OPERATOR'S AND MAINTENANCE MANUAL
ELECTRONIC PRESSURE BOOSTING SYSTEM

PTECH
A DIVISION OF DGFLOW

XILENT

Model	V in	A max	P1	P2
XILENT X3	1~230 V a.c.	4,8 A	0,9 kW	0,7 kW (0,9 HP)
XILENT X5	1~230 V a.c.	7,5 A	1,5 kW	1,1 kW (1,5 HP)

Safety rules

Important safety instructions.

This symbol warns that failure to comply with the safety instructions entails a risk of electrical shock.

This symbol warns that failure to comply with the safety instructions entails a risk of damage to persons or property.

Before installing and using the product:

- **Carefully read this manual** in all its parts.
- Check that the rating **plate data** are those expected and suitable for the system, and in particular that the rated **current of the motor** is compatible with the rating data of the inverter.
- Installation and maintenance must be performed by **qualified personnel** responsible for performing the electrical connections according to the applicable regulations.
- The manufacturer declines all responsibility for any damage resulting from improper use of the product and is not responsible for damage caused by maintenance or repairs performed by personnel not qualified and/or using unapproved spare parts.
- The use of non original spares, tampering or misuse, **void the warranty of the product**.

During first installation or maintenance, make sure:

- **Power has been interrupted** on the power line
- The electric power network is equipped with safeties, in particular highly sensitive differential circuit breakers (30 mA in Class A) and with ground connections in compliance with current regulations.

- **Before removing the cover of the inverter** or beginning operations on it, it is necessary to disconnect the system from the electrical network and wait at least 5 minutes so that the capacitors have time to discharge through the incorporated discharge resistors.

- **ATTENTION**: **while out of service** (red LED flashing) XILENT **remains powered up**; before any intervention you must switch it off.

Emergency Stop

While the pump is running, it is possible to perform an emergency stop by pressing the I/O button.

In applications with inverters in parallel only the MASTER inverter locks the system.

In the first stage of installation and maintenance, make sure **power has been cut off** on the electrical network

In the first stage of installation and maintenance, make sure that the plant **is not under pressure**

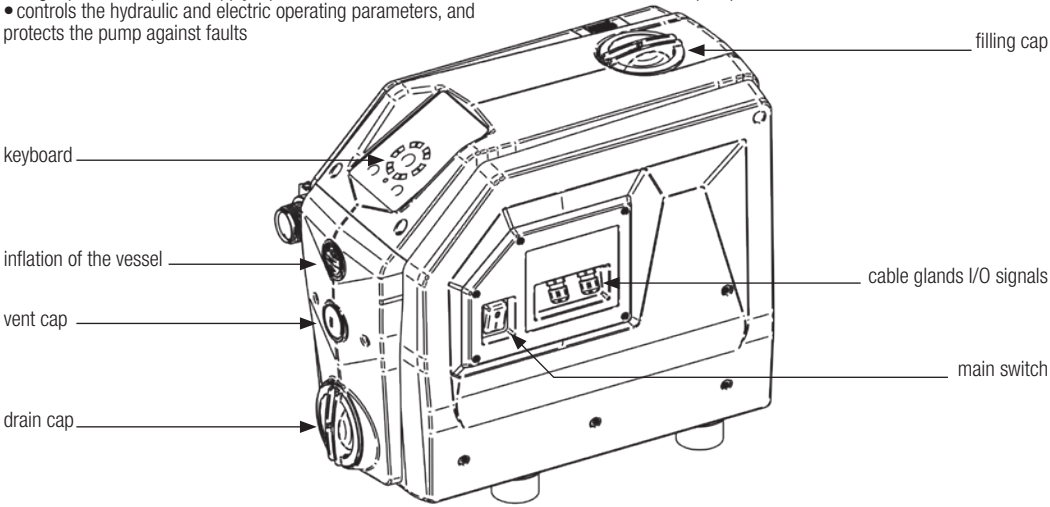
do not open the covers of the inverter, except the connector cover

