

laboratory product guide

the next generation of laboratory
water purification systems

SUEZ Water UK





assurance of reliability & consistency

SUEZ Water UK 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.

We also offer full technical support, training and aftermarket services, to ensure a maximum return on investment and unrivalled value for our customers.

choose a SUEZ system for:

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
- **Electrodeionisation:** to perform deionisation using an electronic cell to replace the traditional resin method, providing consistent purity of water and low running costs.

Ease of 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.

Simple maintenance and servicing

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

Complete reliability

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

Fast configuration and installation

- 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 simple to install and allows for bench-top, wall mounted or under bench installation.

Compliance and accreditation

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



the right system for your requirements

Each of our systems 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 table below shows the grades of water typically used by laboratories and outlines the systems that produce the required quality of water:

Raw or feed water	RO or primary water	Single distilled	Double distilled	Ultra-Pure	Common terms
		3	2	1	BS EN ISO 3696 (Grade)
		IV	II	III	ASTM D 1193-06 (Type)*

LABWATER 1 AND 2

SELECT ANALYST

SELECT EDI 60

SELECT HP

SELECT PUREWATER 300

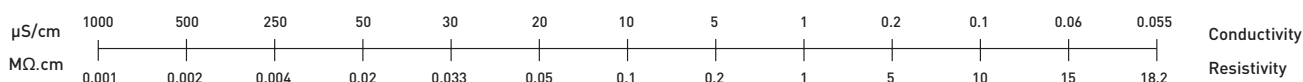
SELECT FUSION

SELECT NEPTUNE ULTIMATE

INTEGRA RANGE

Dual quality

Requires RO purified feed water



*Based on resistivity only

Labwater deionisers

A simple, cost effective method of producing 1 – 10µS/cm purified water at low volumes.

The Labwater units incorporate an easily replaceable cartridge, containing specifically designed resin, which changes colour through absorption of ionic contaminants, facilitating a low level of maintenance. On complete colour change from blue to brown, replace the cartridge.

The units are typically wall mounted and are easily connected via a dedicated hose (supplied separately) to a tap or stopcock and operate direct from water pressure thus requiring no external electrical supply.



Technical Specification	Labwater 1	Labwater 2
Max. feed pressure (bar)	0.5 – 5	0.5 – 5
Max. feed flow rate (l/hr)	30	60
Output capacity, litres		
@ 50 mg/l tds (soft)	640	1280
@ 200 mg/l tds (medium-hard)	160	320
@ 300 mg/l tds (hard)	106	212
pH	Neutral	
Conductivity	1 – 10µS/cm	

tds = total dissolved solids

Dimensions	Labwater 1	Labwater 2
Width (mm)	80	80
Depth (mm)	100	100
Height (mm)	580	760
Max shipping weight (Kg)	2.8	4.4
Max working weight (Kg)	2.5	3.5
Installation requirements		
Feed water	Potable	
Maximum TDS (ppm)	1000	
Feed water temperature	1 - 35°C	



Pure Water Boost Pump

The mini pure water boost pump is an on demand, delivery pump which can be used with any pure water system.

It is controlled by a built-in pressure sensing switch, which starts and stops the pump automatically when the outlet pressure drops or increases.

Installed on the outlet from a pure water supply tank it will provide a flow rate of up to 60 litres per hour and at a pressure of up to 3 bar.

Ideal applications include pressurised pure water supply for glasswashers, environmental chambers, humidity cabinets, autoclaves, corrosion testing equipment, single points of use and for any laboratory equipment that requires a pressurised feed.

Installation is simple, and uses 8mm push fit connections for the inlet and outlet (supplied) and connects to the mains electric supply with a standard 3 pin plug.

Specifications	
Output pressure	3 bar maximum
Outlet flow	60 l/hr maximum
On / Off cycles	6 per minute maximum
Feedwater	< 150 microns particulates
Operating temperature	5°C to 46°C
Power required	Single Phase, 230V, +/- 10%, 50 Hz
Shipping weight	3kg
Dimensions (w x h)	170mm x 275mm

our Select range:

Our Select range of water purification systems is compact, robust, simple to use and easy to maintain and available in six standard models: Analyst, edi 60, HP, Purewater 300, Fusion and Neptune Ultimate.

