

DESIGN ENVELOPE 4372 MECHANICAL SEAL & BLANKING PLATE | INSTALLATION AND OPERATING INSTRUCTIONS

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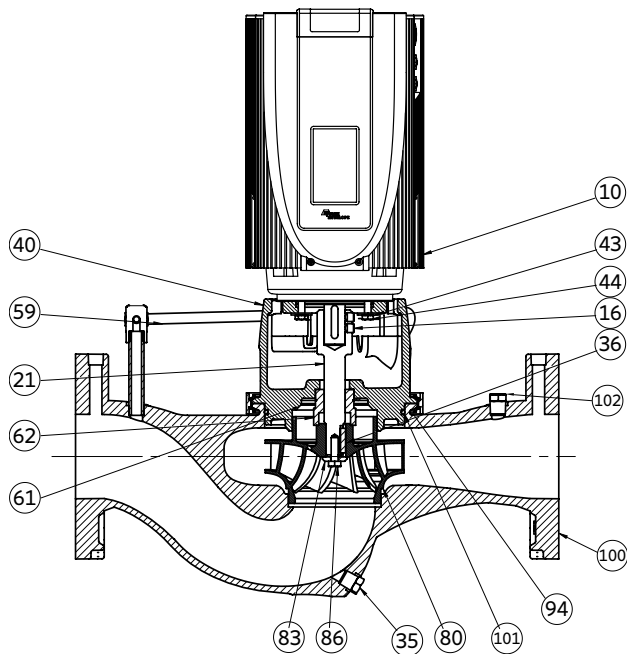
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CAUTION



Always disconnect power supply from motor before beginning service work.

MECHANICAL SEAL REPLACEMENT INSTRUCTIONS FOR CLOSE-COUPLED PUMPING UNITS (SERIES 4380 & 4372)



The close-coupled or motor mounted type Vertical In-Line pumps use vertical shaft-down ball bearing motors (integrated motors and drives). Each pump and motor unit is pipe mounted and as such relies on the piping only for support. The piping support is designed for the weight of the piping, liquid, pump and motor and other pipe fittings. The pumping unit should not be independently secured to the building structure. If the pump is mounted separately to any structure, the pump must be isolated from the piping with flexible piping connections. For units with larger motors it is advisable to install a permanent device for lifting the rotating assembly out of the pipe mounted casing to service the unit.

Breakdown procedures:

CAUTION



Exercise extreme care when handling power wiring. Ensure that the fuses are removed or breaker disconnected in the power line to the motor. Power disconnect should be within sight of the pump being serviced and tagged with the reason for disconnection.

A Electrical wiring

If the pump and/or motor assembly is to be serviced on a bench, the motor wiring must be disconnected.

B Isolation valves

If the system is not drained: Ensure that the suction and discharge piping isolation valves are closed. Remove drain plug (35) from the bottom of the casing and drain the pump.

C Prepare assembly for removal

Secure the motor (10) by lifting straps to an overhead chain fall or similar lifting device. The device must be designed to lift the weight of the unit safely. Raise the lifter to bring the lifting straps taut. Disconnect the flush/vent flex hose from pump suction and secure flex hose to one side. Remove the clamp ring between casing (100) and adapter (40). Care should be taken not to apply pressure to the outside diameter of the adapter, to prevent possible breakage, outside pressure should be on the casing only.

D Remove rotating assembly

The rotating assembly [motor, adapter and impeller] (10, 40 & 80) may now be lifted out of the casing.

E Rotating assembly notes

The impeller (80) is fastened directly to the stub shaft and must be removed to replace the mechanical seal assembly (61/62). This may be accomplished on a safe surface near the installation, or more conveniently on a work bench.

F Impeller cap screw

The impeller (80) should be prevented from rotating while the impeller cap screw (86) is loosened. A heavy screwdriver or pry bar may be inserted in between the impeller blades to enable the impeller cap screw (86) to be backed off with a socket wrench [**NOTE:** be careful not to damage the impeller blades]. Remove the impeller cap screw and washer (86 & 83).

G Pump impeller

Using wheel pullers, with the jaws behind the rear shroud of the impeller (80) [Behind a vane at each side] pull the impeller free of the pump shaft. Impeller that is difficult to remove may be loosened by heating the impeller hub with a torch during the pulling process to remove the impeller from the motor shaft.

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.

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Keep moisture, refuse, dust or other loose particles away from the pump and ventilating openings of the motor.

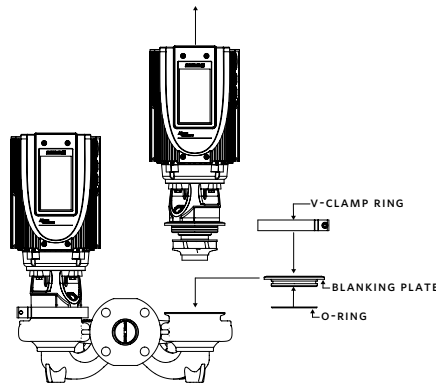
- Avoid operating the unit in overheated surroundings (Above 100°F/40°C).

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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