

# Calculation

## Guide values

Based on the formulas, you can roughly calculate the values that are needed to determine the respective tolerance ring size and then choose the tolerance ring that is suitable for your application.

If desired, Bosch Rexroth can carry out this calculation.

Please use the form on page 30 for this.

### Existing:

Power	P	(kW) (1 HP = 0.736 kW)
Rotary speed	n	(min <sup>-1</sup> )
Greatest radial load	F	(N)

### Selected:

Safety factor S					
Guide values:	<table> <tr> <td>Belt pulley fastening</td> <td>2.5 - 3</td> </tr> <tr> <td>for reversible operation</td> <td>6</td> </tr> </table>	Belt pulley fastening	2.5 - 3	for reversible operation	6
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### Torque calculation

$$M = \frac{9550 \cdot P}{n} \cdot S$$

M = torque (Nm)

### Calculation of mounting force<sup>1)</sup>

$$\frac{7 \cdot M \text{ (catalog)}}{d} \text{ (N)}$$

d = nominal diameter of tolerance ring in m

### Calculation of axial seating force<sup>1)</sup>

$$\frac{2 \cdot M \text{ (catalog)}}{d} \text{ (N)}$$

1) These values can only be considered as guide values

## Selection criteria

In the case of radial loads and circumferential radial loads, choose centered installation.

**⚠ You should consider the transmittable torques and radial loads that are stated in the tables as guide values. Amongst other things, these guide values can be affected by the strength, surface hardness, roughness depth and lubrication of the built-in components.**