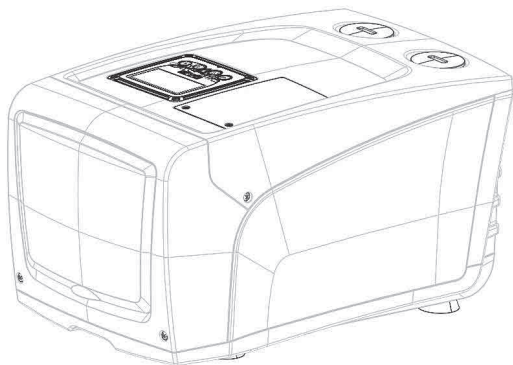
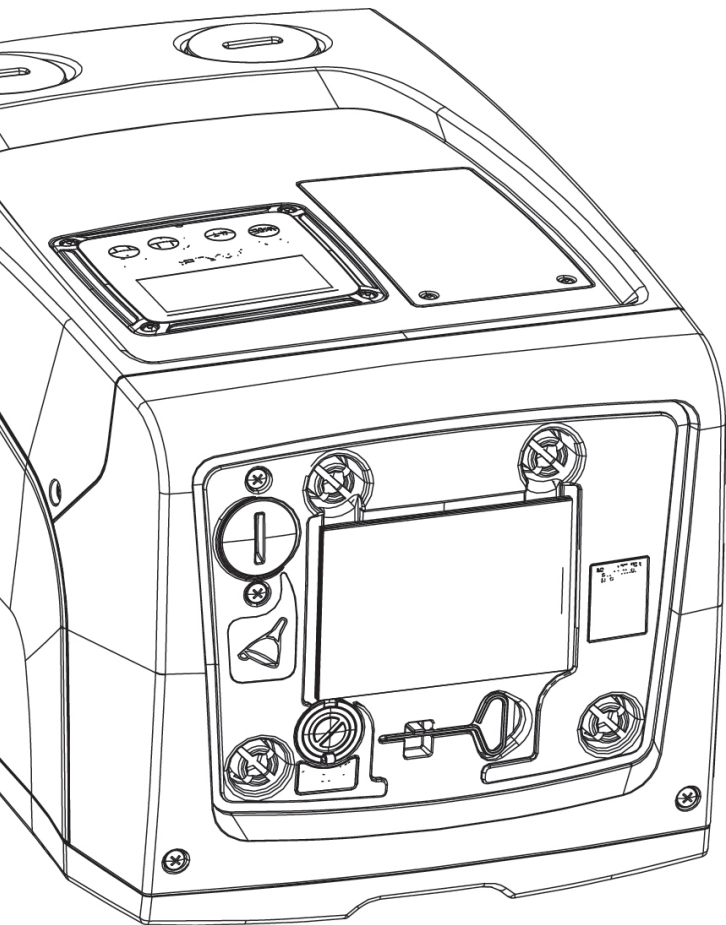


