



- For spacer coupling no need to remove the motor stool. only remove the spacer coupling.
- Remove the hex. nut from casing studs holding the bearing housing (24000) to pump casing (11800).
- Slightly pull out the driving unit till impeller (15100) clears the pump casing (11800).
- Take out this assembly through the window provided in motor stool (29000).
- Place this rotating unit on a table or clear place for further dismantling.
- Remove gasket (51100) from pump casing.
- Unscrew the impeller nut (33000). Remove the gasket (68200) between impeller and impeller nut.
- Take out the impeller (15100) from pump shaft (18000). Remove the gasket between impeller and shaft sleeve (51500). Remove key for impeller (32000).
- Remove Casing cover (22000) along with Cartridge mechanical seal assembly by slightly tapping.
- Removal of stuffing box bush (35000) from mechanical seal (23000).
- For pumps with mechanical seal arrangement, lock mechanical seal assembly by tightening two Allen screws of the cartridge mechanical seal. Unscrew the nuts of mechanical seal cover studs (4 nos.) and remove cartridge mechanical seal assembly along with shaft sleeve from casing cover (22000).
- Remove pump half coupling (39700) after unscrewing grub screw.
- Take out coupling key (32100).
- Loosen the hex. socket screw holding driving end bearing cover (27000). Remove carefully bearing cover along with oil seal (50000) or Felt ring (50200).
- Force shaft (18000) carefully in the direction of the driving end. Shaft will come out along with the bearings.
- Unlock the lock washer (41500) and remove lock nut (33600).
- Take out driving end bearing (26200) with the help of puller.
- Radial roller bearing (26400) fitted in casing cover (22000) should be removed only if it is worn out. Or Thordon bush (for IN 50/160 IL and IN 100/160 IL pumps only).
- Take out Radial roller bearing at non-driving end (26400) with the help of suitable sleeve.
- Casing ring suction side (19000) to be removed only if it is worn out and need replacement.

CAUTION:

Coupling half should be removed with the help of suitable extraction device. To avoid damage to the bearings, the coupling half should not be knocked off the shaft.

3.3.3 After dismantling:

1. All parts must be carefully cleaned and checked for wear. Recondition or replace the parts wherever necessary.
2. Wear rings clearances should be checked and wear rings are replaced if excessive wear has taken place.

3.3.4 Reassembly:

- This procedure covers reassembly of pump after complete dismantling of the pump. Before reassembly, all the parts should be thoroughly cleaned in Kerosene, Petrol or Benzene to remove the dust, rust, etc. After cleaning the necessary parts should be replaced.
- Following clearances are to be checked before reassembly of pump.
 - a. Clearance between wear rings: max 0.50 mm diametrically.
 - b. Clearance between Radial bearing and shaft sleeve: 0.05 mm.



- Mount the pair of angular contact ball bearings. Please refer to any standard bearing catalogue for back to back arrangement.
Caution: Use arbor press while fitting the bearings. However, it is recommended that bearings should be heated in oil bath at temperature 70-80° C and then fitted. Slide inboard ball bearing on shaft by hand and make sure that it is square with shaft. Press the inner race of the bearing until bearing is seated firmly against the shaft shoulder.
- Tighten the bearing lock nut (33600) after inserting lock washer for bearing in proper position. Fold one lip of lock washer in slot of bearing lock nut to lock it.
- Insert shaft along with bearings (26300) (i.e. angular contact ball bearings at driving end) in to the bearing housing from driving end.
- Tighten bearing cover DE (27000) with the help of hexagonal headed screws.
- Push Radial roller bearing (26400) at non-driving end into casing cover (22000) if it is removed.
- Fit mechanical seal cover along with cartridge seal assembly and tighten the nuts on studs of casing cover evenly.
- Slide pump shaft fitted in bearing housing in to casing cover assembly.
- Fit clamping plate by tightening 4 nos. cap screws.
- Fit impeller key (32000). Fit gasket (51500) on impeller. Fit impeller (15100) on shaft.
- Fit gasket (68200) in to impeller nut. Tighten impeller nut (33000).
- Fit pump half coupling (39700).
- Rotate shaft by hand and ensure free rotation.
- Fit gasket (51100) of the pump casing.
- Fit entire assembled unit along with the impeller into pump casing (11800).
- Tighten screws of pump casing (11800) and bearing housing (24000) evenly.
- Fit motor along with the motor half coupling. Align the coupling halves.
- Fit screws of the coupling guard (38800).
- Loosen the two screws of seal cover by allen key and unlock the cartridge mechanical seal (23000).
- Fit the drain plug (60100) of the pump casing.

4. Commissioning

Purpose of Commissioning:

1. Minimize the life-cycle maintenance costs of the pumps.
2. Demonstrate that the provided equipment is fit for purpose and fully covered under manufacturer's warranty.
3. Set the pump to the requested flow rate.
4. Reduce the risk of noise and vibration problems with the pumps.
5. Reduce the risk of pump damage, particularly mechanical seals failing during flushing.

4.1 Electrical open and closed-loop control elements:

- Observe voltage and current values.

**8.2 PARTS LIST-SECTIONAL DRAWING:**

PART NO.	QTY	PART DESCRIPTION
10700	01	PUMP CASING
*15100	01	ENCLOSED IMPELLER
*18000	01	PUMP SHAFT
*19000	01	CASING WEAR RING
22000	01	CASING COVER
*23000	01	CARTRIDGE MECHANICAL SEAL
23600	01	WATER DEFLECTOR
24000	01	BEARING HOUSING
*26300	01	ANGULAR CONTACT BALL BRG.
*26400	01	RADIAL ROLLER BRG.
27000	01	BEARING COVER DE
27100	01	BEARING COVER NDE
29000	01	MOTOR STOOL
*32000	01	KEY FOR IMPELLER
32100	01	KEY FOR COUPLING
*33000	01	IMPELLER NUT
33600	01	BEARING LOCK NUT
35000	01	STUFFING BOX BUSH
39700	01	PUMP COUPLING
39800	01	MOTOR COUPLING
39900	01	COUPLING SPACER
41500	01	LOCK WASHER FOR BEARING NUT
44100	02	GREASE NIPPLE
*47900	01	HELICOIL SCREW LOCK INSERT
48500	02	INTERNAL CIRCLIP
*50800	01	METALLIC MEMBRANE
50200	01	FELT RING DE
50201	01	FELT RING NDE
*51100	01	GASKET FOR PUMP CASING
*51500	01	GASKET FOR SHAFT SLEEVE
*68200	01	GASKET FOR IMPELLER NUT