

VOLUMATIC[®]

USER MANUAL

Model: V2-S1

Version 2016-10



KEEP THIS MANUAL IN A SAFE PLACE
PLEASE READ THIS MANUAL BEFORE USING THIS DEVICE

AGROLIS CONSULTING - a joint stock company with capital of €8000
ZA La Grande Marine, 185 Av. André Ampère, 84 800 Isle-sur-la-Sorgue, France



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I. EC DECLARATION OF CONFORMITY

AGROLIS CONSULTING S.A.S.
ZA La Grande Marine, 185 Av. André Ampère
84 800 L'Isle-sur-la-Sorgue, France

Declares that the machinery:
Preselected volume dispenser
Brand: **VOLUMATIC®**
Model: V02-S1

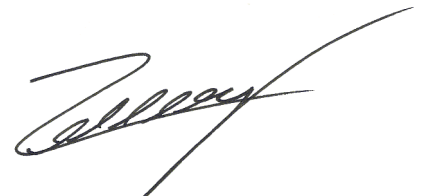
complies with the provisions of Directive 2006/42/EC on machinery.

Mr. Jean-François Zeller,


ZA La Grande Marine, 185 Av. André Ampère, 84 800 Isle-sur-la-Sorgue, France
is authorized to compile the technical dossier.

Signed in L'Isle-sur-la-Sorgue,
October 1st, 2016.