# E.Sybox<sup>mini</sup>

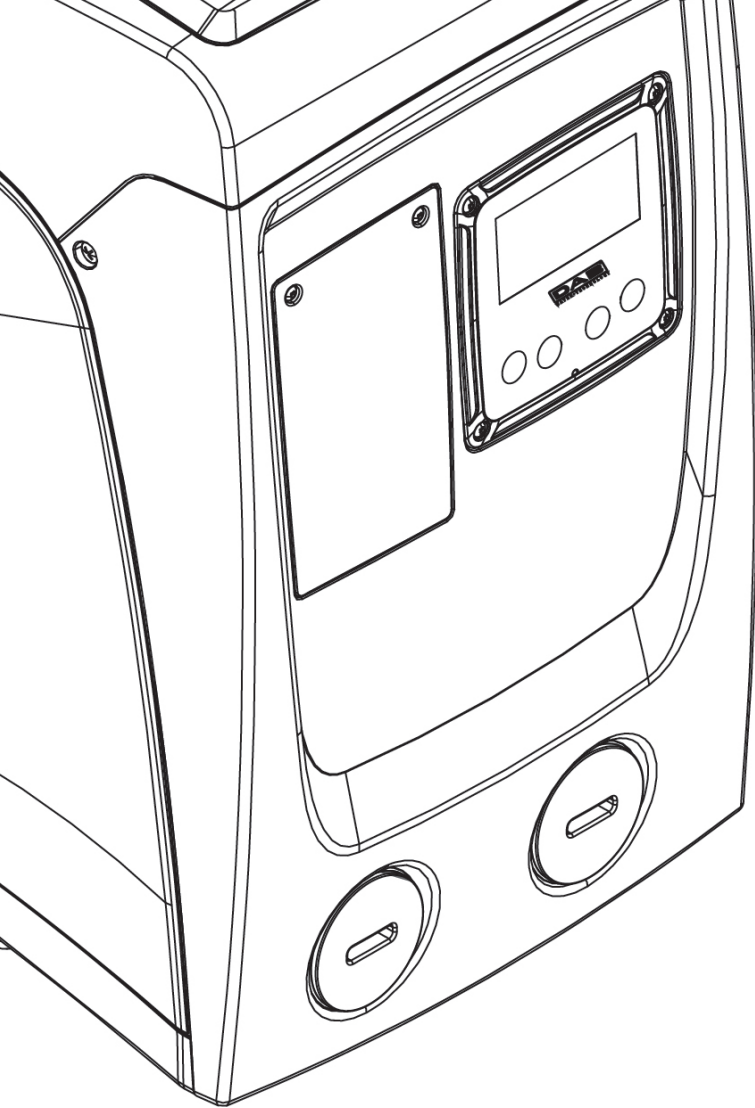


ISTRUZIONI PER L'INSTALLAZIONE E LA MANUTENZIONE  
INSTRUCTIONS FOR INSTALLATION AND MAINTENANCE  
INSTRUCTIONS POUR L'INSTALLATION ET L'ENTRETIEN  
BEDIENUNGS- UND WARTUNGSANWEISUNGEN  
GEBRUIKS- EN ONDERHOUDSAANWIJZINGEN  
ИНСТРУКЦИИ ПО МОНТАЖУ И ТЕХОБСЛУЖИВАНИЮ  
ASENNUS- JA HUOLTO-OHJEET  
INSTALLATIONS - OCH UNDERHÅLLSANVISNING  
INSTRUCTIUNI DE INSTALARE SI INTRETINERE  
ΟΔΗΓΙΕΣ ΕΓΚΑΤΑΣΤΑΣΗΣ ΚΑΙ ΣΥΝΤΗΡΗΣΗΣ  
INSTRUCCIONES PARA LA INSTALACIÓN Y EL MANTENIMIENTO  
KURULUM VE BAKIM TALİMATI  
INSTRUKCJA MONTAŻU I KONSERWACJI  
NÁVOD K INSTALACI A ÚDRŽBĚ  
INSTALLÁCIÓS ÉS KARBANTARTÁSI KÉZIKÖNYV  
ИНСТРУКЦИЯ ЗА МОНТИРАНЕ И ПОДДРЪЖКА



Manuale valido per le versioni firmware 4.x-1.x  
Manual valid for firmware versions 4.x-1.x  
Manuel valide pour les versions micrologiciel 4.x-1.x  
Gültiges Handbuch für die Firmware-Versionen 4.x-1.x  
Handleiding geldig voor de firmware-versies 4.x-1.x  
Руководство действительно для редакции зашитой программы 4.x-1.x  
Käyttöopas laiteohjelmaversioille 4.x-1.x  
Bruksanvisning för programvaruversioner 4.x-1.x  
Manual valabil pentru versiunile de firmware 4.x-1.x  
Εγχειρίδιο έγκυρο για τις εκδόσεις firmware 4.x-1.x  
Manual válido para las versiones firmware 4.x-1.x  
Donanım yazılımının 4.x-1.x versiyonları için geçerli el kitabı  
Instrukcja obowiązuje dla wersji firmware 4.x-1.x  
Příručka platná pro verze firmwaru 4.x-1.x  
A kézikönyv a firmware 4.x-1.x verzióhoz érvényes (firmware 4.x-1.x= beépített programverzió)  
Валидно за вариант 4x

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**KEY**

The following symbols have been used in the discussion:



Situation of general danger. Failure to respect the instructions that follow may cause harm to persons and property.



Situation of electric shock hazard. Failure to respect the instructions that follow may cause a situation of grave risk for personal safety.



Notes

**WARNINGS**

This manual refers to e.sybox e.sybox mini.



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 is not intended to be used by persons (including children) with reduced physical, sensory or mental capacities, or who lack experience or knowledge, unless, through the mediation of a person responsible for their safety, they have had the benefit of supervision or of instructions on the use of the appliance. Children must be supervised to ensure that they do not play with the appliance.



**Safety**  
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 CEI 64/2).



**Pumped liquids**  
The machine has been designed and made for pumping water, free from explosive substances and solid particles or fibres, with a density of 1000 Kg/m<sup>3</sup>, a kinematic viscosity of 1mm<sup>2</sup>/s and non chemically aggressive liquids.



The power supply cable must never be used to carry or shift the pump.



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.

## 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 products that it may consider necessary or useful, without affecting their essential characteristics.

