2. Installation of the Pump

2.1 Positioning

The pump must be positioned so that the suction pipe is as short as possible and there is a sloping gradient towards the suction port. Keep the number of valves, bends and tee-pieces on the suction side to an absolute minimum.

There must be sufficient space around the pump for piping and access for maintenance.

2.2 Lining up the pipe system

Line up the pipes carefully to the pump suction and discharge nozzles. Make sure that the pipe system is adequately supported by pipe supports so that the pump body is not subject to strains and weight from the pipe system.

Fig. 1: Direction of shaft rotation

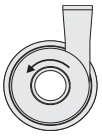
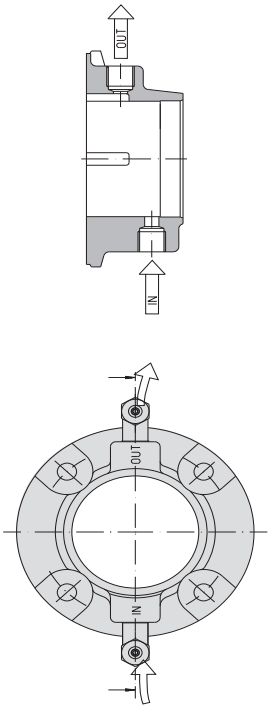


Fig. 2: Seal flange positioned vertically



2.3 Power supply

All electrical installation must comply with all applicable codes and standards including those established by the Occupational Safety and Health Administration (OSHA).

Install a main power disconnect on-off switch that can be locked in the power off position and have the key removed when service is performed.

Thoroughly read the motor manufacturer's instructions before making installation.

The motor should be connected such that the direction of rotation of the motor (and thus the impeller) is counterclockwise when viewed from the front towards the suction nozzle of the pump body (Fig. 1).

2.4 Water supply for water-flushed shaft seal

Pumps with a water-flushed shaft seal have two hose connectors on the seal flange. The hose connectors are G1/8 BSPP and fit 1/4 inch plastic tubing. A flush flow of 4-8 gallons/hour is required. Maximum pressure is 100 PSIG.

The hose connection in the seal flange should always be positioned vertically with the fluid inlet below and the outlet above. See Fig. 2.

Water consumption can be limited by installing a solenoid valve on the supply side for the flushing water. The open/close function of the solenoid valve can be controlled by the pump's start/stop sequence.

Do not use the flushing water connectors for steam condensate. If you want to use steam as the barrier medium, special aseptic piping is required. See section 2.5 for connection.

2.5 Connecting steam or steam condensate for aseptic use

Shaft seals for aseptic use are supplied with two hose connectors (G1/8 BSPP x 6mm/4mm PTFE Tubing).
Steam can be used at temperatures up to 300°F (150°C) and pressures up to 72 PSIG (5 bar).

3. Before Start-up

Note: for numbered items, see assembly drawing on page 10.

Before starting the pump, dismantle and clean the suction pipe. Any foreign material in the pump should be removed.

3.1 Checking the pump body for foreign material

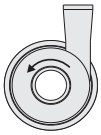
Remove the pump body as described below. See page 10 for the referenced assembly drawing.

1. Disconnect the power supply.
2. Remove the pump body (item 1a) by undoing the clamp ring (item 9a) or body screws and carefully pull off the pump body.
3. Turn the impeller (item 4) to ensure that there is no foreign material behind it.
4. If there is any foreign material in the pump, remove it.
5. When the pump body is clean and free of foreign material, reassemble the pump.

Mount the pump body as described below:

6. Check that the locating pin in the top of the back plate (item 8, where fitted) mates with the detent in the pump body. Carefully, to avoid damaging the o-ring, press the pump body (item 1a) in over the o-ring (item 6) Fasten with the clamp ring (item 9a) or body screws. If using body screws, lubricate the threads and observe the correct tightening torque: See "Required torques for housing clamps/screws" on page 18.
7. Install suction and discharge pipes. Check that the pipe unions have been tightened properly and that pipe supports have been fitted.

Fig. 3: Direction of rotation



To make the pump body easier to fit, we recommend that you give the O-ring a thin layer of food-approved, acid-free grease or soap.

3.2 Testing the pump

To check that the pump is working satisfactorily, pour water into the pump and start it for a moment. Check the direction of rotation (Fig. 3). Listen for any unusual noises.

In pumps with water-flushed or steam-flushed shaft seals, the seal chamber must be filled with water/steam.

Never allow the pump to run without liquid, as this will ruin the shaft seal.

4. Putting the Pump into Service

Check the following before starting the pump:

- that the shaft guard has been fitted properly
- that there is free access for liquid
- that the valve on the discharge side is closed.

The valve on the discharge side (if fitted) is closed during start-up to reduce motor starting current, but should be opened again as soon as the pump has been started.

4.1 Flushing water/steam/condensate etc.

In pumps with a flushed shaft seal, check that the supply of flushing medium is open and that the flow of the medium is adequate (approx. 4-8 gallons/hour).