



**eVOQUA**  
WATER TECHNOLOGIES



## **PURELAB® CHORUS**

**LABORATORY WATER PURIFICATION SOLUTIONS  
IN TUNE WITH YOUR NEEDS**



## A TRUSTED BRAND DELIVERING YOU CHOICE

**MARKET LEADER IN WATER PURIFICATION,  
INNOVATION & TECHNOLOGY.**

Evoqua is proud to partner with ELGA Labwater who has over 75 years specializing in water purification solutions for laboratory, clinical and healthcare, leading the market in innovation and technology advancements.

Thousands of ELGA products are in daily use around the globe, helping scientists, health professionals and laboratory managers achieve high levels of accuracy and consistency in their work.

Evoqua Water Technologies and ELGA Labwater create sustainable and responsible solutions that improve people's lives and the environment.

Their dedication to pure water and only pure water is a guarantee that we will continue to provide the best solutions with the best service for many years to come.

Evoqua believes in giving our customers a choice in how they use our water purification solutions, supported by excellent service and support. We aim to deliver value for our customers who partner with us and we believe that responsibility is the keystone for all our business activities.

### Award Winning Products



red dot design award  
winner 2011

dba design effectiveness  
award winner



"Providing choice to customers is at the core of our commitment to deliver solutions that are technologically advanced, easy to use and maintain and designed around the needs of all our customers"



## LOCAL SERVICE AND SUPPORT

Every Evoqua solution comes complete with one extra feature – first class service and support wherever you are in North America. Our service engineers apply their expertise to the installation, validation and maintenance of your water purification solution in compliance with all the relevant codes.

**Visit [www.evoqua.com](http://www.evoqua.com) to find your nearest contact.**

### Delivering service excellence

We offer a range of customized service contracts to suit budgets and demand.

### Training

“Hands on” operation training to get you up and running first time.

### Right solution, first time

To ensure you get the right system for your needs we will first carry out a test that analyzes your feed water purity. We combine this data with information about your applications, impurities you want to remove, lab design and budget to ensure you get the right solution for your particular needs.

### Need a validated system?

Evoqua offers ELGA’s market leading validation package with fully trained personnel using controlled equipment and documentation to support you throughout the validation process.



*“I like ELGA equipment because it works and is practically maintenance free – you set it running and then get on with other things. It’s a real ‘fit it and forget it’ system and has proved extremely valuable in the Centre’s busy and demanding laboratories and clean rooms.”*

**Steve Walker**  
Senior Experimental Officer  
Nanoscience and Technology Centre



### Solutions Finder

This guide will help you select the best solution for your application needs. Our team of technical/application specialists are available to answer questions, as well as providing friendly, expert advice.

Email [info@evoqua.com](mailto:info@evoqua.com)

## PURELAB® CHORUS... YOUR CHOICE

PURELAB Chorus gives you the choice to configure a solution that best suits your needs with the added benefit of flexibility should your future needs change.

