

4. Static safety factor

For applications with a high requirement for accuracy and smooth running, the static safety factor f_s should be higher than the values shown in table 4.1 to prevent permanent deformation at the contact points.

$$f_s = \frac{C_0}{P_0}$$

f_s = static safety factor

P_0 = static equivalent load (N)

C_0 = static load rating (N)

Table 4.1 Static safety factor

Operating conditions	f_s
Shafts subjected to small deflections and low shocks	1 ÷ 2
Elastic deflection can cross load the units	2 ÷ 4
System subjected to shock & vibration	3 ÷ 5