evoQUA
WATER TECHNOLOGIES

PURELAB®

LABORATORY WATER PURIFICATION SYSTEMS

Your first step to pure water: the Evoqua LabWater water analysis kit

An informed start for a streamlined solution.

At Evoqua we do not speculate or work on assumptions about your water quality. On our first visit to your laboratory we will carry out a test, on site, that analyzes your feed water quality.

Armed with data about your laboratory's water quality, required applications, lab design and budget, our sales team will deliver an informed proposal about the best water purification solutions to suit your needs.

EVOQUA WATER TECHNOLOGIES & ELGA LABWATER

We understand how important it is for scientists to obtain a choice of water qualities that range from primary grade, for simple routine washing and rinsing, through to ultrapure for the most critical science and analytical applications. That is why Evoqua Water Technologies is proud to be a distributor of products from ELGA LabWater – a trusted name in laboratory water purification technologies, leveraging expertise gained from over 75 years of innovation.

With this in mind, we offer you the unrivalled PURELAB® product line. PURELAB's water purification systems are constructed from the highest quality components to ensure optimal purity, while a rapid and easy sanitization program contributes towards an uninterrupted work flow. Built-in economical processes result in the lowest consumable costs with the highest water quality and precision.

This brochure outlines the key features of all the systems in the PURELAB product line, which are designed to provide water purification systems covering the three different water types (Type I-III) required for research and testing applications.

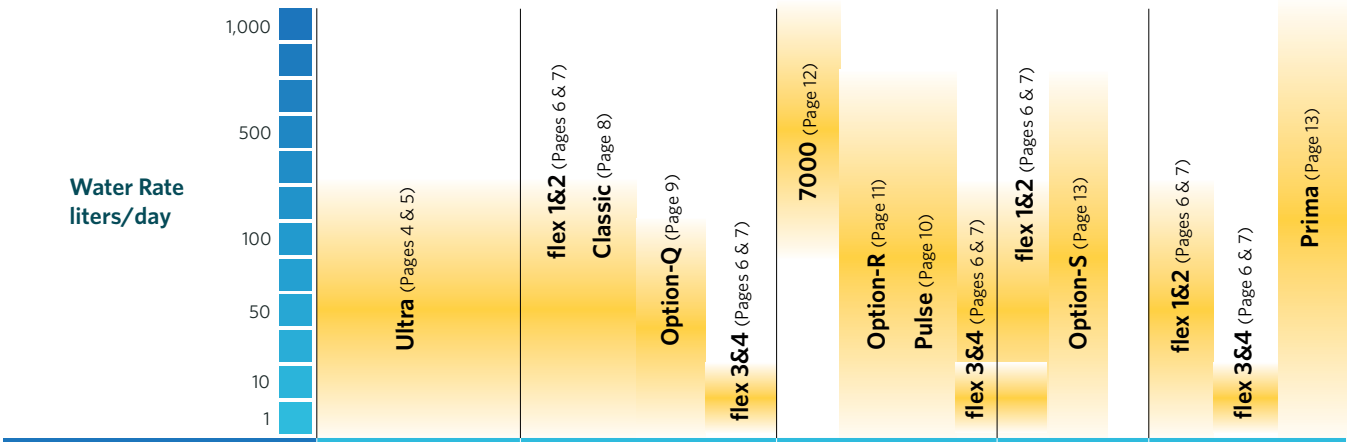
MATCHING SYSTEMS TO APPLICATIONS

Supporting you all the way

Water purification is often a complex process that incorporates multiple technologies into a single purification system; therefore, below you will find a product finder to help you select the best water purification system suited to your application needs.

Our team of technical and application specialists is always available to answer any questions, as well as providing friendly, expert advice in choosing the most suitable water purification system.