Technology Manager
Jean-François Zeller

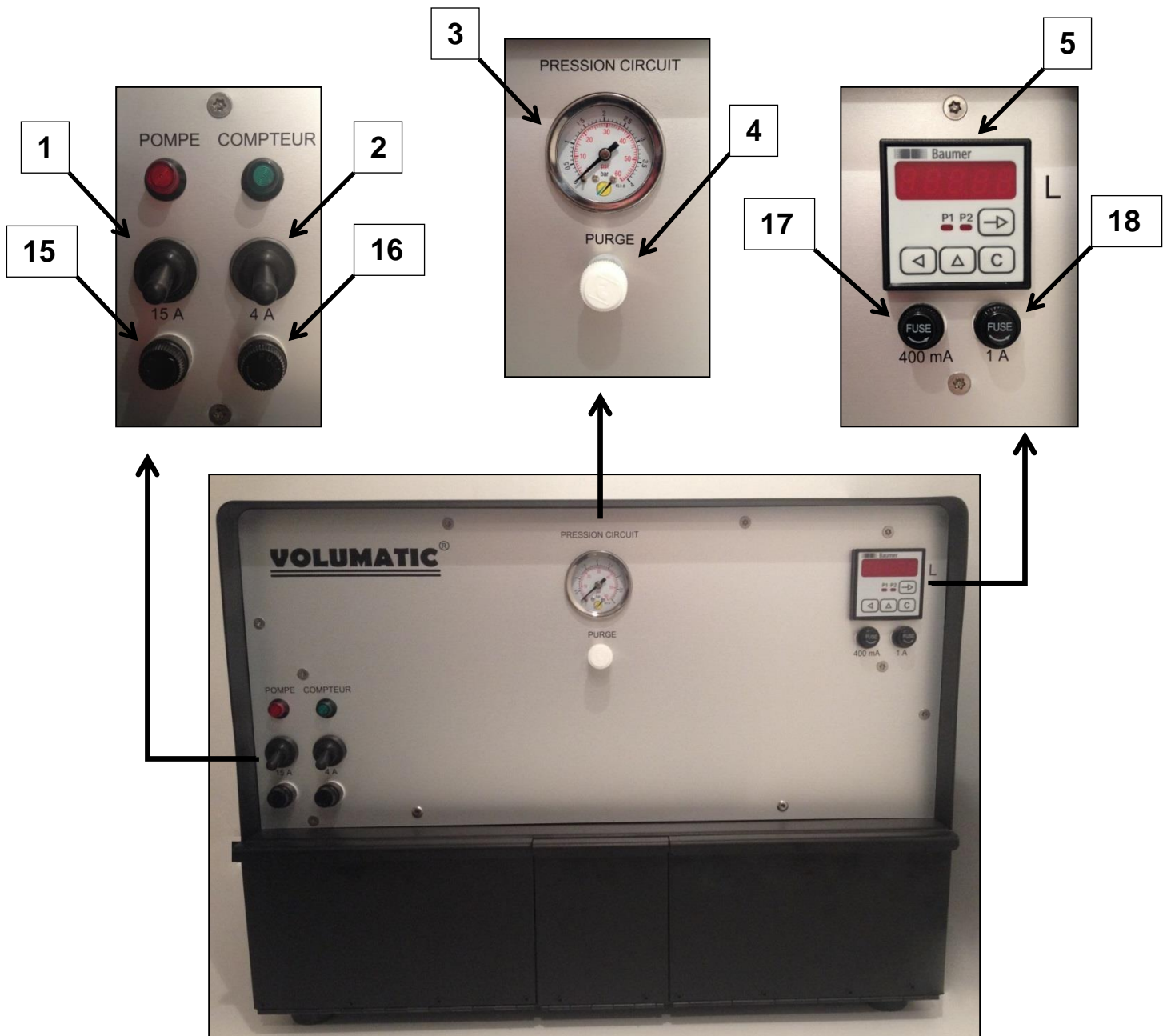


CEO
Jean-Christophe Imbert



II. DESCRIPTION

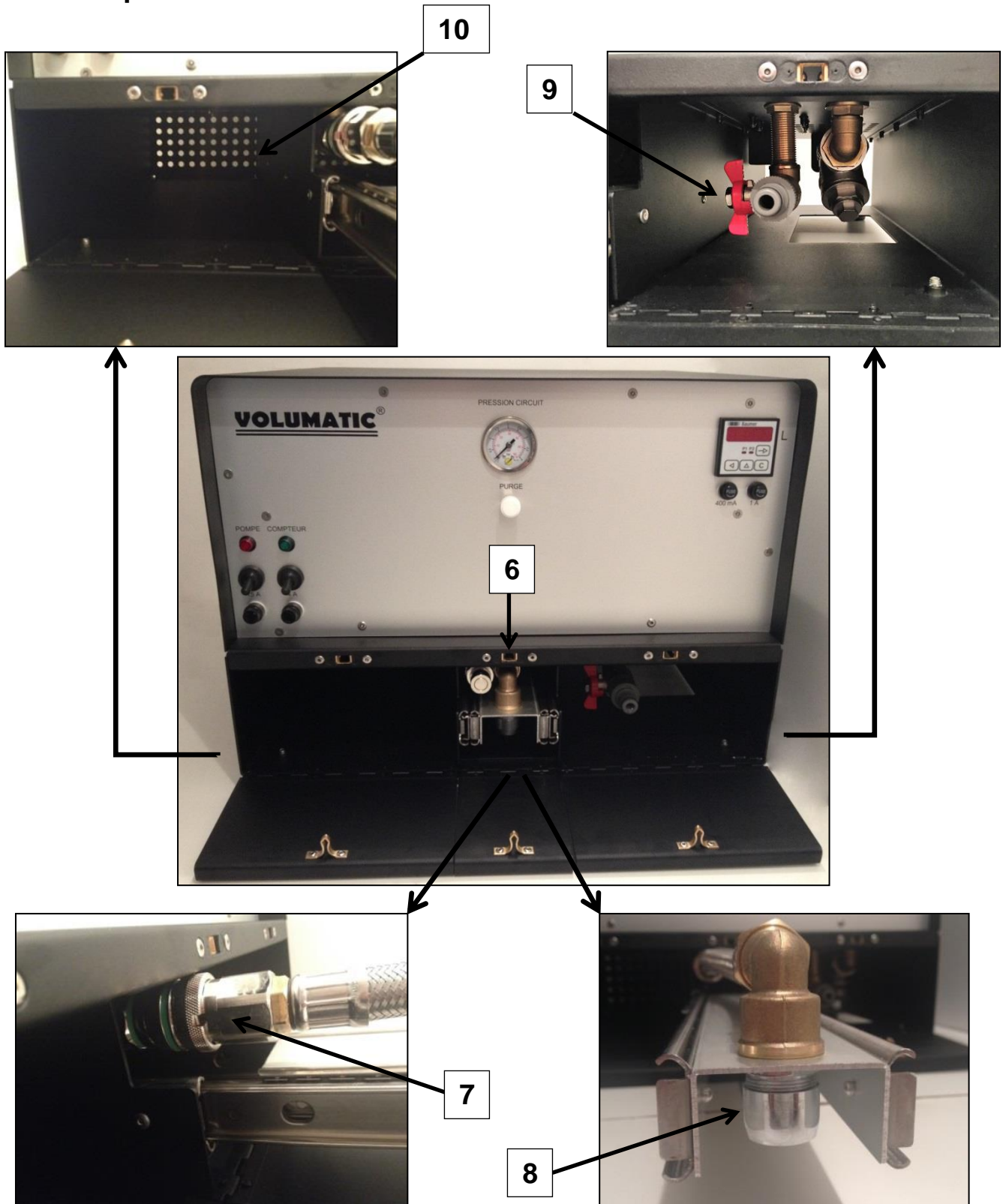
- Control panel:



