

Dismantling the Pump



Pumps which convey hazardous liquids must be decontaminated before dismantling the pump. The appropriate personal protection equipment should be used.

Tools required: Torque wrench with socket - across flats 28mm (M16 locknut), 34mm (M24 locknut), 46mm (M36 locknut), Engineers pliers, Hide mallet, Open ended spanner - across flats 13mm & 10mm, Allen key - 8mm across flats.



- 1) Isolate the motor (1) from the power supply.
- 2) Disconnect the inlet and outlet connections.

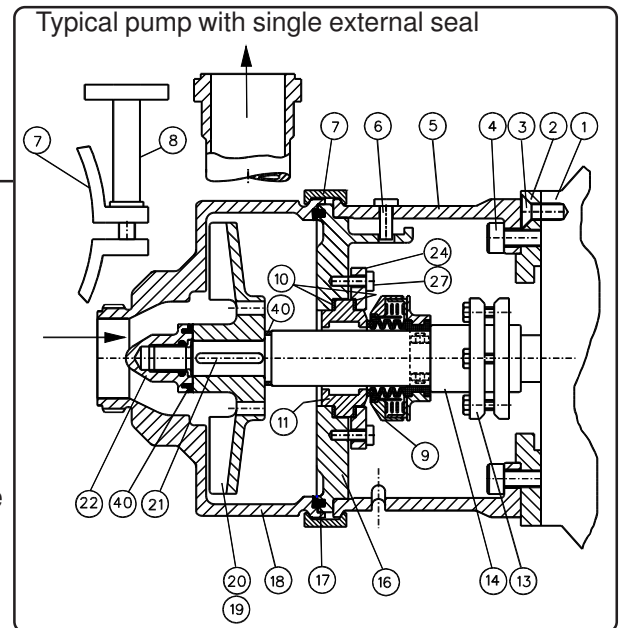


- Risk of contact with liquid being pumped.
- 3) Unscrew the clamp ring handle (8) by several turns and lift the clamp ring (7) over the flanged adaptor (5).
- 4) Remove the cover (18).
- 5) Unscrew the impeller locknut (22) with the spanner (right hand thread).
- 6) Slide the impeller vane plate (20) and (where fitted) the back plate (19) forward off the shaft (14) by maintaining an even pressure. Hitting the impeller can cause serious damage.
- 7) Remove the key (21) from the pump stub shaft (14).

- 8) To remove the seal seat assembly (10,11), hold the housing plate (16) in position whilst unscrewing the flanged adaptor screw (6). Gently pull the housing plate out of the flanged adaptor, taking care that the seal seat does not contact the shaft and become chipped.
- 9) Remove the clamp plate (24). The seal seat (11) and 2 off seat rings (10) can be inspected.
- 10) Remove the flanged adaptor (5).
- 11) The mechanical seal (9) is now accessible.

Reassembling the Pump

- 1) Fit the mechanical seal (9) (see page S2). Ensure that it is butted up against the shoulder of the shaft.
- 2) Replace the flanged adaptor (5).
- 3) Locate the seal seat assembly (10,11) in the housing plate (16), and fit the housing plate into the flanged adaptor (5). Whilst holding the housing plate in position, line up the slotted lug with the flanged adaptor screw (6) and tighten the screw. Note: the housing plate may slightly move away from the flanged adaptor when hand pressure is released - this gap will be taken up by the clamp ring. Take care during assembly that the seal seat (11) does not contact the shaft (14) and become chipped.
- 4) Refit the key (21) into the pump stub shaft (14) and refit the impeller joint ring (40).
- 5) Slide the impeller back plate (19) (where fitted) and the vane plate (20) onto the shaft.
- 6) Screw on the impeller locknut (22) (right hand thread) and tighten to the specified torque (see table).
- 7) Refit the cover (18).
- 8) Fit the clamp ring (7) into position and tighten



Pump model	Locknut torque (Nm)
H & CH	90 (M16 locknut)
	140 (M24 locknut)
	180 (M36 locknut)

the clamp ring handle (8), ensuring that the clamp ring is correctly located.

- 9) Connect the inlet and outlet connections.
- 10) Before start-up, the pump should be flooded with liquid at the seal faces as dry running will cause overheating and may damage the mating surfaces.

Replacing the Seal - type 10R or 10T

ATTENTION Mechanical seals are precision products. Installation should be carried out to the laid down procedure. Seals should be installed in a clean environment with particular care given to the lapped and polished seal faces.

Note: - For information on the seal fitted in your pump, please refer to the data sheet.

Tools required: Diluted soft soap solution, Seal fitting tube & sleeve (recommended), Allen key - 4mm across flats.

Removing the old seal:

Dismantle the pump and seal as described on page S1.

Fitting the new seal:

- 1) If the seat is new, carefully remove the protective coating.
- 2) Ensure all components are clean. Any sharp edges on the shaft shoulder or keyway should be removed.
- 3) Position a gasket onto each side of the seat. NB: the seat must face the right way in its housing - make sure that the better of the two lapped faces on the seal seat, will face **towards** the mechanical seal assembly.
- 4) Fit the seat (3) and inner gasket (4) into the housing plate (1).
- 5) Locate the clamp plate (2) over the seat (3) and outer gasket (5). Finger tighten the clamp plate screws (6).
- 6) Tighten the clamp plate screws (6) evenly and alternately to a torque of 10 Nm.
- 7) Lubricate the inside sleeve of the bellows with a very slight smear of diluted soft soap solution. **Never use mineral oil, grease, vaseline**, etc, as it is **not** hygienic.
- 8) Loosen the clamping screws (7) and carefully slide the seal unit (8) backwards onto the shaft (9), until it butts up against the shoulder of the shaft.
- 9) The seal is now set to the correct working length. Tighten the clamping screws to a torque of 6 Nm, ensuring that: a) their heads are positioned diagonally opposite each other and facing the same rotary direction, and b) the ends of the half clamps (10) are equally spaced.
- 10) Replace the flanged adaptor.
- 11) Fit the housing plate (1) into the flanged adaptor. Whilst holding the housing plate in position, line up the slotted lug with the flanged adaptor screw and tighten the screw (see page S1). Note: the housing plate may slightly move away from the flanged adaptor when hand pressure is released - this gap will be taken up by the clamp ring. Take care during assembly that the seal seat does not contact the shaft and become chipped.
- 12) Reassemble the pump as described on page S1.
- 13) Before start-up, the pump should be flooded with liquid at the seal faces as dry running will cause overheating and may damage the mating surfaces.

