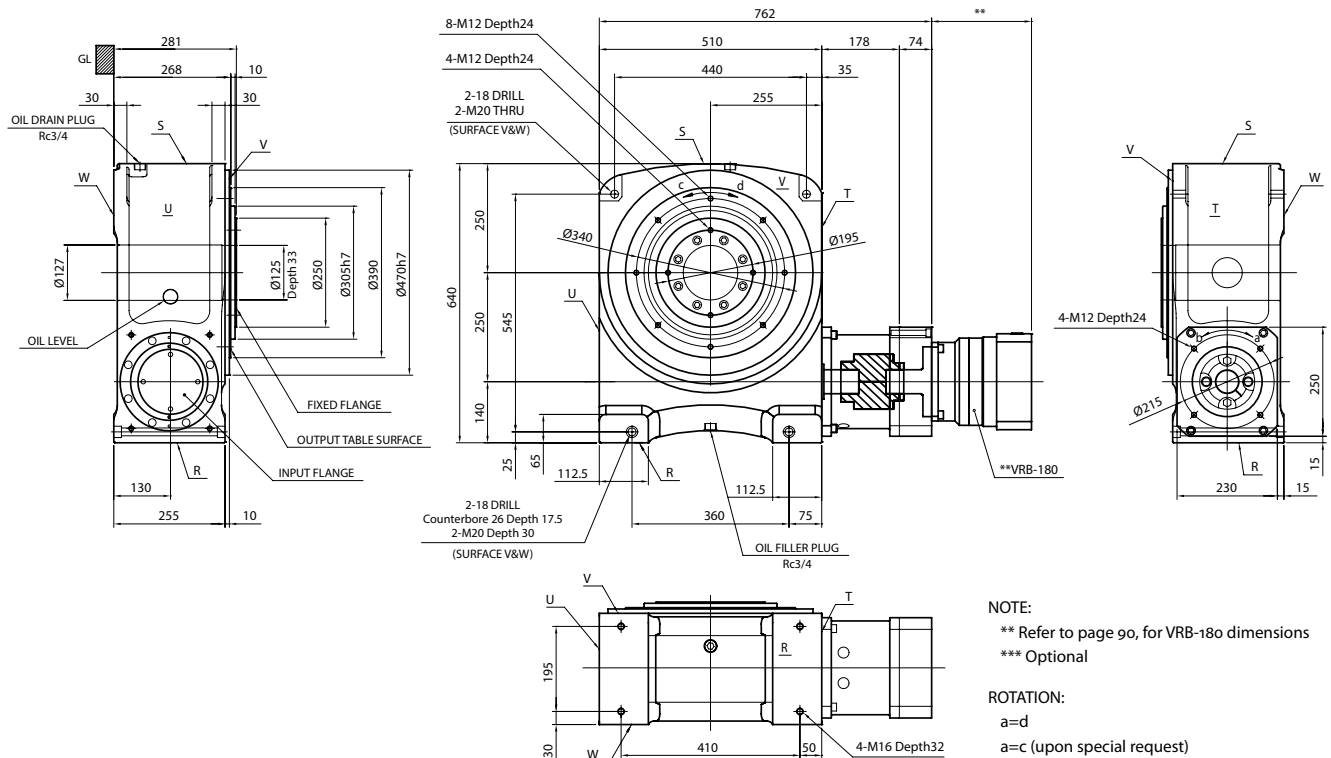
*4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250V – 3-Stage Specifications with VRB-180

| Frame Size | 250V | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 |
| Acceleration Torque | [Nm] | -- | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 |
| No Load Torque | [Nm] | *1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Nominal Input Speed | [rpm] | *2 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Maximum Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 4.275 | 5.075 | 4.175 | 4.175 | 4.175 | 4.175 | 4.175 | 4.175 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | 12.08 | 13.08 | 12.08 | 12.08 | 12.08 | 12.08 | 12.08 | 12.08 |
| Reflected Inertia (≤Ø 48) | [kg·m ² ×10 ⁻⁴] | *3 | 34.08 | 35.08 | 34.08 | 34.08 | 34.08 | 34.08 | 34.08 | 34.08 |
| Reflected Inertia (≤Ø 65) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 |
| Maximum Axial Load | [N] | -- | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 |
| Maximum Radial Load | [N] | -- | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 |
| Maximum Tilting Moment Load | [Nm] | -- | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 |
| Efficiency | [%] | -- | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250 Dimensions with VRB-180



STR

STR-250E – 1-Stage and 2-Stage Specifications with EVB-180

| Frame Size | 250E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|---------|---------|---------|---------|---------|---------|
| Stage | | | 1-Stage | 2-Stage | | | | | | |
| Ratio | Units | Notes | 20 | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| Nominal Torque | [Nm] | *1 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 |
| Acceleration Torque | [Nm] | -- | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 |
| No Load Torque | [Nm] | *1 | 14.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| Nominal Input Speed | [rpm] | *2 | 400 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Maximum Input Speed | [rpm] | *2 | 800 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | 430.041 | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 94.785 | 78.795 | 72.965 | 69.815 | 67.505 | 66.345 | 65.675 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 129.675 | 113.675 | 107.875 | 104.675 | 102.375 | 101.175 | 100.535 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 215.275 | 199.275 | 193.475 | 190.275 | 187.975 | 186.775 | 186.175 |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | ≤ 1.5 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | ± 0.15 | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 383 | 432 | 432 | 432 | 432 | 432 | 432 | 432 |
| Maximum Axial Load | [N] | -- | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 |
| Maximum Radial Load | [N] | -- | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 |
| Maximum Tilting Moment Load | [Nm] | -- | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 |
| Efficiency | [%] | -- | 80 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250E – 2-Stage and 3-Stage Specifications with EVB-180

| Frame Size | 250E | | | | | | | | | |
|--------------------------------|--|-------|-------------|---------|--------|--------|--------|--------|--------|--------|
| Stage | | | 2-Stage | 3-Stage | | | | | | |
| Ratio | Units | Notes | 200 | 300 | 320 | 400 | 500 | 560 | 600 | 700 |
| Nominal Torque | [Nm] | *1 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 |
| Acceleration Torque | [Nm] | -- | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 |
| No Load Torque | [Nm] | *1 | 11.5 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| Nominal Input Speed | [rpm] | *2 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Maximum Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | -- | 12.565 | 13.165 | 12.225 | 12.055 | 12.665 | 11.405 | 11.905 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 65.355 | 21.355 | 21.955 | 21.015 | 20.845 | 21.455 | 20.185 | 20.695 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 100.215 | 26.175 | 26.775 | 25.835 | 25.665 | 26.275 | 25.015 | 25.515 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | 185.775 | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | ≤ 1.5 | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | ± 0.15 | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 432 | 419 | 419 | 419 | 419 | 419 | 419 | 419 |
| Maximum Axial Load | [N] | -- | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 |
| Maximum Radial Load | [N] | -- | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 |
| Maximum Tilting Moment Load | [Nm] | -- | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 |
| Efficiency | [%] | -- | 72 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

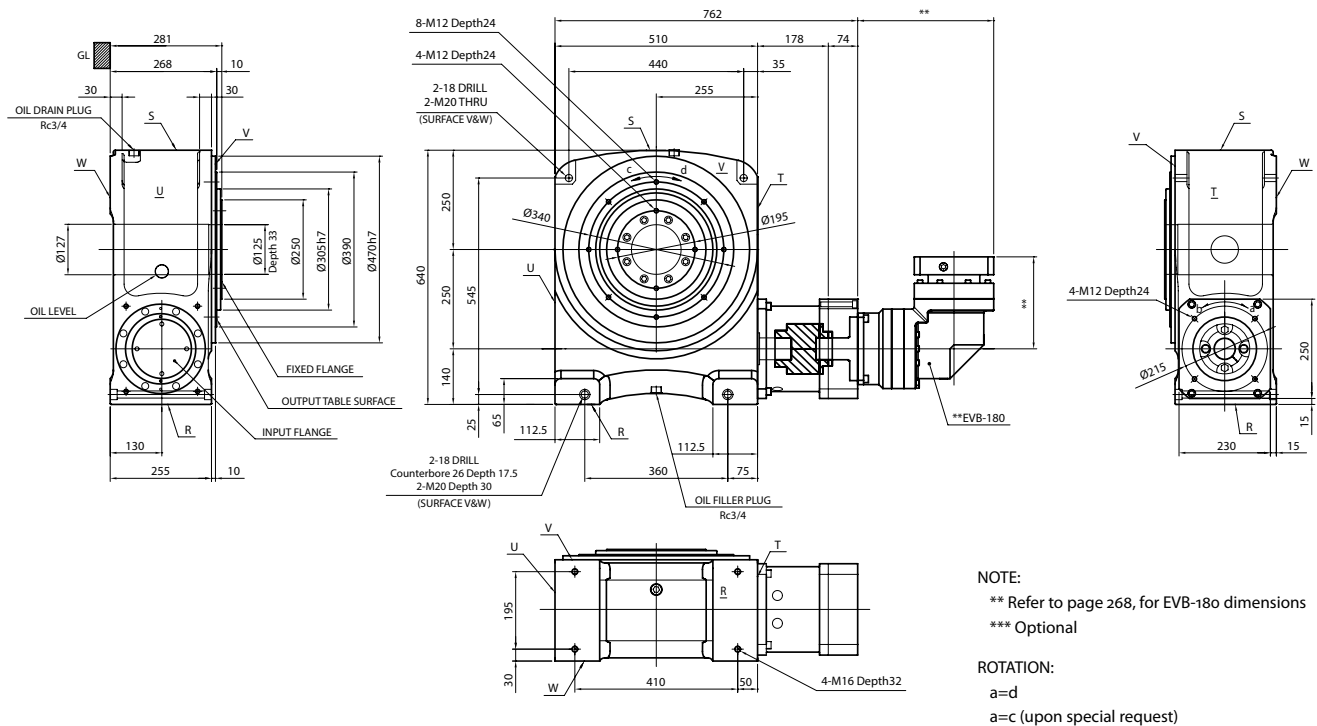
- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250E – 3-Stage Specifications with EVB-180

