

## INSTRUCTION FOR BEARING REPLACEMENT

The slide-bearings are the only parts of the linear/rotary feedthroughs, that wear out. It is important to check the smoothness of the motion from time to time and please make sure, you don't hear any scratching noise or feel unusual friction while using the MD40.

Worn out bearings can be responsible for extensive outgassing effects during motion. If any of the above occurs, replace the bearings.

### Bearing replacement:

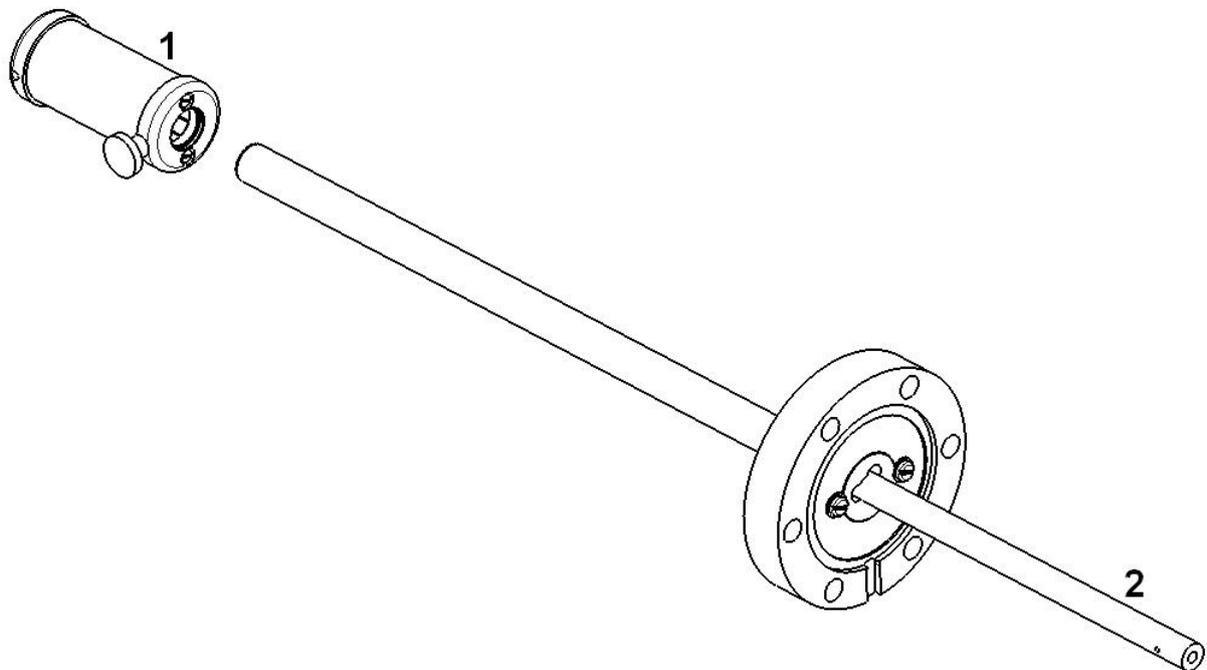
Make sure the work area is clean! Use kitchen paper tissues for example.

Don't touch the parts on the vacuum-side with bare hands:

Use latex gloves or similar.