Common features of all our Select systems include:

- Space-saving, dependable, bench top or wall mounted systems
- RO Removes > 98% minerals and > 99% bacteria
- Choice of production rates up to 48 l/hr
- Optional external storage tanks up to 100 litres
- RO Boost pump fitted as standard
- Installation kit and all consumables included for first year's operation
- LCD colour touch screen panel
- Visual and audible alarms included
- Utilises carbon pre-treatment, RO and deionisation
- USB port to download event data and upload software updates
- Integral 20 litre storage as standard (excludes Neptune Ultimate)
- Semi-automatic clean cycle.



Select Analyst

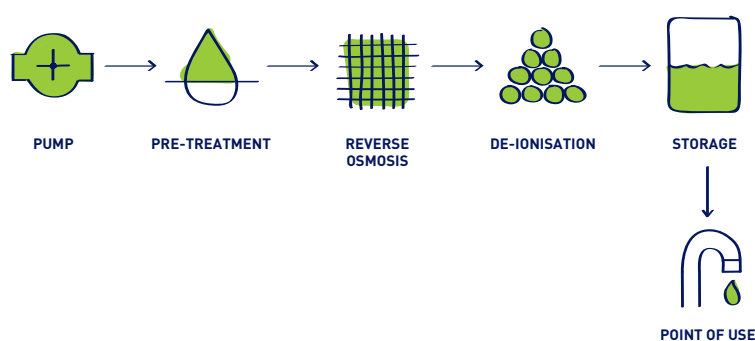
The Select Analyst is a compact unit ideal for laboratory use, delivering a steady supply of $> 1\text{M}\Omega\cdot\text{cm}$ pure water for laboratory tasks using carbon pre-treatment, reverse osmosis and deionisation.

Typical applications include glassware rinsing, buffers and stains, reagent make-up, and media preparation.

Additional features

- Guaranteed $> 1\text{M}\Omega\cdot\text{cm}$ water quality
- Remote display (optional).

Select Analyst Process Flow



Select edi 60

The Select edi 60 is a compact unit ideal for laboratory use delivering a constant supply of $>1\text{M}\Omega\cdot\text{cm}$ pure water for laboratory tasks using activated carbon pre-treatment, double pass reverse osmosis, carbon dioxide membrane degassing and electro-deionisation technology.

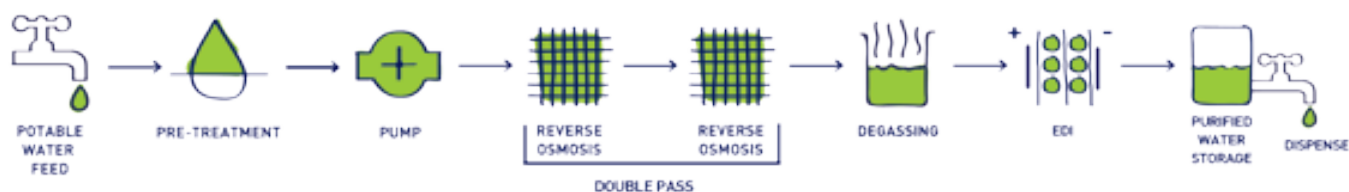
Typical applications include, glassware rinsing, buffers, and stains, reagent make-up and media preparation.

Additional features

- Guaranteed $>1\text{M}\Omega\cdot\text{cm}$ water quality (BS 3696 / ASTM type II/III)
- Double pass RO pre-conditioning
- Long life edi cell
- Low maintenance
- Low running costs.



