

- The pump has been utilized for an application where the operating conditions and/or the pumped liquid were incompatible with the pump itself. Furthermore the pump was not explicitly approved by Fluid-o-Tech for such an application
- The operating pressure results to be less than 1 bar below the bypass valve setting.

The adjustment or replacement of defective parts made under this warranty will not extend the original warranty period. The Purchaser/User is responsible for the proper disposal or recycling of product at end of service life or use.

CERTIFICATIONS

NSF standard 169 listed pumps (PA, MA and CA series).

NSF 169 listed pumps that meet the requirements of the low lead American law AB 1953 (PB, MB and CB). WRAS certified pumps (PW, MW and CW).

The product complies with the following Directives:

- Directive 94/9/EC of the European Parliament and of the Council, of 23rd March 1994, related to equipments and protection devices intended to be used in potentially explosive environments - ATEX.
- D.M. 174/04 of the Health Ministry, of 6th April 2004, on materials and devices that may be used in fixed catching, treatment, adduction and distribution

installations of waters destined for human use.

- EC Regulation n.1935/2004 of the European Parliament and the Council of 27th October 2004 on materials and articles intended to come into contact with food products and for which there are migration tests with photo A as required by DM n.338 of 22nd July 1998 Encl.1 Chapter 1.

Groups equipped with motors satisfy the requirements of the following Directives for the member states' legislations approaching:

- Directive 2004/108/EC of the European Parliament and of the Council, of 15th Dec 2004, related to the Electromagnetic Compatibility – EMC.
- Directive 2006/95/EC of the European Parliament and of the Council, of 12th Dec 2006, related to the electric material intended to be used within specified voltage limits – DBT.
- Directive 94/9/EC of the European Parliament and of the Council, of 23rd March 1994, related to equipments and protection devices intended to be used in potentially explosive environments - ATEX.
- Directive 2011/65/EU of the European Parliament and of the Council, of 08th June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment – RoHS.



INSTRUCTION MANUAL

DIRECT DRIVE ROTARY VANE PUMPS MO/CO 30-200, PO 70-400 AND PO 500-1000 SERIES



INSTALLATION

The pump has to be installed exclusively by skilled personnel with proper equipment.

WARNING

For food applications the pumps (even when NSF listed or WRAS approved) need to be sanitized by circulating water at 80 °C (176 F) for at least 20 minutes. The water used for this operation must not be reused, either during the sterilization or later. This product is not designed to pump dangerous fluids, including flammable or toxic fluids.

It is recommended not pulling out the two protection sponge caps placed on the inlet and outlet of the pump before mounting the fittings and connecting the pipes, to avoid the incidental entrance of any solid extraneous object which might damage the internal components of the pump. Model numbers of this product are available with optional features, materials and performance. Choice of the model should be appropriate to its intended use. Attention should be paid when installing a service pump, including matching the model numbers. Changing the pump with a model of different capacity may damage the system, the motor and the pump itself. The "CO" series pumps are not equipped with weep holes, therefore the normal condensation may not evaporate. In this case it is necessary coupling the pump to a motor with 4 holes at 90° in the coupling area. If continuous operation is needed, the unit has to be mounted in an airy space in order to dissipate the heat produced by the motor.

The pump must be mounted horizontally. To avoid noise and vibrations of mechanical parts, it's advisable to mount the motor on rubber shock-absorbing supports. The use of the dumper coupling kit for 48YZ frame motors (92-80-04) is suggested in order to grant a proper alignment between the pump and the motor. Should any warning or limitation not be understood, please contact an engineer at Fluid-o-Tech for clarification or explanation.

MOUNTING THE PUMP ONTO THE MOTOR

a) Motor with clamp mounting (type 48YZ)

- Make sure the motor is unplugged from the electric line
- Insert the clamp on the pump (shaft side)
- Couple the pump to the motor by inserting the pump shaft into the motor shaft and pushing it till it stops
- Turn the pump to the desired position
- Position the clamp in order to surmount the pump and the motor rings
- Tighten the clamp screw using 1-1.5Nm torque maximum
- Make sure that the clamp screw is tight enough to prevent the rotation of the pump on the motor
- Should the pump be noisy during the startup, it is necessary to untighten the clamp screw, reposition the pump and tighten it again
- If the pump continues being noisy we suggest you interpose the 48YZ optional coupling (92-80-04) between the pump and the motor.

b) Motor with B14 or NEMA 56C mounting

- Make sure that the motor is unplugged from the electric line
- Mount the motor side of the coupling on the motor
- Tighten the set screw (only for the couplings equipped with the set screw)
- Insert the shock absorber in the coupling on the motor side
- Insert the pump side of the coupling in the shock absorber
- Mount the adapter on the motor flange and tighten the screws
- Insert the pump shaft into the coupling

- ## DIMENSIONAL REQUIREMENTS OF THE MOTOR FOR A CORRECT COUPLING WITH THE ROTARY DIRECT DRIVE FLUID-O-TECH PUMPS

[illegible]

The circuit should be carefully flushed before connecting the pump.

Using a fitting with a GAS thread on a pump with NPT ports, or vice versa, may cause filaments in the pump

If the pump is made of stainless steel the fittings have to be made of stainless steel or plastic, not in brass, to avoid problems of corrosion.

- The power supply must be consistent with the electrical data stamped on the motor plate, with particular regard to voltage and frequency.
The power supply needs to be switched off during installation.
- The motor rotation must be clockwise (looking the motor in front).
If operated counter-clockwise, the pump won't work. In case the rotation is counter-clockwise, proceed according to the scheme generally enclosed in the electrical wiring box.
- If the pump fails or some estraneous object enters it, the pump-motor unit may stop or work in critical conditions; for this reason the motor should have a thermal protection to avoid overheating or a current protection to avoid overloading.

- For applications that require temperatures higher than 80 °C (176 F), please contact Fluid-o-Tech.
- The maximum differential pressure must not exceed 16 bar (230 psi)
- The maximum system pressure must not exceed 20 bar (290 psi)

- A dirty filter, which doesn't allow enough flow of liquid through it, causes cavitation and fast wear of the pump. For the pump with a built-in filter it's recommended the periodic cleaning of the filter with alcohol and compressed air. If the filter is external it's necessary to clean it or to replace it periodically. The rotary vane pumps are self-priming, but the dry running may cause failure of the mechanical seal and internal components and therefore possible leaks. Leaks may be also caused by ingress of extraneous solid particles. Consideration should be given or countermeasures taken to avoid creation of dangerous or damaging conditions.

If possible it's advisable to install the pump as close as possible to the tank.

The maintenance of rotary vane pumps and the replacement of wear parts has to be carried out by Fluid-o-Tech or an engineer authorized by Fluid-o-Tech.

Warranty remedy is limited to repair or replacement of defective product at Fluid-o-Tech own judgement. Fluid-o-Tech's responsibility under this warranty is limited to the repair or replacement of defective equipment returned to us on a D.A.P. basis, providing that our analysis discloses that such part or parts were defective at the time of sale.

- The directions on how to handle, install or operate the pump are disregarded
- The pump has been disassembled or modified by anyone other than a Fluid-o-Tech (or authorized by Fluid-o-Tech) engineer or repaired with non original components
- The pump operated dry or in cavitation
- Solid extraneous particles are found in the pump
- Evident signs of over pressure are observed compared to the values reported in the data sheet or in the specifications provided by the customer and accepted by Fluid-o-Tech.