



# SELECT ANALYST

## OPERATING MANUAL


ISSUE - A  
1/9/09



<b>CONTENTS</b>	<b>PAGE</b>
1 DOCUMENT HISTORY	5
2 CONTACT DETAILS	5
3 HEALTH AND SAFETY	7
3.1 Explanation of symbols and references.	7
3.2 Additional safety requirements.	7
3.3 Usage in accordance with intended purpose.	7
3.4 Operating staff.	7
3.5 Bringing the system to a stop in the event of an emergency.	8
3.6 Safety information for maintenance tasks.	8
3.7 Disposing of system parts and operating materials.	8
3.8 Unauthorised conversion & replacement parts.	8
3.9 Warranty claims and liability.	9
4 ABOUT YOUR WATER PURIFIER	11
4.1 The Select Analyst range of units.	11
4.2 Key components of the Select Analyst.	11
5 OPERATING YOUR WATER PURIFIER	13
5.1 Menu structure	13
5.2 Settings menu	14
5.3 Maintenance menu	18
5.4 Engineer menu	19
5.5 Auto restart	20
6 MAINTENANCE, SERVICE & SPARES	21
6.1 Replacing media packs	21
6.2 Cleaning inlet filter	21
6.3 Sanitisation procedure	22
6.4 Service spares	23
7 TROUBLE SHOOTING	25
8 TECHNICAL SPECIFICATION	27
8.1 Product outputs	27
8.2 Treated water specification	27
8.3 Water storage	27
8.4 Fuse rating/ type	27

9	INSTALLATION DETAILS	
9.1	Media cartridge packs	29
9.2	Feedwater supply requirements	29
9.3	Electrical Supply	30
9.4	Unit positioning	30
9.5	Drain connection	32
9.6	Installation of media cartridge packs	32
10	APPENDIX	35
10.1	CE Declaration	35
10.2	WEEE Declaration	36
10.3	Process Flow Diagram	37

## 1 DOCUMENT HISTORY

Issue	Date of Change	Description of Change	Approved by
A		First Issue: 1/09/2009	

## 2 CONTACT DETAILS

We trust the system will meet all your expectations. However, should you have any additional questions concerning the equipment please do not hesitate to contact Purite Ltd at:

Purite Ltd  
 Bandet Way  
 Thame  
 Oxfordshire  
 OX9 3SJ  
 United Kingdom

For all spares and consumable enquiries contact:

Customer Services Department: Tel No. +44(0)1844 217141

For all service enquiries contact:

Service Department: Tel No. +44(0)1844 211555

For further sales enquires contact:

Sales Department: Tel No. +44(0)1844 217141



### 3 HEALTH AND SAFETY

#### 3.1 Explanation of symbols and references



Danger

This symbol refers to any immediate dangers. Failure to follow the specified procedure could result in serious personal injury. Extreme caution should be observed when conducting any activity where this symbol is shown. Work should be completed by a trained competent person.



Warning

Electrical shock. Do not touch electrical components. Before performing tasks on parts of the electrical system, disconnect the system from the power supply.



This symbol refers to a possible danger. Failure to follow the specified procedure could result in personnel injury. Caution should be observed when conducting any activity where this symbol is shown. It is recommended work should be completed by a trained competent person.



Caution

This symbol refers to a possibly hazardous situation. Failure to observe these references may result in minor injuries and/or damage to property.

I

This symbol points out important information for working with the system in the proper manner. Failure to observe these references may result in malfunctions in the system or impact on the environment.

#### 3.2 Additional safety requirements

Country-specific requirements standards and regulations must be observed.

#### 3.3 Usage in accordance with intended purpose.

The units must only be operated with water supplied in accordance with the quality described and the operating parameters specified in "installation details".

The units must not be operated unless in proper working order. Any malfunctions must be rectified immediately.

#### 3.4 Operating staff

Only persons who have read and understood this Operating Manual should be permitted to operate the unit. When operating the units, it is important to observe all safety information.

### **3.5 Bringing the system to a stop in the event of an emergency**

- Switch off via the display.
- Turn off the electrical supply.
- Shut off the water supply.

After remedying the damage:

- Open the water supply.
- Turn on the electrical supply.
- Restart the unit via the main display.

### **3.6 Safety information for maintenance tasks**

The operator must take care to ensure that all maintenance, inspection and assembly tasks are performed by authorised and qualified professionals who have been sufficiently informed regarding the task at hand (via use of Operating Manual).