## 1- GENERAL

The product is an integrated system composed mainly of a self-priming multi-stage centrifugal electropump, an electronic circuit that controls it and an expansion vessel.

### Applications

Water systems supply and pressure boosting domestic use or industrial use.

On the outside the product appears as a parallelepiped that presents 6 faces as shown in Fig.1.

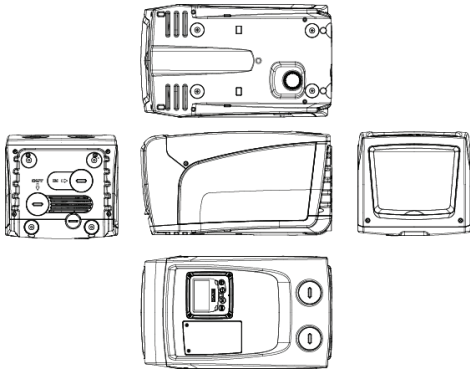


Figure 1

**Face A:** a door allows access to the Technical Compartment.

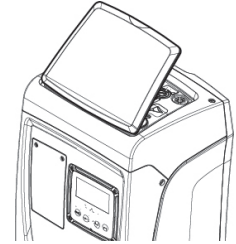
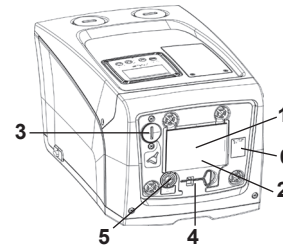


Figure 2

Inside the technical compartment you can access (see Fig.3):



1. Rapid Guide;
2. Technical data plate;
3. Filling cap (only for vertical configuration);
4. Accessory tool;
5. Motor shaft;
6. QR-code

Figure 3

**Face B:** A rubber cable gland allows the exit of the power cable to be connected to the power mains.

**Face C:** the 4 brass threads form the seat for the 4 support feet in the case of vertical installation. The two 1" screw caps can be removed to make the connections towards the system, depending on the installation configuration you want to adopt. If applicable, connect to the connection marked "IN" the system from which you want to draw water (well, cistern,...) and connect the delivery system to the connection marked "OUT". There is also a ventilation grid. The 3/8" cap allows drainage of the system in the case of horizontal installation. There is also a ventilation grid.

**Face E:** the 4 brass threads form the seat for the 4 support feet in the case of horizontal installation. The main function of the 1" cap is drainage of the system in the case of vertical installation. There are also 2 ventilation grids.

**Face F:** as indicated by the label to be removed, the 1" cap next to the word "IN" on face C has a dual function: in the case of horizontal installation, the outlet that is closed by the cap acts as the system's loading door (see below "loading operations", par. 2.2.3); in the case of vertical installation, the same outlet can act as the input hydraulic connection (exactly like the one marked "IN" on face C and as an alternative to it). The other 1" cap gives access to a second delivery connection that can be used at the same time as or alternatively to the one indicated with "OUT" on face C. The user interface panel is composed of a display and a keyboard and its function is to set the system, query its status and communicate any alarms. The door closed by 2 screws gives access to a special maintenance compartment: cleaning of the non-return valve and resetting of the tank preload pressure.

The system can be installed in 2 different configurations: horizontal (Fig.4) or vertical (Fig.5).

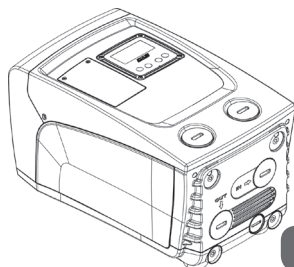


Figure 4

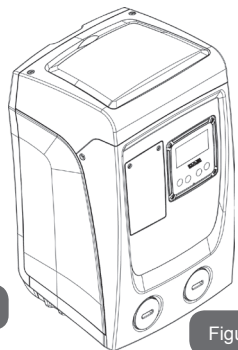


Figure 5

### 1.1 Description of the Integrated Inverter

The electronic control integrated in the system is of the type with inverter and it makes use of flow, pressure and temperature sensors, also integrated in the system.

By means of these sensors the system switches on and off automatically according to the utility's needs and it is able to detect conditions of malfunction, to prevent and indicate them.

The Inverter control ensures different functions, the most important of which, for pumping systems, are the maintaining of a constant pressure value in delivery and energy saving.

- The inverter is able to keep the pressure of a hydraulic circuit constant by varying the rotation speed of the electropump. In operation without an inverter the electropump is unable to modulate and, when there is an increase of the request for flow, the pressure necessarily decreases, or vice versa; this means the pressures are too high at low flow rates or too low when there is an increased request for flow.
- By varying the rotation speed according to the instantaneous request of the utility, the inverter limits the power supplied to the electropump to the minimum necessary to ensure that the request is satisfied. Instead, operation without an inverter contemplates operation of the electropump always and only at maximum power.