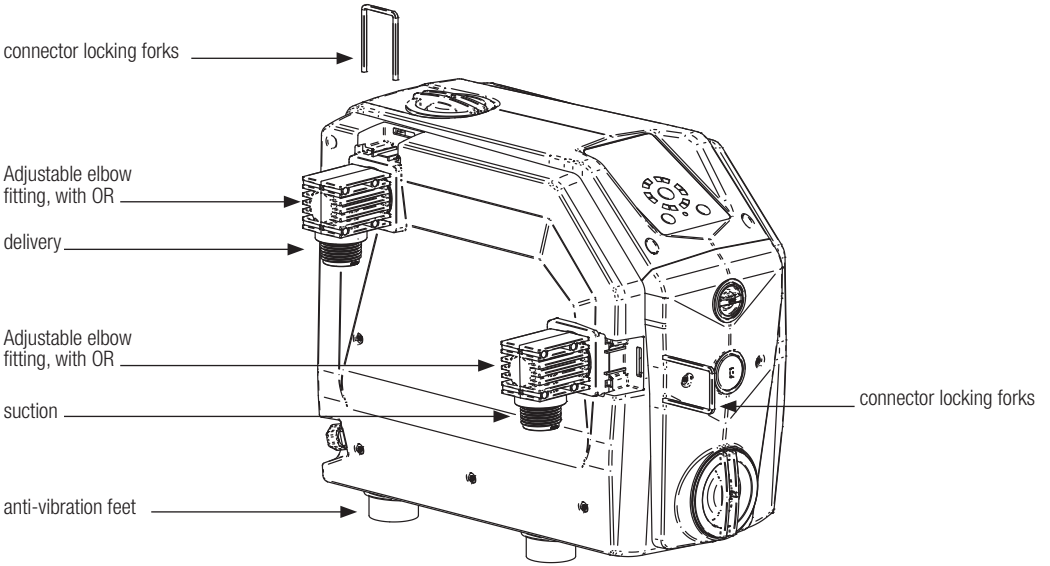
Introduction

XILENT is an Electronic water pressure system breaking the market standards.
It provides a new installation experience, silent running and maximum performance, by conveniently replace traditional pump systems.
XILENT adjusts its performance according to water demand, providing constant pressure to all taps and energy savings.
It has been designed for residential including boosting from roof tanks, break tanks and ground tanks, as well as rainwater tanks.
It integrates water cooled pump, inverter, tank, flow and pressure sensors, non-return valve and main disconnector all-in-one compact unit that is quick and easy to install.

It features :
- single-phase a.c. power supply input
- controls the hydraulic and electric operating parameters, and protects the pump against faults
- can be equipped with expansion card that allows you to work in parallel with other inverters in pumping units, and manage an input and output signal
- is suitable for every type of pressurisation system, even already existing one
- limits inrush and operation currents, with energy saving

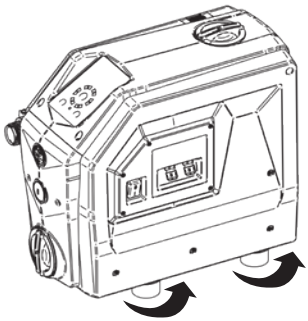
In parallel applications it is possible to distinguish a MASTER inverter and a SLAVE inverter, controlled by the MASTER.The MASTER inverter receives the parameter programming and controls the operating data, and enables and disables the SLAVE according to need.If the MASTER is off, the SLAVES return to be autonomous and continue operating independently.When working in parallel with other inverters, XILENT controls the alternation of starting to make the use of the pumps uniform.