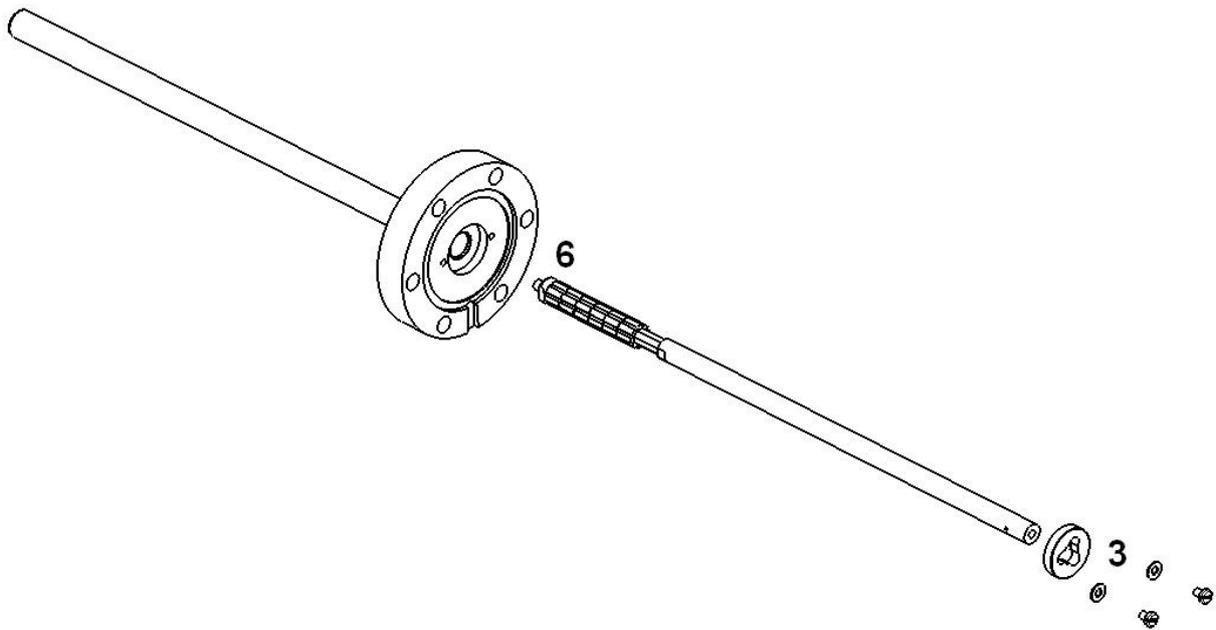
All parts that have to be changed can be found in our servicing kit for MD40 linear/rotary feedthroughs.

Place the MD40 flat on the table and get through the following instructions.



Hold the magnetic coupling (1) with one hand and pull the inner shaft (2) with the other hand until the inner and outer magnet are independent from each other.

You can feel 6 cants until the magnet couple is finally released.



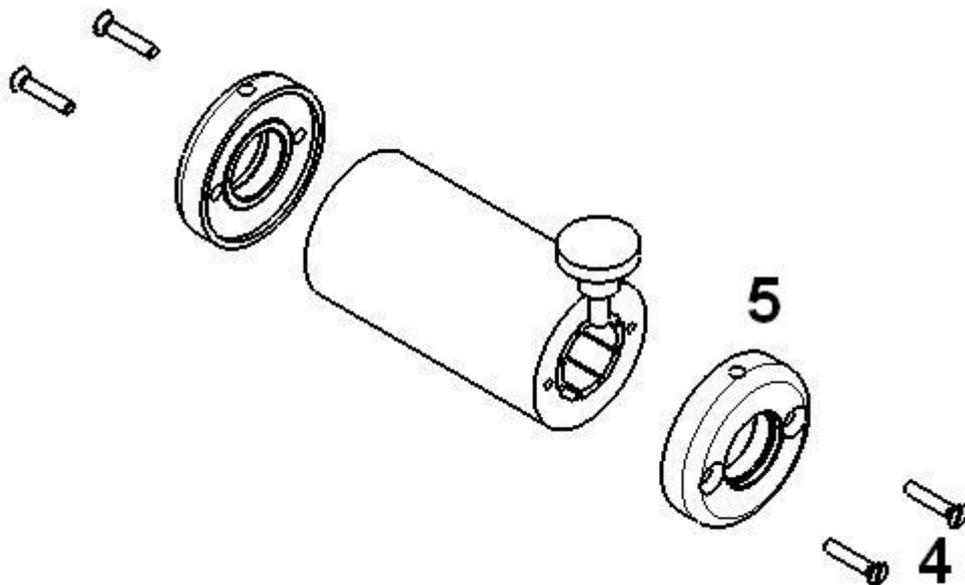
Unscrew the front bearing holders (3) off the flange carefully.

Pull the shaft out of the tube.

