



atac

ATAC Solutions Ltd is a leading environmental engineering company based in Maidstone, United Kingdom.

ATAC Solutions is known for its state-of-the-art liquid collection fleet and its expertise in providing bespoke turnkey wastewater process solutions.

With a focus on sustainability and accreditation in ISO 9001 & ISO 14001, the company serves domestic and industrial clients across the South-East and London.

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Axiom Water companies



e.sybox
ERGONOMIC TECHNOLOGY



product
design award

2013



WELCOME...TO THE FUTURE!!!



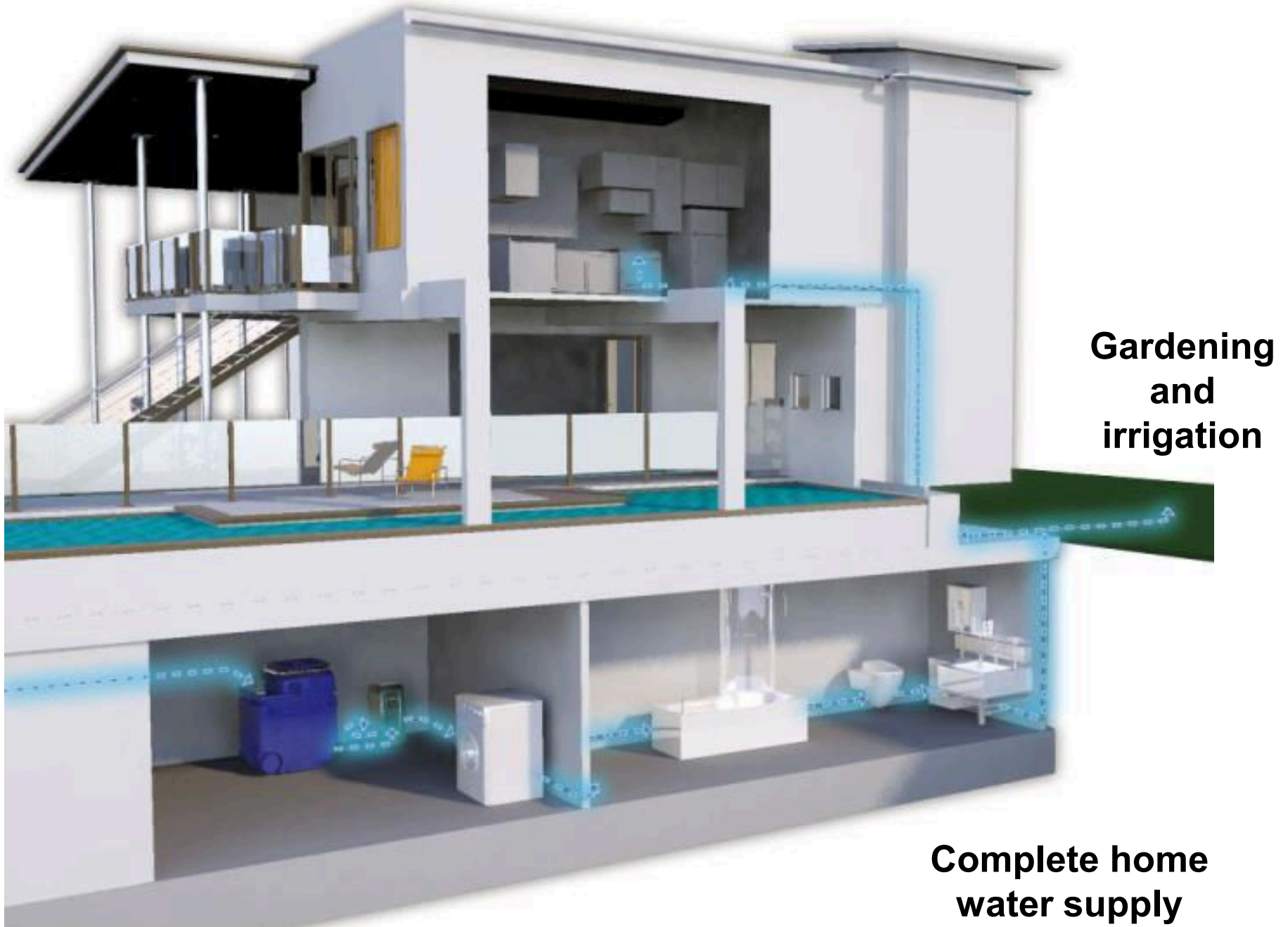
**e.sybox is the most evolved ergonomic system in the world
in the field of water pressurization**

- ✓ ***Easy to install***
- ✓ ***Easy to use***
- ✓ ***Flexible installation***
- ✓ ***Compact & design product***
- ✓ ***Silent***

