

healthcare product guide

water purification systems for renal, endoscopy, sterile services
and clinical analyser supply





a single source for water treatment

SUEZ is a leading water management specialist, delivering high performance water purification systems, water treatment chemicals, consultancy and technical training for hospitals and healthcare providers. With more than 40 years of experience in the healthcare and life sciences sectors, we have the specialised skills and extensive knowledge required to meet the specific needs of all healthcare organisations.

Our trusted, proven water purification systems and high quality, specialist water treatment support ensures we offer a complete service for all your water needs; whether it be for sterile services for hospitals and dental clinics, endoscope reprocessing, renal dialysis for wards, satellite clinics or home dialysis, or in research and pathology laboratories. We understand that patient safety and compliance with regulations are of paramount importance and we can help you overcome the legislative challenges faced in the healthcare sector every day through our dedicated water treatment solutions.

All installations have different requirements, which is why we work closely with our customers and contractors to ensure we install systems that provide optimum levels of performance, functionality and reliability. This philosophy means that not only do we meet your exact requirements, we also ensure compliance with the most demanding healthcare patient, safety and environmental regulations and directives.

Ultimately, we offer one of the largest ranges of products and systems, chemicals, training and support services from a single source for exceptional levels of water quality, safety and hygiene.

▶ **we give you the right solution for your water requirements, which means you can focus on delivering what is important – the best patient care**

what our customers say

- ▶ We've worked with SUEZ Water Purification Systems for a number of years. They've supplied a range of RO plant for renal, CSSD and AER departments, and provide us with a comprehensive maintenance and emergency service package.

The quality of their engineering work is excellent, with equipment being robust and reliable. This is supported by an extremely helpful customer service team, plus experienced on site engineers, who respond quickly to our requests and understand the challenges we face in maintaining a consistent and high standard of purified water to each hospital department.

Clive Martin, Head of Estates, The Office of the Committee for Health and Social Care, States of Guernsey

- ▶ We've used Suez water purification systems in our decontamination department for over ten years and also have a long-standing service agreement with the company. The equipment has always been extremely reliable, while the level of service and technical support has been exceptionally high. Just as importantly, the team at Suez works closely with us to ensure that we are able to maintain a vital service to other hospital departments.

Key to this is the stability of their team, with their service engineers and support staff having an in-depth knowledge of our systems, the way we work and the challenges that we face on a daily basis, enabling them to offer fresh ideas to improve the performance and extend the operating life of our water purification systems. Suez has become a valued partner and is integral to our ongoing success.

Christopher Eden, Senior Endoscopy Technician, Medway NHS Foundation Trust

- ▶ SUEZ Water Purification Systems has supplied RO systems for our Endoscopy, SSD and Dental departments. These are critical systems that have a direct impact on our service delivery and, potentially, patient safety; that's why we also have a comprehensive maintenance and emergency call-out contract in place with the company.

There are important advantages of working with the team at SUEZ. For example, they have the technical expertise, knowledge and skilled engineers that ensure our water purification systems are always available; they also provide valuable external resources to our small in-house team, allowing us to focus on other equally critical areas of our operation. Overall, SUEZ has consistently been one of the best suppliers that we've worked with over a number of years. I'd have no hesitation in recommending them.

Michael Davison, Specialist Engineering Manager, Estates Department, Newcastle upon Tyne Hospitals, NHS Foundation Trust



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.



centurion 1500 single patient/icu renal ro

Centurion 1500 is an innovative, high quality water purification solution for the promotion and easy management of self-care at home as well as more traditional in-centre treatments. Our single patient unit is simple to use and ensures optimum microbiological performance as well as the precise water quality essential for any haemodialysis application.

The Centurion 1500 uses proven reverse osmosis technology and is available in two models. The Centurion 1500 utilises chemical disinfection and the Centurion 1500+ provides additional integrated heat sanitisation.

All of our units are manufactured in the UK, to ISO9001 and ISO13485 standards, with full design and engineering traceability ensuring full compliance with the current regulatory requirements.

Our excellent after sales service, together with in-house manufacture, offer the client and/or patient peace of mind for the single patient RO units.

The units are compact in design and have been developed to provide exceptional ease of use. Centurion's unique design and touch screen control simplifies use of the unit in a home care situation. The integral heat sanitisation (1500+) and optional UF provides further protection for patients in the home environment.