1. Pump power switch
2. Meter power switch
3. Pressure gauge
4. Bleed screw
5. Programming unit

15. Class T fuse, 15 A 6.3 x 32 mm
16. Class F fuse, 4 A 6.3 x 32 mm
17. Class F fuse, 400 mA 5 x 20 mm
18. Class F fuse, 1 A 5 x 20 mm

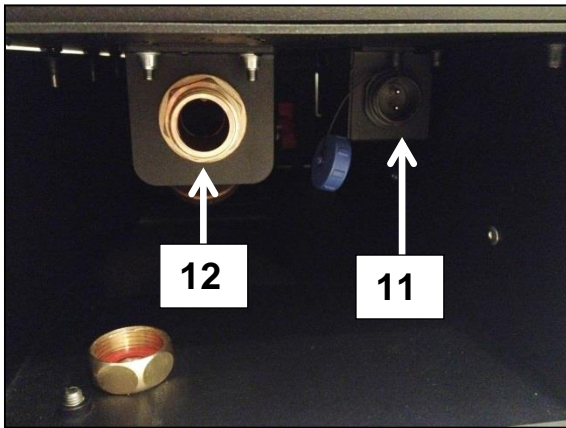
- Lower panels:



- 6. Slide arm
- 7. Quick coupling
- 8. Measured volume outlet

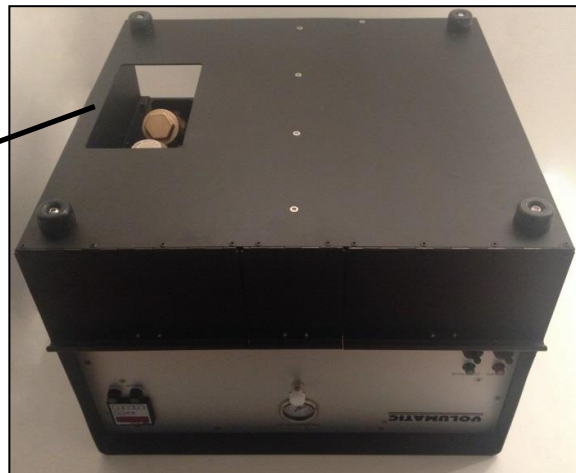
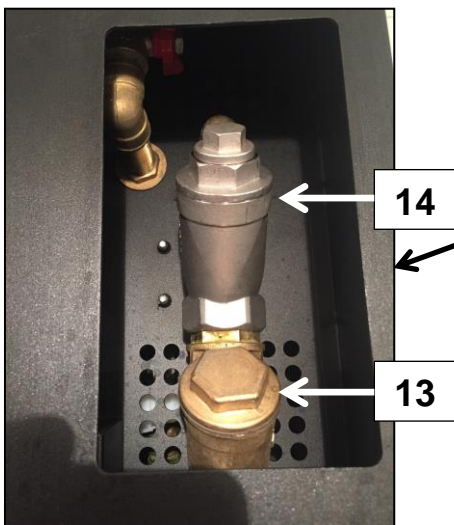
- 9. Water outlet valve
- 10. Storage space

