ELGA

PURELAB Classic - US

Operator Manual

VEOLIA WATER
Solutions & Technologies

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TABLE OF CONTENTS

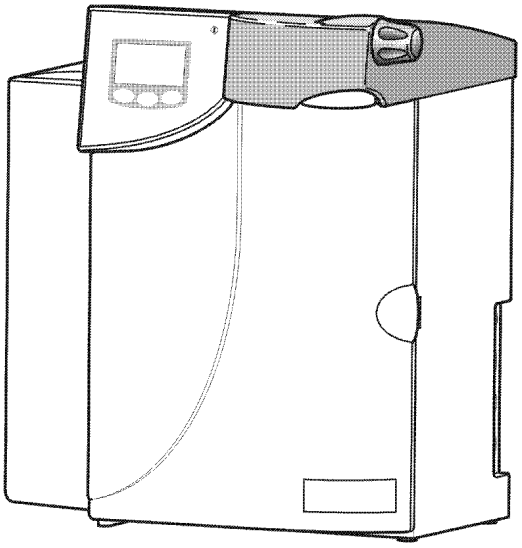
1. INTRODUCTION 1
1.1 Product Range 1
1.2 Use of this Manual 1
1.3 Customer Support 1
2. HEALTH AND SAFETY NOTES 2
2.1 Electricity 2
2.2 Ultraviolet Light 2
2.3 Control of Substances Hazardous to Health (COSHH) 2
3. PRODUCT AND PROCESS DESCRIPTION 3
3.1 Product Description 3
3.2 Process Description 4
3.3 Technical Specification 8
4. CONTROLS 11
5. INSTALLATION INSTRUCTIONS 12
5.1 Unpacking the *PURELAB Classic* 12
5.2 Positioning the *PURELAB Classic* 12
5.3 Connecting the *PURELAB Classic* 14
5.4 Initial Controller Set up 16
5.5 Setting Up Password / Resetting Replacement Timers 20
5.6 Initial Start Up 22
5.7 POU Filter Installation (LC134) – Optional Accessory 24
6. OPERATION 25
6.1 Intermittent Recirculation 25
6.2 Manual Dispense 25
7. MAINTENANCE 26
7.1 Replacing the Purification Pack (LC186) 26
7.2 Replacing the Ultrafilter (LC169) 27
7.3 Replacing the Ultraviolet Lamp (LC170) 30
7.4 Replacing the Point-Of-Use Filter (LC134) 31
7.5 Cleaning Inlet Strainer 32
8. SANITIZATION PROCEDURES 33
9. TROUBLE SHOOTING 34
10. CONSUMABLES AND ACCESSORIES 35
11. KEY TO CONTROL PANEL 36
11.1 Icons 36
11.2 Alarm Conditions 37
11.3 Replacement Timers 37

11.4 Quality Alarms 38

12. WARRANTY/CONDITIONS OF SALE 39

13. USEFUL CONTACT DETAILS 41

1. INTRODUCTION



PURELAB Classic

1.1 Product Range

This operator manual has been prepared for the ***PURELAB Classic*** product models:

PURELAB Classic DI - US

PURELAB Classic UV - US

PURELAB Classic UF - US

PURELAB Classic UVF - US

1.2 Use of this Manual

This manual contains full details on installation, commissioning and operation of the ***PURELAB Classic*** unit. If the instructions in this handbook are not followed then the performance of this product and/or the safety of the user may be compromised.

1.3 Customer Support

Service support and consumable items are available from your local ELGA LabWater distributor. Refer to customer service contact details shown at the end of this publication.

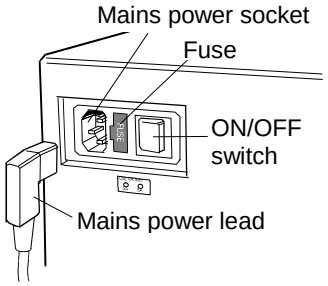
2. HEALTH AND SAFETY NOTES

PURELAB Classic products have been designed to be safe, however, it is important that personnel working on these units understand any potential dangers. All safety information detailed in this handbook is highlighted as **WARNING** and **CAUTION** instructions. These are used as follows:

WARNING! **WARNINGS ARE GIVEN WHERE FAILING TO OBSERVE THE INSTRUCTION COULD RESULT IN INJURY OR DEATH TO PERSONS.**

CAUTION! **Cautions are given where failure to observe the instruction could result in damage to the equipment, associated equipment and processes.**

2.1 Electricity



It is essential that the electrical supply to the ***PURELAB Classic*** is isolated before any items are changed or maintenance work performed.

The ON/OFF switch is located at the left-hand side of the unit. The mains power lead is located just behind the ON /OFF switch.

WARNING! **THIS APPLIANCE MUST BE EARTHED.**

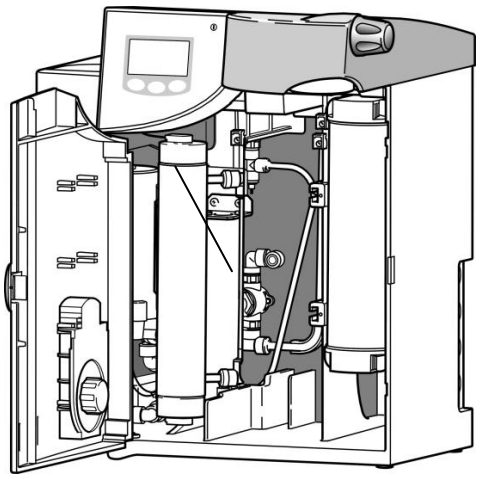
The main water supply should be isolated and residual pressure released prior to removal of any Purification Packs or carrying out work on the unit.

Switching off the electrical supply will isolate the source of mains water pressure.

2.2 Ultraviolet Light

WARNING! **UNDER NO CIRCUMSTANCES SHOULD THE LAMP BE CONNECTED AND ACTIVATED WHEN OUTSIDE THE HOUSING.**

The Classic UV and Classic UVF units are fitted with an ultraviolet lamp. The UV lamp is enclosed in a stainless steel chamber ensuring that the operator will not be exposed to UV light.



UV Lamp

Classic with UV Lamp

2.3 Control of Substances Hazardous to Health (COSHH)

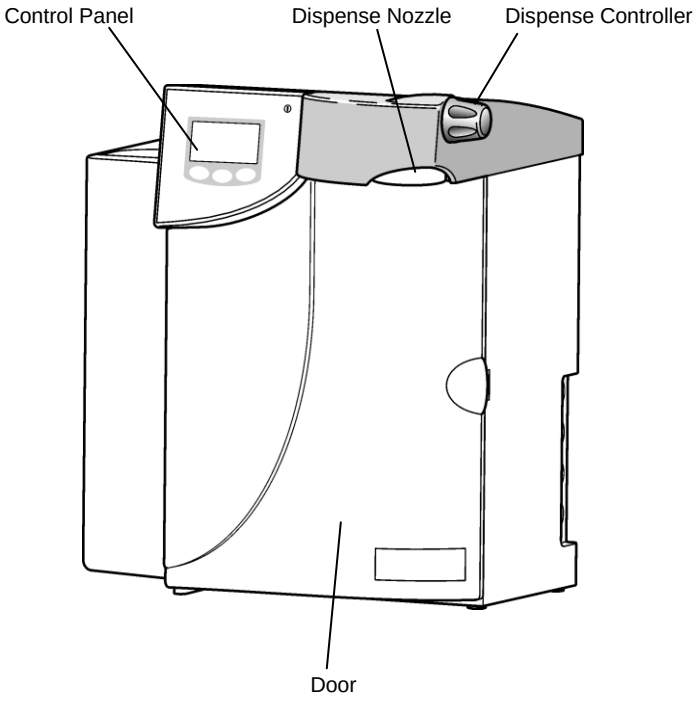
Material safety data sheets covering the various replaceable Purification Packs are available upon request. Contact your local supplier or distributor.

3. PRODUCT AND PROCESS DESCRIPTION

3.1 Product Description

The ***PURELAB Classic*** water purification unit has been specifically designed to provide a supply of ***ultrapure water*** with very low levels of impurities for laboratory, medical and industrial applications.

The ***PURELAB Classic*** can be bench, under bench or wall mounted with an optional wall mounting kit. A range of accessories is available to complement the unit (*see Section 10 - Consumables and Accessories, for details)*.

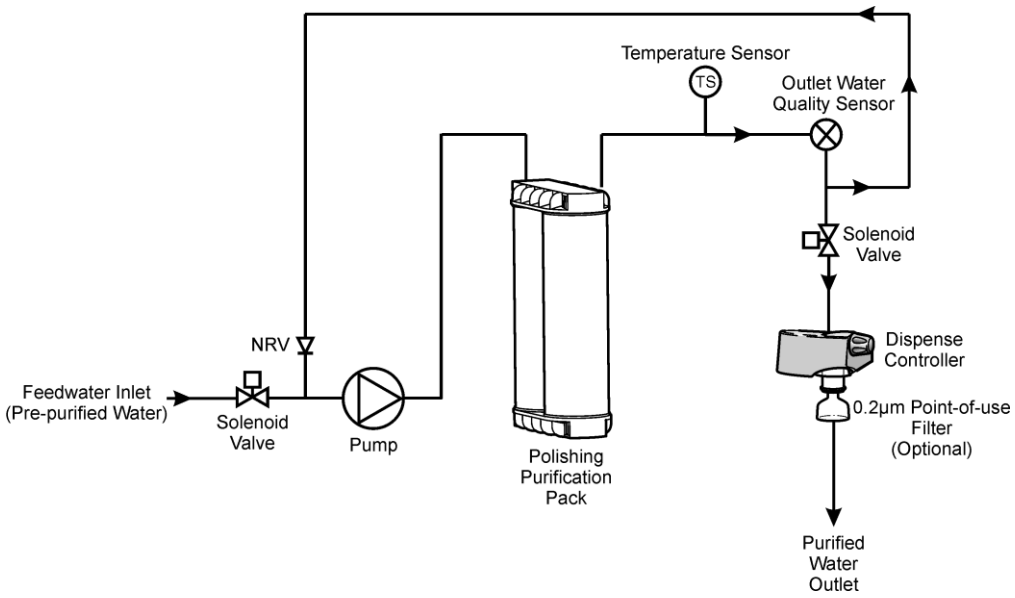


PURELAB Classic

The ***PURELAB Classic*** range of water purification units has been designed to provide high purity water for laboratory applications. The products need to be fed with pre-treated water, typically from a reverse osmosis supply. They can be operated directly from a ringmain feed as point of use polishers, with or without local buffer storage, using a **Docking Vessel** or suitable reservoir. Alternatively, they can be supplied from a local pre-treatment/storage system, for example a ***PURELAB Prima*** and **Docking Vessel** combination.