Additional features

- Maximum flow rates of 1.5 litres/min at 10°C
- CAT5 compliant break tank
- Internal leak detection system for peace of mind within the home environment
- Antimicrobial coated fascia
- Nocturnal dialysis programme
- Cool down technology for enhanced safety
- State of the art, touch screen display for easy control
- Integrated hot water sanitisation on Centurion 1500+
- Chemical clean programme
- Data capture
- Recirculation to the point of use
- Audible alarm with mute facility
- Optional trolley or locking wheels for ease of movement
- Optional ultra-filtration for enhanced microbiological performance
- Optional pre-treatment filter panel for simple compact installation.



technical specification

	Centurion 1500	Centurion 1500+
Performance		
Product Output (max)	1.5 litres per minute @ 10°C	1.5 litres per minute @ 10°C
Water Quality	<100 cfu/ml <0.25 EU/ml	<100 cfu/ml <0.25 EU/ml
With optional UF fitted ¹	<0.1 cfu/ml <0.03 EU/ml	<0.1 cfu/ml <0.03 EU/ml
Permeate Pressure	2-3 bar	2-3 bar
Feed Water Parameters		
Total Hardness (max)	400 ppm as CaCO ₃	400 ppm as CaCO ₃
Temperature ² min/max	1 - 25°C	1 - 25°C
Inlet Pressure min/max	2/6 bar	2/6 bar
Free Chlorine	<0.1 ppm Cl ₂	<0.1 ppm Cl ₂
Power Requirements	230V 50/60 Hz or 120V 60 Hz	230V 50/60 Hz or 120V 60 Hz
Dimensions (w, d, h)	280mm x 500mm x 860mm	280mm x 500mm x 860mm
Shipping Weight ³	39kg max	39.5kg max

¹ - In conjunction with SUEZ recommended sanitisation program
² - If the temperature falls below 10°C output will reduce by up to 3% per °C
³ - Uncrated weight

central ro renal central ro

Our central reverse osmosis units provide an innovative, high quality water purification system for haemodialysis and haemodiafiltration.

The flexibility and strength of design ensures that the range meets your exact dialysis requirements, now and in the future.

The range provides a unique set of benefits which ensure unrivalled ease of operation and performance. All of our models are CE marked as Class IIb Medical Devices.

Additional features

- High recovery rates; output flow rates from 500 to 4,000 l/hour
- Units can be configured to run in multiple combinations to provide redundancy
- Fully integrated automatic hot water membrane sanitisation for enhanced microbiological performance
- Full colour touch screen display with comprehensive menu navigation including full schematics
- Advanced data logging technology with password control
- Data log file can be downloaded to a PC using a memory stick, providing access to historical performance data for full traceability
- Semi-automated chemical cleaning program with on-screen reminder function
- Lightweight, corrosion resistant GRP or optional stainless steel pressure vessels
- Compact, stainless steel skid mounted package.



purite integra e for hospital sterile services and endoscopy units

The Purite Integra E range is designed to take potable feedwater direct from the mains, purify it using Reverse Osmosis technology, store it in an integral storage tank and then circulate it via a pressurised ringmain to feed endoscope washing disinfectors.

It is available in two versions tailored to the feedwater. The Purite Integra E^H is for hard feedwater and the Purite Integra E^S is for softened feedwater.

Additional features

- Water purification units to provide HTM 01-06 / ISO 15883 quality water for use with endoscope washing machines
- Fully compliant with HTM 01-06 and ISO 15883
- Integrated data logging for performance traceability
- Self contained
- Delivered factory tested for ease of installation
- Graphic displays for access to system parameters.

Integral pure water tank – Ensures water is always available on demand. Tank is fully drainable and bacterially protected to comply with HTM 01-06.

Integral raw water break tank with Type AB air gap – Eliminates the possibility of water backflow and complies with water bylaws.

Self contained unit design – All components are integrated into a neat housing, designed to fit through standard sized doors and on wheels for enhanced portability.

Minimal installation and commissioning – All components are factory tested ensuring the unit simply requires connection to relevant on site services.

Semi-automatic chemical clean – With automatic chemical draw, recirculation and rinse, cleaning is straight forward and trouble free.

