

# PUR1TE

FIRST FOR PURE WATER



## Select Fusion...

The Select Fusion Range  
The simple combination of performance  
and flexibility.

# Select Fusion . . . the flexible Concept.

A range of water purification units to produce ultrapure water (UPW) direct from a mains water supply.

## The Select Fusion Range

Provides dual quality laboratory water for analytical and life science applications direct from potable feedwater. The Fusion range is ideal for users requiring relatively low volumes of ultrapure water (5 - 15 litres/day of 18.2 MΩ.cm quality) in addition to water for general laboratory use.

### Simple To Use

- High production rates of up to 14 litres/hour for grade II water, and up to 1 litre/minute for UPW at high purity dispense point
- Automatic recirculation maintains UPW water quality
- Standby recirculation mode protects against deterioration during periods of non-use
- Print out via RS232 port provides permanent records for traceability if required

### Simple To Own

- Easy change disposable cartridge packs for long life
- Automated cleaning and sanitising routines
- Audible alarms for key system conditions
- Alarms for cartridge or ultraviolet (UV) change
- Validation – where traceability is required, an optional validation pack can be purchased with the system

### Simple To Install

- Each unit supplied with installation kit and first set of consumables
- Wall or bench mounting
- Optional boost pump accommodates low feed water pressure (<2 bar)\*



### Simple To Monitor

- Easy to view display for system parameters including:
  - System status
  - Water quality
  - Total Organic Carbon (TOC)
  - Temperature
  - Flow
- Audible and visual alarms for critical parameters

### Simple To Dispense

- Three UPW dispense options:
  - Manual – press to dispense
  - Latched – press for continual dispense until cancelled
  - Preset – user sets a volume and presses for exact dispensing
- Grade II water is available from the tank bib tap

### Simple To Choose

- 3 models available, all producing water of two different qualities:
  - Ultrapure water (18.2 MΩ.cm) at the high purity dispense point
  - Grade II quality water (1 - 15 MΩ.cm) from the 20 litre integral tank

Unit Size	40	80	160
Make up in litres/hr @ 25°C	6	12	24
Make up in litres/hr @ 10°C	3.6	7.2	14.4

Output results generated at 60psi / 4 bar. If pressure is below 60psi / 4 bar output will be reduced accordingly.

For illustration, at 30psi / 2 bar output would be up to 50% below these values

# Select Fusion as your flexible Solution.

For a variety of laboratory applications

## Technology

The Select Fusion uses an array of technologies to produce purified water, including:

**Pre-treatment** – To protect the reverse osmosis (RO) membrane, an external pre-treatment filter assembly is supplied for the removal of free chlorine and particulates. These would otherwise affect the performance and life of the RO membrane.

**Reverse Osmosis (RO)** – RO is a process where water under pressure is applied to a specialised membrane, resulting in purified water passing through the membrane while up to 98% of the ionic contaminants are rejected. High efficiency RO membranes are incorporated in all Select Fusion units as the first stage of deionisation.

**Ultraviolet (UV)** – a dual wavelength 185/254nm UV unit is incorporated in each Fusion. Photo-oxidising UV at 185nm is used to oxidise organic compounds into smaller, charged ionic species that can then be removed by ion exchange.

