**INSTRUCTION MANUAL**

**DIRECT DRIVE ROTARY VANE PUMPS**

**GA 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) 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 “GA” series pumps are equipped with weep holes, therefore the normal condensation may evaporate. 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 support. Should any warning or limitation not be understood, please contact an engineer at Fluid-o-Tech for clarification or explanation.

**CONNECTING THE UNIT TO THE FRAME**

For the brush D42 motor

Bracket code: 94-80-01

Clamp code: 90-78-01

For the brush D56 motor

Bracket code: 94-84-02

Clamp code: 90-78-02

Fluid-o-Tech reserves the right to alter the specifications indicated in this catalogue at any time and without prior notice.
WIRING THE MOTOR TO THE POWER SUPPLY
- The power supply must be consistent with the electrical data printed on the motor plate. 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 of failure or accidental entry of foreign objects, the pump-motor unit may stop or work in critical conditions. The motor is not equipped with a thermal protection to prevent overheating, or a current protection for overload.

CONNECTING THE DRIVER TO THE BLDC MOTOR
An external driver is required to operate the BLDC motor. If any electronics are not already present in the machine, Fluid-o-Tech is able to supply the driver on request.

CONNECTING THE PUMP TO THE CIRCUIT
The circuit should be carefully flushed before connecting the pump.

It’s strongly recommended using, on the inlet port of the pump, pipes and connections of suitable size for the pump capacity.

The pumps - although identical in their aspect - may have GAS or NPT threaded ports. The thread of the fitting should match the thread of the pump port. If the pump has GAS threads the sealing is provided by an o-ring which is pressed against the flat surface of the port. With the NPT thread, the sealing is provided by the contact between the threads.

Using a fitting with a GAS thread on a pump with NPT ports, or vice versa, may cause cracks and burns in the pump (especially on the inlet side) and cause the pump to fail. In this case a few turns of PTFE tape around the fittings are necessary.

Do not exceed in using PTFE tape as pieces of it may fall in the pump in order to avoid damage to the motor.

A few drops of water from the drain holes of the pump are normal during the first hours of operation. In case the leaking persists, contact Fluid-o-Tech.

Warranty
Each new pump is guaranteed to be free of defects when leaving the factory for a period of 12 months from the production date stamped on the pump’s housing, plus a period of 3 months to cover the warehouse and transportation, or for a period of 15 months from the purchase date. In no event shall this period exceed 15 months from the date of the original invoice.

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

The warranty is void if:
- 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.
- The pump has been utilized for an application where the operating conditions and/or the pumped liquid were incompatible with the pump itself, or 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 during this warranty will not extend the original warranty period. Responsibility of Purchaser/User is the proper disposal or recycling of product at end of service life or use.

CERTIFICATIONS
NSF Standard 169 listed pumps (GA Series).
NSF 169 listed pumps that meet the requirements of the low lead American law AB 1953.

The product complies with the following Directives:
- 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 1996 Encl.1 Chapter 1.

Pump-motor units equipped with motors satisfy the requirements of the following Directives for the member states’ legislations approaching: