Precision Reduction Gear RV™
Low-profile Gearhead

RS SERIES

New
Release

Nabtesco
**Features**

### Maximum ease of use

1. The hollow construction allows cables to pass through the reduction gear.
2. The servomotor shaft (input shaft) is positioned at a right angle to reduce the height from the base.
3. RS series gears can be installed with servomotors for most manufacturers.
4. All RS series gears are provided pre-greased.
5. The use of a specialized input spline and motor flange means motors can be easily attached and detached.

### High reliability

#### High rigidity

- Demonstrates extremely high resistance to twisting (torsional rigidity)

#### High precision

- Achieves minimal backlash (1 arc.min)
- Produces a high torque density from a small body

### Heavy load support

A set of internal main bearings (large, angular ball bearings) provides complete support of heavy external loads.

### Cross-section of gear (with part names)

<table>
<thead>
<tr>
<th>Allowable thrust load</th>
<th>RS-320A</th>
<th>RS-900A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor to surface mounting</td>
<td>5,000 kg</td>
<td>9,000 kg</td>
</tr>
<tr>
<td>Cable clearance pass through (hollow shaft)</td>
<td>345 mm</td>
<td>400 mm</td>
</tr>
<tr>
<td>Output speed (Max.)</td>
<td>20 rpm (120° /sec)</td>
<td>10 rpm (60° /sec)</td>
</tr>
</tbody>
</table>

- RS-320A
- RS-900A

**Output side oil seal**

- Grease outlet port
- Positioning pin hole (2-ø16)
- Tapped hole for handling/lifting
- Output surface
- Openings for piping, wiring (3 locations)

**Output surface**

- Grease inlet port
- Center pipe (Hollow space for wiring, piping)
- Output surface

**Motor input section**

- Positioning surfaces (3 locations)
- Openings for piping, wiring (3 locations)
## Rating table

<table>
<thead>
<tr>
<th>Model</th>
<th>RS-320A</th>
<th>RS-900A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed ratio</td>
<td>170</td>
<td>193.6, 240</td>
</tr>
<tr>
<td>Allowable thrust load</td>
<td>5,000 kg</td>
<td>9,000 kg</td>
</tr>
<tr>
<td>Rated torque</td>
<td>3,136 Nm (320 kgf-m)</td>
<td>8,820 Nm (900 kgf-m)</td>
</tr>
<tr>
<td>Allowable acceleration/ deceleration torque</td>
<td>7,840 Nm (800 kgf-m)</td>
<td>17,640 Nm (1,800 kgf-m)</td>
</tr>
<tr>
<td>Momentary max. allowable torque</td>
<td>15,680 Nm (1,600 kgf-m)</td>
<td>35,280 Nm (3,600 kgf-m)</td>
</tr>
<tr>
<td>Allowable moment (*)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inertia</td>
<td>i=GD^2/4 (&quot;2)</td>
<td>i=193.6 1.16 x 10^2 kgf-m^2</td>
</tr>
<tr>
<td>Allowable max. output speed</td>
<td>20 rpm</td>
<td>10 rpm</td>
</tr>
<tr>
<td>Rotation range</td>
<td>Infinite</td>
<td></td>
</tr>
<tr>
<td>Backlash</td>
<td>Max. 1arc.min</td>
<td></td>
</tr>
<tr>
<td>Main body weight (*3)</td>
<td>290 kg</td>
<td>480 kg</td>
</tr>
</tbody>
</table>

Note: The allowable output speed may be limited by heat depending on the operation rate and the ambient temperature.

*1: Please refer to the allowable thrust load and allowable moment diagram.

*2: The inertia is the value at the reduction gear. The value at the input spline is not included.

*3: The main body weight varies with the type of motor.

## Allowable moment and allowable thrust load

### RS-320A

![Graph of RS-320A]

**Note:** When the load moment and the thrust load are applied concurrently, ensure that the reduction gears are used within the corresponding allowable moment range, which is indicated in the diagram.

### RS-900A

![Graph of RS-900A]

**Note:** When the load moment and the thrust load are applied concurrently, ensure that the reduction gears are used within the corresponding allowable moment range, which is indicated in the diagram.
External dimension drawing

Specifications are subject to change for improvement without notice.
• Specifications are subject to change for improvement without notice.
New release! RS-260A

- Allowable thrust load 2,500 kg
- Largest cable clearance (through hollow shaft) Ø110 mm in RS series
- Floor to installation surface mounting 335 mm (When removing the base 233.5 mm)

Ideal for applications requiring a flat configuration when using general small-scale industrial machinery and labor-saving automated equipment

No openings for piping or wiring are provided for the lowest floor-mounted unit when the base is removed.

