



MANUAL

USE AND MAINTENANCE

SPARE PARTS

STN SERIES

CAUTIONS

WARNING: HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN



SEVERE PERSONAL INJURY, DEATH OR SUBSTANTIAL PROPERTY DAMAGE



Verify that the pumped fluid is compatible with the pump's construction materials.



Test rotation always with pump full.



Occasional failure may cause splashes even to a great distance.



Always use safety goggles, rubber gloves and insulating shoes.



Before touching the motor or the spider disconnect current.



In the case of anomalous vibrations stop the pump immediately.



Working temperature: Polypropilene 60°C
PVDF 90° C
AISI 120°C



Max pression of system: pumps in PP/PVDF: 4 bar
pumps in AISI: 6 bar



Do not pump flammable liquids.



Do not touch pump when it's running.



In no case must the pipes lean on the pump.



When using the pump with aggressive or toxic liquids or with liquids that may represent a hazard to health you must install suitable protection on the pump to contain, collect and signal any spills as there is **DANGER OF POLLUTION, CONTAMINATION, INJURIES AND/OR DEATH.**



The pump contains magnetic parts. Avoid dismatling the pump in the presence of an operator with pace-maker.



The magnetic parts of the pump could damage clocks in quartz or precision instruments, if they came into contact.



If for any reason the requested hydraulic power of the pump is higher than nominal power of the electric motor (installing on the adapted pump) the pump is not adapted to the application. Contact the firm Gemmecotti to select the right pump.



REMARKS ON THE USE OF THE PUMP PERFORMANCES CURVES

"HTM" SERIES MAGNETIC DRIVE CENTRIFUGAL PUMPS

- A) Performances are valid for homogeneous liquids with specific gravity of 1 kg/dmc. If the liquid has a specific gravity different from 1, the actual power consumption will be the one shown in the curve multiplied by the specific gravity. For liquids having S.G. Higher then 2 ask the manufacturer.**
- B) Performances are valid for homogeneous liquids with viscosity of 1 cps. If the liquid has a different viscosity from 1, the Q/H curve will have alteration, also efficiency decreases. For liquids having a viscosity lower than 0.5 cps or higher than 150 cps ask the manufacturer.**
- C) The NPSH values given in the curves are the lowest required values. As a rule the NPSH value available on the plant should be 0.5 m (2ft.) higher for safety reasons.**
- D) The given efficiency is achieved by pump- prototypes; efficiency is lower with pumps produced in series and for standard constructions. Reduce as follows:
Pumps with discharge nozzle up to 25mm: 3 points
Pumps with discharge nozzle over 25mm: 2 points**
- E) Performances are guaranteed with manufacture clearance according to UNI 6871-71P (ISO 3555). category II specification. The subsection to other specification requiring closer tolerance should be pointed out in the request of quotation; in this case the selection of the proper model and the exposition of the guaranteed values shall be consequent.**
- F) The maximum temperatures advised are:
60°Cfor polypropylene (PP)
90°Cfor polyvinylydenfluoride (PVDF)
160°Cfor Stainless Steel (SS)**

IF FOR ANY REASON THE REQUIRED HYDRAULIC POWER IS HIGHER THAN THE MAX, ALLOWED MOTOR-POWER, THE SELECTED PUMP IS NOT SUITABLE FOR THE APPLICATION, PLEASE CONSULT THE FACTORY.



STN SERIES SEAL-LESS CENTRIFUGAL PUMPS INSTALLATION RUNNING AND MAINTENANCE INSTRUCTIONS

TO OBTAIN THE BEST PERFORMANCE FROM YOUR HTM PUMP PLEASE READ THESE NOTES CAREFULLY.

Failure to observe the recommended procedures may result in early and severe damage to your pump and may also invalidate the guarantee.

INSTALLATION

- A) Locate the pump close to the liquid source, below the liquid level. Keep the inlet line as short and straight as possible. Use rigid or reinforced pipe so that you it will not deform or collapse under suction conditions.**
- B) The inlet pipe should not be no smaller in diameter than the nominal bore of the pump inlet port. Restriction of the inlet is liable to cause the pump to cavitate, leading to loss of efficiency and rapid wear.**
- C) Use of an electrical starter is recommended. A simple switch is often inadequate for starting and stopping mains voltage electric motors.**

A PROPER STARTE WILL:

