

LABORATORY PRODUCT GUIDE



THE NEXT GENERATION OF LABORATORY
WATER PURIFICATION SYSTEMS



PURITE WATER PURIFICATION SYSTEMS

Purite specialises in the design, development and manufacture of advanced, high performance laboratory water purification systems.

Every system is designed to meet the needs of specific applications, providing high levels of water quality, consistency and reliability using a wide range of advanced technologies.

Purite also offers full technical support, training and aftermarket services, to ensure a maximum return on investment and unrivalled value for its customers.

WHICH PURITE SYSTEM?

Purite systems offer the best water purification solution for laboratory applications. Each system is designed to provide the exact purity and volume of water required based on the quality of the feed water and the nature of the application, while also meeting storage and distribution requirements.



THE NEXT GENERATION OF WATER PURIFICATION

The Select range of high performance water purification systems offers a unique combination of reliability, quality and functionality for all laboratory applications.

Built upon core water purification techniques, the range offers a flexible package to suit a wide range of applications.

The key benefits of the Select range include:

Range of technologies

- Reverse osmosis; a total membrane process which can remove >98% minerals and >99% bacteria from potable water.
- Irradiation; applied at 254 or 185nm to destroy micro organisms or to reduce Total Organic Carbon (TOC) levels.
- Filtration; incorporates a wide range of sub-micron ratings which can be used to effectively reduce levels of bacteria, endotoxin, RNases and DNases from ultrapure water.
- Ion-exchange; specifically selected nuclear grade resin combined with high activity absorbents to produce an ultra pure water quality (18.2MΩ.cm) with low TOC.

Easy to use

- A clear touch screen panel for easy menu navigation providing fingertip diagnostic functionality.
- A range of menu features simplify operation and identification of key parameters.
- Multiple dispense options available.

Easy to maintain

- The Select range of long life cartridge packs and consumables are easy to change.
- Semi-automated cleaning and sanitising routines minimise operator intervention.
- Audible alarms for critical system conditions or routine operations.
- QR codes for video viewing of consumable changes.

Complete reliability

- High quality, long life pre-treatment modules based on proven technology ensure a consistent supply of purified water.
- Data capture as standard.

Quick to configure and install

- A modular, optimised design enables quick system construction and configuration and simplifies installation and set-up.
- QR codes for video viewing of installation procedure.

Maximum flexibility

- A space-saving design, with minimal external connections makes the units portable around the laboratory and allows for bench-top, wall mounted or under bench installation.
- Select HP, Fusion and Neptune offer additional flexibility via the option of a remote dispensing pod.

Easy to service

- Service engineers are available as part of our maintenance care programmes, which can be tailored to meet your exact requirements.

Accreditation

- Water qualities comply with the BS EN ISO3696 and ASTM D1193-06 industry standards and all units are manufactured within ISO9001:2008 guidelines.



SELECT TANK AND PUMP

The Select tank and pump range stores and distributes purified water. It is designed for use with the Select range of water purification units.

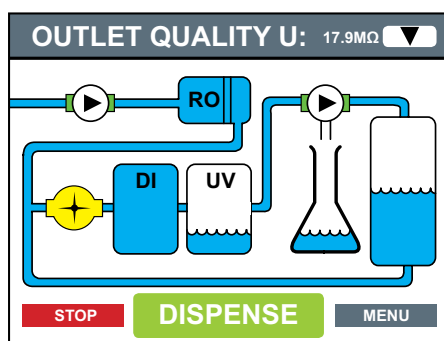
The range includes four models that offer either 50 or 100 litre working volume and capable of delivering flow rates of up to 300 litres per hour at 4 bar.

THE SELECT PRODUCT RANGE

The Select range of water purification systems is available in five standard models: Analyst, HP, Purewater 300, Fusion and Neptune. All providing outputs of 4 to 48 l/hr.

As well as Select tank and pump, additional options for the Select range include external tanks with ultraviolet (UV) and 0.2µm air vent filters.