3.2 Process Description

Classic DI



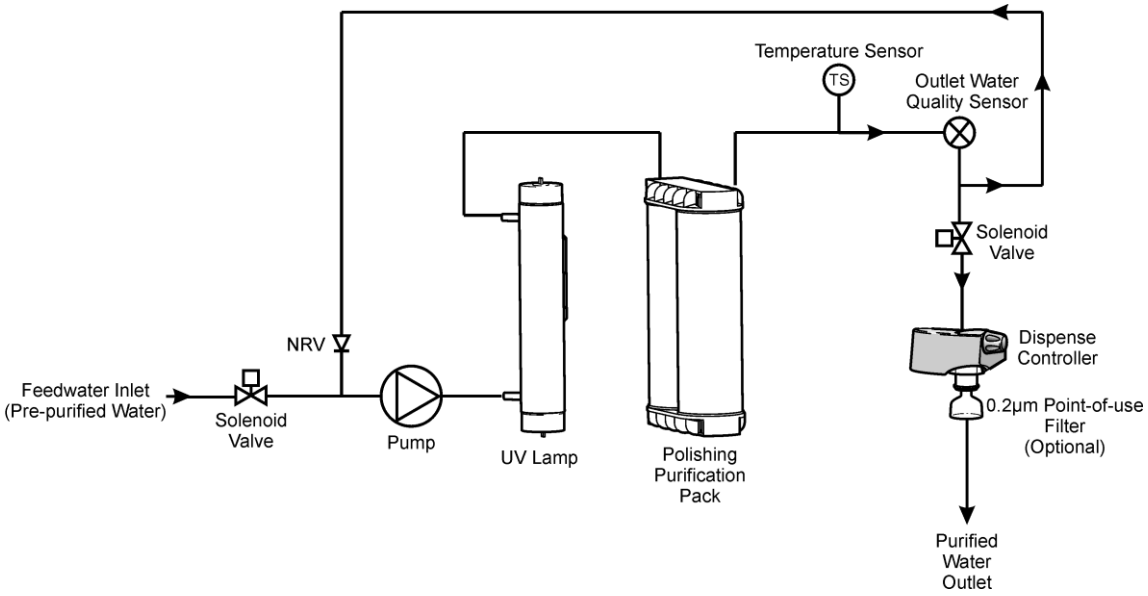
Pre-treated water enters via an inlet solenoid and is then pumped through the purification pack and temperature and water quality sensors before being dispensed or re-circulated through a non-return valve back to the pump inlet.

Ionic and organic impurities are removed by the purification pack. Product water resistivity and temperature are measured before dispense and will indicate when the purification pack needs to be replaced.

The water within the unit is re-circulated through the purification technologies to maintain purity. To reduce heat build up the recirculation is at reduced flow rate and is set to be intermittent (5 minutes every hour).

An optional POU filter is available if required to protect the outlet from bacterial contamination.

Classic UV



Pre-treated water enters via an inlet solenoid and is then pumped through the UV chamber, a purification pack and temperature and water quality sensors before being dispensed or re-circulated through a non-return valve back to the pump inlet.

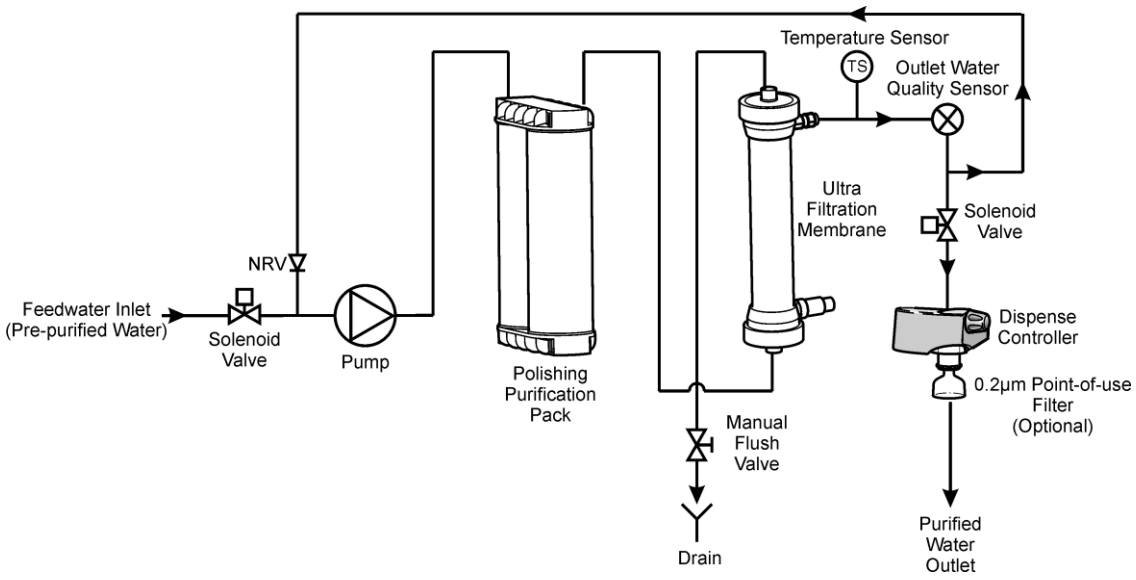
Purified water flows directly through the UV chamber where it is exposed to intense UV radiation at a wavelength of 185 nm to provide continuous bacterial control.

Ionic and organic impurities are removed by the purification pack. Product water resistivity and temperature are measured before dispense and will indicate when the purification pack needs to be replaced.

The water within the unit is re-circulated through the purification technologies to maintain purity. To reduce heat build up the recirculation is at reduced flow rate and is set to be intermittent (5 minutes every hour).

An optional POU filter is available if required to protect the outlet from bacterial contamination.

Classic UF



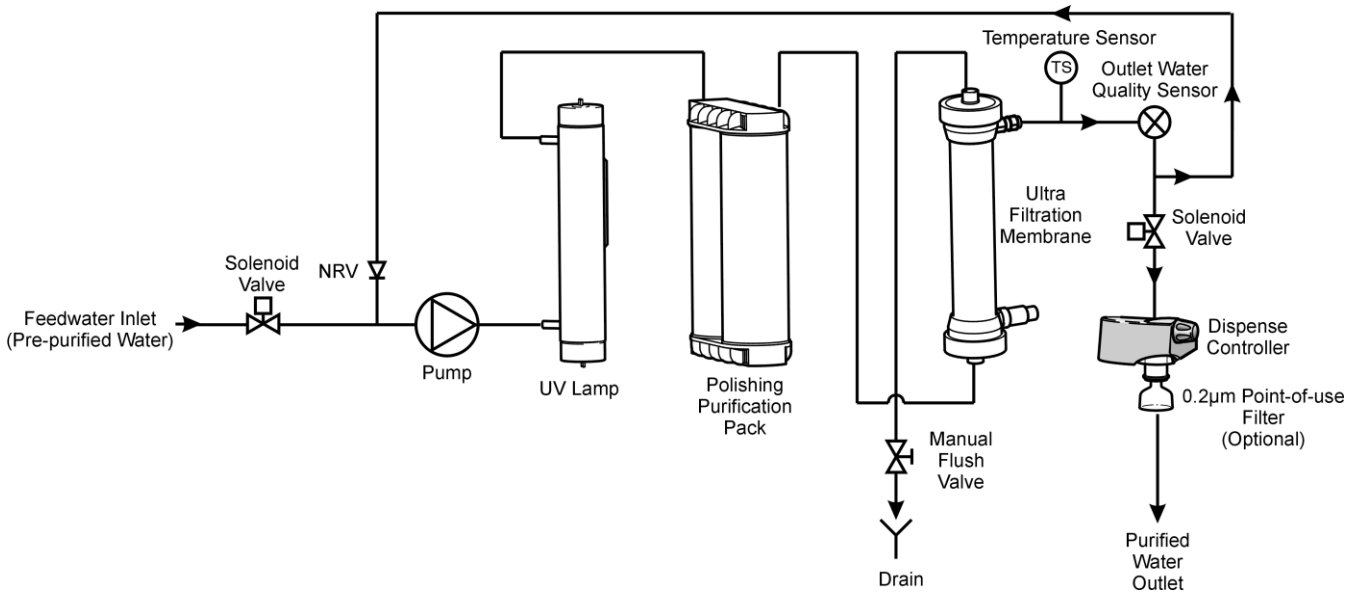
Pre-treated water enters via an inlet solenoid and is then pumped through the purification pack, an ultrafilter and temperature and water quality sensors before being dispensed or re-circulated through a non-return valve back to the pump inlet.

Ionic and organic impurities are removed by the purification pack; the ultrafilter removes pyrogens, bacteria and other microbial impurities as well as particles. Product water resistivity and temperature are measured before dispense and will indicate when the purification pack needs to be replaced.

The water within the unit is re-circulated through the purification technologies to maintain purity. To reduce heat build up the recirculation is at reduced flow rate and is set to be intermittent (5 minutes every hour).

An optional POU filter is available if required to protect the outlet from bacterial contamination.

Classic UVF



Pre-treated water enters via an inlet solenoid and is then pumped through the UV chamber, a purification pack, an ultrafilter and temperature and water quality sensors before being dispensed or re-circulated through a non-return valve back to the pump inlet.

Purified water flows directly through the UV chamber where it is exposed to intense UV radiation at a wavelength of 185 nm to provide continuous bacterial control and the photo-oxidation of residual organic impurities.

Ionic and organic impurities are removed by the purification pack; the ultrafilter removes pyrogens, bacteria and other microbial impurities as well as particles. Product water resistivity and temperature are measured before dispense and will indicate when the purification pack needs to be replaced.

The water within the unit is re-circulated through the purification technologies to maintain purity. To reduce heat build up the recirculation is at reduced flow rate and is set to be intermittent (5 minutes every hour).

An optional POU filter is available if required to protect the outlet from bacterial contamination.

3.3 Technical Specification

The Technical Specifications for the ***PURELAB Classic*** are as follows:

Feedwater*	
Parameter	**Limits**
Source - Originally from potable supply, then pre-treated	Preferably reverse osmosis (RO) or filtered service deionisation (SDI) or distilled. **Note:** mixed bed or twin bed deionised supplies should be cation limited at exhaustion**.**
Fouling Index (max)	1 for all models. A 0.2 micron membrane prefilter is recommended for all non-RO feeds.
Service Deionisation (SDI) - MΩ-cm	1 MΩ-cm minimum resistivity at exhaustion.
Reverse Osmosis (RO) - µS/cm	Recommended < 30 µS/cm
Free Chlorine	0.05 ppm max.
TOC	Recommended 50 ppb max.
Carbon Dioxide	30 ppm max.
Silica	2 ppm max.
Particulates	Filtration down to 0.2 micron advisable to protect internal and/or point of use filters.
Temperature	1 - 40°C - Recommended 10 - 15°C
Flowrate (maximum requirement)	130 l/hr
Drain requirements (gravity fall with air gap). Maximum during service	Up to 2 l/min
Feedwater Pressure	0.7 bar (10 psi), maximum, 0.07 bar (1 psi) minimum

* Contact technical support for advice on feedwaters outside the range listed.

Note: Different system configurations are available for different feedwater sources. See system set up.

Dimensions	
Height	490 mm (19.3")
Width	410 mm (16.2")
Depth	365 mm (14.4")
Weight	
DI	14.0 kg (30.8 lb)
UV	14.5 kg (32.0 lb)
UF	14.5 kg (32.0 lb)
UVF	15.0 kg (33.1 lb)

Connections	
Inlet-quick connect	8 mm (5/16") OD
Flush - UF/UVF	8 mm (5/16") OD
Positioning	Wall, bench or under bench mounted.
Environment	Clean dry indoor. Temp 5 - 40°C. Humidity max 80% non-condensing.