The system must be shut down and be protected from further use until all repair and maintenance tasks have been completed. It is essential to observe the shutdown procedure as described in this Operating Manual.

Before beginning tasks relating to electrical equipment/components of this system, a check must confirm that power has been disconnected from the corresponding section of the system. In addition, the system must be secured to prevent it from being turned on again unintentionally.

### **3.7 Disposing of system parts and operating materials**

When they need to be discarded, consumables must be disposed of according to local and National requirements.

### **3.8 Unauthorised conversion and manufacturing replacement parts**

Conversion or modification of the system is only permitted with the approval of the manufacturer. The same applies to making changes in the programming for the control system. Original replacement parts and accessories authorised by the manufacturer enhance safety. Use of other parts will void the warranty.



### **3.9 Warranty claims and liability**

This product has been manufactured in accordance with ISO 9001:2008 procedures, after which it was subjected to a quality control process. If, however, you are unsatisfied with the unit, please contact the manufacturer (Purite Limited).



## 4 About your water purifier

The Purite Select Analyst purifies potable water. The water is purified by a combination of processes including; ion-exchange, activated carbon and reverse osmosis.

The purified water produced by the unit complies with latest standards for laboratory grade purified water.

### 4.1 The Select Analyst range of units

- GP: Generation unit (with no close coupled tank).  
IT: Generation unit with close coupled 20 litre water storage tank  
GP BP: Generation unit with feed water boost pump  
BP/IT: Generation unit with close coupled water storage tank and feed water boost pump

Each of the above variants is available with 4 different output flow rates:

- SA 40 6 litres per hour  
SA 80 12 litres per hour  
SA160 24 litres per hour  
SA 320 48 litres per hour

Please note that the above outputs are based on an 8 hour working day at 60psi (4 bar) inlet pressure, 25°C and maximum of 400 ppm total dissolved solids.

The unit type is detailed on its serial plate which can be found on the reverse side of the front cover.

The Select Analyst is provided with an installation kit for quick installation.

Both media packs are provided and packaged separately. Refer to Section 9.1 and 9.6.

### 4.2 Key components of the Select Analyst

#### 4.2.1 Touch screen display

Operation of the Select Analyst is controlled solely through the touch screen display. System schematics are displayed for easy understanding of the unit's process.

#### 4.2.2 Close coupled tank

The close coupled tank holds 20 litres of purified water. To dispense

water a bib tap has been provided at the front of the tank.

Note: Generation units are NOT supplied with a water storage tank

#### **4.2.3 Removable front cover.**

The front cover is easily removed and provides access to the cartridge media packs.

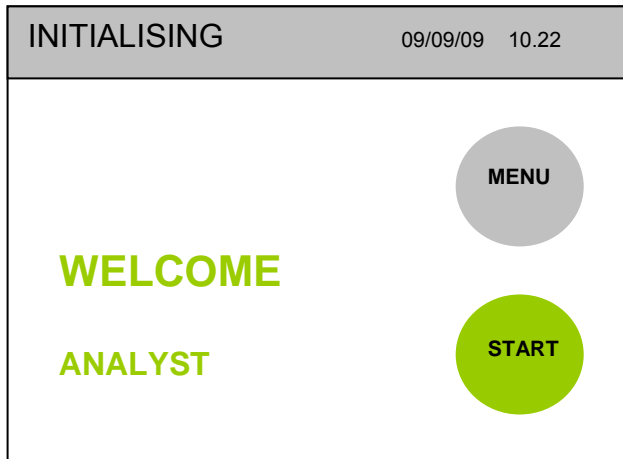


## 5 Operating your water purifier.

Your select Analyst is operated via the touch screen display. Buttons are provided on the display to access both the start-up and set-up menus.

### 5.1 Menu structure (accessed via touch screen display).

#### 5.1.1 Power on screen



When connected to an electrical supply the Power On screen is displayed.