| Frame Size | 250E | | | | | | | | | |
|--------------------------------|--|-------|-------------|--------|--------|--------|--------|--------|--------|--------|
| Stage | 3-Stage | | | | | | | | | |
| Ratio | Units | Notes | 800 | 900 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Nominal Torque | [Nm] | *1 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 | 4006 |
| Acceleration Torque | [Nm] | -- | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 | 6072 |
| No Load Torque | [Nm] | *1 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| Nominal Input Speed | [rpm] | *2 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Maximum Input Speed | [rpm] | *2 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Reflected Inertia (Single) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Reflected Inertia (≤Ø 14) | [kg·m ² ×10 ⁻⁴] | *3 | 11.315 | 11.835 | 11.275 | 11.255 | 11.235 | 11.225 | 11.225 | 11.215 |
| Reflected Inertia (≤Ø 19) | [kg·m ² ×10 ⁻⁴] | *3 | 20.105 | 20.625 | 20.065 | 20.035 | 20.025 | 20.015 | 20.005 | 20.005 |
| Reflected Inertia (≤Ø 28) | [kg·m ² ×10 ⁻⁴] | *3 | 24.925 | 25.445 | 24.885 | 24.855 | 24.845 | 24.835 | 24.825 | 24.825 |
| Reflected Inertia (≤Ø 38) | [kg·m ² ×10 ⁻⁴] | *3 | -- | -- | -- | -- | -- | -- | -- | -- |
| Backlash | [arc/min] | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angular Transmission Accuracy | [arc/min] | -- | ≤ 1.5 | | | | | | | |
| Angular Repeatability Accuracy | [arc/min] | -- | ± 0.15 | | | | | | | |
| Surface Runout | [µm (max)] | -- | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Weight | [kg] | -- | 419 | 419 | 419 | 419 | 419 | 419 | 419 | 419 |
| Maximum Axial Load | [N] | -- | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 | 38051 |
| Maximum Radial Load | [N] | -- | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 | 11165 |
| Maximum Tilting Moment Load | [Nm] | -- | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 | 2478.6 |
| Efficiency | [%] | -- | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Protection Class | -- | *4 | IP54 (IP65) | | | | | | | |

- *1) At nominal input speed
- *2) Speeds are at the actuator input. Limits when used with additional gearbox are higher
- *3) At input shaft
- *4) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

STR-250 Dimensions with EVB-180



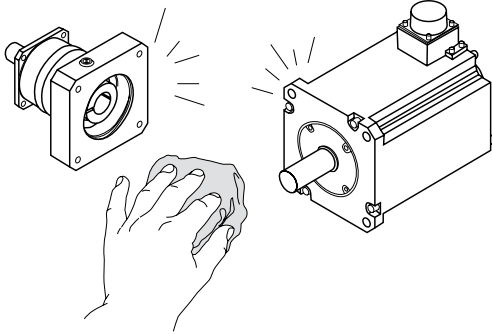
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Technical Information

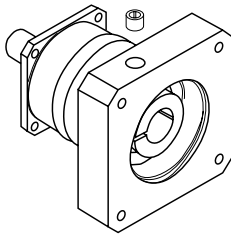
| | |
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| Installation Instructions..... | 364 |
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| Adapter Flange Codes..... | 366-369 |
| Selection Flow Charts..... | 370-371 |
| Online Sizing and Selection Tool | 372-373 |



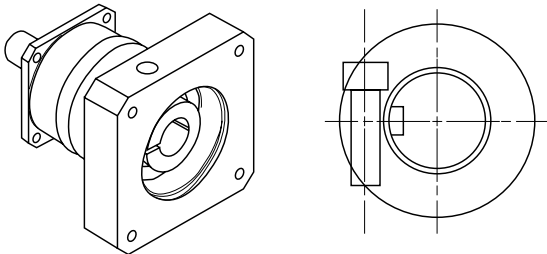
Mounting Procedure to Motor



1. Wipe off anti-rust agent and oil on the motor shaft.

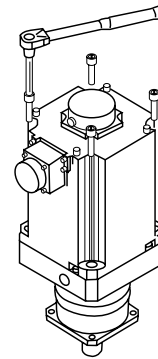


2. Remove the plug.



3. Turn the input shaft until the cap screw is seen. Make sure the cap screw is loosened. Place reducer vertically on the flat surface so the motor mounting part faces up.

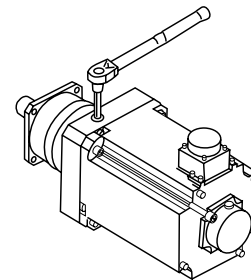
NOTE: In case the bushing has been attached, see reducer drawing example below to fix.



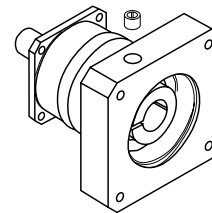
4. Carefully and gently insert the motor shaft into the input shaft. Make sure the motor flange is perfectly fit to the reducer's flange. Tighten the motor by installing and tightening bolts to the proper torque. (See table 1)

Reducer Installation

After confirming the installation surface is flat and clean, tighten the bolt using a torque wrench to the proper torque. (See table 2)



5. Tighten the clamping bolt of the input shaft with torque wrench to the proper torque. (See table 1)



6. Reinstall the plug. The procedure is complete.

Table 1

| Bolt Size | Motor Installing Bolts | | Clamping Bolts | |
|-----------|------------------------|------|----------------|------|
| | Nm | kgfm | Nm | kgfm |
| M3 | 1.1 | 0.11 | 1.9 | 0.18 |
| M4 | 2.5 | 0.26 | 4.3 | 0.44 |
| M5 | 5.1 | 0.52 | 8.7 | 0.89 |
| M6 | 8.7 | 0.89 | 15 | 1.5 |
| M8 | 21 | 2.1 | 36 | 3.7 |
| M10 | 42 | 4.3 | 71 | 7.2 |
| M12 | 72 | 7.3 | 125 | 13 |
| M16 | 134 | 14 | -- | -- |

Table 2

| Bolt Size | Tightening Torque | |
|-----------|-------------------|------|
| | Nm | kgfm |
| M3 | 1.9 | 0.18 |
| M4 | 4.3 | 0.44 |
| M5 | 8.7 | 0.89 |
| M6 | 15 | 1.5 |
| M8 | 36 | 3.7 |
| M10 | 71 | 7.2 |
| M12 | 125 | 13 |
| M16 | 310 | 32 |
| M20 | 603 | 62 |

* Recommended bolt: Strength 12.9

Cautions for Operation

- When the reducer is delivered to you, confirm that you received the exact model that you ordered.
Please wipe out the input and output shaft of the reducer which is covered by anti-corrosive oil.
 - * Remove rubber cap on the input shaft before you wipe the shafts.
 - * Lubricant (grease) is already filled in the reducer. The reducer is ready for operation out of the box.

Fixation and Installation

- Avoid use in places where rain or water drops directly, unless special wash down design.
 - In case of use outdoors or in a places where dust and water drops directly, consult SHIMPO in advance.
- Install at 0°~40°C of surrounding temperature.
 - In case of use at temperature out of the mentioned (0°~40°C) range, consult SHIMPO in advance.
- Firmly fix with a bolt onto a solid stand without vibration.
- Install in a convenient location for future repair and inspection.

Cautions Prior to Starting the Operation

- Reducer can be used on arrival, since it has already been filled with lubrication.
- At initial operation, check the rotating direction of the output shaft and then gradually apply load.

