

Operation and maintenance user manual

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1 General

The purpose of this manual is to provide the necessary information for the installation, use and maintenance of the Plimmer.



the user should read this manual before using the Plimmer.



Improper use could damage the Plimmer and will result in your warranty becoming void.

When asking our sales and after-sales services for technical information or spare parts, please indicate the model identification and construction numbers found on the nameplate.

The following instructions and warnings refer to the standard model; for any variations or characteristics of the special versions please refer to the sales contract.

For any instructions or situations not referred to in this manual or in the sales documentation, please contact our sales service.

1.1 Preliminary inspection

1.1.1 VISUAL CHECK

Upon delivery check the integrity of the packaging.

After unpacking the Plimmer make sure that no damage has occurred during shipping.

Should the Plimmer be damaged, please inform our agent within 8 days from the delivery date.

1.1.2 MATERIALS HANDLING AND STORAGE

The product must be handled with care; impacts can cause damage without any visible external signs.

During shipping and handling, protect Plimmer against wet, freezing and physical damage.

1.2 Warranty

STANDARD WARRANTY TERMS AND CONDITIONS

1. GENERAL TERMS AND CONDITIONS

1.1 Plimmer has been manufactured to the highest quality standards and is warranted to the original purchaser recipient only. This warranty is not transferable.

1.2. The product is guaranteed to be free from defects in workmanship and parts for a period of 12 months from the date of purchase. Defects that occur within this warranty period, under normal use and care will be repaired or replaced at our discretion, solely at our option with no charge for parts or labour.

1.3. IDROPAN DELL'ORTO DEPURATORI SRL reserves the right to replace the Product or relevant part with the same or equivalent product or part, rather than repair it. Where a replacement is provided the Product or part replaced becomes the property of IDROPAN DELL'ORTO DEPURATORI SRL. IDROPAN DELL'ORTO DEPURATORI SRL may replace parts with refurbished parts. Replacement of the Product or a part does not extend or restart the Warranty period.

1.4. The benefits conferred by this warranty are in addition to all rights and remedies in respect of the product that the consumer has under the Trade Practices Act and similar state and territory laws.

1.5. The Warranty is transferable to a new owner, in the event of sale of the Product, provided the new owner has the receipt of purchase and the Product is still within the guaranteed period.

2. PROOF OF PURCHASE

2.1. Please keep your purchase docket or receipt as proof of purchase and as proof of the date on which the purchase was made. The purchase docket or receipt must be presented when making a claim under this warranty. If in the event the receipt of purchase is not presented, then this warranty is invalid.

3. SERVICE OR REPLACEMENT DURING THE WARRANTY PERIOD

3.1. In the event that Plimmer is Dead On Arrival (DOA), the owner has 14 days in which to return the Product to the retailer or place of purchase for a new replacement. If the owner does not return the product within 14 days then the Product will be treated under normal warranty conditions.

3.2. Under normal warranty conditions the product must be returned to the Retailer, place of purchase, or any IDROPAN DELL'ORTO DEPURATORI SRL Service Centre in the country of purchase.

3.3. Please ensure that the product is properly packaged so as to ensure that no damage occurs to the product during transit. Also make sure you have included an explanation of the problem.

3.4. In the event that the goods requiring repair under warranty, the owner is responsible for the cost of transportation to and from the service centre. Whilst in transit the goods are at the owners risk.

4. GENERAL EXCLUSIONS AND LIMITATIONS

4.1. In the event that no identical Product is available for service repair, IDROPAN DELL'ORTO DEPURATORI SRL has the right to replace the Product with a device of equal capacity, or offer the customer the choice of a Product upgrade which may incur an extra cost.

4.2. This warranty is limited to defects in workmanship or parts. All defective products or parts will be repaired or replaced. This warranty does not extend to accessories. This warranty does not cover manuals and packaging, line cords or wiring.

4.3. This warranty does not cover consumable items.

4.4. This warranty does not cover any defect caused by an accident, misuse, abuse, improper installation or operation, lack of reasonable care, unauthorised modification, loss of parts, tampering or attempted repair by a person not authorised by the distributor.