#### 5.1.2 Start up screen

##### Start

Stop

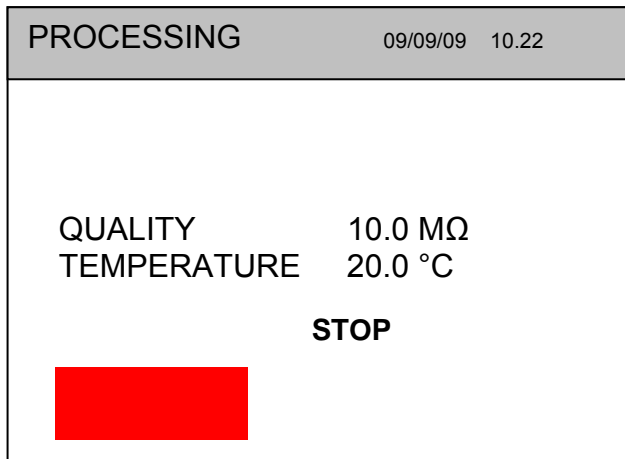
##### Menu

- Language
- Time and date
  - Set time
  - Set date
  - set format
- Maintenance
  - Pre-treatment cartridge pack date
  - Puripac cartridge pack date
- Product Information
- Engineer Menu
- Auto restart
  - Enable
  - Disable

The unit runs an initialisation for 10 seconds before the unit can be activated. To switch the unit on press the **START** button after the initialisation is complete

When start is pressed the following screen is displayed to show the unit is in operation and processing water.

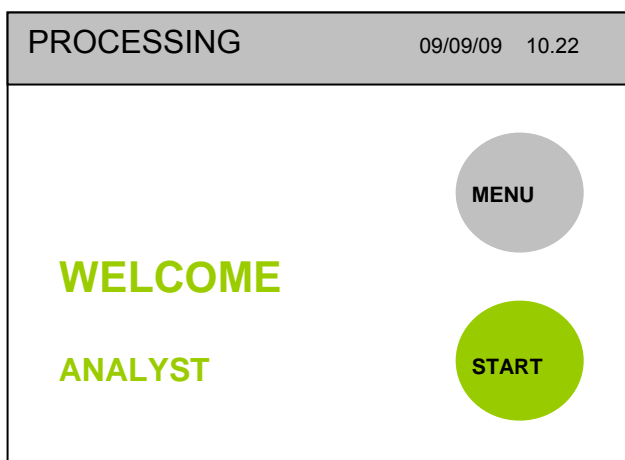
### 5.1.3 Processing screen



- Outlet water quality and outlet water temperature are displayed on the screen for your information.
- A single red button is featured, **STOP**. When pressed the display reverts to the Power On Screen and all functions are terminated.

### 5.2 Settings Menu

Pressing the **MENU** button takes you to the Settings Menu where system parameters can be set up.

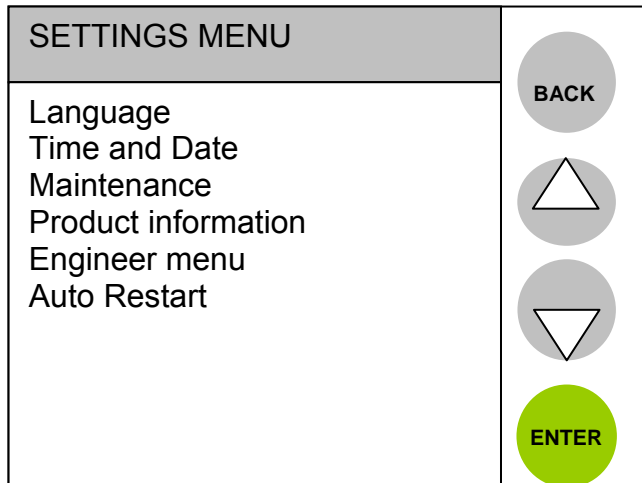


All menu screens feature four buttons **BACK, UP, DOWN, ENTER**.

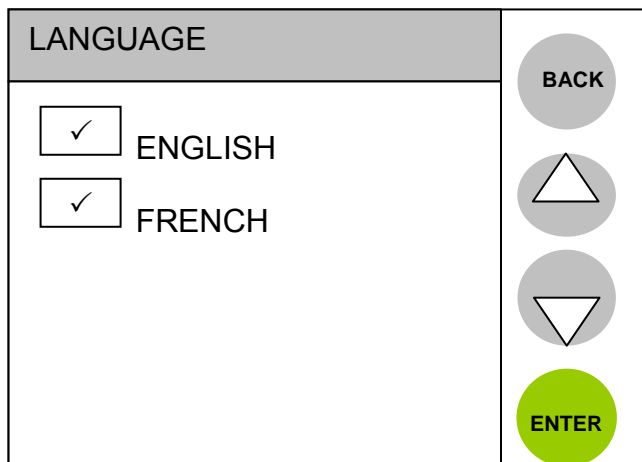
**UP** and **DOWN** are used to move through the available options and/or to increase/decrease numerical vales.

