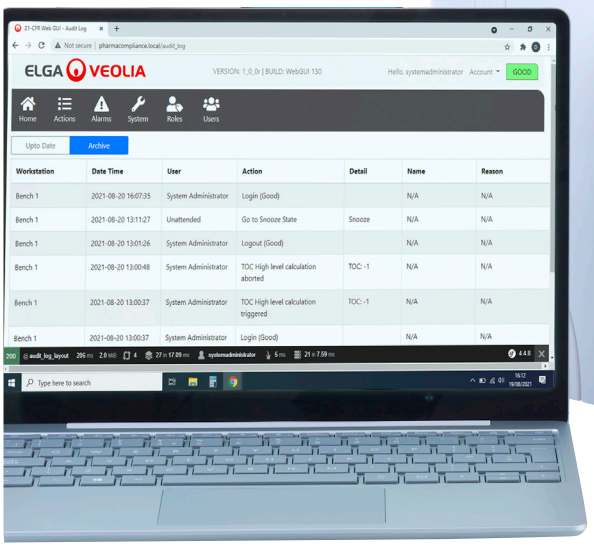
ELGA VEOLIA

# The PURELAB® Range

## UNINTERRUPTED DISCOVERY

The laboratory water purification solutions for your research needs.













WATER TECHNOLOGIES

# Contents


**About ELGA** *04*

**Your Water** *08*

**Technologies** *10*

**Product Range** *12*

**Product Overview**

*Quest* *14*
*Flex 1* *17*
*Flex 2* *18*
*Flex 3* *20*
*Flex 3+* *21*
*Chorus 1* *25*
*Chorus 1 Complete* *26*
*Pharma Compliance* *28*
*Chorus 2+* *30*
*Chorus 2* *32*
*Chorus 3* *34*
*Storage Reservoir* *36*
*Remote Dispenser* *40*
*Halo Dispenser* *42*

**Product Specification** *44*

*Quest* *46*
*Flex 1 & 2* *48*
*Flex 3 & 3+* *49*
*Chorus 1* *52*
*Chorus 1 Complete* *53*
*Pharma Compliance* *54*
*Chorus 2+* *55*
*Chorus 2 & 3* *56*

**Index** *58*

# About ELGA

# ELGA. We are the LabWater Specialists

**We are the specialists in the engineering, service & support of water purification systems. Our unrivalled product design has achieved international recognition and awards. We have been working with scientists since 1937 to guarantee ultrapure and pure water for their experiments and laboratory work.**

## Why choose ELGA as your laboratory water partners?

**Customer-focused – what we create is for our customer**

Our commitment to developing and providing you with ultrapure water means that you can focus and concentrate on obtaining accurate and reliable results.

**Sustainable – at the forefront of all of our activities**

Our products are designed to have the lowest possible impact on the environment at all stages: manufacture, in service and at end of life. We can calculate the carbon value of all our products through their lifetime.

**Innovative – the keystone of our thinking**

Our UK R&D facilities are always looking to provide products dedicated to supplying you with the right water quality for your application.

**British Engineering and Manufacturing – the standard for all our products**

All our systems are manufactured in the UK and we are accredited to ISO:9001 and ISO:14001 standards.

*Our technical service teams support our global science & healthcare customers with specialist expertise. Global digital performance monitoring ensures laboratory work is uninterrupted, and a global supply chain supports clients from regional centres on every continent.*

### Our Awards

GOOD DESIGN AWARD 2021

dba design effectiveness award winner

A'DESIGN AWARD GOLD

reddot design award winner 2011

GIT INNOVATIONS AWARD 2010 2ND PLACE



# The choice *you* need, for *your* lab

**We understand how important it is for you to obtain a choice of water qualities that range from Reverse Osmosis grade for simple routine washing and rinsing, through to ultrapure water for the most critical applications. The PURELAB product range has a wide variety of water purification systems that will meet any one of your requirements for water quality.**

## What are the different types of water quality and what are they used for?

### Type I Water

Often referred to as ultrapure water, this grade is required for some of the most water-critical applications such as HPLC (High-Performance Liquid Chromatography) mobile phase preparation, blanks and sample dilution for other key analytical techniques such as GC (Gas Chromatography), AAS (Atomic Absorption Spectrophotometry), and ICP-MS (inductively Coupled Plasma Mass Spectrometry) as well as molecular biology applications.

### Type II Water

Is the grade for general laboratory applications such as media preparation, pH solutions, buffers and used as a feed source to Type I systems.

### Type III Water

Is the grade of water recommended for non-critical work which may include glassware rinsing, water baths, autoclave, environmental chambers as used to feed Type I systems.

## There is a PURELAB® product to suit your specific needs

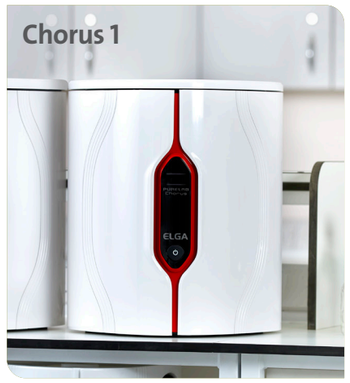
| TYPE I* | TYPE II | TYPE III |
|---|---|---|
| PURELAB Quest | PURELAB Quest | PURELAB Quest |
| PURELAB Flex 1**, 2, 3 & 3+ | PURELAB Chorus 2 RO/EDI/UV | PURELAB Chorus 3 |
| PURELAB Chorus 1 Analytical Research* | PURELAB Chorus 2 RO/DI/UV | PURELAB Flex 1**, 2, 3 & 3+ |
| PURELAB Chorus 1 Life Science* | PURELAB Chorus 2 RO/DI | |
| PURELAB Chorus 1 General Science* | PURELAB Flex 1**, 2, 3 & 3+ | |
| PURELAB Chorus 1 Complete | | |
| PURELAB Pharma Compliance* | | |

**PureSure Technology/in-line filtration/variety of purification packs . **Dependent on feed water.*



# Our comprehensive range of products

Chorus 1




Chorus 1 Complete




Chorus 2+




Chorus 2




Chorus 3




flex 1/2/3/3+



Quest




Pharma Compliance



# Technologies

**The various technologies used in ELGA equipment are able to remove impurities from water down to extremely low levels; some technologies focus on specific contaminants while others have a broader spectrum of targets. To achieve the correct water purity for a particular application, in a cost effective manner, technologies must be arranged in combination and their operation optimized.**

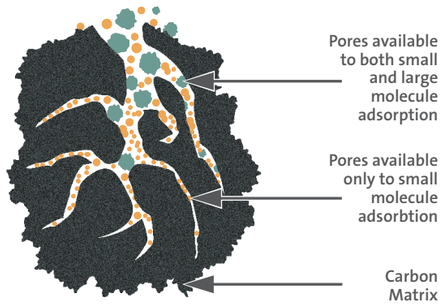
### Activated Carbon

Contains a maze of tiny pores with sizes ranging from <0.1 – 2.9 nm and a surface area of about 1000 square meters per gram. The nature of this surface allows adsorption of organic impurities from the water and catalytic decomposition of free chlorine and, more slowly, chloramines.

It is applied in:

- Pre-treatment cartridges
- Composite vent filters
- Final purification cartridges

Small and Large Organic Molecules

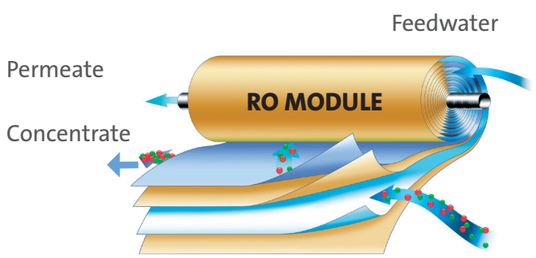



### Microproous Depth Filters

Pre-filtration using microporous depth filters, provides an entrapment/adsorption barrier for the removal of large suspended particles and some colloids from the water entering the ELGA purification process. Typically rated at 5 – 10µm and combined with an activated carbon treatment, these filters act to protect subsequent RO systems from fouling and blockage.

### Reverse Osmosis

Reverse osmosis (RO) is a process where pressure is used to push water through a membrane filter in a cross-flow fashion. RO membranes are extremely fine filters that reject water contaminants less than 1nm in diamenter. Typically >95% of ionic impurity, most organic impurity, and nearly all particulates, bacteria and bio-molecules are removed from the permeate water; these are carried out of the RO module in a waste or concentrate water stream.






Technologies

### Ion Exchange

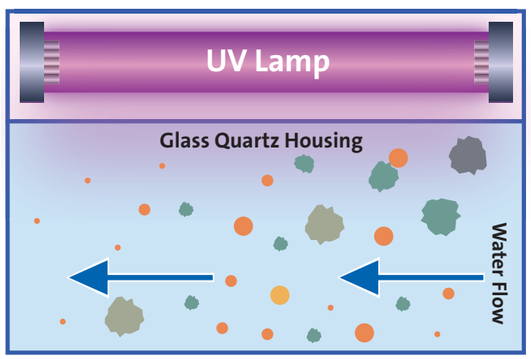
Ion exchange resins are often used as part of a final treatment step. Single-use purification packs typically use a mixture of ion-exchange resins and other media. When used to deionize water, charged impurities are retained on these resins, while H+ and OH- ions (which combine to form water) are released to replace them. This is a highly efficient process and can remove ions to give product-water resistivity of up to 18.2 MΩ.cm.

### Electrodeionization

Electrodeionization (EDI) combines ion-exchange resins and ion-selective membranes, which are used to move ionic impurities into a waste or concentrate water stream leaving purified product-water. As impurities leave via the concentrate water stream, their build-up does not exhaust the resin, and therefore prolongs resin lifespan. A single EDI unit may operate for many years before a replacement is required. Typically product water resistivity of >10 MΩ.cm is consistently achieved using this process. This technology can be used as an alternative to single-use purification cartridges.

