



OPERATING INSTRUCTIONS MANUAL



These pumps are recommended for pumping clean water, water with a moderate impurity load (NGA , PRO-NGA, HF, NF) and chemically non-aggressive fluids .
They must be used in compliance with local laws.

CAUTION !

Before installation and use read the following instructions carefully.

The manufacturer declines all responsibility the event of accident or damage due to negligence or failure to observe the instructions described in this booklet or in conditions that differ from those indicated on the rating plate.

It also declines all responsibility for damage caused by improper use of the water pump.

SAFETY



Before carrying out checks or doing any maintenance, clear the system by Disconnecting the voltage and unplug the pump from the socket .

The water pumps comply with the Directives 2006/42/EEC, 2006/95/EEC, 2004/108/EEC, 2002/95/EEC including the latest amendments.

Before installing the water pump, make sure that the power supply mains is earthed and complies with regulations.

During operation the motor can get hot : be careful .



They are not suitable for pumping inflammable liquids or for operating In places where there is danger of explosion.

Avoid contact between the power supply and the liquid to be pumped.

The water pump must never be lifted or transported by its supply cable.

The norm EN 60335-2-41 sets out what follows:

1) the pump used for cleaning and other swimming pool maintenance purposes should not be used when there are people in the pool and must be operated through a residual current device (RCD) with a rated residual operating current not exceeding 30 mA.

2) the pump for outdoor fountains, garden ponds and similar places must be supplied through a residual current device (RCD) with a rated residual operating current not exceeding 30 mA.

3) for pumps meant to be used in swimming pools and pumps to be used for outdoor use the supply cord should not be any lighter than "H07 RN-F" (245 IEC 66 denomination) .

The appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

Children should be supervised to ensure that they do not play with the appliance.

PRELIMINARY INSPECTION

Unpack and check that it is in perfect condition .

CAUTION ! Also check that the data on the rating plate correspond to the required data .
If there is any problem contact the supplier immediately, specifying the type of Fault .

CAUTION ! if there is any doubt about the safety of the machine, do not use it .

CONDITIONS OF USE

The following conditions must be observed when using the water pump:
 Maximum operating pressure: 10 bar (6 bar up to P2= 0.75 kW) (18 bar x PQ3000).
 Maximum liquid temperature allowed, as per norm EN 60335-2-41: +35 °C
 Maximum liquids temperature allowed for materials used: +90 •c (+60 •c for PK-PKS) (+40 •c for models with plastic impeller or other plastic components that comes into contact with liquids)
 Voltage variation allowed : +/- 5% (if a field of nominal values is indicated, these are to be considered as minimum/maximum values allowed)
 Uniform and continuous level of acoustic pressure: [≤ 75 dB(A) for P2 up to 2.2 kW] - [≤ 85 dB(A) for any other P2)
 Make sure that the pump works in its rated operation range

INSTALLATION

Installation can be a fairly complex operation.
It must therefore be carried out by competent and authorized installers.

CAUTION ! During installation apply all safety regulations issued by the competent authorities and use common sense at all times.

Install the pump in a dry and well-aired place.
 When an IP55 grade pump is installed in a humid environment, it is necessary to drain the condensate that forms in the motor on a regular basis, especially if the pump is subject to only intermittent use. Before starting the pump, remove the two condensate drainage plugs located in the lower part of the motor and allow the condensate to drain. Subsequently, put the condensate drainage plugs back in the holes. With the appropriate bolts secure the pump to flat solid surfaces to avoid vibrations .
 The pump VLE can be installed either vertically or horizontally. Horizontal installation is recommended.

The pump (PKS, JSW, JCR, CK, CKR, JDW, PLURIJET, BETTY) must be installed in a horizontal position . The suction diameter of the piping should be no less than the pump inlet diameter.
 If the suction height is more than 4 metres., use a larger diameter.
 The pipe must have a slight upward slope towards the suction inlet to avoid air getting trapped.
 Make sure that the pipe is perfectly air-tight and that it is submerged at least 50 cm in the liquid to be pumped in order to avoid the formation of eddies

CAUTION ! the pump can be damaged if it operates with leaks in the suction pipes.
A foot valve must always be fitted to the end of the suction tube.

The ejector unit should be installed in wells with diameter no less than 4", 3" or 2" according to the model.

It is connected to the pump body by means of two pipes with internal diameters no less than the internal diameters of the corresponding inlets and outlets.

A foot valve must always be fitted to the end of the ejector suction tube, submerged at least 50 cm in the liquid to be pumped in order to avoid the formation of eddies.