For the configuration of the parameters see chapters 4-5.

### 1.2 Integrated Expansion Vessel

The system is complete with an integrated expansion vessel with a total capacity of 1 litres. The main functions of the expansion vessel are:

- to make the system elastic so as to protect it against water hammer;
- to ensure a water reserve which, in the case of small leaks, maintains the pressure in the system for a longer time and spreads out needless restarts of the system which otherwise would be continuous;
- when the utility is turned on, ensure the water pressure for the seconds that the system takes to switch on and reach the correct rotation speed.

It is not a function of the integrated expansion vessel to ensure a water reserve such as to reduce interventions of the system (requests from the utility, not from a leak in the system). It is possible to add an expansion vessel with the capacity you prefer to the system, connecting it to a point on the delivery system (not a suction point!). In the case of horizontal installation it is possible to connect to the unused delivery outlet. When choosing the tank, consider that the quantity of water released will also depend on the parameters SP and RP that can be set on the system (par. 4-5).

The expansion vessel is preloaded with pressurised air through the valve accessible from the special maintenance compartment (Fig.1, Face F).

The preload value with which the expansion vessel is supplied by the manufacturer is in agreement with the parameters SP and RP set as default, and anyway it satisfies the following equation:


$$\text{Pair} = \text{SP} - \text{RP} - 0.7 \text{ bar}$$


Where:


- Pair = air pressure value in bar
- SP = Set Point (par. 5.3.1) in bar
- RP = Reduction of pressure to restart (par. 5.5.1) in bar


So, by the manufacturer:  $\text{Pair} = 3.0 - 0.3 - 0.7 = 2.0 \text{ bar}$

If different values are set for the parameters SP and/or RP, regulate the valve of the expansion vessel releasing or letting in air until the above equation is satisfied again (e.g.: SP=2.0bar; RP=0.3bar; release air from the expansion vessel until a pressure of 1.0 bar is reached on the valve).

 Failure to respect the above equation may lead to malfunctions of the system or to premature breakage of the diaphragm inside the expansion vessel.

 Considering the expansion vessel capacity of only 1 litres, any operation to check the air pressure must be performed by connecting the pressure gauge very rapidly: on small volumes the loss of even a limited quantity of air can cause an appreciable drop in pressure. The quality of the expansion vessel ensures the maintenance of the set air pressure value, proceed to check it only at calibration or if you are sure of a malfunction.

 Any operation to check and/or reset the air pressure must be performed with the delivery system not under pressure: disconnect the pump from the power supply and open the utility nearest to the pump, keeping it open until it no longer gives any water.

 The special structure of the expansion vessel ensures its quantity and duration over time, especially of the diaphragm which is typically the component subject to wear for items of this type. However, in the case of breakage, the entire expansion vessel must be replaced and exclusively by authorised personnel.

### 1.3 Integrated electropump

The system has a built-in centrifugal electropump of the multi-impeller type driven by a water-cooled three-phase electric motor. Cooling of the motor with water rather than air ensures less noise in the system and the possibility of locating it even in recesses without ventilation.

The graph in Fig.6 shows the curve of the hydraulic performance. By automatically modulating the rotation speed of the electropump, the inverter allows it to shift its work point according to necessities to any part of the area subtended by its curve, to keep the set pressure valve constant (SP). The red curve shows the behaviour of the e.sybox mini with set point at 3.0 bar.

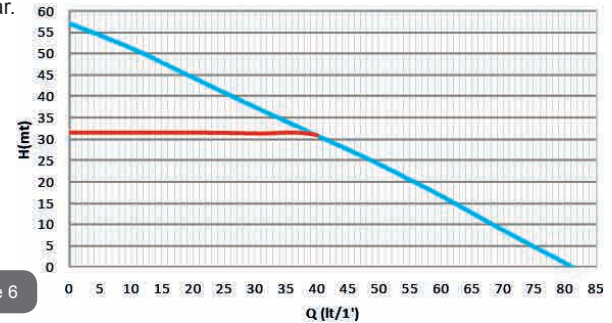


Figure 6

This means that, with SP = 3.0 bar, the system is able to ensure a constant pressure to utilities that require flow rates between respectively 0 and 40 litres/minute. For higher flow rates the system works according to the characteristic curve of the electropump at maximum rotation speed. For flow rates lower than the limits described above, as well as ensuring constant pressure, the system reduces the absorbed power and therefore the energy consumption.



The above performances are to be considered measured at ambient temperature and water at about 20°C, during the first 10 minutes of motor operation, with water level at suction at a depth of no more than 1 metre.