- Rear connector:



- 11. 12V electrical outlet
- 12. $\frac{3}{4}$ " BSP water inlet

- Filtration



- 13. 300µm prefilter
- 14. 150µm filter

III. INSTALLATION

3.1. Positioning

The device should be placed on a flat, clean, stable surface. Be careful not to obstruct the air vents on the rear of the case. Use the side handles to move the device, bearing in mind that the device weighs 25.5 kg.

3.2. Electrical connection

- **Direct connection to the vehicle battery:** Use only the cable supplied with the device (4 m in length). Do not use an extension cord (the cable may overheat). Always use the 20 A fuse supplied with the cable. If the cable must pass through one or more vehicle partitions, cut a 20-mm hole. (For easier drilling, it is best to pre-drill a 10-mm hole.) **Be careful not to damage the vehicle's electrical circuit.**

Use the plastic rings provided to protect the cable from metal edges. Unplug the connectors (blue lead and brown lead) and pass the cable through the eyelets in the direction of the battery.

Then connect the eyelet terminal connectors to the battery. Observe the correct polarity: brown lead with fuse to the + terminal and blue lead to the – terminal.

The terminals must be appropriately tight, with no risk of coming loose accidentally. If the terminals are too large for the screws on your battery, use appropriate washers to ensure the terminals are properly sandwiched.

Then connect the connectors on each lead (blue lead and brown lead) to the device's power cable.

Important! If you do not have the necessary skills, we recommend that you have this task performed by a qualified automotive technician.

- **Connection to mobile battery:** If the device cannot be connected to the vehicle battery (because the battery is too far away or inaccessible), or if the **VOLUMATIC®** is being used in a machine room, use the optional power supply kit (external battery + automatic charger). Simply connect the device using the cable supplied with the kit.

Then plug the cable into the watertight connector located on the rear of the case (11). Insert the blue grip ring as far as it will go.



ONLY CONNECT THE DEVICE TO A BATTERY WITH A RATED VOLTAGE OF 12 V. We recommend that you use a charged battery with a minimum capacity of 50 AH.

3.3. Hydraulic connection

The device is designed to be connected to a water tank (never connect the device directly to a pressurized water network). Use a hose with an internal diameter of at least 19 mm. It is important to use a quality hose that will not collapse from the pump suction. A Tricoflex® hose offers a good compromise between flexibility and strength. Connect the suction tube to the inlet on the device (12) using an irrigation fitting (3/4" BSP thread) equipped with rubber seals. **The connection must be completely watertight.**

IV. OPERATION

4.1. Operating the pump

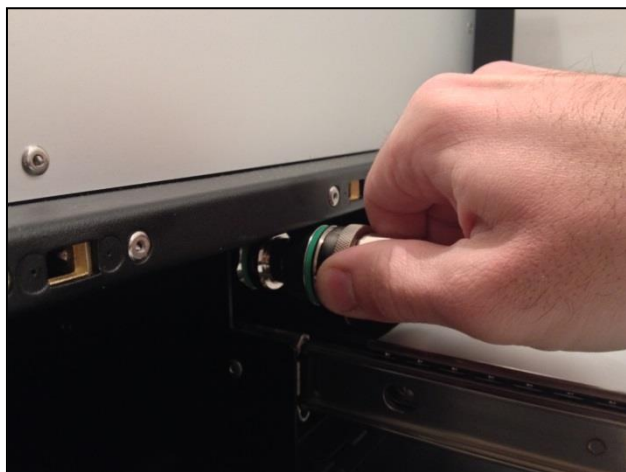
Important! Once the electrical and hydraulic connections are in place, check to be sure the water tank is filled. When turning on the device for the first time, or after you have cleaned the filters or performed any other task that involves draining the water supply circuit, open the bleed screw **(4)** as far as it will go (in counterclockwise direction) before turning on the pump.