### Rating table

<table>
<thead>
<tr>
<th>Model</th>
<th>RS-260A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed ratio</td>
<td>120</td>
</tr>
<tr>
<td>Allowable thrust load</td>
<td>2,500 kg</td>
</tr>
<tr>
<td>Rated torque</td>
<td>2,548 Nm (260 kgf-m)</td>
</tr>
<tr>
<td>Allowable acceleration/deceleration torque</td>
<td>6,370 Nm (650 kgf-m)</td>
</tr>
<tr>
<td>Momentary max. allowable torque</td>
<td>12,740 Nm (1,300 kgf-m)</td>
</tr>
<tr>
<td>Allowable moment</td>
<td>(1)</td>
</tr>
<tr>
<td>Inertia ( I=GD^2/4 )</td>
<td>5,759 ( \times 10^{-3} ) kg-m(^2)</td>
</tr>
<tr>
<td>Allowable max. output speed</td>
<td>21.5 rpm</td>
</tr>
<tr>
<td>Rotation range</td>
<td>Infinite</td>
</tr>
<tr>
<td>Backlash</td>
<td>Max. 1 arc.min</td>
</tr>
<tr>
<td>Main body weight</td>
<td>(*3) 165 kg</td>
</tr>
</tbody>
</table>

Note: The allowable output speed may be limited by heat depending on the operation rate and the ambient temperature.

*1: Please refer to the allowable thrust load and allowable moment diagram.

*2: The inertia is the value at the reduction gear. The value at the input spline is not included.

*3: The main body weight varies with the type of motor.

### Allowable moment and allowable thrust load

- 24,500 N
- 9,702 N-m
- 10,437 N
- 12,740 N-m

Note: When the load moment and the thrust load are applied concurrently, ensure that the reduction gears are used within the corresponding allowable moment range, which is indicated in the diagram.

### Cross-section of gear (with part names)

- Tapped hole for handling/lifting
- Output surface
- Output side oil seal
- Grease outlet port
- Positioning pin hole (2-ø16)
- Grease inlet port
- Output surface (Hollow space for wiring, piping)
- Motor input section
- Openings for piping, wiring (4 locations)

Ideal for applications requiring a flat configuration when using general small-scale industrial machinery and labor-saving automated equipment

No openings for piping or wiring are provided for the lowest floor-mounted unit when the base is removed.
RV®
High-capacity Low-profile Indexer
RS-260A

External dimension drawing

Specifications are subject to change for improvement without notice.

* Specifications are subject to change for improvement without notice.

VE-2 A locating for clamping

VE-2 B locating for clamping

VE-2 C locating for clamping

VE-2 D locating for clamping

VE-2 E locating for clamping
Warranty

1. In the case where Nabtesco confirms that a defect of the Product was caused due to Nabtesco’s design or manufacture within the Warranty Period of the Product, Nabtesco shall repair or replace such defective Product at its cost. The Warranty Period shall be from the delivery of the Product by Nabtesco or its distributor to you ("Customer") until the end of one (1) year thereafter, or the end of two thousand (2,000) hours running of the Product installed into Customer’s equipment, whichever comes earlier.

2. Unless otherwise expressly agreed between the parties in writing, the warranty obligations for the Product shall be limited to the repair or replacement set forth herein. OTHER THAN AS PROVIDED HEREIN, THERE ARE NO WARRANTIES ON THE PRODUCT, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

3. The warranty obligation under the Section 1 above shall not apply if:
   a) the defect was caused due to the use of the Product deviated from the Specifications or the working conditions provided by Nabtesco;
   b) the defect was caused due to exposure to foreign substances or contamination (dirt, sand etc.);
   c) lubricant or spare part other than the ones recommended by Nabtesco was used in the Product;
   d) the Product was used in an unusual environment (such as high temperature, high humidity, a lot of dust, corrosive/volatile/inflammable gas, pressurized/depressurized air, under water/liquid or others except for those expressly stated in the Specifications);
   e) the Product was disassembled, re-assembled, repaired or modified by anyone other than Nabtesco;
   f) the defect was caused due to the equipment into which the Product was installed;
   g) the defect was caused due to an accident such as fire, earthquake, lightning, flood or others;
   h) the defect was due to any cause other than the design or manufacturing of the Product.

4. The warranty period for the repaired/replaced Product/part under the Section 1 above shall be the rest of the initial Warranty Period of the defective Product subjected to such repair/replace.