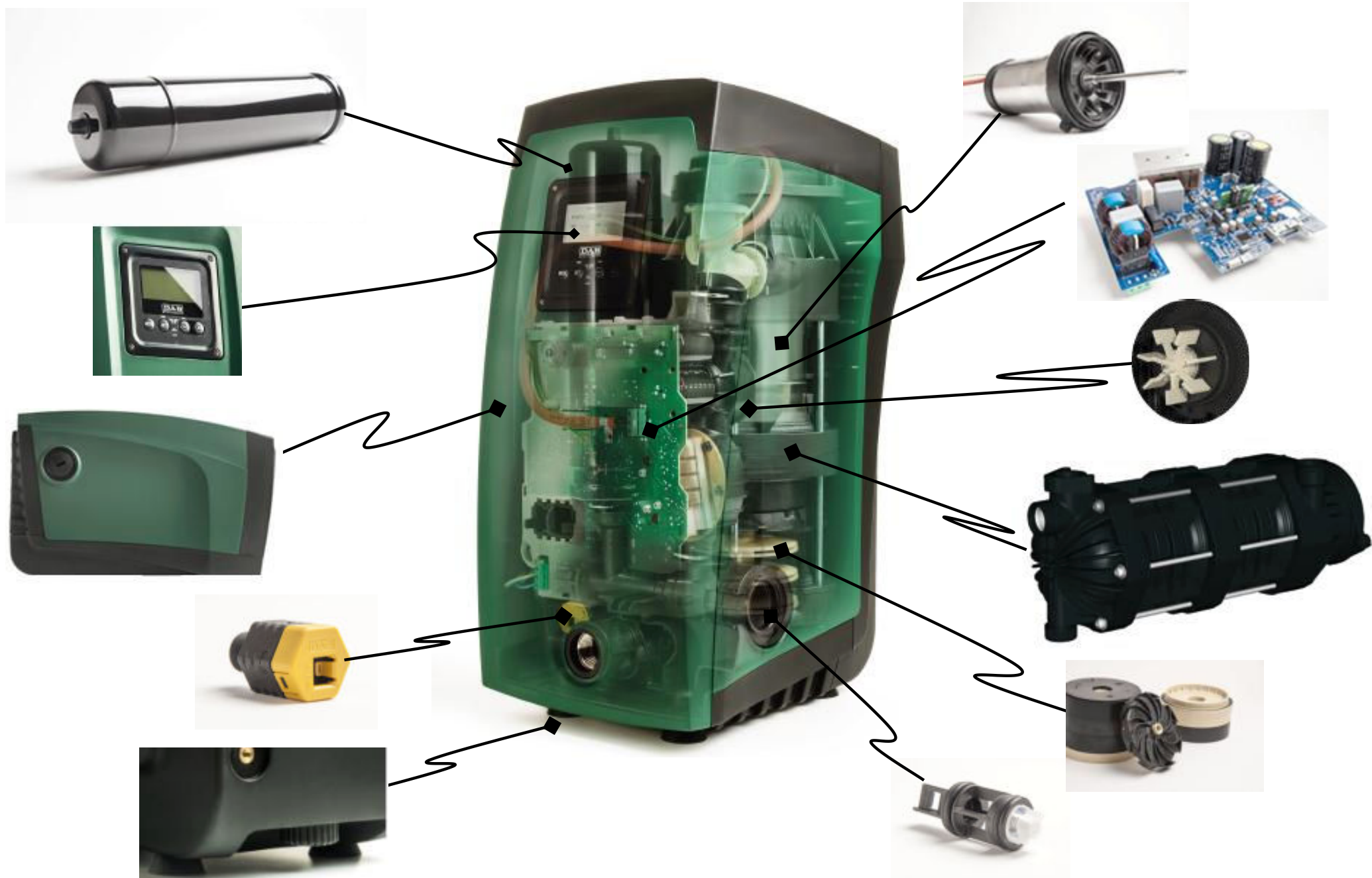


e.sybox has 14 patents pending

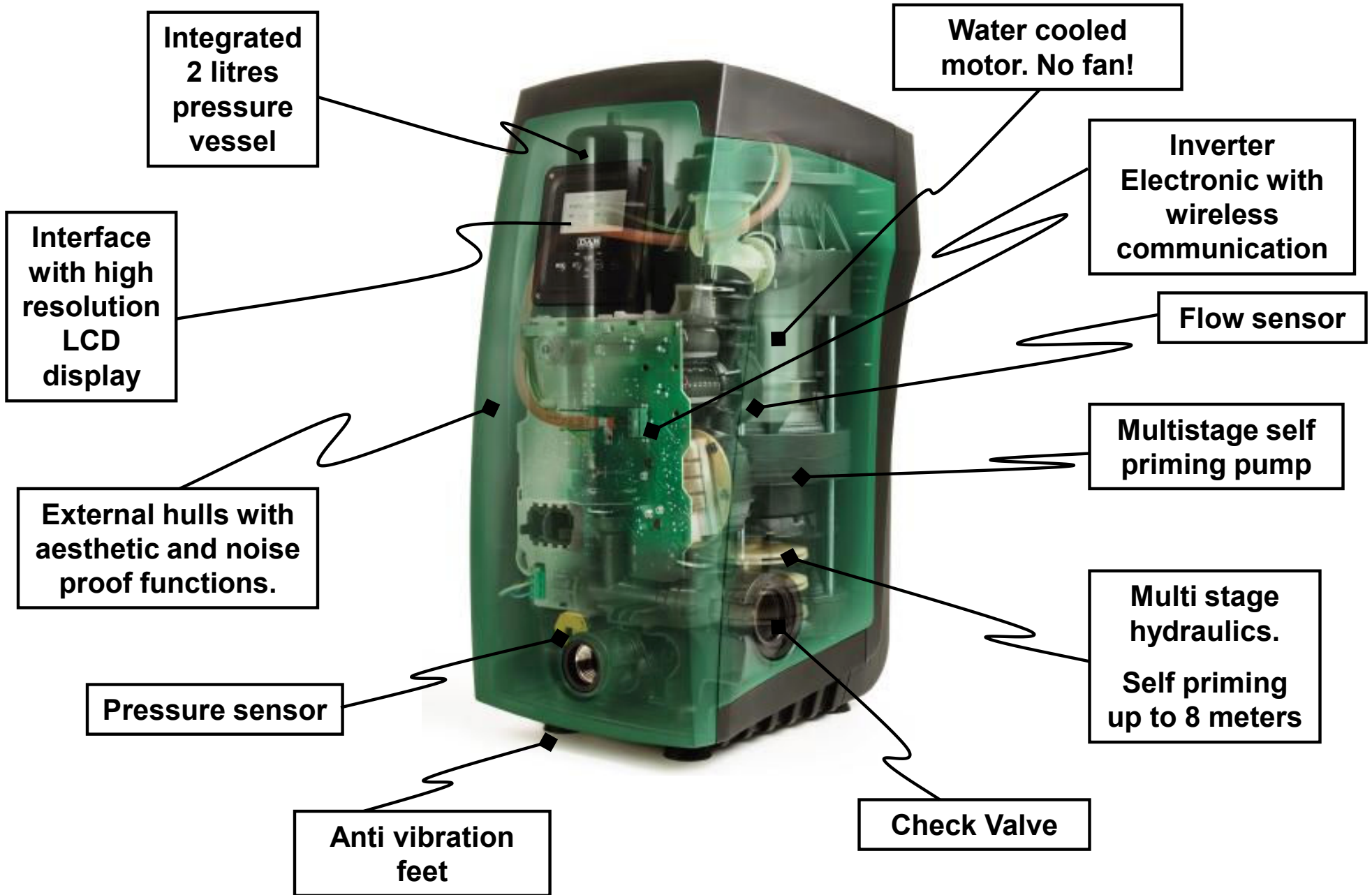
APPLICATIONS



MAIN FEATURES



MAIN FEATURES



MAIN FEATURES



HYDRAULIC PART



- *Technological mix between EUROINOX 40/80 and BOOSTER SILENT*
- *Multistages (5 stages)*
- *Water-cooled motor*
- *Self-priming up to 8 m*



SILENT

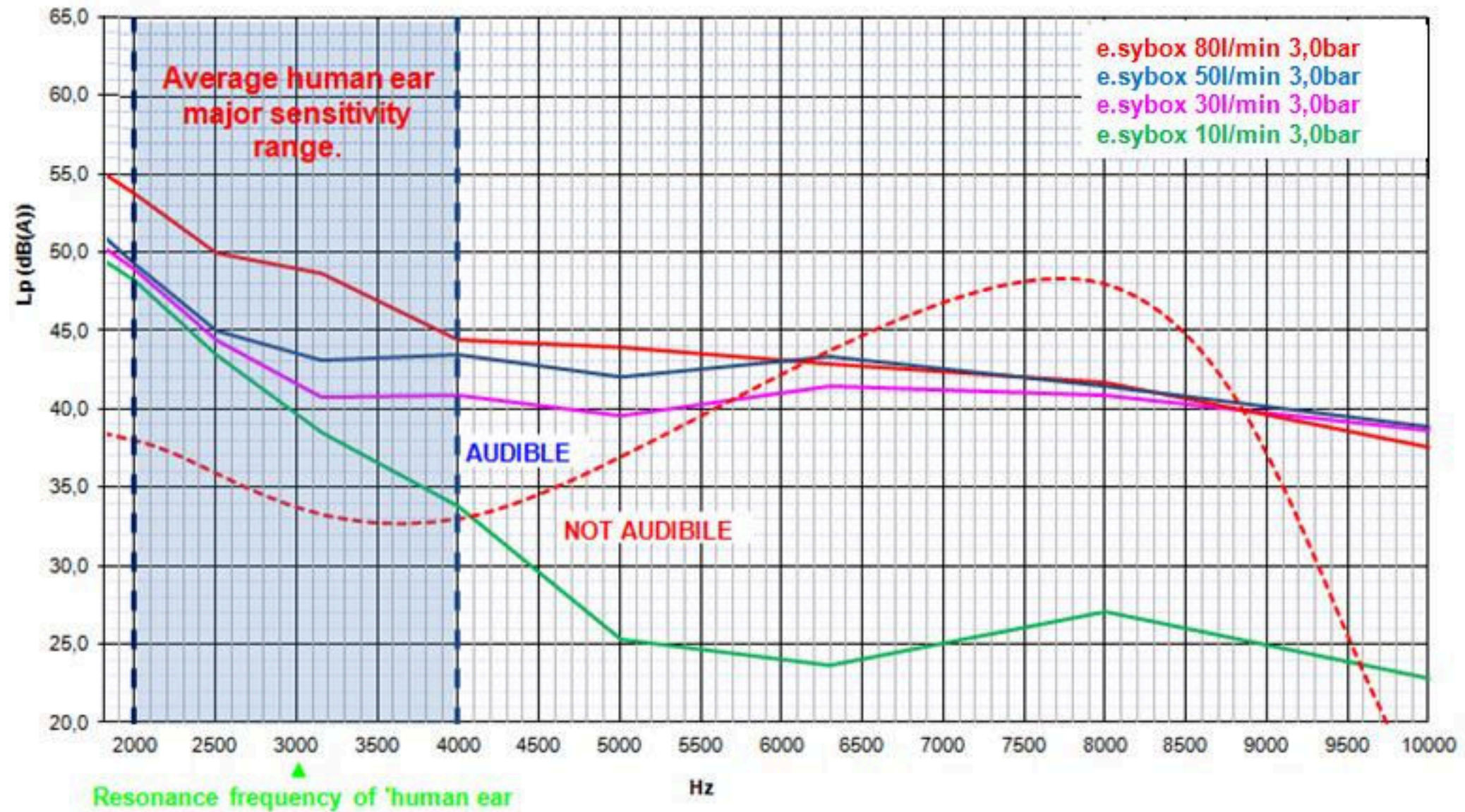


45 dB 

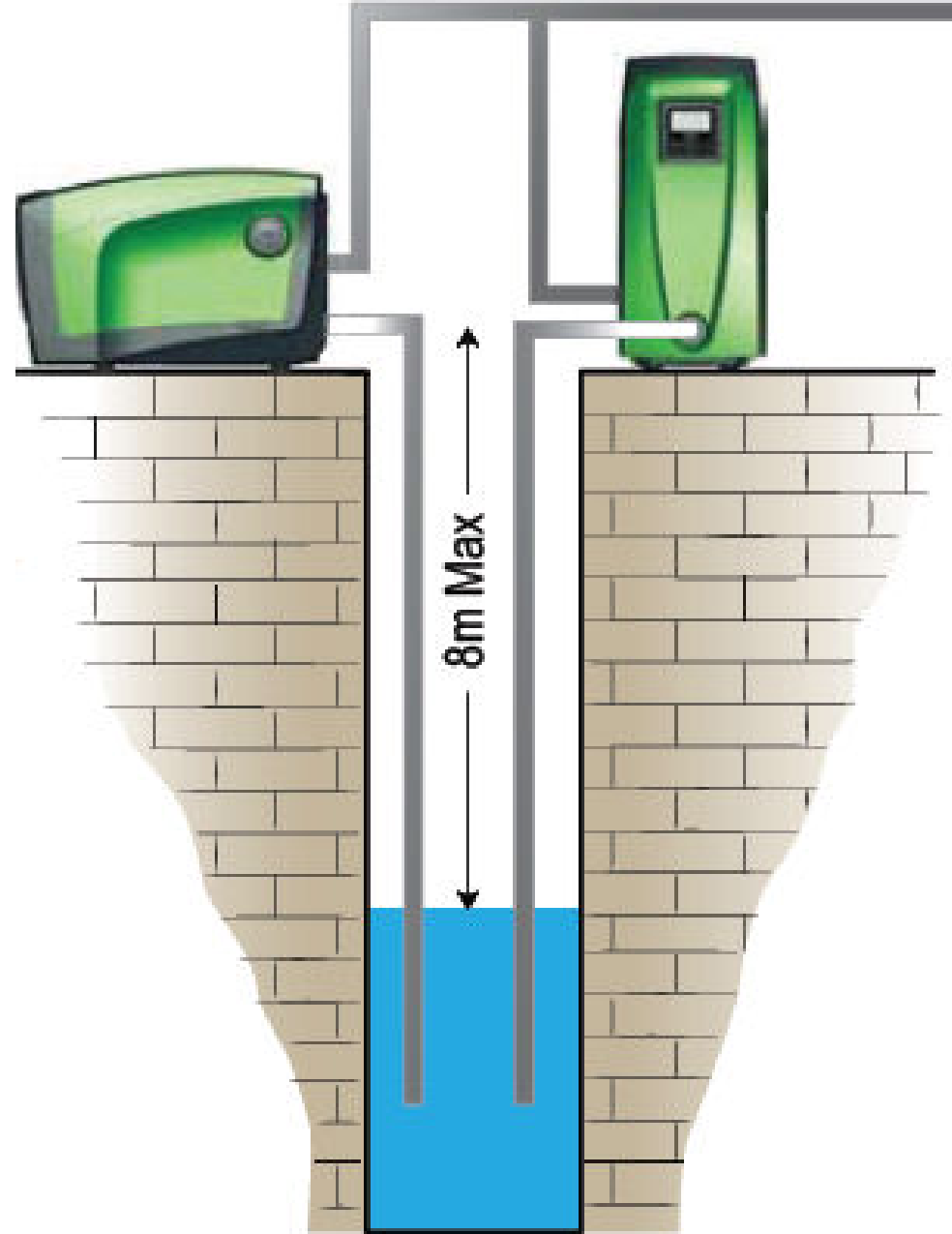
 +  3 Bar
  12 l/min



SILENT



SELF-PRIMING EFFECT



Easy and fast priming
(after first filling)