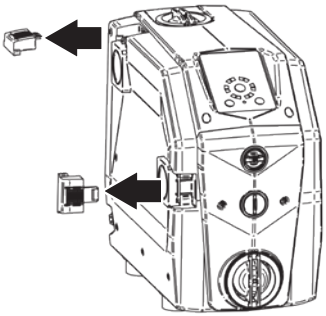


Installation and hydraulic connections

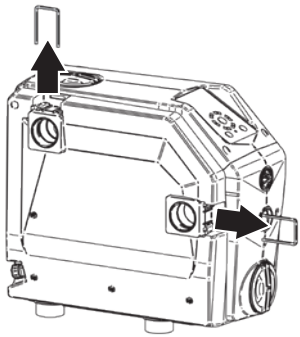
1. Adjust the feet



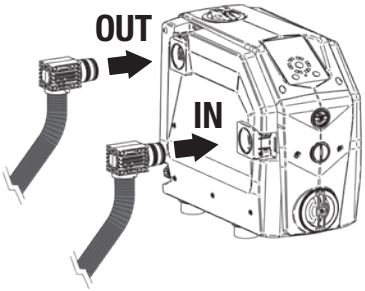
2. Remove the fork covers



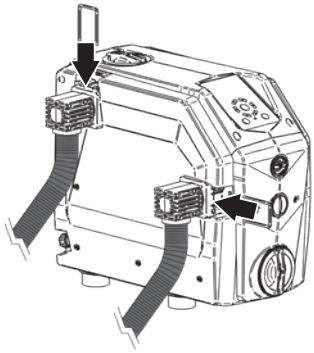
3. Remove the forks



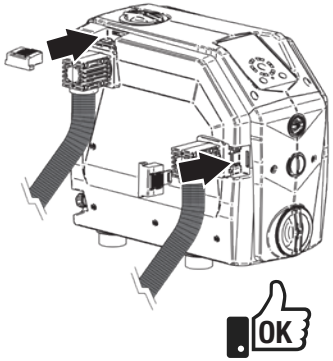
4. Insert the elbow fittings with O-RING



5. **Insert the forks**

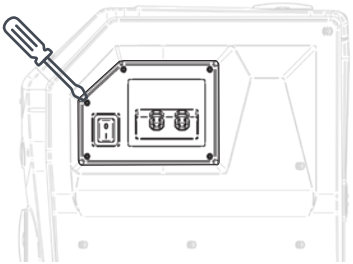


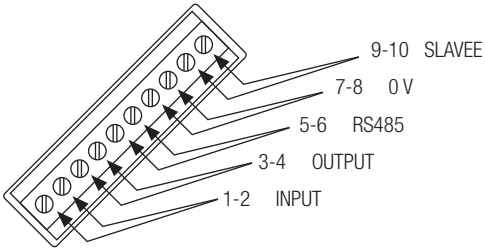
6. Insert the fork covers



Electric connections *(expansion board)*

Remove the cover



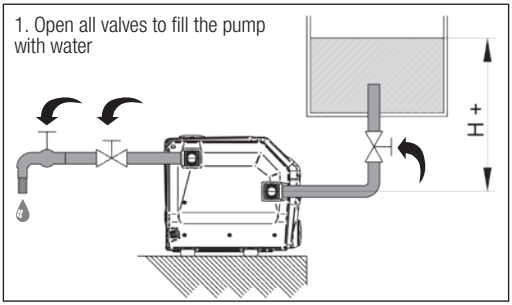


1-2	INPUT	LEVEL SIGNAL - jumper in the absence of signal
3-4	OUTPUT	ALARM SIGNAL - max 0,3 A @ 230 Va.c. / 1A @ 30 Vd.c.
5-6	RS 485	communication MASTER / SLAVE
7-8	0 V	not connected
9-10	SLAVE	if it is bridged, the inverter is SLAVEE

Filling and switching on

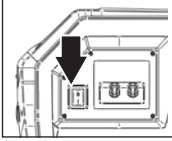
Case A: POSITIVE SUCTION HEAD operation (tank or water system)

1. Open all valves to fill the pump with water

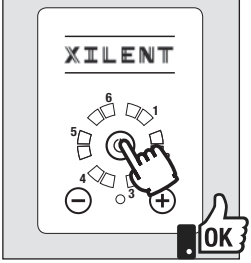


2. Connect the plug

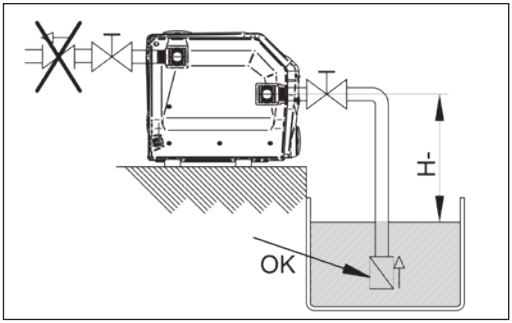
3. Turn the switch to "I"



