

# INSTALLATION AND MAINTENANCE MANUAL

(Instructions based on Spanish)

## 1. SAFETY PRECAUTIONS

This symbol together with one of the following words “Warning” or “Danger” indicates the risk level deriving from failure to observe the prescribed safety precautions:



**DANGER risk of electric shock** (Warns that failure to observe the precautions involves a risk of electric shock)



**DANGER** (Warns that failure to observe the precautions involves a risk of damage to persons or things)



**WARNING** (Warns that failure to observe the precautions involves a risk of damaging the pump or the installation)

## 2. WARNINGS



Before carrying out the installation, please read this instruction manual carefully.

It is essential that both the electrical installation and the connections are performed by qualified personnel, who possess the required technical expertise required by the specific safety regulations for the project, installation and maintenance of the technical installations for the country where the product is to be installed.

Any non-compliance with the safety regulations, in addition to being a danger to personnel and causing damage to the equipment, will cancel all rights to interventions covered by the guarantee.

- The device is not designed for use by persons (including children) with physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised and instructed by a person responsible for their safety.
- Children should be supervised to ensure they do not play with the appliance.

## 3. APPLICATIONS AND USE

Our pumps have been developed for continuous operation and the materials used in their manufacture are subjected to strict controls and are rigorously verified.

The machine has been designed to pump water that is free from explosive substances, with a density equivalent to 1000 Kg/m<sup>3</sup> and a kinematic viscosity of 1 mm<sup>2</sup>/s, as well as chemically non-aggressive liquids.

It has no uses other than the one previously described.

## 4. TECHNICAL DATA AND LIMITATIONS OF USE

Power supply voltage:      Single-phase, 230 V, 50/60 Hz.      See data plate  
    Three-phase, 230 - 400 V, 50/60 Hz.

Motor Protection: “IP 55”

Insulation class: Class “F”

MAXIMUM ENVIRONMENTAL TEMP.:      +40°C

## 5. TRANSPORT

Do not subject the products to unnecessary bumps and knocks.

When lifting and transporting the unit, use machines and tools that have been designed for this purpose, using the pallet supplied as standard (if present).

## **6. STORAGE**

All the pumps should be stored in a sheltered, dry, dust-free place, with regulated air-moisture levels when possible. The pumps are supplied in their original packaging, where they must remain until assembly. If not, keep the suction and discharge ports closed.

## **7. INSTALLATION**

### **General**



The pump should be installed as close as possible to the level of water, in order to obtain minimum run length in suction and a reduction of load losses.

The pump should be installed on a solid, very smooth surface. It is necessary to perfectly fit the pump through the two holes provided for this purpose in the support base by means of two screws or other similar methods to prevent any possible noise or vibration that could adversely affect the pump operation.

The pump should not be installed at a geometric height of more than 3.5 metres above the water level.

In order to obtain optimum pump self-priming, it should be installed at a maximum of 2.5 metres above the water level.

The pump should be protected from any possible flooding and correct ventilation should be ensured, but without risking the effects of freezing. In the case of outside installation, the pump should be protected from rain and a power supply cable in accordance with EEC standards, type H07-Requirement Number-F (in accordance with VDE 0250) should be installed. The pump is normally supplied without an electric power cable.

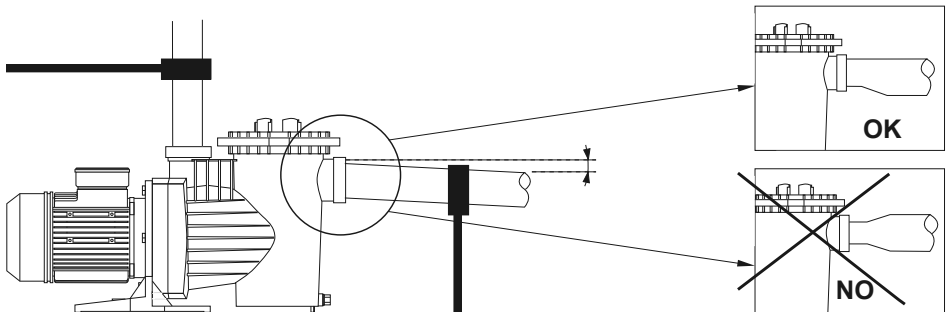
### **Assembling the Piping**



We recommend the installation of cut-off valves in both pump suction and impulsion so that the pump may be removed from the installation without having to empty the whole circuit first.