Emptying

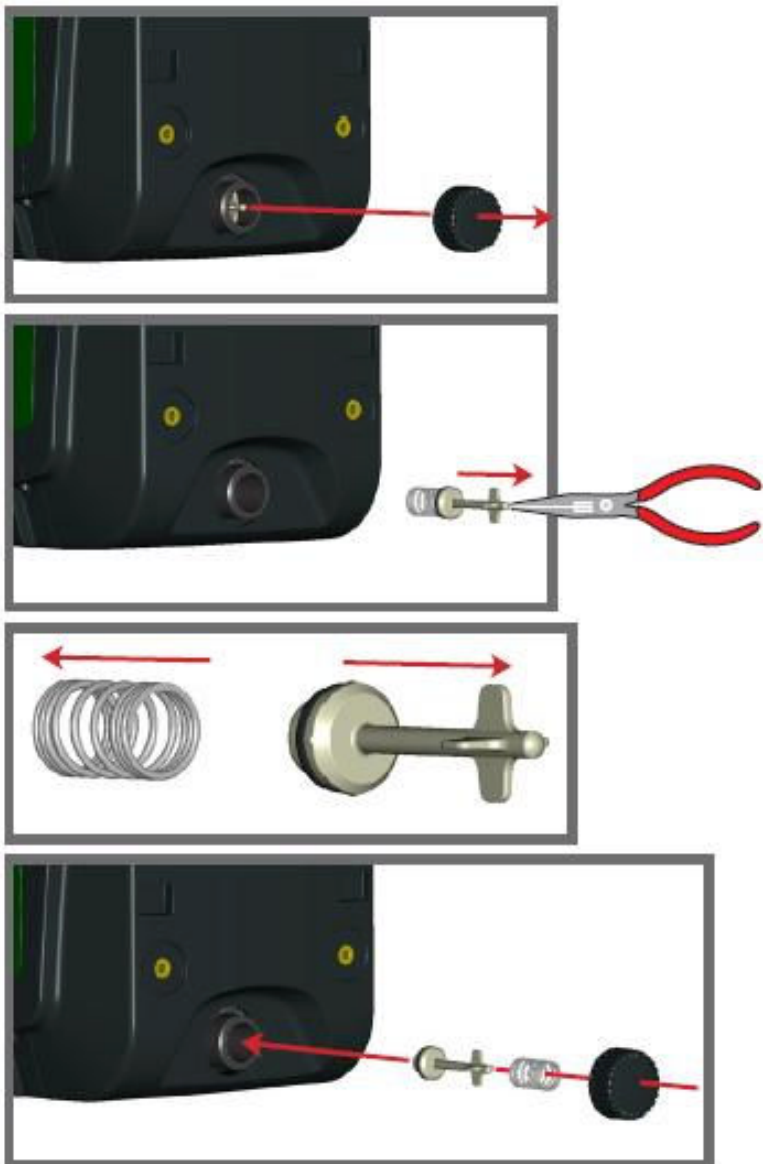


Maintenance



SELF-PRIMING EFFECT

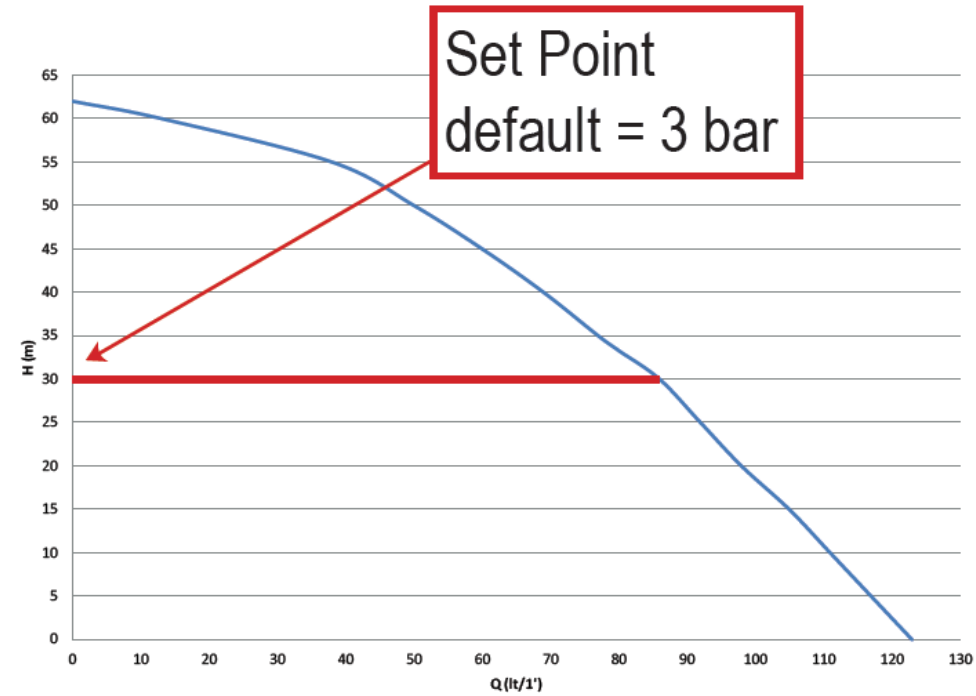
The self-priming effect can be excluded:



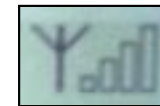
 **Exclude the self-priming effect in this conditions:**

- **Negative suction head**
- **Water arrives at the system intake already under pressure (MAX 2 bar)**

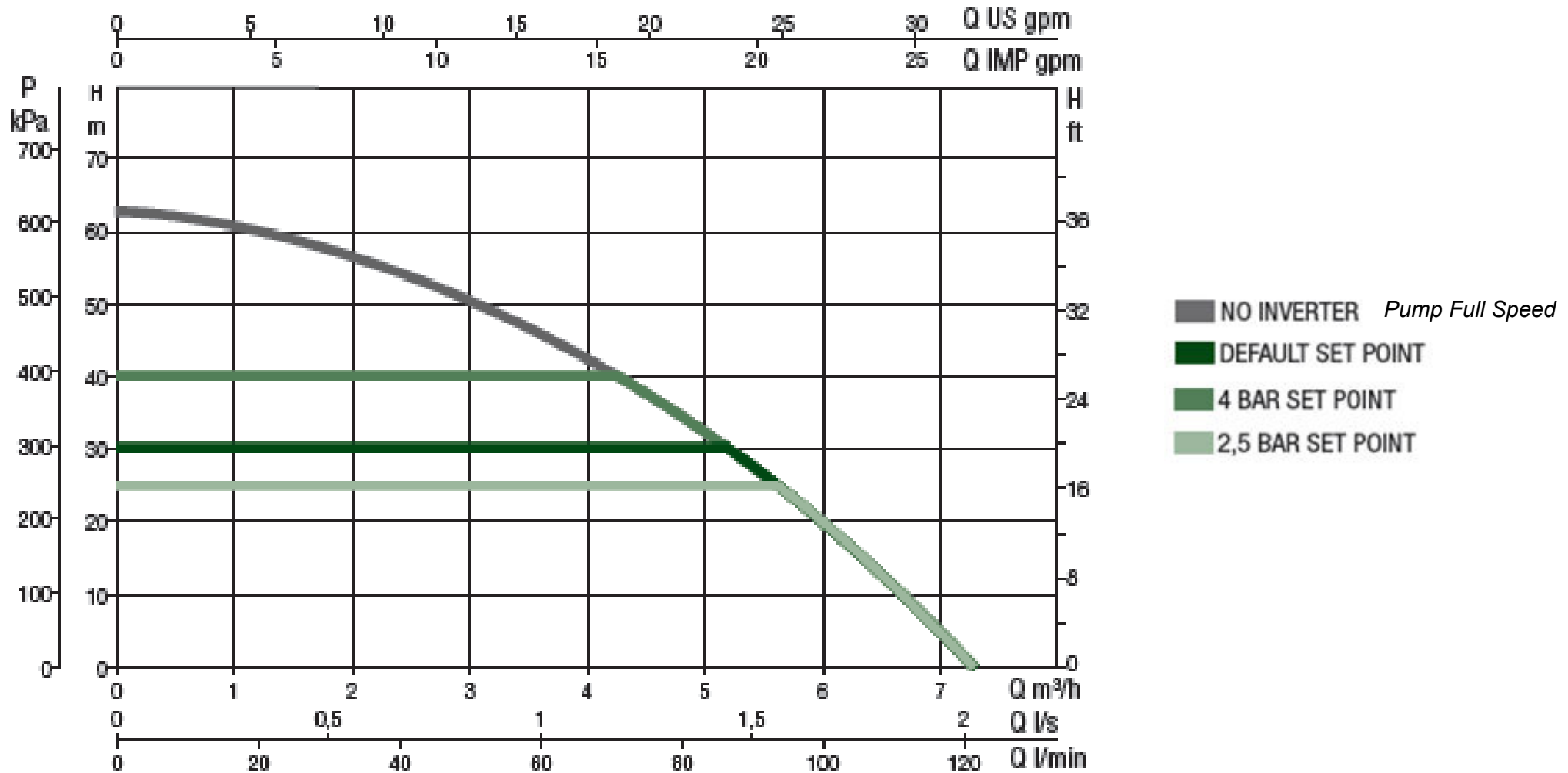
INVERTER



- **Costant pressure with variable flow**
- **More precise motor control**
- **Informations calculated instantly and sent to LCD monitor**
- **Wireless communication (max 4 modules without any cable)**

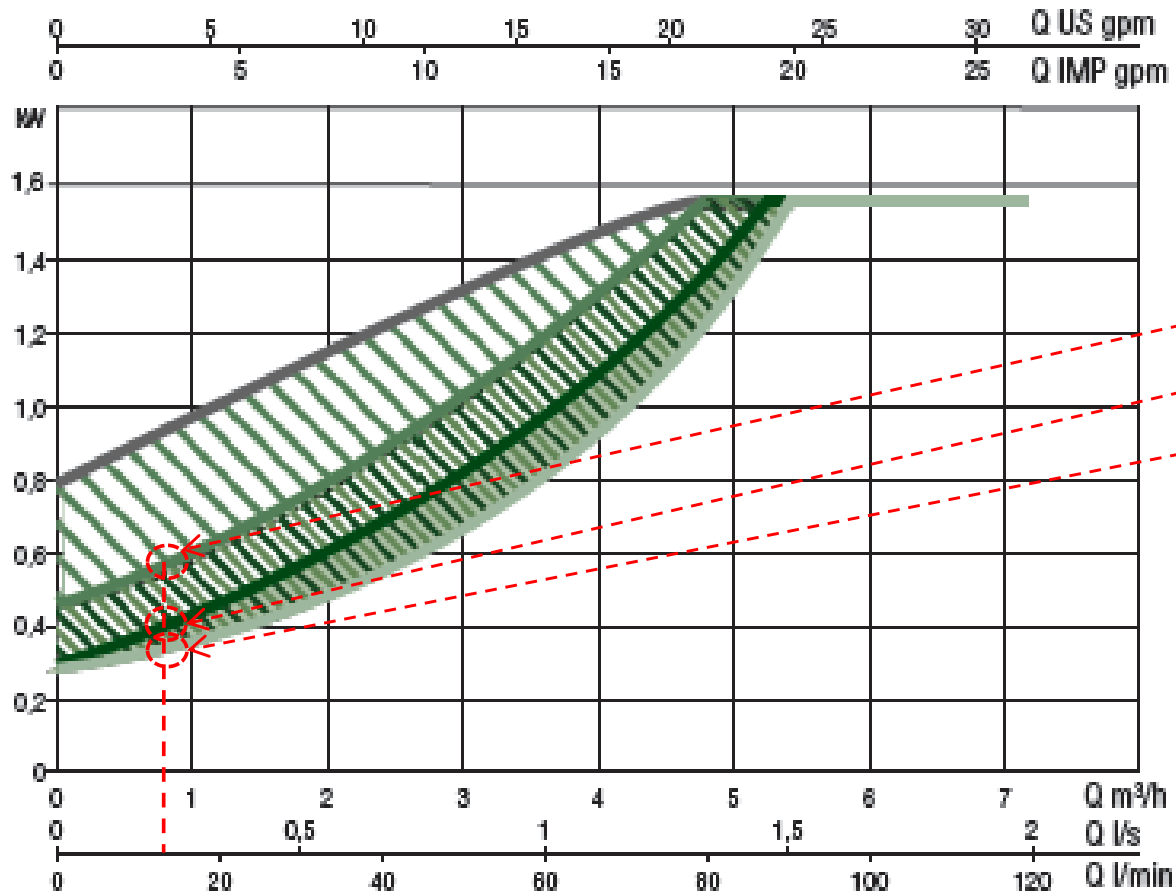



PERFORMANCE







**Performance curves of the complete unit including all the connections
(for vessel, heat sink, inverter controllers, flow and pressure sensors)**