### Ultraviolet (UV) Light

Treatment of water with UV-C light is used to photo-oxidise organic impurities and/or inactivate micro-organisms. Photo-oxidation of organic impurities results in polar or charged species that can subsequently be removed by ion-exchange processes. Typically the UV lamp forms part of a 'polishing' treatment loop including ion-exchange, through which water is repeatedly circulated to maintain quality. Water with Total Organic Carbon (TOC) of <5 ppbC and bacteria at <1 CFU/ml can be achieved in ELGA products that use this approach.




### Sub-micron Filtration

Sub-micron filtration, including micro, ultra-micro and ultra filters (30–3000 nm) are used as part of a 'polishing' loop or at the point-of-use. Fine filtration is applied to remove bacteria (live or dead) and biologically active molecules. These absolute filters have pores smaller than their intended target and can retain the impurity while allowing water to pass through. Impurities that are removed by sub-micron filtration, include bacteria, colloids, enzymes, endotoxins and particulates.

# PURELAB®

## Product Range



# PURELAB® Quest

**The only purifier on the market that dispenses all 3 types of science ready water from a compact, economical and easy to use system. The Quest water solution system provides laboratory water directly from a tap water input.**

## AT A GLANCE

### Overview:

- **Type I** - 18.2 MΩ.cm (Up to 10 Litres per day)
- **Type II** - > 1 MΩ.cm (Up to 10 Litres per day)
- **Type III** - 20 µS.cm (Up to 30 Litres per day)

### Key Features:

- Compact
- Connected
- Sustainable
- Cost effective
- Proven reliability which is tested, proven and unrivalled
- Effortless, ingenious, intuitive

### Ideal Applications:

- **Type I Water**
  HPLC
  GC-MS
  AA/ICP-OES
  IC
  Molecular biology e.g. DNA Sequencing and PCR
- **Type II Water**
  Preparing and diluting buffers and reagents
  Tissue culture media pH solutions
- **Type II Water**
  Glassware rinsing
  Water baths
  Autoclave feeds

### Compact

232 mm wide. 510 mm high. Wall mountable; saving valuable lab space.

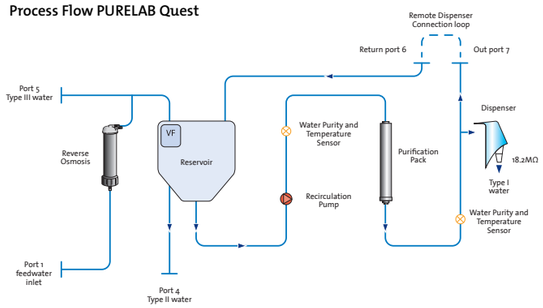
### Sustainable

Made from more than 85% reclaimed materials.* Designed with long lasting consumables.

### Cost-Effective

3 types of water from one system. Space saving design means a more efficient lab and team.

**Process Flow PURELAB Quest**




*Excludes materials in contact with the purification process.*




**See specification on page 46**

# The PURELAB® flex Range



flex 1



flex 2



flex 3



flex 3+



*Improved Performance.*
*Less Environmental Impact.*

# PURELAB® flex 1

## Simplicity and Elegance

**A versatile dispensing and monitoring system when connected to a reservoir or distribution loop, while also functioning seamlessly as a straightforward deionization system.**

### AT A GLANCE

**Overview:**

- **Type I**
- **Type II**
- **Type III**

Dependant on use of DI pack
Litres per day: Depedant on feed water

**Key Features:**

- Flexible dispensing
- Customise settings
- Full re-circulating
- Integrated filtration

**Ideal Applications:**

- General Lab
- Type II Applications
- Dispensing with DI Pack

### Customized Settings

Be in control of your PURELAB flex by customizing the settings to suit your application.

### Simplicity

Simple to install, operate and maintain with prioritized information displayed at all times (system status, alarm) for absolute confidence as you dispense.

### Easy to Use

Ergonomic design with features including auto volumetric dispense and height adjustability.

### Data Capture

Data capture via USB for system performance validation and software updates.

### Space Saving

Space saving and compact dispenser which can be placed on the bench or wall mounted.

### Sustainability

Manufactured using up to 70% reclaimed materials.

**See specification on page 48**



# PURELAB® flex 2

## Designed for the laboratory of today

**Ensures precise, adaptable, and user-friendly performance. This acclaimed system generates ultrapure type I (18.2 Ω.cm) water from a pre-purified source, making it perfect for analytical and life science purposes.**

### AT A GLANCE

**Overview:**

- **Type I** - 18.2 MΩ.cm
- Litres per day: Depedant on feed water

**Key Features:**

- Real-time TOC
- Fully re-circulating
- Customize settings
- Integrated filtration
- Adjustable dispensing

**Ideal Applications:**

- Mass Spectrometry
- Molecular Biology
- Electrochemistry
- Atomic Spectroscopy
- Liquid Chromatography
- Gas Chromatography
- Immunochemistry
- Spectrophotometry
- Media / Buffer Prep
- General Chemistry

### Full Spectrum UV Treatment

Full recirculation through the UV lamp and purification pack right to the point of use for peace of mind.

### Intuitive Flexible Dispense

Clear water purity display for absolute confidence as you dispense.

### Real-time TOC Monitoring

Provides complete confidence in organic purity by reducing the level of organics for critical applications.

### Sustainability

Utilising PURELAB flex new ECO MODE reduced power consumption by 17% and manufactured from up to 70% reclaimed material.

### Data Capture

Data capture via USB for system performance validation and software updates.

### Space Saving

Space saving and compact dispenser which can be placed on the bench or wall mounted.

**See specification on page 48**

# PURELAB® flex 3

## Power and flexibility

**A small unit with big powerful capabilities. The PURELAB flex 3 is the ultimate system providing Type 1 ultrapure water from potable tap water in one single unit.**

### AT A GLANCE

**Overview:**

- **Type I** - 18.2 MΩ.cm
- Litres per day: < 10

**Key Features:**

- Real-time TOC
- Fully re-circulating
- Integrated filtration
- Adjustable dispensing

**Ideal Applications:**

- Mass Spectrometry
- Molecular Biology
- Electrochemistry
- Atomic Spectroscopy
- Liquid Chromatography
- Cell Culture
- Gas Chromatography
- Immunochemistry
- Spectrophotometry
- Media / Buffer Prep
- General Chemistry

### Space Saving Design

The compact unit can be placed on the bench or wall mounted and has an integrated 7 Litre reservoir filled by a 20 l/hr RO membrane, ensuring that water is always available.

### Full Recirculating

Ensuring the highest microbial purity and guaranteeing pure water, as recirculation of the water occurs from the reservoir right to the point-of-use.

### Flexible Dispenser

The intuitive dispenser offers a clear display of the water purity for absolute confidence as you dispense.

### Real-time TOC Monitoring

Provides complete confidence in organic purity and clear display at all times. The final quality sensor is placed at the entry of the flexible dispenser giving you peace of mind.

### Sustainability

Manufactured from upto 55% reclaimed plastics, reducing water waste by 20% and 28% more energy efficient

### Data Capture

Data capture via USB for system performance validation and software updates.

**See specification on page 49**



# PURELAB® flex 3+

## Flexible elegance

**A unique automated solution providing Type I (ultrapure water) from potable water. Couples directly with analytical chemistry systems delivering complete automation - all in one single unit.**

### AT A GLANCE

**Overview:**

- **Type I** - 18.2 MΩ.cm
- Litres per day: <10

**Key Features:**

- Connects directly to multiple analytical chemistry systems from multiple brands
- On-demand continuous ultrapure water to analysers
- Full automation of water production & delivery
- Real-time TOC monitoring
- Full re-circulating
- Adjustable dispensing

**Ideal Applications:**

- Analytical Chemistry systems
- Mass Spectrometry
- Molecular Biology
- Electrochemistry
- Atomic Spectroscopy
- Liquid Chromatography
- Cell Culture
- Gas Chromatography
- Immunochemistry
- Spectrophotometry

### On-demand Water Supply

Provides consistent & continuous supply of ultrapure water to analysers to reduce failed runs and loss of samples, reagents and analyser components/accessories.

### Space Saving Design

The compact unit can be placed on the bench or can be wall mounted and has an integrated 7 Litre reservoir filled by a 20 l/hr RO membrane, ensuring that water is always available.

### Full Recirculating

Ensuring the highest microbial purity and guaranteeing pure water, as recirculation of the water occurs from the reservoir right to the point-of-use.

### Real-time TOC Monitoring

Provides complete confidence in organic purity and clear display at all times. The final quality sensor is placed at the entry of the flexible dispenser giving you peace of mind.

### Data Capture

Monitor water purity via USB datalog ensuring analytical performance during test batch.

### Sustainability

Manufactured using up to 52% reclaimed materials; energy efficiency of upto 55% and reduction of upto 20% water to drain.

**See specification on page 49**

# The Chorus Range

### Chorus 1




### Chorus 1 Complete




### Pharma Compliance




### Chorus 2+




### Chorus 2




### Chorus 3






# PURELAB® Chorus 1

**Flexible. Configurable. Simple.**

**Delivering the ultimate in water purity for absolute confidence in your results. When you require the ultimate in water purity, PURELAB Chorus 1 provides the perfect solution. Consistently delivering water purity of 18.2 MΩ.cm (Type I+/I) and underpinned by the advanced PureSure® deionization system.**

## AT A GLANCE

### Overview:

- Type I+ Water - 18.2 MΩ.cm
- Litres per day: Depends on feedwater

### Key Features:

- Real time TOC
- Fully re-circulating
- Integrated filtration
- Multiple dispensing
- PureSure technology

### Ideal Applications:

- Mass Spectrometry
- Ion Chromatography
- Ultra trace Analyses
- Qualitative Analyses
- Gas Chromatography
- Molecular Biology
- Cell Cultures
- Electrochemistry
- Immunochemistry
- Atomic Spectroscopy

### Advanced PureSure Deionization

A twin-bed ion-exchange process with inter-stage resistivity monitoring allows retention of any impurity released during exhaustion of a primary cartridge, by the secondary polishing cartridge. This method gives guaranteed, optimum, product-water quality, advanced warning of consumable change, and extended consumable service life.