Select edi 60 Process Flow



Select HP

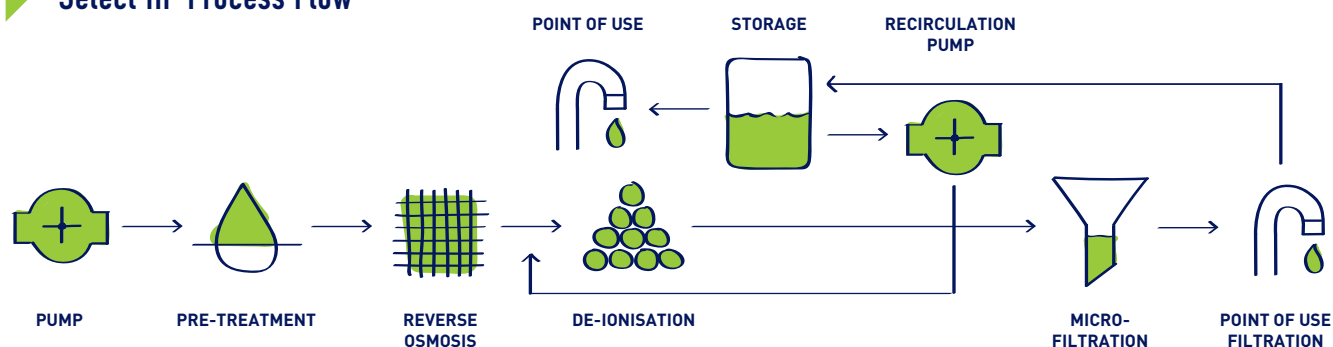
The Select HP is a compact unit designed to produce a consistent supply of > 10MΩ.cm water for HPLC, ion chromatography, atomic absorption, hydrogen generation, and clinical analyser feed.

Additional features

- Guaranteed > 10MΩ.cm water quality
- Remote Dispense Pod (Optional)
- Energy saving intelligent stand-by mode
- Dispense rate of up to 2 litres/min
- 0.2µm point of use bacterial filter
- Water quality parameters, MΩ.cm, °C, flowrate displayed
- Selectable manual and volumetric dispense feature
- Internal 0.1µm bacterial filtration.



Select HP Process Flow



It can be fitted with an on-demand pure water boost pump to provide up to 1.5 bar pressurised feed with a flow rate of up to 200 litres per hour.

- Guaranteed > 1MΩ.cm water quality
- Production rate up to 48 litres per hour
- On-demand pure water boost pump for pressurised output
- Additional high flow gravity outlet.

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graph TD
    Pump[PUMP] --> PreTreatment[PRE-TREATMENT]
    PreTreatment --> ReverseOsmosis[REVERSE OSMOSIS]
    ReverseOsmosis --> Deionisation[DE-IONISATION]
    Deionisation --> Storage[STORAGE]
    Storage --> PointOfUse1[POINT OF USE]
    Storage --> PointOfUse2[POINT OF USE]
  
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Select Fusion

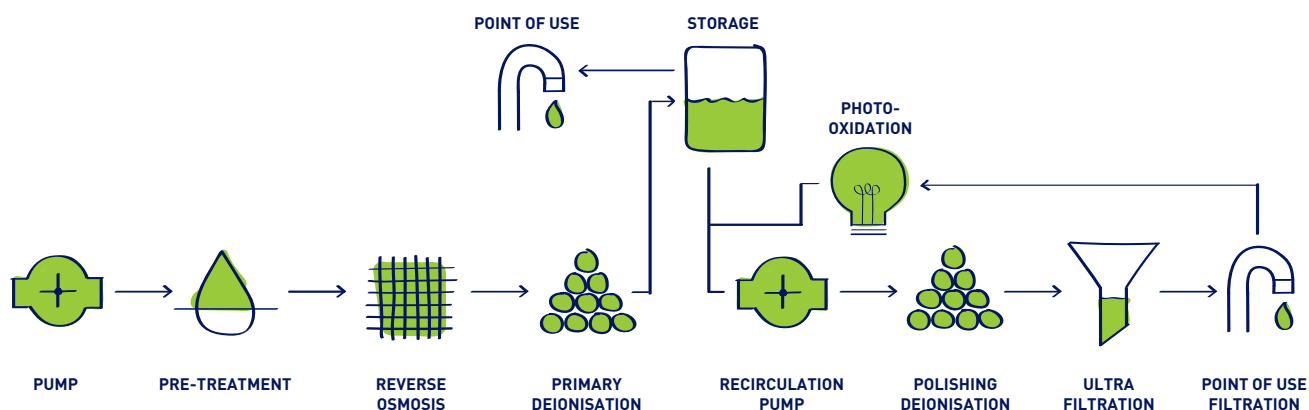
The Select Fusion is a self-contained water purification unit that reliably delivers a steady supply of 18MΩ.cm purified water from a mains supply to life science laboratories. Diagnostic uses include histology, cell and tissue culture, DNA sequencing and IVF.