Cautions During Operation

- Avoid overload.
- Ensure that input speed shall not exceed the number of maximum revolutions per minute specified.
- In the event the following occurs, stop the operation and check the following points:
 - If temperature sharply increases
 - If an abnormal noise appears sharply
 - If the number of revolutions becomes unstable sharply
- In the event the following occurs, respond immediately to the issue or contact us as soon as possible.
 - Is it under overload condition?
 - Is lubricant insufficient or deteriorated, or was another lubricant applied?
 - Is the axis, gear, and/or motor input damaged?
 - Are any connections unstable?

Disassembly

- ABLE REDUCER is designed to not be disassembled.

Lubricant Use

- The ABLE REDUCER is of grease-seal type in all models.
A specified amount of grease is filled at factory release so you can use as soon as it is delivered to you.
- It is impossible to exchange grease.
- In case of use outside of the recommended temperature range, consult SHIMPO in advance.

Daily Check Points

- Is the reducer case temperature excessively high during operation? (Up to + 50°C is not significant.)
- Is there an abnormal noise in the bearing, gear, etc?
- Is there an abnormal vibration in the reducer?
 - * Upon an abnormal phenomenon, immediately stop the operation and contact us.
- Is there a lubricant leak?

Periodic Check Points

- Are there overload and abnormal rotation?
- Are free, sprocket, and reducer assembling bolts loose?
- Is there an abnormal condition in the electric system?
- Checkup and repair of major parts
 - * Upon an abnormal condition, immediately stop the operation and contact us.
- Oil leak
 - * Upon an oil leak, contact us.

Scrapping

Whenever scrapping the ABLE REDUCER, classify the parts by material into industrial wastes as specified in the laws and regulations of your local government. Materials of construction can be divided into the following four categories:

1. Rubber parts: Oil seal, seat packing, rubber cap, seal used for bearing on the motor flange, etc.
2. Aluminum parts: Motor flange, output shaft holder
3. Grease: Wipe off the grease from the individual parts with dry cloth and scrap into oils.
4. Iron parts: Parts other than those mentioned in the above

Adapter Flange Codes

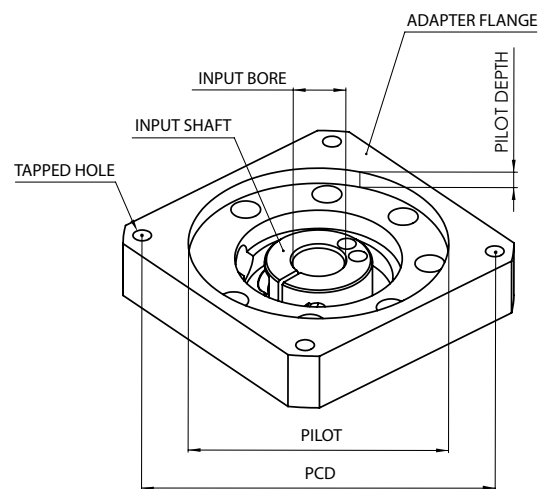
These tables provide an explanation for the adapter codes. The tables start with Input Bore measurement and the Part # Code, which are indicated at the end of every model code. For each Part # Code, the Pilot, PCD, Tapped Hole, and Pilot Depth, are explained.

Please note that even though the Part# Code may have the same letters (i.e. DC, FB, HA, etc), the Pilot and PCD dimensions may not be the same if a different input bore diameter. Locate the table by input bore diameter first, and then find the appropriate adapter Part# Code to check the dimensions. If you have any questions, contact SIT S.P.A. for support.

| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 65 | MA | 114.3 | 200 | M12 | 8 |
| 65 | MB | 200 | 235 | M12 | 8 |
| 65 | MC | 180 | 215 | M12 | 8 |
| 65 | MD | 180 | 265 | M12 | 8 |
| 65 | NA | 230 | 265 | M12 | 8 |
| 65 | NB | 230 | 265 | M12 | 18 |
| 65 | NC | 230 | 290 | M12 | 8 |
| 65 | ND | 230 | 265 | M20 | 18 |
| 65 | PA | 250 | 300 | M16 | 8 |
| 65 | PB | 250 | 320 | M16 | 18 |
| 65 | QA | 300 | 350 | M16 | 8 |
| 65 | QB | 280 | 325 | M16 | 8 |

| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 48 | KA | 114.3 | 200 | M12 | 8 |
| 48 | KB | 110 | 130 | 8.8 | 8 |
| 48 | KC | 130 | 215 | M12 | 8 |
| 48 | LA | 180 | 215 | M12 | 8 |
| 48 | MA | 180 | 265 | M12 | 8 |
| 48 | MB | 200 | 235 | M12 | 8 |
| 48 | NA | 230 | 265 | M12 | 8 |
| 48 | PA | 250 | 300 | M16 | 8 |

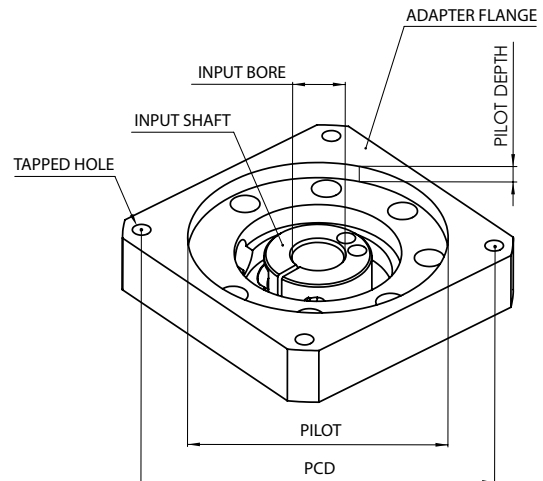
| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 38 | HA | 110 | 130 | 8.8 | 8 |
| 38 | HB | 110 | 145 | M8 | 8 |
| 38 | HE | 110 | 130 | M8 | 8 |
| 38 | JA | 130 | 165 | M10 | 8 |
| 38 | KA | 114.3 | 200 | M12 | 8 |
| 38 | KB | 130 | 215 | M10 | 8 |
| 38 | KC | 130 | 215 | M12 | 8 |
| 38 | KD | 95 | 200 | M10 | 18 |
| 38 | KE | 114.3 | 200 | M12 | 18 |
| 38 | LA | 180 | 215 | M12 | 8 |
| 38 | LB | 180 | 215 | M12 | 18 |
| 38 | MA | 180 | 265 | M12 | 8 |
| 38 | MB | 200 | 235 | M12 | 8 |
| 38 | MC | 215.9 | 184.15 | 13.7 | 5.5 |
| 38 | MD | 200 | 250 | M8 | 18 |
| 38 | NA | 230 | 265 | M12 | 8 |



Adapter Flange Codes

| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 28 | FA | 80 | 100 | M6 | 8 |
| 28 | FB | 95 | 115 | M6 | 8 |
| 28 | FC | 95 | 115 | M8 | 8 |
| 28 | FD | 95 | 115 | M6 | 8 |
| 28 | FE | 95 | 115 | M8 | 8 |
| 28 | GA | 55.563 | 125.73 | M6 | 8 |
| 28 | GB | 63.5 | 127 | M6 | 8 |
| 28 | GC | 95 | 130 | M8 | 8 |
| 28 | GD | 110 | 130 | M8 | 8 |
| 28 | GE | 110 | 130 | M10 | 8 |
| 28 | GF | 110 | 130 | 8.8 | 8 |
| 28 | GG | 110 | 135 | M8 | 8 |
| 28 | GH | 95 | 135 | M8 | 8 |
| 28 | HA | 110 | 145 | M8 | 8 |
| 28 | HB | 110 | 145 | M8 | 18 |
| 28 | HC | 110 | 145 | 10.5 | 8 |
| 28 | HD | 114.3 | 149.23 | 10.5 | 8 |
| 28 | HE | 95 | 145 | M8 | 18 |
| 28 | HF | 110 | 145 | M8 | 8 |
| 28 | JA | 110 | 165 | M8 | 8 |
| 28 | JB | 110 | 165 | M10 | 8 |
| 28 | JC | 130 | 165 | M10 | 8 |
| 28 | JD | 130 | 174 | M10 | 28 |
| 28 | JE | 130 | 165 | M10 | 18 |
| 28 | JF | 114.3 | 160 | M10 | 8 |
| 28 | KA | 114.3 | 200 | M12 | 8 |
| 28 | KB | 130 | 215 | M10 | 8 |
| 28 | KD | 114.3 | 200 | M12 | 18 |
| 28 | KE | 150 | 185 | M10 | 8 |
| 28 | LA | 180 | 215 | M12 | 8 |
| 28 | LB | 180 | 220 | M12 | 18 |
| 28 | MA | 200 | 235 | M12 | 8 |
| 28 | MB | 200 | 250 | M8 | 18 |

| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 19 | DA | 60 | 90 | M5 | 6 |
| 19 | DB | 70 | 90 | M5 | 6 |
| 19 | DC | 70 | 90 | M6 | 6 |
| 19 | DD | 70 | 90 | M6 | 16 |
| 19 | DE | 70 | 90 | M5 | 11 |
| 19 | EA | 73.025 | 98.43 | M5 | 11 |
| 19 | EB | 80 | 100 | M6 | 6 |
| 19 | EC | 80 | 100 | M6 | 16 |
| 19 | ED | 60 | 98.99 | M6 | 6 |
| 19 | FA | 95 | 115 | M8 | 6 |
| 19 | FB | 95 | 115 | M8 | 16 |
| 19 | GA | 55.563 | 125.73 | M6 | 11 |
| 19 | GB | 95 | 130 | M8 | 6 |
| 19 | GC | 110 | 130 | M8 | 11 |
| 19 | GD | 110 | 130 | 8.8 | 6 |
| 19 | GE | 95 | 130 | M8 | 16 |
| 19 | GF | 100 | 125 | M8 | 16 |
| 19 | GH | 95 | 135 | M8 | 11 |
| 19 | HA | 110 | 145 | M8 | 6 |
| 19 | HB | 110 | 145 | M8 | 21 |
| 19 | HC | 110 | 145 | 10.5 | 11 |
| 19 | HD | 114.3 | 149.23 | M8 | 11 |
| 19 | HE | 114.3 | 149.23 | 10.5 | 11 |
| 19 | JA | 130 | 165 | M10 | 16 |
| 19 | JB | 115 | 165 | M8 | 21 |