The flow rate and pressure available at the points of utilization depend on the diameter of the delivery pipe.

For installations with very long delivery pipes, leaks may be reduced by using a diameter greater than that of the pump outlet.

It is advisable to install a check valve after

the pump delivery outlet so that maintenance can be carried out without having to empty the delivery pipe and also to avoid water hammering if the pump suddenly stops.

This is a necessary precaution when there is a water column of more than 20 metres on the delivery side.

Pipes should be anchored so that no stress of any type is transmitted to the pump.

When laying the pipes ensure that protruding seals and burrs inside do not reduce the cross-section required for passage of the flow.

Screw the pipes to the corresponding openings without forcing them in order not to cause damage.

ELECTRICAL CONNECTIONS

They are delivered ready to be connected.

CAUTION ! It is the installer's responsibility to perform the connections in compliance with the regulations in force in the country of installation .
Make sure that there is no voltage at the line wire terminals before connecting.



Check that the data on the rating plate corresponds to the rated line values.

Connect up the pump (making sure that there is an efficient earth circuit) according to the diagram below the terminal box or on the identification plate.

The earth wire must be longer than the live wires, and must be the first wire to be connected when the pump is being set up and the last to be disconnected during disassembly .

If a pump is not equipped with a supply cord and a plug, the power supply network should include a cut-off device or system having a contact separation of at least 3 mm in all poles. If a pump is provided with a supply cord and a plug, the pump must be positioned so that the plug is accessible.

It is advisable to install a residual current device (RCD) with a rated residual operating current not exceeding 30 mA.

A thermal overload cut out in the winding protects against voltage overload in the single-phase

pump motors up to 1.50 kW.

Three-phase motors must be protected by the user.

Three-phase motors should be installed with a thermal magnetic circuit breaker suitable for use with the current indicated on the pump data plate.

If the pump is not fitted with a power cable and plug, foresee the use of a device capable of ensuring the total disconnection of power in the event of category III over voltage.

For three-phase motors, check that the rotation direction is clockwise by looking at the pump from the fan side. If not, invert two of the phases.

For three-phase motors (VL, VLE) the rotation direction may be inverted; in this case performance is much lower than the rated values.

In order to check whether the connection is correct, proceed as follows:

a) pump to be installed: when started up, the pump tends to rotate in an anticlockwise direction seen from above;

b) pump installed and submerged in the fluid to be pumped: measure the current absorbed by the pump when working using a snap-on ammeter; if the direction of the rotation is incorrect the values will be approximately double those indicated on the rating .

To invert the direction of rotation simply invert two of the phases.

PRIMING

CAUTION ! Dry operation of the pump will damage the mechanical seal .

This operation is performed via the priming plug , by filling the pump casing (as well as the suction pipe for non self priming pumps) with the liquid to be pumped in. At the end of the operation, screw the plug back on and start the pump.

CAUTION ! If after about ten minutes the pump (PKS, CK, CKR, JSW, JCR, JDW, PLURUE, BTITTY) is still not primed, switch it off and repeat the operation.

Priming must be repeated whenever the pump has not been used for a long time or, for non self-priming pumps, when air has entered in the system.

MAINTENANCE



Before doing anything, make sure that the pump is disconnected from the Power source and that there is no possibility of accidental connections. Repair of the pump by personnel Not authorized by the manufacturer Will render the guarantee null and void and will entail operating with potentially dangerous equipment.

CAUTION ! Any tampering may lead to performance being reduced and danger to Persons and or things .

The pumps do not require any maintenance as long as the following precautions are taken:

Where there is the risk of freezing, empty the pump and remember to re-prime when used again
Frequently check that the foot valve (check valve for PKS) is clean

If the pump is not going to be used for a long time (for example, in winter), it is advisable to empty it completely, rinse it with clean water and store in a dry place

CAUTION ! The loss of any lubricant contained within the pump will not result in the contamination of the pumped liquid.

CAUTION ! The apparatus is not intended for use by people (children included) with Reduced physical, sensorial or mental capabilities, or by those lacking the required experience or knowledge unless supervised or instructed in the use of the apparatus by a person responsible for their safety. Children should be supervised in order to ensure that they do not play with the apparatus.

DECLARATION OF CONFORMITY

We hereby declare, under our exclusive responsibility, that the product in question complies with the provisions of the following community directives including the latest amendments and with the related assimilated national legislation:

**2006/42/EE, C2006/95/EEC, 2004/108/EE,
2002/95/EEC**