

3. Notes on Design and Installation

3.1 Important notes on design

As already described, preloading value v represents an important criterion for the functioning of the MarMotion high-precision rotary stroke bearing. It influences the loading capacity, the smooth running and, if the recommended values are exceeded, the service life.

The following installation notes should therefore be observed:

- Load the rotary stroke bearing more with radial force than with moments in order to prevent local overloading of the balls.
- In the case of high moments, arrange two guide zones one after the other with a gap in between.
- If necessary, fit a joint support tube with screw-on flange.
- Set the points of application of the driving force in the guide plane if possible (refer also to chapter 5.2).
- Protect from impact. Impacts can leave ball impressions even on hardened running faces.

3.2 Mounting the guide bush

Avoid pressing the guide bush!

Avoid pressing the guide bushes as this may damage the micro-finished guide diameter d_1 . The bush adapts to the location bore. This results in form errors and excessive preloading, thereby impairing the correct functioning of the rotary stroke bearing. Clamp-type fittings and pressure screws are also unsuitable for the same reasons.

The tolerance of outside diameter d_B of the MarMotion guide bushes corresponds to ISO-n4 (or ISO-h6 for type N 570). The tolerance of the location bore should be selected so that there is no press fit of the guide bush.

We recommend:

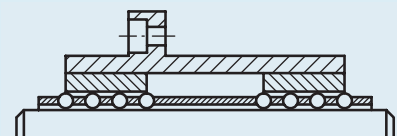
- Mechanical clamping by means of flanges, stop bits, safety rings, etc.
- Bonding by means of commercially available single-component or two-component systems. The manufacturers bonding instructions in terms of the bonding aperture, hardening time, etc. must be adhered to. Experience has shown that a bonding agent that hardens slowly is advantageous.
- The walls of the bush should not be made too thin. Thin-walled bushes are hard to manufacture and can easily be damaged during installation. Suggested value for wall thickness: Inside diameter $d_1 \cdot 0,1$
- The required wall thickness is also determined by the type of clamping used.

Installation with seals

A seal is necessary when there is a lot of dirt present, especially when this takes the form of abrasive substances or if particularly high demands are placed on smooth running, ease of movement and durability.

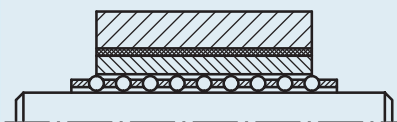
Sealing options:

- Sealing rings (see type N 553)
- Wiper seals (see type N 570)
- Bellows (see type N 820)



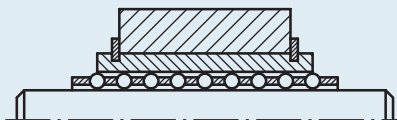
Separate ball operating zones

Fig. 5



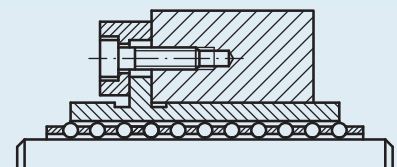
Bonding aperture

Fig. 6



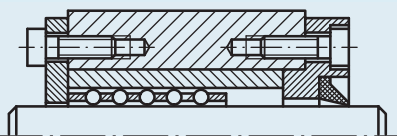
Safety rings

Fig. 7



Flange with stop bit

Fig. 8



Cap Sealing rings, wiper seals

Fig. 9