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**KEY**

The following symbols have been used in the discussion:



**SITUATION OF GENERAL DANGER.**

Failure to respect the following instructions may cause damage to persons and property.



**SITUATION OF RISK OF ELECTRIC SHOCK.**

Failure to respect the following instructions may cause a situation of serious danger for personal safety.



**Notes and general information.**

**WARNINGS**



Read this documentation carefully before installation.

Installation and operation must comply with the local safety regulations in force in the country in which the product is installed. Everything must be done in a workmanlike manner.

Failure to respect the safety regulations not only causes risk to personal safety and damage to the equipment, but invalidates every right to assistance under guarantee.



**Skilled personnel**

It is advisable that installation be carried out by competent, skilled personnel in possession of the technical qualifications required by the specific legislation in force.

The term skilled personnel means persons whose training, experience and instruction, as well as their knowledge of the respective standards and requirements for accident prevention and working conditions, have been approved by the person in charge of plant safety, authorizing them to perform all the necessary activities, during which they are able to recognize and avoid all dangers (Definition for technical personnel IEC 364).



The appliance may be used by children over 8 years old and by persons with reduced physical, sensory or mental capacities, or who lack experience or knowledge, on condition that they are under supervision or after they have received instructions concerning the safe use of the appliance and the understanding of the dangers involved. Children must not play with the appliance. Cleaning and maintenance intended to be carried out by the user must not be performed by children without supervision.



Overload protection. The pump is equipped with a thermal motor protector. If the motor overheats, the motor protector switches the pump off automatically. The cooling time is about 15-20 min. after which the pump automatically switches on again. After the motor protector has tripped, it is absolutely necessary to find the cause and eliminate it. See Troubleshooting.



The power supply cable and the float switch must never be used to carry or lift the pump. Always use the pump handle.



Use is allowed only if the electric system is in possession of safety precautions in accordance with the regulations in force in the country where the product is installed (for Italy CEI64/2).



Never pull on the cable to detach the plug from the socket.



If the power cable is damaged, it must be replaced by the manufacturer or by their authorised technical assistance service, so as to avoid any risk.

Failure to observe the warnings may create situations of risk for persons or property and will void the product guarantee.

#### Particular warnings



**Always switch off the mains power supply before working on the electrical or mechanical part of the system.** Only firmly cabled mains connections are admissible. The appliance must be earthed (IEC 536 class 1, NEC and other applicable standards).



Mains terminals and motor terminals may still have dangerous voltage when the motor is stopped.



The appliance may only be used for the functions for which it was designed.

Under certain calibration conditions, the converter can start automatically after a power failure.

## RESPONSIBILITY

**The Manufacturer does not vouch for correct operation of the electropumps or answer for any damage that they may cause if they have been tampered with, modified and/or run outside the recommended work range or in contrast with other indications given in this manual.**

The Manufacturer declines all responsibility for possible errors in this instructions manual, if due to misprints or errors in copying. The Manufacturer reserves the right to make any modifications to the products that it may consider necessary or useful, without affecting their essential characteristics.

### 1 GENERAL

#### 1.1 Applicazioni

Powerful multistage submersible pump ideal for rainwater systems, operating sprinklers, pumping water from cisterns, tanks, ponds and other applications that require high pressure. Anti-corrosive and dust proof materials, overload protection, wear resistant shaft, anti-debris technopolymer strainer, excellent cooling of the motor allowing the pump to run even if partially submerged, automatic start/stop function with floating switch. Supplied with non-return valve and 4-step fitting.



**These pumps cannot be used in swimming pools, ponds or basins where people are present, or for pumping hydrocarbons (petrol, diesel fuel, combustible oils, solvents, etc.) in accordance with the accident-prevention regulations in force. They should be cleaned before putting them away. See the chapter "Maintenance and Cleaning".**

## 1.2 Pumpable liquids

Fresh water	•
Rainwater	•
Clear waste water	○
Dirty water	○
Fountain water	•
River or lake water	•
Max. particle dimension [mm]	Ø 3

- Suitable
- Not suitable

## 1.3 Technical data and limitations of use

- **Supply voltage:** 220-240V, see electrical data plate
- **Delayed line fuses (220-240V version):** indicative values (Ampere)
- **Storage temperature:** -10°C +40°C

Model	Line fuses 220-240V 50Hz
500	4 A
650	4 A
900	5 A

All technical data are marked on the technical label on the pump. The various items are explained below (Fig.4):

