

ADVANCED LABORATORY WATER PURIFICATION



ADVANCED WATER PURIFICATION IN THE LABORATORY

Purite has developed a range of advanced water purification units to provide purified water consistently and reliably for all laboratory applications. Thanks to considerable experience in developing solutions for both standard and specialised laboratory tasks, Purite works with laboratory technicians to meet the challenges presented by ever-changing working practices and new product research and development.

Purite's areas of expertise include:

○ General laboratory

- Glassware rinsing
- Buffer and stain formulation
- Reagent make-up
- Media preparation

○ Analytical instrumentation

- High performance liquid chromatography
- Ion chromatography
- Atomic absorption spectrophotometry
- Clinical analyser feed

○ Biotechnology

- Life sciences
- Molecular biology
- Tissue culture
- IVF
- Forensic science

○ Process

- Humidifier feed
- Environmental cabinets

PURITE WATER PURIFICATION TECHNOLOGIES

Purite's range of advanced water purification technologies include:

Pre-treatment

Applied in various configurations ranging from selective media, such as activated Carbon for the reduction of free Chlorine and dissolved organics, through to disposable filter cartridges designed to remove particulates and suspended matter that might affect the performance of downstream equipment.

Reverse osmosis (RO)

Water under pressure is passed through a specialised membrane, removing up to 98% of ionic contaminants and up to 99% of micro-organisms. Purified water passes through the membrane, with the impurities, or concentrate, flowing to drain.

Ion exchange

Removes ionic contaminants using ion exchange resins which exchange dissolved ionic impurities for Hydrogen or Hydroxyl ions. This technology is capable of producing a water purity of up to 18.2MΩ.cm with low total organic carbon (TOC) content.

Continuous electro-deionisation (CEDI)

Removes dissolved ionic species via a combination of ion exchange resin, cationic and anionic selective membranes and electricity. The CEDI cell comprises mixed-bed resin sandwiched between alternating layers of ion-selective membranes. The resin provides a conductive path, allowing for the dissolved ionic impurities to be drawn from the feed water and discharged into separate waste streams – therefore producing purified water virtually free of dissolved impurities.

The resin cell is self-regenerating and requires minimal maintenance, thus providing a cost-effective alternative to traditional ion exchange resins.

Ultraviolet (UV)

Used in two specific applications for water purification:

- The photo-oxidising properties of UV at 185nm wavelength can be used to cleave chemical bonds. Used in conjunction with ion exchange resin, this allows water to be produced with extremely high resistivity and low TOC.
- UV at 254nm has strong disinfection properties and can be used to reduce bacteria levels significantly.

Filtration

Used throughout the process in various configurations to remove particulates, bacteria, endotoxins and enzymes, with a wide range of pore size ratings.



PURITE WATER PURIFICATION SYSTEMS

Purite water purification systems meet the specific demands of the laboratory sector using the proven benefits of ion exchange technologies and/or, where necessary, reverse osmosis.

The Select, Integra, Prestige Descale and custom-built water purification systems match specific laboratory workflow and operational requirements, offering a wide range of standard and optional features.

The systems include self-contained worktop and wall-mounted units for smaller volumes of purified water, plus fully integrated systems capable of producing high volumes of water for ring main distribution.

They are compact, easy to use and maintain, and offer high levels of performance, efficiency and reliability. They also meet the latest water quality standards for laboratory applications.

As part of customer support services, Purite provides a comprehensive range of consumable items and replacement media, with fast and efficient delivery.

THE PURITE PRODUCT RANGE

Purite manufactures and supports a comprehensive range of water purification systems for all laboratory applications.

The Labwater 1 and 2 use simple, disposable cartridges as a low cost solution for laboratories that only have an infrequent or low volume need for purified water.

The Select range, which includes the Descale, Analyst, HP and Bio models, provides a choice of water qualities and outputs of up to 48 litres per hour.


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

The Select Fusion has been developed to supply dual-quality laboratory water direct from a mains supply, including water for general laboratory use, plus lower volumes of ultrapure water – up to 18.2MΩ.cm – for more critical analytical applications.

The Select Neptune range is for applications requiring ultrapure water which can supply a guaranteed water quality of 18.2MΩ.cm.

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

For laboratories with multiple purified water outlets, a centralised water purification system feeding a distribution ring main provides the most economic solution. For this requirement, Purite can design, build and project manage a customised solution, incorporating the high-volume Integra or Prestige units that are ideal for new or refurbished laboratories.



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.



ABOUT PURITE

For over 30 years Purite has been designing, developing and manufacturing an extensive range of water purification systems for the healthcare, research and industrial sectors. A specialist in advanced technologies, such as ion exchange and reverse osmosis, Purite also offers dedicated resources through a comprehensive network.

Purite is a wholly owned subsidiary of Ondeo Industrial Solutions (SUEZ ENVIRONNEMENT) – a major water solutions provider. Ondeo Industrial Solutions operates and maintains over 200 water treatment plants and has built more than 2,000 industrial wastewater treatment plants.

For unrivalled global reach, Purite is backed by the vast resources of SUEZ ENVIRONNEMENT (Paris: SEV, Brussels: SEVB) – the parent company of Ondeo IS. As a world leader, exclusively dedicated to environmental services, SUEZ ENVIRONNEMENT supplies drinking water to 76 million people, provides wastewater treatment services to 44 million people and collects waste produced by 60 million people.



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