TOUCHSCREEN PANEL EXAMPLE*



* for illustration guide only



LABORATORY SPECIFICATIONS

	Analyst		HP / Fusion		Purewater	Neptune	50 L Tank	100 L Tank
	40 / 80 / 160	320	40 / 80 / 160	320				
Width (mm)	440					310	430	430
Depth (mm)	560					560	570	570
Height (mm)	750					750	670	750
Max shipping weight (kg)	28	33	36	41	25	21	-	-
Max working weight (kg)	43	51	51	59	51	29	-	-
Installation requirements								
Power	100-230V/50-60 Hz						-	-
Feed water	Potable					<20µS/cm	-	-
Maximum TDS (ppm)	1000					<20	-	-
Minimum inlet pressure – psi (bar)	30 (2.1)					5 (0.34)	-	-
Maximum inlet pressure – psi (bar)	90 (6.2)					20 (1.38)	-	-
Feed water temperature	1-35°C							

THE SELECT SPECIFICATIONS:

Product Outputs*	Unit Size			
	40	80	160	320
@ 10°C (l/hr)	3.6	7.2	14.4	30
@ 25°C (l/hr)	6	12	24	48

*Product outputs based on a feed water pressure of 4 bar

Treated Water Quality Specification	Analyst	HP
Inorganics	>1MΩ.cm	>10MΩ.cm
pH ¹	Neutral	
Bacteria	>99% rejection ²	<1cfu/ml
Organics – TOC (ppb)	<50	<20
Particles	–	<0.1µm
Endotoxins	–	–
DNases	–	–
RNases	–	–

¹ pH of stored water may decrease due to absorption of free carbon dioxide

² When measured directly across the membrane

Technical Specification	Analyst	HP
Pure water storage	Optional 20 litre (External 50 & 100 litre tanks available)	
Display panel	LCD – Colour touch screen	
Pre-treatment cartridge	✓	✓
Reverse osmosis	✓	✓
Deionisation cartridge	✓	✓
Internal filtration	x	0.1µm
Point of use	x	0.2µm
UV lamp	x	✓*
Recirculation pump	x	✓