4.5. The warranty will not apply if the factory-applied serial number has been altered or removed from the Product.

4.6. The warranty will not apply if damage, malfunction or failure resulting from alterations, accident, misuse, abuse, fire, liquid spillage, maladjustments of customer controls, use on an incorrect voltage, power surges and dips, thunderstorm activity, acts of God, voltage supply problems, tampering or unauthorised repairs by any persons, use of defective or incompatible accessories, exposure to abnormally corrosive conditions or entry by any insect, vermin or foreign object in the Product.

4.7. This warranty does not cover damage arising during transportation, installation or while moving the Product, or to any transportation costs of the Product or any parts thereof to and from the owner, unless otherwise specified in these warranty conditions.

4.8. This warranty does not apply whilst outside the country of purchase.

4.9. IDROPAN DELL'ORTO DEPURATORI SRL will not be liable for any loss, damage or alterations to third party furniture, hardware or software; or programs, data or information stored on any media or any part of the Product, no matter how occurring; or for any loss or damage arising from loss of use, loss of profits or revenue, or for any resulting indirect or consequential loss or damage.

4.10. IDROPAN DELL'ORTO DEPURATORI SRL's aggregate liability in respect of all claims under the Warranty shall not exceed the original purchase price of the Product or, at IDROPAN DELL'ORTO DEPURATORI SRL's option, the cost of replacing the Product.

4.11. This warranty does not cover normal wear and tear of the Product or parts.

4.12. IDROPAN DELL'ORTO DEPURATORI SRL excludes all other warranties, conditions, terms, representations and undertakings, whether express or implied.

1.3 Applications

Plimmer Cubetto Delta Plus can be used in different applications:

- Cubetto Delta Plus can treat water with maximum inlet conductivity of 2000 uS with a salt rejection up to 90-99%(variable in relation of the inlet conductivity, water composition and operation flow).
- Is certified in Europe for human water consumption.
- Reduce bacterial charge
- It is suitable to replace an ion exchange water softener avoiding periodic maintenance and salt consumption.
- To remove Nitrates, Arsenic and organics contaminants from drinking water

2. Important safety information

The user should read this manual before using the Plimmer.



Improper use could damage the Plimmer and will result in your warranty becoming void.

The following instructions and warnings refer to the standard model; for any variations or characteristics of the special versions please refer to the sales contract.

For any instructions or situations not referred to in this manual or in the sales documentation, please contact our sales service.

Additionally please observe security and industrial safety regulations.

2.1. Protection against freezing



Plimmer is a machine that treats and contains water. For this reason install and store the Plimmer in places where temperatures do not allow water to freeze.

If this happens, **The Plimmer will be damaged**

3. Technical Data

- Partial demineralizing machine with Plimmer technology :
Maximum day production at 25° C 1.000 – 1.600 litres/day based on requested conductivity
Maximum hourly flow at 25° C 50 - 80 litres/hour
Productivity and salt removal based on requested conductivity.
Average power consumption: 100W
Dimensions: mm 850 h x mm 530 x mm 620
- Tank
Total volume: 91 litres
Useful volume: 80 litres
- Sterilizer with UVC lamp complete with shield UV transparent made in glass/PVDF
Power: 18 W
- High efficiency submersed pressurization pump with analog pressure sensor made by stainless steel.
Maximum pressure: 3,2 Bar
Maximum pressure at 30 litres/minute: 2,8 Bar
Power: 0,25 Kw
- Pressure accumulator tank: 4 litres
- Bistable bypass valve to ensure direct water supply in case of power outage or excessive water consumption.
- Intended for drinking/domestic usage
- Certified
- Maximum inlet water conductivity 2000 uS
- Advanced tank functions
- Integrated filter
- Ease of use
- Smart functions
- Plug & Play All in one machine