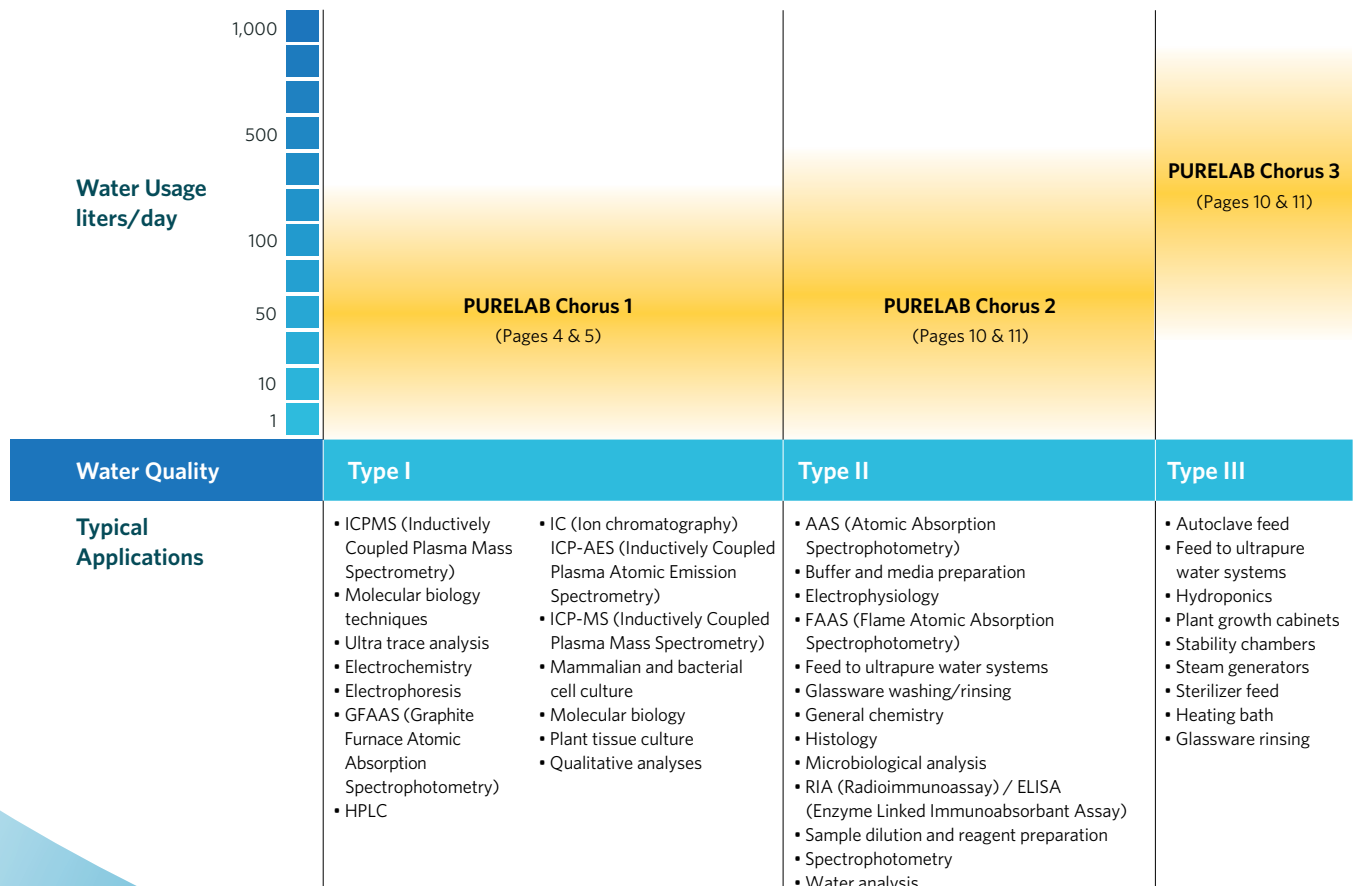
**PURELAB Chorus 1** - For your ultrapure Type I solutions

**PURELAB Chorus 2** - For your pure Type II solutions

**PURELAB Chorus 3** - For your general grade Type III solutions

**Halo Dispense Solutions** - Three remote dispensing and monitoring solutions

**Storage Reservoirs** - Designed to accommodate PURELAB® Chorus water purification solutions



## ANALYTICAL RESEARCH CHALLENGE

### The analyst's challenge

Type I ultrapure water required for HPLC. The customer is concerned that the presence of trace ions in the water will interfere with the assay.

Water is also required for general chemistry.