Additional features

- Dual water quality available 1-10MΩ.cm (Type-II) and 18.2MΩ.cm (Type-I)
- Remote Dispense Pod (Optional)
- Energy saving intelligent stand-by mode
- Dispense rate of up to 2 litres/min
- 0.2µm point of use bacterial filter
- Water quality parameters, TOC, MΩ.cm, °C and flowrate displayed
- Selectable manual and volumetric dispense feature
- 5000m.wt cut off Ultrafiltration for endotoxin, RNase/DNase removal
- Dual wavelength (185nm/254nm) UV irradiation
- Integral TOC indicator
- 20 litre integral storage tank for Type-II water.



► Select Fusion Process Flow



Select Neptune Ultimate

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

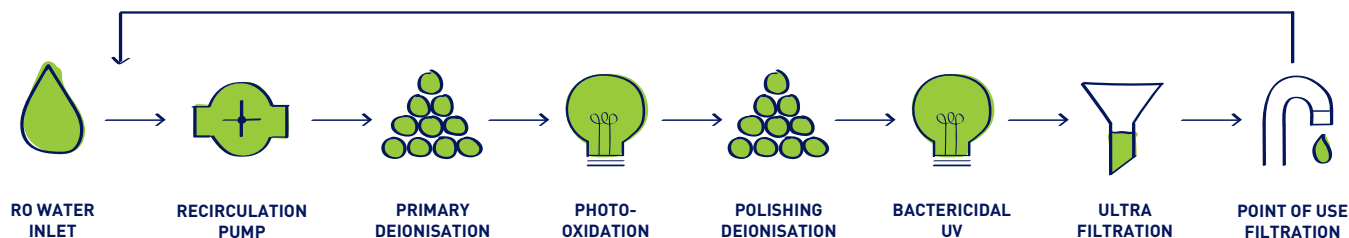
The Select Neptune Ultimate utilises a number of proven technologies to produce ultra-pure, 18.2MΩ.cm water on-demand, including:

- 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
- 254nm UV to reduce bacteria by more than 99%.

The Select Neptune Ultimate recirculates 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. Each unit also features semi-automated cleaning and sanitising routines, TOC indication and alarms for cartridge, UV and filter replacement.



Select Neptune Ultimate Process Flow



Select storage tanks

The Select storage tank range stores the purified water externally to the unit. Level switches ensure the tank does not overflow and refills when low.

The range includes four models that offer either 50 or 100 litre working volume, tank with UV, and tank with high flow outlet.

As well as Select storage tanks we can supply on-demand pumps to provide a pressurised feed from the tanks.

Select range specifications

unit specifications

unit specifications

	Select Model								
	Analyst		edi 60	HP / Fusion		Purewater 300	Neptune Ultimate	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	35	36	41	28	21	10	17
Max working weight (kg)	43	51	55	51	59	51	29	60	117
Installation requirements									
Power	Single Phase, 110-230V, +/- 10%, 50/60 Hz							-	-
Feed water	Potable						< 20µS/cm	-	-
Maximum TDS (ppm)	1000						< 14	-	-
Minimum inlet pressure – psi (bar)	30 (2.1)		20 (1.4)	30 (2.1)			5 (0.34)	-	-
Maximum inlet pressure – psi (bar)	90 (6.2)						20 (1.38)	-	-
Feed water temperature	1-35°C								
Product Outputs *									
@ 10°C (l/hr)	3.6 / 7.2 / 14.4	30	6	3.6 / 7.2 / 14.4	30	30	-	-	-
@ 25°C (l/hr)	6 / 12 / 24	48	10	6 / 12 / 24	48	48	-	-	-