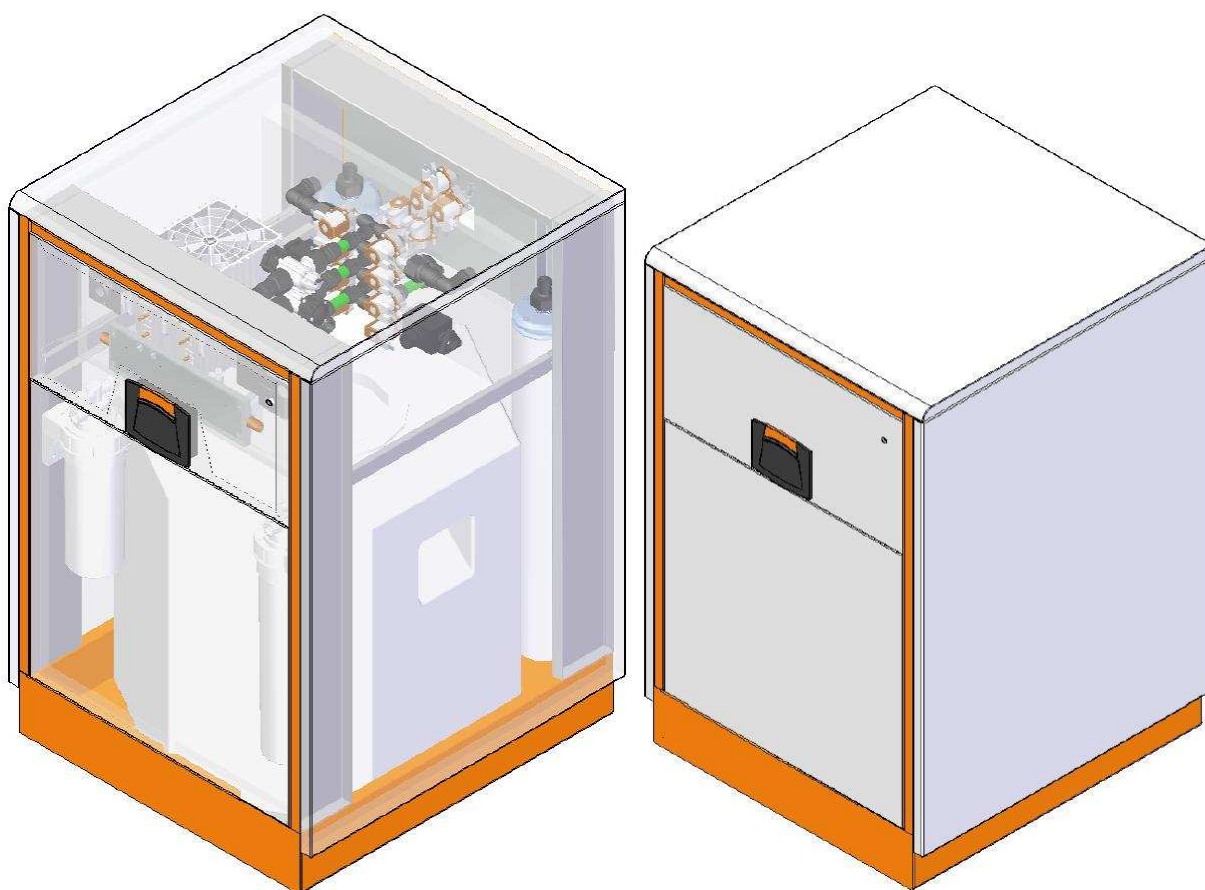


Figure 1

Idropan dell'Orto riserve the right to modify or change the tecnica and aesthetic characteristics of all equipment

4. Assembling



Accessories may defer according to local regulation.

Please make sure that you follow these correctly!

4.1 Installation examples

Cubetto machines are made to simplify setup and startup.

Plumbings connection are 3 with male $\frac{3}{4}$ " thread.

Equipment is supplied with 3 meters of power cable and require a 220V power supply.

4.2 Electricity supply

Plimmer demand an electricity supply that according with the different models could be:
220V monophase + Earthing

TABLE OF ELECTRICAL CONSUMES

Average power consumption	150 – 160 W
Peak power consumption	750 - 780 W

Power consumption is related to water salinity and effective flow. Reported values are calculated on a 250 ppm TDS water.

5. Start-up

5.1 Initial Start – up



Check plumbing and electrical connections



We advise to let water pass freely for a few minutes before connecting fittings.

Warning – Plimmer might be subject to water hammer, due to the air in the tubes, during the first working minutes. We advise to reduce the operating pressure for the first 10 minutes.

Verify that all pipes are well connected and that there are no leaks.

Warning

When the Plimmer is switched on for the first time it should be in production BEFORE the water taps are opened.

When the Plimmer is ready to produce, partially open the entry valve in order to verify the presence of any leaks.

Let the machine work at a reduced flux level for at least 10 minutes, and then gradually bring values to idle operating levels.



it is advisable to drain the water produced in the first 30-60 minutes.