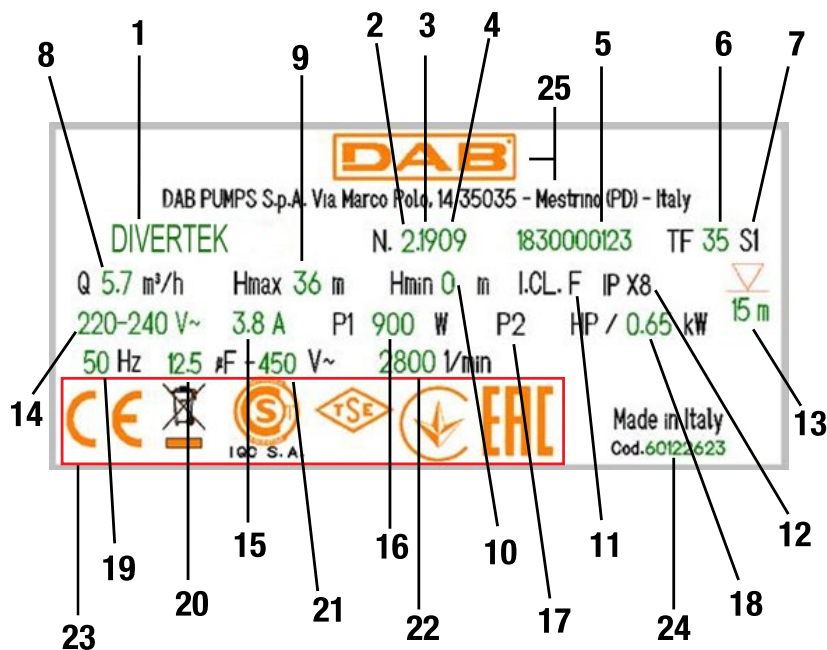


Fig.4 Targhetta

Pos.	Description
1	Description
2	Revision
3	Year
4	Week
5	Serial number
6	Maximum liquid temperature
7	Use
8	Flow rate
9	Maximum head
10	Minimum head
11	Insulation class
12	Degree of protection
13	Submersibility
14	Rated voltage
15	Ampere
16	P1
17	P2 HP
18	P2 kW
19	Frequency
20	Capacità condensatore
21	Condenser capacity
22	Voltage
23	Rated number of revolutions
24	Logos
25	Logo, Name and Adress of the Manufacturer

\* The data plate shown is intended as an example



The pump which does not stand on a base cannot support the weight of the pipes, which must be supported in some other way.

## 2 MANAGEMENT

### 2.1 Storage

All the pumps must be stored in a dry covered place, with possible constant air humidity, free from vibrations and dust. They are supplied in their original pack in which they must remain until the time of installation.

### 2.2 Transport

Avoid subjecting the products to needless impacts and collisions.

### 2.3 Weight and dimensions

The adhesive plate on the packaging indicates the total weight of the pump and its dimensions.

## 3 WARNINGS

- Pollution of the liquid could occur due to leakage of lubricants.
- The pump is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.



**The pumps must never be carried, lifted or allowed to operate suspended from the power cable; use the handle and cord provided.**

**Before installation, dredge any sand and other solid particles from the cistern.**

**The motor's power cord must be secured to the delivery pipe with plastic clamps every 2 or 3 m.**

**Use the check valve provided.**

- The pump must never be allowed to run when dry.

## 4 INSTALLATION

Screw first the non-return valve and then the nipple using the connector ideal for ¾" and 1" pipes provided in the packaging. If a pipe with greater diameter is to be used, change the connector. Use a pipe tightening clamp to secure the pipe to the fitting (Fig.1)

- It is advisable to use pipes having a minimum internal diameter of ¾" mm, to avoid the decrease of pump performance.
- To avoid obstruction of the suction passages, it is recommended to check periodically that no dirt has accumulated in the collection cistern (leaves, sand, etc.). It is advisable to leave a minimum distance of 20 cm to avoid clogging of the suction grid (Fig.2)
- Insert the plug in a socket, main power must be 220-240V.
- the pump must be activated only if immersed in water. Consider a minimum submersion of 50 cm. If the water is finished the pump must be stopped immediately, taking the plug out of the socket (non-automatic version).
- The pump must be placed in a stable position inside a collection cistern or in the lowest part of the place where it is installed.
- Ensure that the minimum dimensions of the collection cistern in which it is housed are as follows:  
**Min. base dimensions (mm) 450x450 / Min. height (mm) 420 Fig 2**
- The dimensions of the cistern must always be in relation to the quantity of water arriving and to the flow of the pump, so as not to subject the motor to excessive starts/hour; it is strongly recommended not to exceed 20 starts/hour.



