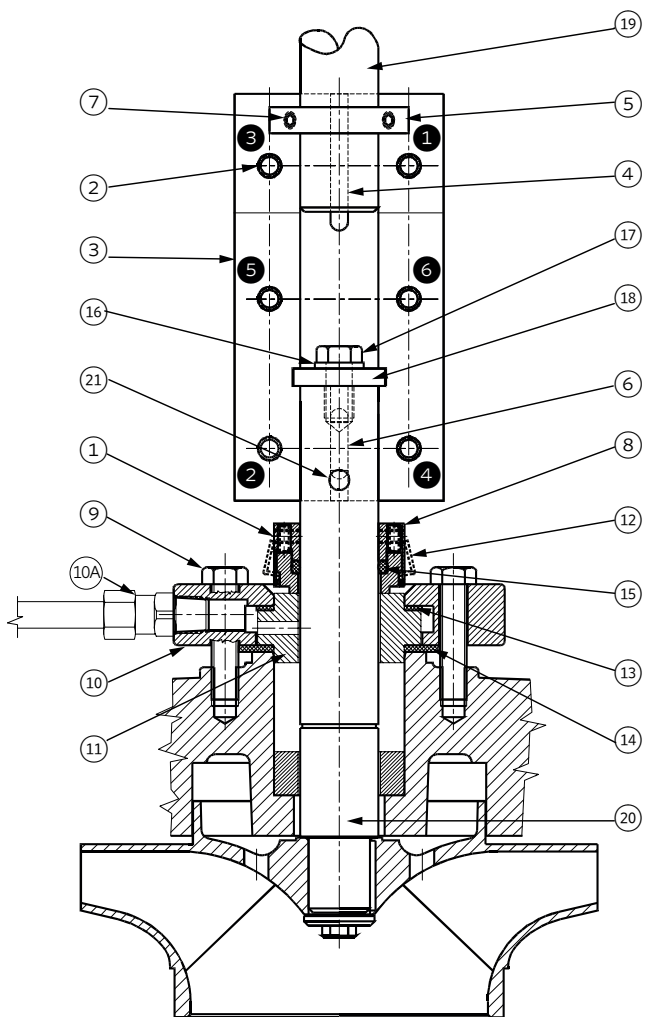


Series 4300, 4302 and 4312

Outside mechanical seal
with TC frame motor

Mechanical seal replacement instructions

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CAUTION



Do not use oil, Vaseline or other petroleum or silicon based products for seal elastomer lubrication. Otherwise elastomer swelling may occur, causing seal failure. Recommended: International Products Corp P-80 Rubber Lubricant Emulsion in USA & UK www.ipcol.com

SEAL REMOVAL

An important feature of the Series 4300, 4302 and 4312 pump is that the design permits removal of the mechanical seal without disturbing the pump, motor or electrical wiring.

- A** Disconnect the power supply at the main switch and close the isolating valves on the suction and discharge. Empty casing by removing drain plug(s) located at the bottom.
- B** Loosen off the seal collar set screws (1) Remove the coupling screws (2) and separate the coupling halves (3). Remove the motor shaft key (4) and the pump shaft key (6). **Do not remove motor collar (5) for seal replacement.**

Use Allan wrench and insert coupling screw into positioning hole (21) to prevent shaft rotation and remove the capscrew, lockwasher and collar (17, 16, & 18) from the pump shaft.

- C** Remove the mechanical seal rotating assembly (8) through the gap between the pump and motor shafts.
- D** Disconnect the seal flush piping (10A). Mark seal plate (10) position. Remove the seal plate bolts (9) and seal plate (10). Remove the stationary seat (11) and seat gaskets (13 & 14).

SEAL REPLACEMENT

Handle mechanical seal carefully to protect seal faces from damage. Do not contaminate seal faces with finger prints.

- E** Replace the stationary seat (11) and gaskets (13 & 14), aligning the seat flush hole with the seal plate flush line connection. Ensure the large diameter gasket (14) is on the bottom. Replace seal plate (10) and tighten the seal plate bolts (9) evenly and diagonally, to the following torque (ft. lbs) values: 1.125" seal - 20; 1.625"/2.125"/2.625" (7.5" diameter plate) - 50; 2.625 (9" diameter) - 90; 3.5" - 90.
- F** When installing the mechanical seal (8), ensure parts are perfectly clean.
- G** Apply a small amount of temporary rubber lubricant emulsion to the o-ring (15). Carefully slide the mechanical seal rotating assembly (8) down the shaft onto the stationary seat (11). Do not tighten the set screws (1) on the side of the mechanical seal yet. Do not remove holding clips (12).

If motor is replaced: Loosen set screws (7) on motor shaft collar (5) and remove from old motor shaft. To position the collar (5) correctly on the new motor shaft, temporarily fit motor shaft collar (5) into groove of the keyed coupling half. Slide collar, with coupling half onto new motor shaft until end of shaft lines up with line scored into coupling. Tighten the visible set screws (7) in the collar (5) enough to hold the collar in place on the shaft and remove the coupling half. Tighten all collar set screws (7) evenly and diagonally. Order replacement motors with locked lower bearing.

- H** Use Allan wrench and insert the coupling screw into positioning hole (21) to prevent pump shaft rotation and replace collar, lockwasher, and capscrew (18, 16, & 17). Cap screw (17) must be firmly tightened on the pump shaft with a wrench.
- I** Fit the motor shaft key (4) and the pump shaft key (6) then install the keyed coupling half (3) first.

NOTE:

For easier coupling installation, motor and pump shaft keys (4 & 6) should be 180 degrees from the working area. To

automatically locate the impeller in the pump, insert the coupling screw Allan wrench into positioning hole (21) and lift pump shaft until the pump shaft collar is positioned in the coupling groove, then rotate shaft to locate the pump shaft key (6) into blind keyway in coupling. Should the pump rotating assembly prove too heavy to lift easily: a piece of 2" x 4" wood may be firmly positioned to allow a pry-bar to be placed securely under the pump shaft collar; the rotating assembly may be levered and raised-up in that manner.

- J Place the second coupling half into position and tighten the coupling screws (2) following the tightening pattern shown on the illustration(1 2 3 4 5 6).

NOTE:

Snug fit the coupling screws and confirm even gap spacing between coupling halves, then firmly tighten coupling screws following the tightening pattern illustrated. Then push (or slide) mechanical seal (8) firmly onto the stationary seat (11) and tighten the set screws (1) to the following torque (ft. lbs) values: Seal sizes 1.125" to 2.625" - 5; 3.5" - 11. Remove the holding clips (12) for operation. The mechanical seal is now preset at the correct working length.

- K Replace the seal flush piping (10A) and drain plug(s).
Series 4302: Equalise pump pressure within dualArm pump by temporarily opening valve on connecting tubing. Open all isolating valves prior to operating pump(s). Reconnect power supply.

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