6. Cubetto main panel

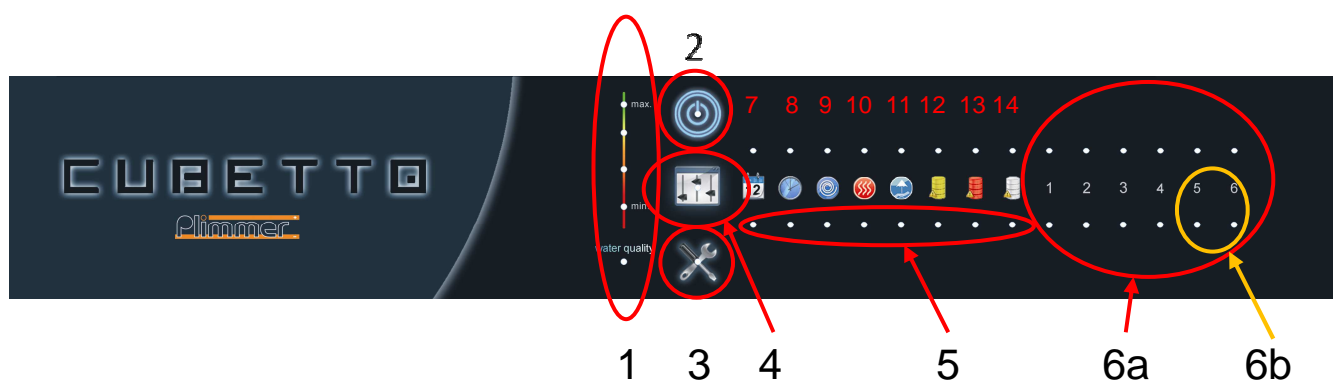
















Figure 2

1	Water quality regulation
2	Standby on-off
3	Select
4	Confirm
1 + 3 + 4	Keyboard unlock
5	Function light
6a	Alarms
6b	Plimmer state lights . See paragraph 7.2
7	Safe power off indicator
8	Time
9	Extra antifouling cycle
10	Water hardness selection
11	Not used
12	Filter cartridge
13	Maintenance solution
14	Disinfecting solution (if available)

6.1 Multicolor LED combinations

Multicolor LED combinations

Cubetto multicolor frontal led rules the current machine status. Status under green column defines normal operation, the ones in the orange columns requires user interaction while the one in the red zone involve an authorized technician.

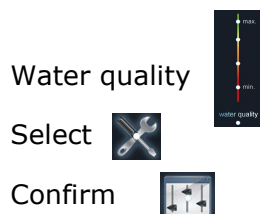
Operation	User interaction	Technical assistance
 Normal operation Tank filling 1st stage	 Maintenance solution lifecycle > 90%	 Maintenance solution finished
 Normal operation Tank full Outlet closed	 Filter cartridge lifecycle > 90%	 Filter cartridge finished
 Normal operation 2nd stage production	 UV lamp lifecycle > 90%	 UV lamp finished
 Antifouling cycle	 Lack of water. Check if the water is present and reset the equipment	 Repeated lack of water
 Special regeneration for 2nd stage		 Generic fault

7. How it works

Keyboard unlock

To avoid wrong usage by the user, when no key is pressed for 120 seconds, keyboard will lock and no key pression is recognized.

To unlock the keyboard, you have to press simultaneously the following 3 keys:



If unlock is recognized, all the lights will flash for a while.

7.1 Quick start

Plimmer Cubetto comes with default settings that can be changed as follows

POWER INTERRUPTION

Plimmer is a device using an electrostatic field to remove salts from water. For this reason, it is very important that it remains powered continuously and with no high or under voltage.

We recommend to connect the Cubetto to a protected power source otherwise buy a UPS and connect the Cubetto to it.

PLIMMER POWER OFF



To disconnect power source from Cubetto wait to have led 7 (see paragraph 7.3) on.

If this condition is not respected you may damage the equipment.


WATER HARDNESS REGULATION


Water hardness defines its tendency to foul. Plimmer has an automatic system to avoid fouling inside the cells, it is needed to set the value.

To make the regulation:

- Unlock the keyboard
- Press the select key until position 10 
- Press the confirm key 

Green led 10 will glow and on the bottom line, also some yellow lights will switch on.