### Fully Recirculating

Ensuring microbial purity and guaranteeing pure water at the point-of-use.

### Real-time TOC Monitoring

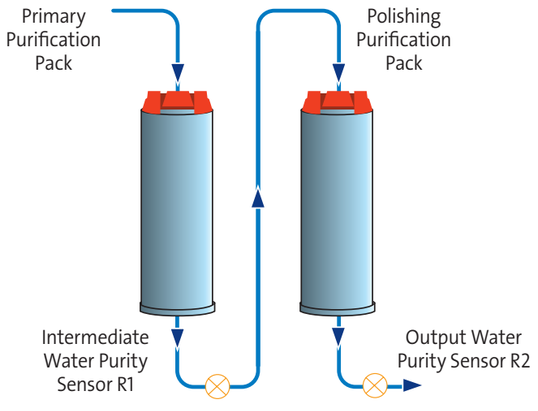
Provides complete confidence in organic purity.

### Integrated Filtration

Ultrafiltration or microfiltration filters out endotoxins, proteins, nucleases and particulates. 185nm wavelength breaks organic compounds and 254nm wavelength sterilises bacteria and viruses.

### Data Capture

Data capture via USB for system performance validation and software updates.




*Chorus 1 enables you to focus on attaining accurate results while ensuring an uninterrupted work flow*

See specification on page 52

# PURELAB®
# Chorus 1 Complete

**Flexible. Configurable. Simple.**

**One complete solution for the laboratory.**

**PURELAB Chorus 1 Complete provides a complete solution from potable tap water supply to ultrapure water, and is ideal for laboratories needing up to 480 Litres of 18.2 MΩ.cm ultrapure water. With its easy to use ergonomic design, water can be measured and dispensed with confidence directly from the system or from a choice of additional Halo Dispensers.**

## AT A GLANCE

### Overview:

- Type I Water - 18.2 MΩ.cm
- Litres per day: Up to 480

### Key Features:

- Tap-to-ultrapure
- Fully re-circulating
- Integrated filtration
- Multiple dispensing

### Ideal Applications:

- Mass Spectrometry
- Molecular Biology
- Electrochemistry
- Atomic Spectroscopy
- Liquid Chromatography
- Gas Chromatography
- Immunochemistry
- General Laboratory
- Spectrophotometry

### Fully Recirculating

Recirculation of purified water through our modular reservoir to maintain consistent peak water purity at 18.2 MΩ.cm.

### ELGA Biofilter (optional)

When fitted, PURELAB Chorus 1 Complete produces water which is free from biologically active impurities.

### Single System Solution

Perfect single system solution for analytical and life science applications requiring 18.2 MΩ.cm.

### Data Capture

Data capture via USB for system performance validation and software updates.

### Reduced Maintenance Times

Quick and easy replacement of consumables as well as semi-automated sanitization to reduce maintenance times.

### Space Saving Design

Designed to be modular and stackable to save space, whether wall-mounted or under the bench.

### Economical

Optional CO2 removal from the purified water (post RO) increasing the life of downstream consumables.




*Chorus 1 Complete provides a complete solution from potable tap water supply to ultrapure water*

See specification on page 53

# PURELAB®
# Pharma Compliance

**PURELAB Pharma Compliance is packed with innovative features optimised for QC laboratories. It offers all the necessary purification, software capabilities, qualification documentation and online support services necessary for the validation required to meet Good Manufacturing Practice (GMP). The ultrapure water system meets your laboratories needs, with minimal intervention, improved efficiencies and a contemporary style to compliment any modern laboratory.**

**The Pharma Compliance includes secure software providing the evidence to meet FDA and EU standards for digital record keeping. Purification processes fulfil United States Pharmacopeia standards 643 and 645. Qualification documents provided enable the unit to support labs subject to validation under GxP.**

## AT A GLANCE

### Overview:

- Type I Water - 18.2 MΩ.cm

### Key Features:

- Smart, intuitive software
- Digital record keeping
- Quality management system
- Meets GMP requirements
- Complies with the TOC verification and water conductivity measurements required under US pharmacopeia 643 and 645.

### Ideal Applications:

- QC labs wanting to meet high level GMP regulations
- QC labs with FDA CFR 21 Part 11 requirements
- Mass spectrometry
- Ion and Gas chromatography
- Ultra trace and qualitative analyses
- Molecular Biology
- Cell cultures
- Electrochemistry
- Immunochemistry

### Digital Record Keeping

The PURELAB Pharma Compliance's admin functions, security and data integrity capabilities, password accessibility, audit trail procedures & permissions all meet national regulators best practice for data management in QC labs following GMP standards.

### Designed to Comply

Designed to meet FDA, United States Pharmacopeia, EUDRALEX, European Pharmacopoeia and all GMP requirements for Quality Control laboratories.

### Cost Effective

The PURELAB Pharma Compliance delivers the water to support the QC tests necessary to validate drug purity in pharma manufacturing. Consumables are designed to minimise cost and waste.




See specification on page 54

# PURELAB® Chorus 2+

**Flexible. Configurable. Simple.**

**One complete solution for the laboratory.**

**PURELAB Chorus 2+ (RO/EDI/UV) features our patented recirculating EDI technology: the only EDI system on the market that is able to fully recirculate to achieve 10- >15 MΩ.cm. The PURELAB Chorus 2+ provides additional bacteria and inorganic quality for sensitive analytical and life science applications above that of basic laboratory work. With its simple design and ease of use, water can be measured and dispensed with confidence from the system or from a choice of additional Halo or Remote Dispenser.**

## AT A GLANCE

### Overview:

- Type II+ Water - 10 MΩ.cm
- Litres per day:
  upto 480L/day (RO/DI/UV)
  upto 220L/day (RO/EDI/UV)

### Key Features:

- Tap to Type II
- Fully Re-circulating
- Multiple Dispensing

### Ideal Applications:

- Electrochemistry
- Cell Culture
- Spectrophotometry
- Feed to Ultrapure Water
- Media / Buffer Preparation
- General Chemistry

### Fully Recirculating

ELGA's patented fully recirculated EDI provides a constant supply of high purity that guarantees a minimum of 10 MΩ.cm water at all times.

### Ideal for High Volume Labs

A cost-effective solution for laboratories requiring higher output volumes thanks to the incorporated EDI technology.

### Single System Solution

Perfect single system solution for analytical and life science applications.

### Space Saving Design

Designed to be modular and stackable to save space, whether wall-mounted* or under the bench.

**If fitted with Halo dispenser*

### Reduced Maintenance Times

Quick and easy replacement of consumables as well as semi-automated sanitization to reduce maintenance times.

### Economical

Optional $CO^2$ removal from the purified water (post RO) increasing the life of downstream consumables.

### Data Capture

Data capture via USB for system performance validation and software updates.




See specification on page 55

# PURELAB® Chorus 2

**Modular. Flexible. Reliable.**

**Reliable delivery of Type II water purity.**
**When Type II water is all you need, then PURELAB® Chorus 2 (RO/DI) is the reliable solution with the flexibility to suit your requirements. It dispenses up to 480 Litres of pure water per day from a potable water supply for general laboratory applications.**

## AT A GLANCE

### Overview:

- Type II - 10 MΩ.cm
- Litres per day: Up to 480

### Key Features:

- Easy Configurability
- Modular

### Ideal Applications:

- Stills Replacement
- Buffer Preparation
- pH solution Preparation
- Washing/Rinsing
- Autoclaves
- General Chemistry
- Hydroponics
- Steam Generators
- Sterilizer Feed
- Feed to Type I Polishers

### Deionization

The Reverse Osmosis feed contains optimized resin mixes to maximize consumables capacity.

### Simplicity

Simple to install, operate and maintain with prioritized information displayed at all times (system status, alarm) for absolute confidence as you dispense.

### Economical

Optional $CO^2$ removal from the purified water (post RO) increasing the life of downstream consumables.

Option to reduce water consumption for low hardness feed waters.

### Modular

Multiple PURELAB Chorus 2 units can feed into one reservoir and systems can be expanded post-installation. As such, the cost of future upgrades is minimized. Duplex systems also guarantee maximum uptime.

### Data Capture

Data capture via USB for system performance validation and software updates.

### Reduced Maintenance Times

Quick and easy replacement of consumables as well as simple sanitization to reduce maintenance time.




*PURELAB Chorus 2 (RO/DI) is the reliable solution with the flexibility to suit your requirements*

See specification on page 56

# PURELAB® Chorus 3

**Modular. Flexible. Reliable.**

**Reliable delivery of Type III water purity. When general laboratory grade water is all you need, then PURELAB Chorus 3 is the reliable solution with the flexibility to suit your requirements. It can also be used as a feed to other ELGA water systems.**

## AT A GLANCE

### Overview:

- Type III Water - 10 MΩ.cm
- Litres per day: Up to 720
- RO Water

### Key Features:

- Easy Configurability
- Auto Rinse
- Modular

### Ideal Applications:

- Buffer Preparation
- Washing/Rinsing
- Autoclaves
- General Chemistry
- Hydroponics
- Steam Generators
- Sterilizer Feed
- Feed to Type I polishers

### Configuration

Ability to configure multiple systems to increase flow rate.

### Simplicity

Simple to install, operate and maintain with prioritized information displayed at all times (system status, alarm) for absolute confidence as you dispense.

### Economical

Optional CO2 removal from the purified water (post RO) increasing the life of downstream consumables.

Option to reduce water consumption for low hardness feed waters.

### Auto Rinse

Maintains purity of water during periods of low use.

### Data Capture

Data capture via USB for system performance validation and software updates.