While doing so, try to minimize the friction between shaft and the tube.

**CAUTION: Rare Earth magnets are brittle. Any collisions or mechanical shocks must be avoided!**

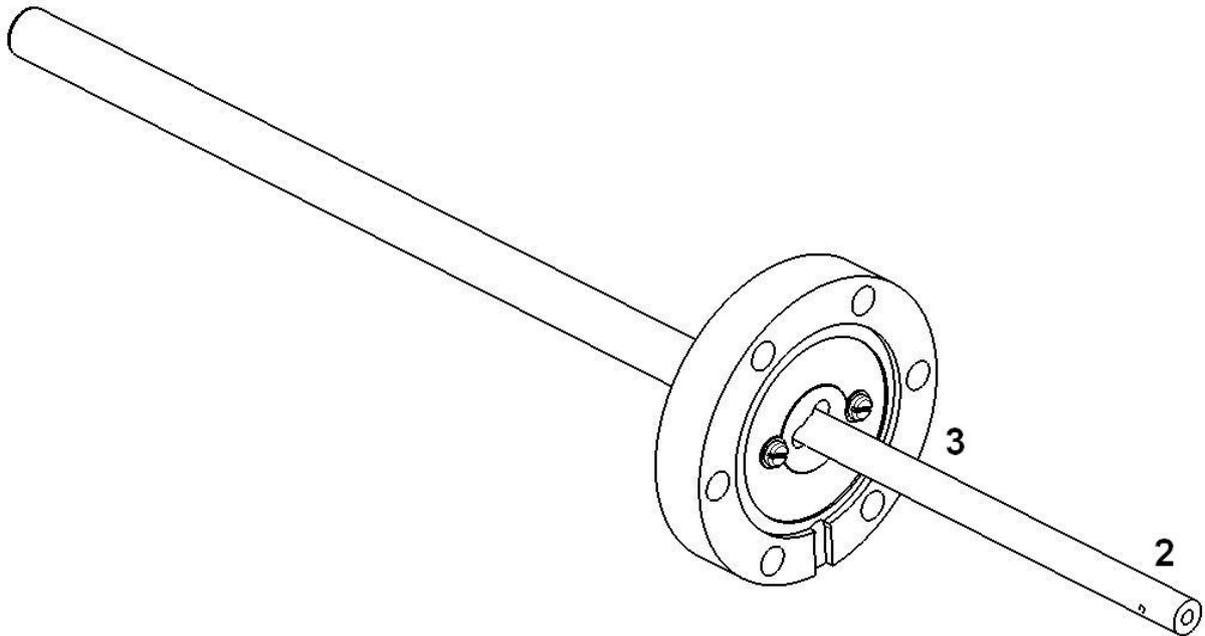
Remove the circlip (6) and the small bearing from the inner shaft and replace it.