PURELAB® Product Finder



Water Quality	Type I⁺	Type I	Type II⁺	Type II	Type III
Typical Applications	• ICPMS (Inductively Coupled Plasma Mass Spectrometry) • Molecular biology techniques • Ultra trace analysis	• Electrochemistry • Electrophoresis • GFAAS (Graphite Furnace Atomic Absorption Spectrophotometry) • HPLC • IC (Ion chromatography) ICPAES (Inductively Coupled Plasma Atomic Emission Spectrometry) • ICPMS (Inductively Coupled Plasma Mass Spectrometry) • Mammalian and bacterial cell culture • Molecular biology • Plant tissue culture • Qualitative analyses	• AAS (Atomic Absorption Spectrophotometry) • Buffer and media preparation • Electrophysiology • FAAS (Flame Atomic Absorption Spectrophotometry) • Feed to ultrapure water systems • Glassware washing/rinsing • General chemistry • Histology • Microbiological analysis • RIA (Radioimmunoassay) / ELISA (Enzyme Linked Immunoabsorbant Assay) • Sample dilution and reagent preparation • Spectrophotometry • Water analysis		• Autoclave feed • Feed to ultrapure water systems • Hydroponics • Stability chambers • Steam generators • Sterilizer feed

Visit us online at www.evoqua.com

- Locate your local service representative
- Learn more about water quality and standards by downloading a FREE Pure Labwater Guide
- Find a water purification system which meets your needs

SERVICE AND SUPPORT

FOR TOTAL CONFIDENCE IN YOUR PURE WATER SYSTEMS

Every PURELAB® system comes complete with one extra feature – first class service and support. Evoqua has installed thousands of systems, and our service engineers will apply their expertise to the installation, validation and maintenance of your water purification systems in compliance with all the relevant codes. Visit www.evoqua.com to find your nearest contact.

Service excellence

- We aim to provide first-time-fix service
- Preventative maintenance contracts are structured to match your precise needs, thereby minimizing interruptions to your work flow and sustaining system reliability
- All our calibration equipment is maintained to traceable standards and operated by fully trained service technicians, ensuring your water quality is consistently maintained at the required standard

Training

- "Hands on" operation training is arranged on or off site to ensure optimal system performance and minimize the risk of an interrupted work flow

Technical assistance

- Our specialized local team will ensure you find the perfect product to match both your budget and applications
- Our dedicated local help desk is always available to provide advice, troubleshooting and parts identification

VALIDATION SUPPORT

Water systems that are employed within a validated laboratory should always operate within specification. This should be evidenced through documentation and trending should warn the user if performance is likely to fall below their requirements. Evoqua offers ELGA's market-leading validation package with fully trained personnel using controlled equipment and documentation to support you through the validation process.

ELGA's products are continually being developed to further support validation requirements. Developments include:

- PIN-coded access to software set points prevents unauthorized changes to operation or system settings
- Cartridge Identification (CID) technology provides full traceability of each cartridge for GLP and other validation requirements
- RS232 data port to enable downloading of data to PC or printer
- Water quality data available with or without temperature compensation

Quality assured

ELGA's commitment to the highest quality control processes guarantees reliability and compliance with both international, environmental and user organization standards.

Designed and manufactured under an ISO9001:2000 total quality system. Tested to comply with CE, EMC, EN 61010 (UL CSA), PIRA, WEEE Directive and other standards as appropriate.

Why the demand for ultimate water purity?

For the most sophisticated research and testing applications, e.g. ICPMS (Inductively Coupled Plasma Mass Spectrometry), ultra trace analysis and molecular techniques, it is critical that the ultimate water purity is employed to prevent interference and, therefore, inaccurate results from contaminating impurities (see examples at right).

PURELAB® ULTRA SYSTEM

DELIVERING THE ULTIMATE IN WATER PURITY FOR ABSOLUTE CONFIDENCE IN YOUR RESULTS

Designed to meet and exceed ultrapure (Type I) water quality

When your application requires the ultimate in water purity, the PURELAB Ultra system provides the perfect solution. Consistently delivering water purity to 18.2 MΩ-cm and underpinned by the unique PureSure® system, the PURELAB Ultra enables you to focus on attaining accurate results as well as ensuring an uninterrupted work flow.