### Reduced Maintenance Times

Quick and easy replacement of consumables as well as semi-automated sanitization to reduce maintenance time.

### Modular

Multiple PURELAB Chorus 3 units can feed into one reservoir and systems can be expanded post-installation. As such, the cost of future upgrades is minimized. Duplex systems also guarantee maximum uptime.




See specification on page 56

# Storage Reservoirs

**Our unique range of storage solutions are designed to maintain optimum purity of stored water and provide effective protection against airborne contaminants. They are designed to accommodate PURELAB Chorus water purification systems by maximizing the space in a single integral, compact unit or to sit independently to suit the layout of your laboratory.**

### Multiple Positioning

Multiple positioning/mounting options to suit your laboratory layout.

### Polyethylene Construction

Inert opaque polyethylene construction with smooth inner surface.

### Dispense Tap

Positioned to minimize accidental operation or damage (choice of positions).

### Advanced Vent Filtration

Prevents the ingress of airborne bacteria, particulates, organic vapours and CO2.

### Auto Fill

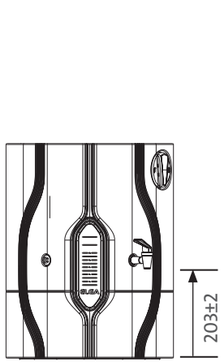
Monitoring of reservoir water levels with automated refill ensures purified water is always available.

### Hygienic Overflow

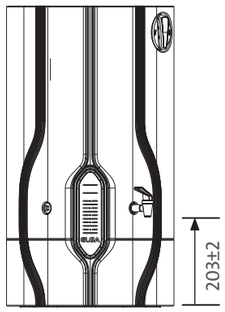
Hygienic overflow in the unlikely event of water system malfunction.

### Easy Display

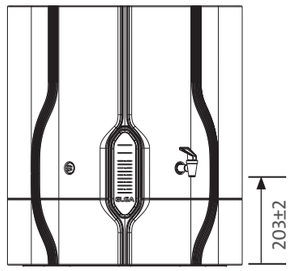
Direct display of stored purified water on the front of the reservoir for easy identification.



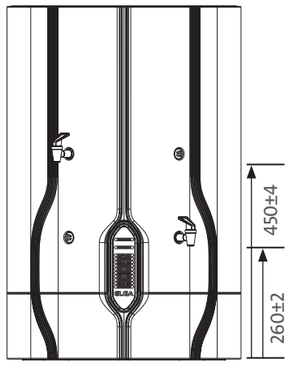

Capacity: 15 Litres
Dimensions (mm):
485 (h) x 376 (w) x 347 (d)*
Flow Rate: 6 l/min




Capacity: 30 Litres
Dimensions (mm):
676 (h) x 376 (w) x 347 (d)*
Flow Rate: 8 l/min




Capacity: 60 Litres
Dimensions (mm):
590 (h) x 532 (w) x 534 (d)*
Flow Rate: 10 l/min




Capacity: 100 Litres
Dimensions (mm):
805 (h) x 532 (w) x 524 (d)*
Flow Rate: 10 l/min

** Please allow for ±8mm tolerance*




PURELAB®
Dispensing Solutions

# PURELAB® Dispenser

**The only remote dispenser on the market with an in-built water quality monitor – providing maximum reassurance that you are not losing purity as you move to a free-standing solution. Together with PURELAB Chorus & Quest you can quickly and easily create a bespoke water purification solution for your lab. The PURELAB Dispenser enables uninterrupted discovery.**

## AT A GLANCE

### Overview:

- Type I Water - 18.2 MΩ.cm
- Litres per day: Up to 480

### Key Features:

- Unrivaled purity in design
- Unmatched flexibility
- Effortless use
- Simple & easy installation

### Ideal Applications:

- Life Science applications (cell culture, PCR, genomics, dissolution testing, western blotting)
- Chromatographic techniques
- (HPLC, UHPLC, LC-MS,IC, ICP-MS, AAS )

**Accuracy**

- Flexible dispensing with unrivalled built in purity monitoring sensor
- Delivering proof of water purity
- Repeated volume dispensing
- Improving lab efficiency
- Reproducible results

**Streamlined footprint**

- Maximized lab space
- Optimization of storage space
- Up to 4 dispensers per water purifier*

*Dependent on water purifier purchased.

**Simple use and maintenance**

- Plug and Play installation with PURELAB range
- Height adjustable, 180° rotating arm and flexible dispenser arm
- IPX7 rating dispenser handset with menu navigation
- Optional connection to point of use filtration

**Efficient**

- From precise drop by drop up to 2 litres per minute allowing for the right speed including calibration work
- Variable flow rate for easier filling of different sizes of labware
- Volumetric dispensing freeing you to continue working while water is being dispensed
- Profile & locked dispensing allowing you to choose your desired amount of water and prevent accidental flooding



# Halo Dispense Solutions

**The PURELAB range offers a variety of dispensing and monitoring solutions to customers enabling the ultimate flexibility when using PURELAB Chorus 1, Chorus 1 Complete, & Quest.**

### Clear Display

Prioritized information displayed at all times (system status, alarm) for absolute confidence as you dispense.

### Multiple Positioning

Position the dispenser on the benchtop or independent from the water purification system to optimise your valuable lab space.

### Flexible Dispensing

- Variable flow
- Auto-volume dispense
- Hands free
- Locked dispense
- Hand-held dispensing
- Profile dispense

### Halo Glow*

The unique glow changes colour and flashes alerting you to changes in the system performance.

### Water monitoring & Real-Time TOC Monitoring**

Water is monitored right to the point of dispense for complete peace of mind and real time TOC monitoring for critical applications.



| Halo Dispenser | Halo Advanced Dispenser | Halo Flexible Dispenser |
|---|---|---|
| Fixed | Fixed | Flexible |
| • Variable flow rate dispense<br>• Drop-by-drop control<br>• Locked dispense | • Purity monitoring to point-of-use<br>• Auto volume dispense<br>• Profile dispense | • Flexible handset |




*Only for PURELAB Chorus range
**Only for PURELAB Chorus 1






# PURELAB®

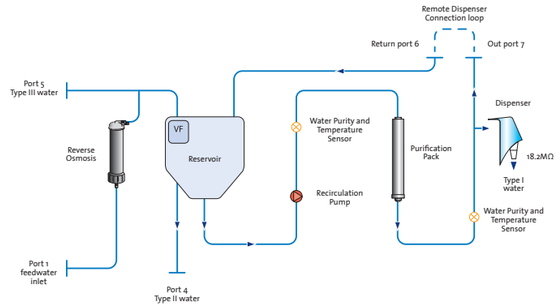
## Specification



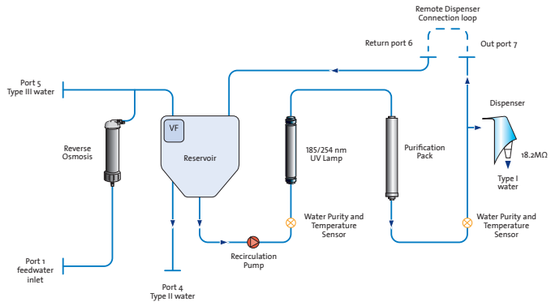




## Process Flow PURELAB Quest




## Process Flow PURELAB Quest UV




| Specifications | PURELAB Quest UV | PURELAB Quest |
|---|---|---|
| Ultrapure (Type I) water specifications (from fixed dispense tip) | | |
| Resistivity | 18.2 MΩ.cm @ 25°C | 18.2 MΩ.cm @ 25°C |
| Dispense flow rate | Up to 1.2 l/min (0.27 gal) | Up to 1.2 l/min (0.27 gal) |
| TOC | <5 ppb | <30 ppb |
| Bacterial TVC | <0.1 cfu/ml *1 | <0.1 cfu/ml *1 |
| Endotoxin | <0.001 Eu/ml *2 | <0.001 Eu/ml *2 |
| RNases | <1 pg/ml | n/a |
| DNases | <5 pg/ml | n/a |
| pH | Effectively Neutral | Effectively Neutral |
| Particulates | 0.2 µm filtration *1 | 0.2 µm filtration *1 |
| Recommended daily volume | Up to 10 l/day *3 | Up to 10 l/day *3 |
| Pure (Type II) water specifications (Water Outlet port 4) | | |
| Resistivity | >1 MΩ.cm @ 25 °C | >1 MΩ.cm @ 25 °C |
| TOC | < 50 ppb | < 50 ppb |
| Bacterial TVC | <100 cfu/ml | <100 cfu/ml |
| Recommended daily volume | Up to 10 l/day *1 (2.2 gal) | Up to 10 l/day *1 (2.2 gal) |

| PURELAB Quest | PURELAB Quest UV |
|---|---|
| Operational weight | Operational weight |
| 21.4 kg (47.2 lbs) | 23 kg (50.7 lbs) |

| Installation |
|---|
| Benchtop or wall-mounted |

| Electrical Requirements | |
|---|---|
| Main Input | 100 - 240 VAC, 50 - 60 Hz |
| Power Required (Excluding Pump and UV) | 24 V DC |
| Power Consumption | 120 VA |
| Noise Output | dBA - <40 |

| Pipe Connections | |
|---|---|
| Inlet | 8mm (5/16) OD Tube |
| Outlet | 8mm (5/16) OD Tube |
| Drain | 8mm (5/16) OD Tube |
| Reservoir Outlets | 8mm (5/16) OD Tube |
| Reservoir Overflow | 8mm (5/16) OD Tube |

| Environment | |
|---|---|
| Temperature | 4 - 40 °C (recommended 10 - 25 °C) |

| RO-permeate (Type III) Water Specifications (Water Outlet port 5) | | |
|---|---|---|
| Conductivity | <20 µS/cm *4 | <20 µS/cm *4 |
| TOC | <200 ppb 4 | <200 ppb 4 |
| Bacterial TVC | <1000 cfu/ml 4 | < 1000 cfu/ml 4 |
| Ionic rejection | >96% 5 | >96% 5 |
| Particulates and Bacteria rejection | >99% | >99% |
| Organic rejection (MW > 200 Da) | >99% | >99% |
| Production flow | 10 l/hr 5 | 10 l/hr 5 |
| Recommended daily volume | Up to 30 l/day | Up to 30 l/day |