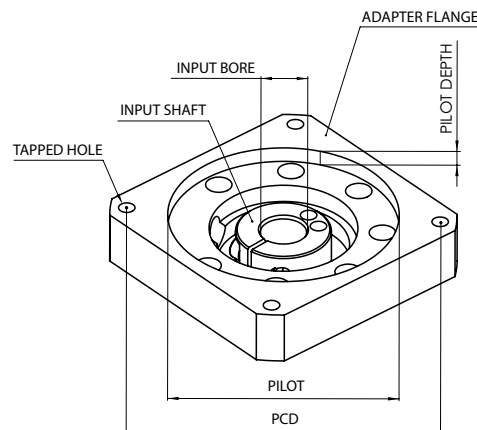
Adapter Flange Codes

These tables provide an explanation for the adapter codes. The tables start with Input Bore measurement and the Part # Code, which are indicated at the end of every model code. For each Part # Code, the Pilot, PCD, Tapped Hole, and Pilot Depth, are explained.

Please note that even though the Part# Code may have the same letters (i.e. DC, FB, HA, etc), the Pilot and PCD dimensions may not be the same if a different input bore diameter. Locate the table by input bore diameter first, and then find the appropriate adapter Part# Code to check the dimensions. If you have any questions, contact SIT S.P.A. for support.

| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 14 | BA | 38.1 | 66.68 | M4 | 5 |
| 14 | BB | 38.1 | 66.68 | M5 | 5 |
| 14 | BC | 38.1 | 66.68 | M5 | 10 |
| 14 | BD | 40 | 63 | M4 | 5 |
| 14 | BE | 40 | 63 | M5 | 5 |
| 14 | BF | 40 | 65 | M5 | 5 |
| 14 | BG | 40 | 70 | M4 | 5 |
| 14 | BH | 50 | 60 | M4 | 10 |
| 14 | BJ | 50 | 70 | M4 | 5 |
| 14 | BK | 50 | 70 | M5 | 5 |
| 14 | BL | 50 | 70 | M5 | 15 |
| 14 | BM | 50 | 70 | M5 | 10 |
| 14 | BN | 50 | 70 | M4 | 10 |
| 14 | BP | 36 | 70.71 | M4 | 5 |
| 14 | CA | 60 | 75 | M5 | 5 |
| 14 | CB | 60 | 75 | M6 | 10 |
| 14 | CC | 60 | 80 | M4 | 5 |
| 14 | DA | 50 | 95 | M6 | 5 |
| 14 | DB | 60 | 85 | M5 | 5 |
| 14 | DC | 60 | 90 | M5 | 5 |
| 14 | DD | 70 | 85 | 6.5 | 5 |
| 14 | DE | 70 | 90 | M5 | 10 |
| 14 | DF | 70 | 90 | M6 | 5 |

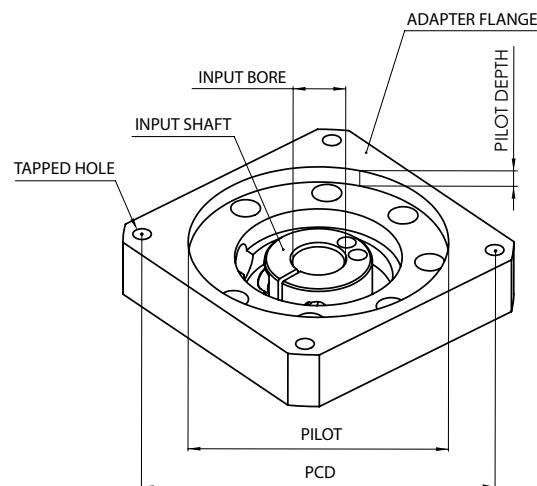
| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 14 | DG | 70 | 90 | M6 | 15 |
| 14 | DH | 70 | 95 | M6 | 5 |
| 14 | DJ | 60 | 95 | M5 | 5 |
| 14 | DK | 36.8 | 82.024 | M6 | 15 |
| 14 | DL | 62 | 91.924 | M5 | 10 |
| 14 | EA | 50 | 100 | M6 | 5 |
| 14 | EB | 73.025 | 98.43 | M5 | 5 |
| 14 | EC | 80 | 100 | M6 | 5 |
| 14 | ED | 80 | 100 | M6 | 15 |
| 14 | EE | 73.025 | 98.43 | M6 | 15 |
| 14 | EF | 50 | 98.43 | M5 | 5 |
| 14 | EG | 60 | 98.995 | M5 | 5 |
| 14 | EH | 80 | 105 | M6 | 15 |
| 14 | EJ | 60 | 98.995 | M6 | 10 |
| 14 | EK | 73.025 | 98.43 | M6 | 5 |
| 14 | EL | 73 | 94 | M6 | 5 |
| 14 | EM | 83 | 104 | M8 | 10 |
| 14 | FA | 60 | 115 | M6 | 5 |
| 14 | FB | 95 | 115 | M8 | 15 |
| 14 | GA | 80 | 139.7 | M6 | 5 |
| 14 | GB | 80 | 130 | M5 | 20 |
| 14 | GC | 94 | 120 | M8 | 10 |
| 14 | JA | 115 | 165 | M8 | 10 |



