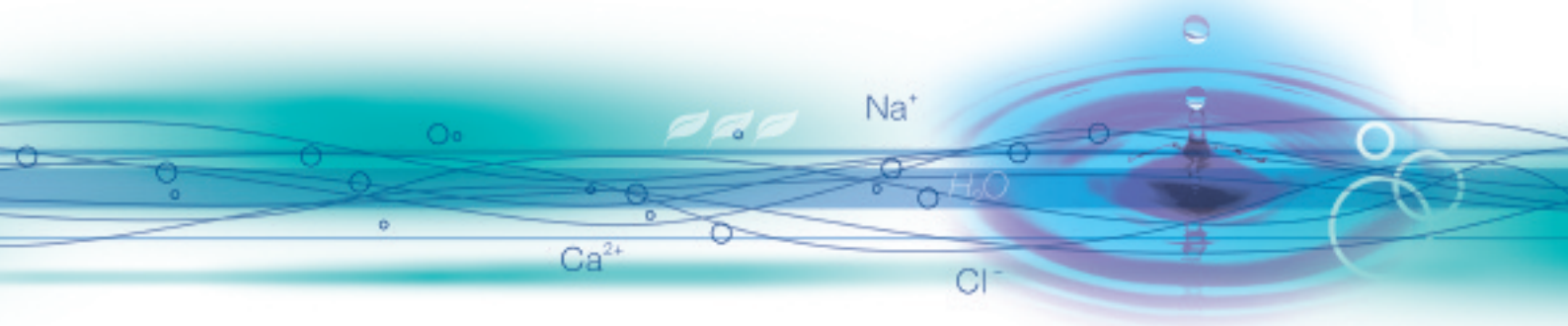




## PURELAB® Ultra

Ultra-Pure Water System



# PURELAB Ultra – The world’s most intelligent ultra-pure

The new PURELAB Ultra is the intelligent ultra-pure water purification system for your most critical applications. It incorporates many unique and innovative features that set it apart from other systems and guarantees water purity to 18.2MΩ-cm and beyond.

Model	Life Science		Analysis		General Science
	Genetic	Bioscience	Analytic	Ionic	Scientific
<b>Typical Applications</b>	Molecular biology, microbiology, PCR, electrophoresis, DNA sequencing, mammalian cell culture, cell and culture media preparation, monoclonal antibody production		Ultra-trace and trace inorganic and organic analysis, HPLC, GC-MS, ICP-MS, GF-AAS, TOC analysis, IC, electrochemistry		General analysis, IC, AAS, ICP-ES, standard buffers
<b>Water Purity:</b> Resistivity at 25°C TOC (RO pretreatment) Bacteria RNase and DNase Bacterial Endotoxin Particles	18.2MΩ-cm 1 - 3 ppb <0.1 CFU/ml <sup>1,2</sup>	18.2MΩ-cm 3 - 10 ppb <0.1 CFU/ml <sup>1,2</sup> Removed <0.001 EU/ml Ultrafilter 0.2µm point-of-use filter <sup>3</sup>	18.2MΩ-cm 1 - 2 ppb <0.1 CFU/ml <sup>1,2</sup>	18.2MΩ-cm 3 - 10 ppb <0.1 CFU/ml <sup>1,2</sup>  0.05µm ultra-microfilter 0.2µm point-of-use filter <sup>3</sup>	18.2MΩ-cm 3 - 10 ppb <1 CFU/ml <sup>1</sup>  0.2µm point-of-use filter <sup>3</sup>
<b>Flow Rates</b>	Up to 2 liters/min		Up to 2 liters/min		Up to 2 liters/min

<sup>1</sup> With point-of-use filter    <sup>2</sup> <1 CFU/ml without point-of-use filter    <sup>3</sup> Optional