ENERGY SAVING



500 Watt at 4 bar
 360 Watt at 3 bar
 300 Watt at 2,5 bar
 with  Open (12 l/min)

 NO INVERTER *Pump full speed*
 DEFAULT SET POINT
 4 BAR SET POINT
 2,5 BAR SET POINT

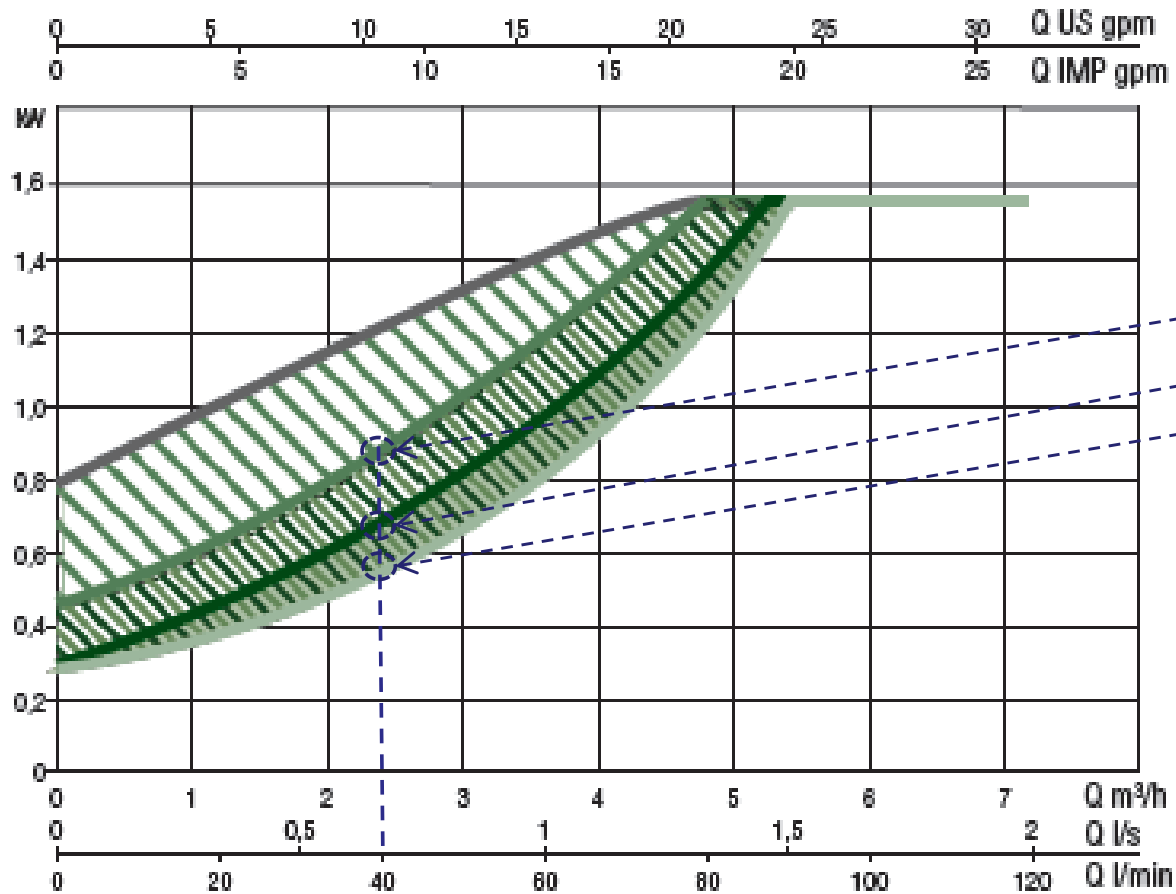


ENERGY SAVING AREA

Thanks to the Inverter technology, e.sybox draws only the necessary energy according to water requirements, thereby avoiding wastes and allowing considerable economic savings.



ENERGY SAVING



870 Watt at 4 bar
 680 Watt at 3 bar
 540 Watt at 2,5 bar



Open (40 l/min)

- NO INVERTER *Pump full speed*
- DEFAULT SET POINT
- 4 BAR SET POINT
- 2,5 BAR SET POINT



ENERGY SAVING AREA

Thanks to the Inverter technology, e.sybox draws only the necessary energy according to water requirements, thereby avoiding wastes and allowing considerable economic savings.



EXPANSION VESSEL



- ***Integrated in the system***
- ***Capacity: 2 litres***
- ***Certified for drinking water***
- ***5 years guarantee without any maintenance***
- ***Pre-charged at 2.0 bar***



P.Air = SetPoint - 1 bar
(default = 3 - 1 = 2 bar)



NON-RETURN VALVE



Easy access to non-return valve for maintenance



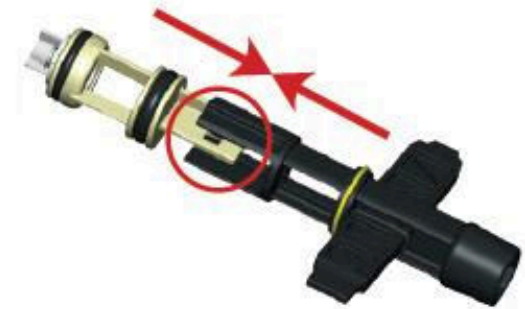
1



2



3



4



5



6

*The same product can be installed in
vertical and horizontal
position both, on the ground or on a wall*



e.Sybox is easily adaptable to any type of installation.
Horizontal or Vertical, in a ventilated room or in a recess, any setting will be perfect
for making the best possible use of it.

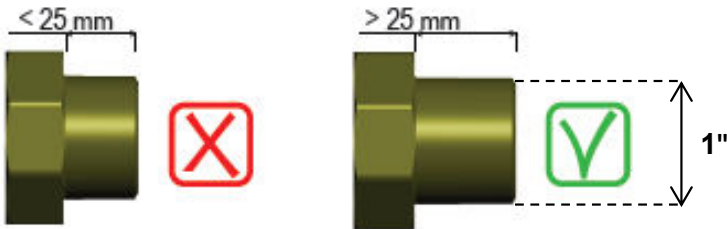
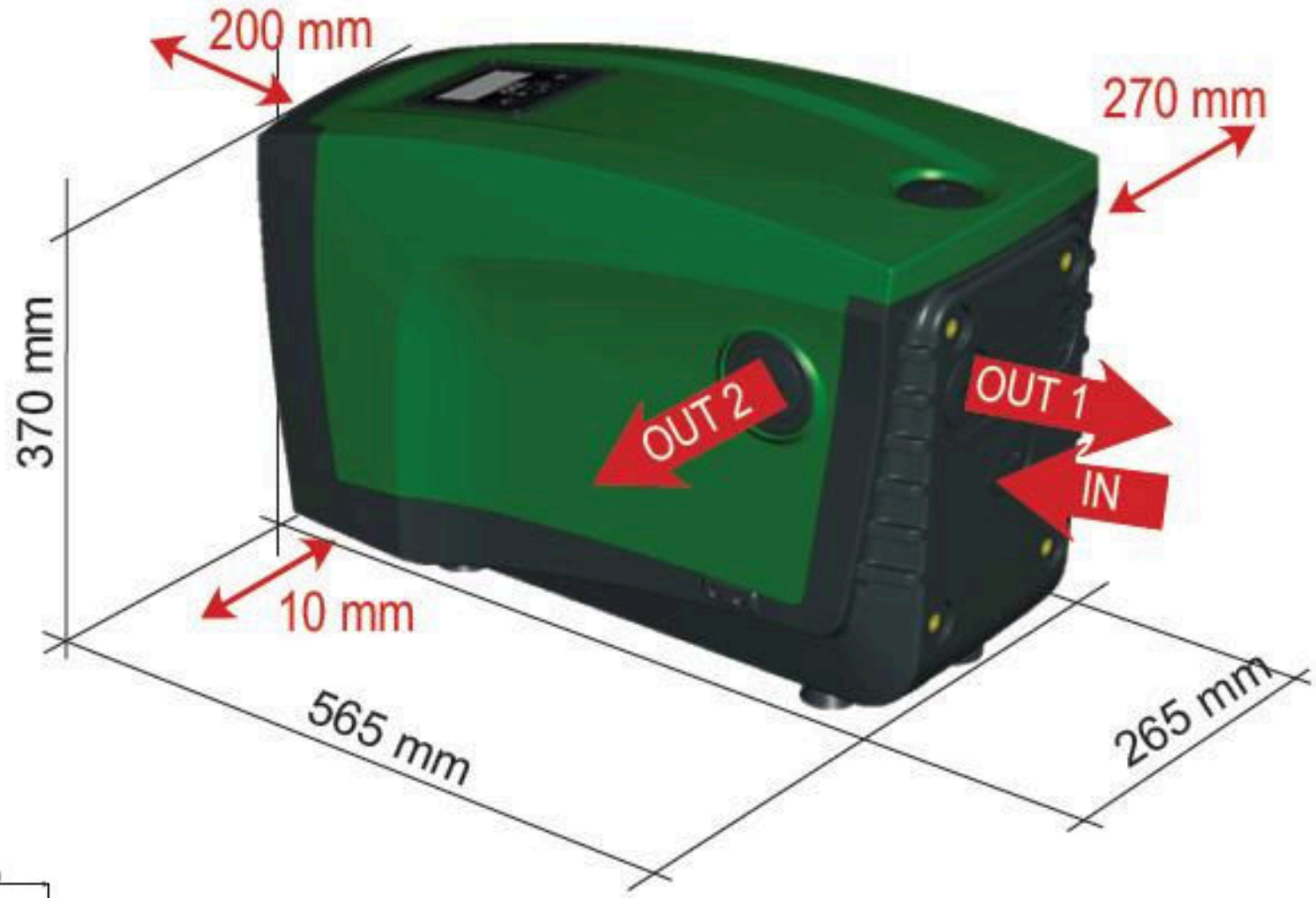
Horizontal view



HORIZONTAL INTALLATION



First time water fill up



** Possibility to simultaneously connect 2 different deliveries*

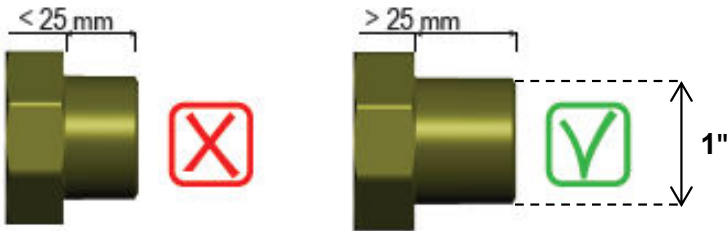
Vertical view



VERTICAL INSTALLATION



First time water fill up





1. Valve of the expansion vessel

2. Thecnical data plate

3. Quick guide

4. Access to motor shaft

5. Accessory tool

6. Filling cap (vertical installation only)



INSTALLATION: QUICK GUIDE



ACCESS TO MOTOR SHAFT

After a period of inactivity, perhaps with the system drained, the salts dissolved in the water could have settled and formed calcification between the moving part (motor shaft) and the fixed part of the pump, thus increasing the resistance on starting. In this case it may be sufficient to help the motor shaft by hand to detach itself from the calcifications.