As the suction depth increases, the performance of the electro-pump decreases.

#### 1.4 Technical characteristics

Topic	Parameter	e.sybox mini	
ELECTRIC POWER SUPPLY	Voltage	1 ~ 110-127 VAC	1 ~ 220-240 VAC
	Frequency	50/60 Hz	
	Maximum power	850 W	
STRUCTURAL CHARACTERISTICS	Overall dimensions	445x262x242 mm without feet support	
	Empty weight (excluding packaging)	13,6 kg	
	Protection class	IP x4	
	Insulation class of the motor	F	
HYDRAULIC PERFORMANCE	Maximum head	55 m	
	Maximum flow rate	80 l/min	
	Priming	<5min at 8m	
	Maximum working pressure	7.5 bar	
WORKING CONDITIONS	Max liquid temperature	40 °C	
	Max environment temperature	50 °C	
	Environment temperature of storage	-10÷60 °C	

FUNCTIONALITY AND PROTECTIONS	Constant pressure
	Protection against dry running
	Antifreeze protection
	Anticycling protection
	Motor overload protection
	Protection against abnormal supply voltages
	Protection against excess temperature

#### 2- INSTALLATION



The system is designed for indoor use: do not install the system outdoors and/or directly exposed to atmospheric agents.



The system is designed to be able to work in environments where the temperature remains between 0°C and 50°C (on condition that the electric power supply is ensured: see par. 5.6.8 "anti-freeze function").



The system is suitable for treating drinking water..



The system cannot be used to pump salt water, sewage, inflammable, corrosive or explosive liquids (e.g. petroleum, petrol, thinners), greases, oils or food products.



The system can suck up water with a level that does not exceed the depth of 8 m (he height between the water level and the pump suction mouth).



If the system is used for the domestic water supply, respect the local regulations of the authorities responsible for the management of water resources.



When choosing the installation site, check that:

- The voltage and frequency on the pump's technical data plate correspond to the values of the power supply system.

- The electrical connection is made in a dry place, far from any possible flooding.
- The electrical system is provided with a differential switch with  $I \Delta n \leq 30 \text{ mA}$  and that the earth system is efficient.

If you are not sure of the absence of foreign bodies in the water to be pumped, install a filter on the system intake that is suitable for catching impurities.



The installation of a filter on intake causes a decrease of the system's hydraulic performance proportional to the loss of load caused by the filter itself (generally the greater the filtering power, the greater the fall in performance).

Choose the type of configuration you intend to use (vertical or horizontal) considering the connections to the system, the position of the user interface panel, and the spaces available according to the indications below. Wall installation is possible, see par. 8.2.

### 2.1 - Vertical Configuration

Screw the 4 rubber feet supplied loose in the package into the brass seats in face C. Put the system in place, taking into account the dimensions in Fig.7.

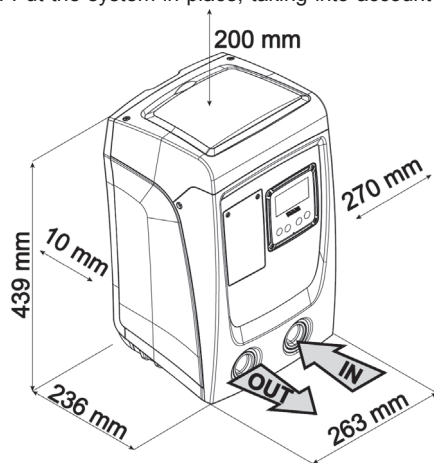


Figure 7

- The distance of at least 10mm between Face E of the system and any wall is obligatory to ensure ventilation through the grids provided • If you expect to have to drain the system from its discharge door and not from the system, leave a further distance sufficient to manoeuvre the drainage cap.
- The distance of at least 10mm between Face B of the system and an obstruction is obligatory to let out the power supply cable to the mains socket.
- The distance of at least 200mm between Face A of the system and an obstruction is recommended so as to be able to remove the door and gain access to the technical compartment.

If the surface is not flat, unscrew the foot that is not touching and adjust its height until it contacts the surface so as to ensure the stability of the system. The system must in fact be placed in a safe and stable position, ensuring that its axis is vertical: it must not be in an inclined position.

### 2.1.1 Hydraulic connections

Make the connection at input to the system through the mouth on Face F marked "IN" in Fig.7 (suction connection). Then remove the cap using a screwdriver. Make the connection at output from the system through the mouth on Face F marked "OUT" in Fig.7 (delivery connection). Then remove the cap using a screwdriver.

All the hydraulic connections of the system to the plant to which it can be connected are of the threaded female type 1" GAS, made of brass.