**1 When using point of use filters (LC134/LC197)*

**2 When using point of use filter (LC197)*

**3 Available volume of Type I and II water combined; increased use will reduce purification pack life*

**4 Subject to suitable feed water purity (see ionic rejection) and system maintenance*

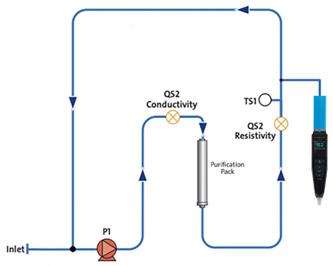
**5 With feed water pressure at > 4 bar and temperature at 15 °C*

| Feedwater Specifications | |
|---|---|
| Water Source | (Portable Water Source) |
| Conductivity | < 2000 µS/cm (High conductivity feedwaters may lower purification pack life and raise Type III water conductivity) |
| Hardness | <350 ppm as CaCO 3 |
| Free Chlorine | <0.05 ppm Cl 2 |
| Chloramine | <0.02 ppm Cl 2 |
| Total Chlorine | <0.05 ppm Cl 2 |
| Silica | <30 ppm SiO 2 |
| Carbon Dioxide (CO2) | <30 ppm (recommended < 20 ppm) |
| Fouling Index | <10 |
| Iron/Manganese | <0.5 ppm Fe/Mn |
| TOC (Total Organic Carbon) | Recommended <2ppm |

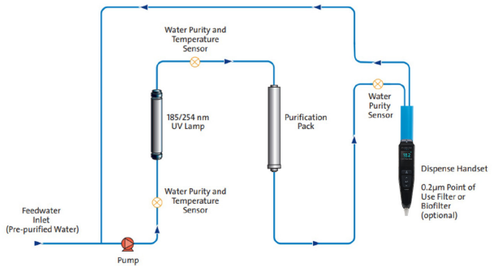
# flex 1 & 2




**Process Flow PURELAB flex 1**




**Process Flow PURELAB flex 2**




## FEEDWATER REQUIREMENT / TREATED WATER SPECIFICATIONS

| Application | PURELAB Flex 1 | PURELAB Flex 1 (with purification pack) | PURELAB flex 2 |
|---|---|---|---|
| Daily volume | >10 Litres | >10 Litres | >10 Litres |
| Dispense Flowrate | Up to 2.0 l/min | Up to 2.0 l/min | Up to 2.0 l/min |
| Inorganics @25°C | As per feedwater | 18.2 MΩ.cm | 18.2 MΩ.cm |
| Total organic carbon (TOC) | Dependent on feedwater | | |
| Bacteria | <0.1 CFU/ml° | <0.1 CFU/ml° | <0.001 CFU/ml°¹ |
| Bacterial Endotoxin | N/A | <0.001 EU/ml† | <0.001 EU/ml† |
| RNase* | N/A | N/A | <1 pg/ml* |
| DNase* | N/A | N/A | <5 pg/ml* |
| ° With C134/145/197 POU filter/Biofilter † With LC197 Biofilter ¹ Dependent on feedwater | | | |
| Source | Originally from potable supply, then pretreated. Preferably reverse osmosis (RO) or filtered service deionization (SDI) or distilled. | | |
| Fouling index (max) | <1 for all models | | |
| Free Chlorine | <0.05 ppm max | | |
| TOC | N/A | | |
| Carbon dioxide | <0.1 ppm | | |
| Silica | <2 ppm | | |
| Particulates | 5-10 µm | | |
| Temperature | 4-40°C (Recommend 10-15°C) | | |
| Flowrate (maximum requirement) | >2 l/min (0.5 USG) | | |
| Drain requirements | None required | | |
| Feedwater pressure | 1.5 bar (22 psi) maximum; Flooded suction minimum | | |
| * Fit LA652 Pressure Regulator where feedwater pressure exceeds specified limits | | | |
| Dimensions | Height 900-1020mm, Width 236mm, Depth 374mm | | |
| Weight | 10 kg (22 lbs) | 10.5 kg (23.1 lbs) | 11 kg (24.2 lbs) |
| Installation | Bench / wall | | |

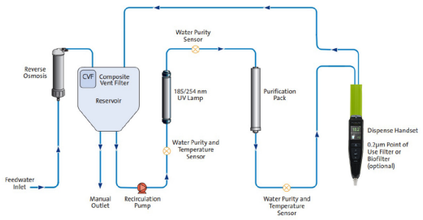
** Values not from analyser connection*



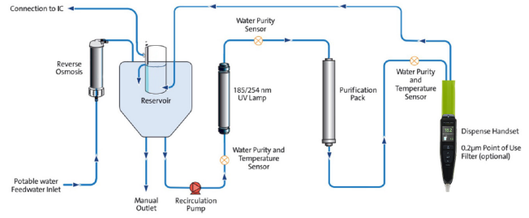
# flex 3 & 3+




**Process Flow PURELAB flex 3**




**Process Flow PURELAB flex 3+**




## TREATED WATER SPECIFICATIONS / FEEDWATER REQUIREMENT

| Application | PURELAB Flex 3 |
|---|---|
| Daily volume | <10 Litres |
| Dispense Flowrate | Up to 2.0 l/min |
| Reverse osmosis make up flow rate at 15°C | 10 l/hour |
| Inorganics @25°C | 18.2 MΩ.cm |
| Total organic carbon (TOC) | <5 ppb |
| Bacteria | <0.001 CFU/ml° |
| Bacterial Endotoxin | <0.001 EU/ml† |
| RNase* | <1 pg/ml |
| DNase* | <5 pg/ml |
| * Dependant on feed water ° With C134/145/197 POU filter/Biofilter † With LC197 Biofilter | |
| Source | Potable tap water |
| Fouling index (max) | <10 |
| Free Chlorine | <0.5 ppm max |
| TOC | <2 ppm |
| Carbon dioxide | <30 ppm (recommended <20 ppm) |
| Silica (recommended max) | <30 ppm |
| Particulates | - |
| Temperature | 4-40°C (Recommend 10-15°C) |
| Flowrate (maximum requirement) | Up to 75 l/hr (20 USG) |
| Drain requirements | <90 l/hr (23 USG) |
| Feedwater pressure | 6 bar (90 psi) max; 2 bar (30 psi) min |
| * Fit LA652 Pressure Regulator where feedwater pressure exceeds specified limits | |
| Dimensions | Height 900-1020mm, Width 236mm, Depth 470mm |
| Weight | 23 kg (57.3 lbs) |
| Installation | Bench / wall |

## TREATED WATER SPECIFICATIONS / FEEDWATER REQUIREMENT

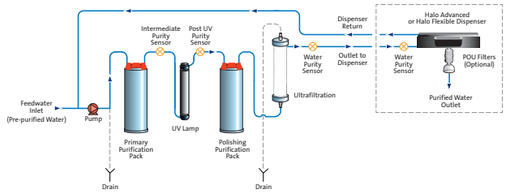
| Application | PURELAB Flex 3+ |
|---|---|
| Daily volume | <10 Litres |
| Delivery flow rate - maximum | Up to 2.0 l/min |
| Recirculation flow rate | 1 l/min |
| Reverse osmosis make up flow rate | 10 l/hour |
| Inorganics (resistivity @25°C) | 18.2 MΩ.cm |
| Organics (TOC) - typical | <5 ppb* |
| Direct from internal reservoir | Type III / RO Water |
| Bacteria - typical (when fitted with POU filter) | <1 CFU/10ml |
| Bacteria - typical (when fitted with Biofilter) | <1 CFU/10ml |
| Endotoxin (when fitted with Biofilter) | <0.001 EU/ml |
| DNase (when fitted with Biolfilter)* | <20 pg/ml |
| RNase (when fitted with Biolfilter)* | <0.002 ng/ml |
| * Dependant on feed water | |
| Source | Potable tap water |
| Conductivity | <2000 µS/cm[2] |
| Contaminant | |
| Hardness | <350 ppm as $CaCO_3$ |
| Hardness | <0.5 ppm Cl2 |
| Silica | <30 ppm SiO2 |
| Carbon Dioxide Maximum | <30 ppm (recommended <20 ppm) |
| Fouling index | <10 |
| Iron / Manganese | <0.05 ppm |
| Organics (TOC) | <2 ppm |
| Particulates | N/A |
| Temperature | 4 - 40oC (Recommended 10 - 25oC) |
| Flowrate (requirement at 15°C) | Up to 75 l/hr |
| Drain requirements (gravity fall with air gap) | >90L/hr |
| [2] Purification pack life may vary with feedwaters >1400 µS/cm | |

** Values not from analyser connection*

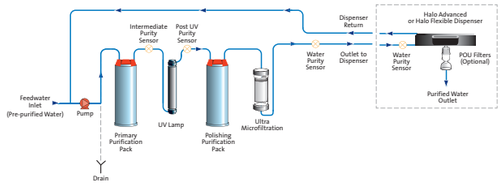
# Chorus 1




Process Flow PURELAB Chorus 1 Life Science
- Ultrafiltration particulate filter removal of endotoxin and large molecules for Life Science Applications




Process Flow PURELAB Chorus 1
- Ultra microfiltration to remove smaller particulates for Analytical Research Applications