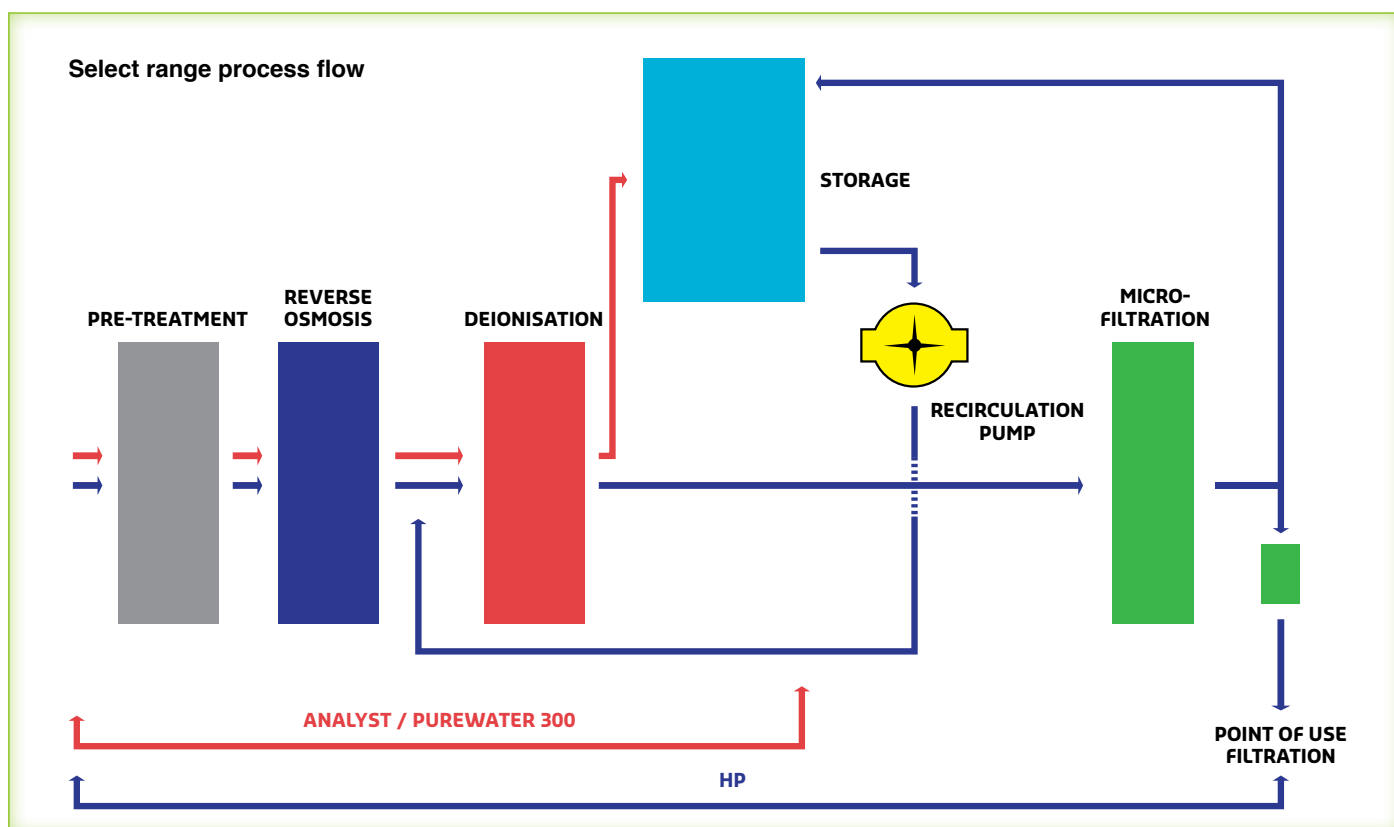
*External tank version only

SELECT ANALYST

The Select Analyst is ideal for everyday pure water laboratory tasks, including glassware rinsing, buffers and stains, reagent make-up, and media preparation.

SELECT HP

The Select HP provides a consistent supply of high quality pure water, making it suitable for HPLC, ion chromatography, atomic absorption, and clinical analyser feed.



SELECT PUREWATER 300

The Select Purewater 300 is designed specifically for use with laboratory glassware washing machines, providing rinse water to a purity of over 1MΩ.cm at a flow rate of up to 48 litres per hour.

The system is compact, robust, simple to use and easy to maintain, using proven pre-treatment, reverse osmosis and ion-exchange deionisation technology to ensure a reliable and consistent supply of purified water.

The unit has standard connections for quick installation, with a high flow outlet that fits easily to most glassware washing machines using a conventional gravity feed. It incorporates a standard 20 litre integral tank or can be supplied with an optional external 50 or 100 litre tank for extra capacity.

Treated Water Specification	Purewater 300
Inorganics	>1MΩ.cm
pH ¹	Neutral
Bacteria	>99% rejection ²
Organics – TOC (ppb)	<50

¹ pH of stored water may decrease due to absorption of free carbon dioxide

² When measured directly across the membrane

Technical Specification	Purewater 300
Pure water storage	20 litre tank (External 50 & 100 litre tanks available)
Display panel	LCD – Colour touch screen
Pre-treatment cartridge	✓
Reverse osmosis	✓
Deionisation cartridge	✓
Output @ 25°C	48 l/hr
Output @ 10°C	30 l/hr



SELECT FUSION

The Select Fusion is purpose built for analytical and life science applications that need small volumes of ultrapure water to 18.2MΩ.cm from a mains supply, typically up to 50 litres per day, in addition to purified water for general laboratory use.

The self-contained, dual quality system integrates pre-treatment, reverse osmosis, UV photo-oxidation, ion exchange and sub-micron filtration technology in a single, robust and compact enclosure.

A high contrast LCD shows system status, including water quality, TOC, temperature and flow rates. Visual and audible alarms are also included, while event data can be downloaded via a standard USB port.

The system provides take-off through either an ultrapure water dispenser or a separate bib tap. When it is not being used, water quality is enhanced by automatic recirculation.

The Select Fusion can be wall or bench mounted and is supplied with an installation kit and a full set of consumables.