Electrical Requirements	
Mains input	100 -240 V ac, 50-60 Hz all models
System voltage	24 V dc
Power consumption during recirculation	60 VA
Power consumption during dispense	75 VA
Fuses	2 x T6.3 Amp
Reservoir level connection	Jack Plug 3.5 mm
Noise level during recirculation	<40 dBA

User Interface		
Display	Continuous graphical quality display	
	Graphical flow schematic on screen with mimic display	
	Backlit display with Intuitive Icons	
Adjustable settings	Display viewing angle	Adjustable electronically
	Water quality units	Selectable (MΩ.cm or µS/cm)
	Water quality alarm	Selectable alarm setpoints
	Date / time	Adjustable
	Auto restart after power failure	Selectable (On/Off)
	Audible alarm	Selectable (On/Off)
	Temperature control	Selectable alarm setpoints
	Reservoir	Selectable (On/Off)
Indicators	Product water quality	Resistivity or conductivity
	Temperature	Degrees Centigrade
	Purification pack	Replacement date
	UV lamp*	Replacement date
	Filter*	Replacement date
Alarms-Audiovisual	Purified water purity	Below set point alarm
	Temperature	Above set point alarm
	UV lamp operation*	Imminent lamp failure or failure to start
	Purification pack	Change reminder
	UV lamp*	Change reminder
	Filter*	Change reminder
	Reservoir****	Low level / level control disconnect alarm
Outputs	RS232 printer connection	
	RS232 remote display connection	
	Volt free contact-internal	
	Remote dispense	

Safety Features
Power fail safe
Water temperature alarm
Water quality alarm
Purification pack interlock
UV current monitoring
Timeout of dispense
Low operating voltage 24 V
Volt free contact alarm connection
Visual alarms
Audible alarms

Operational Features
Low noise levels – minimum intrusion
Variable dispense flowrate
Restart on power interrupt
Optional printer kit to record operating parameters
Optional remote display

Purified Water Specification				
	DI	***UV***	***UF***	***UVF***
Flowrate	2.0 l/min max.			
Inorganic	Resistivity 18.2 MΩ.cm (0.055μS/cm)			
TOC	**<15 ppb	**<5 ppb	**<15 ppb	**<10 ppb
Bacteria	***<1 cfu/ml	<1 cfu/ml	<1 cfu/ml	<1 cfu/ml
Pyrogens			<0.02 Eu/ml	<0.005 Eu/ml
pH	Effectively neutral			
Particles	***0.2 μm	***0.2 μm	Ultrafiltration	
RNase / DNase	-			
Capacity (LC162)	45,000 liters >18MΩ.cm per single purification pack/μS at pH 7.0 70,000 liters >1MΩ.cm per single purification pack/μS at pH 7.0			
Confirms to ASTM, CAP, NCCLS – Type 1 and BS3978 Grade 1 Specification.				

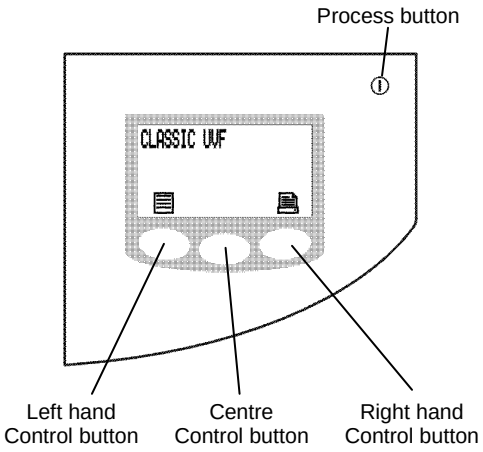
* On some models only.

** Dependant on feedwater - recommended RO feed <50 ppb TOC.

*** With POU filter fitted.

As part of our policy of continual improvement we reserve the right to alter the specifications given in this document.

4. CONTROLS



Control Panel

The ***PURELAB Classic*** operates with a tactile membrane control panel, which has a graphics display window and four multi-purpose control buttons.

Details of how to use the controls will be given in the appropriate sections.

The ***PURELAB Classic*** control panel has a range of control icons as follows:

Button	Icon	Function
PROCESS		Turns the process on/off. **ESCAPE** from any feature
LEFT	 	Menu Scroll
CENTRE		Accept
RIGHT	 	Mute Alarm Printer

5. INSTALLATION INSTRUCTIONS

5.1 Unpacking the *PURELAB Classic*

The following items are supplied with your ***PURELAB Classic****:*

1. ***PURELAB Classic*** unit.
2. By-pass block LA638 (1 off, fitted in unit).
3. 6 metres of 8mm (5/16") O/D tube.
4. 1 off Strainer Assembly.
5. Operator Manual in English.
6. Mains Lead.
7. Reservoir Level Connecting Lead.

5.2 Positioning the *PURELAB Classic*

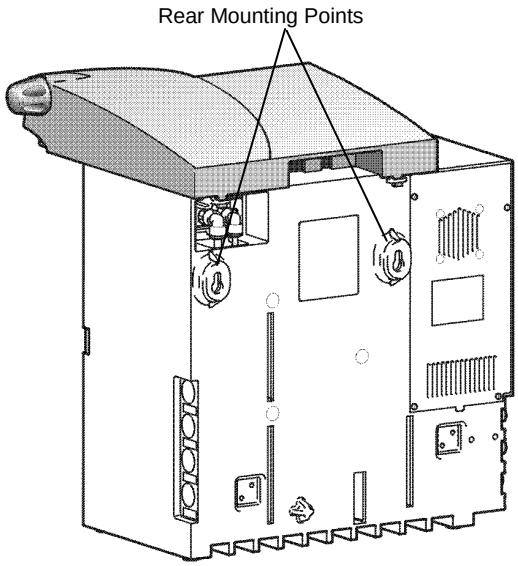
Before installation and operation of the ***PURELAB Classic*** unit, please read and observe the following points.

Environment

The unit should be installed on a flat, level surface, in a clean, dry environment. The unit can also be wall mounted against a vertical wall capable of supporting the weight (for this we recommend the use of the wall mounting kit Part No. LA610 on substantial brick/concrete walls or LA622 for stud partition walls).

WARNING! **IF THE UNIT IS TO BE WALL MOUNTED, ENSURE IT IS MOUNTED USING THE CORRECT WALL MOUNTING KIT AND THAT THE WALL IS CAPABLE OF SUPPORTING THE OPERATING WEIGHT OF THE SYSTEM. ALWAYS CAREFULLY FOLLOW THE INSTRUCTIONS INCLUDED IN THE KIT.**

Note: *Refer to Specifications for unit weights (Section 3.3 - Technical Specification).*

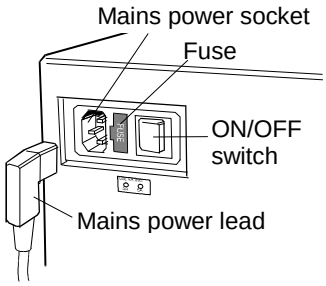


Unit Rear Mounting Points

The unit is designed to operate safely under the following conditions:

- Indoor Use
- Altitude up to 2000 m
- Temperature Range 5 - 40°C
- Maximum Relative Humidity 80% @ 31°C decreasing linearly to 50% @ 40°C, non-condensing

The unit is in Installation Category II, Pollution Degree 2, as per IEC1010-1.



Electrical Connections

Electrical

The units can be connected universally to any electrical supply in the range of 100 – 240 V and 50 – 60 Hz. The mains lead is supplied with a molded plug on one end and a molded connector to the unit on the other. The unit should be connected to an earth. The unit includes a battery which will require changing on a periodic basis, typically every 3-5 years. (Contact local Service provider)

WARNING! **DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER (3 VOLTS, LITHIUM CR2032). DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**

Drain/Flush

A semi-rigid flexible connection to a sink or suitable drain capable of at least 2.0 l/min is required for Classic UF and Classic UVF versions. The drain point should have a gravity fall below the level of the unit and any connections direct to drain should have an air-break device fitted. A flexible tube should be temporarily connected to the dispense outlet and directed to drain during rinsing of purification packs.

Feed Water

The feedwater should be potable water, pre-purified using reverse osmosis, deionisation, or distillation. If using a supply other than reverse osmosis treated, it is strongly recommended that a 0.2 micron membrane filter is installed within the feed line to remove colloidal impurities. The feedwater should enter the ***PURELAB Classic*** via an 8 mm (5/16") O/D semi rigid tube, and should be in the temperature range 1 to 40°C (34 to 104°F). To ensure optimum performance it is recommended that the feedwater temperature be between 10 to 15°C.

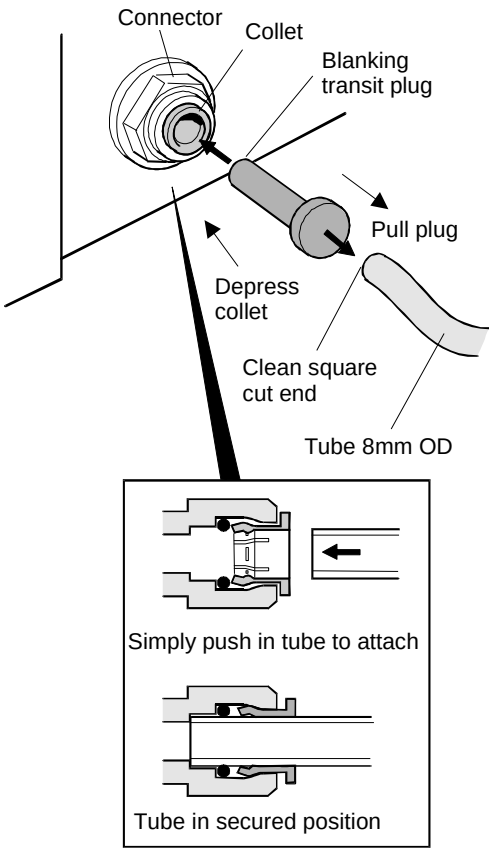
CAUTION! **Operating with feed water temperatures outside the range from 1 to 40°C (33.8 to 104°F) will cause damage to the *PURELAB Classic* unit.**

For pressurized feeds, the minimum direct inlet pressure is 0.07 bar (1.0 psi) and maximum inlet pressure is 0.7 bar (10 psi). Feedwater pressures up to 4 bar (60 psi) must be reduced using a pressure regulating valve (Part No. LA652).

CAUTION! **High feedwater pressures which may exceed 4bar (60 psi) must be reduced using a pressure regulator with built in pressure relief (Part No. LA575).**

Failure to install the correct pressure regulator will cause damage to the *PURELAB Classic* unit.

Reservoir feeds to the ***PURELAB Classic*** unit should be positioned at the same height, or above the unit, to provide a positive flooded inlet pressure of approximately 0.07 bar (1 psi).



Fitting tubes

5.3 Connecting the *PURELAB Classic*

Once the ***PURELAB Classic*** unit has been positioned either on a wall or on a bench, it should be connected as follows:

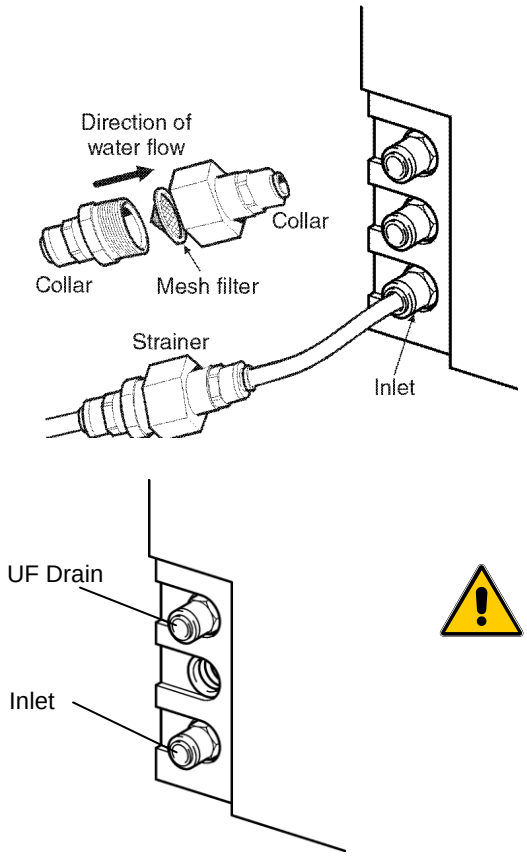
- Mains water inlet tube
- UF drain tube - to drain

Step 1 - Remove Transit Plugs

1. PUSH in collet on connector.
2. PULL out transit plug.
3. CUT a clean square end on an 8 mm OD semi-rigid drain tube.
4. PUSH tube into connector.