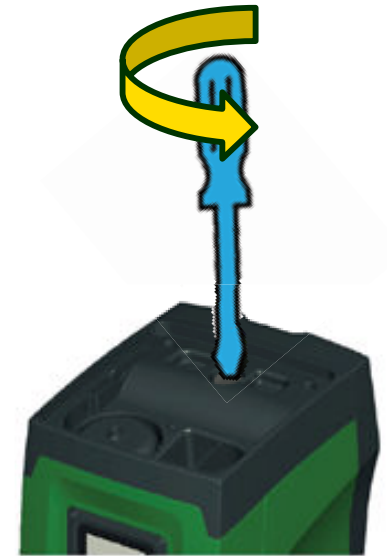
In this system the operation is possible because access to the motor shaft from outside is guaranteed and a groove is provided at the end of the shaft.

Proceed as follows:

1. remove the motor shaft access cap
2. insert a straight tip screwdriver in the groove on the motor shaft and maneuver, turning in both directions



Do not fill up the pump using this hole as illustrated on the stick:



SUPPLIED TOOLS



To open caps

*To open the filling cap
(vertical installation)*

*To open the
motor shaft cap*



SUPPLIED TOOLS



*To remove the non-return valve
(maintenance)*



*To remove the
control panel*



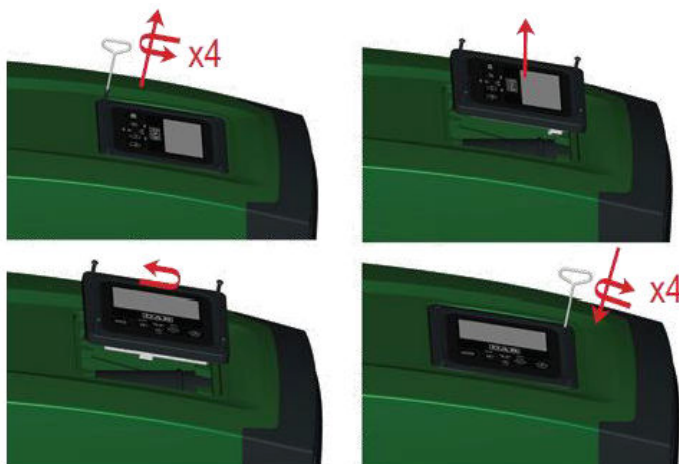
CONTROL PANEL

ORIENTABLE

Removing the screws the panel can be rotated by 180°







LCD display
70x40 mm
240x128 dots



CONTROL PANEL



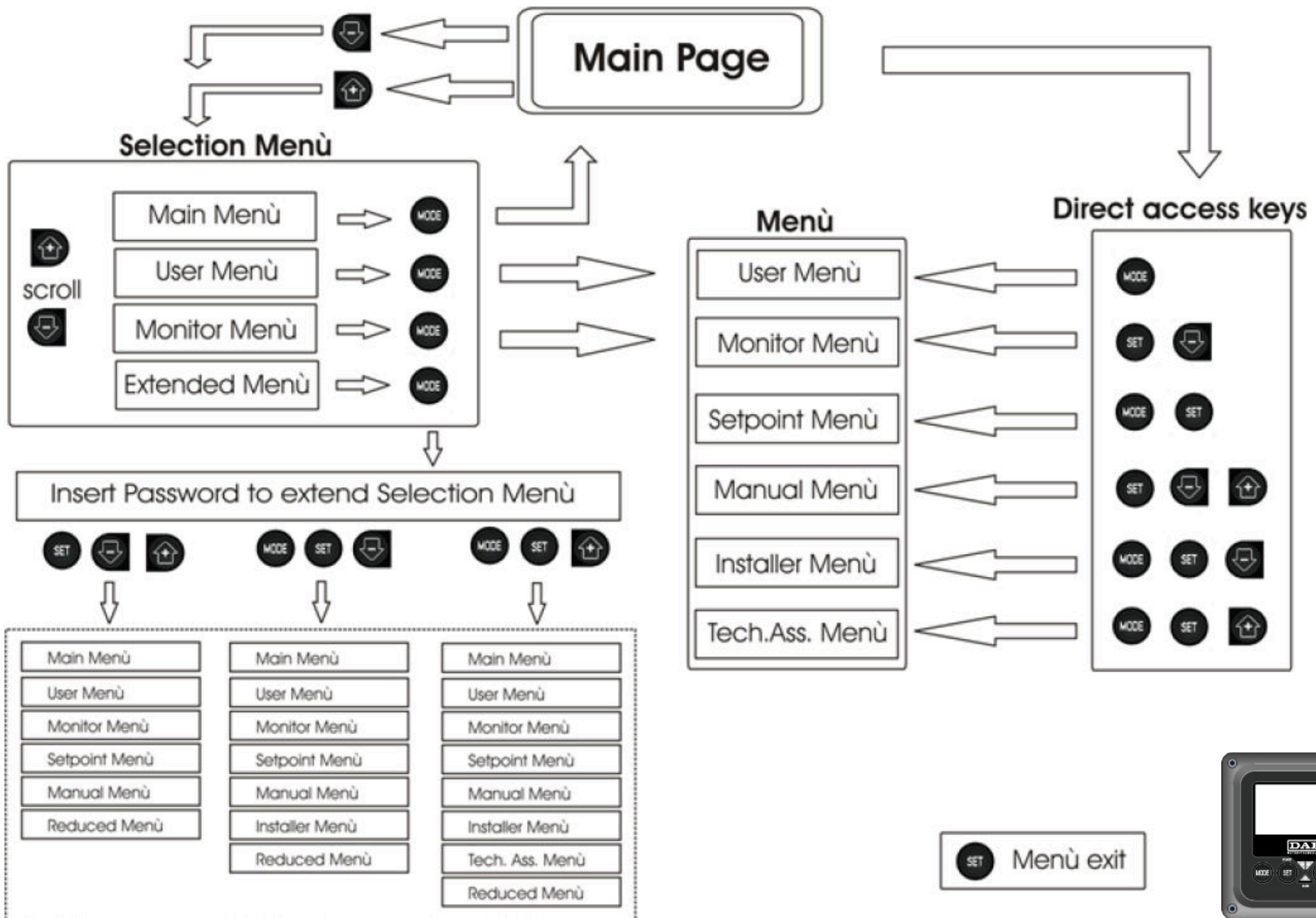
	The MODE key allows you to move on to the next items in the same menu. Holding it down for at least 1 sec allows you to skip to previous menu item.
	The SET key allows you to leave the current menu.
	Decreases the current parameter (if it is an editable parameter).
	Increases the current parameter (if it is an editable parameter).

CONTROL PANEL



MENU NAME	DIRECT ACCESS KEYS	HOLD-DOWN TIME
User	MODE	On releasing the button
Monitor	SET ↓	2 Sec
Setpoint	MODE SET	2 Sec
Manual	SET ↓ ↑	5 Sec
Installer	MODE SET ↓	5 Sec
Technical assistance	MODE SET ↑	5 Sec
Reset factory values	SET ↑	2 sec after switching on appliance
Reset	MODE SET ↓ ↑	2 Sec

CONTROL PANEL



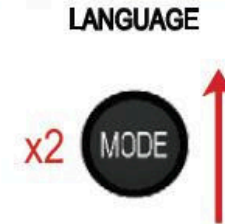
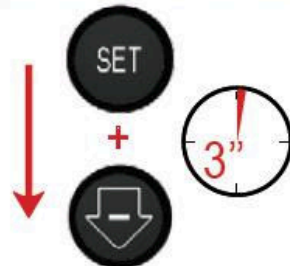
COMPLETE MENU

<i>Reduced menu (visible)</i>			<i>Extended menu (direct access or password)</i>			
Main Menu	User Menu mode	Monitor Menu set-minus	Setpoint Menu mode-set	Manual Menu set-minus-plus	Installer Menu mode-set-minus	Tech. Assist. Menu mode-set-plus
MAIN (Main Page)	STATUS RS Revs per minute	CT Contrast	SP Setpoint pressure	STATO RI Speed setting	RP Decrease pressure for restart	TB Block time for water lack.
Menu Selection	VP Pressure	BK Back lighting	P1 Auxiliary setpoint 1	VP Pressure	OD Type of plant	T1 Delay in switching off KIWA function
	VF Display of flow	TK Backlight switch-on time	P2 Auxiliary setpoint 2	VF Display of flow	AD Address Configuration	T2 Delay in switching off
	PO Power absorbed by pump	LA Language	P3 Auxiliary setpoint 3	PO Power absorbed by pump	MS Measuring system	GP Proportional gain.
	C1 Pump phase current	TE Dissipator temperature	P4 Auxiliary setpoint 4	C1 Pump phase current	AS Wireless Devices	GI Integral gain
	Hours switched on			RS Revs per minute	PR Remote pressure sensor	RM Maximum speed
	Working hours					NA Active devices
	Number of starts					NC Max. simultaneous devices
	PI Power histogram					IC Device configuration
	Multi-pump system					ET Exchange Time
	VE Informazioni HW e SW					
	FF Fault & Warning (Log)					

COMPLETE MENU

							AY Anti Cycling
							AE Anti-blocking
							AF AntiFreeze
							I1 Function input 1
							I2 Function input 2
							I3 Function input 3
							I4 Function input 4
							O1 Function output 1
							O2 Function output 2
							RF Reset fault & warning
							PW Set Password

LANGUAGE SELECTION



CONTRAST

BACKLIGHT

Available languages:

- Italian
- English
- French
- German
- Spanish
- Dutch
- Swedish
- Turkish
- Slovak
- Romanian

SETPOINT PRESSURE – STANDARD CONFIGURATIONS

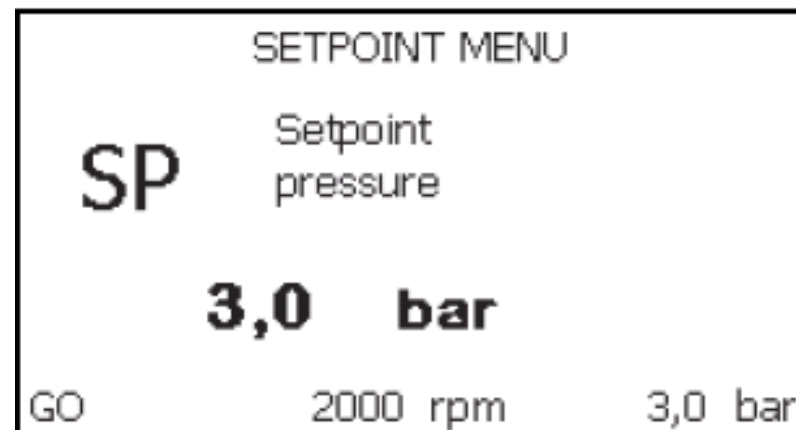
The system is configured to satisfy the majority of installation cases, operating at constant pressure.