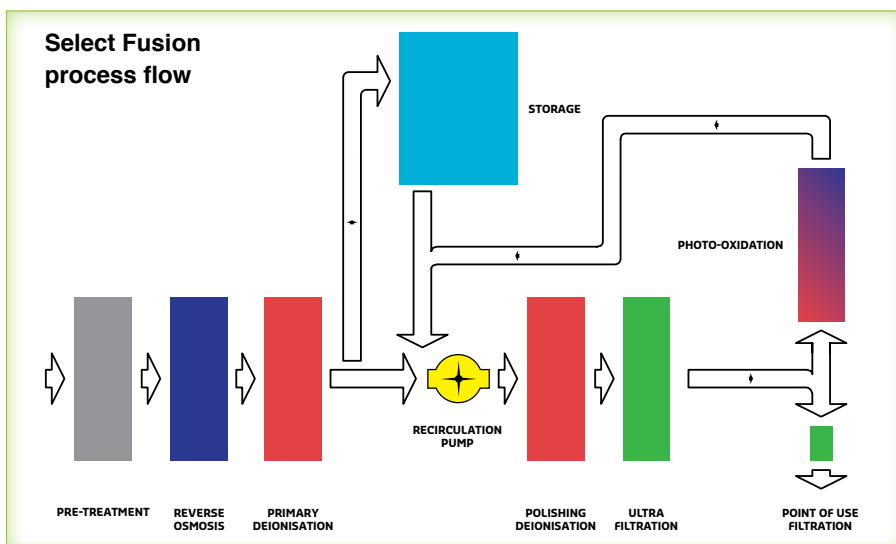
Treated Water Specification	High Purity Dispense	Purified Water Storage Tank
Inorganics	up to 18.2MΩ.cm	>1MΩ.cm
pH ¹	Neutral	
Bacteria	<0.1 cfu/ml	>99% rejection ²
Organics – TOC (ppb)	<5	<50
Particles	<0.2µm	–
Endotoxins	<0.001EU/ml	–
DNases	<4pg/µl	–
RNases	<0.01ng/ml	–
Dispense modes	Latched – hold – volumetric	
Dispense flow rate	up to 2.0 l/min	up to 2.0 l/min

¹ pH of stored water may decrease due to absorption of free carbon dioxide

² When measured directly across the membrane

Product Outputs*	Unit Size			
	40	80	160	320
@ 10°C (l/hr)	3.6	7.2	14.4	30
@ 25°C (l/hr)	6	12	24	48

* Product outputs based on a feed water pressure of 4 bar



Technical Specification	Fusion
Pure water storage	20 litre
Display panel	LCD – colour touch screen
Pre-treatment	✓
Reverse osmosis	✓
Deionisation cartridge	✓
Ultrapure polishing cartridge	✓
UV lamp	185 / 254nm
Internal filtration	Ultrafiltration
Point of use filtration	0.2µm
Recirculation	✓

SELECT NEPTUNE

The Select Neptune range provides a high flow of guaranteed 18.2MΩ.cm ultrapure water for analytical and life science laboratory applications.

Three models are available in the range: Analytical, featuring a low TOC specification; Life Science, offering low bacteria, endotoxins and RNases/DNases specification; and Ultimate, which combines the benefits of both the Analytical and Life Science models. Each unit produces between 1.5 and 2 litres of ultra-pure, 18.2MΩ.cm, purified water per minute from a feedwater source of <20µS/cm.

The range utilises a number of proven technologies to produce ultra-pure, 18.2MΩ.cm water, including:

- Ion exchange cartridges incorporating monospherical, semiconductor grade mixed bed deionising resin with a low TOC leaching profile and a high activity organic absorption media.
- Sub-micron and ultrafilter to remove particles, bacteria and endotoxins.
- 185nm or photo-oxidising UV to cleave organic compounds into smaller charged ionic species that can be removed by ion exchange (Analytical and Ultimate).
- 254nm UV to reduce bacteria by more than 99%.

