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, Allen key - 5mm 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(s) (*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.

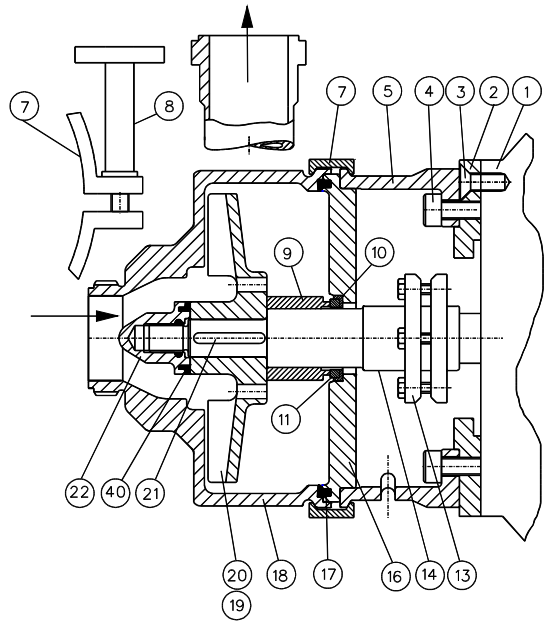
7) Remove the key (*21*) from the pump stub shaft (*14*).

8) The mechanical seal (*9*) is now accessible. Clean the shaft and slide the seal forwards off the shaft.

9) The face of the seal is now exposed and can be inspected.

10) To remove the seal seat assembly (*10,11*), unscrew the housing plate screws (where fitted) and take out the housing plate (*16*). The seal seat (*11*) and seat ring (*10*) can both be inspected.

Typical pump with single internal seal



Reassembling the Pump

1) Fit the mechanical seal *(9)* (see page S2).

2) Refit the key (*21*) into the pump stub shaft (*14*).

3) Slide the impeller back plate *(19)* (where fitted) and the impeller vane plate *(20)* onto the pump stub shaft *(14)*.

4) Screw on the impeller locknut *(22)* (right hand thread) and finally tighten to the specified torque (see table).

5) Refit the cover *(18)*.

6) Fit the clamp ring *(7)* into position and tighten the clamp ring handle(s) *(8)*, ensuring that the clamp ring is correctly located.

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

7) Connect the inlet and outlet connections.

8) 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 515H.

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.

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

Tools required: Diluted soft soap solution, Allen key - 5 mm across flats,
Seal fitting tube & sleeve (recommended)

Removing the old seal:

Dismantle the pump and seal as described on page S1.

Fitting the new seal:

1) Ensure all components are clean. Any sharp edges on the shaft shoulder or keyway should be removed.

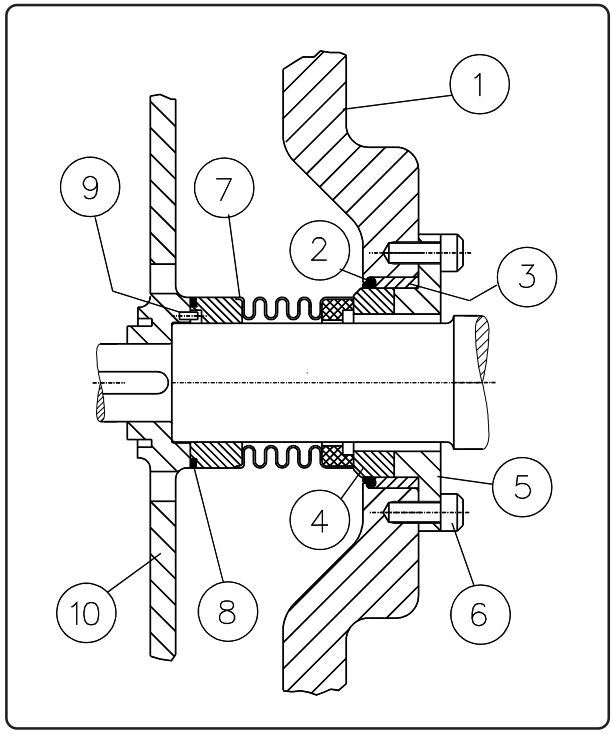
2) Fit the seat ring *(2)* into the rear of the housing plate *(1)*. Fit the 'O' ring follower *(3)* behind it.

3) Lubricate the outside of the seal seat *(4)* with a very slight smear of diluted soft soap solution. **Never use mineral oil, grease, vaseline,** etc, as it is **not** hygienic and may degrade the rubber.

4) Press the seal seat *(4)* into the rear of the housing plate *(1)* until it just locates into the seat ring *(2)*. Ensure that the bevelled face is inserted first, ie the lapped sealing surface will face **towards** the seal unit *(7)*.

5) Fit the seat carrier *(5)* to the rear of the housing plate *(1)* and secure with the 6 off screws *(6)*. Check that the seat ring *(2)* has extruded evenly around the seat.

6) Fit the housing plate *(1)* into the flanged adaptor and tighten the housing plate screws (where applicable). Take care during assembly that the seal seat does not contact the shaft and become chipped. Ensure that the shaft guard (where supplied) is in position.



7) Slide the seal unit *(7)* onto the shaft until it makes contact with the seat (*4*), making sure that the joint ring (*8*) is in position.

8) Slide the impeller backplate *(10)* (where fitted) and the impeller vane plate onto the shaft. Locate the drive pin *(9)* into the slot in the rear of the seal unit.

9) Reassemble the pump as described on page S1.

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.