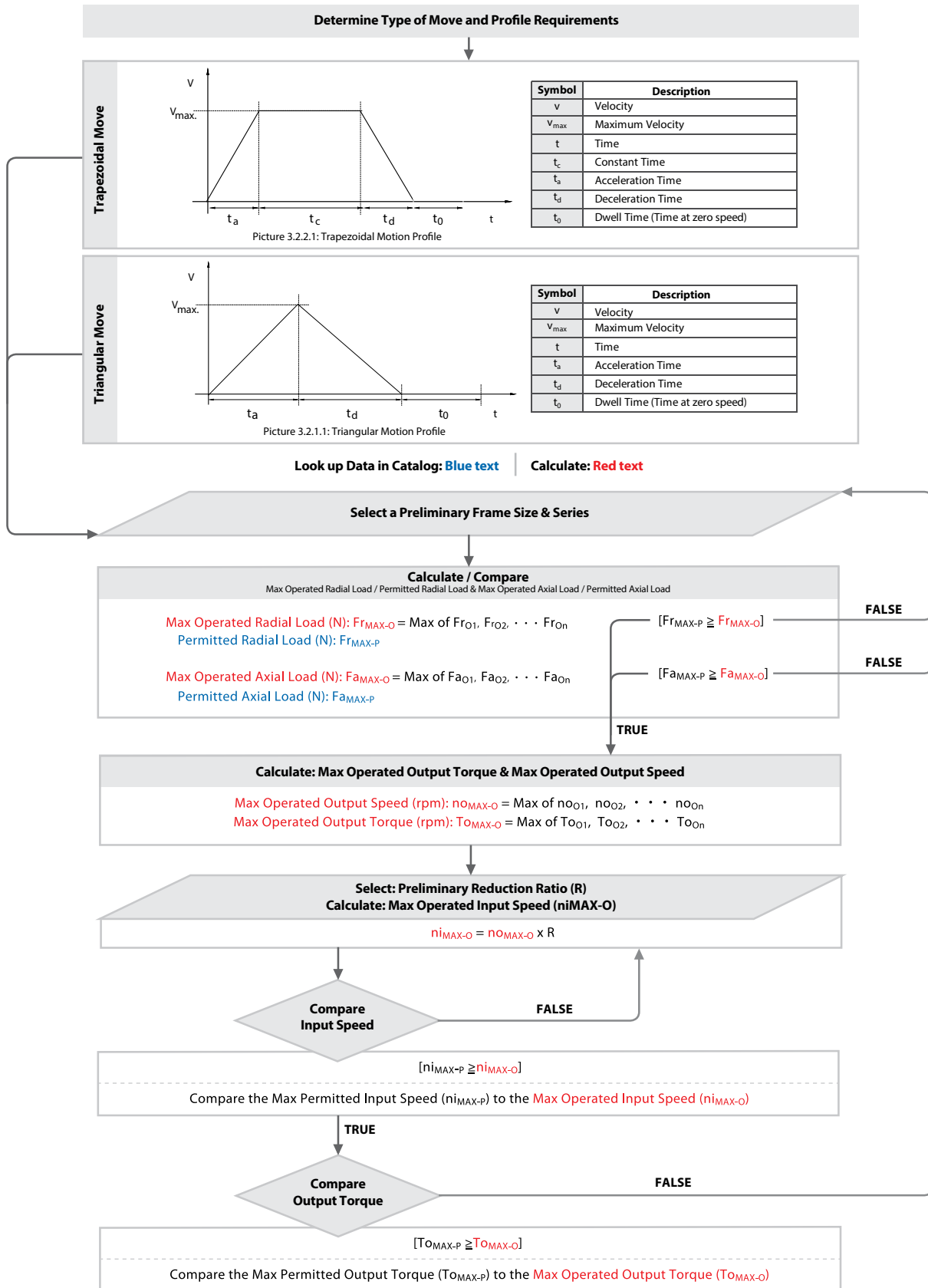
Adapter Flange Codes

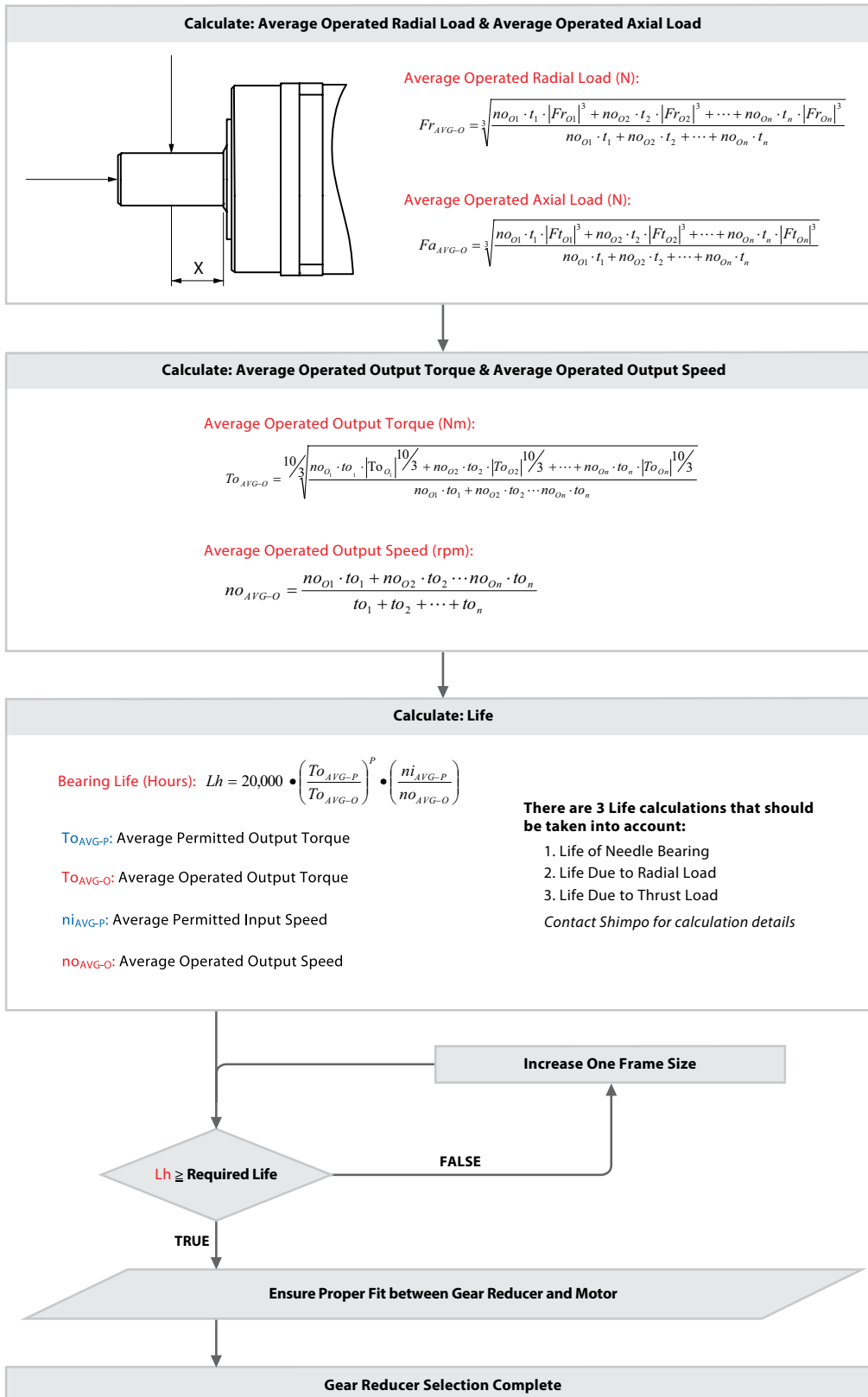
| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| 8 | AA | 20.02 | 46.69 | M3 | 5 |
| 8 | AB | 22 | 43.82 | 4.7 | 10 |
| 8 | AC | 22 | 48 | M3 | 5 |
| 8 | AD | 22.22 | 50.8 | M3 | 5 |
| 8 | AE | 25.4 | 38.89 | 4 | 10 |
| 8 | AF | 30 | 45 | M3 | 5 |
| 8 | AG | 30 | 46 | M4 | 5 |
| 8 | AH | 30 | 46 | M4 | 10 |
| 8 | AJ | 30 | 46 | 3.5 | 10 |
| 8 | AK | 34 | 48 | M3 | 10 |
| 8 | AL | 30 | 48 | M3 | 5 |
| 8 | AM | 22 | 43.82 | 3.5 | 5 |
| 8 | AN | 40 | 50 | M4 | 5 |
| 8 | AQ | 37.6 | 48 | M3 | 5 |
| 8 | BA | 38.1 | 66.68 | M4 | 5 |
| 8 | BB | 38.1 | 66.68 | M5 | 5 |
| 8 | BC | 50 | 60 | M4 | 10 |
| 8 | BD | 50 | 70 | M4 | 5 |
| 8 | BE | 50 | 70 | M5 | 5 |
| 8 | BF | 50 | 70 | M5 | 10 |
| 8 | BG | 36 | 70.71 | M4 | 5 |
| 8 | BH | 54 | 70 | M4 | 5 |
| 8 | BJ | 50 | 58 | M3 | 5 |
| 8 | CA | 50 | 80 | M4 | 10 |

| Input Bore (mm) | Part# Code | Pilot (mm) | PCD (mm) | Tapped Hole | Pilot Depth (mm) |
|-----------------|------------|------------|----------|-------------|------------------|
| S8 | ZA | 20.02 | 46.69 | M3 | 5 |
| S8 | ZB | 22 | 43.82 | 4.7 | 10 |
| S8 | ZC | 22 | 48 | M3 | 5 |
| S8 | ZD | 22.22 | 50.8 | M3 | 5 |
| S8 | ZE | 25.4 | 38.89 | 4 | 10 |
| S8 | ZF | 30 | 45 | M3 | 5 |
| S8 | ZG | 30 | 46 | M4 | 5 |
| S8 | ZH | 30 | 46 | M4 | 10 |
| S8 | ZJ | 30 | 46 | 3.5 | 10 |
| S8 | ZK | 34 | 48 | M3 | 10 |
| S8 | ZL | 30 | 48 | M3 | 5 |
| S8 | ZM | 22 | 43.82 | 3.5 | 5 |
| S8 | ZN | 40 | 50 | M4 | 5 |
| S8 | ZQ | 37.6 | 48 | M3 | 5 |
| S8 | BA | 38.1 | 66.68 | M4 | 5 |
| S8 | BB | 38.1 | 66.68 | M5 | 5 |
| S8 | BC | 50 | 60 | M4 | 10 |
| S8 | BD | 50 | 70 | M4 | 5 |
| S8 | BE | 50 | 70 | M5 | 5 |
| S8 | BF | 50 | 70 | M5 | 10 |
| S8 | BG | 36 | 70.71 | M4 | 5 |
| S8 | BH | 54 | 70 | M4 | 5 |
| S8 | BJ | 50 | 58 | M3 | 5 |



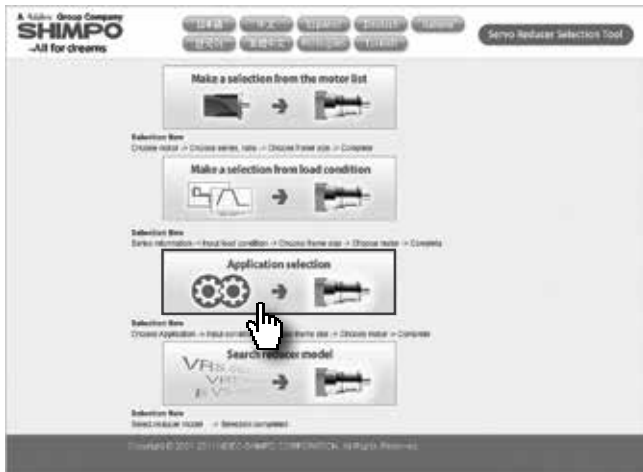
Procedure for Gear Reducer Selection





SHIMPO's online Selection Tool offers additional information that exceeds this catalog. The online Selection Tool has an extensive list of Servo Motor Specifications, Requirements and Application Specifications. See the Selection Tool example screens below to guide, support and help you with your application needs.