Using select key  choose the right hardness value (step of 5° FH, example : to select 25 ° FH, switch on 5 lights) measured in French hardness degrees.

- Press the confirm key 






NOTE : Fouling capacity of water changes even with the same hardness based on water composition (temporary hardness and permanent hardness, presence or absence of strong anions such as chlorides, sulfate and nitrates)

In case of high fouling water, almost made up of bicarbonates (temporary hardness) and small quantity of strong anions (chlorides, sulfates, nitrates) we recommend a value greater than at least 1-2 shots.

Regulation range is between 15° and 60° , we remind you that Plimmer maximum hardness accepted is 50 °FH.

MAINTENANCE TIME SET AND TIME SET



Press the select key  until "Time"  icon position on the bottom line . Press the confirm key  . A green light will switch on over the Time icon and a red light will switch on over the "1" (alarm zone).

At this moment it is possible to set time for antifouling maintenance and sanitizing maintenance. Bottom line shows a maximum of 12 yellow leds and the last led on the right means AM or PM (led on).


Regulation can be done with one hour step.


Following is to set time to have Plimmer clock synchronized with real time.


When maintenance time is set you can choose:


- If you do not want to set system time, press confirm key  to exit
- If you want to set system time press ON-OFF 

2 red leds will switch on (1 and 2, alarm zone) and it is possible to set first cipher of hour (between 0 and 2 yellow led).



When the right value is set, press the ON-OFF key  . 3 red leds will switch on (1, 2 and 3, alarm zone) and it is possible to set second cipher of hour (between 0 and 9 yellow led).

When the right value is set, press the ON-OFF key  . 4 red leds will switch on (1, 2, 3 and 4 alarm zone) and it is possible to set first cipher of minutes (between 0 and 5 yellow led).

When the right value is set, press the ON-OFF key  . 5 red leds will switch on (1, 2, 3, 4 and 5 alarm zone) and it is possible to set second cipher of minutes (between 0 and 9 yellow led)



When the right value is set, press the ON-OFF key  . 6 red leds will switch on (1, 2, 3, 4, 5 and 6 alarm zone)

You can now choose between:

- If you want to start again, press ON-OFF key 
- If you press confirm key  you set the values for maintenance and system time.



7.2 Cubetto features

EXTRA ANTI FOULING CYCLE

To make an extra antifouling cycle, press selection key  till the third icon 



Press confirm key to start.

STAND BY FUNCTION


You can activate stand by function by simultaneously pressing the select key  and the ON-OFF key . If everything is ok, multicolor led will become flashing blue.




This function is useful to keep the Cubetto clean during inactivity periods.

Power must be kept for the whole period.


To get back in normal operation mode, press simultaneously the select key  and the ON-OFF key 




FILTER CARTRIDGE WARNING/STOP


Filter cartridge life is limited. At 90% of its lifecycle, led  start flashing and the machine still operates. At the end of its lifecycle instead the machine stops working because it can not guarantee anymore correct operation. It is important to replace the cartridge in the following way :

- With the select key go until 
- Press confirm key . All the leds will start flashing
- Wait until the become continuously on
- Replace the cartridge (mounting and umounting by ¼ turn)
- Press the confirm key 

MAINTENANCE SOLUTION BOTTLE WARNING/STOP

Maintenance bottle life is limited. At 90% of its lifecycle, led  start flashing and the machine still operates. At the end of its lifecycle instead the machine stops working because it can not guarantee anymore correct functioning. It is important to replace the cartridge in the following way :

- With the select key  go until 
- Press confirm key . All the leds will start flashing.
- Replace the bottle

- Press confirm key 
- Leds will stay on for a while, they will switch off and recover normal operation of the equipment.


UV LAMP WARNING/STOP

At 90% of UV lamp lifecycle, Alarm led 2 start flashing. At the end of its lifecycle instead the machine stops working because it can not guarantee anymore correct functioning

For the replacement, you have to call an authorized technician.

PUMP MODE SELECTION

To increase CO₂ removal, it is possible to spray water inside the tank during operation. To enable/disable the pump follow the procedure:

- Move under number 5 with select key
- Press confirm key 

Led will stop flickering for a while and led 5 will stay on or off.

Led off Pump off

Led on Pump on

Now, working mode will swap and led will confirm it for three seconds. System will automatically exit from function.

