Bearing maintenance

These bearing lubrication sections list different temperatures of the pumped fluid. If the pump is ATEX-certified and the temperature of the pumped fluid exceeds the permitted temperature values, then consult your ITT representative.

NOTICE:
During operation the oil level will change and appear higher do to circulation and foaming, this is normal.

Thrust bearings

The pumps are shipped without oil. You must lubricate oil-lubricated bearings at the job site.

Table 9: Lubricating intervals in operating hours

Type of bearing	First lubrication	Lubrication intervals
Oil-lubricated bearings	Add oil before you install and start the pump. Change the oil after 200 hours for new bearings.	After the first 200 hours, change the oil every 2000 operating hours or every three months.

Lubricate the bearings after a shutdown period

1. Flush out the bearings and bearing frame with a light oil to remove contaminants. During flushing, make sure to rotate the shaft slowly by hand.
2. Flush the bearing housing with the proper lubricating oil to ensure oil quality after cleaning.
3. Refer to *Reassembly* section for proper bearing lubrication procedure.

Lubricating oil requirements

Refer to *Lubricate bearings* (page 34).

Steady bearings

Check the ID of the casing collar (155) and steady bearing (197) per the dimensions in the Bearing fits and tolerances table. If the ID is greater than what is allowed, remove the snap ring (369) and use a suitable hydraulic press in order to remove these items for replacement. If sealed bearings are provided, then you must also remove the lip seals (333H).

The bearing ID is slightly larger before you press it into the housing in order to allow for ID shrinkage after you press it in place.

Shaft-seal maintenance

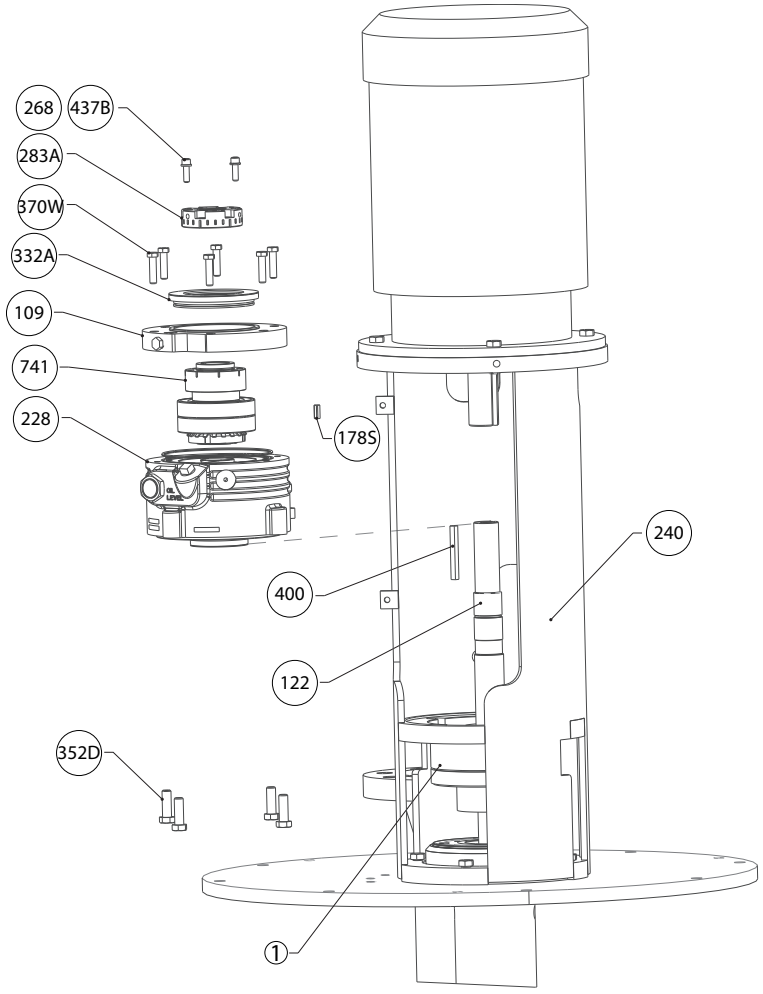
Removal and installation of Mechanical seal

WARNING:
Failure to disconnect and lock out driver power may result in serious physical injury or death. Always disconnect and lock out power to the driver before performing any installation or maintenance tasks.

- Electrical connections must be made by certified electricians in compliance with all international, national, state, and local rules.
- Refer to driver/coupling/gear manufacturer's installation and operation manuals (IOM) for specific instructions and recommendations.

1. Lock out the driver power and remove the coupling guard.

2. Drain oil from Bearing Frame (228).
3. Remove the Coupling spacer and pump half hub (233) and key.
4. Remove Socket head screws (268), Lockwasher (437B) and EZ adjust shaft nut (283A) from shaft.
5. Loosen and remove the End cover Hex Cap screws (370W) and Bearing frame End cover (109) with Laby seal (332A).
6. Pull out the Bearing carrier assembly (741) and remove bearing carrier key (178S) from shaft. (Place the carrier assembly on a clean, flat surface. Wrap the carrier assembly in a clean towel to keep any dust or dirt from getting on the Angular Contact Bearings. It is very important to keep these bearings as clean as possible.)
7. Remove the Bearing frame (228) and mounting hardware (352D) from motor support.
8. Remove and service Mechanical seal.
9. After Service reassemble in reverse order.



1. Mechanical seal

Figure 25: Mechanical seal

Mechanical-seal maintenance

WARNING:
Ⓔx The mechanical seal used in an ATEX or Ex-classified environment must be properly certified. Prior to startup, make sure that all areas that could leak pumped fluid to the work environment are closed.

CAUTION:
Running a mechanical seal dry, even for a few seconds, can cause seal failure and physical injury. Never operate the pump without liquid supplied to the mechanical seal.

Cartridge-type mechanical seals

Cartridge-type mechanical seals are commonly used. Cartridge seals are preset by the seal manufacturer and require no field settings. Cartridge seals installed by the user require disengagement of the holding clips prior to operation, allowing the seal to slide into place. If the seal has been installed in the pump by ITT, these clips have already been disengaged.

Other mechanical seal types

For other types of mechanical seals, refer to the instructions provided by the seal manufacturer for installation and setting.

Reference drawing

The manufacturer supplies a reference drawing with the data package. Keep this drawing for future use when you perform maintenance and seal adjustments. The seal drawing specifies the required flush fluid and attachment points.

Before you start the pump

Check the seal and all flush piping.

If the pump is shipped with oil-lubricated seals, keep the seal faces lubricated with oil at all times.

Packed stuffing-box maintenance

WARNING:
- Ⓔx Packed stuffing boxes are not allowed in an ATEX-classified environment.
- Failure to disconnect and lock out driver power may result in serious physical injury. Never attempt to replace the packing until the driver is properly locked out.

Lubrication intervals

The lubrication intervals vary and depend upon the temperature and gland tightness. Keep the grease cup full at all times.

Periodically make several turns on the grease-cup cap while you inject fresh grease into the stuffing box. Check the pump daily upon initial operation, and extend this interval as required.

NOTICE:
Do not over-tighten the stuffing box. Excessive pressure can wear out packing prematurely and seriously damage the shaft.

Packing replacement

Replace the packing in this sequence:

1. Three rings of packing
2. Lantern ring

3. Two rings of packing
4. Gland