THE PURELAB SOLUTION FOR OVERCOMING YOUR WATER PURIFICATION CHALLENGES

Challenge	PURELAB Solution
Your application demands the ultimate in water purity, i.e. simply having a resistivity of 18.2 MΩ-cm is not good enough	PureSure system provides the ultimate inorganic purity (guaranteeing the retention of silcon and boron species)
Organic breakthrough must be prevented	Constant real-time Total Organic Carbon (TOC) monitoring gives you peace of mind by letting you know what is happening with organic purity as you dispense your water sample
You cannot afford to stop work to change a purification pack	PureSure system ensures that work is not interrupted

Major molecular biology applications	PURELAB Systems removes the impurity of concern
Gel preparation	Nucleases and bacteria
Hybridization mixes and PCR	Nucleases, bacteria and salt concentrations of Mg^{2+} and Na^{+}
Sequencing	Nucleases, bacteria, endotoxin, salt concentrations of Mg^{2+} and Na^{+}, humic acid
DNA to cell transfer	Endotoxins

1 **Efficient fast rinse ultrafiltration cartridge**
- Filters out endotoxin, proteins and nucleases
- Rinses up to seven times faster than other endotoxin filters

2 **Unique volumetric profile**
dispense facility for easy recording, replication and speedy dispensing of multiple set volumes

3 **Automatic self calibration**
of electronic circuitry – takes just four seconds every time the system is in process mode

4 **Unique PureSure system**
- Ensures purity beyond just 18.2 MΩ-cm
- Extends the life of your purification cartridges
- Advance warning of cartridge change so you are free to continue your research

5 **Real-time TOC monitoring**
- System reports on TOC every two seconds
- Ensures confidence in organic quality

6 **Sensitive electronic dispense**
offers accurate flow control from single droplets up to two liters/min

7 **PIN-coded protection of critical operating parameters**

8 **Cartridge Identification technology**
- Provides validatable traceability
- Your guarantee of capacity, quality and safety

9 **New Labpure purification cartridges**
- High capacity cartridges
- Longer life in system

10 **Full spectrum UV treatment**
- Low microbial and organic specification
- High transmittance synthetic quartz sleeve for higher efficiency
- Lamp failure alarm

PureSure System – your water purity guarantee

The PureSure system, exclusive to the PURELAB Ultra system, consists of two purification cartridges and resistivity monitor units in series. This arrangement ensures purity at 18.2 MΩ-cm and gives advanced warning of purification cartridge exhaustion without compromising final water purity. The PureSure system allows each cartridge to be used to its full potential, resulting in savings and capacity gains.

PURELAB® FLEX SYSTEM

DESIGNED FOR TODAY'S LABORATORIES

The most intuitive and innovative system for all your pure water needs

The PURELAB flex system is designed to deliver accuracy, flexibility and ease of use. This award winning system provides perfect water purity for analytical and lifescience applications which require RO Type III water up to ultrapure type I (18.2 MΩ-cm) water. It allows focus on routine test work without concern about the water quality affecting test results.

1. **Customized settings** to suit your application
2. **UV lamp** for low TOC water production needed for organic sensitive application
3. **Easy-access** for routine maintenance
4. **Multiple dispense positioning,** wall, bench, height adjustable arm hand-held dispensing
5. **Designed for simple easy installation**
6. **Purification pack** quick and easy to replace
7. **Data capture** via USB for system performance validation

reddot design award winner 2011

dba design effectiveness award winner

1. **Intuitive to use,** ergonomic handset design
2. **Clear water purity display** for absolute confidence as you dispense
3. **Realtime TOC monitoring** for critical analytical applications
4. **Prioritized information** shown at all times (system status, TOC, alarm)
5. **Flexible dispensing in four different ways:**
   - Variable flow – drop by drop or up to two liters per minute
   - Autovolume dispense from 50ml to 60 liters and repeat dispensing
   - Hands free with optional foot pedal
   - Locked dispense for glassware filling

Find a PURELAB flex system to match your application

PURELAB flex 2 **PURELAB flex 3&4** **PURELAB flex 1** **PURELAB flex 3&4** **PURELAB flex 1**