**ENTER** selects to the option highlighted.

**BACK** returns to the previous screen.



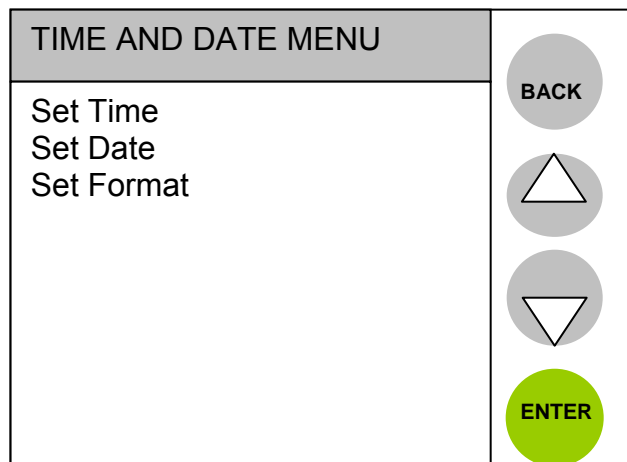
### 5.2.1 Language



Text displays can be set to be shown in either English or French.

Highlight the appropriate tick box by pressing on the relevant screen area and press enter.

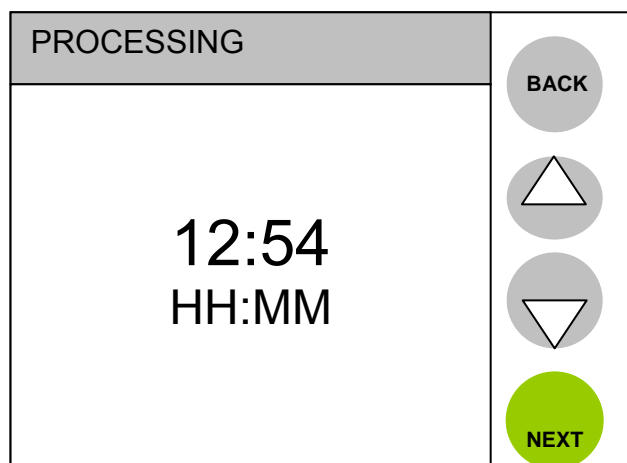
### 5.2.2 Time and date



The system time and date can be set.

- Set time.

The required time is programmed by using the up and down arrows to select correct values, press enter to confirm.





- Set date

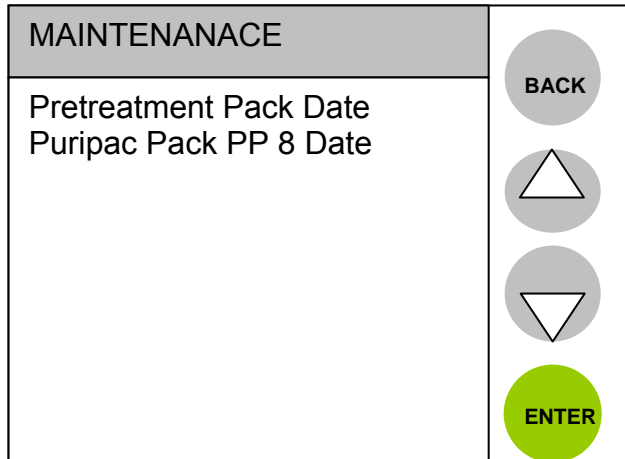
SET DATE	
<p>04/01/09 DD/MM/YY</p>	<p>BACK</p> <p>▲</p> <p>▼</p> <p>ENTER</p>

- Set date format

SET DATE	
<p><input checked="" type="checkbox"/> DD MM YY</p> <p><input type="checkbox"/> DD MM YYYY</p> <p><input type="checkbox"/> MM DD YY</p> <p><input type="checkbox"/> MM DD YYY</p>	<p>BACK</p> <p>▲</p> <p>▼</p> <p>ENTER</p>