TREATED WATER SPECIFICATIONS

| Application | Life Science | Analytical Research | General Science |
|---|---|---|---|
| Dispense Flowrate | Up to 2.0 l/min† | Up to 2.0 l/min† | Up to 2.0 l/min† |
| Inorganics @25°C | 18.2 MΩ.cm | 18.2 MΩ.cm | 18.2 MΩ.cm |
| Total organic carbon (TOC) | 1-3 ppb* | 1-3 ppb* | 3-10 ppb* |
| Bacteria | <0.001 CFU/ml° | <0.001 CFU/ml° | <0.001 CFU/ml° |
| Bacterial Endotoxin | <0.001 EU/ml | <0.001 EU/ml‡ | <0.001 EU/ml‡ |
| pH | Effectively neutral | Effectively neutral | Effectively neutral |
| Particles (filtration) | <0.01 µm | <0.05 µm | 0.2 µm° |
| RNase | <1 pg/ml | <1 pg/ml | |
| DNase | <5 pg/ml | <5 pg/ml | |
| Purification pack capacity | Litres to 18.2 MΩ.cm = 94,100/(µS/cm + (2.3 x ppm $CO_2$)) | | |

* Dependant on feed water – recommended feed <50 ppb TOC ° With LC134/145/197 POU filter/Biofilter †When connected to Halo, Advanced or flexible ‡ With LC197 Biofilter

FEEDWATER REQUIREMENT

| | |
|---|---|
| Source – originally from potable supply, then pretreated | Preferably RO produced by PURELAB Chorus 3 or filtered service deionization (SDI) or distilled. Note: mixed bed or twin bed deionized supplies should be cation limited at exhaustion |
| Fouling index (max) | 1 for all models. A 5-10 micron membrane prefilter is recommended for all non-RO feeds |
| Service deionization (SDI) – MΩ.cm | 1 MΩ.cm minimum resistivity at exhaustion |
| Reverse Osmosis (RO) – µS/cm | Recommended <30 µS/cm |
| Free Chlorine | 0.05 ppm max |
| TOC | <50 ppb max (RO feed) |
| Carbon dioxide | 30 ppm (max recommended) |
| Silica | 2 ppm (max recommended) |
| Particulates | Filtration down to 5-10 micron advisable to protect internal and/or point of use filters |
| Temperature | 1-35°C (Recommend 10-15°C) |
| Flowrate (maximum requirement) | 130 l/hr (34 USG) |
| Drain requirements | Up to 2 l/min (0.5 USG) |
| Feedwater pressure | 0.7 bar (10 psi) maximum; 0.07 bar (1 psi) minimum |

* Fit LA652 Pressure Regulator where feedwater pressure exceeds specified limits

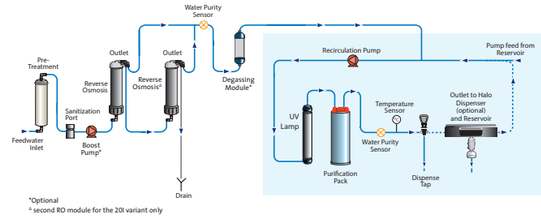
| | | | |
|---|---|---|---|
| Dimensions | Height 435mm, Width 375mm, Depth 340mm | | |
| Weight | 19 kg (42 lbs) | 19 kg (42 lbs) | 18 kg (40 lbs) |



# Chorus 1 Complete




Process Flow PURELAB Chorus 1 Complete




TREATED WATER SPECIFICATIONS

| Application | | PURELAB Chorus Complete | |
|---|---|---|---|
| Nominal output at 15°C | | 10 l/hr | 20 l/hr |
| Dispense Flowrate | | >1.5 l/min | >1.5 l/min |
| Inorganics @25°C | | 18.2 MΩ.cm | 18.2 MΩ.cm |
| Total organic carbon (TOC) | | <5 ppb | <5 ppb |
| Bacteria | | <0.001 CFU/ml° | <0.001 CFU/ml° |
| Bacterial Endotoxin | | <0.001 EU/ml‡ | <0.001 EU/ml‡ |
| pH | | Effectively neutral | Effectively neutral |
| Particles (filtration) | | 0.2 µm† | 0.2µm† |
| RNase | | <1 pg/ml | <1 pg/ml |
| DNase | | <5 pg/ml | <5 pg/ml |
| Purification pack capacity | | Litres to 18.2 MΩ.cm = 94,100/(µS/cm + (2.3 x ppm $CO_2$)) | |
| ° With LC134/145/197 POU filter/Biofilter ‡ With LC197 Biofilter † With LC134/145 POU filter | | | |
| Reservoir Specification (Type 2)* | Inorganics @25 C | >10MΩ.cm | |
| | TOC | <25ppb | |
| | Bacteria | <20CFU/ml | |
| *Typical values for reservoir water | | | |

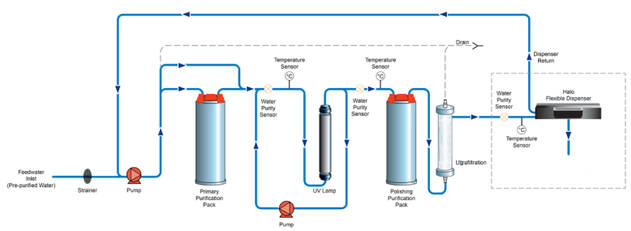
FEEDWATER REQUIREMENT

| | | |
|---|---|---|
| Source | Portable Mains Water Supply | |
| Fouling index (max) | <10 | |
| Free Chlorine | 0.5 ppm max | |
| Carbon dioxide | Ideally <20 ppm | |
| Silica | 30 ppm (max recommended) | |
| Temperature | 1-35°C (Recommend 10-15°C) | |
| Flowrate (maximum requirement) | 130 l/hr (34 USG) | |
| Drain requirements | Up to 2 l/min (0.5 USG) | |
| Feedwater pressure | 4.0 bar (60 psi) min; 6 bar (90 psi) max* With boost pump: flooded suction (min) to 2.0 bar (30 psi) max | |
| * Fit LA652 Pressure Regulator where feedwater pressure exceeds specified limits | | |
| Dimensions | Height 679mm, Width 376mm, Depth 353mm | |
| Weight (with boost pump) | 17 kg (38 lbs) | 18 kg (40 lbs) |
| Weight | 15 kg (33 lbs) | 16 kg (36 lbs) |

# Pharma Compliance



### Pharma Compliance Flow Diagram




TREATED WATER SPECIFICATIONS

| Application | Pharma Compliance - VCLSM1 |
|---|---|
| Resistivity | 18.2 MΩ-cm |
| Dispenser flow-rate | up to 2 L/min |
| Total Organic Carbon (TOC) | 1 – 3 ppb |
| Bacterial Endotoxin | <0.001 EU/ml |
| Bacterial Spec | <0.001 Cfu/ml with a LC134 or LC145 or LC197 Point-of-use 0.2µm Micron filter fitted. |
| DNases | <5 pg/ml |
| RNases | <1 pg/ml |
| Particles | <0.01 µm |
| Recirculation Mode | During periods of non-use the unit will automatically operate in intermittent (10 minutes every 1 hours) re-circulation mode to maintain water purity with maximum efficiency. |

FEEDWATER REQUIREMENT

| | |
|---|---|
| Water Source | Pre-treated preferably RO, SDI or distilled . |
| Fouling Index (max) | 1 for all models. A 5 – 10 micron pre-filter is recommend for all non RO feeds. |
| Service Deionization (SDI) | 1MΩ.cm minimum at exhaustion. |
| Reverse Osmosis (RO) | Recommend <30 µs/cm |
| Free Chlorine (max) | 0.05 ppm |
| TOC | 0.05 ppm max |
| Carbon Dioxide | 30 ppm max |
| Silica | 2 ppm max |
| Particulates | Filtration down to 0.2 micron advisable. |
| Temperature | 1 – 40°C (Recommended 10 – 15°C) |

FEEDWATER PRESSURE AND FLOWRATE

| | |
|---|---|
| Maximum Inlet Pressure | 0.7 bar (10 psi) Fit a LA652 Pressure Regulator where feedwater exceeds specified limits. |
| Minimum Inlet Pressure | 0.07 bar (1 psi) |
| Flowrate | 130 l/hr (34 USG) |
| Drain Requirements | Up to 2 l/min (0.5 USG) (Gravity fall with air gap) Max during service. |

Optimize your water purity at the point of use:

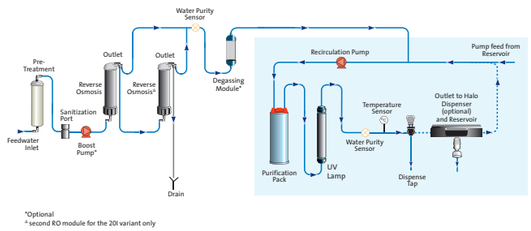
- Biofilter: Endotoxin removal (<0.001 EU/ml), DNase removal (<20pg/ml), RNase removal (<0.002ng/ml)
- Microfilter: Particulate removal (≥0.2 µm)



# Chorus 2+

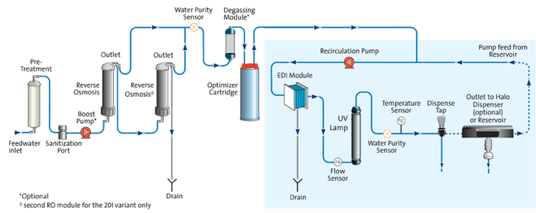



### Process Flow PURELAB Chorus 2+ (RO/DI/UV)




*Optional
* second RO module for the 20l variant only

### Process Flow PURELAB Chorus 2+ (RO/DI/UV)




*Optional
* second RO module for the 20l variant only

TREATED WATER SPECIFICATIONS

| Application | PURELAB Chorus 2+ (RO/DI/UV) | | PURELAB Chorus 2+ (RO/EDI/UV) | |
|---|---|---|---|---|
| Nominal output at 15°C | 10 l/hr* | 20 l/hr* | 10 l/hr* | 20 l/hr* |
| Nominal daily output | 240 l/day | 480 l/day | 220 l/day | 220 l/day |
| Inorganics @25°C | 10- >15 MΩ.cm | | 10- >15 MΩ.cm | |
| Organics (MW>200 Dalton) | >99% rejection | | >99% rejection | |
| Total organic carbon (TOC) | <10 ppb | | <10 ppb | |
| Bacteria | <0.001 CFU/ml° | | <0.001 CFU/ml° | |
| pH | Effectively neutral | | Effectively neutral | |
| Particles (filtration) | 0.2µm◦ | | 0.2µm◦ | |
| Purification pack capacity | Litres to 15 MΩ.cm = 74,700/(µS/cm + (2.3 x ppm $CO_2$)) | | Litres to 15 MΩ.cm = 74,700/(µS/cm + (2.3 x ppm $CO_2$)) | |