**The pump must be installed in vertical position!**

## 5 ELECTRICAL CONNECTION



**The length of the power cable on the pump limits the maximum depth of immersion in use of the pump. Follow the indications on the technical data plate.**

## 6 START-UP

The float switch automatically controls the pump starting and stopping (ON/OFF) depending on its position (automatic version).

The models with a float switch are started automatically when the water level rises and will switch off when the required minimum level is reached.

- 1) Leave the float free to move.
- 2) Insert the plug of the power cable in a 220-240V power socket.
- 3) When the float reaches the ON level the pump will start and will continue operating until it reaches the OFF level.

The best working condition is with the pump be completely submersed in water.

Anyway the motor's cooling system allows the use at the minimum suction height for very short periods.

The pump is equipped with a technopolymer anti-deposit filter.

## 7 PRECAUTIONS

**RISK OF FROST:** when the pump remains inactive at a temperature lower than 0°C, it is necessary to ensure that there is no water residue which could freeze, causing cracks in the plastic parts.

If the pump has been used with substances that tend to form a deposit, or with water containing chlorine, rinse it after use with a powerful jet of water in order to avoid the formation of deposits or encrustations which would reduce the characteristics of the pump.

## 8 MAINTENANCE AND CLEANING

In normal operation the pump does not require any type of maintenance. In any case, all repair and maintenance work must be carried out only after having disconnected the pump from the supply mains. When restarting the pump, ensure that the suction filter is always fitted so as not to create the risk or possibility of accidental contact with moving parts.

### 8.1 **Cleaning the suction filter**

- Switch off the electric power supply to the pump.
- Drain the pump.
- Clean with a jet of water and a brush. (Fig.8)

## 9 TROUBLESHOOTING



Before taking any troubleshooting action, disconnect the pump from the power supply (i.e. remove the plug from the socket). If there is any damage to the power cable or pump, any necessary repairs or replacements must be performed by the manufacturer or his authorized customer support service, or by an equally-qualified party, in order to prevent all risks

INCONVENIENTI	PROBABILI CAUSE	RIMEDI
The pumps does not start.	1. The motor is not powered	1. Check the power supply
	2. There is no water (pumps in alarm mode)	2. Check the water level
	3. The non-return valve is blocked	3. Remove obstruction on the non-return valve
	4. The pump is not enabled by the float.	4. Make sure the float can move freely.
The pump delivers no water	1. The suction grid or piping are clogged	1. Remove the obstruction.
	2. The impeller is worn or stuck	2. Replace the impeller or remove the obstruction.
	3. The head required is higher than the pump's characteristics	
The flow rate is too low.	1. The suction grid is partially blocked	1-2 Remove any obstruction
	2. The impeller or delivery pipe are partially blocked or encrusted	
The pump does not stop.	1. The pump is not disabled by the float.	1. Make sure the float can move freely.
The pump stops running (possible intervention of the thermal overload switch)	1. The liquid to be pumped is too dense and overheats the motor.	1-2-3-4 Disconnect the power cord, correct the reason for overheating; then wait until the pump is cooled plug the cord and resume operation
	2. The water temperature is too high	
	3. A solid object is blocking the impeller	
	4. Power supply doesn't comply with the nameplate's the data	

## 10 GUARANTEE



Any modification made without prior authorisation relieves the manufacturer of all responsibility. All the spare parts used in repairs must be authentic and all accessories must be authorised by the manufacturer, in order to ensure maximum safety of the machines and of the systems in which they may be installed

This product is covered by a legal guarantee (in the European Community for 24 months from date of purchase) against all defects that can be assigned to manufacturing faults or to the material used. The product under guarantee may, at discretion, either be replaced with one in perfect working order or replaced free of charge if the following conditions are observed:

- the product has been used correctly in compliance with the instructions and not attempt has been made to repair it by the buyer or by third parties.
- the product has been consigned to the outlet where it was purchased, attaching a document as proof of purchase (invoice or cash register receipt) and a brief description of the problem found.

The impeller and parts subject to wear are not covered by the guarantee. Intervention under guarantee does not extend the initial guarantee period in any way.