Bio Sample Point – Incorporation of a hygienic, fully sanitisable, stainless steel, sample valve reduces the risk of contamination during sampling.

Alarm conditions – Critical operating parameters are automatically monitored, including the quality of the purified water and level in the pure water tank.

User friendly display – Backlit display clearly shows the unit operation in graphic and text formats.

Standby mode – During periods of low demand the system will compensate, reducing power consumption and running costs.

Integrated data logging – Up to 12 months data can be captured, enabling a permanent printed record of all parameter and status changes, in line with Good Manufacturing Practice (GMP).



purite integra e⁺ for hospital sterile services and endoscopy units

The Purite Integra E⁺ uses proven reverse osmosis technology in conjunction with dechlorination and particle filtration as part of the first stage of the purification process. The purified water from this first stage is stored in an integral stainless steel tank before being circulated via a ring main. To maintain microbiological control of the system, the circulating water is continually purified by passing it through a 0.2 micron filter and then irradiated with ultra-violet light at a germicidal wavelength of 254nm.

The system requires a softened feed water and has been developed specifically to meet the requirements of the latest decontamination guidelines for final rinse water. It features thermal sanitisation, which can be set to sanitise automatically to a pre-programmed time or on demand.

As standard, Purite Integra E⁺ is equipped with integral data logging technology, which facilitates capture of all key operating parameters, including alarm states, water quality and system performance, thus providing a permanent record of operation – essential for validation history.

Additional features

- Completely self-contained in a robust housing that is easy to clean, maintain and transport
- Minimal installation and commissioning
- Integral, fully drainable 250 litre, stainless steel storage tank and bacterially protected to comply with HTM 01-06
- Integral raw water break tank with backflow protection
- BMS alarm output connection
- Panel mounted, backlit, LCD display
- Data logging of critical parameters
- Automatic hot water sanitisation cycle
- Semi-automatic membrane cleaning cycle
- Hygienic, sanitisable, stainless steel bio-sample valve on outlet
- Auto ringmain flush available for temperature control
- Leak detection system incorporated.



purite integra hp clinical analyser feed

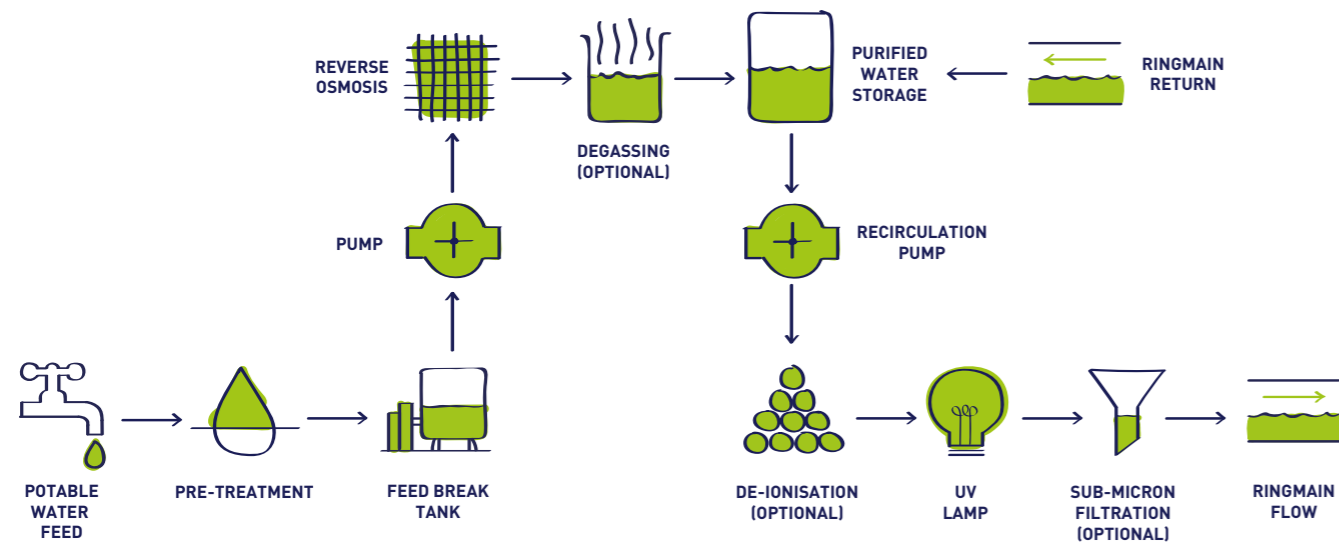
Our Integra HP systems are ideal for laboratories requiring greater daily volumes of purified water with several points of use. The Integra HP systems deliver laboratory grade RO water, Deionised water, or UPW produced at 120 to 190 litres per hour (at 10 deg c). It is also available with optional carbon dioxide, membrane degassing and bacterial filtration technology.