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

system specification

	Select Model					
	Analyst	edi 60	HP	Purewater 300	Fusion	Neptune Ultimate
Pure water storage	20 litre storage as standard (External 50 & 100 litre tanks available)					-
Display panel	LCD – Colour touch screen					
Pre-treatment cartridge	✓	✓	✓	✓	✓	-
Reverse osmosis	✓	✓ (Double Pass)	✓	✓	✓	-
Deionisation cartridge	✓	-	✓	✓	✓	-
Electrodeionisation (EDI)	-	✓	-	-	-	-
Internal filtration	-	-	0.1µm	-	Ultrafiltration	Ultrafiltration
Point of use	-	-	0.2µm	-	0.2µm	0.2µm
UV lamp	-	-	✓ *	-	185nm / 254nm	185nm & 254nm
Recirculation pump	-	-	✓	-	✓	✓
Ultrapure polishing cartridge	-	-	-	-	✓	✓

* External tank version only

treated water specification

	Select Model						
	Analyst	edi 60	HP	Purewater 300	Fusion		Neptune Ultimate
					High Purity Dispense	Purified Water Storage Tank	
Inorganics	> 1MΩ.cm	> 1MΩ.cm	> 10MΩ.cm	> 1MΩ.cm	up to 18.2MΩ.cm	> 1MΩ.cm	18.2MΩ.cm
pH *	Neutral						
Bacteria	> 99% rejection**	> 99% rejection**	< 1cfu/ml	> 99% rejection**	< 0.1cfu/ml	-	< 0.1cfu/ml
Organics – TOC (ppb)	< 50	< 50	< 20	< 50	< 5	< 50	< 1
Particles	-	-	< 0.1µm	-	< 0.2µm	-	Ultrafiltration
Endotoxins	-	-	-	-	< 0.001EU/ml	-	< 0.001EU/ml
DNases	-	-	-	-	< 4pg/µl	-	< 4pg/µl
RNases	-	-	-	-	< 0.01ng/ml	-	< 0.01ng/ml
Dispense modes	Latched – hold – volumetric						
Dispense flow rate	-	-	up to 2.0 l/min	up to 200 l/hour @ 1.5 bar	up to 2.0 l/min	-	up to 2.0 l/min

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

** When measured directly across the membrane

our Integra range:

Our Integra range is ideal for laboratories requiring greater daily volumes of purified water with several points of use. Our Integra HP and Integra L systems deliver laboratory grade deionised water from 60-600 litres per hour, while our Integra 200E system is a low energy, self-contained unit utilising the latest low energy reverse osmosis membranes and electro-deionisation technology.