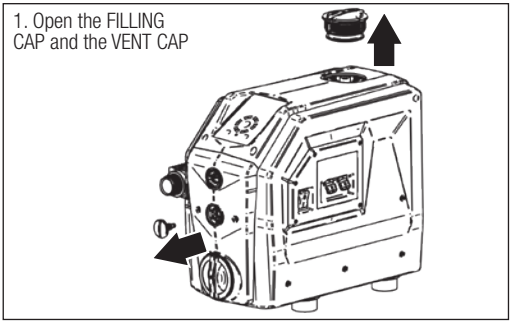
4. Press to start



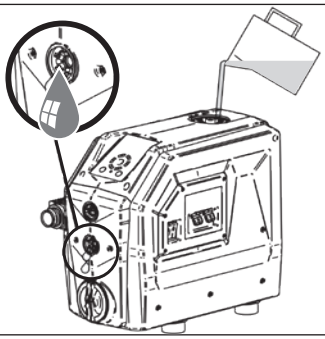
Case B: NEGATIVE SUCTION HEAD operation (tank or well)



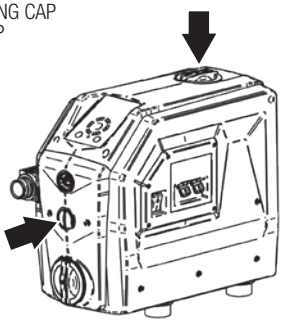
1. Open the FILLING CAP and the VENT CAP



2. Pour approximately 1.5 litres of water until it comes out from the VENT HOLE

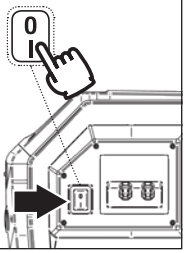


3. Close the FILLING CAP and the VENT CAP

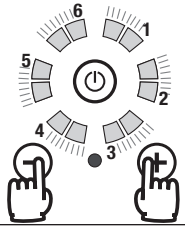


4. Connect the plug

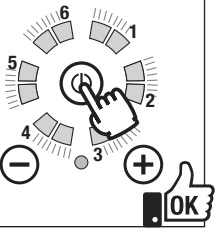
5. Turn the switch to "**I**"



6. Press "**+**" and "**-**" keys TOGETHER for 3 sec. to enter the priming function

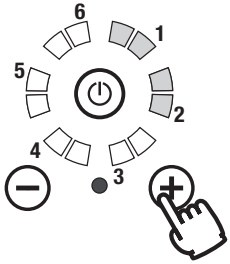


7. Press the "I/O" key to start the priming

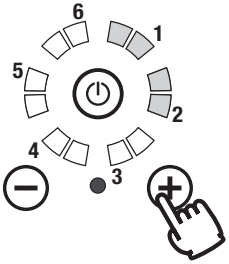


Adjusting the operating pressure

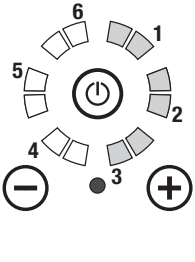
Press the **+** key to view the OPERATING PRESSURE (e.g. = 2 bar)



Press the **+** button again to increase the operating pressure

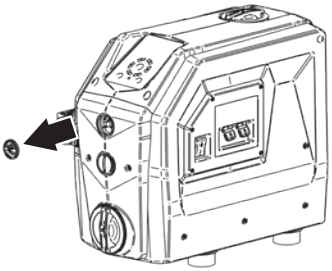


The pressure rises to the desired value (e.g. 3 bar)

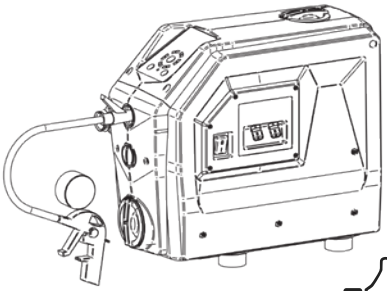


Inflation of the vessel *(factory pre-inflation = 1.5 bar)*

Open the lid of the vessel valve



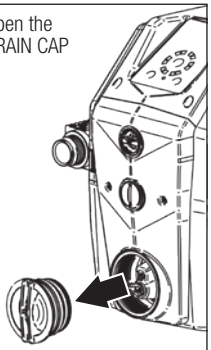
Set pressure	Inflation of the vessel
3,0 bar	1,5 bar
3,5 bar	2,0 bar
4,0 bar	2,5 bar
4,5 bar	3,0 bar
5,0 bar	3,5 bar



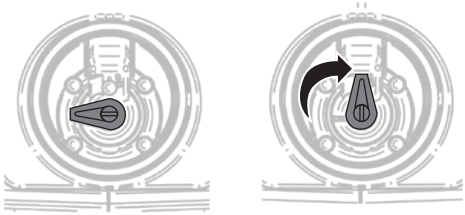
Selection of self-priming behaviour

The pump leaves the factory in a SELF-PRIMING version; to disable the self-priming version, turn the level shown below to vertical position.

