

# Introducing...the Neptune



- Units that provide guaranteed 18.2 M $\Omega$ .cm water
- For analytical and life science laboratory applications

The latest addition to the Select Range  
When only the purest water will do

# Neptune ... the Concept

Water purification units for ultrapure water

## The Select Neptune Range

Provides ultrapure water (UPW) for analytical and life science laboratory applications. All Neptune units will generate guaranteed 18.2 MΩ.cm quality water from a feedwater source of <20 μS/cm.



### Simple To Dispense

- Manual – press to dispense
- Preset – user sets a volume and presses for exact dispensing

### Simple To Monitor

- System status
- Water quality and flow
- Temperature and pressure
- Total Organic Carbon (TOC) indicating <1, <5, <10 ppb
- BMS output
- Intelligent monitoring system (IMS) switches unit to standby during periods of non-use
- Data logging facility permanently records for traceability

### Simple To Install

- Each unit supplied with installation kit and first set of consumables
- Wall or bench mounting
- Pressurised outlet can be used to feed external analyser systems.
- Automatic air bleed for internal filter

### Simple To Choose

- 3 models available, all producing ion-free (18.2 MΩ.cm) water
- High production rates of up to 2 litres/minute
- Analytical – low TOC specification
- Life Science – low bacteria and endotoxin specification
- Ultimate – combines the benefits of both Analytical and Life Science models

### Simple To Own

- Easy change disposable twin cartridge packs for long life
- Automated cleaning and sanitising routines
- Audible alarms for key system conditions
- Alarms for cartridge, UV and filter replacement
- Automatic recirculation maintains water quality
- Remote controller



# Neptune ... the Solution

For a variety of critical laboratory applications

## Technology

The Select Neptune Range uses an array of technologies to produce ion-free water, including:

**Ultraviolet (UV)** – There are two types of UV technology employed in the Neptune range:

185nm, or photo-oxidising UV, is used to break organic compounds into smaller, charged ionic species that can then be removed by ion exchange. This technology is present in both the Analytical and Ultimate models where low TOC is required.

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

**Ion Exchange** – The Neptune cartridge pack contains an intimate mix of monospherical semiconductor grade mixed bed deionising resin with a low TOC leaching profile and a high activity organic adsorption media. This specialised mix of media has been chosen to rapidly produce water of 18.2 MΩ.cm quality with extremely low TOC.

**Filtration** – The **Life Science** and **Ultimate** contain a 0.2µm filter at the dispense point to remove particles and bacteria and a 0.05µm ultrafilter to remove endotoxins.

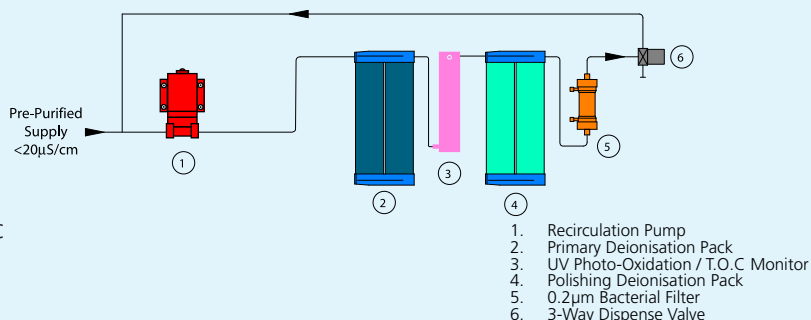
The **Analytical** contains a 0.2µm internal filter for the removal of bacteria.

In all cases the water is recirculated to maintain quality. To save on consumable life the processor controlled intelligent monitoring system will continuously monitor usage and automatically revert to standby operation following periods of prolonged inactivity.