The suction piping should be assembled with a slight inclination towards the pump to prevent air pockets forming inside.

It is very important that both the suction and impulsion piping are independently supported and correctly fixed in place so that the pump does not have to support their weight nor the vibration produced by the water flow through them. In a situation where a long length of impulsion piping is used, we recommend the installation of a check valve to prevent the water hammer produced by the return of the water causing any damage when the pump stops.



If flexible piping is employed, it should be the non-compressible type.

When making the connections to the pump, totally clean connections should always be used, with the thread in perfect conditions and leak-tightness should be obtained with special care.

### **8. ELECTRICAL CONNECTION**



Before carrying out any maintenance on the electrical part of the motor, it should be disconnected from the electricity supply.

System protection should be based on a differential breaker ( $I_{fn} = 30 \text{ mA}$ ). A GOOD EARTH CONNECTION MUST BE MADE WHENEVER POSSIBLE. The earth terminal, in particular, must be connected to the yellow/green conductor of the supply cable. An earth conductor that is longer than the phase conductors must also be used so as to prevent it from being the first to disconnect if pulled.

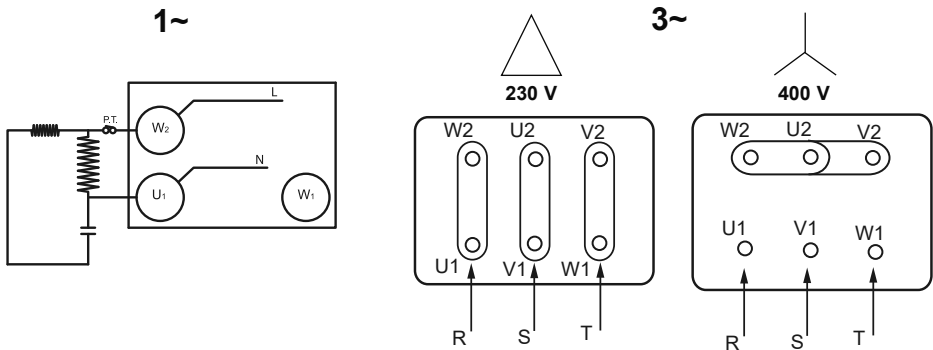
All our single-phase motors incorporate thermal protection that will disconnect the pump if the motor temperature increases due to an overload and will then connect the electricity supply again once the temperature has dropped to within normal levels again.

For three-phase versions, the user should provide appropriate protection in accordance with current regulations.

It is essential to connect the pump to a suitable ground.

The following diagram, should be used when making the electrical connections to the pump terminals.

Use is only permitted if the electric installation has safety protection systems in accordance with personal safety regulations in force in the country where the product is to be installed.



## **9. CHECKS PRIOR TO PUTTING INTO SERVICE**



### **THE PUMP SHOULD NEVER BE ALLOWED TO OPERATE OFF LOAD**

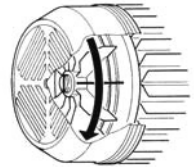
Check that the voltage and frequency of the incoming mains electricity supply correspond to those on the pump's specification plate.

For pool pumps, unscrew the transparent pre-filter cover and fill the pre-filter with water until the water level reaches the suction hole. Replace the pre-filter cover and hand-tighten only, ensuring that it is fully tightened.

Check the pump shaft is able to freely rotate.



Check that the direction of motor rotation corresponds with that indicated on the specification plate (the fan should rotate in a **CLOCKWISE DIRECTION**, when viewed from the rear of the motor). If the motor is three-phase and it is observed that it is rotating in the opposite direction, then two of the supply phases should be inverted at the protection panel.



## **10. PUTTING INTO SERVICE**

Open all valves, both suction and impulsion, and switch on the pump.



Wait a reasonable time for the pump and suction piping to self-prime. If this takes too long, then the priming process should be repeated.

Once the pump has correctly self-primed the motor current should be checked and the thermal relay adjusted appropriately.

## **11. MAINTENANCE, DISMANTLING AND RECYCLING**



The most important maintenance operation is that of keeping the pre-filter basket clean, and this filter state check should be performed after each filtration operation and especially after bottom-cleaning. The procedure is as follows:

Disconnect the electricity supply to the pump. Close the suction and impulsion valves to the pump. Open the pre-filter cover, remove the basket and clean it. Once it is clean, replace it, but before closing, check the condition of the pump body thread, pre-filter cover and the O-ring, cleaning them only with water, and where necessary apply a light coating of neutral Vaseline.