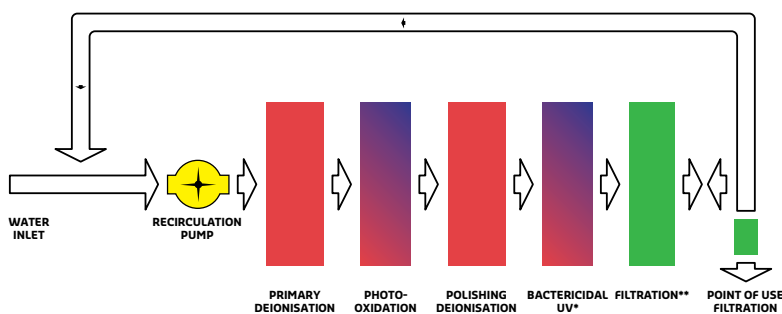
All Neptune models recirculate purified water to maintain its quality and include data capture for traceability and intelligent monitoring systems that place the unit into standby when it's not in use. They also feature semi-automated cleaning and sanitising routines, TOC indication and alarms for cartridge, UV and filter replacement.

Treated Water Specification	Analytical	Life Science	Ultimate
Inorganics	18.2MΩ.cm		
pH	Neutral		
Bacteria	<1cfu/ml	<0.1cfu/ml	<0.1cfu/ml
Organics – TOC (ppb)	<1	<5	<1
Particles	<0.2µm	Ultrafiltration	Ultrafiltration
Endotoxins	<0.25EU/ml	<0.001EU/ml	<0.001EU/ml
DNases	–	<4pg/µl	<4pg/µl
RNases	–	<0.01ng/ml	<0.01ng/ml

Technical Specification	Analytical	Life Science	Ultimate
Display panel	LCD – Colour touch screen		
Pre-treatment	Reverse osmosis feed or filtered to <0.2µm and <20µS/cm		
Ultrapure polishing cartridge	✓	✓	✓
UV lamp	185nm photo-oxidation	Dual wavelength 185/254nm	Dual wavelength 185/254nm
Internal filtration	0.1µm	Ultrafiltration	Ultrafiltration
Point of use filtration	0.2µm	0.2µm	0.2µm
Recirculation	✓	✓	✓
Dispense modes	Latched – hold – volumetric		
Dispense flow rate	up to 2.0 l/min	up to 1.5 l/min	up to 1.5 l/min



Select Neptune process flow



* LIFE SCIENCE AND ULTIMATE ONLY
 ** ULTRA-FILTRATION (LS / ULT) ONLY

INTEGRA HP

The Integra HP is a compact, mobile, centralised water purification and distribution unit. Fully integrated, it incorporates reverse osmosis, ion-exchange, carbon dioxide membrane degassing (optional), ultra violet irradiation and bacterial filtration technologies (optional), to produce purified water that meets requirements for all laboratory grade water.

- Range of make-up rates 60/120/190 l/hr to suit a wide range of Analyser requirements.
- Integral 50 litre purified water storage tank eliminates the need for external tanks.
- Carbon dioxide membrane degasser to enhance deioniser capacity (optional).
- Range of polishing deionisers for higher volume users.
- Full colour intuitive LCD touch screen for ease of operation.
- Low energy recirculation pump to conserve energy during periods of low demand.
- Cat5 compliant break tank to comply with water regulations.
- Optional by-pass to provide continuity of service in an emergency.
- Purified water totalising meter