Step 2 - Connect Water Inlet

1. Connect 8 mm tube from the ***PURELAB Classic*** inlet to the inlet strainer.
2. Connect the inlet strainer to the pre-purified water supply.

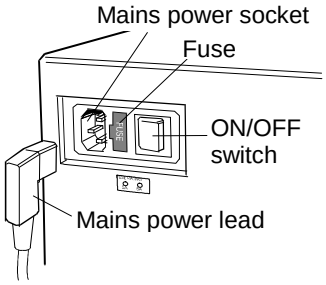


Inlet and Drain Connection

Step 3 - Connect Drain

1. Connect 8 mm tube from the UF drain (if fitted) and direct to a suitable drainage point.

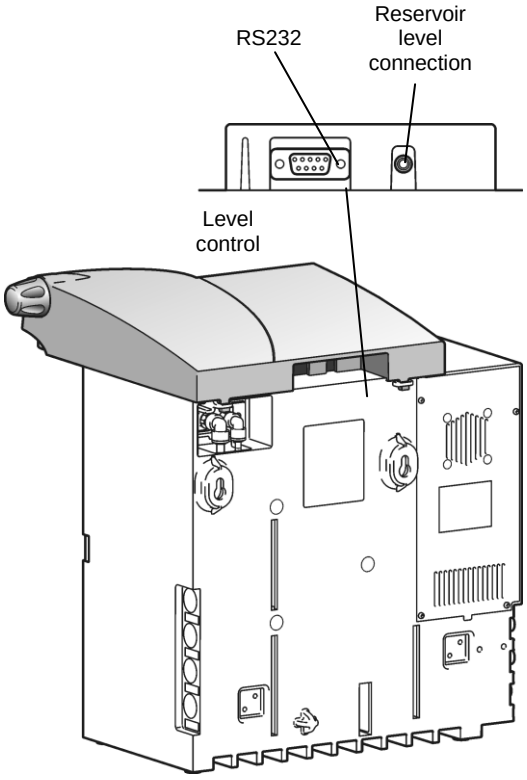
CAUTION! **The drain line should allow a gravity fall to drain with no restrictions.**



Electrical Connections

Step 4 - Connect Electrical Supply

1. PLUG mains power lead into the mains power socket on the left-hand side of the ***PURELAB Classic*** unit.
2. PLUG mains power lead into mains socket.

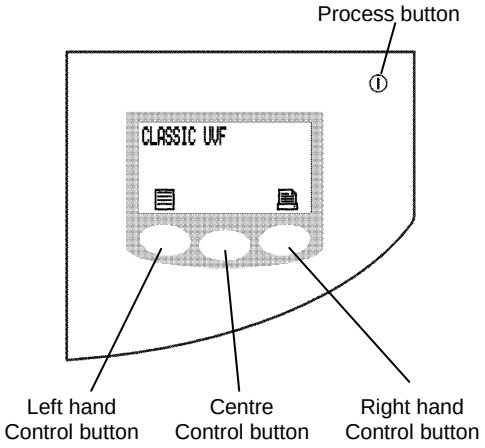


Reservoir Level Connection

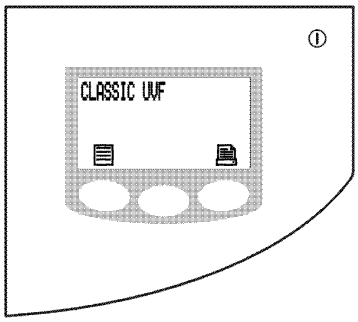
Step 5 - Reservoir Level Connection

1. INSERT jack plugs into the level control socket located at rear of unit and reservoir.

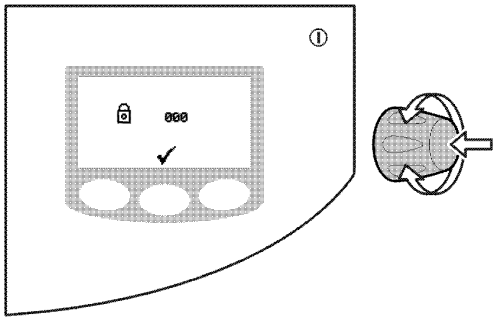
   Note: If wall mounting the unit it is recommended that the jack plug should be inserted prior to locating the unit on the wall mounting bracket.



Control Panel



Start Up Screen



Password Screen

5.4 Initial Controller Set up

The ***PURELAB Classic*** control panel is fitted with four control buttons. These are:

1. The PROCESS ⏻ button, which switches the purification process ON and OFF.
2. Three software controlled touch pad buttons which are used to control set-up and process control functions.

When the ***PURELAB Classic*** unit is started for the first time after installation the following steps should be carried out to set up system preferences:

Step 1 - Setting Up Menu Options

1. SWITCH the mains power on to initialize the controller hardware set-up sequence.

   Note: Always allow the initialization process to complete. Leaving the by-pass block in place of DI pack, press the PROCESS button to return to the initial power up screen.

2. PRESS MENU ☰ button to activate the set up menu sequence.

   A series of set-up screens will now be displayed. Various control icons are used to allow you to step through the set-up instruction process. These icons include:

   - A “scroll” icon indicated by an arrow ↻
   - An “accept” icon indicated by a tick ✓
   - A “selection” icon indicated by a ◂

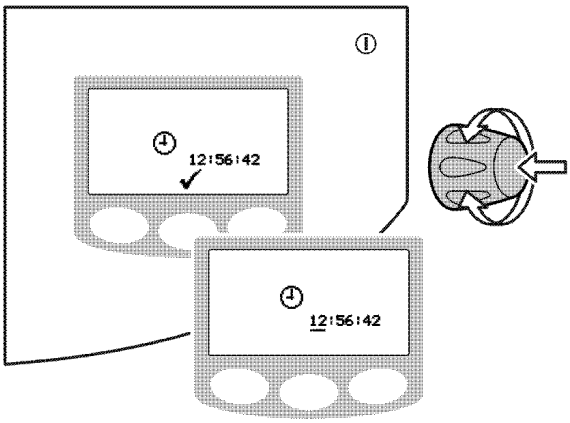
   At any stage during the Controller Set-up the PROCESS button can be pressed to escape back to the initial power up screen.

Step 2 - Password

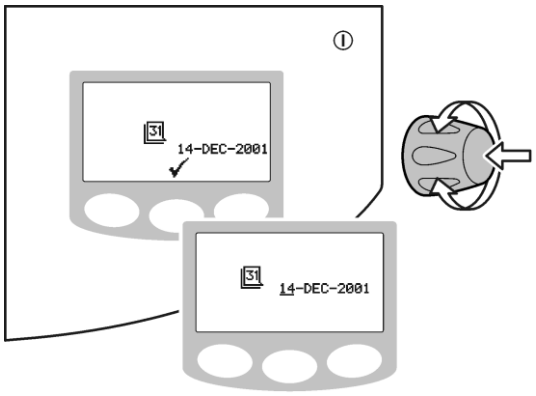
Restricts access to set up menu sequence.

1. ROTATE Dispense Controller to enter password code. The default password code is 000.
2. PRESS TICK ✓ button.

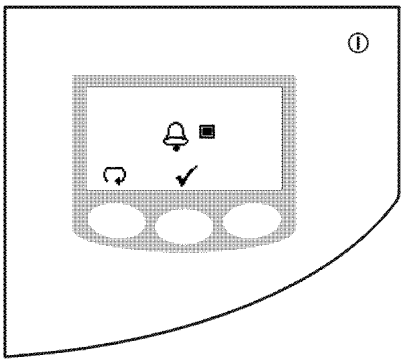
   Note: To reset password refer to Section 5.5.



Clock Screens



Date Screen



Audible Alarm Enable/Disable Screen

Step 3 - Clock

Set to display the current local time.

1. PRESS Dispense Controller. A cursor will appear under hour.
2. ROTATE Dispense Controller to increase or decrease hour.
3. PRESS Dispense Controller to step cursor onto minute.
4. ROTATE Dispense Controller to increase or decrease minute.
5. PRESS Dispense Controller to accept the minute setting and set the seconds to 00.
6. PRESS TICK ✓ button.

Step 4 - Date

Note: Confirm that the correct date has been entered before installing consumables or changing replacement dates.

Used to instigate change reminders, it will appear on printed records.

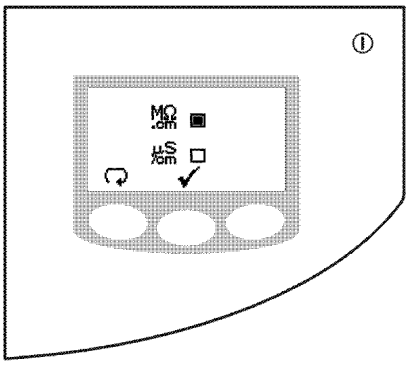
1. PRESS Dispense Controller. A cursor will appear under day.
2. ROTATE Dispense Controller to increase or decrease day.
3. PRESS Dispense Controller to step cursor onto month.
4. ROTATE Dispense Controller to increase or decrease month.
5. PRESS Dispense Controller to step cursor onto year.
6. ROTATE Dispense Controller to increase or decrease year.
7. PRESS TICK ✓ button.

Step 5 - Audible Alarm Enabled/Disabled

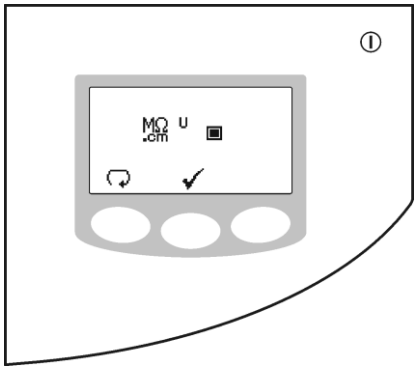
This display provides the option of either enabling the audible alarm, causing it to sound (whilst the alarm icon flashes) or disabling the audible alarm causing it to remain muted.

1. PRESS SCROLL button to highlight box.
2. PRESS TICK ✓ button.

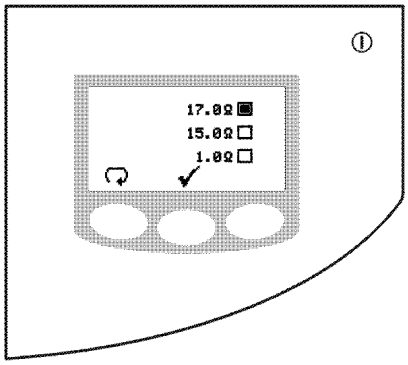
Note: The visual alarm cannot be disabled.



Water Purity Unit Setting Screen



Uncompensated Water Quality Screen



Outlet Purity Alarm Setting Screen

Step 6 - Water Purity Unit Setting

This screen allows preferred units of water purity to be set, to either, **MΩ.cm** or **µS/cm**.