The pump should only be dismantled by qualified personnel who hold the technical qualifications required under the technical safety regulations of the country where the product is located.

## Only for pool pumps

Under no circumstances should chlorine tablets be placed in the pre-filter basket.

The special key that is supplied to OPEN the pre-filter cover, should never be employed to close it.



When there is a frost risk, or when the pump is to remain off for any significant length of time, then it should be emptied. This is accomplished by removing the two emptying plugs on the lower part of the pump body.

Apart from what has been stated above, our pumps do not require any other maintenance operations since the bearings have been dimensioned and lubricated for life.



This product falls within the scope of Directive 2012/19/EU regarding the management of electrical and electronic equipment waste (WEEE). Electronic-electrical equipment must not be disposed of with domestic waste as it is made of various materials that can be recycled at the appropriate facilities. Inquiries should be made through the municipal authorities regarding the location of the ecological platforms that receive products for disposal and their subsequent correct recycling. Furthermore, it is worth remembering that, upon purchase of an equivalent appliance, shops are obliged to collect the product for disposal free of charge.

This product is not potentially dangerous for human health and the environment, since it does not contain harmful substances as per Directive 2011/65/EU (RoHS), yet if abandoned in the environment it has a negative impact on the ecosystem. Read the instructions carefully before using the appliance for the first time. It is recommended that you do not use this product for any purpose other than that for which it was intended; there is danger of electric shock if used improperly. The crossed-out bin symbol found on the appliance label indicates the compliance of this product with the regulations regarding electrical and electronic equipment waste.

Abandoning the appliance in the environment or its illegal disposal is punishable by law

**POSSIBLE FAULTS, THEIR CAUSES AND SOLUTIONS**

| <b>FAULTS</b>  | <b>CAUSES</b>   | <b>SOLUTIONS</b>  |
|--|---|---|
| <ul style="list-style-type: none"> <li>• The pump will not prime</li> </ul>            | <ul style="list-style-type: none"> <li>• The pump has not been primed</li> <li>• Air entering by the suction piping</li> <li>• Air entering via the mechanical seal</li> <li>• Incorrectly closed pre-filter cover</li> <li>• Excessive suction height</li> <li>• Inverted motor rotation</li> <li>• Incorrect voltage</li> </ul> | <ul style="list-style-type: none"> <li>• Fill the pre-filter with water.</li> <li>• Check the connections and piping.</li> <li>• Replace the mechanical seal.</li> <li>• Close correctly.</li> <li>• Install at a suitable height.</li> <li>• Invert two of the motor phases.</li> <li>• Check the plate voltage.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• The pump provides a poor flow rate</li> </ul> | <ul style="list-style-type: none"> <li>• Air entering by the suction piping.</li> <li>• Excessive suction height.</li> <li>• Inverted motor rotation.</li> <li>• Incorrect voltage.</li> <li>• Blocked</li> <li>• Suction piping diameter is less than that required.</li> <li>• Impulsion closed or blocked.</li> </ul>          | <ul style="list-style-type: none"> <li>• Check the connections and piping.</li> <li>• Install at a suitable height.</li> <li>• Invert two of the motor phases.</li> <li>• Check the plate voltage.</li> <li>• Clean the pre-filter basket.</li> <li>• Correctly dimension the suction piping.</li> <li>• Open the valve and check the sand filter condition.</li> </ul> |
| <ul style="list-style-type: none"> <li>• The pump makes a lot of noise</li> </ul>      | <ul style="list-style-type: none"> <li>• Suction piping diameter is less than that required.</li> <li>• The pump or piping has not been correctly secured.</li> <li>• Inverted motor rotation</li> </ul>  | <ul style="list-style-type: none"> <li>• Correctly dimension the suction piping.</li> <li>• Recheck the pump and piping securing methods so that they are separate.</li> <li>• Invert two of the motor phases</li> </ul>  |
| <ul style="list-style-type: none"> <li>• The pump will not start</li> </ul>            | <ul style="list-style-type: none"> <li>• Lack of mains supply.</li> <li>• Breaker operation.</li> <li>• Incorrect voltage.</li> <li>• Motor jammed.</li> </ul>  | <ul style="list-style-type: none"> <li>• Check the voltage and fuses.</li> <li>• Check and reset breaker.</li> <li>• Check the plate voltage.</li> <li>• Consult the Official Technical Service.</li> </ul>   |