The default values are the following:

Set-Point (desired value of constant pressure): $SP = 3.0$ bar

Reduction of pressure to restart: $RP = 0.3$ bar

Anti-cycling function: Disabled



However, all these parameters (and many others) can be set by the installer/user.

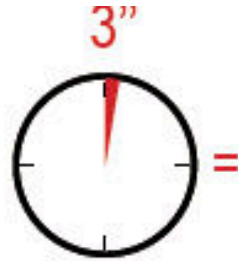
For the definition of the parameters SP and RP, the pressure at which the system starts has the value:

$P_{start} = SP - RP$ 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 P_{start} (consider 1 bar = 10 m water column): for the default configuration, if the utility is at a height of at least 27 m the system does not start.

SETPOINT PRESSURE

USER MENU			
STATE: GO	RS 2000 rpm		
VP 3,0 bar	VF 90,0 l/min		
PO 1,40 kW	C1 4,8 Arms		



SETPOINT MENU		
SP	Setpoint pressure	
	3,0 bar	
GO	2000 rpm	3,0 bar



Modify the value by:

INCREASING



or

DECREASING



ENERGY SAVING

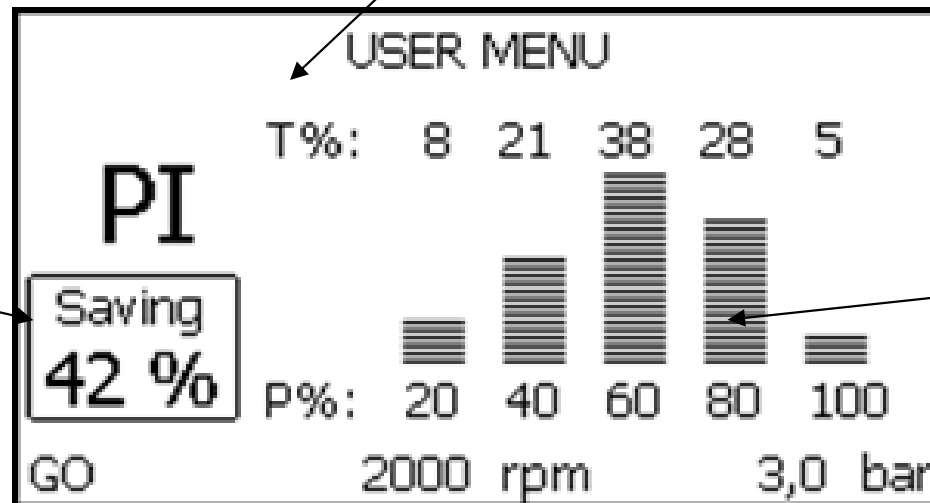
e.sybox supplies the water you require when it's required.

And you can see it!

On the vertical axis, the time for which the pump has been on at the specific power level (% of the time with respect to the total).

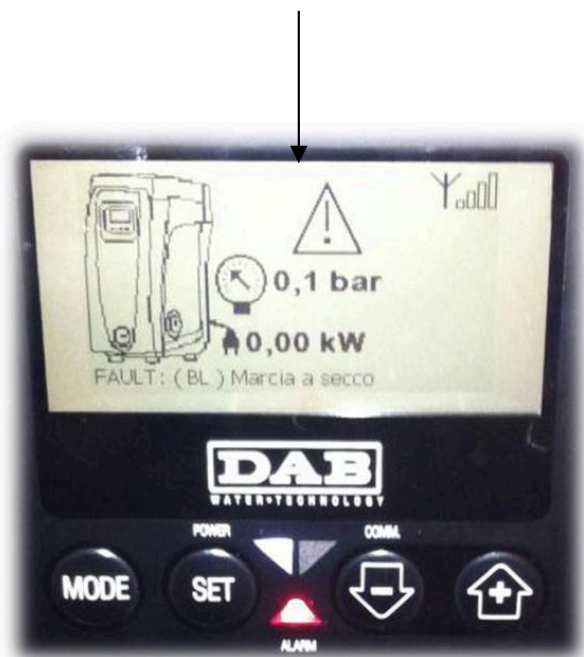
On the horizontal axis are the bars at the various power levels (% with respect to the maximum power).

Energy Saving respect to an on-off system with the same motor power.



ALARM AND WARNING SIGNALS

Alarm indication and error or status condition on screen



Red alarm light lit

Error or status conditions shown on the main page	
Identifying code	Description
GO	Motor running
SB	Motor stopped
BL	Blockage due to water lack
LP	Blockage due to low supply voltage
HP	Blockage due to high internal supply voltage
OC	Blockage due to overcurrent in the electropump motor
SC	Blockage due to short circuit on the output phases
OT	Blockage due to overheating of the power stages
BP	Blockage due to fault of the pressure sensor
NC	Pump not connected
F1	Float function status / alarm
F3	System disable function status / alarm
F4	Low pressure signal function status / alarm
P1	Operating status with auxiliary pressure 1
P2	Operating status with auxiliary pressure 2
P3	Operating status with auxiliary pressure 3
P4	Operating status with auxiliary pressure 4

DRY-RUNNING PROTECTION

Manual restart



Protection against dry running:

In the case of lack of water the pump is stopped automatically after the time T2.

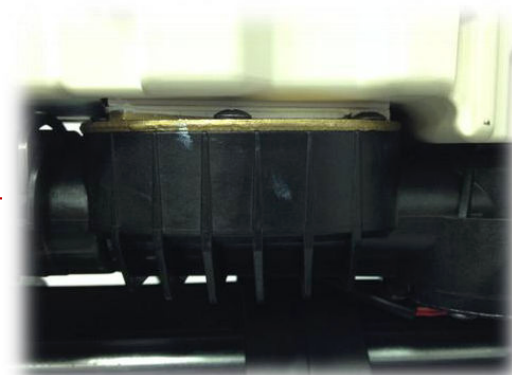
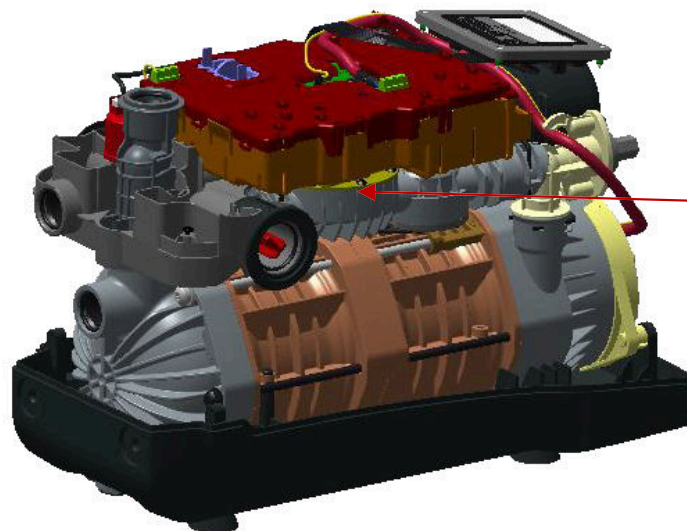
This is indicated by the red “Alarm” led and by the letters “BL” on the display.

After having **restored** the correct flow of water you can try to leave the protective block manually by **pressing the “+” and “-“ keys simultaneously and then releasing them.**

If the alarm status remains, or if the user does not intervene by restoring the flow of water and resetting the pump, the **automatic restart** will try to restart the pump.



ANTIFREEZE PROTECTION



Protection against freezing:

e.sybox is provided with a protection device which prevents the formation of ice inside the hydraulic part, by activating the electric pump in case the temperature falls below values approaching freezing point ($T < 5^{\circ} \text{C}$).

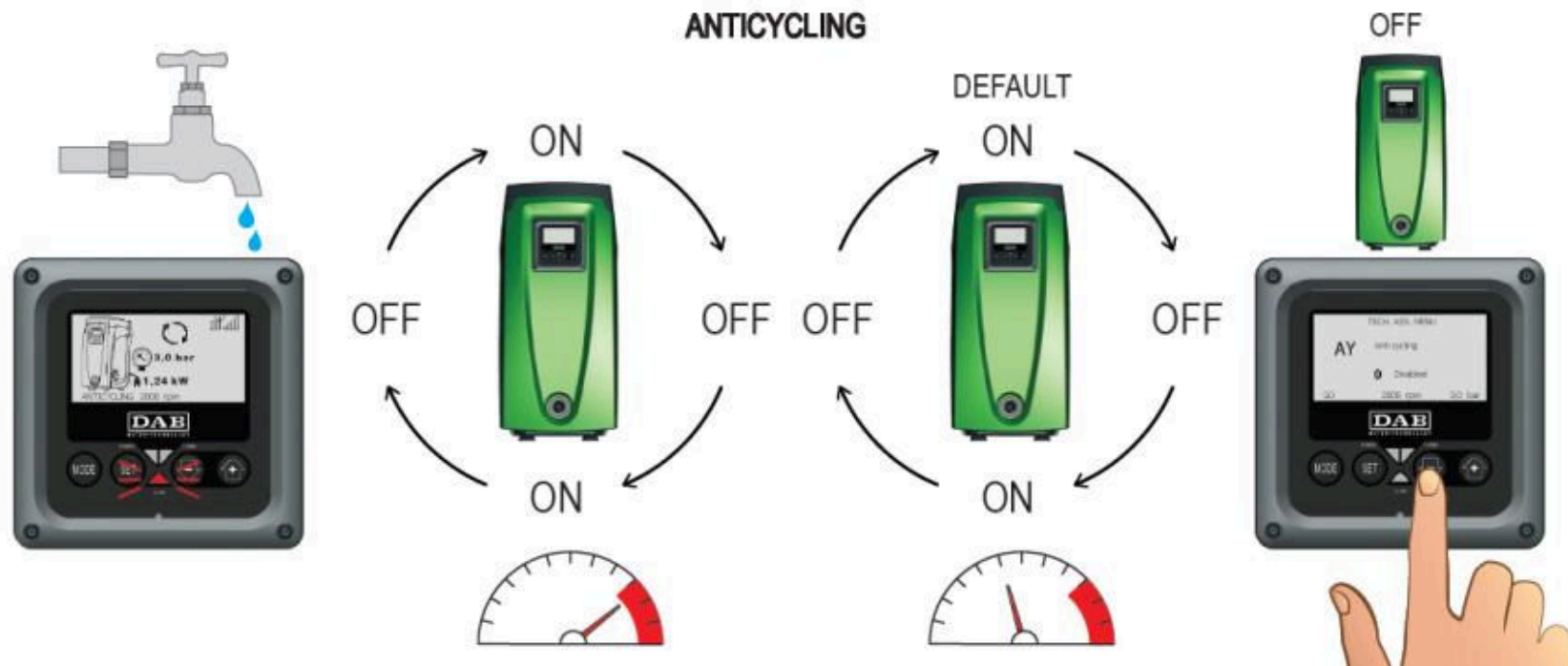
The temperature sensor is located on the electronic device near the dissipator.