If you intend to connect the product to the plant with fittings that have a diameter larger than the normal 1" pipe (for example the ring nut in the case of fittings in 3 pieces), make sure that the 1" Gas male thread of the coupling protrudes at least 25mm from the above diameter (see Fig.8).

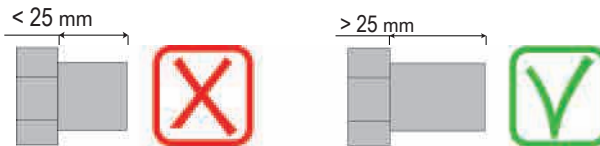


Figure 8



The brass threads are housed in technopolymer seats. When making the connection watertight by adding material (e.g. Teflon, hemp,...) ensure that the gasket is not too thick: under the action of an adequate tightening torque (e.g. long handled pipe wrench), the excess material could exert abnormal force on the technopolymer seat, damaging it irremediably.

With reference to its position with respect to the water to be pumped, the installation of the system may be defined “above head” or “below head”. In particular the installation is defined “above head” when the pump is placed at a level higher than the water to be pumped (e.g. pump on the surface and water in a well); vice versa it is “below head” when the pump is placed at a level lower than the water to be pumped (e.g. overhead cistern and pump below).



If the vertical installation of the system is of the “over head” type, it is recommended to fit a non-return valve in the suction section of the system; this is to allow the operation of loading the system (par. 2.1.2).



If the installation is of the “over head” type, install the suction pipe from the water source to the pump in such a way as to avoid the formation of goosenecks or siphons. Do not place the suction pipe above the pump level (to avoid the formation of air bubbles in the suction pipe). The suction pipe must draw at its entrance at a depth of at least 30cm below the water level and must be watertight along its whole length, as far as the entrance to the electropump.



The suction and delivery pipes must be fitted so that they do not exert any mechanical pressure on the pump.

### 2.1.2.Loading Operation

#### Installation above head and below head

Installation “above head” (par. 2.1.1): access the technical compartment and, using a screwdriver, remove the filling cap (Fig.3\_point 6). Fill the system with clean water through the loading door, taking care to let the air out. If the non-return valve on the suction pipe (recommended in para-

graph 2.1.1) has been placed close to the system entry door, the quantity of water with which to fill the system should be 0,9 litres. It is recommended to fit the non-return valve at the end of the suction pipe (foot valve) so as to be able to fill it quickly too during the loading operation. In this case the quantity of water necessary for the loading operation will depend on the length of the suction pipe (0,9 litres + ...).

Installation “below head” (par. 2.1.1): if there are no check valves between the water deposit and the system (or if they are open), it loads automatically as soon as it is allowed to let out the trapped air. So slackening the filling cap (Fig.3\_point 6) enough to vent the trapped air allows the system to load completely. You must survey the operation and close the loading door as soon as the water comes out (however it is recommended to fit a check valve in the section of the suction pipe and to use it to control the loading operation with the cap open). Alternatively, in the case where the suction pipe is intercepted by a closed valve, the loading operation may be carried out in a similar way to the one described for installation over head.

### 2.2 - Horizontal Configuration

Screw the 4 rubber feet supplied loose in the package into the brass seats in face E. Put the system in place, taking into account the dimensions in Fig.9.

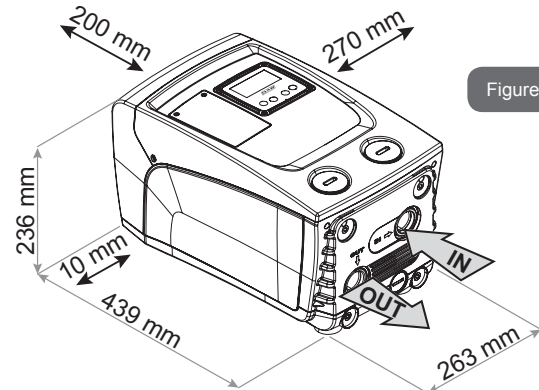


Figure 9

- The distance of at least 10mm between Face B of the system and an obstruction is obligatory to let out the power supply cable to the mains socket.
- The distance of at least 200mm between Face A of the system and an obstruction is recommended so as to be able to remove the door and gain access to the technical compartment.

If the surface is not flat, unscrew the foot that is not touching and adjust its height until it contacts the surface so as to ensure the stability of the system. The system must in fact be placed in a safe and stable position, ensuring that its axis is vertical: it must not be in an inclined position.

### 2.2.1 Hydraulic connections

Make the connection at input to the system through the mouth on Face C marked "IN" in Fig.9 (suction connection). Then remove the cap using a screwdriver. Make the connection at output from the system through the mouth on Face C marked "OUT 1" in Fig. 9 and/or through the mouth on Face F marked "OUT 2" in Fig. 9 (delivery connection).