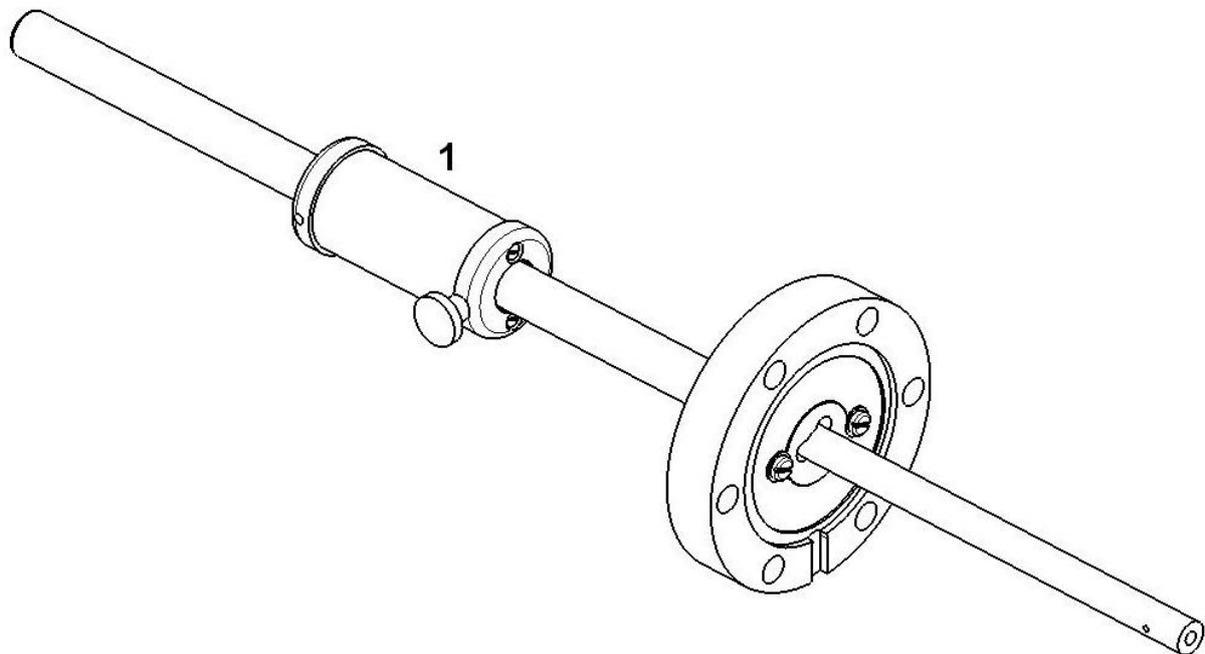
Replace the screws (4) and the blue Aluminium outer bearing holders (5).

For reasons of mechanical tolerance, the blue rings and the slide bearing are one unit.

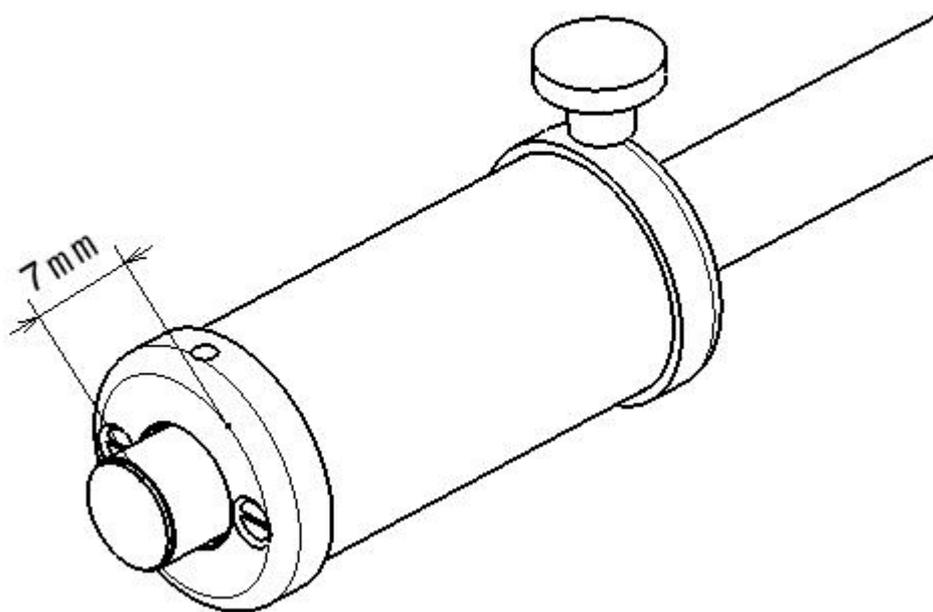
### Assembling the wobblestick:



Insert the magnet of the shaft(2) into the tube and mount the front bearing(3) onto the flange with ist screws and washers.



Hold again the outer magnet coupling (1) with one hand and the shaft with the other and press them together. 6 noticeable cants are felt to get the magnets aligned.



To check the constellation of the magnet couplings, measure the distance between the end of the tube and the end of the outer magnet. The correct value is 7mm. If necessary wipe the shaft with a dust free cloth (Kimwipes) and a solvent like acetone or ethanol.

Torque the knurled screw to complete the bearing replacement operation.