Integra HP

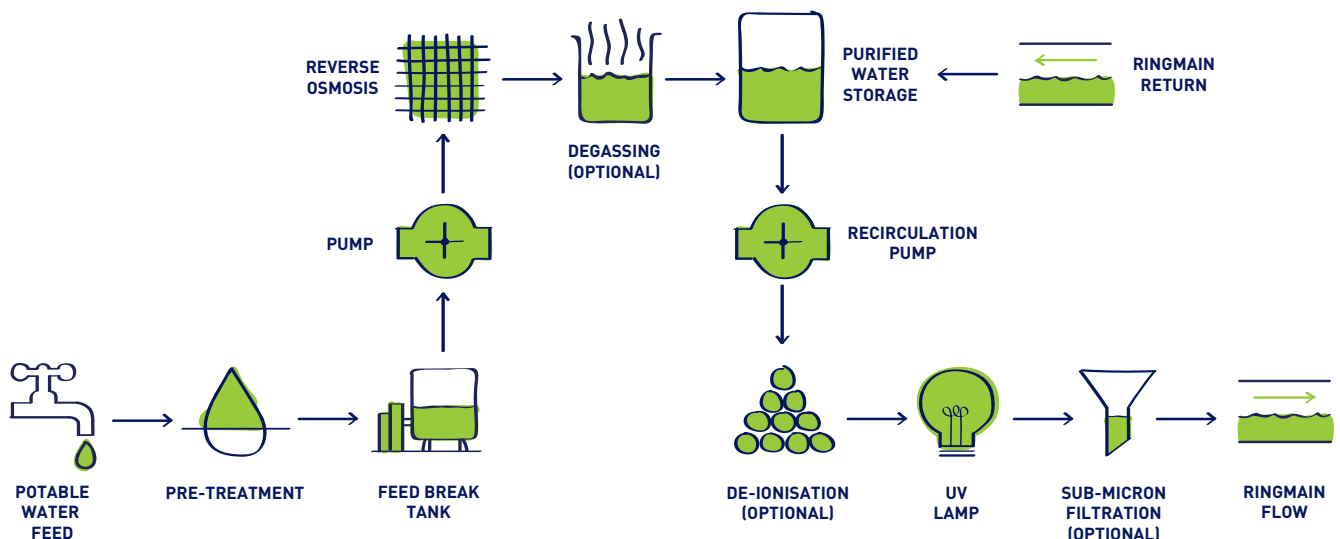
The Integra HP is a compact water purification and distribution unit. Fully integrated, it incorporates reverse osmosis and ultra violet radiation technology, with storage and a distribution pump. It is also available with optional carbon dioxide, membrane degassing and bacterial filtration technology.

Additional features

- Range of make-up rates 60/120/190 l/hr
- Integral 50 litre purified water storage tank eliminates the need for external tanks
- Optional carbon dioxide membrane degasser to enhance deioniser capacity
- Range of polishing deioniser options to meet all purity requirements and standards
- Full colour LCD touch screen display 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 manual by-pass to provide continuity of service in an emergency.



► Integra HP Process Flow



Integra L

Our Integra L units have been designed to provide a broad spectrum of purified water for laboratory applications. Each unit is designed to feed a laboratory suite with several outlets using a ring main to provide a continuous supply. The water is stored in an integral 250 litre stainless steel tank. Two units are available: The Integra L^H for hard feed water and Integra L^S for soft feed water.

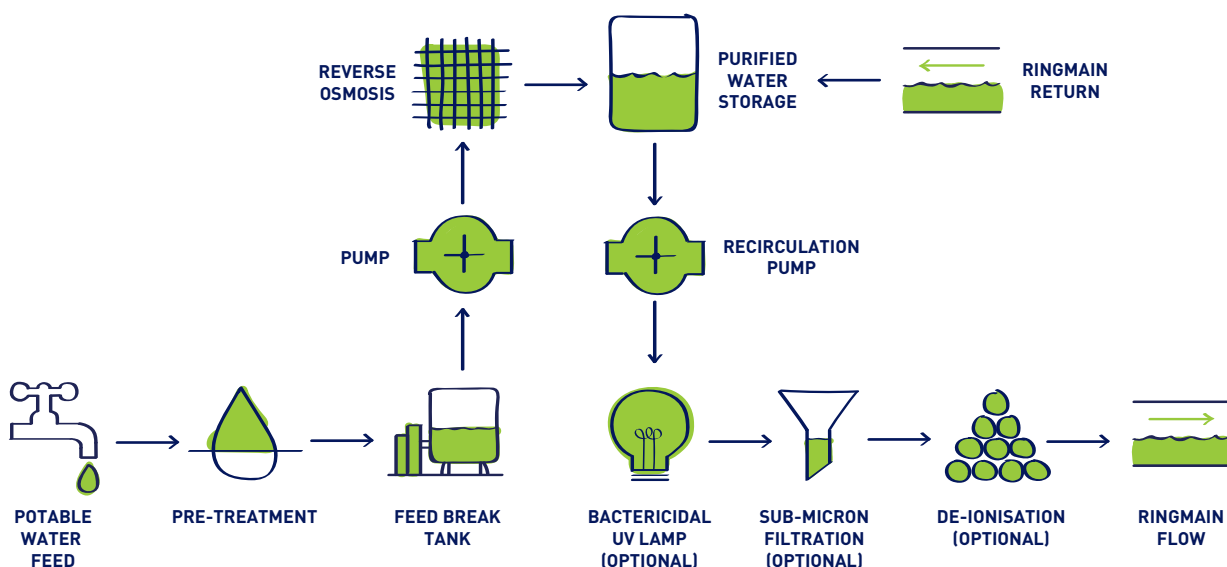
To provide higher grades of purified water the basic Integra L units can be supplemented by the addition of optional polishing packs comprising of stand-alone exchangeable cylinders. For applications requiring high quality water with enhanced bacterial specification, UV disinfection and 0.2µm filtration is available in an optional BIO pack.