## Models:

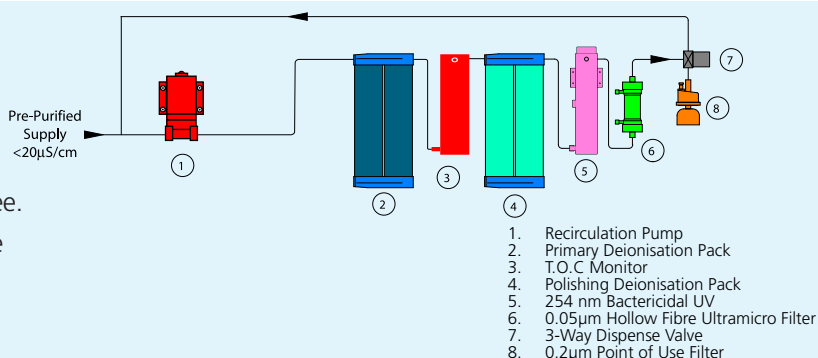
### Neptune Analytical Process Flow:

Produces UPW with a guaranteed resistivity of 18.2 MΩ.cm at 25 °C, with <1ppb TOC and bacteria <1cfu/ml. Typical uses include Ion chromatography, Gas chromatography and Atomic Absorption Spectroscopy.



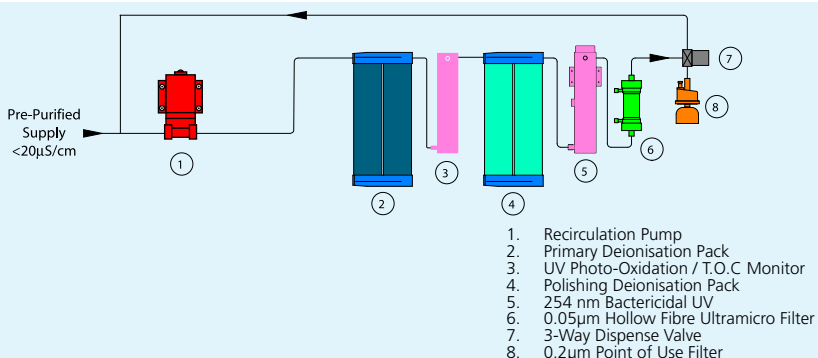
### Neptune Life Science Process Flow:

Produces UPW with a guaranteed resistivity of 18.2 MΩ.cm at 25 °C, with bacteria <0.1cfu/ml and endotoxin <0.02 EU/ml. RNAse and DNAse free. Typical uses include molecular biology, IVF, genome research, and critical cell culture.



### Neptune Ultimate Process Flow:

Produces UPW with a guaranteed resistivity of 18.2 MΩ.cm at 25 °C, with <1ppb TOC, bacteria <0.1cfu/ml, and endotoxin <0.02 EU/ml. RNAse and DNAse free.



UPW = ultrapure water

## Specifications for all Neptune Units

Technical Data	Analytical	Life Science	Ultimate
Resistivity @ 25 °C	18.2 MΩ.cm	18.2 MΩ.cm	18.2 MΩ.cm
Output litres/min @ 25 °C	2	1.5	1.5
pH	6 - 8	6 - 8	6 - 8
TOC	<1ppb	<5ppb	<1ppb
Bacteria	<1cfu/ml	<0.1cfu/ml	<0.1cfu/ml
Endotoxins	N/A	<0.02EU/ml	<0.02EU/ml
Particles	0.2µm	0.05µm	0.05µm
Capacity	60,000 litres per deionising pack on 1µS/cm feedwater quality*		

\*No carbon dioxide present

Dimensions		Installation Requirements	
Width (mm)	410	Power Requirements	100 - 240V / 50 - 60Hz
Depth (mm)	548	Feedwater Requirements	<20 µS/cm filtered to 0.2µm
Height (mm)	630	*Maximum Inlet Pressure (psi)	20
Working weight (kg) max	24	Minimum Inlet Pressure (psi)	1
		Feedwater Temperature	1 - 35°C

Height, width and depth are maximum measurements

\*For inlet pressure greater than 20 psi, the pressure regulating valve (supplied) must be installed.  
Errors and omissions excluded. Purite reserves the right to change specification without notice.

## Other Purite Solutions

### 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.