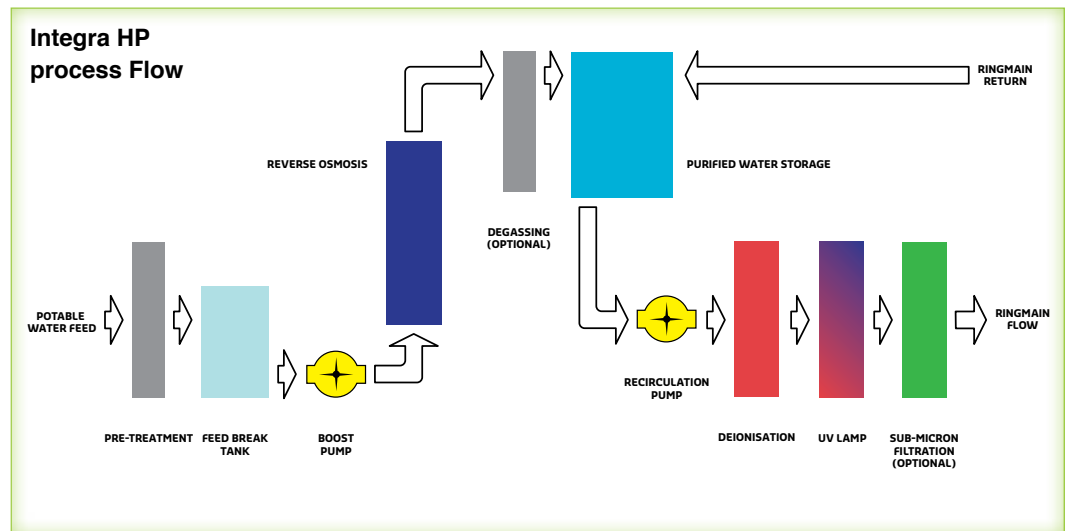
Treated Water Quality Specification	
Resistivity	>10 MΩ.cm
pH	Neutral
Organics	<30 ppb
Particles*	<0.2µm
Bacteria*	<1cfu/ml
Performance	
Make-up flowrate based on 10°C feedwater	60/120/190 l/hr
Purified water distribution	Up to 270 l/hr and a max of 3 bar
Process Technologies	
Pre-treatment	Carbon Filter
Reverse osmosis	Low energy membranes
Carbon dioxide degassing (optional)	Hollow fibre membrane
Deionisation	Nuclear grade mixed bed cylinder
Water storage	50 litres
Recirculation pump	4.5 l/min
UV irradiation	Bactericidal 254nm
Microfiltration (optional)	0.2µm
Display	Full colour LCD

* with optional 0.2µm bacterial filter



	HP60	HP120	HP190
Dimensions			
Width (mm)	890		
Depth (mm)	500		
Height (mm)	840		
Max shipping weight (kg)	54	64	72
Max working weight (kg)	97	107	117

	HP60	HP120	HP190
Installation Requirements			
Power	230V 50Hz		
Feedwater	Hard Potable	Softened	
Total dissolved solids	1000 ppm		
Inlet pressure (min-max)	2-6 bar (30-90 psi)		
Feedwater temperature	1-35 deg C		



INTEGRA L

Integra water purification units use proven reverse osmosis technology, in conjunction with activated Carbon and particulate filtration as part of the first stage of purification. Water from the first stage is stored in an integral stainless steel tank providing a continuous feed to a ringmain.

The systems are configured to run on both hard and soft feed water; Integra L^H and L^S respectively.

As standard, all Integra systems are equipped with sophisticated integral data logging technology providing a historic traceability for key operating parameters.



Dimensions	Integra L
Width (mm)	1000
Depth (mm)	750
Height (mm)	1800
Max shipping weight (Kg)	310
Max working weight (Kg)	550
Installation requirements	
Power	230V/50-60Hz
Feed water	Potable ³
Maximum TDS (ppm)	1000
Min inlet pressure - psi (bar)	45 (3.1)
Max inlet pressure - psi (bar)	90 (6.2)
Feed water temperature	1-35°C

Treated Water Quality Specification	Integra L
Inorganics ¹	<30µs/cm
pH	5 – 7
Bacteria ²	>99% rejection
Organics ¹	>99% rejection
Particles ²	0.2µm
Endotoxins ²	0.25EU/ml

Process Specification	Integra L
Pre-treatment	Activated Carbon
Reverse osmosis	✓
Pure water storage	Up to 250 litres
Deionisation ¹	Optional
TOC reduction ¹	Optional
UV lamp ²	Optional 254nm
Internal filtration ²	Optional 0.2µm
Recirculation	Variable speed
Display	LCD
Purified water make-up flow rate @ 10°C ³	225 – 600 l/hr
Purified water distribution	Up to 3000 l/hr

¹ For enhanced inorganic and organic quality the unit can be fitted with either 10,15 or 18MΩ.cm polishing deionisers packs. Typical TOC levels <50ppb