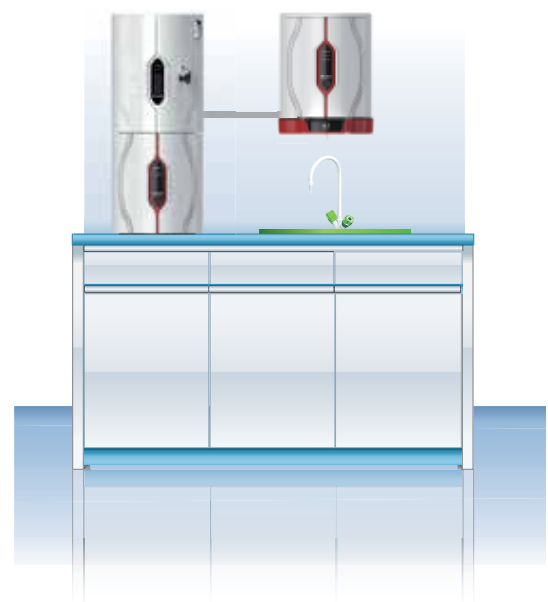
The analyst has experienced accidental flooding of the lab after leaving his old water purification system unattended while filling a container.

### Solution

PURELAB Chorus 2 with a 15 liter storage reservoir for general chemistry feeding PURELAB Chorus 1, positioned above the sink with Halo Advanced dispenser integrated underneath optimizing laboratory space.

Real-time TOC monitoring provides confidence in organic purity.

AutoVolume Dispense feature eliminates accidental flooding of the lab and positioned above the sink for additional peace of mind.



## LIFE SCIENCE CHALLENGE

### The biologist's challenge

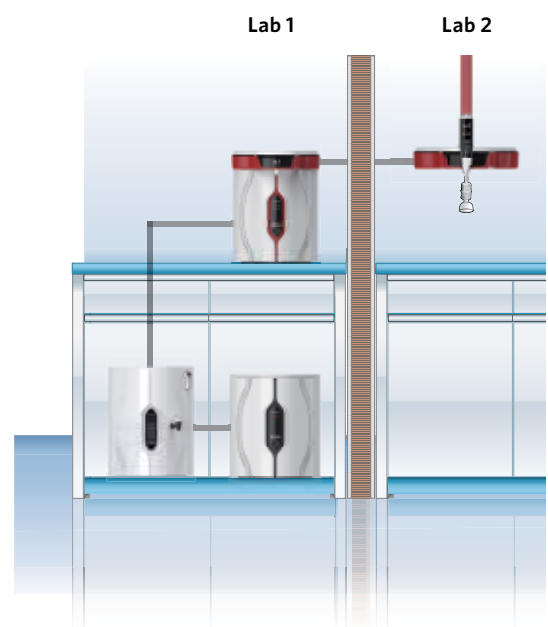
**Lab 1** - Type I ultrapure water required for Gel Preparation. The biologist is concerned that the presence of endotoxins is affecting the host organism. The laboratory also requires a feed to an autoclave.

**Lab 2** - Type I ultrapure water required for DNA to cell transfer. The customer is concerned with the presence of nucleases and bacteria.

### Solution

**Lab 1** - PURELAB Chorus 3 with 30 liter storage reservoir positioned under the bench feeding PURELAB Chorus 1 and Advanced Halo Dispense. (Storage Reservoir for direct feed to Autoclave)

**Lab 2** - Additional Halo flexible dispenser positioned in Lab 2, fitted with Point-Of-Use Biofilter for DNase / RNase removal.





## PURELAB CHORUS 1

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

When your application requires the ultimate in water purity, PURELAB Chorus 1 provides the perfect solution. Consistently delivering water purity of 18.2MΩ-cm (Type I) and underpinned by the advanced PureSure® deionization system, the PURELAB Chorus enables you to focus on attaining accurate results while 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 silicon 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