1. PRESS SCROLL ⟲ button to highlight appropriate box.
2. PRESS TICK ✓ button.

Step 7 - Uncompensated Water Quality

A **U** will indicate uncompensated readings in the normal process screen.

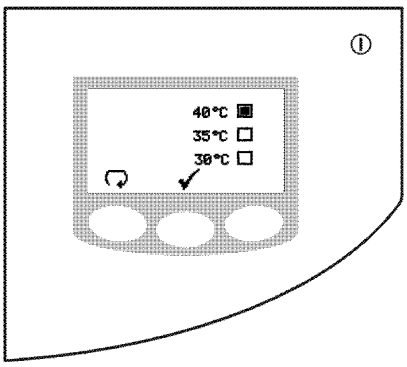
1. PRESS SCROLL ⟲ button to highlight box if uncompensated reading is required.
2. PRESS TICK ✓ button.

Note: The on-going display of uncompensated values is generally not recommended as it can lead to confusion among users and increase the possibilities of dispensing water of inadequate purity.

Step 8 - Product Water Purity Alarm Settings

This screen is used for setting the purity value at which the product water purity alarm will activate. The unit will alarm if this level is passed but will not switch off the process. The alarm will automatically clear if the water purity returns above its specified limit.

1. PRESS SCROLL ⟲ button to highlight appropriate box.
2. PRESS TICK ✓ button.



Temperature Alarm Setting Screen

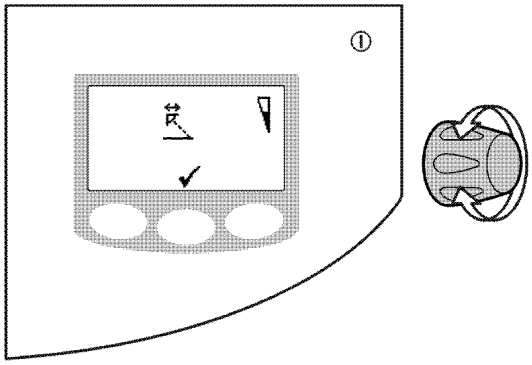
Step 9 - Temperature Alarm Setting

The temperature of the water is constantly monitored to ensure that it does not increase to an unacceptable level. The ***PURELAB Classic*** will alarm and switch the process off if the alarm point is exceeded.

1. PRESS SCROLL button to highlight appropriate box.

   Note: To operate the unit without a temperature alarm PRESS SCROLL until no boxes are highlighted. The unit will switch the process mode off at 50°C to prevent damage.

2. PRESS TICK ✓ button.

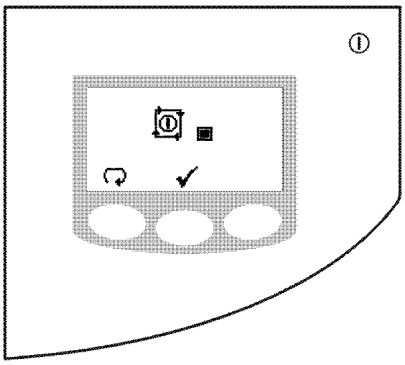


Display Viewing Angle Adjustment

Step 10 - Display Viewing Angle Adjustment

The angle of the display can be electronically adjusted up and down to optimize the display graphics visibility.

1. ROTATE Dispense Controller slowly to adjust viewing angle.
2. PRESS TICK ✓ button.

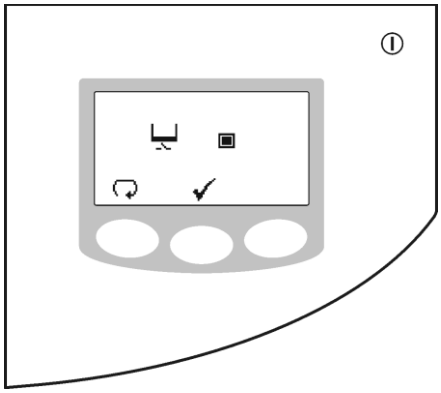


Auto-Restart Screen

Step 11 - Auto-Restart

This allows the selection of the AUTO/MANUAL restart option. If auto restart is selected the unit will automatically restart after a temporary loss of power to the unit. In manual mode the unit will remain in standby mode.

1. PRESS SCROLL button to highlight appropriate box.
2. PRESS TICK ✓ button.



Reservoir Level Screen

Step 12 - Reservoir Level

When operating the system from a reservoir it is recommended that a low-level switch be connected to protect the system from running dry.

1. PRESS SCROLL button to highlight box, (if reservoir and level control are attached).
2. PRESS TICK ✓ button.

The Controller Set-up is now complete.

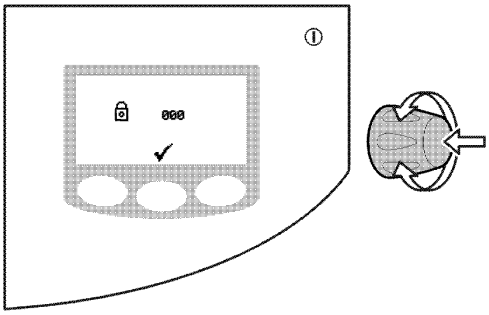
Note: To escape from any of the set-up screens press the PROCESS button.

5.5 Setting Up Password / Resetting Replacement Timers

CAUTION! **Before resetting any of the Consumable Replacement/Reminder Dates, ensure that the appropriate new Consumable has been installed and correctly located in the *PURELAB Classic.***

Step 1 - Enter Consumable Replacement Timer Set-up

1. SWITCH OFF at power inlet module.
2. PRESS and HOLD left hand button and SWITCH unit back on. The unit will now enter the Consumable Timer set up display.
3. RELEASE left hand button.



Password Screen

Step 2 - Password Change

Note: If you do not wish to change password then proceed to instruction 4.

1. ROTATE Dispense Controller to enter password code. The default password is 000.
2. PRESS Dispense Controller once.
3. ROTATE Dispense Controller to enter new password.
4. PRESS TICK ✓ button to accept new password.

Step 3 - Purification Pack Replacement Date

The replacement date for Purification Packs is automatically calculated from information held on data tags secured to the pack. The information displayed confirms the replacement dates and the serial numbers of the packs that have been installed.

Note: At this stage the unit will not have been fitted with any Purification Packs and the date displayed will not be relevant. Upon installation of the packs this date will be changed and reconfirmed.

1. PRESS TICK ✓ button.

Step 4 - UV Lamp Replacement Date (if fitted)

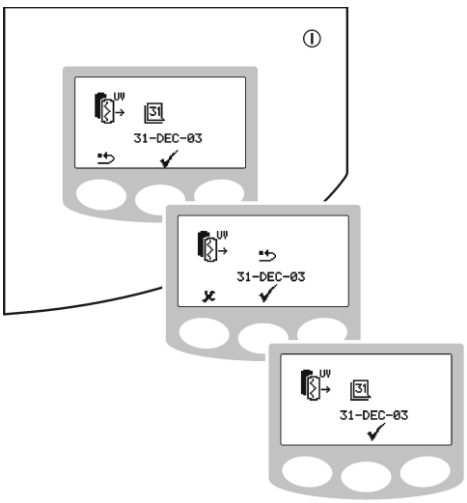
1. PRESS RESET ⮌ button to reset UV Replacement Date

   OR

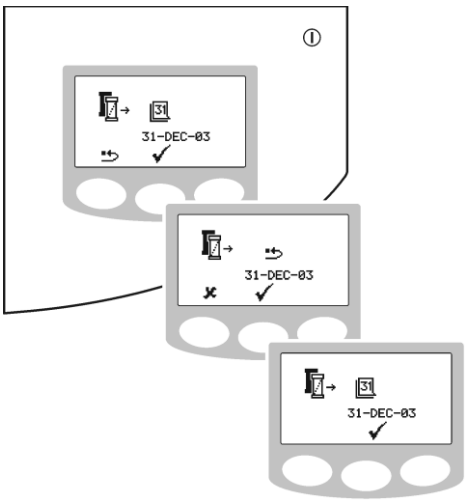
   PRESS TICK ✓ button to accept Replacement Date and proceed to Filter Replacement.
2. PRESS TICK ✓ button to confirm that resetting is required

   OR

   PRESS CROSS ✗ button to abort reset.
3. PRESS TICK ✓ button.



UV Lamp Replacement Date Screens



UF Replacement Date Screens

Step 5 - UF Replacement Date (if fitted)

1. PRESS RESET button to reset the Filter Replacement Date

   OR

   PRESS TICK ✓ button to accept Replacement Date and proceed to Sanitization Reminder.

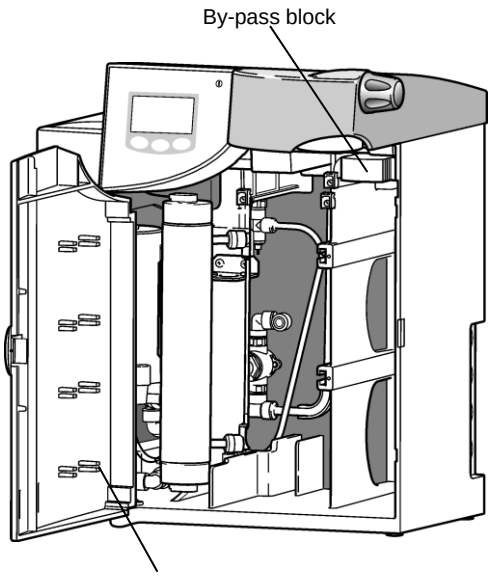
2. PRESS TICK ✓ button to confirm that resetting is required

   OR

   PRESS CROSS ✗ button to abort reset.

3. PRESS TICK ✓button.

5.6 Initial Start Up



Location of By-pass Block

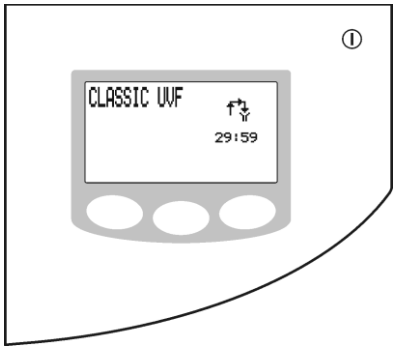
Step 1 - Prepare Water Supply

1. The ***PURELAB Classic*** should be installed correctly as described in Section 5.3.
2. TURN ON the feedwater supply to the unit and adjust the inlet pressure.
3. CHECK all tube connections are watertight and that there are no leaks.

Step 2 - Prepare By-pass Block

1. OPEN front door.
2. CHECK by-pass block is correctly located and locked in place.
3. CLOSE door.

CAUTION! **Unit contains trace levels of preservatives used during the manufacturing. Rinse to drain to avoid system contamination.**



Initial Rinse Screen

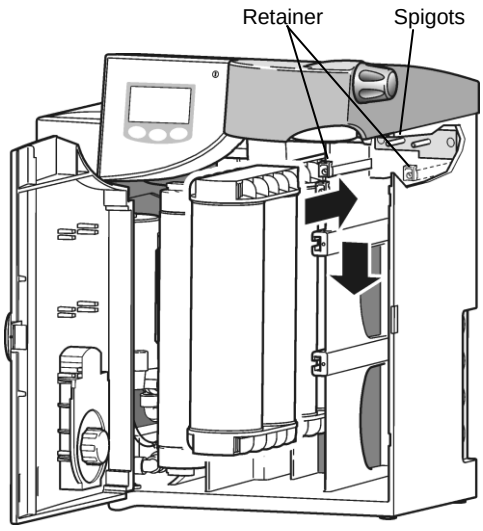
Step 3 - Initial Rinse

1. Connect a temporary tube from the dispense outlet to a suitable drain or sink.
2. SWITCH ON electrical supply.
3. Press the dispense controller. The unit will automatically go into a rinse procedure (36 mins) to rinse the unit. This rinse must be completed; the process function will be inhibited until the rinse is complete.
4. Upon completion of the rinse the unit will bleep.