Then turn on the pump by activating the switch **(1)**. The red indicator light showing that the pump is on will illuminate, and the pump will run to pressurize the circuit. Close the bleed screw (by turning it clockwise) as soon as water flows with no air present (once the circuit has been primed, you no longer need to open the bleed screw before operating the pump). The pressure inside the circuit is shown on the pressure gauge on the front **(3)**. You now have a pressurized water source (about 2 bars) at the valve **(9)**.

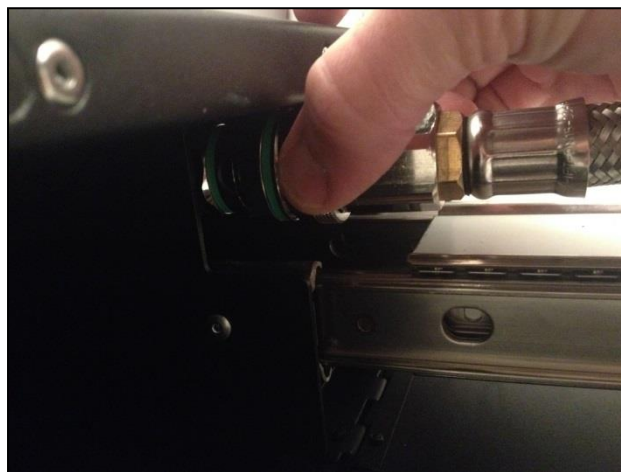
Notes: *If the circuit is already pressurized, the pump will remain on stand-by, waiting for a drop in pressure in order to activate. The pump should always stop operating at a minimum of 2 bars (and no more than 2.5 bars) and start prior to the 1 bar threshold. If this is not the case, refer to Section IX.*

4.2. Using the volumetric meter function:

After powering on the pump as described in Section 4.1, turn on the electronic meter by activating the switch **(2)**. The green indicator light showing the meter is on will illuminate, as will the programming unit's digital display **(5)**. Open the central panel to pull out the slide arm **(6)** and connect the dispenser hose via the quick coupling **(7)**. Then place your container (bucket, etc.) in line with the valve outlet **(8)**.








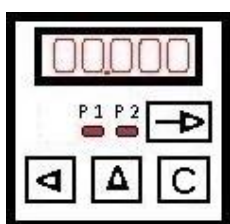
Connection: Fit the two parts of the coupling together and push until you hear a click.




Disconnection: Pull the grip ring toward you and remove.

4.3. Selecting the desired volume:

1. Press the selection/confirmation button, shown by a right arrow  , until P2 displays on the screen.
2. Then press the tens selection button at lower left  to display and select the digits.
3. Next, adjust the increments by pressing the  button at bottom center.
4. The value should be entered using the format x.xxx L on the LED screen. Once you have selected a value, press the selection/confirmation button  twice. The **VOLUMATIC**[®] is now programmed.
5. Now you simply need to press the  button to dispense the volume that you programmed.



Once you have dispensed the first amount, you can press the  button as many times as you have amounts to dispense (the last programmed volume stays in the memory even after the device is turned off). In other words, the next time you use the **VOLUMATIC**[®], the same volume will still be programmed. If you wish to program a new volume, simply repeat the steps shown above.

Notes: For optimal accuracy, it is essential to measure out an initial volume of 10 liters before dispensing any further volumes, in order to remove any air bubbles that may be in the circuit.

We recommend that you check the first volume in each series of measurements using a Class A measuring cylinder.

4.4. Stopping the device:

To shut down the device, simply turn off switches 1 and 2 in reverse order.

Once the device is powered down, we recommend that you depressurize the circuit and open the valve **(9)** (counterclockwise direction). Once the pressure gauge is at 0, close the valve again (clockwise direction).