### 5.3 Maintenance menu

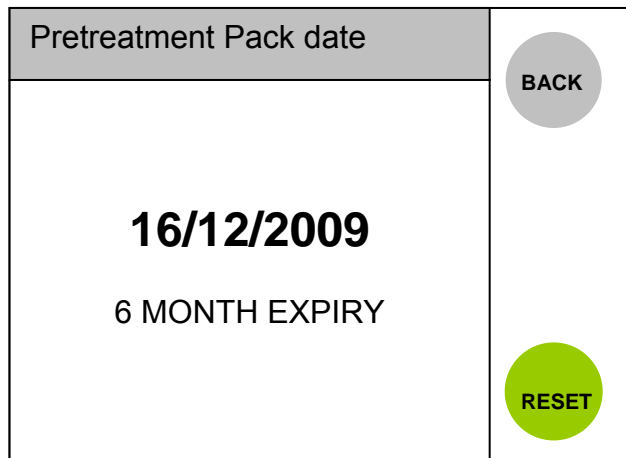
The maintenance menu provides the capability to set defined dates for replacement of media cartridge packs in the device. These dates, when expired, will trigger an alarm which will be displayed on the menu bar.



#### 5.3.1 Pretreatment pack date


When the Pretreatment (PT8) media packs are replaced it is necessary to reset the replacement date. This is done via the Pretreatment Pack date menu.

Enter the menu and press reset. Failure to reset and replace media packs will lead to poor water quality.



### 5.3.2 Puripac pack date

When the PP8/16 cartridge pack is replaced it is necessary to reset the next replacement date. This is done in the Puripac date menu. Enter the menu and press reset. Failure to reset and replace media packs will lead to poor quality water.

Puripac date	BACK
<p><b>16/12/2009</b></p> <p>6 MONTH EXPIRY</p>	

### 5.3.3 Product information

Product Information	BACK
<p>Type: Analyst</p> <p>Serial number: 123456</p> <p>Unit ID: 00</p> <p>Unit Version: R.1.5</p> <p>Pod Version : R.1.6</p> <p>Commissioning Date: 01/01/01</p> <p>Memory Checksum: OxFE66</p> <p>Address 02</p>	

## 5.4 Engineer menu

For Purite service engineers only.

### 5.5 Auto restart

If selected will return the unit into operation automatically in the event of a power cut.

AUTO RESTART	
<input checked="" type="checkbox"/> Disabled	BACK
<input type="checkbox"/> Enabled	
	ENTER

## 6 MAINTENANCE

### 6.1 Replacing media packs

Switch the unit off by pressing the **STOP** button.

Leave the unit to stand for 30 seconds to relieve any internal pressure.

Remove the front door cover by pulling it gently from the unit using the hand holds provided to expose the two media cartridge packs.

Press down the lever over the corresponding cartridge to be removed and pull it away from its retainer.

Discard the exhausted media pack. Remove the new pack from its bag removing the two black plugs from the inlet/outlet ports.

Insert the media pack into the unit locating it securely into its retaining block, push it home until it clicks into position and the retaining lever clicks up.

Press “**START**” and follow the instructions on screen for setting new pack replacement date (see previous section)

After resetting the pack date the unit can be started from the power on screen.

### 6.2 Cleaning inlet screen filter.

- It is recommended that this filter is cleaned at least once per year.
- The inlet screen filter is located in the right hand side of the unit.
- Switch of the water supply at source
- To relieve any residual water pressure, momentarily switch the unit on then off.
- Remove the side panel of the unit.
  - To do so first remove the front cover by pulling it gently from the unit using the hand holds provided.
  - Pull the pod assembly gently forward to disengage the top cover retaining pin.
  - Remove the top cover by lifting up the front and sliding gently backwards.
  - Remove the four retaining screws holding the side panel in place and slide gently backwards.

- The filter is located in the exposed panel on the right hand side of the unit.
- To obtain access to the filter screen unscrew the black knurled top anti-clockwise. The screen will then be exposed. Pull the screen away from the housing and clean away any debris.
- Once cleaned, replace the screen and black top. Replace the side panel and cover using the reverse procedure and switch on the water supply. Start the unit from the power on screen

### 6.3 Sanitisation procedure.

Sanitisation of the unit should be carried out at least once every 6 months.