- prevent accidental restarts after power-failure;**
- provide a safe, waterproof switch enclosure;**
- protect the motor with a correctly set overload cut-out (a fuse protects only the wiring)**
- withstand the heavy starting current of the motor, preventing arcing and rapid contact wear.**



ESSENTIAL RUNNING PRECAUTIONS

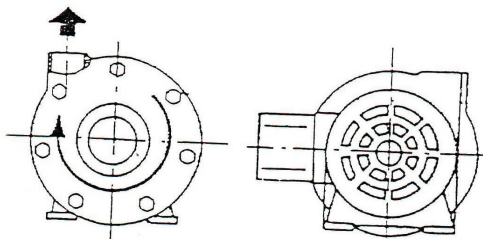
- A) **DO NOT RUN THE PUMP DRY.** Severe damage is liable to result from lack of lubrication to the shaft and bushes.
- B) **AVOID PUMPING LIQUIDS CONTAINING SUSPENDED SOLIDS.** Magnet driven pumps are designed to handle clean liquids. The use of an inlet strainer is strongly recommended. In particular, avoid pumping liquids containing iron oxides or other ferromagnetic particles, however small. If in doubt, please contact your AREA DISTRIBUTOR.
- C) **NEVER RESTRICT EITHER THE INLET OR DISCHARGE PIPE.** Restriction of the inlet is liable to cause the pump to cavitate leading to loss of efficiency and rapid wear. Restriction of the discharge is not advisable, reduced flow can be obtained, if required, by a valve on the discharge pipe.
- D) **IF THE PUMP IS TO BE SHUT DOWN FOR AN EXTENDED PERIOD, IT IS ADVISABLE TO CIRCULATE CLEAN WATER FOR SEVERAL MINUTES TO AVOID THE RISK OF INTERNAL ENCRUSTATIONS OR PRECIPITATION.**

STARTING AND RUNNING

- A) Check that motor voltage and frequency correspond to your main power supply. (see below).
- B) **FILL THE PUMP BODY WITH LIQUID BEFORE STARTING THE PUMP.**

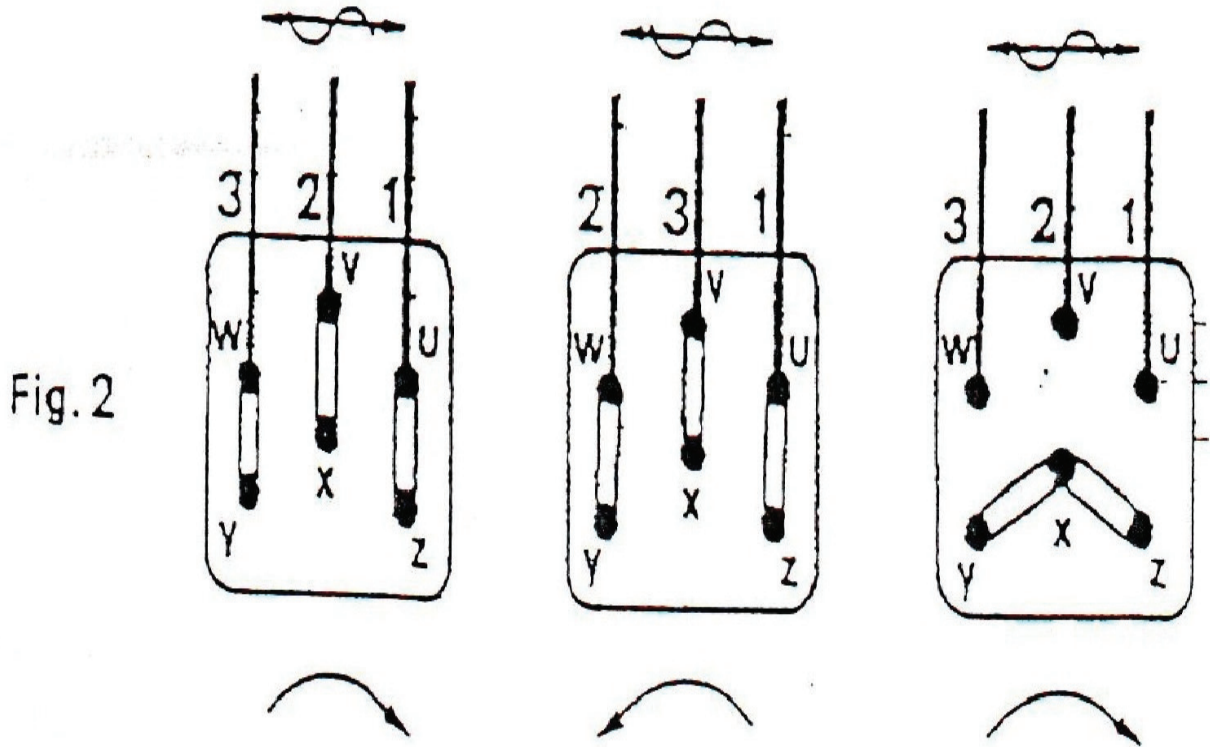
THIS PROTECTS THE SHAFT AND BUSHES AGAINST DRY RUNNING