V. PRECAUTIONS

The **VOLUMATIC®** has been constructed from top-quality materials to ensure reliability and accurate measurements over time. Nonetheless, we recommend that you follow certain rules and precautions.

To ensure a long working life for the device:

Pay special attention to the cleanliness of the water used. The internal components are protected by a two-step filtration process. The equipment's reliability and the filter cleaning interval will depend on the water quality. THIS DEVICE IS ONLY INTENDED FOR USE IN MEASURING CLEAN WATER. NO OTHER LIQUID MAY BE USED.

DO NOT OPERATE THE PUMP WITHOUT WATER FOR MORE THAN A FEW SECONDS, SO AS NOT TO CAUSE PREMATURE WEAR. When turning on the device for the first time or after draining the power supply circuit, open the bleed screw **(4)** all the way (counterclockwise direction) before powering on the pump to help prime the circuit. Close the bleed screw (clockwise direction) as soon as water is flowing without any air.

THIS DEVICE MUST BE STORED ABOVE FREEZING POINT. It should not be stored in an enclosed space where the temperature exceeds 55°C.

To prevent the internal components from overheating and maintain their useful life, routine measurement of volumes in excess of 25 liters is not recommended. The device may be used to dispense a volume of up to 99.999 liters on an occasional basis.

To ensure reliable measurements over time:

Measuring volumes of less than 1 liter is not recommended (below that level, the measurement is no longer guaranteed accurate to within 1%).

Do not connect any tubes to the measurement outlet. To ensure measurements accurate to within 1%, the water should be able to flow directly from the tap connector to the container. If the container is higher than the measurement outlet, elevate the device if necessary.

The measurements should be made with a water temperature between 5 and 35°C.

For your safety:

If you must replace a fuse, only use replacement tubes of the type and rating recommended in Section II.

VI. MAINTENANCE

Important! Unplug the device before performing maintenance (electrical and hydraulic circuits).

Cleaning the filters: The **VOLUMATIC®** requires little maintenance. However, you should periodically check to see that the prefilter (13) and filter (14) placed under the device are clean. If you use completely clean water throughout the season, checking the filters annually will be sufficient.

When inspecting the filters, check to be sure that no foreign matter has flowed back into the device's internal circuit. To do that, tip the device onto its back to access the filters, as shown opposite. Any water and foreign matter contained in the filters will then flow to the outlet via gravity.



Use a 32-mm hex socket wrench to unscrew the bell cover for the prefilter.



Remove the sieve and clean it in clean water, using a toothbrush to clean it if necessary.



Use a 30-mm hex socket wrench to unscrew the bell cover for the filter.



Remove the sieve and rinse it in clean water, using a toothbrush to clean it if necessary.



Apply **a thin layer** of silicone oil to the seal surface for each filter. This will make it easier to disassemble the next time. **The silicone oil should not overflow into the circuit.**



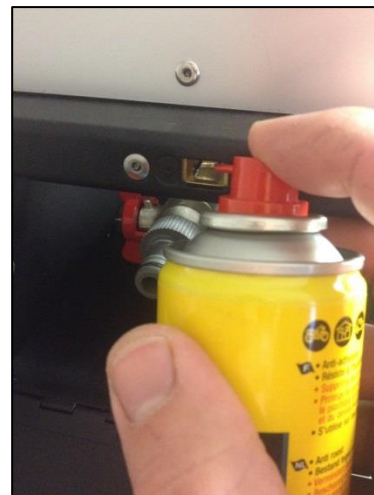
Place the sieves back in their bell cover and screw the assembly back in until moderately tight.

Lubrication:

Once a year, apply oil to the rails on which the slide arm moves. Use a motorcycle chain spray lubricant. Direct the spray toward the bearings and groove on each rail (top and bottom). Press briefly on the aerosol spray button to apply the oil. A small quantity is sufficient.