Step 4 - Remove By-pass Block

1. SWITCH OFF power.
2. OPEN the door.
3. REMOVE by-pass block and pour contents away.
4. STORE by-pass block on hanger inside the door.

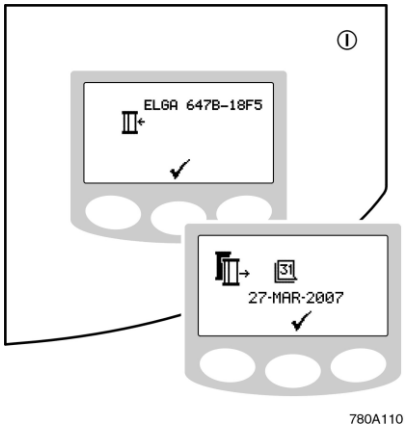
CAUTION! **Before installing the purification pack, ensure the correct date has been set as described in Section 5.4 step 4 - Date. Failure to enter the correct date may result in premature replacement of the Purification Packs.**



Fit Purification Pack

Step 5 - Fit Purification Pack

1. REMOVE a new Purification Pack from its packaging.
2. REMOVE the sealing plugs from inlet and outlet ports.
3. WET 'O' rings and SLIDE new Purification Pack into the right hand position pushing upwards against pack reader contacts.
4. POSITION Purification Pack onto spigots.
5. PUSH into unit.
6. ENSURE that the Purification Pack is fully engaged and dropped down past the retainers.



Purification Pack Installation Screens

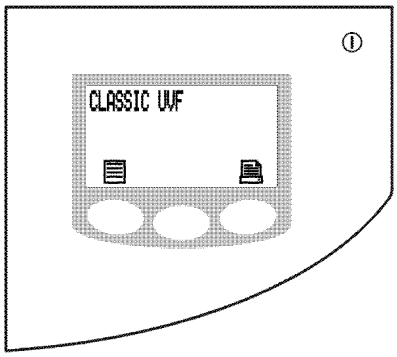
Step 6 - Acceptance of Purification Pack Installation

1. SWITCH ON power.
2. PRESS TICK ✓ button to accept the Purification Pack.
3. PRESS TICK ✓ button to calculate replacement date.

Step 7 - Final Rinse/Air Bleed

1. PRESS PROCESS ⓘ button and ALLOW the process screen to appear.
2. PRESS Dispense Controller. DIRECT dispense flow to drain or collect in suitable container (±10 litres).
3. ROTATE Dispense Controller and INCREASE the dispense rate to maximum.

   Note: The unit will start and initially during this stage air/water will be purged from the unit via the dispenser and the drain line.
4. ALLOW to dispense for 4 minutes.
5. RELEASE air from UF (UV) by carefully opening the valve located near the top of the UF if fitted.
6. PRESS Dispense Controller to stop dispense.



Normal Operation Screen

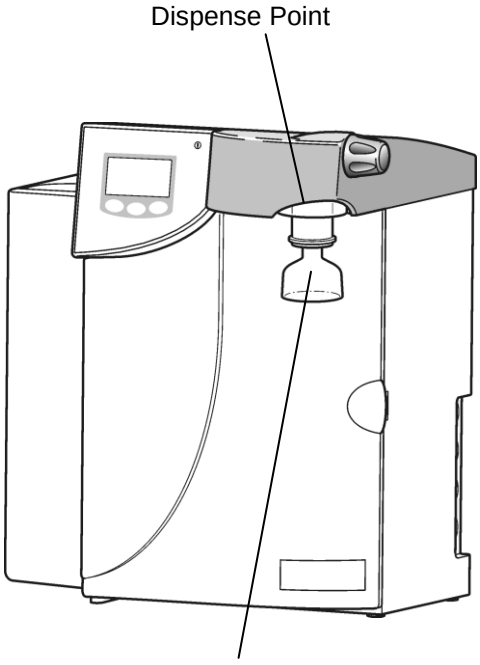
Step 8 - Normal Operation

Once product water quality is of a suitable standard it can be used, although it will usually require intermittent recirculation overnight to achieve peak quality.

5.7 POU Filter Installation (LC134) – Optional Accessory

The POU filter is necessary with the ***PURELAB Classic*** **DI** and **Classic UV** if they are required to meet the specification for particles and bacteria.

The remainders of the range all incorporate internal filtration and do not require a POU filter to achieve specification when operated as described in this manual. However, a POU may be used to achieve additional laboratory-specific application requirements.



Location of POU Filter

Step 1 - POU Filter Installation

1. LOCATE the fixed dispense point and UNSCREW the nozzle.
2. ENSURE 'O' ring seal is still properly located.

Step 2 - Replace POU Filter

1. REMOVE new filter from its packaging.
2. SCREW filter hand tight into the fixed dispenser until resistance against the 'O' ring seal is felt.

CAUTION! Do not over-tighten.

3. PUSH clear bell cover supplied with the filter onto the outlet of filter.

Step 3 - Bleed POU Filter

1. SWITCH on the ***PURELAB Classic***.
2. PRESS PROCESS ⓘ button.
3. PLACE a beaker under the dispenser.
4. PRESS Dispense Controller button.
5. SLACKEN the top air bleed valve until water pours from the bleed valve then close.
6. DISPENSE at full flow for about 5 minutes.
7. DISCARD water.

6. OPERATION

The ***PURELAB Classic*** units have the following modes of operation:

- Intermittent Recirculation
- Manual Dispense
- Sanitization Cycle (See Section 8 - Sanitization Procedure)

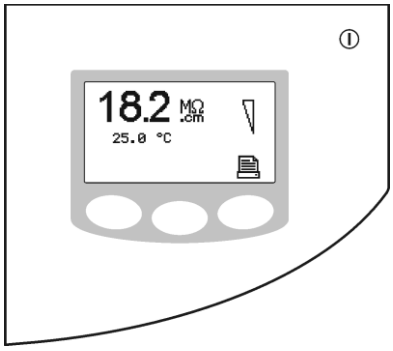
6.1 Intermittent Recirculation

The ***PURELAB Classic*** intermittently recirculates internally to maintain water quality It will circulate the water for 5 minutes every 60 minutes in whisper mode.

After dispense the unit will continue to recirculate for a short period before returning to the intermittent routine.

CAUTION! **If the PROCESS ⓘ button is double clicked the unit will switch off. To maintain water quality the unit should be left switched "on".**

6.2 Manual Dispense



Manual Dispense Screen

Step 1 - Product Quality

1. ENSURE ***PURELAB Classic*** is in process mode and the water quality is satisfactory.

Step 2 - Dispense

1. PRESS Dispense Controller once.
2. ROTATE Dispense Controller clockwise.
3. ADJUST the flow from the unit by rotating the Dispense Controller as necessary.
4. PRESS Dispense Controller once to stop dispensing and return to recirculation mode.

7. MAINTENANCE

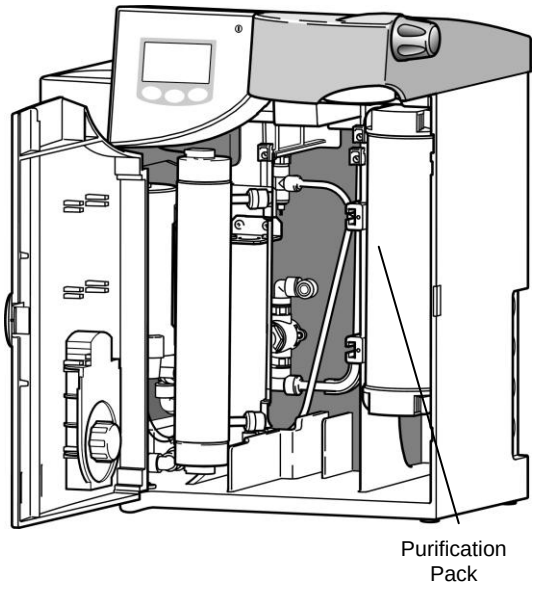
Any maintenance work not detailed in this handbook should be carried out by an approved supplier or distributor. If further information is required on any aspect of maintenance please contact Customer Service.

WARNING! **ALWAYS CHECK THAT THE MAINS ELECTRICAL POWER AND FEED WATER SUPPLIES ARE SWITCHED OFF BEFORE ATTEMPTING TO CHANGE A CONSUMABLE ITEM.**

7.1 Replacing the Purification Pack (LC186)

The Purification Pack should be replaced in the following circumstances:

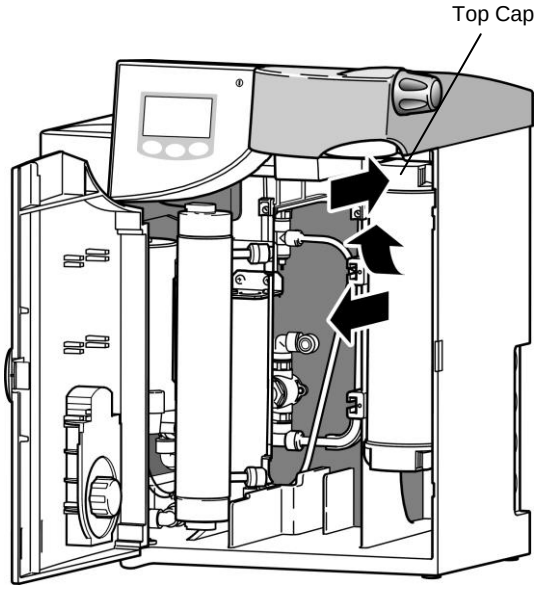
- The quality monitor indicates that the pack requires changing.
- If the system is being e-commissioned or sanitized after an extended period during which it was not used.
- If the pack has exceeded 12 months use as indicated by the consumable reminder alarm.



Location of Purification Pack

Step 1 - Switch Unit Off

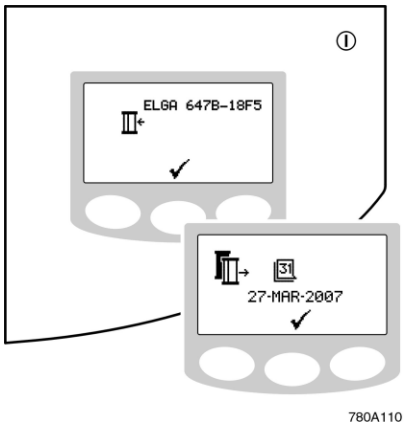
1. SWITCH OFF ***PURELAB Classic*** at the power inlet module.
2. ISOLATE inlet water supply.
3. REMOVE POU filter, if fitted.
4. OPEN the front door.



Removal of Purification Pack

Step 2 - Fit New Purification Pack

1. REMOVE a new Purification Pack from its packaging.
2. REMOVE the sealing plugs from inlet and outlet port.
3. WET 'O' rings and SLIDE new Purification Pack into the right hand position.
4. POSITION Purification Pack onto spigots.
5. PUSH into unit.
6. ENSURE that the Purification Pack is fully engaged and dropped down past the pack retainers.



Purification Pack Installation Screen

Step 3 - Acceptance of Purification Pack Installation

1. SWITCH ON power.
2. PRESS TICK ✓ button to accept the Purification Pack.
3. PRESS TICK ✓ button to calculate Replacement date.