### Common Scientific Applications

- ICP-MS (Inductively Coupled Plasma Mass Spectrometry)
- Molecular biology techniques
- Ultra trace analysis
- Electrochemistry
- Electrophoresis
- GFAAS (Graphite Furnace Atomic Absorption Spectrophotometry)
- HPLC
- IC (Ion Chromatography)
- ICP-AES (Inductively Coupled Plasma Atomic Emission Spectrometry)
- Mammalian and bacterial cell culture
- Molecular biology
- Plant tissue culture
- Qualitative analyses



### Why the demand for ultimate water purity?

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



## Chorus I System

- 1 Cartridge Identification (CID) Technology**
  - Provides validatable traceability of each purification pack for GLP and other validation requirements
  - Your guarantee of capacity, purity and safety
- 2 Advanced PureSure Deionization**
  - Ensures ultimate purity – eliminates trace ions leaching into your pure water
  - Advanced warning of the need for purification pack change ensures an uninterrupted workflow
- 3 Fully Recirculating**
  - Ensures the highest microbial purity
  - Guarantees water purity at the point-of-use
- 4 Real-time TOC Monitoring**
  - Provides complete confidence in organic purity
- 5 Integrated Ultrafiltration or Microfiltration**
  - Filters out endotoxins, proteins, nucleases and particulates
- 6 Full Spectrum UV Treatment**
  - Low microbial and organic specification
  - High transmittance synthetic quartz sleeve for higher efficiency
  - Lamp failure alarm

## Halo Dispense Solutions

- Three Halo dispense and monitoring solutions enable you to position the dispenser independent from the water purification system. This means you can locate PURELAB Chorus on a bench, under bench or wall mounted to optimize valuable space in your laboratory
- Up to four dispense solutions can be connected in series with different point of use options to suit your application and configured to your specific water purity requirements





## HALO DISPENSE SOLUTIONS

Three remote dispensing and monitoring solutions enable you to position your PURELAB Chorus where you want – freeing up valuable work space.

- **Halo Dispense** – Fixed position dispenser for your basic dispensing needs
- **Halo Advanced Dispense** – Fixed position dispenser with advanced control features
- **Halo Flexible Dispense** – Hand held dispenser providing you with advanced control features and ultimate flexibility

- 1 Unique Halo glow, changes color and flashes alerting you of changes in system performance**
- 2 Prioritized information displayed at all times (system status, TOC, alarm)**
- 3 Clear water purity display for absolute confidence as you dispense**
- 4 Real-time TOC monitoring for critical applications. For units with TOC capability**
- 5 Water purity is monitored right-up to the point of use giving you peace of mind**
- 6 Flexible dispensing in six different ways**
  - Variable flow – drop by drop or up to two liters per minute
  - AutoVolume dispense from 50ml up to 60 liters
  - Default AutoVolume setting to suit your personal volume needs
  - Hands free with optional foot control dispense
  - Locked dispense at your selected flow
  - Hand-held dispensing with Halo Flexible Dispenser
- 7 Data capture via USB for system performance validation**



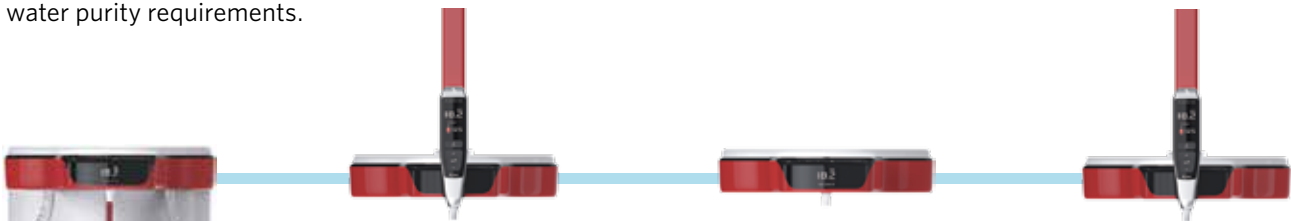
## MULTIPLE POSITIONING

Three Halo dispense and monitoring solutions enable you to position the dispenser independent from the water purification system. This means you can locate PURELAB Chorus on a bench, under bench or wall mounted to optimize valuable space in your laboratory.