- Switch the unit off by pressing the **STOP** button.
- The unit will now have reverted to the **POWER ON** screen.
- Turn off the water supply to the unit.
- Open the front door cover to reveal the media cartridge packs.
- Remove both media cartridge packs.
- To sanitise the unit insert a cleaning pack adaptor (Purite part number L998549) into each of the media pack locations.
- Turn on the water supply and start the unit.
- Allow the unit to fill the tank. When the tank is full the unit will stop.
- Allow the unit to stand with a full tank for two hours. Drain the tank using the bib tap located on the front of the tank.
- The unit will automatically restart and begin to fill the tank. When the tank is full drain it and allow it to fill once more.
- When full switch the unit off, drain the tank and fit new media packs. Restart the unit and allow it to fill the tank. When filled, switch the unit off and drain the tank again.



**Once the tank is drained check for residual sanitising chemicals. Only when you are happy that all chemicals have been flushed from the system should the unit be used. Test kits are available, contact Purite for details.**

## 6.4 Maintenance and service spares

	<b>PART No.</b>	<b>DESCRIPTION</b>
MEMBRANE PACK	M996001	Select 40 RO membrane pack
	M996002	Select 80 RO membrane pack
	M996003	Select 160 RO membrane pack
	M996004	Select 320 RO membrane pack
PRETREAT CARTRIDGES	L991542	PT8 Pretreatment pack
	L991544	PT16 Pretreatment pack
PURIPAC CARTRIDGES	L991543	PP8 Puripac cartridge
	L991545	PP16 Puripac cartridge
INSTALLATION & WALL MOUNTS	L300900	Select wall mount kit
	PM00901	Installation kit
	L991110	Feed water pressure regulator
EXTERNAL FILTRATION	L991276	10" Filter housing
	R011044	10µm Filter element
OTHERS	L998549	Cleaning pack adaptor
	R041118	Operator's Manual (extra copies)





## 7 TROUBLE SHOOTING

The touch screen will display various alarms and/or error messages if a fault is identified with the unit. The guide below can be used to rectify common alarms.

Displayed Message	Corrective action	
LHS pack not fitted	Check left hand side media pack is correctly located.	Push into position and listen for a click to ensure it is fully located in it retaining block
RHS pack not fitted	Check right hand side media pack is correctly located.	Push into position and listen for a click to ensure it is fully located in it retaining block
High pressure (BP) variants only	Feed water inlet pressure too high.	Check feed water supply regulation
	Blockage in system	Call service department
Low pressure(BP) variants only	Insufficient feed water pressure	Check feed water supply Check inlet screen
Change Puripac	Puripac cartridge exceeded set date alarm or water quality above set limits	Replace media packs and reset system dates
Line cell error	Faulty cable – open circuit	Call service department



## 8 TECHNICAL SPECIFICATION

### 8.1 Product outputs

Product Outputs	Unit Size			
	40	80	160	320
@ 10 °C	3.6	7.2	14.4	30
@ 25 °C	6	12	24	48

### 8.2 Treated water specification

- Inorganics 1-10MΩ.cm
- pH<sup>1</sup> Neutral
- Bacteria >99% rejection
- Organics (TOC) <50 ppb

<sup>1</sup> pH of stored water may decrease due to absorption of free carbon

### 8.3 Water storage

- Pure water storage Optional 20 litre tank (external 50 and 100 litre tanks available)

### 8.4 Fuse rating / type

IEC module fuse type: - (20x5mm), T5AH250V, conforming to IEC 127  
Number per unit = 2.



## 9 INSTALLATION KIT

Your installation kit comprises the following items.



Contents:  
 3 metres 1/2" Blue hose,  
 7metres 8mm nylon tubing,.  
 1 off Jubilee clip.  
 3 metres ,12mm nylon tubing,.  
 1 off 12mm stem elbow.  
 3 off 8mm stem elbows.

### 9.1 Media cartridge packs



Your Select Analyst is supplied with two different media cartridge packs which are available in two sizes depending on your unit capacity.

A media pretreatment pack and a Puripac polishing cartridge. Size 8 for unit types 40,80,160 and size 16 for unit type 320.

The Select Analyst must be fitted with a media pre-treatment pack PT8/PT16 and a Puripac PP8 /PP16.

The pretreatment pack must be fitted in the left hand position and the Puripac cartridge in the right hand position when viewed from the front.

Refer to Section 6.4, Maintenance and service spares, for re-ordering details.

## 9.2 Feed water supply requirements

The unit has been designed to operate only on potable tap water and should comply with the following limits.