Selection Tool Screen Example 1



- Selection based on the Servo Motor Specifications
- Selection based on the Servo Motor Movement profile requirements
- Selection based on the Application Specifications includes all the above

Selection Tool Screen Example 3



- Fill in all the information for your application

| Load condition | | |
|-----------------|----|---------|
| Delivery weight | Ww | 10 (kg) |
| Belt weight | Wc | 1 (kg) |

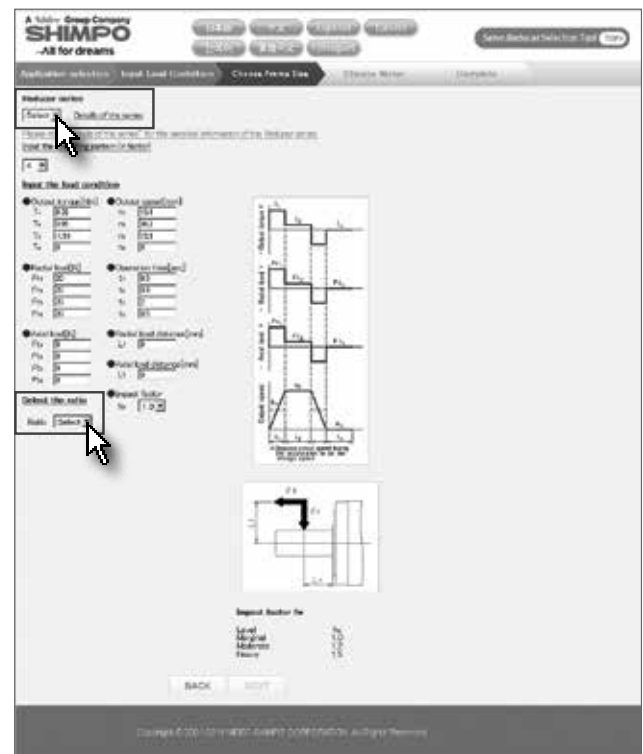
- Including the velocity, forces, mass, and move profile

Selection Tool Screen Example 2



- Select a application template based on your criteria

Selection Tool Screen Example 4



- Select a SHIMPO Reducer Series
- Select a Ratio that would put you near the rpm range for your application

Selection Tool Screen Example 5



- The proper SHIMPO reducer frame size has been selected based on your application's criteria

Selection Tool Screen Example 6



- Select the Motor Manufacturer for your application from the list
- Select the appropriate motor via the "Motor Model" drop down box"
- The manufacture Motor Model list includes new and former servo motors
- The sizing program does not select the servo motor drive

Selection Tool Screen Example 7



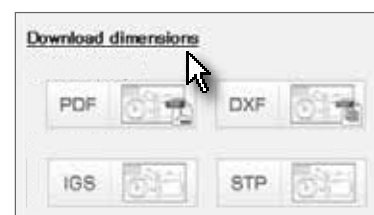
The resulting Load Condition can be helpful for sizing other related machine components

The Load Condition includes:

- Output Torque (Nm) and Output Velocity (rpm) of the Gearmotor

| Load condition | |
|-----------------------|--------|
| Average output torque | 5 Nm |
| Maximum output torque | 8 Nm |
| Average output speed | 21 rpm |
| Maximum output speed | 38 rpm |
| Average radial load | 20 N |
| Maximum radial load | 20 N |
| Average axial load | 30 N |
| Maximum axial load | 30 N |

- These drawing formats can be downloaded: PDF, DXF, IGS, STP

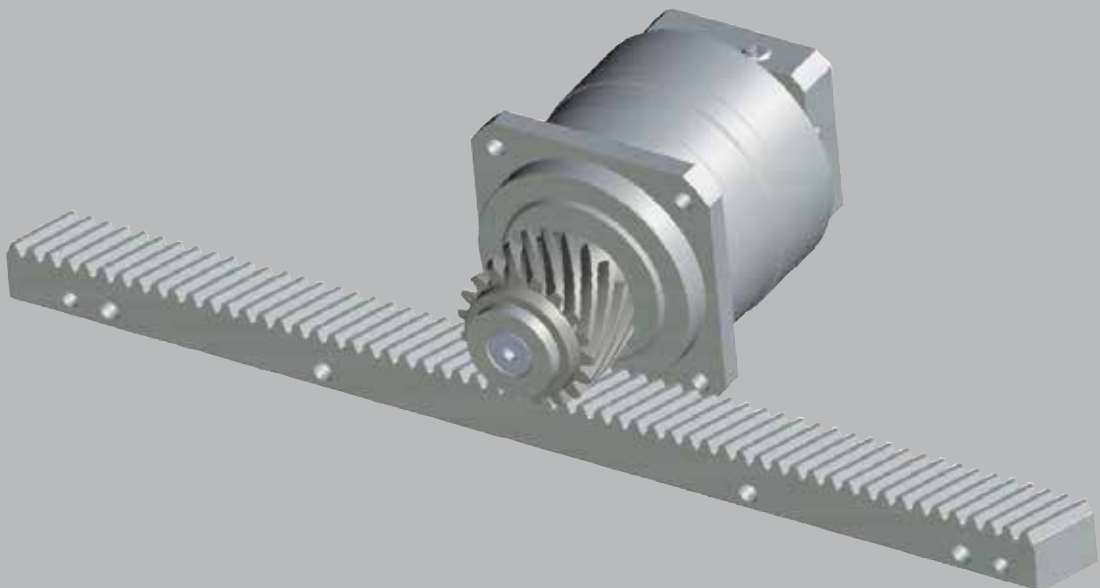


Selection tool www.nidec-shimpo.co.jp/selection/eng

RACK & PINION

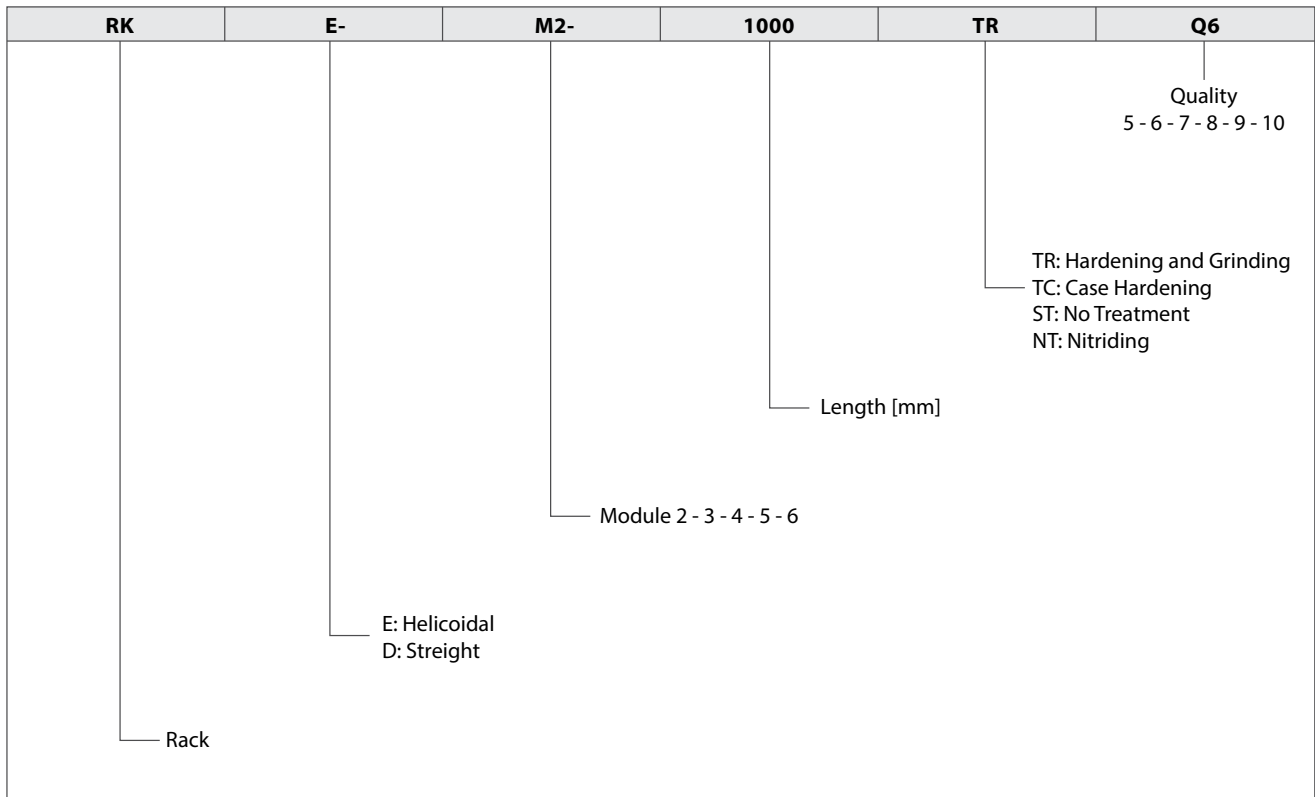
By shrinking the pinion with helical teeth, hardened and ground, through advanced technologies, or with SIT-LOCK® locking device, we are able to propose a system of power transmission compact and quiet.