Additional features

- Produces 120 or 190 l/hr (requires softened feed)
- Option of Integral 50 litre or external 300 litre purified water storage tank
- 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.



► purite integra hp process flow



purite hpa 30 clinical analyser feed

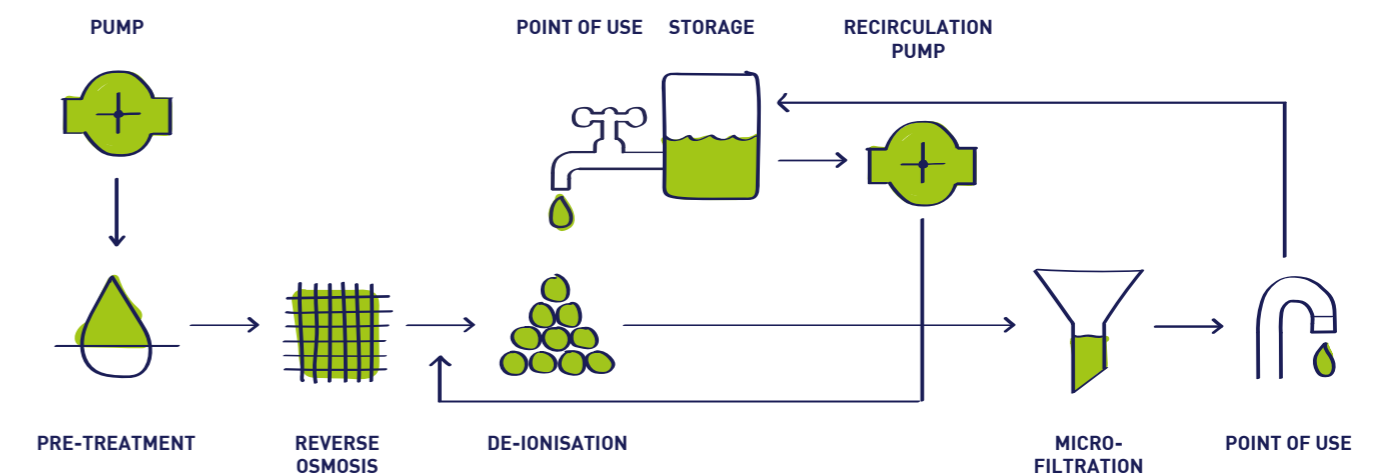
The Purite HPA 30 is compact, simple to operate and maintain, complete with an integral 20 litre storage tank as standard. Compatible for supply to all analyser manufacturers.

Additional features

- Guaranteed > 10MΩ.cm water quality
- Remote Display Pod (Optional)
- Energy saving intelligent stand-by mode
- Manual dispense from storage tank
- Colour touch screen display with process graphics
- Water quality parameters, MΩ.cm, °C, flowrate displayed
- Internal microfiltration
- Make-up production rate of 30 litres per hour (@10 °C)
- 20, 50 and 100 litre storage options
- Can be bench, under bench or wall mounted
- WiFi enabled for remote monitoring and operation
- 8mm pressurised outlet for direct connection to analyser.



