

# INSTRUCTION MANUAL

DOMI, CLAS, DREX, S, BPU, CLASVORT, VX, VORTIX, CANAL, STONE, TRITUR, D4, D6

## SUBMERSIBLE PUMPS


MIF-6100/02-I  
01-09-05


### 1. RECEIPT

When you receive the equipment, check that the packaging is in good conditions. If not, indicate this in writing on the carrier's delivery note. Unpack the equipment and verify its state. If there is damage, inform the dealer immediately.


### 2. SAFETY INSTRUCTIONS

In this manual, the important safety instructions are specifically marked. These marks have the following symbols:

 Safety instructions whose lack of fulfilment could affect the safety of people and installations.

 Safety instructions to prevent electrical risks (hydrocution, ...)

**WARNING** Safety instructions whose lack of fulfilment could affect the equipment and its operation.


 All the equipment supplied by BOMBAS ITUR are properly protected to prevent possible accidents, but in any case all the safety recommendations indicated on the pump, on all the documents supplied with it or in applicable regulations, must be followed.


Failure to comply with these instructions exempts **BOMBAS ITUR S.A.** from any responsibility.


The safety recommendations indicated are based on our experience and on normal use of the equipment.


The installer/user is exclusively responsible for assessing the individual risks that exist in each installation and for not permitting its connection and start up without the appropriate protections.

### 3. GENERAL COMMENTS


 The user must not carry out operations that are not permitted in this manual. Any operation or handling must always be carried out with the appropriate means, by duly qualified personnel and after having read and understood this manual.


 Any installation, maintenance, repair or transport operations must be carried out with the pump stopped and safely disconnected.

 The correct state of both the electrical system and pipes must be verified on a regular basis. If their state is not safe, the pump must be stopped and repaired. This is especially important if the defects are located in electrical devices or cables.


 When starting the equipment up, by activating the switch or connecting it to a socket, make sure that this


is done on a dry floor, and never with wet hands and/or without proper footwear.

 Before starting the pump up, all its elements, especially those that affect safety, must be correctly installed and fastened. Never start the pump up when there are people close to it.


 Never use the power cable or the discharge tube as a means of elevating or supporting the pump. A metal cable or chain must be fitted, suitable for the weight, attached to the handle or hooks prepared for this.

### 4. LOCATION


 Access to the pump or installation must be sufficiently restricted, so that nobody can inadvertently access it. Safety elements must be placed that prevent the entry of children or other risk people. Never remain in the area where the pump is placed whilst it is in operation.

 The pump, except those specifically designed for this, must NOT be installed in places classified as having an explosion risk.

**WARNING** if the pump is outdoors and there is a risk of frost, it must be completely submerged and operating. Never let the ice affect it, or let ice form on the inside. If the pump is not going to be used for a long period of time, it must be cleaned and stored in a dry and ventilated place.


 If the pump is in a well or pit, before carrying out any operation, verify that there are no poisonous, suffocating or explosive gases. If you are going to use a blower or fan to evacuate the gases, verify that this does not represent a risk of explosion. Whilst the pit is open, place protections to prevent accidental falls.

**WARNING** If the bottom of the area where the pump is going to be placed is sandy or muddy, the pump must be suspended using adequate means, or placed on a sufficient base, to prevent it from sinking.

 If the pumps are going to be used in swimming pools, gardens or similar places, European Regulation 60335, Section 2, protection class 1, must be complied with. Check with a specialist.

### 5. LIQUID PUMPED

**WARNING** The pumps must never work dry.

 The pumps referred to in this manual, have been designed for use under the conditions indicated in the catalogue, pump and applicable documents.


In any case, and as a general rule, the liquid pumped must NOT be:




- Aggressive, corrosive, inflammable, toxic or explosive.
- Have a higher temperature than that indicated as maximum for each model.
- Incompatible with the pump materials.

**WARNING** The presence of long or fibrous solids must be avoided in all those pumps that have a grid,.

## 6. INSTALLATION

 Both the user and the installer must strictly follow all applicable safety standards, laws and regulations.

 The prescriptions of DIN-1986 or applicable local regulations must be followed in waste and faecal water installations.

Place a control and isolating valve next to the pump in the discharge pipe, and after it a retaining valve. Check that the valves are suitable for the liquid to be pumped.


**WARNING** S-Series pumps must be suspended 10 cm from the bottom at the least, and the liquid level must never be less than 15 cm over the grid.


**WARNING** D4 and D6 series pumps must be suspended 150 cm from the bottom at the least and the liquid level must never be less than 15 cm over the grid. These pumps must not be installed in wells with sand, sludge or abrasive particles in the water to be pumped.


**WARNING** The fluid entering the pump must be prevented from entering directly onto the pump or the float.


**WARNING** If the pump is going to be activated automatically with a float, the difference in heights between start and stop must be sufficient so as not to produce excessively continued starts. In any case the free cable length must never be less than 10 cm.

## 7. ELECTRICAL INSTALLATION

 The electrical connections must be carried out by qualified personnel and meticulously observing all the standards and recommendations to prevent accidents.



 The earth tapping cables must be the first to be connected and the last to be disconnected.

 If an extension is going to be added to the cable, verify that the type and section of the cable are suitable, and that the splice is done correctly and hermetically.