Step 4 - Rinse Purification Packs

1. POSITION a container under the dispense outlet.
2. PRESS PROCESS ⓘ button.

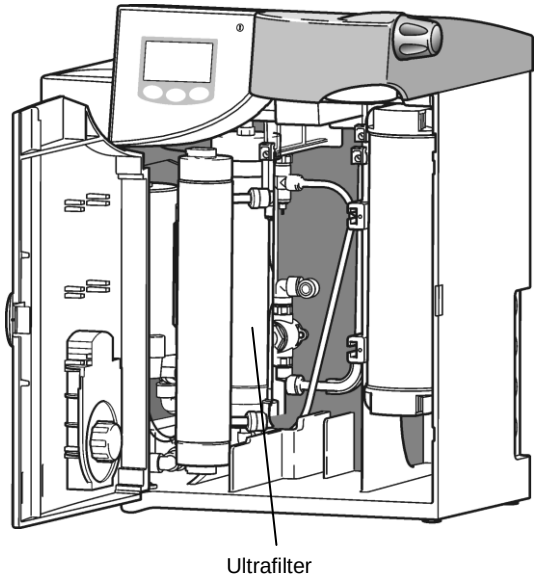
   The unit will start.
3. PRESS the Dispense Controller.

   Note: The unit will start and initially, during this stage, air/water will be purged from the unit.
4. DISPENSE water for 5 minutes. Empty the container as necessary.
5. PRESS the Dispense Controller to stop dispense and return the unit to recirculation.

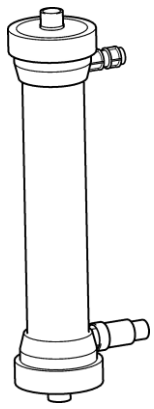
7.2 Replacing the Ultrafilter (LC169)

The Ultrafilter (UF) should be replaced in the following circumstances:

- If indicated by the consumable reminder alarm.
- When low pyrogen levels can no longer be maintained.
- When the required flow rate can no longer be maintained.



Location of Ultrafilter



Ultrafilter LC169

Step 1 - Switch Unit Off

1. SWITCH OFF ***PURELAB Classic*** at the power inlet module.
2. TURN OFF the water supply.
3. REMOVE POU filter, if fitted.
4. OPEN the front door.

Step 2 - Remove Purification Pack

1. SEE Section 7.1 (Step 3).
2. INSERT By-pass block.

Step 3 - Remove the UV

1. See Section 7.4 (Step 2).

Step 4 - Remove the UF

1. UNCLIP UF from spring clips.
2. PULL UF forward to allow access to rear connection.
3. PUSH back outer sleeve of quick connect coupling.
4. UNSCREW bottom cap from UF housing.
5. LOCATE a suitable beaker under the UF.
6. UNSCREW the top cap from the UF housing and allow the water to drain into the beaker.
7. REMOVE the UF from the ***PURELAB Classic***.
8. DRY spilt water from inside the unit.

Step 5 - Ready New UF

1. UNPACK new Ultrafilter.
2. REMOVE the top and bottom brown caps and discard.

Step 6 - Fit New UF

1. REFIT top and bottom connectors to new UF ensuring the ‘O’ rings are correctly located at each end.
2. RECONNECT quick connect coupling.

CAUTION! Ensure tubes are fitted to correct ports.

3. CLIP the new UF into spring clips.
4. REFIT the UV housing on securing screws.
5. TIGHTEN securing screws.

Step 7 - Replace the UV

1. See Section 7.4 (Step 5).

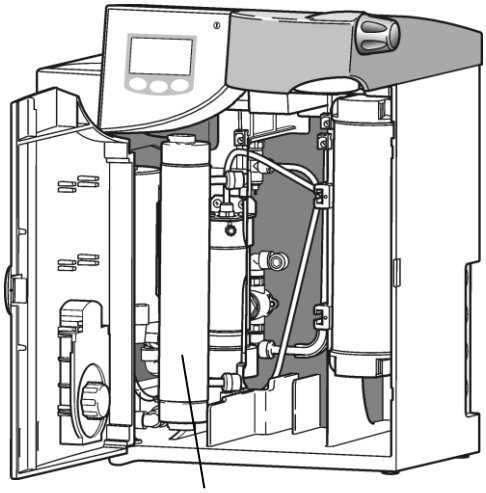
Step 8 - Rinse New UF

CAUTION! **The new Ultra Filter must be rinsed. To rinse the unit enter the Sanitizing Procedure. Ensure the by-pass block is correctly fitted.**

1. SWITCH ON power. The unit will enter sanitization mode. The insert tablet icon will appear, PRESS TICK ✓ to continue.The sanitization recirculation icon will appear, press tick to continue. The unit will begin a 10 minute recirculation.
2. Once the cycle has been completed, the unit will display "open flush valve" indicating that the manual flush valve should be opened.
3. CONNECT a temporary tube from the dispense outlet to a suitable drain or sink.
4. OPEN the flush valve and press the dispense knob, the system will begin its flush sequence.
5. After approximately 3 minutes (countdown is indicated on the display), the unit will sound a buzzer and stop. The unit will display "close flush valve" indicating that the flush valve should be closed.
6. CLOSE the flush valve and press the dispense knob, the system will begin its rinse sequence.
7. Upon completion of the rinse sequence, the "open flush valve" icon will appear again. OPEN the flush valve and PRESS the dispense knob to start the 3:00 flush sequence again.
8. Once this has been completed, the "close flush valve" icon will appear again. CLOSE the flush valve and PRESS the dispense knob to continue. The flush is then complete after a 5 second flush to drain.
9. Ignore the prompt to reset the sanitization date, PRESS TICK ✓ button.

Step 9 - Set UF Change Reminder

1. See Section 5.5 - Setting Up Password/Replacement Timers.



Location of Ultraviolet Lamp

7.3 Replacing the Ultraviolet Lamp (LC170)

The UV lamp should be replaced in the following circumstances:

- If indicated by the consumable reminder alarm, after 12 months use, to avoid the decline in the short wave radiation used to destroy the micro-organisms and to oxidize organics.
- If Lamp Fail Alarm occurs repeatedly.

Step 1 - Switch Unit Off

1. SWITCH OFF ***PURELAB Classic*** at the power inlet module.
2. TURN OFF the water supply.
3. REMOVE POU filter, if fitted.
4. OPEN the front door.

Step 2 - Remove UV from *PURELAB Classic*

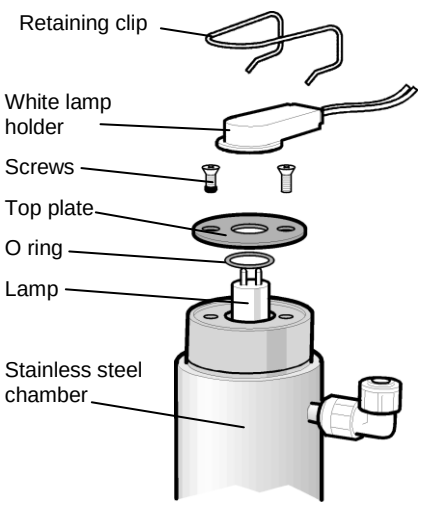
1. LOOSEN two securing screws, which retain UV housing.
2. LIFT and REMOVE UV housing from the securing screws.
3. REMOVE top and bottom retaining clips.
4. UNPLUG the white lamp holder fitted to the bottom of the UV unit.

CAUTION! **Hold on to the pins on the lamp in case it falls out and breaks.**

Step 3 - Remove Lamp Plates (LC170)

1. UNDO screws in plate at top.
2. REMOVE plate at top.
3. UNDO screws in plate at bottom.
4. REMOVE plate at bottom.
5. REMOVE 'O' rings from the UV lamp and retain.

CAUTION! **Hold on to UV lamp whilst removing plates to ensure it does not fall out and break.**



LC170 Lamp

Step 4 - Remove UV Lamp (LC170)

1. REMOVE old UV lamp from the centre bore of the housing.
2. Step 5 - Replace UV Lamp (LC170).
1. UNPACK new UV lamp.

CAUTION! **Take care not to touch the surface of the glass. Ideally wear gloves, handle with soft cloth and wipe the surface with alcohol before fitting into the housing.**

1. SLIDE the new UV lamp into the center bore of the UV housing.
2. Note orientation of pins on each end.

Step 6 - Replace Lamp Plates (LC170)

1. REPLACE ‘O’ rings on the end of the UV lamp.
2. PUSH ‘O’ rings into recesses.
3. REFIT plate on the bottom of the unit.
4. TIGHTEN screws on the plate.
5. FIT plate on top of UV lamp assembly.
6. TIGHTEN screws on top plate.

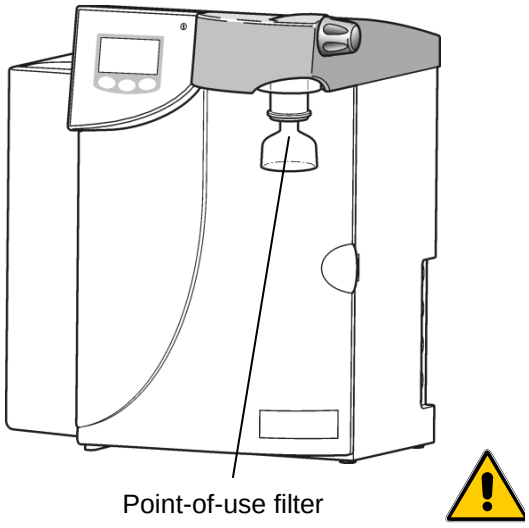
Step 7 - Assemble UV (LC170)

1. PLUG the white lamp clip into the bottom of the UV unit.
2. REFIT spring clip.
3. PLUG in the white lamp clip into the top of the UV unit.
4. REFIT spring clip.
5. REFIT the UV housing on securing screws.
6. TIGHTEN securing screws.

Step 8 - Set UV Change Reminder

1. See Section 5.5 - Setting Up Password/Resetting Replacement Timers.

7.4 Replacing the Point-Of-Use Filter (LC134)



Location of POU Filter

Step 1 - Remove POU Filter

1. UNSCREW the old filter from the fixed dispenser and discard.
2. ENSURE ‘O’ ring seal is still properly located.
3. RINSE connection with IPA or ethanol. Dispense water from the unit for several minutes to flush connection.

Step 2 - Replace POU Filter

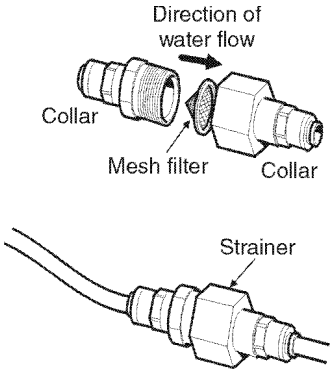
1. REMOVE new filter from its packaging.
2. SCREW filter hand tight into the fixed dispenser until resistance against the ‘O’ ring seal is felt.

CAUTION! Do not over-tighten.

3. PUSH clear bell cover supplied with the filter onto the outlet of filter.

Step 3 - Bleed POU Filter

1. SWITCH ON the ***PURELAB Classic.***
2. PRESS process.
3. PLACE a beaker under the dispenser.
4. PRESS Dispense Controller button.
5. SLACKEN the top air bleed valve until water pours from the bleed valve then close.
6. DISPENSE at full flow for about 5 minutes.
7. DISCARD water.
8. Cleaning the Inlet Strainer (External)



Inlet Strainer

The Inlet Strainer should be checked and cleaned every six months to ensure that the strainer does not become clogged.