► purite hpa 30 process flow



unit specifications

	Purite HPA 30	Integra E ^s	Integra E ^h	Integra E ⁺	HP IT	HP GP *
Width (mm)	440	1000		1000	890	1110
Depth (mm)	560	750		750	500	604
Height (mm)	750	1800		1800	840	1842
Max shipping weight (kg)	41	310		372	95	134
Max working weight (kg)	59	550		622	140	467
Installation requirements						
Power		240V/50Hz		400V +/- 10%+N+E, 50Hz, 3ph	Single Phase, 230V, +/- 10%, 50 Hz **	
Feed water	Potable	-			Potable	Softened
Maximum TDS (ppm)	1000	-		--	1000	
Minimum inlet pressure - psi (bar)	30 (2.1)	14.5 (1)		43.5 (3)	30 (2.1)	
Maximum inlet pressure - psi (bar)	90 (6.2)	87 (6)		87 (6)	90 (6.2)	
Feedwater temperature	1-35°C	1 - 30°C		1 - 30°C	1-30°C	
Flowrate	-	-		-	-	
Free chlorine	-	-		-	Must be dechlorinated	
Make up outputs						
@ 10°C (l/hr)	30 ***	-		-	-	
@ 25°C (l/hr)	48 ***	-		-	-	

* Complete with plinth and 300 litre tank *** Outputs based on a feed water pressure of 4 bar
 ** 110v 60Hz available as an option

system specification

	Purite HPA 30	Integra E ^s	Integra E ^h	Integra E ⁺	HP IT	HP GP
Pure water storage	20 litre storage tank as standard *	Up to 250 litres		Up to 250 litres	50 litres	300 litres
Display panel	LCD – Colour touch screen					
Pre-treatment cartridge	✓	-		-	-	
Pre-treatment	-	-		-	5µm pre-filter	
Reverse osmosis	✓	-		-	Low energy membranes	
Deionisation cartridge	✓	-		-	-	
Deionisation	-	-		-	Optional cylinders	
Micro filtration	-	-		-	Optional 0.2µm	
Internal Filtration	Microfiltration	-		-	-	
UV lamp	-	-		-	254nm	
Purified water make-up flow rate @ 10°C	-	600 l/hr	225 l/hr	600 l/hr	120 or 190 l/hr	
Purified water distribution	-	-		-	Up to 270 l/hr and a max of 3 bar	240 l/hr and a max of 3 bar
Carbon dioxide degassing	-	-		-	Optional	
TOC reduction	-	-		-	Optional **	
Recirculation pump	✓	-		-	-	

* External 50 & 100 litre tanks available
 ** 10, 15, 18MΩ.cm polishing deionisation packs available including activated carbon for TOC reduction

treated water specification

	Purite HPA 30	Integra E ^s	Integra E ^h	Integra E ⁺	HP IT	HP GP
Inorganics	> 10MΩ.cm	-		-	-	
pH *	Neutral	-		-	-	
Conductivity	-	-		< 30µS/cm	< 30µS/cm to 18.2MΩ-cm ***	
Bacteria	< 1cfu/ml	-		-	< 1cfu/ml **	
Organics – TOC (ppb)	< 20	-		-	< 30ppb	
Particles	< 0.1µm	-		-	< 0.2µm **	
Endotoxins	-	-		< 0.25EU/ml	-	
Dispense modes	-	-		-	-	
Dispense flow rate	-	-		-	-	
Pressurised outlet (8mm)	Up to 2l/min @ 2.3-2.5 bar	-		-	-	

* For enhanced inorganic and organic quality the unit can be fitted with either 10,15 or 18MΩ.cm polishing deionisers packs.
 ** With optional 0.2µm bacterial filter
 *** With optional deionisation cylinder

about SUEZ

SUEZ is 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.

compliance with legislation and regulations

helping you to take a proactive approach

Patient safety is at the top of the agenda in the healthcare sector, and guidance from expert authorities on how to guarantee this will ensure best practice, optimum performance, organisational integrity and staff peace of mind.

The legislation surrounding water in healthcare settings can often be confusing, and demands lengthy and in-depth consideration to ensure complete compliance.

▶ **we can help you to adopt a proactive approach to regulatory compliance with our expert consultancy services, advice and testing, which are backed by years of proven experience. In addition, all of our technologies and products meet the latest quality standards**