 The characteristics of the mains (voltage, frequency, etc) must correspond to the values indicated on the characteristics plate. A variation in voltage of up to 10 % is admissible.

An unbalance between phases of up to 5% is admissible. If higher values are observed, check the values with the other connection combinations of the cables (not varying the rotation direction). If the highest value always occurs in the same phase of the line, the cause of the unbalance is mainly in the mains.

The electrical installation must have:

-  • A suitable earth tap.
- An omnipole disconnection system (for all the phases) with contact opening of at least 3 mm separation.
- A high sensitivity differential switch (0.03 A).
-  • If the motor does not have thermal protection, protection must be installed on the panel.
- The power cable must be at least type H07 RN-F according to VDE 0250 (DIN-57282, DIN-57245).

**WARNING** The use of small-sized or low quality components in the electrical installation will provoke a rapid deterioration in the contacts, with the subsequent

deterioration in the motor, due to unbalance in the power supply.

**WARNING** In those single-phase pumps that do not incorporate a capacitor, this must be installed on the control panel.

**WARNING** Verify, if the pump works outdoors, that the applicable electrical regulations and standards are complied with. In some countries it may be necessary to supply the pump through a transformer (220 V).

**WARNING** If the connection is made with a plug or similar, the current tap must be safe and be located in a place protected from flooding.

## 8. START-UP

Before starting the pump up, check that all the safety and protection elements are correctly installed and fastened.


Make the pump turn manually, to break any adherence. Totally open the discharge valve. Submerge the pump and place it in its operating position. Partially close the discharge valve

*(Only three-phase pump).* Check that the direction of rotation is correct. To do so, start the pump up for a few seconds. Exchange two of the phases and start the pump up again. The configuration, where the flow/pressure supplied by the pump are greater, is the adequate one.

Start the pump up. Check that no incorrect operating symptoms, such as excessive noises or vibrations, appear.

## 9. MAINTENANCE

From time to time check that both the float (if there is one) and the grid and/or runner are clean. If they are not, proceed to clean them. Any other type of maintenance operation, especially those referring to the motor, must be carried out by personnel from BOMBAS ITUR, or its authorised technical services. For D4 and D6 series, this maintenance is not necessary as these always work with clean water.

 If oil leaks are detected in the pump, stop it immediately and notify the authorised technical service.

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## 10. ANOMALIES IN THE OPERATION

- 1) The pump does not start.
- 2) The pump starts but does not give pressure.
- 3) The pump stops and starts continuously.
- 4) The pump starts but does not give flow volume
- 5) The motor heats up too much.
- 6) The rotor turns with difficulty.
- 7) Excessive noises or vibrations.

1	2	3	4	5	6	7	POSSIBLE CAUSES	SOLUTIONS
	X		X				Pressure generated by the pump is less than that required by the installation	Check head losses and geometric height
	X		X			X	Inappropriate aspiration	Improve aspiration. Check height of pump above floor, and state of grid.
		X		X			Density or viscosity of liquid	Change pump for another suitable one
	X		X				Insufficient pipe diameters	Install pipes with larger diameter
	X		X			X	Air gets in	Check regulation of levels in the well
		X		X	X	X	Bearings worn°	Go to an official technical service
		X		X		X	Pressure required less than that supposed	Regulate discharge valve
	X		X			X	Bad priming	Lift and submerge pump again
	X		X				Pipe obstruction	Clean pipes
	X	X	X	X	X	X	Obstruction inside the pump	Proceed to clean grid/runner
			X				Incorrect direction of rotation	Change motor connections
	X		X	X		X	Badly regulated discharge valve	Regulate correctly
X							Supply, fuses the thermals disconnected	Connect them reset them
		X		X			Badly regulated float	Regulate float

## 11. GUARANTEES

Failure to comply with the indications given in this manual means using the equipment incorrectly, from the technical and safety viewpoint. Therefore this **EXEMPTS BOMBAS ITUR FROM ANY RESPONSIBILITY IN THE CASE OF PERSONAL ACCIDENTS OR MATERIAL DAMAGE, AND IT ALSO GIVES RISE TO THE LOSS OF ANY RIGHT TO CLAIM UNDER GUARANTEE.**

A one-year guarantee is established against any project or manufacturing defect. Transport of the equipment to our facility or to that of our agreed technical services is on the customer's account as well as travelling expenses of our personnel to the facility, if required.

Any handling of the equipment by the customer, without our written consent, means the loss of any right to claim under guarantee.

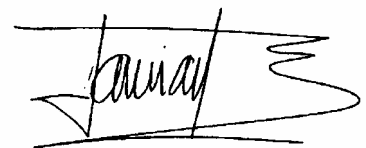
### "CE" DECLARATION OF APPROVAL

*BOMBAS ITUR, S.A. herewith declares, on its own responsibility, that the above-mentioned products, which it manufactures (if supplied with an engine), and to which this Declaration is related, meets that set down in European Directives 98/37/CE, 89/336/CEE, 73/23/CEE on the laws of approximation of Member States with respect to machines.*

*Harmonised rules applied:  
EN 292 Part 1 and EN 292 Part 2.*

ZARAUTZ, 21/02/2006

Position: President  
Name: Juan Antonio Uriarte




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