* Standard conditions are 4 bar inlet pressure at 15°C, fed with potable water and a clean pre-treatment cartridge.
Refer to flow tables outside these conditions. ° With LC134/145 POU filter

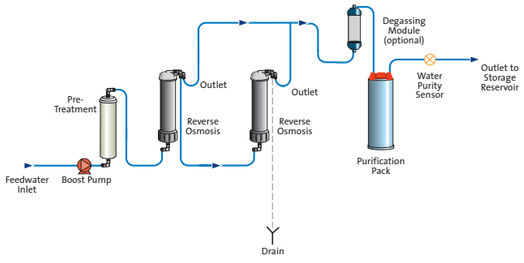
FEEDWATER REQUIREMENT

| | | | | |
|---|---|---|---|---|
| Source | Potable mains water supply | | Potable mains water supply | |
| Fouling index (max) | <10 | | <10 | |
| Conductivity | <2000 µS/cm | | <2000 µS/cm | |
| Free Chlorine | 0.5 ppm max | | 0.5 ppm max | |
| Heavy Metals (max) | 0.05 ppm | | 0.05 ppm | |
| Silica | 30 ppm | | 30 ppm | |
| Temperature | 1-35°C | | 1-35°C | |
| Flowrate (maximum requirement) | 100 l/hr (27 USG) | | 100 l/hr (27 USG) | |
| Drain requirements | 80 l/hr (21 USG) | | 80 l/hr (21 USG) | |
| Feedwater pressure | 4.0 bar (60 psi) min; 6 bar (90 psi) max* With boost pump: flooded suction (min) to 2.0 bar (30 psi) max | | 4.0 bar (60 psi) min; 6 bar (90 psi) max* With boost pump: flooded suction (min) to 2.0 bar (30 psi) max | |
| *Fit LA652 regulator where feedwater pressure exceeds specified limits | | | | |
| Dimensions | Height 679mm, Width 376mm, Depth 353mm | | Height 679mm, Width 376mm, Depth 353mm | |
| Weight (with boost pump) | 17 kg (37 lbs) | 18 kg (40 lbs) | 17 kg (37 lbs) | 18 kg (40 lbs) |
| Weight | 15 kg (33 lbs) | 16 kg (35 lbs) | 15 kg (33 lbs) | 16 kg (35 lbs) |

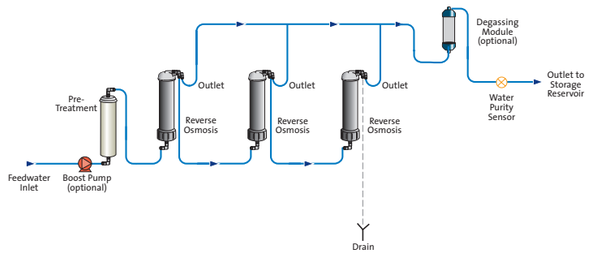
# Chorus 2 & 3




**Process Flow PURELAB Chorus 2 (RO/DI)**




**Process Flow PURELAB Chorus 3 (RO)**




TREATED WATER SPECIFICATIONS

FEEDWATER REQUIREMENT

| Application | PURELAB Chorus 2 (RO/DI) | | PURELAB Chorus 3 (RO) | | |
|---|---|---|---|---|---|
| Nominal output at 15°C | 10 l/hr | 20 l/hr | 10 l/hr | 20 l/hr | 30 l/hr |
| Nominal daily output | 240 l/day | 480 l/day | 240 l/day | 480 l/day | 720 l/day |
| Inorganics @25°C | 1 to >10 MΩ.cm | | >95% rejection | | |
| Organics (MW>200 Dalton) | >99% rejection | | >95% rejection | | |
| Total organic carbon (TOC) | <30 ppb | | <50 ppb | | |
| Bacteria* | <5 CFU/ml | | <50 CFU/ml | | |
| pH | Effectively neutral | | Effectively neutral | | |
| Particles | >99% rejection | | >99% rejection | | |
| Purification pack capacity | Litres to 1MΩ.cm = 103,200/(µS/cm + (2.3 x ppm $CO_2$)) | | N/A | | |
| Standard conditions are 4 bar inlet pressure at 15°C, fed with potable water and a clean pre-treatment cartridge. Refer to flow tables outside these conditions. * Bacterial specification is before the water goes into the reservoir | | | | | |
| Source – originally from potable supply, then pretreated | Potable mains water supply | | Potable mains water supply | | |
| Fouling index (max) | 10 | | 10 | | |
| Conductivity | <2000 µS/cm | | <2000 µS/cm | | |
| Free Chlorine | 0.5 ppm max | | 0.5 ppm max | | |
| Heavy Metals (max) | 0.05 ppm | | 0.05 ppm | | |
| Silica | 30 ppm | | 30 ppm | | |
| Temperature | 1-35°C | | 1-35°C | | |
| Flowrate (maximum requirement) | 100 l/hr (27 USG) | | 100 l/hr (27 USG) | | |
| Drain requirements | 80 l/hr (21 USG) | | 80 l/hr (21 USG) | | |
| Feedwater pressure | 2.0 bar (30 psi) maximum; 0.5 bar (7.5 psi) minimum** | | 2.0 bar (30 psi) maximum; 0.5 bar (7.5 psi) minimum** | | |
| **Fit LA652 Regulator where feedwater pressure exceeds specified limits | | | | | |
| Dimensions | Height 435mm, Width 375mm, Depth 340mm | | | | |



# Find your product



| | Chorus 1 | | | | | Chorus 2 & 3 | | | | flex | | | | Quest | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Life Science | Analytical Research | General Science | 1 Complete | Pharma Compliance | 2+ (RO/EDI/UV) | 2+ (RO/DI/UV) | 2 (RO/DI) | 3 (RO) | flex 1 | flex 2 | flex 3 | flex 4 | Quest UV | Quest Non UV |
| **Water Type** | | | | | | | | | | | | | | | |
| Ultrapure Type I | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓# | ✓ | ✓ | ✓ | ✓ | ✓ |
| Pure Type II | | | | | | ✓ | ✓ | ✓ | | ✓* | | | | ✓ | ✓ |
| RO Type III | | | | | | | | | | ✓* | | ✓ | ✓ | ✓ | ✓ |
| **Impurities to remove** | | | | | | | | | | | | | | | |
| Nucleases | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | |
| Endotoxins/Pyrogens | ✓ | ✓◊ | ✓◊ | ✓◊ | ✓~ | ✓◊ | ✓◊ | | | | | | ✓◊ | ✓~ | ✓~ | ✓~ |
| Inorganics | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Organics | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Bacteria | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓Δ | ✓ | ✓ | ✓ | ✓ | ✓~ |
| Particulates | ✓ | ✓ | ✓Δ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓Δ | ✓Δ | ✓~ | ✓ | ✓ | ✓~ |
| **Features** | | | | | | | | | | | | | | | |
| PureSure® | ✓ | ✓ | ✓ | | ✓ | | | | | | | | | | |
| Real time TOC monitoring | ✓ | ✓ | | | ✓ | | | | | | ✓ | ✓ | ✓ | | |
| Potable tap water | | | | ✓ | | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ |
| Wall mounting | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Floor mounting | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Purity monitoring to POU | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Halo Dispense compatible | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| Remote Dispense | | | | | | | | | | | | | | ✓ | ✓ |
| Auto Volume Dispense | ✓† | ✓† | ✓† | ✓† | ✓ | ✓† | ✓† | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Variable flow rate dispense | ✓† | ✓† | ✓† | ✓† | ✓ | ✓† | ✓† | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Drop-by-drop control | ✓† | ✓† | ✓† | ✓† | ✓ | ✓† | ✓† | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Locked dispense | ✓† | ✓† | ✓† | ✓† | ✓ | ✓† | ✓† | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| USB connection | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Full product validation* | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |

# With DI cartridge * No DI cartridge ◊ With LC197 POU filter Δ With LC134/145 POU filter ~ 0.2mm

† When fitted with a Halo dispenser solution

** Full product validation needs to be purchased separately.

# Find your product



| | Chorus 1 | | | | | Chorus 2 & 3 | | | | PURELAB flex | | | | Quest | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Life Science | Analytical Research | General Science | 1 Complete | Pharma Compliance | 2+ (RO/EDI/UV) | 2+ (RO/DI/UV) | 2 (RO/DI) | 3 (RO) | flex 1 | flex 2 | flex 3 | flex 3+ | Quest UV | Quest Non UV |
| **Ideal solution for**<br>Systems also have wider applicability. Speak to your local ELGA specialist for further information. | | | | | | | | | | | | | | | |
| Cell culture | ✓ | | | ✓ | | | | | | | ✓△ | ✓△ | ✓~ | ✓~ | ✓~ |
| Liquid Chromatography (HPLC, UHPLC) | ✓ | ✓ | | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | |
| Microbiological Analysis | ✓ | ✓ | | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | |
| Genetic (PCR, DNA/RNA sequencing, DNA, Nucleic acid) | ✓ | | | | | | | | | | | | | | |
| Gas Chromatography | | ✓ | | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | |
| Electrochemistry | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | |
| Immunochemistry | ✓ | | | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | |
| Atomic Spectroscopy (Flame AA, GFAA, ICP-AE) | | ✓ | ✓ | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mass Spectrometry (ICP-MS, GC-MS, LC-MS) | ✓ | ✓ | | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | |
| General lab water requirement (glassware washing, heating baths, autoclave filling) | | | | ✓ | | | | ✓ | ✓ | ✓* | | ✓ | ✓ | ✓ | ✓ |
| Spectrophotometry (inc. UV, IR, near UV, nearIR) | | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | |
| Feed to ultrapure water system | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Media/buffer preparation (inc pH solution) | | | | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ |
| General chemistry (inc Titrimetry) | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |



# Product Part Numbers

| PURELAB Quest<br>Part Number | Description |
|---|---|
| PQDIXXM1NSP | PURELAB Quest |
| PQDIXXM1 | PURELAB Quest with starter pack |
| PQDIUVM1NSP | PURELAB Quest UV |
| PQDIUVM1 | PURELAB Quest UV with starter pack |

*All units : User Manual (MANU41196), Certificate of Conformity, POWE38971-02, LA728 (Bypass Pack)*
*PURELAB Quest - 1x LC217*
*PURELAB Quest (With Starter Pack) 1x LC217, 1x LC291, 1x LC292*
*PURELAB Quest UV - 1x LC217, 1x LC210*
*PURELAB Quest UV (With Starter Pack) 1x LC217, 1x LC292, 1x LC291, 1x LC210*



| PURELAB flex<br>Part Number | Description |
|---|---|
| PF1-M3 | PURELAB flex 1 (optional Purification Pack) |
| PF2-M3 | PURELAB flex 2 (Purification Pack + UV + TOC) |
| PF3-M3 | PURELAB flex 3 |
| PF3+-M3 | PURELAB flex 3+ |

*Unit is supplied as standard with: All units: quick Reference Guide & user manual, certificate of conformity, bypass pack. Flex 2: 1 x LC210.*
*Flex 3 & 3+: 1 x LC217, 1 x LC210, 1 x LC216*



| PURELAB Chorus 1<br>Part Number | Description |
|---|---|
| PC1ANRXM2 | PURELAB Chorus 1 Analytic Research Ultrapure System |
| PC1LSCXM2 | PURELAB Chorus 1 Life Science Ultrapure System |
| PC1GSCXM2 | PURELAB Chorus 1 General Science Ultrapure System |

*Unit is supplied as standard with: Fitted/Included: appropriate consumables (including 2 x LC232 - see list below), MANU39998/MANU39997/MANU40001 Operator Manual, GUID39864 Light Guide, GUID40005 Quick Reference Guide, INST40012 Quick Start Guide, LA762 basic installation kit, LC233 x 2 bypass block.*



| PURELAB Chorus 1 Complete<br>Part Number | Description |
|---|---|
| PC110COXXM1 | PURELAB Chorus 1 Complete 10 l/hr System |
| PC110COBPM1 | PURELAB Chorus 1 Complete 10 l/hr System with Boost Pump |
| PC120COXXM1 | PURELAB Chorus 1 Complete 20 l/hr System |
| PC120COBPM1 | PURELAB Chorus 1 Complete 20 l/hr System with Boost Pump |

*Unit is supplied as standard with: Fitted/Included: appropriate quantity LC240, 1 x LC241, 1 x LC275, 1 x LC272, 1 x LC210, MANU40932 Operator Manual, GUID39864 Light Guide, LA762 Basic installation Kit.*



| PURELAB Pharma Compliance<br>Part Number | Description | Dispenser |
|---|---|---|
| VCLSDM1 | PURELAB Pharma Compliance | 1x Halo |
| VCLSDM1-D1 | PURELAB Pharma Compliance with 1x Dispenser | 1x Halo, 1x Dispenser |
| VCLSDM1-D2 | PURELAB Pharma Compliance with 2x Dispenser Biofilter fitted | 1x Halo, 2x Dispenser |
| VCLSDM1-D3 | PURELAB Pharma Compliance with 3x Dispenser | 1x Halo, 3x Dispenser |



| PURELAB Chorus 2+ RO/EDI/UV<br>Part Number | Description |
|---|---|
| PC210EUXXM1 | PURELAB Chorus 2+ RO/EDI/UV 10 l/hr System |
| PC210EUBPM1 | PURELAB Chorus 2+ RO/EDI/UV 10 l/hr System with Boost Pump |
| PC220EUXXM1 | PURELAB Chorus 2+ RO/EDI/UV 20 l/hr System |
| PC220EUBPM1 | PURELAB Chorus 2+ RO/EDI/UV 20 l/hr System with Boost Pump |

*Unit is supplied as standard with: Fitted/Included: appropriate quantity LC240, 1 x LC241,1 x LC243, 1 x LC277, 1 x LC285, 1 x LC233, MANU40932 Operator Manual, GUID39864 Light Guide, LA762 Basic installation Kit*



| PURELAB Chorus 2+ RO/DI/UV<br>Part Number | Description |
|---|---|
| PC210DUXXM1 | PURELAB Chorus 2+ RO/DI/UV 10 l/hr System |
| PC210DUBPM1 | PURELAB Chorus 2+ RO/DI/UV 10 l/hr System with Boost Pump |
| PC220DUXXM1 | PURELAB Chorus 2+ RO/DI/UV 20 l/hr System |
| PC220DUBPM1 | PURELAB Chorus 2+ RO/DI/UV 20 l/hr System with Boost Pump |

*Unit is supplied as standard with: Fitted /Included: appropriate quantity LC240, 1 x LC241, 1 x LC272, 1 x LC274, 1 x LC285, MANU40932 Operator Manual, GUID39864 Light Guide, LA762 Basic insallation Kit.*



| PURELAB Chorus 2 RO/DI<br>Part Number | Description |
|---|---|
| PC210DIXXM3 | PURELAB Chorus 2 RO/DI 10 l/hr System |
| PC210DIBPM3 | PURELAB Chorus 2 RO/DI 10 l/hr System with Boost Pump |
| PC220DIXXM3 | PURELAB Chorus 2 RO/DI 20 l/hr System |
| PC220DIBPM3 | PURELAB Chorus 2 RO/DI 20 l/hr System with Boost Pump |

*Unit is supplied as standard with: Fitted/Included: appropriate quantity LC240 RO, 1 x LC241, 1 x LC234, MANU40003, Operator Manual, GUID39864 Light Guide, GUID40005 Quick Reference Guide, INST40009 Quick Start Guide, LA762 basic installation kit, LC233 bypass block*

# Product Part Numbers

| PURELAB Chorus 3<br>Part Number | Description |
|---|---|
| RO310XXM3 | PURELAB Chorus 3 RO 10 l/hr |
| RO310BPM3 | PURELAB Chorus 3 RO 10 l/hr with Boost Pump |
| RO320XXM3 | PURELAB Chorus 3 RO 20 l/hr |
| RO320BPM3 | PURELAB Chorus 3 RO 20 l/hr with Boost Pump |
| RO330XXM3 | PURELAB Chorus 3 RO 30 l/hr |
| RO330BPM3 | PURELAB Chorus 3 RO 30 l/hr with Boost Pump |

*Unit is supplied as standard with: Fitted/Included: appropriate quantity LC240 RO, 1 x LC241, GUID39864 Light Guide, GUID40004 Quick Reference Guide, INST40008 Quick Start Guide, LA762 basic installation kit*



| PURELAB Chorus Reservoirs<br>Part Number | Description |
|---|---|
| LA757 | 15 Litre Reservoir |
| LA758 | 30 Litre Reservoir |
| LA759 | 60 Litre Reservoir |
| LA760 | 100 Litre Reservoir |

*Each reservoir supplied with LA773 Installation Kit & LC216 Composite Vent Filter*



| PURELAB Dispenser<br>Part Number | Description |
|---|---|
| LA826 | PURELAB Dispenser Installation Kit |
| LA827 | (Worktop) Bench Mounting Bracket Kit |
| LC134 | Point-Of-Use 0.2µm Filter (POU). Recommended Change: 3 months |
| LC145 | Point-Of-Use 0.2µm Filter (POU). Recommended Change: 3 months |
| LC197 | Point-Of-Use Bio Filter (POU). Recommended Change: 3 months |
| CEPWGU303754 | Power Supply |

*Unit is supplied as standard with: 1 x LA826 Installation kit & MANU41319 Operator manual.*
*PURELAB Dispenser Installation kit & accessories*



| PURELAB Chorus Halo Dispensers<br>Part Number | Description |
|---|---|
| LA754 | Halo Dispenser |
| LA755 | Advanced Halo Dispenser |
| LA756 | Flexible Dispenser |

*Each supplied with GUID40007 or GUID40006 Quick Reference Guide, INST40011 or INST40013 Quick Start Guide, LA774 Installation Kit (plus for LA756: MANU40002 Operator manual)*



ELGA VEOLIA

# Dedicated to Discovery

**info@elgalabwater.com / www.elgalabwater.com**

ELGA Labwater are specialists in the engineering, service & support of water purification systems.

Unrivalled product design has achieved international recognition and awards.

Worldwide technical service teams support science & healthcare globally with specialist expertise.

Global digital performance monitoring from Hubgrade ensures laboratory work is uninterrupted.

A global supply chain supports clients from regional centres on every continent.



To find your nearest ELGA representative, go to *www.elgalabwater.com* and select your country for contact details.

**Elga Global Operations Centre.**
tel: +44 (0) 203 567 7300
fax: +44 (0) 203 567 7205

GIT INNOVATIONS AWARD 2010 — 2nd PLACE

reddot design award winner 2011

GOOD DESIGN AWARD 2021

Design Award Gold 2015 TBO

Hubgrade

OVER 80 INTERNATIONAL PATENTS

ELGA is the global laboratory water brand name of Veolia. The information contained in this document is the property of VWS (UK) Ltd, trading as ELGA LabWater, and is supplied without liability for errors or omissions.
© VWS (UK) Ltd. 2022 - All rights reserved. ELGA® and MEDICA® are registered trademarks of VWS (UK) Ltd. P0134 PURELAB Range Brochure