Feed water supply requirements	
Free Chlorine	< 1 ppm as Cl <sub>2</sub>
Total dissolved solids (max)	1000 ppm
Temperature	1-35°C (33.8 – 95° F)
Feed water pressure (max)	90 psi
Feed water pressure (min)	30 psi*
Optimum pressure	60 psi

\* If your feedwater pressure is below this minimum value the performance of the unit will be affected

Contact your water supplier if outside these limits.

## 9.3 Electrical supply

Your Select Analyst will require a single phase electrical supply that meets the requirements below

Electrical Supply	KW Rating	Current Draw (Amps)	External Fuse Rating
Single phase 100-240v ±10%, 50 Hz and Earth	0.1	1.0	5 Amps (conforming to BS1362)

Ensure that the mains supply is provided via a convenient switched outlet and is protected with a 5 amp fuse.

## 9.4 Unit positioning

The Select Analyst has been designed to be bench or wall mounted.

### 9.4.1 Bench mounted

Locate the unit on a suitable work surface, ensuring access to tank dispense bib tap and sufficient clearance to rear of the machine for all water and electrical connections.

All water feed connections are found on the rear of the unit. Using the installation kit provided attach the water feed, drain and overflow tubing as shown below.

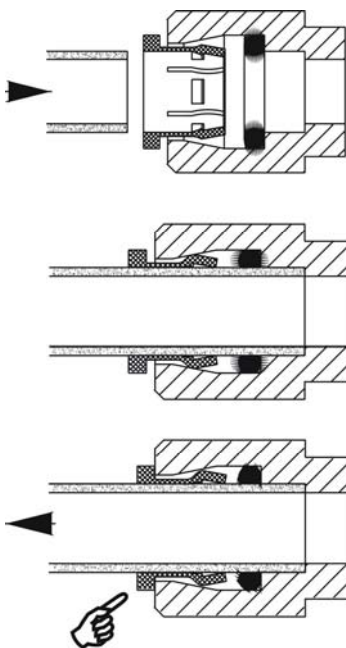
### 9.4.2 Wall mounting

Use a wall mount bracket (Part Number L300900 shown below)



Secure the bracket to a suitable wall. Careful consideration should be given to the strength and suitability of the wall as the working weight of the select Analyst is 50Kg.

Secure the bracket to the wall. Remove the feet of the Analyst by unscrewing them. Place the Analyst on the wall bracket and fix to the bracket using screws through the feet mounting points.



All hoses are connected to the unit via its push fit connectors. To make a connection, the hose is simply pushed in by hand; the unique patented locking system then holds the tube firmly in place without deforming it or restricting flow.

Cut the tube square and push in until the tube stops.  
Ensure the tube is pushed into the tube stop, securing tube in position.

To remove tubing push collet against body and slide tube out of fitting  
Water Inlet connection:

Fit 8mm tubing to the **water inlet** connector found on the rear of the unit and the other end to your water supply.

## 9.5 Drain connection

Attach a suitable length of 8mm tubing to the **drain** connection so that the free end may be inserted into an appropriate drain. The tubing must not be kinked or the flow restricted in anyway.

If the drain is to be run over 5 meters and/or rises above the level of the unit then contact our Service Department for advice.

Attach a suitable length 12mm hose to the **overflow** connection on the unit and run to a suitable drain point. If the drain is to be run over 5 meters and/or rises above the level of the unit then contact our Services Dept for advice.

## 9.6 Installation of media cartridge packs

Remove the door of the unit by tugging gently on the hand hold provided in the door.

Remove the cartridge media packs from their packaging and remove the black protective caps from the inlet and outlet ports.

