

DESIGN ENVELOPE 4322 MECHANICAL SEAL & BLANKING PLATE | INSTALLATION AND OPERATING INSTRUCTIONS

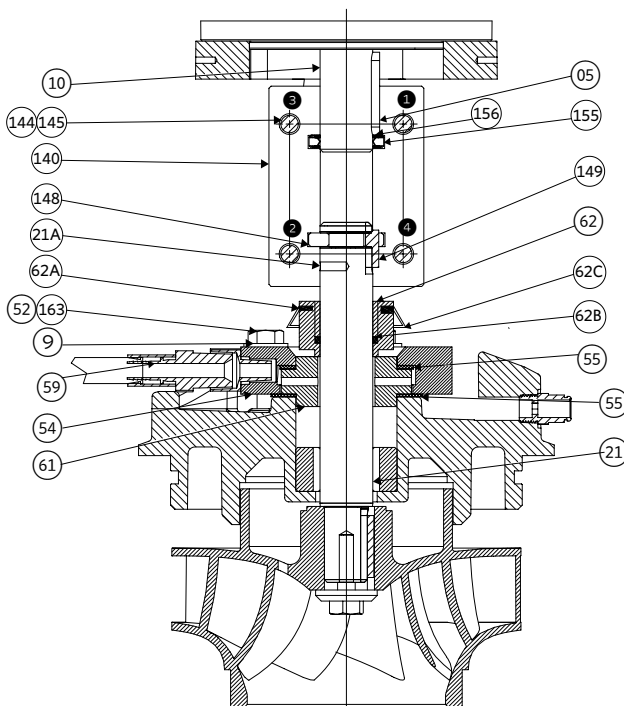
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CAUTION



Always disconnect power supply from motor before beginning service work.

MECHANICAL SEAL REPLACEMENT INSTRUCTIONS FOR RIGID SPLIT- COUPLED PUMPING UNITS (SERIES 4300 & 4322)



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 www.ipcol.com

CAUTION



The permissible TDS levels are :

- A SSiC Vs C - 2000ppm max
- B SSiC Vs SSiC - 4000ppm max

In case the water exceeds permissible TDS levels, corrosion or fouling may occur resulting in seal failures. It is necessary to maintain the water quality with proper water treatment program.

Seal Removal

An important feature of the rigid split-coupled 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 (62A) Remove the coupling screws and lock washer (144,145) and separate the coupling halves (140). Remove the motor shaft key (05) and the pump shaft key (149).

Do not remove motor collar (155) for seal replacement.

- C Remove the mechanical seal rotating assembly (62) through the gap between the pump and motor shafts..
- D Disconnect the seal flush piping (59) from pump discharge. Mark seal gland plate (54) position. Remove the seal gland plate bolts and washer (lock washer) (52,163) and seal gland plate (54). Remove the stationary seat (61) and seat gaskets (55).

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 (61) and gaskets (55) from mechanical seal package, aligning the seat flush hole with the seal gland plate flush line connection. Ensure the large diameter gasket is on the bottom. Replace seal gland plate (54) and tighten the seal gland plate bolts (52,163) evenly and diagonally to 5 (ft. lbs) for 0.75" seal size.
- F When installing the mechanical seal (62), ensure parts are perfectly clean.
- G Apply a small amount of temporary rubber lubricant emulsion to the O-ring (62B). Carefully slide the mechanical seal rotating assembly (62) down the shaft onto the stationary seat (61). Do not tighten the set screws (62A) on the side of the mechanical seal yet. Do not remove holding clips (62C).

If motor is replaced: Loosen set screws (56) on motor shaft collar (155) and remove from old motor shaft. To position the collar (155) correctly on the new motor shaft, temporarily fit motor shaft collar (155) 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 (156) in the collar (155) enough to hold the collar in place on the shaft and remove the coupling half. Tighten all collar set screws (156) evenly and diagonally.

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- H** Fit the motor shaft key (05) and the pump shaft key (149) then install the keyed coupling half (140) first.

NOTE:

For easier coupling installation, motor and pump shaft keys (05 & 149) 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 (21A) and lift pump shaft until the pump shaft collar is positioned in the coupling groove, then rotate shaft to locate the pump shaft key (149) into blind keyway in coupling.

- I** Place the second coupling half into position and tighten the coupling screws (144,145) following the tightening pattern shown on the illustration (1-2-3-4).

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 (62) firmly onto the stationary seat (61) and tighten the set screws (62A) by a torque wrench to 5 (ft. lbs). The mechanical seal is now pre-set at the correct working length.

- J** Replace the seal flush piping (59) and drain plug(s). Open all isolating valves prior to operating pump(s). Reconnect power supply.

Install new adapter O-ring

Insert new adapter O-ring into the O-ring groove of the adapter and apply silicon or glycerine lubricant around the O-ring.

Clamp Ring

Insert Clamp Ring thru the impeller and adapter flange. Tighten the nut on the clamp ring to 90-100 lbs-in.

MAINTENANCE**GENERAL CARE**

Vertical In-Line pumps are built to operate without periodic maintenance, other than motor lubrication on larger units. A systematic inspection made at regular intervals, will ensure years of trouble-free operation, giving special attention to the following:

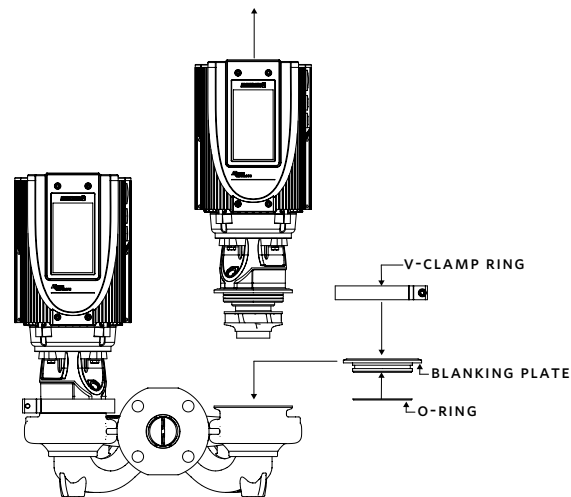
- Keep unit clean
- Provide the motor with correctly sized overload protection. Keep moisture, refuse, dust or other loose particles away from the pump and ventilating openings of the motor.

- Avoid operating the unit in overheated surroundings (Above 100°F/40°C).

If one pump requires service, install the blanking plate to allow the other pump head to continue operating

WARNING

Whenever any service work is to be performed on a pumping unit, disconnect the power source to the driver, lock it off and tag with the reason. Any possibility of the unit starting while being serviced must be eliminated. If mechanical seal environmental accessories are installed, ensure water is flowing through the sight flow indicator and that filter cartridges are replaced as recommended. (See Armstrong files 43.85 and 43.86 for seal environmental instructions).



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