

## START UP INFORMATION

### TRGD

#### 1 Brief introduction TRGD

##### 1.1 General

The TRGD pump employs check valves in the piston elements which are seated by a back pressure. This necessitates a pressure control valve in the outlet line to maintain a positive line pressure! This prevents fluid flow through the pump under gravity during shutdown!

Fluid flow under gravity can occur if a pressure control valve is not incorporated because of the inlet pressure and it is NOT a malfunction of the pump!

##### 1.2 Orientation

Pumps may be mounted in any orientation.

##### 1.3 Direction of rotation

Pumps may be driven in either direction.

##### 1.4 Filtration

Because the pump is valve-controlled we recommend a filtration of 25 µm in the suction line before entering the pump.

##### 1.5 De-aeration

With the pump running at low pressure (i.e. in re-circulation) loosen the bleed screw so that fluid emerges from the pump housing (Note: DO NOT remove the bleed screw completely). Continue running until fluid without air bubbles emerges from the bleed port. Then re-tighten the screw.

##### 1.6 Shaft sealing system

See heading 2

##### 1.7 Drive

The drive should preferably be connected by a flexible/elastic coupling (e.g. Softex® or Starex® couplings from HBE).

If using a belt drive or a gear wheel drive you MUST use a support-bearing to avoid potential radial/axial forces. We can supply pumps with an integral shaft bearing for this purpose.

The clutch or pulley must be used with ISA-fit H7.

##### 1.8 Return

**We can only accept clean, contamination-free pumps for maintenance, repair or return under warranty. We reserve the right to return contaminated pumps at the customer's expense.**

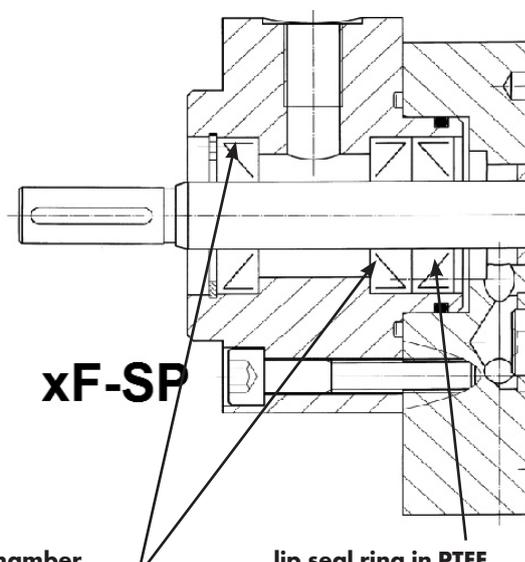
**To speed up a potential breakdown situation we would ask customers to complete an available non conformity report and to send it back with the pump! Please ask Beinlich Pumps for the report form.**

#### 2 Introduction shaft sealing system TRG(D)

##### 2.1 Radial lip seal ring, standard, no description in order code

The radial lip seal ring is maintenance free. If it leaks, it has to be renewed.

##### 2.2 Shaft sealing system 2F-SP/3F-SP



**block chamber  
lip seal ring in FKM  
(2F-SP)**

**lip seal ring in PTFE  
(3F-SP)**

Standard inlet pressure  $p_1$ : 7 bar (in certain special solutions up to 50 bar!) Before start-up the block chamber must be filled with fluid. **Beinlich Pumps** recommends using Mesamoll® oil or another inert medium which does not react with the pumped fluid and which is environmentally inert should it leak.

The block chamber is formed by the seal housing or by attaching a drip-feed lubricator.

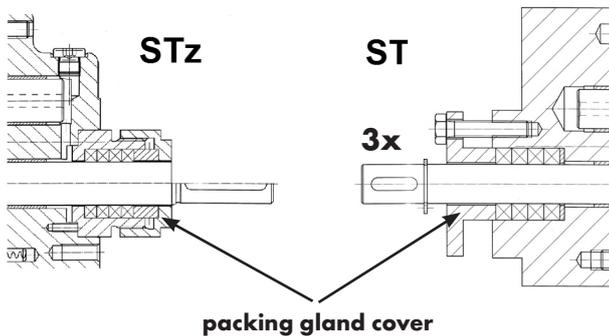
This is achieved by:

1. remove one or both of the block chamber screw plugs;
2. connect a line to the main supply;
3. or screw on a drip-feed lubricator.

**Beinlich Pumps** block chambers are also designed to be incorporated into a flushing circuit using both of the block chamber screw plug ports as an inlet and outlet.

A change of the block chamber fluid level indicates wear on the lip seal ring and/or the drive shaft!

### 2.3 Shaft sealing system STz/ST



Standard inlet pressure  $p_1$ : 50 bar

The packing gland cover **MUST NOT** be tightened too hard! If too tight, free and easy rotation of the drive shaft is impossible. This will cause excessive heating and result in damage to the seals and possibly the pump shaft. In the ST version, ensure that the packing gland cover is tightened down evenly! Periodic checking of the leakage flow is necessary! Packing gland seals are designed to weep a small amount of fluid. This is to keep the seals lubricated and cool.

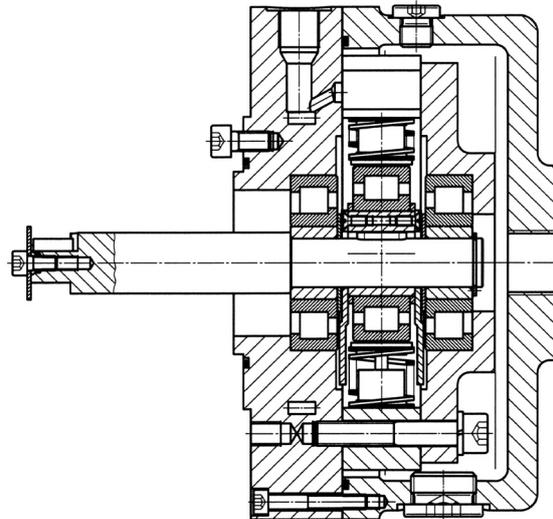
If the leakage rate increases then:

1. For ST: tighten 3 bolts evenly
2. For STz: tighten the gland nut 1/6 of a turn to minimise the leakage.

If an adjustment of the bolts or the gland nut is no longer possible only one black packing ring needs to be renewed. A complete change of all the rings is not normally necessary.

The packing gland seal consists of four packing rings. The joints of each packing ring must be installed at a 90° angle to each other. The correct sequence of the rings is two black rings in the centre with one white ring on either side.

### 2.4 Shaft sealing system MAG



→ please see "Installation instruction for DST Permanent Magnetic Couplings series DST 27 - DST 165" of DST GmbH, Neuenrade

#### Note:

Please find further information in the assembly/instruction manual. This can be downloaded from [www.beinlich-pumps.com](http://www.beinlich-pumps.com) or contact us directly.