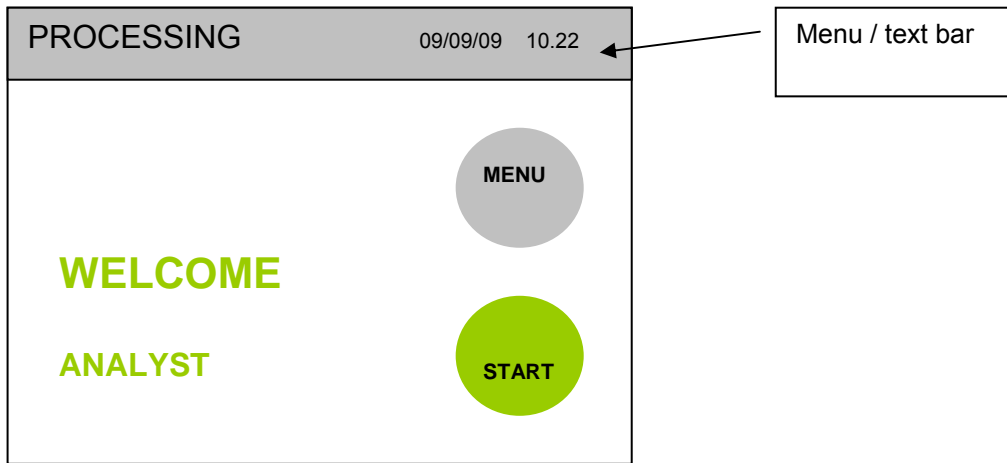


Insert the Pretreatment (PT8 or PT16) in the left hand retaining block pushing it home until it clicks into position and retaining mechanism clicks up.

Insert the Puripac PP8 or PP16 pack in the right hand retaining block pushing it home until it clicks into position and retaining mechanism clicks up.

- Replace the door by locating the top of the door under the retaining mouldings and lifting the bottom of the door until it slides home.
- Switch on water supply to the unit.
- Switch on the electrical supply to the unit.
- This touch screen display will illuminate and display the start screen.







## 10 Appendix

### 10.1 CE declaration

**PURITE**  
FIRST FOR PURE WATER

**Purite Limited,**  
Bandet Way, Thame  
Oxon, OX9 3SJ, UK.  
**Tel:** +44 (0)1844 217141  
**Fax:** +44 (0)1844 218098  
**Web site:** www.purite.com  
**Email:** mail@purite.com  
Company Registration  
No. 1464412

### CE DECLARATION OF CONFORMITY

**We, the Manufacturer:**

Purite Limited, Bandet Way, Thame, Oxon, OX9 3SJ. United Kingdom  
Declare under sole responsibility that the SELECT/PRESTIGE product range covered by this declaration, conforms with the essential protection requirements of the following Directives:

**Applied Council Directives:**

2004/108/EC - Electromagnetic Compatibility Directive (EMC).

2006/95/EC - Low Voltage Directive (LVD).

(Standard Applied: EN 61010-1:2001-02, Safety requirements for electrical equipment for measurement, control and laboratory use Part 1: General requirements).

The SELECT/PRESTIGE range covered by this declaration is as follows:

HP 40, 80, 160, 320, 640 with and without BOOST PUMP  
BIO 40, 80, 160, 320, 640 with and without BOOST PUMP  
PRESTIGE DESCALE PD50/50H/100/100H/150/250  
FUSION 40,80,160 with and without BOOST PUMP  
BECKMAN HP320  
NEPTUNE ANALYTICAL, LIFE SCIENCE, ULTIMATE

Purite Limited's liability under this declaration is limited to that set forth in the current Purite Limited Terms and Conditions of Sale.

Signature: 

Full Name: R S Keep  
Position: Director  
Date of issue: 05.08.07

Appendix F



## 10.2 WEE declaration



Users in the United Kingdom who wish to discard electrical and electronic equipment that was supplied by Purite should contact B2B Compliance on 01691 676 124.

Users in other European Union countries should contact their Producer, who will be the organisation in their country that supplied the product.

### **Information on disposal in other countries outside the EU**

This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

### 10.3 Process flow

(to be read in conjunction with flow diagram)

All external hydraulic and electrical connections are positioned at the rear of the unit, in order to protect them from accidental damage.

On entering the Select Analyst an internal feed water strainer removes any large debris remaining in the feed water supply. When operated, an inlet solenoid opens and allows water to pass to the reverse osmosis boost pump (option).

The boost pump increases the feed water pressure to a level to enable the reverse osmosis (RO) membranes to operate efficiently.

Prior to entering the RO modules the water is passed through a pre-treatment pack to remove chlorine from the feed water to protect the RO membranes.

The Pre-filtered, water enters the reverse osmosis module/s. Purified water passes through the membrane and is termed; the permeate (85-95% of salts removed). The water containing the rejected salts passes across the membrane and out of the RO module to drain and is termed, the concentrate.

The concentrate flow rate is controlled by a fixed orifice restrictor located in the drain line.

The, permeate is further purified by a Puripac media cartridge containing mixed ion-exchange resin and activated carbon. The deionised water then feeds directly into the integral 20 litre storage tank. Water can be dispensed from this tank via the front mounted bib tap.

Flow diagram