memberships

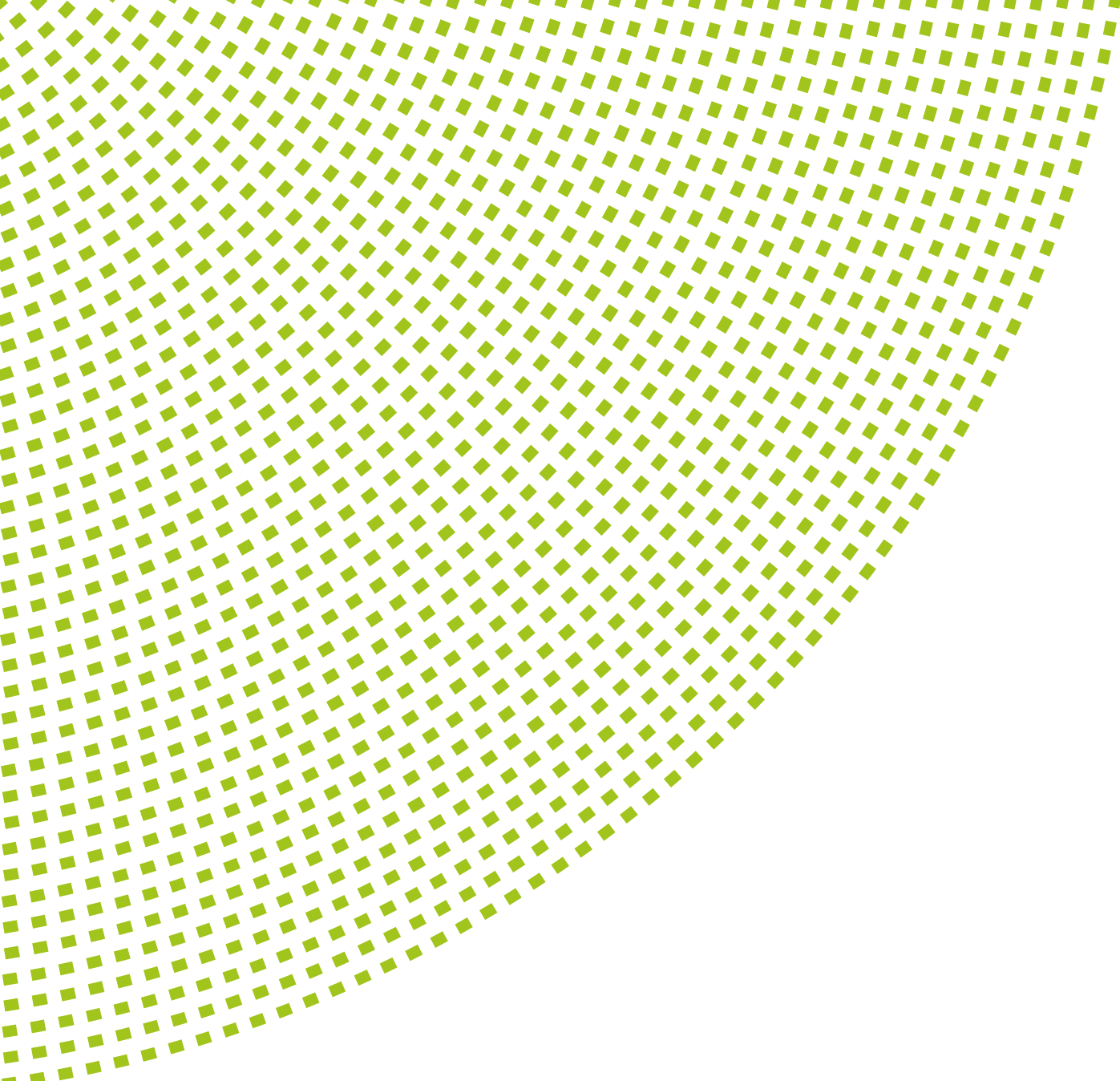
SUEZ is a member of:

- Institute of Healthcare Estates and Estate Management (IHEEM)
- Central Sterilising Club (CSC)
- Association of Renal Technicians (ART)
- Laboratory and Export body (GAMBICA)
- British Association for Chemical Specialities (BACS)
- SAFEcontractor
- Water Management Society (WMS) (employees only as non-corporate)
- Commissioning Services Association (CSA)

accreditations

SUEZ is accredited to:

- IOSH Approved Centre
- ISO 9001
- ISO 13485
- ISO 14001
- ISO 45001
- SAFEcontractor
- BuildCert



contact

Water Purification Systems

Email: mail.waterpurificationsystems.uk@suez.com

Web: www.suezwatertechnologies.com/products/water-purification



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



SS0031-03