## MULTIPLE DISPENSING

Up to four dispense solutions in any combination can be connected in series with different point of use options to suit your application and configured to your specific water purity requirements.

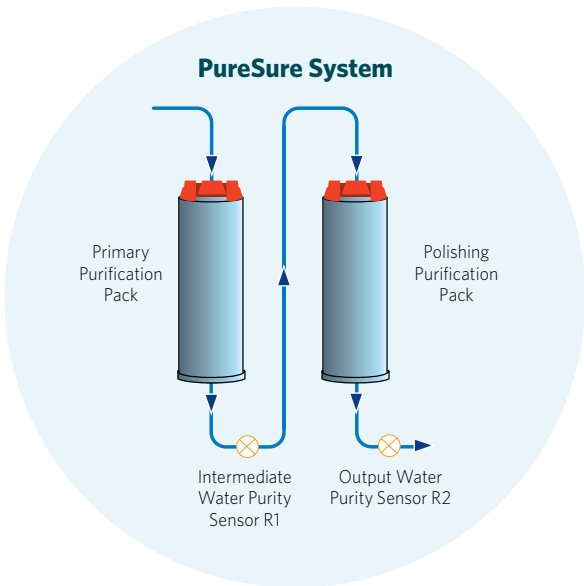
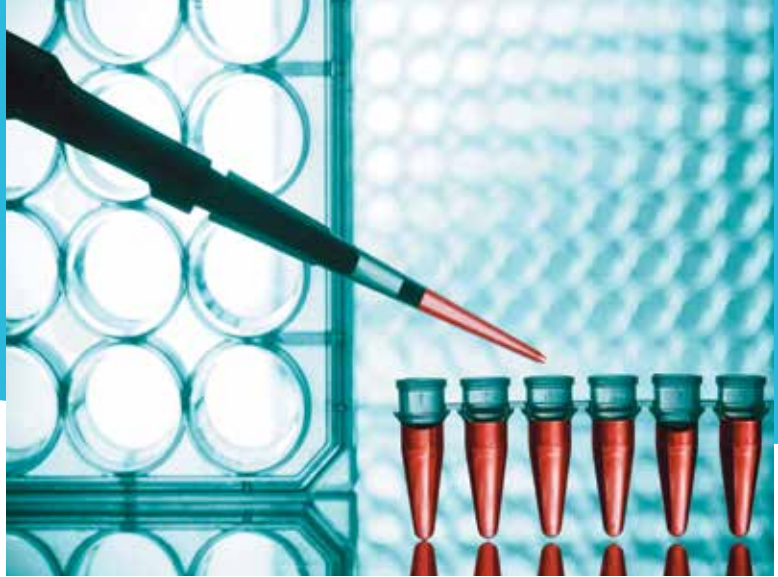


### Accessories

- Foot controlled dispense switch
- Thermal printer
- Leak sensor
- Wall mounting options

### POU Filter for Multiple Applications

- Removal of endotoxins, DNase, RNase and bacteria
- Conforms to international water standards e.g. ISO 696: Grade 1, 2 & 3 ASTM D1193-06, Pharmacopeia USP, EP, JP & CLSI / CLRW



## THE PURESURE® CONCEPT

In all deionization processes there is a risk that weakly ionized impurities will elute from the resins and into your application, as they approach exhaustion.

PureSure prevents this.

The PURELAB Chorus features a unique double purification pack and monitoring system which provides you with some key benefits ensuring accurate results with uninterrupted work flow:

- Guaranteed water purity
- No break-through of organics, silicon or boron
- Increased security
- Capacity gains optimize consumables usage
- Ensured removal of weakly ionized impurities
- Advanced warning of usable purification pack life

## INTEGRATED FILTERS

PURELAB Chorus provides integrated ultrafiltration and microfiltration systems.