Thanks to precise mating pinion racks with helical teeth hardened and ground, made in different materials and heat treatments designed for every need technical application, we are able to meet the increasingly high demands in terms of dynamics and precision.

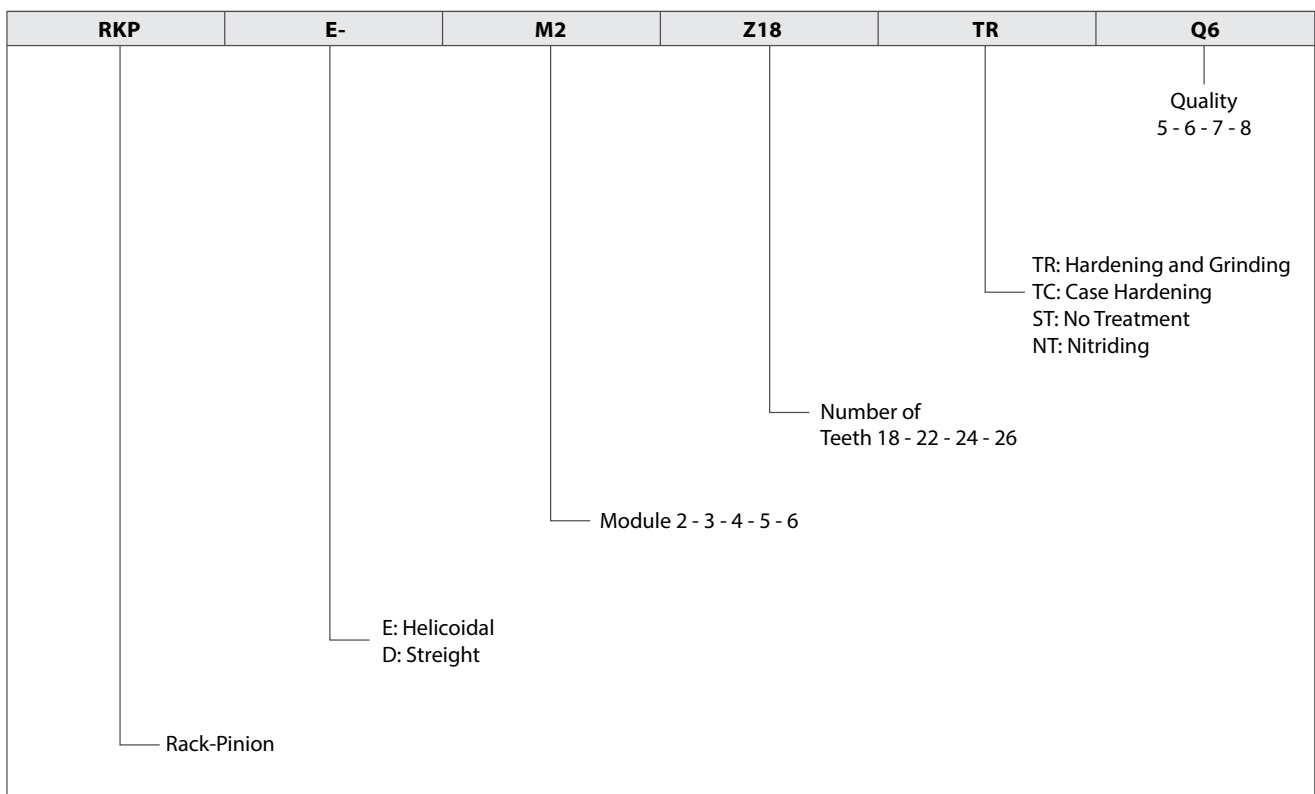


Rack & Pinion

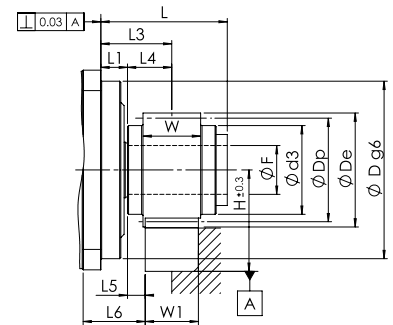
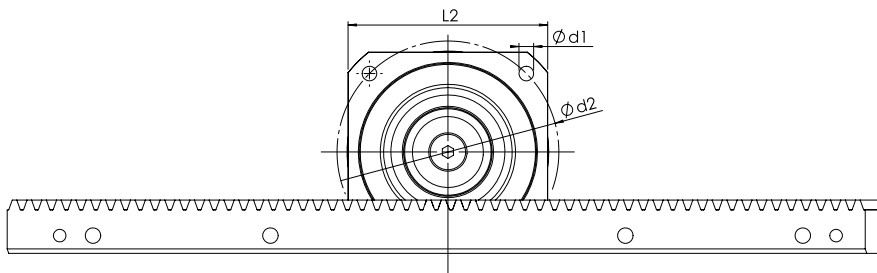
Rack – Model Code



Rack & Pinion – Model Code



Rack & Pinion transmission system precise and compact

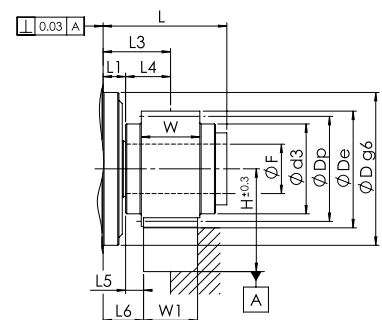
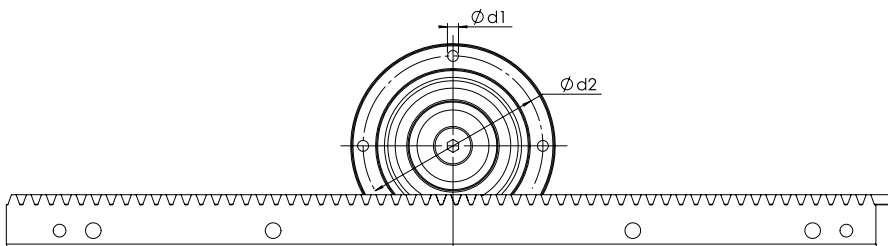


VRB Series

| Size | M | z | H* [mm] | W [mm] | W1 [mm] | De [mm] | Dp [mm] | x [mm] | D g6 [mm] | d1 [mm] | d2 [mm] | d3 [mm] | L1 [mm] | L2 [mm] | L [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | ØF [mm] | Pinion Weight [Kg] |
|---------|---|----|---------|--------|---------|---------|---------|--------|-----------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------------------|
| VRB060B | 2 | 18 | 41,89 | 26 | 24 | 43,7 | 38,197 | 0,4 | 50 | 5,5 | 70 | 30 | 9 | 60 | 43 | 28 | 19 | 7 | 16 | 16 | 0,2 |
| VRB090B | 2 | 22 | 45,73 | 26 | 24 | 51,4 | 46,686 | 0,2 | 80 | 6,6 | 100 | 40 | 12 | 90 | 55 | 32 | 20 | 8 | 20 | 22 | 0,4 |
| VRB115B | 2 | 26 | 49,58 | 26 | 24 | 59,1 | 55,174 | 0 | 110 | 9 | 130 | 45 | 7 | 115 | 74 | 28 | 21 | 9 | 16 | 32 | 0,5 |
| VRB140B | 3 | 24 | 64,19 | 31 | 29 | 82,3 | 76,395 | 0 | 130 | 11 | 165 | 58 | 15 | 140 | 107 | 50,5 | 35,5 | 21 | 36 | 40 | 1,2 |