Additional features

- Single compact unit which purifies, stores and distributes lab water
- Produces up to 600 l/hr
- Provides ASTM Type I, II or III water and BS EN ISO grade 1,2 or 3 water
- Utilises reverse osmosis technology, in conjunction with activated carbon and particulate filtration as part of the first stage of purification
- Integrated data logging for performance traceability equipped as standard
- Delivered factory tested for ease of installation
- LCD screen display for ease of operation.



► Integra L Process Flow



Integra 200E

The Integra 200E water purification unit provides high quality water for laboratories, utilising the latest low energy reverse osmosis membranes and electro-deionisation technology.

Configured and tested before delivery to ensure minimal installation time, the fully integrated and user friendly Integra 200E offers laboratories optimum efficiency and flexibility in water purification production.

Variable speed pumps ensure laboratories are able to minimise their energy consumption, whilst category 5 backflow prevention technology offers protection to the mains supply.

Additional features

- Self-contained, fully bundled, "plug and play" package designed to reduce installation and service times
- Efficiently delivers highly purified water; make-up flow rate of 200 l/hr
- Utilises reverse osmosis, electro-deionisation, ultra-violet irradiation and bacterial microfiltration
- Standby mode and variable speed pumps to minimise power consumption and running costs during periods of low demand
- LCD touch screen with password controlled menu access
- Automatic alarm notification system monitoring leakage and quality of water
- Compact, fully bundled, stainless steel skid package with anti-vibration mounts
- Category 5 backflow prevention to protect mains supply
- Automated chemical cleaning program
- Optional water storage available, 350, 500 and 1000 litres.



Integra range specifications

unit specifications

unit specifications

	Integra Model						
	HP			L	200E		
	HP60	HP120	HP190		200E - 350	200E - 500	200E - 1000
Width (mm)	890			1000	1500	1850	2600
Depth (mm)	500			750	2020	2020	2020
Height (mm)	840			1800	1020	1020	1020
Max shipping weight (kg)	54	64	72	310	340	350	370
Max working weight (kg)	97	107	117	550	767	917	1417
Installation requirements							
Power	Single Phase, 230V, +/- 10%, 50 Hz						
Feed water	Potable	Potable	Softened	Potable *	Softened		
Maximum TDS (ppm)	1000			1000	< 1000ppm		
Minimum inlet pressure - psi (bar)	30 (2.1)			15 (1)	30 (2.1)		
Maximum inlet pressure - psi (bar)	90 (6.2)			90 (6.2)	90 (6.2)		
Feedwater temperature	1-35°C			1-35°C	10 - 25°C		
Flowrate	-			-	400 l/hr		
Free chlorine	Must be dechlorinated						

