

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, Engineers pliers, Screwdriver - medium flat blade, Allen keys, spanners



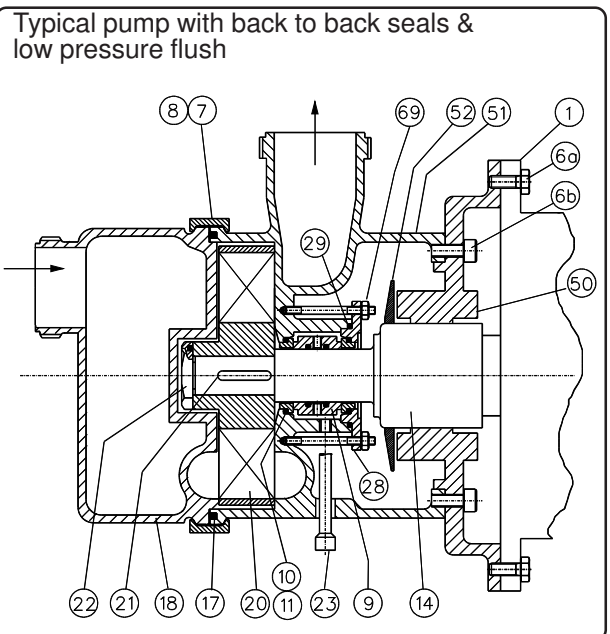
- 1) Isolate the motor (1) from the power supply.
- 2) Disconnect the inlet, outlet and flush connections.



Risk of contact with liquid being pumped.

- 3) Separate the pump head from the motor (1) by removing the fixing screws (6a).
- 4) Unscrew the clamp ring handle (8) by several turns and remove the clamp ring (7).
- 5) Remove the cover (18).
- 6) Unscrew the impeller locknut (22) (right hand thread) with the torque wrench and socket.
- 7) Slide the impeller (20) forward off the shaft (14) by maintaining an even pressure. Hitting the impeller can cause serious damage.
- 8) Remove the key (21) and (where fitted) the clearance shims from the pump stub shaft (14).
- 9) Unscrew the flush connectors (23).

- 10) Remove the fixing nuts (69) and pull back the stuffing box cover (28).
- 11) Remove the pump body screws (6b) and separate the pump body (51) from the bearing frame (50).
- 12) The front seal seat (11) and seat ring (10) can now be inspected.
- 13) To inspect or replace the mechanical seal (9) and rear seal seat assembly, loosen the grub screws and slide the mechanical seal (9) off the shaft.
- 14) Slide the stuffing box cover (28) off the shaft and inspect or replace the seal seat (11), seat ring (10) and stuffing box o-ring (29).



Reassembling the Pump

- 1) Locate the rear seal seat assembly (10,11) in the stuffing box cover (28). Fit the stuffing box o-ring (29) onto the stuffing box cover (28). Slide the stuffing box cover onto the shaft, taking care that the seal seat does not contact the shaft (14) and become chipped.
- 2) Fit the mechanical seal (9) and tighten the grub screws (see page S2 for important fitting details, particularly dimension 'A').
- 3) Locate the front seal seat assembly (10,11) in the pump body (51). Fit the pump body (51) onto the bearing frame (50) and tighten the pump body screws (6b). Take care during assembly that the seal seat (11) does not contact the shaft (14) and become chipped.
- 4) Slide the stuffing box cover (28) forward to the pump body (51) and tighten the fixing nuts (69). Refit the flush connectors (23).
- 5) Replace the clearance shims (where fitted) and the key (21) onto the stub shaft (14).
- 6) Slide the impeller (20) onto the pump stub shaft.
- 7) Screw on the impeller locknut (22) (right hand thread) and tighten with the torque wrench to 80 Nm.

- 8) Refit the cover (18).
- 9) Fit the clamp ring (7) into position and tighten the clamp ring handle (8), ensuring that the clamp ring is correctly located.
- 10) Put the motor (1) in a vertical position. Couple the pump head to the motor and tighten the fixing screws (6a).
- 11) Connect the inlet, outlet and flush connections.
- 12) Before start-up, the flush must be running and 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 - Double back to back seals, type "Q" - UN877

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.

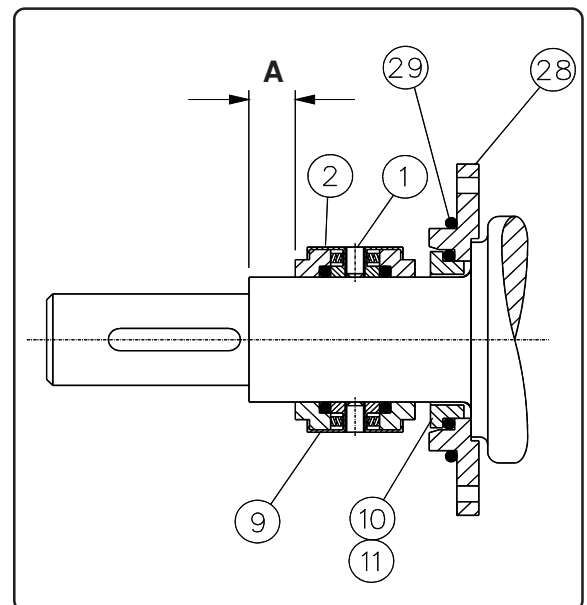
Tools required: Diluted soft soap solution, Allen keys

Removing the old seals:

Dismantle the pump and seals as described on page S1. Where necessary, remove the grub screw burrs from the pump stub shaft.

Fitting the new seals:

- See also items 5 - 12 **Reassembling the Pump** on page S1.
- 1) Ensure all components are clean. Any sharp edges on the shaft shoulder or keyway should be removed.
 - 2) Locate the rear seal seat assembly (10,11) in the stuffing box cover (28). Fit the stuffing box O-ring (29) onto the stuffing box cover (28). Slide the stuffing box cover onto the shaft, taking care that the seal seat does not contact the shaft (14) and become chipped.
 - 3) Lubricate the pump shaft (14) with a very slight smear of diluted soft soap solution. **Never use mineral oil, grease, vaseline, etc, as it is not hygienic.**
 - 4) Ensure that the grub screws (1) are well clear of the bore of the retainer (2).
 - 5) Slide the seal unit gently onto the shaft, taking particular care when passing the seal over the stepped shaft not to damage the bore of the seal faces.
 - 6) Measure dimension 'A' from the shoulder of the shaft to the face of the seal. (Note: the seal is not compressed).
 - 7) Lightly tighten the grub screws (1) in the retainer (2), centralising the seal on the shaft. Re-check dimension 'A' and fully tighten the grub screws (1).
 - 8) Locate the front seal seat assembly (10,11) in the pump body (51). Fit the pump body (51) onto the bearing frame (50) and tighten the pump body screws (6b). Take care during assembly that the seal seat (11) does not contact the shaft (14) and become chipped.
 - 9) Slide the stuffing box cover (28) forward to the pump body (51) and tighten the fixing nuts (69). Refit the flush connectors (23).
 - 10) Reassemble the pump as described on page S1.
 - 11) Before start-up, the flush must be running and the pump should be flooded with liquid at the seal faces, as dry running will cause overheating and may damage the mating surfaces.



Pump model:	CR40	CR50	CR60	CR65	CR80
Dim "A" (mm)	16.0	17.5	15.5	15.5	19.5