Start the pump briefly to check the direction of running. The motor should rotate in the direction shown below. (see fig.1)

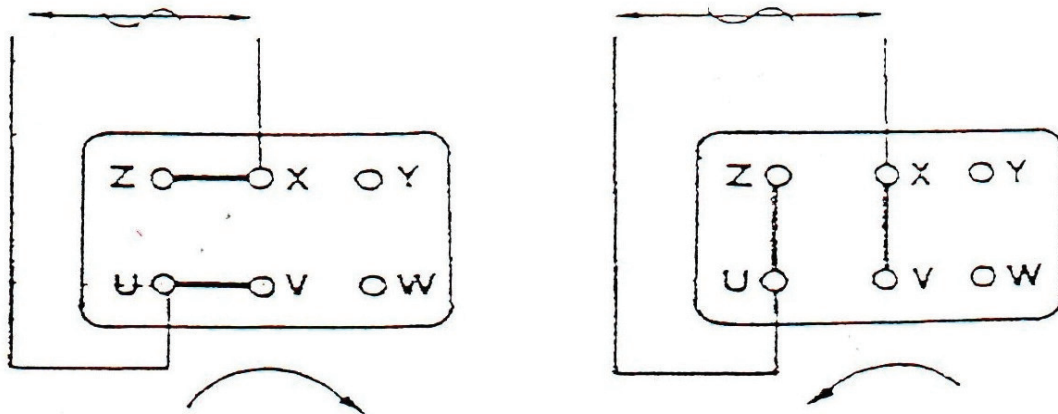




To alter the direction of rotation of a three-phase motor change any connections. (see fig. 2)



For a single-phase motor, reverse the polarity of the start winding in relation to the main winding. (see fig. 3)



IF IN DOUBT, OBTAIN THE ASSISTANCE OF A QUALIFIED ELECTRICIA.



MAINTENANCE OF MAGNET DRIVEN "STN" PUMPS

In general, magnet driven pumps require no routine maintenance, and do not need to be dismantled frequently.

It is advisable though, to make periodic checks on the state of the impeller and shaft support bearings, and to check that the pump remains in good condition internally.

DISMANTLING THE PUMP

The pump can be dismantled either by disconnecting the pipework and removing the pump body, or by leaving the pump body and pipework in position and withdrawing motor and internal assembly from the back.

NOTE THE CORRECT POSITIONS OF THESE PARTS.

- A) drain the pump or isolate it from the rest of the liquid system;
- B) remove the bolts securing the end cover and pump body to the motor adapter;
- C) carefully separate and cover, pump body and internal assembly;
- D) carefully slide the impeller/magnet assembly off the shaft;
- E) examine the shaft and bushes for wear, checking for minimal play.

RE-ASSEMBLY THE PUMP

Follow the above procedure in reverse order. If the pump has been dismantled leaving pump head and pipework in place take particular care when re-assembling not to distort the pump.

PUMPING DENSE AND/OR VISCOUS LIQUIDS

The flow rates and discharge heads quoted for the pumps apply to water at room temperature. If liquids of higher temperature or viscosity or density are to be pumped, the performance of the pump will be correspondingly reduced. These pumps will be satisfactory with liquids up to 100 cps viscosity and 1.9 S.G.

THESE VALUES ARE PURELY INDICATIVE CONTACT YOUR AREA TECHNICAL DEPARTMENT FOR ADVICE PARTICULAR APPLICATIONS.



SPARE PARTS FOR MAGNET DRIVEN PUMPS

A full range of spare parts for your pumps is available from your area distributor. Please quote pump model and description or part numbers of items required.

SEE DATA SHEET AND SECTIONAL DRAWING FOR PUMP MODEL, CONCERNED.

Your area distributor will offer a comprehensive repair service, should you require it.

PLEASE CONTACT THEIR TECHNICAL DEPARTMENT FOR DETAILS.