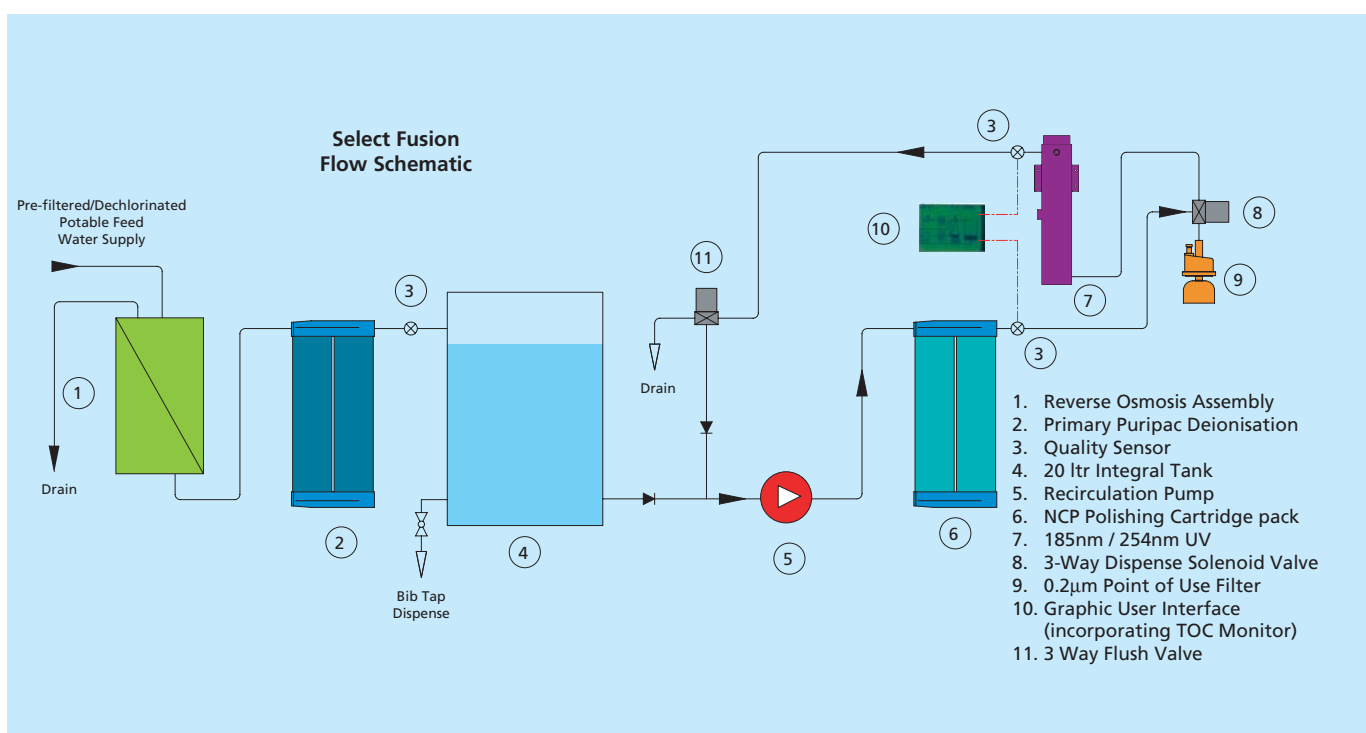
UV at 254nm is germicidal and if correctly sized will achieve greater than a 99% reduction in bacteria. This disinfection mechanism is utilised in all Select Fusion units.

**Ion Exchange** - each Select Fusion unit contains two different deionising cartridge packs:

The first deionising pack is a Puripac that contains activated carbon and nuclear grade mixed bed ion exchange resin. This stage will remove most of the residual ionic and organic contamination. The NCP polishing cartridge pack contains an intimate mix of monospherical semiconductor grade mixed bed deionising resin with a low TOC leaching profile. These high purity and activated carbon media have been chosen due to their ability to rapidly produce water of 18.2 MΩ.cm quality with extremely low TOC.

**Filtration** – all models contain a 0.2µm filter at the dispense point to remove particulates and bacteria.

In all cases the water is recirculated to maintain quality, and a standby mode can be user selected. This periodically recirculates water during extended periods of non-use to prevent stagnation and bacterial growth.



## Specifications for Select Fusion

Technical Data	High Purity Dispense	Tank
BS EN ISO 3696	Grade I+	Grade II
ASTM D1193-99E1	Type I	Type III
Resistivity @ 25 °C	18.2 MΩ.cm	1 – 15 MΩ.cm
pH	6 - 8	6 - 8
TOC (ppb)	<10	<50
Bacteria	<1 cfu/ml	<99% rejection
Particles	0.2µm free	N/a
Organics	<0.001AU@254nm	N/a
Residual solids (ppm)	<0.1	<0.5

Dimensions		Installation Requirements	
Width (mm)	440	Power Requirements	100 - 240V / 50 - 60Hz
Depth (mm)	548	Feedwater Requirements	1000 (ppm) TDS potable mains supply
Height (mm)	630	Maximum Inlet Pressure (bar)^	6
Shipping weight (kg)	22	Minimum Inlet Pressure (bar)*	2
Working weight (kg)	42	Feedwater Temperature	1 - 40°C
Height, width and depth are maximum measurements		^Optional pressure regulator accommodates high water feed pressure (>6 bar) *Optional boost pump accommodates low water feed pressure (<2 bar)	

Errors and omissions excluded. Purite reserves the right to change specification without notice.

## Other Purite Solutions

### Polishing



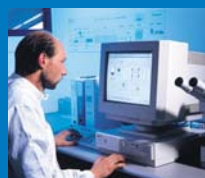
Purite offer models to further purify water resulting in Type I water with a resistivity of 18.2MΩ.cm and TOC of <1ppb.

### Systems



For larger applications, Purite can design, install and project manage bespoke solutions for a variety of flows and water quality requirements.

### Service



A range of preventative maintenance contracts covering all Purite and OEM equipment is available.

### Exchange



This simple to manage solution produces pure water in easy to dispense volumes.