In this configuration either of the 2 mouths can be used as an alternative to the other (depending on the convenience of the installation), or simultaneously (dual delivery system). Then remove the cap(s) from the door(s) you intend to use with a screwdriver.

All the hydraulic connections of the system to the plant to which it can be connected are of the threaded female type 1" GAS, made of brass.



See WARNING for Figure 8.

### 2.2.2 Orientation of the Interface Panel

The Interface Panel has been designed so that it can be oriented in the direction where it is most convenient for the user to read: its square shape allows it to be rotated from 90° to 90° (Fig.10).

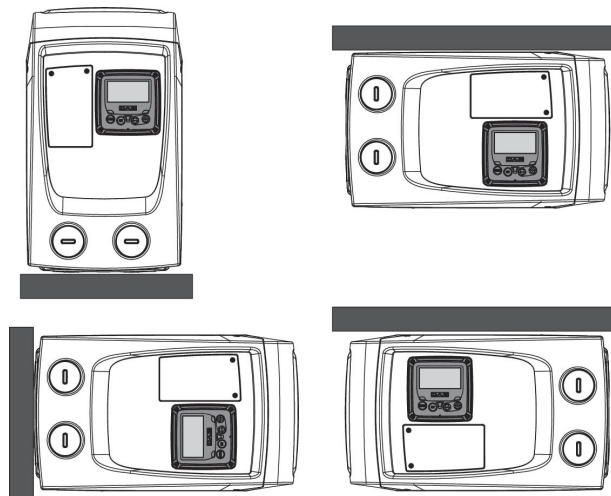


Figure 10

- Disengage the 4 screws at the corners of the panel using the accessory tool.
- Do not remove the screws completely, just disengage them from the thread on the product body.
- Be careful not to drop the screws into the system.
- Move the panel away, taking care not to pull on the signal transmission cable.
- Reposition the panel in its seat at the preferred angle taking care not to pinch the cable.
- Tighten the 4 screws with the wrench.

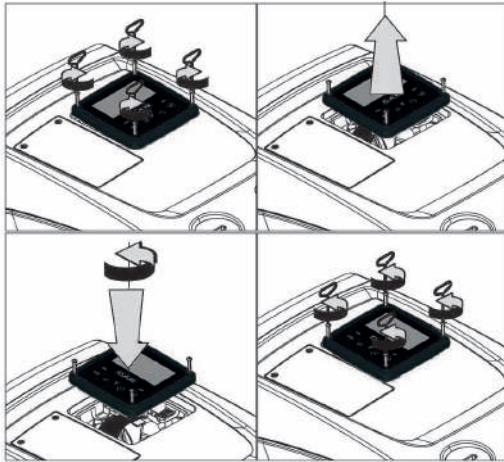


Figure 11

### 2.2.3 Loading Operation Installation above head and below head

With reference to its position with respect to the water to be pumped, the installation of the system may be defined “above head” or “below head”. In particular the installation is defined “above head” when the pump is placed at a level higher than the water to be pumped (e.g. pump on the surface and water in a well); vice versa it is “below head” when the pump is placed at a level lower than the water to be pumped (e.g. overhead cistern and pump below).

Installation “above head”: with a screwdriver, remove the filling cap which, for the horizontal configuration, is the one on Face F (Fig.1). Fill the system with clean water through the loading door, taking care to let the air out: to ensure optimum filling it is convenient to open also the loading door on Face A (Fig.1), used for filling in the vertical configuration, so as to let all the air out, which otherwise could remain trapped in the system; take care to close the openings correctly once the operation is completed. The quantity of water with which to fill the system must be at least 0,7 litri almenno. litres. It is recommended to fit a non-return valve at the end of the suction pipe (foot valve) so

as to be able to fill it quickly too during the loading operation. In this case the quantity of water necessary for the loading operation will depend on the length of the suction pipe (0,7 litres + ...).

Installation “below head”: if there are no check valves between the water deposit and the system (or if they are open), it loads automatically as soon as it is allowed to let out the trapped air. So slackening the filling cap (Face F - Fig.1) enough to vent the air allows the system to load completely. You must survey the operation and close the loading door as soon as the water comes out (however it is recommended to fit a check valve in the section of the suction pipe and to use it to control the loading operation with the cap loose). Alternatively, in the case where the suction pipe is intercepted by a closed valve, the loading operation may be carried out in a similar way to the one described for installation over head.

## 3 - COMMISSIONING



The suction depth must not exceed 8 m.

### 3.1 - Electrical Connections

To improve immunity to the possible noise radiated towards other appliances it is recommended to use a separate electrical duct to supply the product.