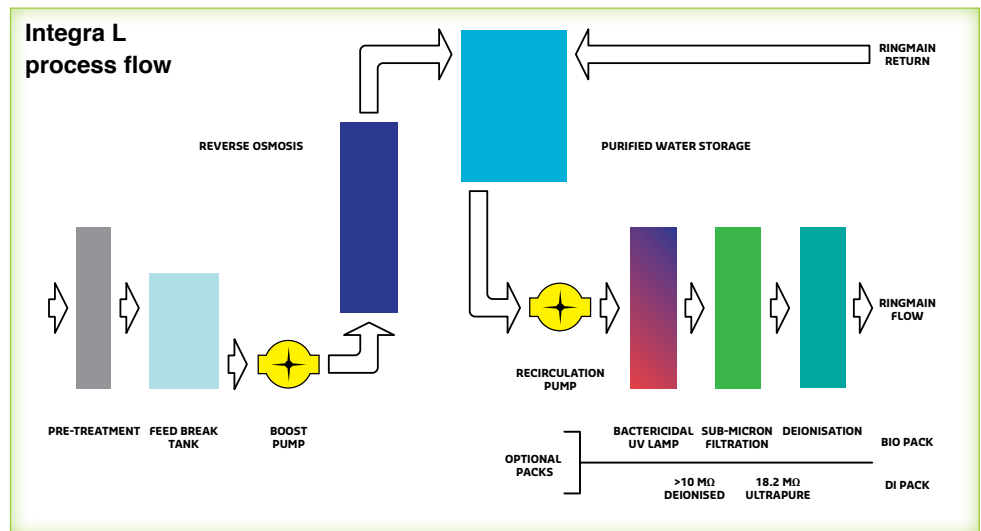
² Optional 'BioPack' will provide purified water with a total viable count of <1cfu/ml, endotoxin level <0.25EU/ml and particles <0.2µm

³ Softened feed water required for 600 l/hr (Integra L^S). Integra L^H can operate on hard water up to 400ppm as CaCO₃

¹ 10, 15, 18MΩ.cm polishing deionisation packs available including activated carbon for TOC reduction

² Included in BioPack

³ Softened feed water required for 600 l/hr (Integra L^S). Integra L^H can operate on hard water up to 400ppm as CaCO₃



PURITE SERVICE, SUPPORT AND ACCREDITATION

Purite's laboratory water purification systems are all backed with a professional level of customer support, including ongoing technical and application advice and assistance – either direct or via its network of distributors. In addition to research, development and engineering facilities, Purite offers on-site consultancy, trouble-shooting and product training.

A team of experienced and regionally based engineers provide support for critical applications and are complemented by a full stock of consumables and replacement parts. Purite also provides a choice of maintenance options to extend the operating efficiency of each system still further.

GLOBAL AND EXPORT

As a global player, Purite offers dedicated resources through a comprehensive network of over 50 distribution channels, encompassing North America, Asia, Europe, Africa and Australasia.

Purite's complete and innovative range is supported by an approved local distributor, ensuring a secure and cost-effective service and supply of critical laboratory equipment.

INSTALLATION GUIDE

View our installation guide videos on your smart device by scanning the QR code.



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Errors and omissions excluded. Purite reserves the right to change the specification in accordance with our programme of continuous improvement.
Images for illustration purposes only.



ABOUT PURITE

For over 40 years we have been designing, developing and manufacturing an industry-leading range of water purification systems for customers in the healthcare, laboratory and industrial sectors.

We specialise in the latest and most advanced technologies, bringing a unique combination of technical and commercial benefits to our customers around the world.

Purite is a subsidiary of Degrémont Industrial Solutions, a major manufacturer of process and waste water treatment systems, and in turn part of SUEZ ENVIRONNEMENT, one of the world's largest providers of water, waste and management plant and services.

We're therefore able to draw upon an extensive network of global resources and access a vast wealth of experience, skills and knowledge. Every day we turn this to our customers' advantage, delivering ideas, solutions and support that improve water quality, system performance and return on investment.

To learn more about how we can help your business visit our web site or contact us today on the number below.