The pump must be power supplied

The electric pump is activated for 5 min at 1800 rpm to heat the system and move the water inside pump body

ANTICYCLING



Protection against continuous cycles without utility request:

If there are leaks in the delivery section of the plant, the system starts and stops cyclically even if no water is intentionally being drawn: even just a slight leak (a few ml) can cause a fall in pressure which in turn starts the electropump.

The electronic control of the system is able to detect the presence of the leak, based on its recurrence.




Default parameters: *ANTICYCLING (AY) DISABLED*

Activate the AY function only in case of suspected leakage

ANTICYCLING




In case of leakage the Anti-Cycling **AY** function can be activated in **BASIC or SMART MODE** by pushing the “+” button:

- **BASIC MODE** ( **x1** : **AY 1**) : once the condition of recurrence is detected (**40 identical start/stop cycles**) the pump stops and remains waiting to be manually reset. This condition is communicated to the user by the lighting of the red “Alarm” led and the appearance of the word “ANTICYCLING” on the display. After the leak has been removed, you can manually force restart by **simultaneously pressing and releasing the “+” and “-” keys**.

Manual restart



- **SMART MODE** ( **x2** : **AY 2**) : once the leak condition is detected, the parameter **RP (Reduction of pressure to restart)** is increased to decrease the number of starts over time (**RP = 1 bar**).

TECHNICAL CHARACTERISTICS

▪ ELECTRIC POWER SUPPLY

Input current frequency	50/60 Hz
Input current voltage	1 x 220/240 ~ VAC
Current intensity	10 A
Max absorbed power - P1	1550 W

▪ CONSTRUCTION CHARACTERISTICS

Overall dimensions	565 x 265 x 350 w/o feet
Empty weight	24,8 kg
Protection class	IP x4
Motor insulation class	F

▪ HYDRAULIC PERFORMANCE

Maximum head	65 m
Maximum flow rate	125 l/min
Priming	< 5 min at 8 m

▪ WORKING CONDITIONS

Maximum working pressure	8 bar
Liquid max temp.	40 ° C
Environment max temp.	50 ° C
Storage environment temp.	-10 ÷ 60 ° C



COMPACT



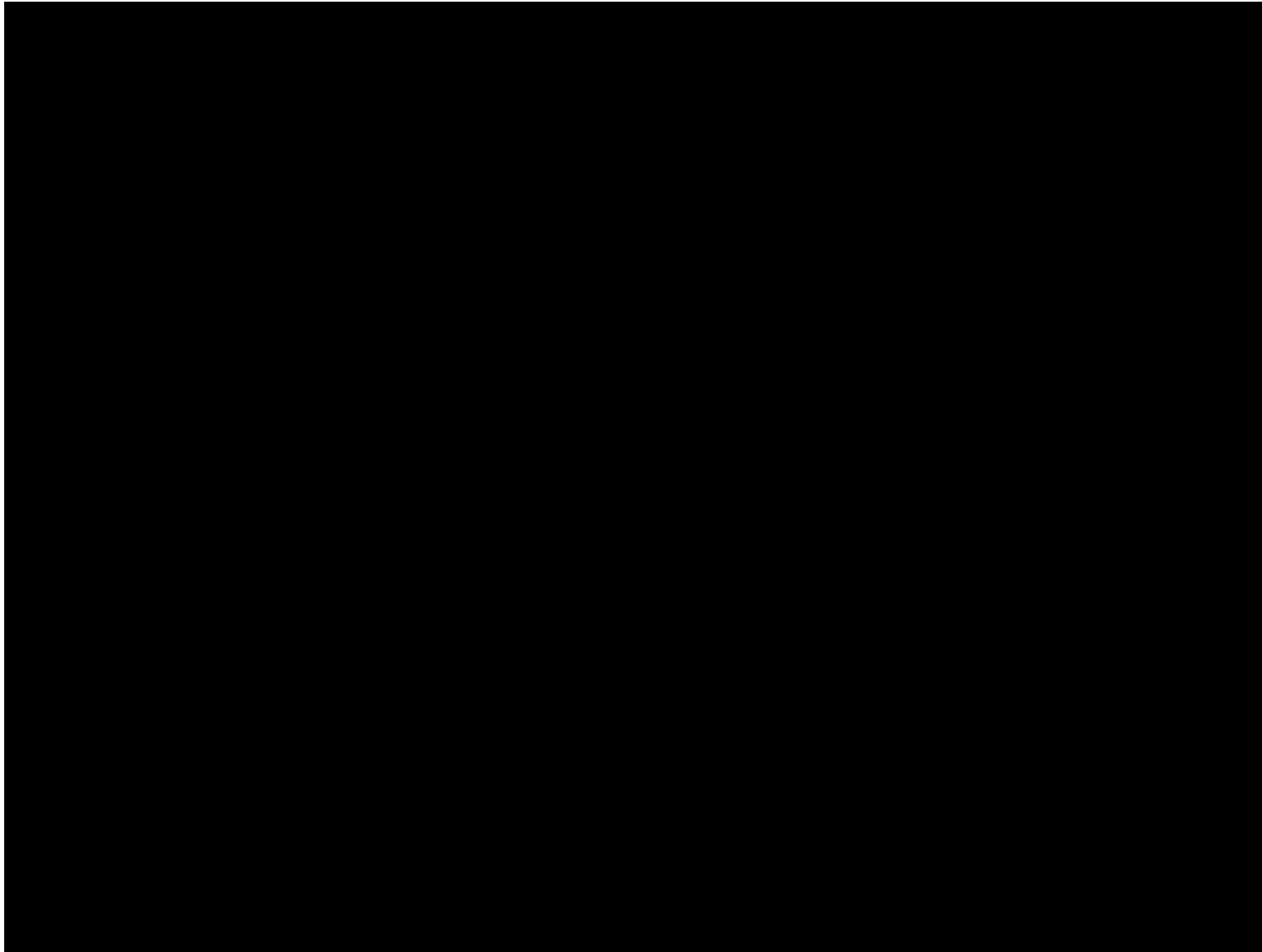
TOTAL VOLUME $\approx 72 \text{ dm}^3$



TOTAL VOLUME $\approx 51 \text{ dm}^3$

- 30% of occupied space

QR CODE



E.SY WALL



E.SY DOCK



E.SY TWIN



E.SY BOX

ACCESSORIES & KIT

AVAILABILITY

e.sywall



e.sydock



e.sytwin



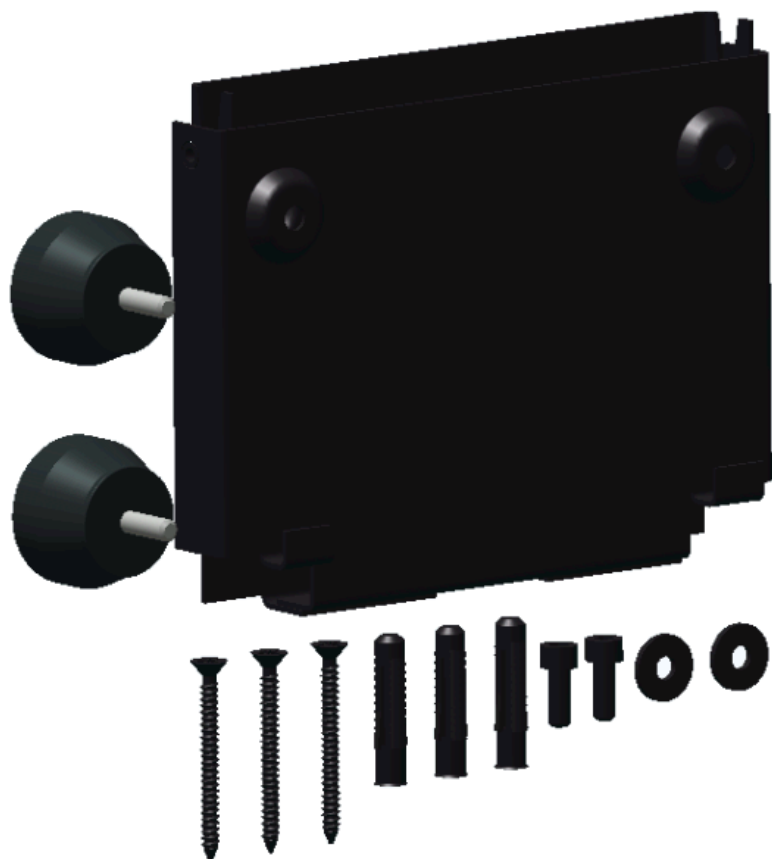
October
2013

October
2013

October
2013

November
2013

E.SYWALL



E.SYWALL – BRACKET FOR WALL INSTALLATION



e.sybox is already set up for installation hanging on the wall with the DAB accessory kit e.sywall.

Advantages:

- Saving space on the ground
- Possibility to simultaneously connect 2 different deliveries in vertical position

e.sydock



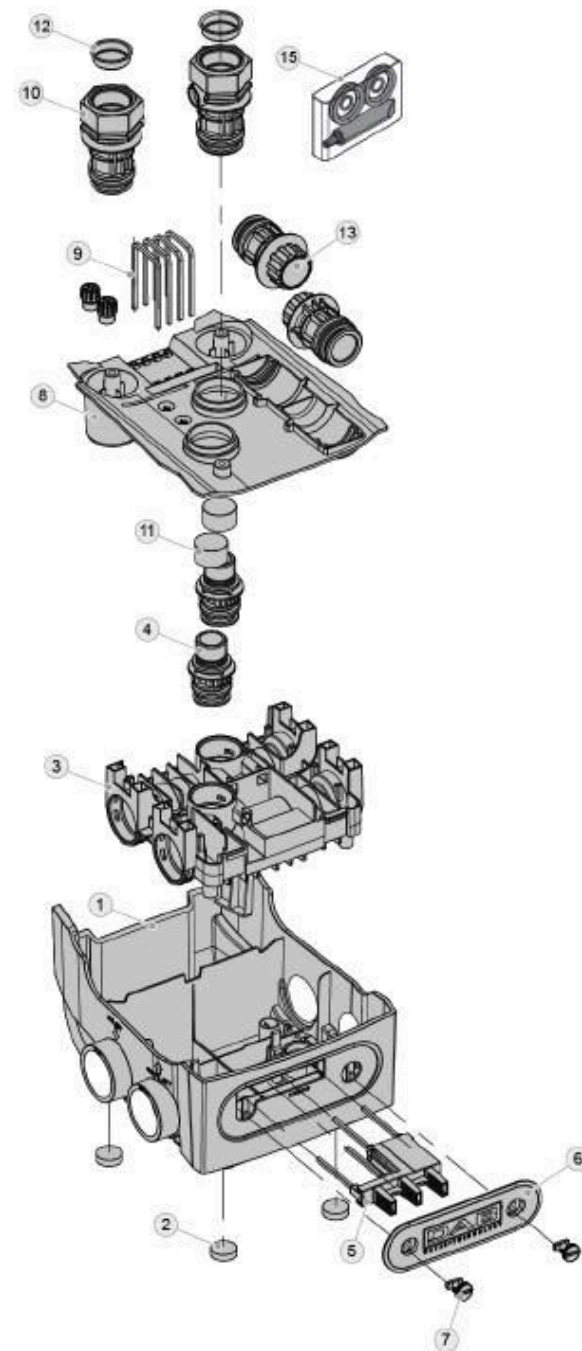
E.SYDOCK – FAST CONNECTION TOOL KIT

Accessory kit for Quick Connection of the system. This is a quick coupling base on which to make the connections to the plant and from which the system can be simply connected or disconnected.