VRS Series

| Size | M | z | H [mm] | W [mm] | W1 [mm] | De [mm] | Dp [mm] | x [mm] | D g6 [mm] | d1 [mm] | d2 [mm] | d3 [mm] | L1 [mm] | L2 [mm] | L [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | ØF [mm] | Pinion Weight [Kg] |
|---------|---|----|--------|--------|---------|---------|---------|--------|-----------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------------------|
| VRS060B | 2 | 18 | 41,89 | 26 | 24 | 43,7 | 38,197 | 0,4 | 60 | 5,5 | 68 | 30 | 20 | 60 | 54 | 39 | 19 | 7 | 27 | 16 | 0,2 |
| VRS075B | 2 | 22 | 45,73 | 26 | 24 | 51,4 | 46,686 | 0,2 | 70 | 6,6 | 85 | 40 | 20 | 75 | 63 | 40 | 20 | 8 | 28 | 22 | 0,4 |
| VRS100B | 2 | 26 | 49,58 | 26 | 24 | 59,1 | 55,174 | 0 | 90 | 9 | 120 | 45 | 30 | 100 | 97 | 51 | 21 | 9 | 39 | 32 | 0,5 |
| VRS140B | 3 | 24 | 64,19 | 31 | 29 | 82,3 | 76,395 | 0 | 130 | 11 | 165 | 58 | 30 | 140 | 122 | 65,5 | 35,5 | 21 | 51 | 40 | 1,2 |



VRL Series

| Size | M | z | H* [mm] | W [mm] | W1 [mm] | De [mm] | Dp [mm] | x [mm] | D g6 [mm] | d1 [mm] | d2 [mm] | d3 [mm] | L1 [mm] | L [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | ØF [mm] | Pinion Weight [Kg] |
|---------|---|----|---------|--------|---------|---------|---------|--------|-----------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------------------|
| VRL070B | 2 | 18 | 41,89 | 26 | 24 | 43,7 | 38,197 | 0,4 | 52 | M5 | 62 | 30 | 8 | 42 | 27 | 19 | 7 | 15 | 16 | 0,2 |
| VRL090B | 2 | 22 | 45,73 | 26 | 24 | 51,4 | 46,686 | 0,2 | 68 | M6 | 80 | 40 | 10 | 53 | 30 | 20 | 8 | 18 | 22 | 0,4 |
| VRL120B | 2 | 26 | 49,58 | 26 | 24 | 59,1 | 55,174 | 0 | 90 | M8 | 108 | 45 | 12 | 79 | 33 | 21 | 9 | 21 | 32 | 0,5 |
| VRL155B | 3 | 24 | 64,19 | 31 | 29 | 82,3 | 76,395 | 0 | 120 | M10 | 140 | 58 | 15 | 107 | 50,5 | 35,5 | 21 | 36 | 40 | 1,2 |

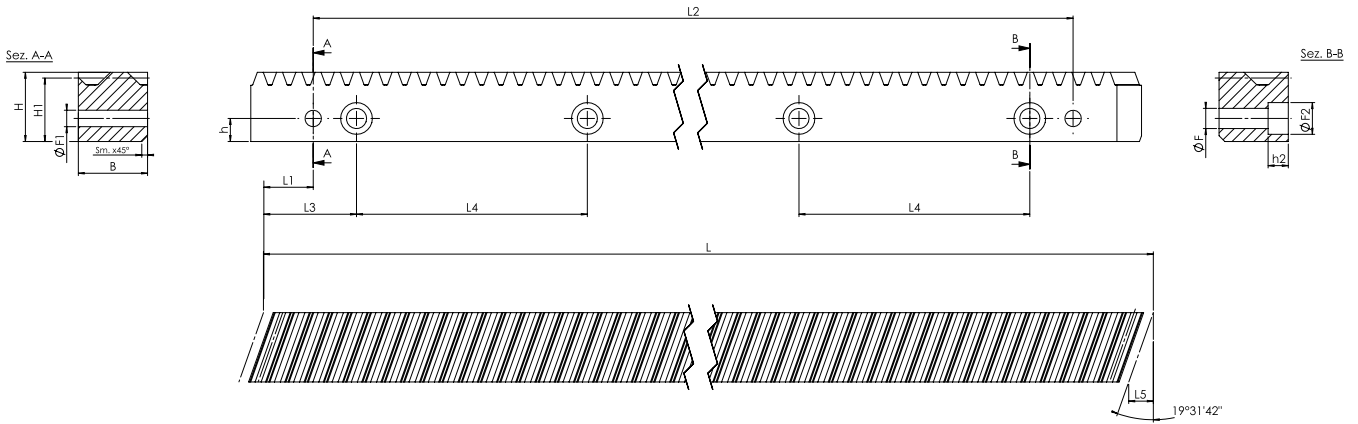
z: Number of teeth
 De: External diameter
 D: Primitive diameter
 x: Correction profile

* We recommend the use of alignment device (tolerance ± 0.3 mm)
 Pressure angle $\alpha = 20^\circ$
 Helical inclination $\beta = 19^\circ 31' 42''$ left

| Model frame size | M | Z | Ø Hole [mm] | Motor speed [min ⁻¹] | Ratio | Moving force [N] | Torque [Nm] | Speed [m/min.] | Weight [kg] |
|-------------------------------|---|----|-------------|----------------------------------|-------|------------------|-------------|----------------|-------------|
| VRS060B VRL070B VRB060B | 2 | 18 | 16 | 6000 | 3 | 950 | 18 | 240 | 0,2 |
| VRS075B VRL090B VRB090B | 2 | 22 | 22 | 6000 | 3 | 2150 | 50 | 293 | 0,4 |
| VRS100B VRL120B VRB115B | 2 | 26 | 32 | 6000 | 3 | 4350 | 120 | 346 | 0,5 |
| VRS140B VRL155B VRB140B | 3 | 24 | 40 | 6000 | 3 | 6300 | 240 | 320 | 1,2 |

| Material | Heat treatment | HRC | Quality | Surface |
|---------------|--|-------|-----------|----------|
| 16 Ni Cr Mo 5 | Case hardening and induction hardening | 60 | Q5- Q6-Q7 | Grinding |
| 18 Ni Cr Mo 5 | Case hardening and induction hardening | 60 | Q5-Q6-Q7 | Grinding |
| C 45 | Induction hardening | 55-57 | Q6-Q7 | Grinding |
| 31 Cr Mo 12 | Nitriding | 55 | Q8 | Milling |

Precision helicoidal teeth



| M | Pt [mm] | Single step error [mm] | Total step error [mm] | L [mm] | Z | L ₁ * [mm] | L ₂ [mm] | B [mm] | F [mm] | F ₁ [mm] | F ₂ [mm] | Sm. ^{+0.5} [mm] | H1 [mm] | h [mm] | h ₂ [mm] | H [mm] | L ₃ [mm] | L ₄ [mm] | L ₅ [mm] | Weight [Kg] |
|---|---------|------------------------|-----------------------|--------|-----|-----------------------|---------------------|--------|--------|---------------------|---------------------|--------------------------|---------|--------|---------------------|--------|---------------------|---------------------|---------------------|-------------|
| 2 | 6,67 | 0,008 | 0,035 | 1000 | 150 | 31,7 | 936,6 | 24 | 7 | 5,7 | 11 | 2 | 22 | 8 | 7 | 24 | 62,5 | 125 | 8,5 | 4 |
| 3 | 10 | 0,009 | 0,035 | 1000 | 100 | 35 | 930 | 29 | 10 | 7,7 | 15 | 2 | 26 | 9 | 9 | 29 | 62,5 | 125 | 10,3 | 5,6 |
| 4 | 13,33 | 0,009 | 0,035 | 1000 | 75 | 33,3 | 933,4 | 39 | 10 | 7,7 | 15 | 3 | 35 | 12 | 9 | 39 | 62,5 | 125 | 13,8 | 10,3 |
| 5 | 16,67 | 0,01 | 0,040 | 1000 | 60 | 37,5 | 925 | 49 | 14 | 11,7 | 20 | 3 | 34 | 12 | 13 | 39 | 62,5 | 125 | 17,4 | 12,2 |
| 6 | 20 | 0,01 | 0,040 | 1000 | 50 | 37,5 | 925 | 59 | 18 | 15,7 | 26 | 3 | 43 | 16 | 17 | 49 | 62,5 | 125 | 20,9 | 18,3 |

* The installation of more racks determines the presence of gaps between the segments

Pt: Transverse Pitch

| Material | Heat treatment | HRC | Quality | Surface |
|-------------|--|-------|---------|----------|
| 16 Mn Cr 5 | Case hardening and induction hardening | 58-60 | Q5- Q6 | Grinding |
| C 45 | Induction hardening | 55-57 | Q6-Q7 | Grinding |
| C 45 | Induction hardening | 55-57 | Q8 | Milling |
| 42 Cr Mo 4 | No treatment | - | Q8 | Milling |
| 31 Cr Mo 12 | Nitriding | 55 | Q8 | Milling |
| C 45 | No treatment | - | Q9-Q10 | Milling |

Solutions that **change** the mechatronic **world.**





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