The latches for locking the three panels should be lubricated using silicone oil spray. This ensures they operate smoothly and protects them from dampness. Be sure to spray the two bearings on each latch. This task should be performed before storing the device and when returning the device to service.



Replacing a fuse: on rare occasions, a blown fuse may result from wear without any evident device malfunction. In such a case, be sure to replace it with a fuse having the same type and name indicated in Section I of this manual (a set of replacement fuses is supplied with the device).

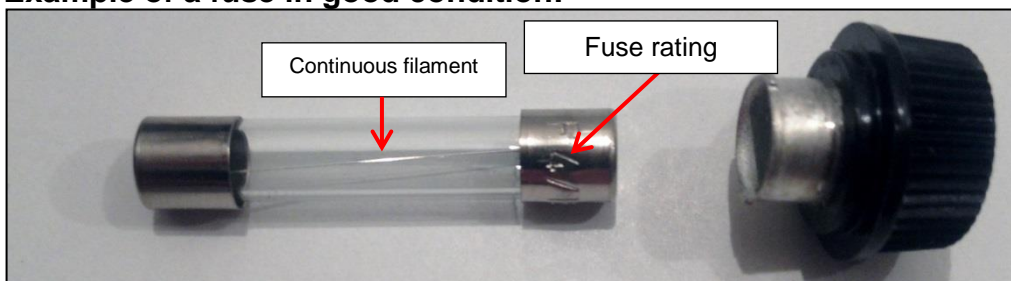


Fuse holders 15 and 16 are bayonet fuse holders that open by unscrewing them a quarter turn.

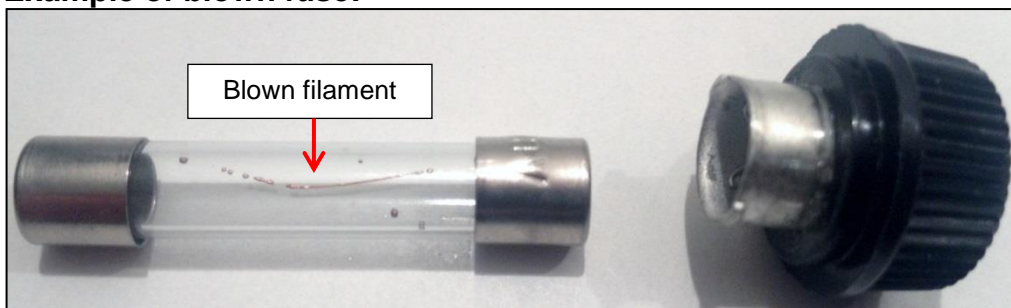


Fuse holders 17 and 18 are screw-in fuse holders that open by unscrewing them in a counterclockwise direction.

Example of a fuse in good condition:



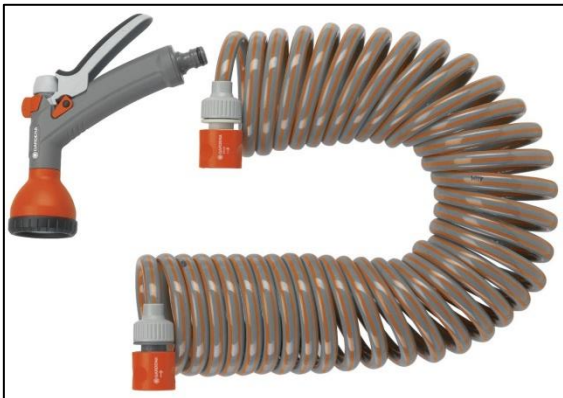
Example of blown fuse:



Notes The higher the fuse rating, the higher the filament cross-section. Depending on the intensity of the short-circuit, the filament can simply be cut.

VII. ACCESSORIES AND OPTIONS

Base accessories supplied with the device:



Spray gun and 10-meter spiral hose to be connected to the outlet valve **(9)**. Primarily for use in washing and rinsing the experimentation equipment (bucket, sprayer, etc.).

Optional accessories:



Optional power supply kit. Consists of a case containing a power supply battery with all the necessary connections, along with a charge indicator. An automatic charger is also supplied.