Attention: always respect the safety regulations!

Electrical installation must be carried out by an expert, authorised electrician, who takes on all responsibility.



The system must be correctly and safely earthed as required by the regulations in force.



The line voltage may change when the electropump is started. The line voltage may undergo variations depending on other devices connected to it and on the quality of the line.



The differential switch protecting the system must be correctly sized and must be of the “Class A” type. The automatic differential switch must be marked with the following two symbols:





The thermal magnetic circuit breaker must be correctly sized (see Electrical Characteristics).

### 3.2 Configuration of the Integrated Inverter

The system is configured by the manufacturer to satisfy most installation cases operating at constant pressure. The main parameters set in the factory are:

- Set-Point (desired value of constant pressure); SP = 3.0 bar/43.5 psi.
- Reduction of pressure to restart RP = 0.3 bar / 4.3 psi.
- Anti-cycling function: Disabled.

However, these parameters and others can be set by the user according to the system. See par. 5-6-7 for the specifications.



For the definition of the parameters SP and RP, the pressure at which the system starts has the value:

**Pstart = SP – RP** For example: 3.0 – 0.3 = 2.7 bar in the default configuration

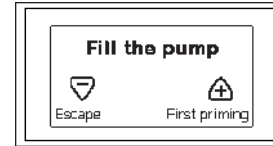
The system does not work if the utility is at a height higher than the equivalent in metres of water column of the Pstart (consider 1 bar = 10 m water column): for the default configuration, if the utility is at a height of at least 27m the system does not start.

### 3.3 - Priming

The priming of a pump is the phase during which the machine attempts to fill the body and the suction pipe with water. If the operation is successful the machine can work regularly.

Once the pump has been filled (par. 2.1.2, 2.2.3) and the device has been configured (par. 3.2), it is possible to connect the electric power supply after having opened at least one utility on delivery for the first 10 seconds. If a flow of water is detected in delivery, the pump is primed and starts its regular work. This is the typical case of installation below head (par. 2.1.2, 2.2.3). The utility opened in delivery from which the pumped water is coming out can be closed.

If a regular flow in delivery is not detected after 10 seconds, the system asks for confirmation to enter the priming procedure (typical case of installation above head pa 2.1.2, 2.2.3). Or:



When “+” is pressed the pump enters the priming procedure: it starts working for a maximum time of 5 minutes during which the safety block for dry operation is not tripped. The priming time depends on various parameters, the most influential of which are the depth of the water level from which it is drawing, the diameter of the suction pipe, the water-tightness of the suction pipe. On condition that a suction pipe is used that is no smaller than 1” and that it is well sealed (with no holes or joins from which it can take in air), the product has been studied to manage to prime in water conditions up to 8m in depth in a time of less than 5 minutes. As soon as the product detects a regular flow in delivery, it leaves the priming procedure and starts its regular work. The utility opened in delivery from which the pumped water is coming out can be closed. If after 5 minutes of the procedure the product is still not primed, the interface display sends a failure message. Disconnect the power supply, load the product adding new water, wait 10 minutes and repeat the procedure from the moment you put the plug in the socket. Press “+” to confirm that you do not want to start the priming procedure. The product remains in alarm status

#### Operation

Once the electropump is primed, the system starts regular operation according to the configured parameters: it starts automatically when the tap is turned on, supplies water at the set pressure (SP), keeps the pressure constant even when other taps are turned on, stops automatically after time T2 once the switching off conditions are reached (T2 can be set by the user, factory value 10 sec).

**Менюта**

Структурата на всички менюта и функции на бутоните - таблица 3.

**Достъп до менютата**

Достъпа до всяко меню, от главното, може да стане по 2 начина:

- 1 - Директен достъп, чрез комбинация от бутони.
- 2 - Достъп, чрез име от падащо меню.

**4.1 Директен достъп, чрез комбинация от бутони**

Става, чрез едновременно натискане на подходяща комбинация от бутони за известно време (например MODE SET за влизане в менюто за настройки) и чрез превъртане на списъка в дадено меню, чрез бутона MODE.

Табл. 2 показва менютата, които са достъпни чрез комбинация от бутони.

ГЛАВНО МЕНЮ	БУТОНИ ЗА ДИРЕКТЕН ДОСТЪП	ВРЕМЕ НА НАТИСКАНЕ
Ползвател		До освобождаването му
Наблюдение	 	2 сек
Настройка	 	2 сек
Ръчно	  	5 сек
Инсталационно	  	5 Sec










Техническо	  	5 сек
Нулиране на фабричните настройки	 	2 сек
Нулиране	   	2 сек

Табл. 2 Достъп до менюта

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