Daily Volume	>10 Liters	<10 Liters	>10 Liters	<10 Liters	>10 Liters
Water Quality	Type I ultrapure water		Type II/Type II+ pure water	Type III RO water	
Feedwater Source	Pre-purified water	Pre-purified or tap water	Pre-purified water	Pre-purified or tap water	Pre-purified water
Typical Applications	• Electrochemistry • Electrophoresis • GFAAS (Graphite Furnace Atomic Absorption Spectrophotometry) • HPLC • IC (Ion Chromatography) • ICPAES (Inductively Coupled Plasma Atomic Emission Spectrometry) • ICPMS (Inductively Coupled Plasma Mass Spectrometry) • Mammalian and bacterial cell culture • Molecular biology • Plant tissue culture • Qualitative analyses		• AAS (Atomic Absorption Spectrophotometry) • Buffer and media preparation • Electrophysiology • FAAS (Flame Atomic Absorption Spectrophotometry) • Feed to ultrapure water systems • Glassware washing/rinsing • General chemistry • Histology • Microbiological analysis • RIA (Radioimmunoassay) / ELISA (Enzyme Linked Immunoabsorbant Assay) • Sample dilution and reagent preparation • Spectrophotometry	• Autoclave feed • Feed to ultrapure water systems • Hydroponics • Plant growth cabinets • Stability chambers • Steam generators • Sterilizer feed	

PURELAB® CLASSIC SYSTEM

ECONOMY WITHOUT COMPROMISE FOR HIGH PERFORMANCE, ULTRAPURE WATER PRODUCTION

The high usage option for pre-treated water feed

An ideal choice for the lab requiring more than 20 liters/day of Type I ultrapure water. Adjustable dispensing provides a flow rate of up to 2.0 liters/min and continuous water quality monitoring. This range also provides the option to upgrade from single pack to twin pack purification.

1. **Automatic intermittent recirculation** to maintain high water purity with a low bacterial specification
2. **Efficient fast rinse ultrafiltration cartridge**
   - Filters out endotoxins, proteins and nucleases
   - Rinses up to seven times faster than other endotoxin filters
   - Significantly reduces costs of sanitization
3. **Full spectrum UV treatment**
   - Low microbial and organic specification
   - High transmittance synthetic quartz sleeve for higher efficiency
   - Lamp failure alarm
4. **PIN-coded access** to software set points to prevent unauthorized changes to operation or system settings
5. **Single purification pack** design, easily upgraded to dual pack

PURELAB® OPTION-Q SYSTEM

ULTRAPURE WATER DIRECT FROM POTABLE TAP WATER

Tap to Type I — the plug-and-go option for tap water feed

Providing ultrapure water direct from a drinking water supply without the need for a pre-treated feed, the PURELAB Option-Q system can deliver 1.0 liter/min, for labs requiring up to 100 liters/day.

1. **Recirculation** of purified water through our wrap-around reservoir – to maintain consistent peak water purity
2. **Fully recirculating UV** ensures microbial quality
3. **Height adjustable** point-of-use dispense tap for a choice of wall or bench mounting
4. **Front-entry service doors** for easy access to consumables
5. **Data collection** capabilities through RS232 interface – for compliance with GLP guidelines

PURELAB® PULSE SYSTEM

THE ONLY ELECTRODEIONIZATION (EDI) CHOICE FOR TYPE II⁺/II PURE WATER

The PURELAB Pulse system uses state-of-the-art proprietary 'Pulse Technology' to deliver Type II⁺ and III pure water at minimal running costs. This system is perfect for laboratories who need up to 160 liters of purified water for an eight hour day. Within the system the unique intelligent recirculation maintains consistent water purity at point of use. The PURELAB Pulse system also reduces maintenance time, with longer intervals between sanitization and quick and easy replacement of consumables.

Pulse Technology

The Pulse Technology uses Electrodeionization (EDI) to purify the water instead of using deionization cartridges. EDI is an electrically-driven water purification process which involves the use of Ion Exchange Resins and Ion Permeable Membranes.

Resins are continuously regenerated by the electrical current and are never exhausted. The water quality is always maintained due the absence of the adverse effects given by exhaustion of a resin bed, such as silicon, boron or organic breakthrough.