This integrated system enables a more effective total system approach, combining technologies such as RO, ion exchange, UV, chemical sanitization and micro- or ultrafiltration to provide ultrapure water rather than relying on a single point-of-use system.

The major benefits of this over typical POU filters:

- Levels of bacteria or endotoxins can be further filtered or recycled before use
- Extra security and peace of mind



### Analytical Applications

- Organics
- Bacteria
- Particulates

### Life Science Applications

- Nucleases (RNase and DNase)
- Bacterial endotoxins & pyrogens
- Bacteria
- Particulates

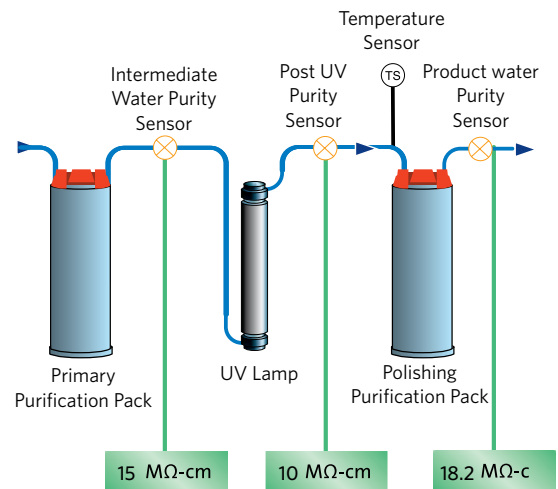
## REAL TIME TOC MONITORING

Total Organic Carbon (TOC) is a universal indicator of the presence of organic impurities. By constantly monitoring TOC we can be assured of the overall organic purity of the water.

By measuring the resistivity of the purified water before and after oxidation by UV, the difference can be calculated and therefore the TOC concentration within the water can be estimated.

### Advantages of real time TOC monitoring:

- Display is calculated every two seconds during recirculation and/or dispensing
- Reliable and fast indication of organic purity
- Any heavy organic loading on the system can be identified before dispensing of the ultra-pure water

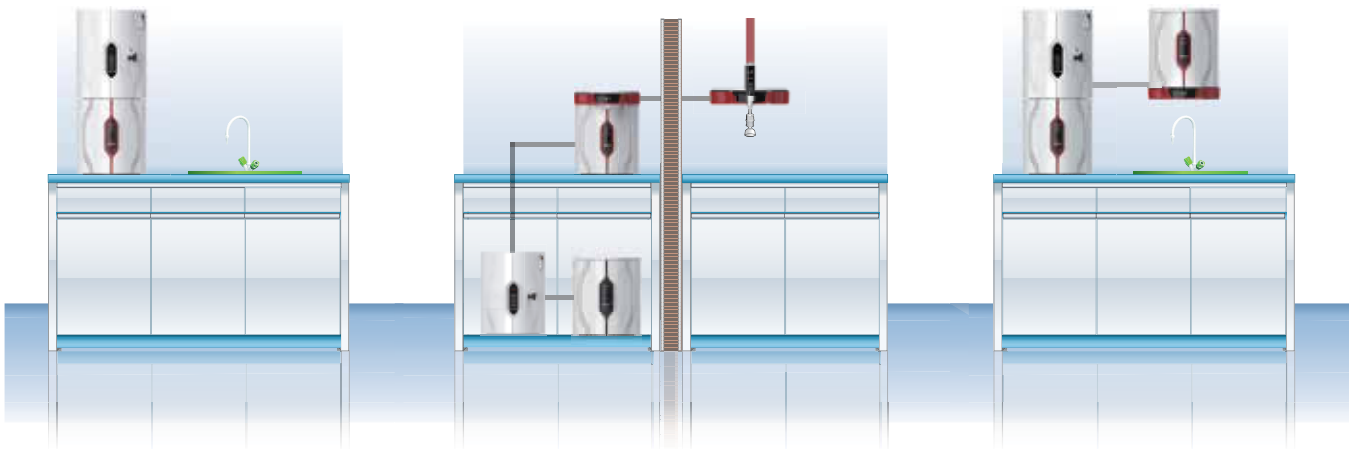


## AS EASY AS A B C

There is more than one kind of laboratory, and more than one kind of scientist. PURELAB Chorus is a modular system that can be configured in all sorts of ways to suit the needs and budgets of all types of laboratories.