Contact us for more information.

VIII. TECHNICAL CHARACTERISTICS

Operating pressure	1 to 2 bars (+/- 0.2)
Measured volume outlet flow	18 l/min.
Guaranteed measurement range	1 - 25 liters
Measurement accuracy	1%
Rated voltage	12 V
Rated current	15 A
Power	180 W
Weight	25.5 kg
Dimensions L x W x H	475 x 480 x 360 mm

IX. TROUBLESHOOTING

Symptom	Probable cause(s)	Corrective action(s)
Low and/or irregular pressure Low and/or irregular flow	Filters are clogged	Clean the filters
	Inadequate battery voltage	Check the battery charge
Irregular measurements	Air intake in the circuit	Check the tightness and condition of the seal on the water supply coupling and the filters
	Electromagnetic disturbance	Check that strong waves are not being transmitted in direct proximity to the device (GSM, WiFi, high-voltage lines, etc.)
	Internal malfunction	Contact Customer Service
Measurement errors that consistently exceed 1%	Defective configuration	Contact Customer Service
The pump <u>and</u> the meter are not operating and <u>both indicator lights</u> are off	Lack of power supply	Check that the device is properly powered
	20 A general fuse on power supply cable is blown	Install a replacement fuse with the rating indicated. If the problem recurs, contact Customer Service
The pump <u>or</u> the meter is not operating and <u>only that indicator light</u> remains off.	15 A fuse (15) or 4 A fuse (16) is blown	Install a replacement fuse with the rating indicated. If the problem recurs, contact Customer Service
The pump is not operating but its indicator light is on.	Internal malfunction	Contact Customer Service
The meter is not operating but its indicator light is on.	400 mA fuse (17) is blown	Install a replacement fuse with the rating indicated. If the problem recurs, contact Customer Service
The pump and the meter are in service but nothing is being dispensed.	1 A fuse (18) is blown	Install a replacement fuse with the rating indicated. If the problem recurs, contact Customer Service
	Internal malfunction	Contact Customer Service

UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THE DEVICE APART FROM ROUTINE MAINTENANCE TASKS (CLEANING THE FILTERS, ETC.). CONTACT CUSTOMER SERVICE FOR ANY SERVICING OF THE DEVICE'S INTERNAL COMPONENTS. THE OPENING OF THE CASE BY ANYONE OTHER THAN AN AUTHORIZED CUSTOMER SERVICE TECHNICIAN WILL VOID THE WARRANTY.

You can find this information at: www.agrolis.eu

Customer Service contact - France: jf.zeller@agrolis.fr

Customer Service contact - Europe: jc.imbert@agrolis.fr

X. DISPOSAL



- This device and its accessories should not be discarded with household waste.
- Dispose of this device and its accessories in accordance with applicable local laws.
- Comply with all current regulations.

XI. WARRANTY

In the interest of users and in light of the technical nature of its products, Agrolis Consulting recommends that the device be installed by qualified personnel.

All of its products are covered by a two-year warranty except in cases where the defect is attributable to an outside cause, including:

- faulty installation, startup or maintenance, notably when those tasks were not performed by qualified personnel, in accordance with the recommendations made by Agrolis Consulting;
- operating conditions that are unsuited for the equipment's technical characteristics;
- lack of maintenance;
- a malfunction in the installation to which the device is connected;
- inappropriate transport or storage conditions;
- abnormal use of the products or the installations to which they are connected (e.g., measurement of a fluid other than clean water);
- any opening of the case, unauthorized servicing on the device's internal components (removal of the indicator labels on the rear of the device will void the warranty);
- use of the products in an environment that is inappropriate for normal operation, including: characteristics of the electrical power supply, nature or pressure of the water used, sludge, freezing conditions, inappropriate protection, etc.

VOLUMATIC is a registered trademark of Agrolis Consulting SAS.

The technology used in the **VOLUMATIC** is the subject of a French patent application with the *Institut national de la propriété industrielle*.