1. **Space-saving wrap-around reservoir** with smooth sides and vented filtration for optimized water purity
2. **Fully recirculating UV** ensures microbial quality
3. **Height adjustable** point-of-use dispense tap for choice of wall or bench mounting
4. **Full recirculation** guarantees water quality at point-of-use
5. **Pulse Module** (EDI purification)

PURELAB® OPTION-R SYSTEM

DESIGNED TO MEET AND EXCEED TYPE II⁺/II PURE WATER QUALITY

The PURELAB Option-R system produces Type II⁺ grade water, better than double-distilled quality using ion-exchange resins. Integral full recirculation of purified water maintains constant peak water purity and photo-oxidation ensures low bacterial counts. The range offers a choice of models to give flexibility in flow rate settings: providing either seven or 15 liters/hr.

THE PURELAB SOLUTION FOR OVERCOMING YOUR WATER PURIFICATION CHALLENGES

Challenge	PURELAB Solution
Your application requires the removal of most contaminants but highly purified or ultrapure water is not essential. Your application may require high volumes of water	Sophisticated integral recirculation technology ensures optimum organic and inorganic quality where you need it – clear quality displays allow you to monitor quality in real-time at point of dispense
Reliable, high purity water with good inorganic and microbial specifications	Full recirculation ensures a high level of microbial control and easy use, and maintenance keeps quality high throughout the life of the product.

1. **Space-saving wrap-around reservoir** with smooth sides and vented filtration for optimized water purity
2. **Fully recirculating UV** ensures microbial quality
3. **Deionization** purification (ion-exchange) cartridge
4. **Height adjustable** point-of-use dispense tap for choice of wall or bench mounting
5. **Full recirculation** guarantees water quality at point-of-use

PURELAB® 7000 SYSTEM

HIGH VOLUME DELIVERY OF PURE WATER FOR GENERAL LABORATORY USE

Designed to meet Type II or Type III water quality

When general laboratory and primary grade water is needed at high flow rates the PURELAB 7000 system offer a reliable and consistent supply with the flexibility to meet your usage needs.

PURELAB 7000 System

The PURELAB 7000 system dispenses up to four liters/min of Type II+ water (>10 MΩ-cm) and can be connected to small distribution loops to feed an ultra pure system and two or three dispense points, as well as your main application. The system has an in-built reservoir to ensure your required pure water capacity is met at peak times.

1 Reliable water quality
- Unique sanitization design for purification of RO membranes as well as the local distribution loop
- Sanitization designed to run quickly and easily
- User-defined, electronically protected reminders

2 Economic design
- Unique wrap-around reservoir
- Easy-access doors and castors means system can be located under bench

3 Unique system operation protection
- Easy-to-use Building Management System
- Automated alarms

4 Economic Purity
- Unique RO resin mix to optimize economy, increases yield of purification packs
- Optional degassing system further increases capacity of purification packs

5 Purity
- Easily switch between ultrafiltration or submicron filtration for your application

PURELAB® OPTION-S AND PRIMA SYSTEMS

SIMPLE AND RELIABLE DELIVERY OF PURIFIED WATER FOR THE GENERAL LABORATORY

Designed to meet Type II or Type III water quality

PURELAB Option-S System

The flexible solution for general laboratory grade water

Using multiple purification technologies, the PURELAB Option-S system produces Type II grade water, better than single-distilled quality. The range offers a choice of models to give flexibility in flow rate settings: providing either seven or 15 liters/hr.

- Quick and easy sanitization and replacement of consumables to reduce maintenance time
- Features 'Reverse Osmosis feed optimized' resin mixes to increase the ion exchange capacity of consumables and minimize running costs
- PURELAB Option-S systems are designed to be easy to access whether wall or bench mounted with a convenient dispense tap. They can be used with our wrap-around reservoirs to save space whilst optimizing purity

PURELAB Prima System

The ultimate in flexibility for primary grade water

The compact PURELAB Prima systems provide Type III water and are available in a choice of flow rates, 7, 15 or 30 liters/hr, to meet your specific needs.

PURELAB Option-S

PURELAB Prima

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