7.5 Cleaning Inlet Strainer

Step 1 - Remove the Inlet Strainer

1. SWITCH OFF electrical supply.
2. ISOLATE inlet water supply.
3. HOLD inlet strainer over a sink or receptacle.
4. DEPRESS collars on both sides of strainer and disconnect tubing.
5. REMOVE the inlet strainer from its position.

Step 2 - Dismantle the Inlet Strainer

1. HOLD inlet strainer over a sink or receptacle.
2. UNSCREW inlet strainer.
3. REMOVE mesh filter.
4. CHECK mesh filter for signs of wear or damage, replace or clean as necessary.

Step 3 - Reassemble the Inlet Strainer

1. INSERT mesh filter into strainer, ENSURE it is facing the correct direction (see diagram).
2. RE-ASSEMBLE the inlet strainer.

Step 4 - Replace the Inlet Strainer

1. REPOSITION the inlet strainer.
2. REFIT tubes to inlet strainer, ENSURE it is facing the correct direction.
3. RE-ESTABLISH inlet water supply.
4. SWITCH ON power.

8. SANITIZATION PROCEDURES

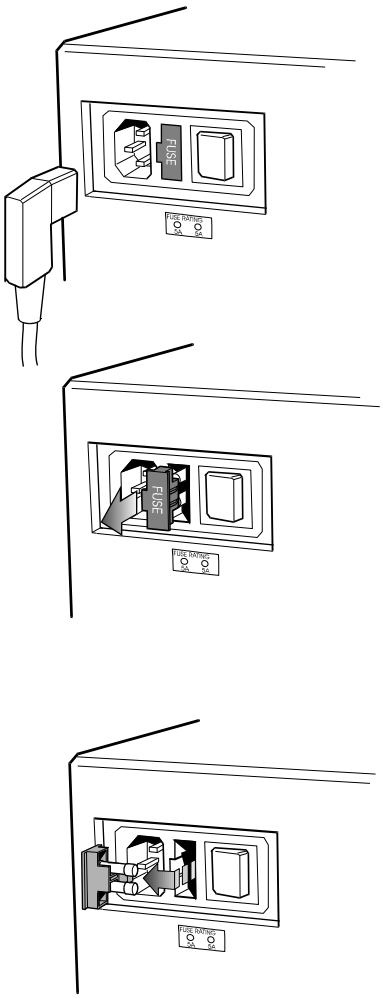
The unit is sanitized to destroy the bacteria within the pipework, and the filters of the unit. Please read this entire section to become familiar with the procedure before you start. Sanitization may be required in the following circumstances:

- If the unit has not been used for a prolonged period of time
- If the product water is used for particularly stringent applications

The components and chemicals required to cmplete the sanitization are not upllied with the product. Please contact your local distributor or reseller for further details.

9. TROUBLE SHOOTING

This section highlights the problems that could occur with the ***PURELAB Classic*** unit and how to rectify them. The unit will normally sound an alarm and the respective icons will flash. The alarm sound can be silenced by pressing the mute button. If the problem cannot be solved using this manual, please call either your supplier or the local ELGA LabWater distributor. *(See Section 13.0 - Useful Addresses).*



Fuse Removal

Problems	Action
No display message	Check mains supply and lead. Check that the mains power is switched on. Check fuses in power inlet module and replace if blown.
Alarm and Flashing Quality value	Mute alarm. Check alarm set value is correct. See Section 5.4 Step 8 - Purity Alarm Settings. Dispense approximately 10 liters of water to drain. Check UF if fitted. If problem persists replace purification pack. See Section 7.1 - Replacing the Purification Packs. If problem persists call Customer Services.
=== MΩ.cm	Feature out of measurement range. Allow unit to recirculate. Replace Purification Packs. See Section 7.1 - Replacing the Purification Packs. If problem persists call Customer Services.
High Water Temperature alarm	Check correct alarm point is set. See Section 5.4 Step 10 - Temperature Alarm Setting. Check feedwater temperature has not risen suddenly. Dispense some water to allow cold water to be drawn into the unit.
Purification Pack Change reminder alarm	Mute Alarm. Replace Purification Pack. See section 7.1 - Replacing a Purification pack.
UF Change reminder alarm	Mute Alarm. Replace UF filter. See section 7.3 - Replacing the UF filter.
UV Change reminder alarm	Mute Alarm. Replace UV filter. See section 7.4 - Replacing the UV Lamp.
Sanitization reminder alarm	Mute alarm. Contact your local reseller or distributor. See Section 8 - Sanitization Procedure.
Reservoir Low level alarm	Mute Alarm. Ensure unit is fed from a reservoir and that the correct feature has been set. See Section 5.4 Step 15 - Reservoir Level. Check feed to the reservoir is operational and that the reservoir is filling.
Reservoir level disconnect fault alarm	Mute alarm. Ensure control lead from reservoir is properly connected. **Note:** unit must be powered down to clear alarm.
Reduced flow from dispenser	Check inlet water strainer. Replace POU filter or Replace UF if fitted. Pump worn, call Customer Services.
Unit Noisy	Open front door and secure pipework to stop vibration.
Unit will not operate	Ensure that the correct Purification Pack is correctly installed. Ensure Purification Pack has a valid consumable date and that the reminder has not been overrun by 12 months.

10. CONSUMABLES AND ACCESSORIES

Consumable	Max. Service Life*	Max. Shelf Life
LC186 Purification Pack - RO Feed	12 months	2 years
LC169 UF	24 months	2 years
LC170 UV Lamp 185	12 months	5 years
LC134 POU Filter	6 months	5 years
LC136** (Composite Vent Filter)	6 months	2 years

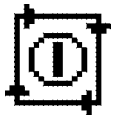
* *Service life is an estimate only, and will depend on the application and feed water quality. Care should be taken to order the correct consumable items.*

** *Required for reservoirs (LA611, LA612, LA613, LA620).*

Accessory	Cat No
Installation kit	LA642
Pressure regulator valve (feedwater pressures >0.7 bar (10 psi) but <4 bar (60 psi)	LA652
Pressure regulator valve (feedwater pressures >4 bar (60 psi)	LA575
Wall mounting kit (***PURELAB Classic*** unit)	LA610
Wall mounting kit US version	LA622
25 liter reservoir	LA611
40 liter reservoir	LA612
75 liter reservoir	LA613
Wall mounting kit (25 & 40 liter reservoir)	LA591
Wall mounting kit (75 liter reservoir)	LA592
RS232 printer kit	LA618
Ultra and Classic remote control station	LA645
Integral dispense gun	LA644
Docking vessel - DV35	LA620

11. KEY TO CONTROL PANEL

11.1 Icons

Icon	Description
	Mute Alarm
	Accept
	Scroll
	Auto Restart
	Manual Restart
	Set Up Menu
	Cursor Option Choice
	Cursor Selection Choice
	Cancel
	Reset
	Printer
	Intermittent Recirculation
	Replacement Date

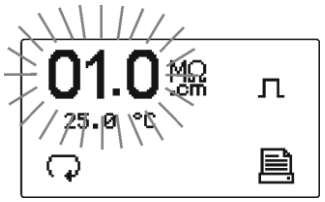
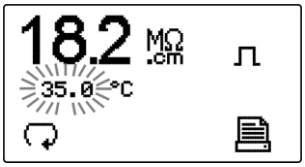
11.2 Alarm Conditions

Icon	Alarm Conditions
 (Flashing)	UV Lamp Failure
 (Flashing)	Bypass fitted - warning
 (Flashing)	Purification Pack not in place
 (Flashing)	Reinstall Purification Pack
 (Flashing)	Clock stopped
 (Flashing)	Reservoir Level - Disconnect Fault
 (Flashing)	Incorrect Password
 (Flashing)	Open UF Flush Valve
 (Flashing)	Closed UF Flush Valve

11.3 Replacement Timers

Icon	Replacement Timer	Preset
	UV Lamp Replacement	1 year
	Purification Pack Replacement	12 months
	Filter Replacement	UF - 2 years

11.4 Quality Alarms

Screen	Description
	Outlet Purity Alarm
	Temperature Alarm

12. WARRANTY/CONDITIONS OF SALE

ELGA LabWater is a trading name of VWS (UK) Ltd.

General Limited Warranty

VWS (UK) Ltd warrants the products manufactured by it against defects in materials and workmanship when used in accordance with applicable instructions for a period of one year from the date of shipment for the products. VWS (UK) LTD MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The warranty provided herein and the data, specifications and descriptions of the VWS (UK) Ltd products appearing in VWS (UK) Ltd's published catalogues and product literature may not be altered except by express written agreement signed by an officer of VWS (UK) Ltd. Representations, oral or written, which are inconsistent with this warranty or such publications are not authorized and, if given, should not be relied upon.

In the event of a breach of the foregoing warranty, VWS (UK) Ltd sole obligation shall be to repair or replace, at its option, any product or part thereof that proves to be defective in materials or workmanship within the warranty period, provided the customer notifies VWS (UK) Ltd promptly of any such defect. The exclusive remedy provided herein shall not be deemed to have failed of its essential purpose so long as VWS (UK) Ltd is willing and able to repair or replace any nonconforming VWS (UK) Ltd product or part. VWS (UK) Ltd shall not be liable for consequential, incidental, special or any other indirect damages resulting from economic loss or property damage sustained by any customer from the use of its products.

Water System Limited Warranty

VWS (UK) Ltd warrants the water systems manufactured by it, BUT EXCLUDING MEMBRANES AND PURIFICATION PACKS, against defects in materials and workmanship when used in accordance with the applicable instructions and within the operating conditions specified for the systems for a period of one year from the earlier of:

a) the date of installation, or
b) the 120th day following the date of shipment.

VWS (UK) LTD MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The warranty provided herein and the data, specifications and descriptions of the VWS (UK) Ltd systems appearing in VWS (UK) Ltd published catalogues and product literature may not be altered except by express written agreement signed by an officer of VWS (UK) Ltd. Representations, oral or written, which are inconsistent with this warranty or such publications are not authorised and, if given, should not be relied upon.

In the event of a breach of the foregoing warranty, VWS (UK) Ltd sole obligation shall be to repair or replace, at its option, any product or part thereof that proves to be defective in materials or workmanship within the warranty period, provided the customer notifies VWS (UK) Ltd promptly of any such defect. The cost of labor for the first ninety (90) days of the above warranty period is included in the warranty; thereafter, labor cost shall be at the customer's expense. The exclusive remedy provided herein shall not be deemed to have failed of its essential purpose so long as VWS (UK) Ltd is willing and able to repair or replace any nonconforming VWS (UK) Ltd system or component part. VWS (UK) Ltd shall not be liable for consequential, incidental, special or any other indirect damages resulting from economic loss or property damage sustained by any customer from the use of its process systems.

Products or components manufactured by companies other than VWS (UK) Ltd or its affiliates ("Non- VWS (UK) Ltd products") are covered by the warranty, if any, extended by the Product manufacturer. VWS (UK) Ltd hereby assigns to the purchaser any such warranty; however, VWS (UK) LTD EXPRESSLY DISCLAIMS ANY WARRANTY WHETHER EXPRESSED OR IMPLIED, THAT THE NON - VWS (UK) LTD PRODUCTS ARE MERCHANTABLE OR FIT FOR A PARTICULAR PURPOSE.

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VWS (UK) Ltd. warrants its products against defects in materials and workmanship as described in the Warranty statement on the preceding pages.

13. USEFUL CONTACT DETAILS

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http://www.elgalabwater.com

or contact ELGA at the number above.