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

system specification

system specification

	Integra Model				
	HP	L	200E		
			200E - 350	200E - 500	200E - 1000
Pure water storage	50 litre	250 litres	Up to 350 litres	Up to 500 litres	Up to 1000 litres
Display panel	LCD - Colour touch screen	LCD screen	LCD - Colour touch screen		
Pre-treatment	5µm pre-filter				
Reverse osmosis	Low energy membranes				
Deionisation	Optional cylinders	Optional Di packs *	EDI module		
Micro filtration	Optional 0.2µm	Optional 0.2µm **	0.2µm filter		
UV lamp	254nm	Optional 254nm **	Bactericidal 254nm		
Purified water make-up flow rate @ 10 °C	60/120/190 l/hr	200 – 600 l/hr ***	200 l/hr		
Purified water distribution	Up to 270 l/hr and a max of 3 bar	Up to 3000 l/hr	Up to 2m³/hr and a maximum of 90 psi (6.2 bar)		
Carbon dioxide degassing	Optional	-	Hollow fibre membrane as standard		
TOC reduction	Optional *		✓		

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

** Included in BioPack

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

treated water specification

	Integra Model				
	HP	L	200E		
			200E - 350	200E - 500	200E - 1000
Conductivity	< 30µs/cm to 18.2MΩ-cm	< 30µs/cm **	up to 15MΩ-cm		
Bacteria	< 1cfu/ml *	> 99% rejection ***	< 1cfu/ml		
Organics – TOC (ppb)	< 30ppb	> 99% rejection **	< 500ppb as C		
Particles	< 0.2µm *	0.2µm ***	< 0.2µm		
Endotoxins	-	0.25EU/ml ***	-		

* with optional 0.2µm bacterial filter

** 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

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



24/7 service

Total lifetime support is a vital element in the services that we provide to all our customers, from a small laboratory with a single benchtop unit, to a major healthcare or industrial organisation with multiple systems or a complex high volume water purification plant.

Our customer support services include system design and build, installation and commissioning, plus 24/7 long-term maintenance contracts to optimise efficiency and minimise through-life costs.

We also hold extensive stocks of consumables and spare or replacement parts that are available as and when required.

Our team of experienced and regionally based engineers provide dedicated applications and support - both by phone and onsite - including consultancy, trouble-shooting and product training.

global support

We are part of SUEZ, a world leader in water and waste resources management.

Being part of a wider infrastructure gives us access to an extensive network of global resources, plus the people that possess the experience, skills and knowledge that make our business better.

We offer dedicated resources through a comprehensive network of over 50 distribution channels, encompassing North America, Asia, Europe, Africa and Australasia.

Our complete and innovative range is supported by an approved local distributor, ensuring a secure and cost-effective service, a supply of critical equipment and ultimately – peace of mind.

Every day we turn this to our customers' advantage, delivering ideas, solutions and support that improve water quality, system performance and return on investment.

about SUEZ

SUEZ Water UK is part of SUEZ, an organisation with more than 150 years of experience in water treatment and waste management. SUEZ specialises in securing and recovering resources to provide proven solutions that enable its customers to address resource management challenges.

70
countries

80,000
employees

323,000
industrial and business customers

65,000,000
people benefiting from sanitation services

92,000,000
people supplied with drinking water

10,000,000
people supplied with drinking water from desalinated seawater

14,000,000
tonnes of waste recovered

74,000,000
euros invested in resource-focused R&D

5,138
GWh of energy generated from waste each year around the world

resource revolution

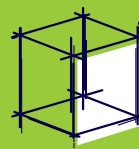
At the heart of SUEZ's ethos is the Resource Revolution, which aims to overcome the challenges presented by the increasing scarcity of natural resources.

the revolution is:



circular

because it aims to regenerate resources that are essential to life and the future according to the principles of the circular economy.



concrete

because it involves tangible and innovative actions to secure resources.



collaborative

because it engages everyone who contributes, each at their own level, to better manage and secure resources for the future.

SUEZ is working to promote innovative technologies and thinking to save for future generations. For example, it calls on the world to embrace change in our water consumption habits, rethink mass waste-creating production methods and develop sustainable societies. In particular, SUEZ can help hospitals and life sciences facilities to meet their specific corporate social responsibility policy targets through audit and consultancy services.

Contact

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Installation guide

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



Errors and Omissions excluded. SUEZ reserves the right to change the specification in accordance with our program of continual improvement.