PURELAB Chorus is all about providing a solution to meet your needs:

- Application
- Budget
- Configuration





## PURELAB CHORUS 2 & 3

### RELIABLE DELIVERY OF TYPE II OR TYPE III WATER PURITY

When general laboratory grade water is needed PURELAB Chorus 2 (RO/DI) and PURELAB Chorus 3 (RO) provide reliable solutions with flexibility to suit your requirements.

**PURELAB® Chorus 2** (Basic RO/DI) provides Type II pure water direct from a potable tap water supply.

**PURELAB® Chorus 3** provides Type III (Primary RO Grade) water on demand with a wide range of flow rates up to 120 l/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 needed	Proven RO technology produces primary grade water (1-50 µS/cm)
You want the lowest costs of ownership	Minimal purification consumables ensure long-term operational costs remain low

### Storage Reservoirs

ELGA's unique range of 15, 30, 60 and 100 liter storage reservoirs are designed to fit on top or below the PURELAB Chorus.

### Common Scientific Applications

- Stills replacement
- Buffer preparation
- pH solution preparation
- Washing/rinsing
- All stainless steel autoclaves
- General chemistry
- Spectrophotometry
- Heating baths
- Hydroponics/plant growth cabinets
- Steam generators
- Stability chambers
- Sterilizer feed
- Feed to Type I & II polishers