7.3 Panel for debug mode



Based on lights showed in Figure 2, point 6b main panel show equipment status. There are 3 modes:


5	6	Function	Meaning
OFF	OFF	Status	See description
OFF	ON	Out pressure	1 Led = 0,4 Bar
ON	ON	Tank level	1 Led = 10%

STATUS MODE

- 1 FAILURE
- 2 BYPASS
- 3 UV
- 4 ANTIFOULING
- 5 SANITIZING
- 6 POWERING ON
- 7 WORKING
- 8 SHUTTING OFF
- 9 WAIT
- 10 ON/OFF KEY

There is a more advanced diagnostic view that can be activated in the following way :

- Unlock the keyboard
- With the selection key  go to the last position
- Press confirm key 

This view will last till select key  press that will recover back Plimmer in normal operation mode

LED	WEIGHT	FUNCTION
1	20%	Show the percentage of the current phase (For short phases, led will increment quickly)
2	40%	
3	60%	
4	80%	
5	1	Phase number, esprime as binary number
6	2	
7	4	
8	8	

Red lights 1 – 6 (Alarm zone)

CONDITION	1	2	3	4	5	6
Wait	X				UNUSED	X
Powering on		X				
Working			X			
Shutting off				X		

8.1 Maintenance



Plimmer is a machine that does not need large amounts of maintenance.



However it is possible, due to inappropriate discharge water value adjustments, that calcium carbonate precipitates on the cell electrodes.

The condition above is very easy to spot, the user will notice:

- The flow will reduce
- The quality of the water will reduce

In this case, the maintenance process with citric acid is necessary.

9. Technical schematics

9.1 Plimmer plumbing connections



In the case the Plimmer were connected to a public water supply, a retaining valve can be installed. Verify the local regulations.

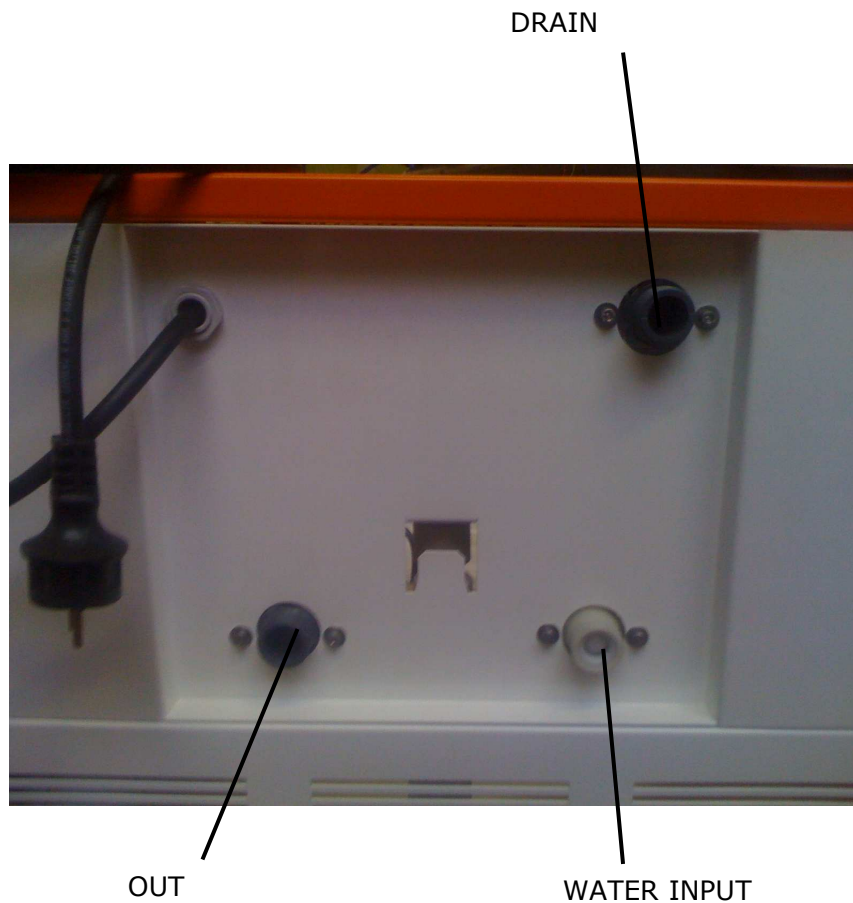


Figure 3