Open the DRAIN CAP



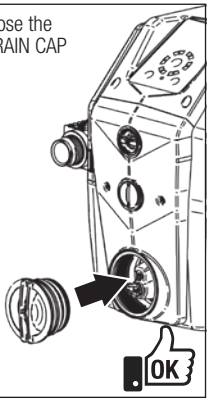
Turn the selector to VERTICAL position to DISABLE the self-priming operation



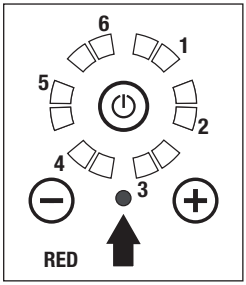
SELF-PRIMING (factory setting)

NON-SELF-PRIMING

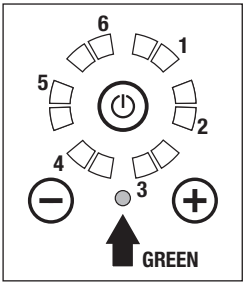
Close the DRAIN CAP



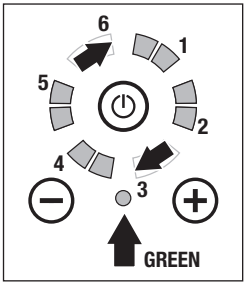
Warning lights and alarms



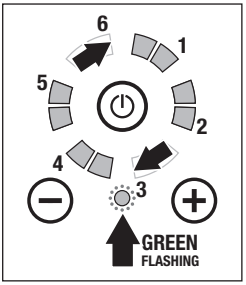
OUT OF SERVICE



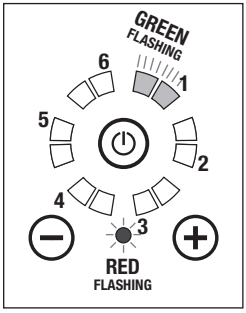
STAND-BY



PUMP RUNNING



PUMP STOPPED



Green light FLASHING
Red light flashing

ALARM **1** = Dry run. Check the water duct and prime the pump. Automatic restart trials after 1 min, 15 min, 30 min, 1h, 1h, etc.

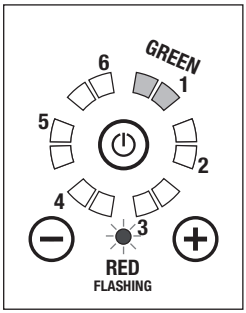
ALARM **2** = the pump is worn and does not reach the set pressure

ALARM **3** = The precharge pressure of the tank is too low. Adjust the precharge pressure to 50 % of the required supply pressure (e.g. required supply pressure = 3 bar, precharge pressure = 1,5 bar)

ALARM **4** = Delivery pressure lower than 0,2 bar (broken pipe). Re-arm is only manual

ALARM **5** = Electric voltage too low

ALARM **6** = OFF control from outside



Green light FIXED
Red light flashing

ALARM **1** = Short circuit. Switch the device off and contact your after-sale service centre. Re-arm is only manual

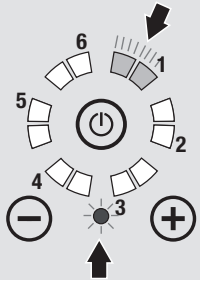
ALARM **2** = Overcurrent.
The absorbed current exceeded the allowable tolerance. Re-arm is only manual

ALARM **3** = Excessive module temperature. Check the temperature of the pumped liquid. Automatic reset if the temperature drops

ALARM **4** = Excessive motor temperature. Check the temperature of the pumped liquid. Automatic reset if the temperature drops

ALARM **5** = Pressure sensor signal not valid. Contact after-sale service centre.

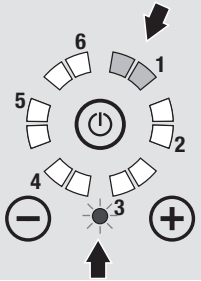
ALARM **6** = Flow sensor signal not valid. Contact after-sale service centre.