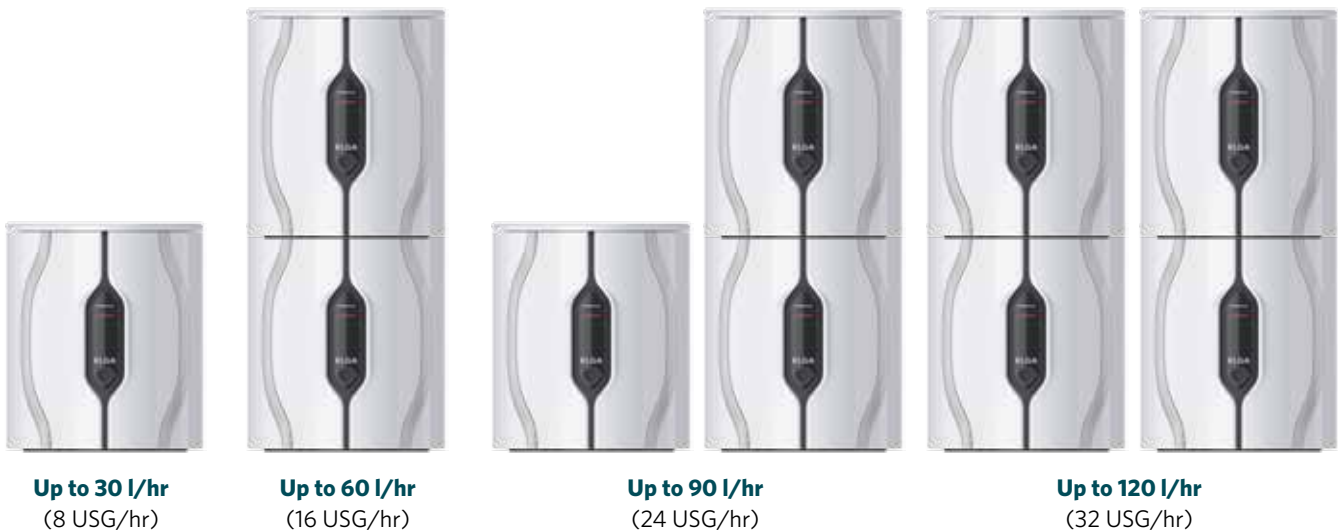


## PURELAB Chorus 2

- 1 Configuration**
  - Ability to configure multiple systems to increase flow rate
- 2 Deionization**
  - 'Reverse Osmosis feed optimized' resin mixes to maximize consumables capacity
- 3 Simplicity**
  - Simple to install, operate and maintain with a clear indication of water purity
- 4 Auto Rinse**
  - Maintains purity of water during periods of low use
- 5 Economical**
  - Optional CO<sub>2</sub> removal from the purified water (post RO) increasing the life of downstream consumables
  - Option to reduce water consumption for low hardness feed waters

## PURELAB® Chorus 3 - Upgradable and Reliable

- Easy upgrade to higher flow rates to meet your future demands
- Duplex systems guarantee maximum uptime





## STORAGE RESERVOIRS

### MAINTAINING OPTIMUM PURITY BY MINIMIZING DEGRADATION OVER TIME

ELGA's unique range of 15, 30, 60 and 100 liter storage reservoirs are designed to maintain optimum purity of stored purified water and provide effective protection against airborne contaminants.

Storage reservoirs are designed to accommodate PURELAB® Chorus water purification systems. The unique space saving design provides a base for the water purification system resulting in one integral, compact unit. This solution removes the need for a separate reservoir and saves valuable bench top space. If preferred the reservoir can be positioned on top of the PURELAB Chorus or supplied as a standalone reservoir to suit the layout of your laboratory.

- 1 LED level indicator - Actual water volume will be displayed next to the LEDs for each reservoir size**
- 2 Overflow indicator (Red light on = overflow)**
- 3 Power on/status OK**
- 4 Direct display of stored purified water on front of reservoir**
- 5 Advanced vent filtration preventing the ingress of airborne contaminants**
- 6 Hygienic overflow in the unlikely event of a water system malfunction**
- 7 Dispense tap positioned to minimize accidental operation or damage (Choice of two positions)**



### Storage Reservoirs Solutions

- Multiple positioning/mounting options to suit your laboratory layout
- Monitoring of reservoir water levels with automated refill ensures purified water is always available
- Designed with optimized / minimal surface area and through-flow of purified water to ensure there are no static areas to harbor bacteria
- Inert opaque polyethylene construction with smooth inner surface to prevent algal and microbial growth
- Fully self-draining base provides more complete sanitization and quicker rinse-out time
- Quick and easy installation with no unsightly and vulnerable extended tubing to a separate reservoir

### Commitment to Quality

PURELAB Chorus Systems are supplied with a Certificate of Conformity, ensuring they have been manufactured and tested at ELGA LabWater Global Operations, whose Quality Management System is approved by Lloyds Register Quality Assurance (LRQA) and complies with BS EN ISO 9001:2008. ELGA's manufacturing facility has been approved by LRQA and complies with the environmental management system ISO 14001:2004.

The PURELAB Chorus has been designed to conform to the requirements of the Waste Electrical & Electronic Equipment (WEEE) Directive and the Restriction of Hazardous Substance (RoHS) Directive.



**Storage reservoir positioned on top of PURELAB Chorus**

**PURELAB Chorus positioned on top of storage reservoir**

### Assured Safety

The PURELAB Chorus is compliant with CE directives associated with safety and electromagnetic compatibility and is approved and tested by an accredited external company. The PURELAB Chorus is also compliant with the requirements of IEC/EN61010-1 and UL61010-1 and is marked with an ETL label showing compliance.



210 Sixth Avenue, Suite 3300, Pittsburgh, PA 15222

+1 (800) 466-7873 (toll-free)    +1 (978) 614-7233 (toll)    [www.evoqua.com](http://www.evoqua.com)

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