Advantages:

- possibility of making up the plant on-site, testing it, but removing the actual system until the moment of delivery, avoiding possible damage
- it is easy for the assistance service to replace the system with a “spare” in the event of special maintenance

15	1	KIT O-RING FCT
14	2	PLUG 3/8 BLACK CROSS -PA66+30GF
13	2	CONNECTION CUP FITTING FCT
12	2	THREAD GUARD PLUG D.1 1/4
11	2	PLUG FOR PIPE 1
10	2	FCT EXTERNAL FITTING
9	4	CLIP - SQUARE SECT.4 - SPAN 41,5
8	1	FCT COVER
7	2	FCT LOGO PLATE STOPPER
6	1	FCT LOGO PLATE
5	1	FCT RETAINER DEVICE
4	2	FCT INTERNAL FITTING
3	1	FCT MANIFOLD
2	4	FCT RUBBER FOOT
1	1	FCT SUPPORT BASE
Index	Q.ty	Description



E.SYDOCK – CONNECTION FEATURES



2 adapters:
to connect the e.sybox



2 suction and delivery union



2 side plugs



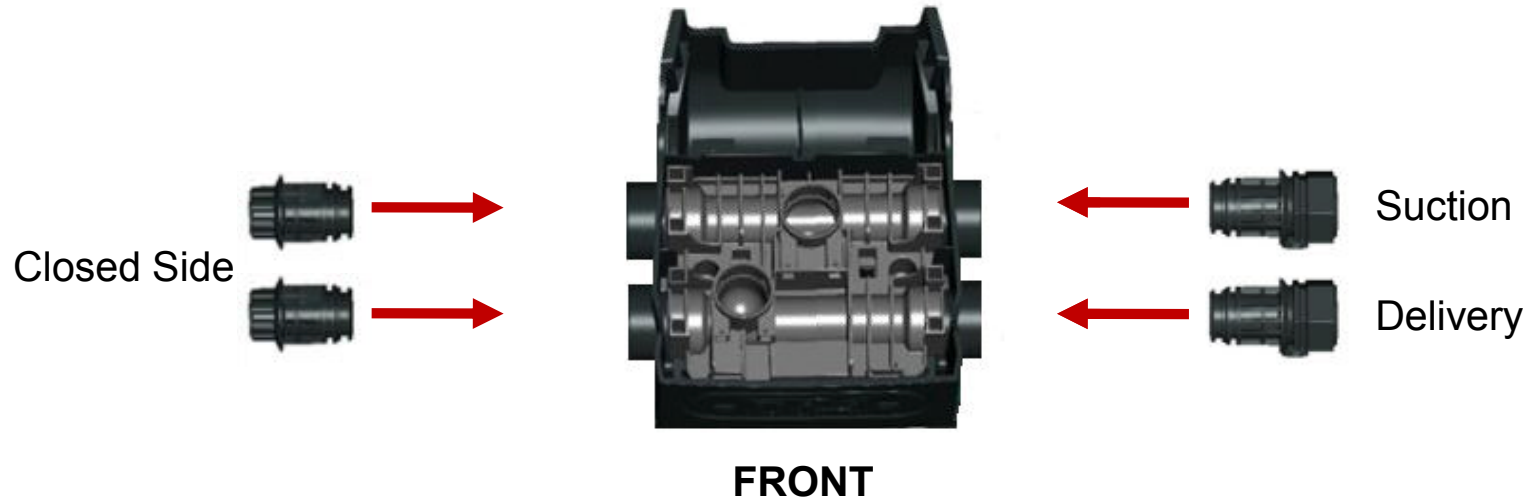
4 Clammers: to fasten
the union + side plugs



1 upper covers

E.SYDOCK – SUCTION AND DELIVERY ON ONE SIDE

Right Suction and Delivery

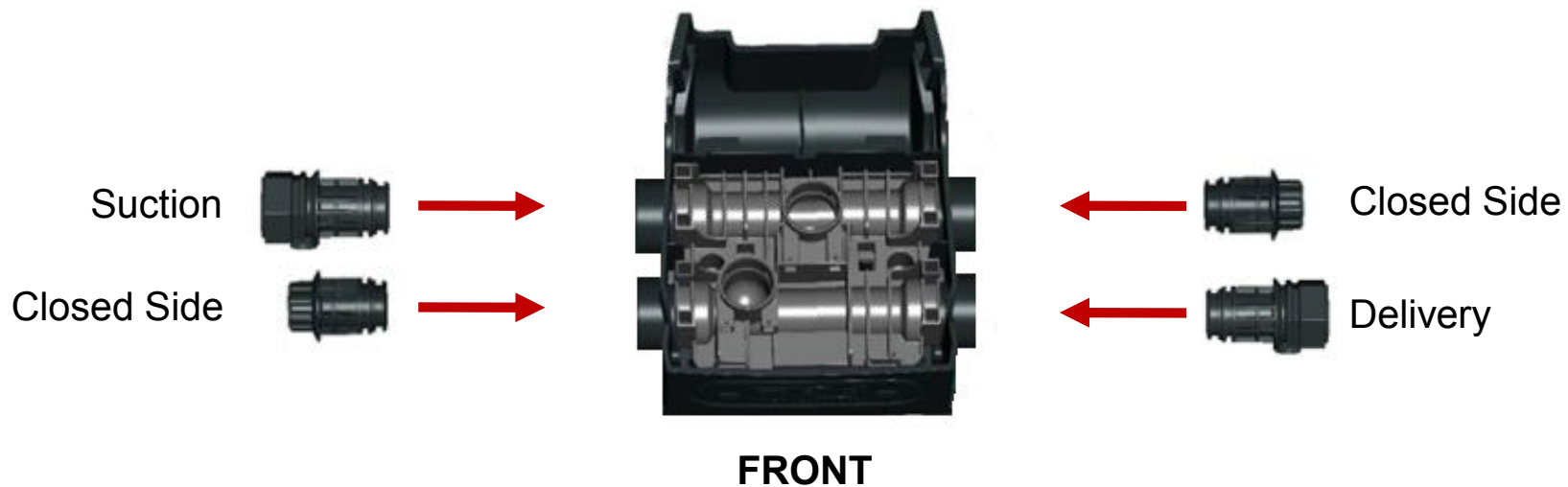


Left Suction and Delivery



E.SYDOCK – SUCTION AND DELIVERY IN LINE

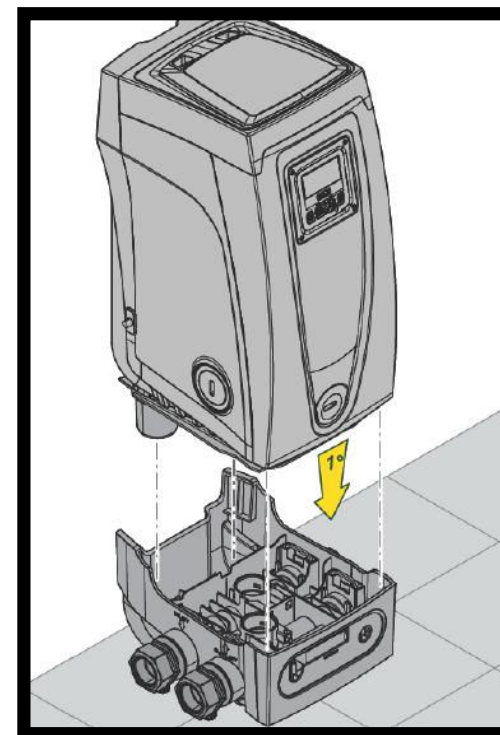
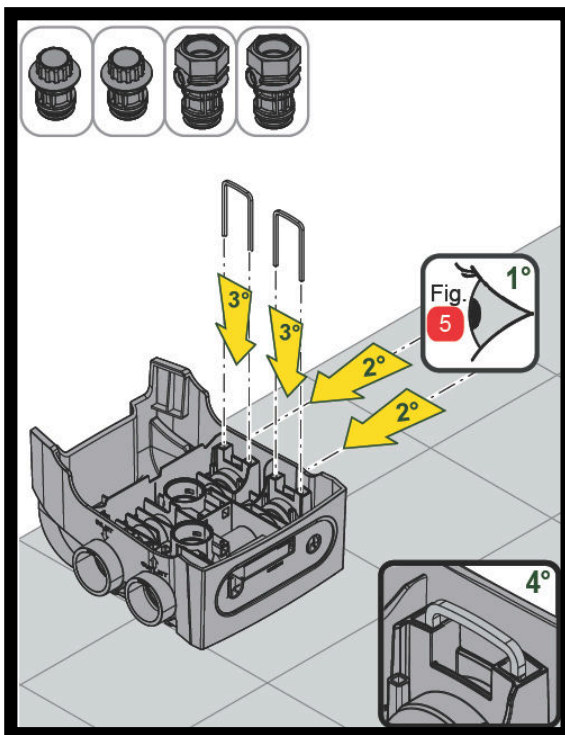
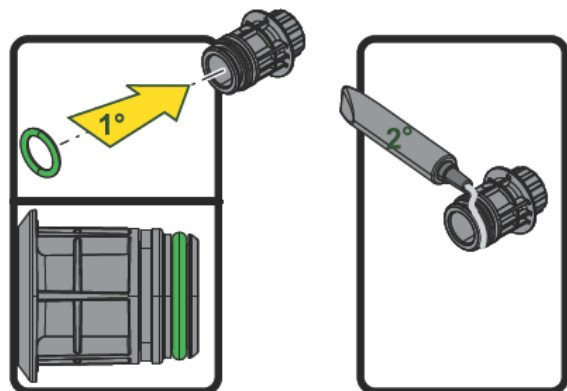
Left Suction, Right Delivery



Right Suction, Left Delivery



E.SYDOCK – HYDRAULIC CONNECTION FIXING



WARNING:

- *Use the quick guide during the installation*
- *Pay attention on the correct position of all o-rings*
- *Grease all o-rings before placing them*