Example:

pump alarm due to DRY RUNNING

FLASHING LED 1
+
FLASHING red
=
DRY RUNNING



Example:

pump alarm due to SHORT CIRCUIT

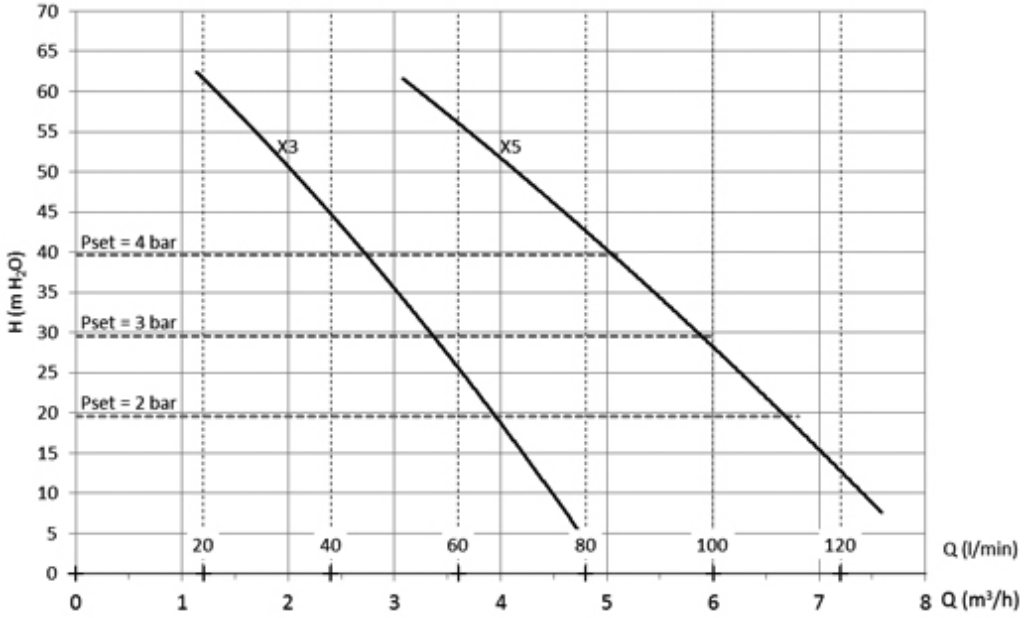
FIXED LED 1
+
FLASHING red
=
SHORT CIRCUIT

Operating conditions

- max. operating pressure: 10 bar (140 p.s.i)
- fluids allowed: clean water and liquids not chemically aggressive; if any impurities are present in the liquid, install a filter upstream.
- danger of fire/explosion: the pumps **are not suitable for pumping flammable liquids or to operate in environments in which explosions may occur.**
- max ambient temperature: 50°C
- min ambient temperature: 0°C
- max liquid temperature: 40 °C
- min liquid temperature: 0 °C
- supply voltage variation permitted: +/- 10% with respect to rating plate data
- protection grade: IPX4
- working position: vertical

Technical data and performance curves

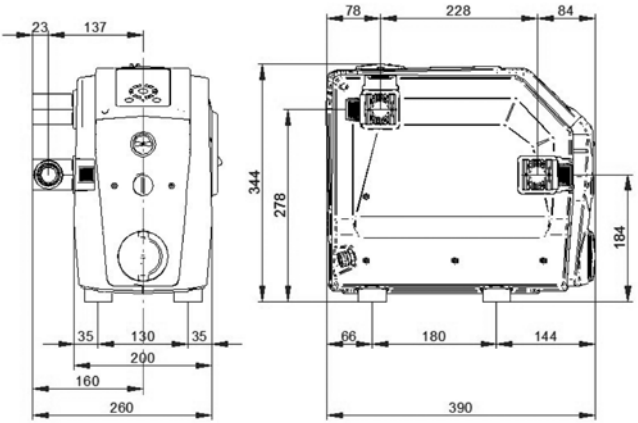
TYPE	Supply voltage	Frequency	Max absorbed current	P1 (maximum absorbed power)	P2 (pump power)
XILENT X3	1~230 V a.c.	50 / 60 Hz	4,8 A	0,9 kW	0,7 kW (0,9 HP)
XILENT X5	1~230 V a.c.	50 / 60 Hz	7,5 A	1,5 kW	1,1 kW (1,5 HP)



Model	**X3**					
Head	m H_2O	50	40	30	20	10
Flow-rate	mc/h	2,0	2,0	3,3	3,9	4,5
Flow-rate	l/min	33	45	55	65	75

Model	**X5**					
Head	m H_2O	50	40	30	20	10
Flow-rate	mc/h	4,2	5,0	5,9	6,6	7,4
Flow-rate	l/min	70	83	98	110	123

Dimensions and weights



Packaging dimensions:
A x B x H =
560 x 270 x H370 mm

Pump dimensions:
390 x 260 x H 344 mm

Pump weight: 15 kg

Built-in vessel *(surge tank)*

- It accumulates water under pressure to minimise the start-up of the pump;
- It absorbs any excess pressure coming from the system
- Inflation (empty system): 1.5 bar **less than** the operating pressure: example:
  Pset = 4 bar → Pinflation = 2.5 bar

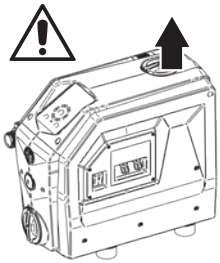
Troubleshooting

Problem	LED signalling	Action	
The keyboard does not switch on	LED off	Verify that the side switch is in position "I"	
			Check presence of power supply from the network, verify the adequacy of the differential switch
The pump will not start when the linked unit is opened	Red LED steady	Start the pump by pressing the "I/O" key	
	Red LED flashing	See alarm list on the previous pages	
	Green LED steady	The system pressure does not fall below the set working pressure	
DRY RUNNING alarm	Red LED flashing Green LEDs in pos. 1 flashing	Make sure there is water at suction Check that suction is not obstructed Fill and prime the pump	
SHORT CIRCUIT alarm	Red LED flashing Green LEDs in pos. 1 fixed		Check that the pump is not blocked by opening the rear cap of motor and rotating the shaft.
			Make sure that the cord, the plug and the socket are intact and there are no dispersions
LOW VOLTAGE alarm	Red LED flashing Green LEDs in pos. 5 flashing		The voltage is lower than the rated value by over 15%; stabilize the voltage in order to keep it within the limits +/- 15%

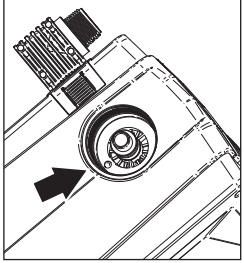
Maintenance

Cleaning and inspection of the check valve

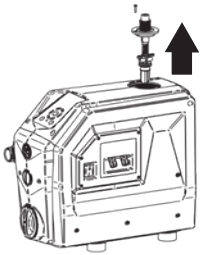
After removing pressure from the system, open the FILLING CAP



Unlock the CHECK VALVE unit by unscrewing the screw indicated

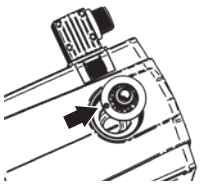


Remove the CHECK VALVE unit and inspect / clean it



Fit the CHECK VALVE unit

Attention to the orientation



Close the FILLING CAP

Warranty

Before installing and using the product carefully read this manual thoroughly. Installation and maintenance must be performed by qualified personnel responsible for performing the electrical and hydraulic connections according to the applicable regulations. The manufacturer declines all responsibility for any damage resulting from improper use of the product and is not responsible for damage caused by maintenance or repairs performed by personnel not qualified and/or using unapproved spare parts. The use of non original spares, tampering or misuse, make void the product warranty that covers a period of 24 months from the date of purchase.

Disposal

For disposal of parts making up the XILENT pumps follow the rules and laws in force in the countries where the unit is used.

Do not dispose of polluting parts into the environment.

Declaration of conformity

We declare under our sole responsibility that the product is CE-marked as it conforms to the following European Directives and national implementing provisions:

2014/35/EU Low Voltage Directive
2011/65/EU Hazardous substances in Electronic Equipment (RoHS)
2012/19/EU and 2003/108/ EEC Hazardous substances in Electronic Equipment (RAEE)
2014/30/EU Electromagnetic Compatibility Directive (EMC)
EN 60335-1: Household and similar electrical appliances – Safety
EN 60335-2-41: Household and similar electrical appliances – Safety – Part 2-41: Particular requirements for pumps
EN 55014-1:2017: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
EN 55014-2:2015: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity

The performance of the electric pumps are compliant with ISO 9906 - 3B

Bigarello 02.05.2018

DGFLOW S.r.l.
Sole Administrator
Stefano Concini

PTECH

A DIVISION OF DGFLOW