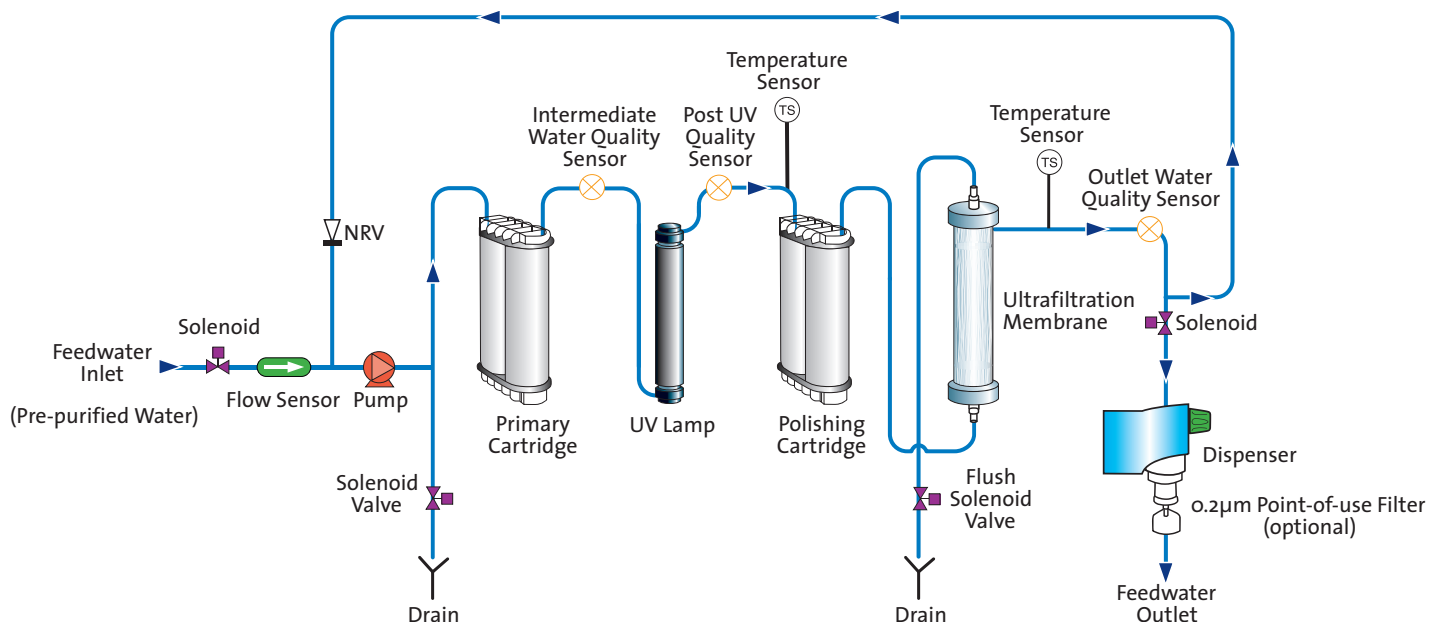
## Stage by stage removal of impurities

	Feedwater Post RO	Post Primary Cartridge	Post UV	Post Polishing Cartridge	Post UMF/UF
Resistivity (MΩ-cm)	1.0 – 0.025	<b>18.2 – 15.0</b>	<10.0	<b>18.2</b>	18.2
Conductivity (µS/cm)	1 - 40	<b>0.055 – 0.07</b>	>0.1	<b>0.055</b>	0.055
Calcium (µg/l, ppb)	400 – 5,000	<1	<1	<0.01	<0.01
Sodium (µg/l, ppb)	1,000 – 10,000	<1	<1	<0.01	<0.01
Iron (µg/l, ppb)	<10	<1	<1	<0.01	<0.01
Bicarbonate (µg/l, ppb)	1,000 – 10,000	<1	<1	<0.01	<0.01
Chloride (µg/l, ppb)	500 – 5,000	<1	<1	<0.01	<0.01
Sulphate (µg/l, ppb)	100 – 5,000	<1	<1	<0.01	<0.01
TOC (µg/l, ppb)	<100	<b>&lt;10 - 20</b>	<b>&lt;5 - 15</b>	<b>&lt;3</b>	<3
Bacteria (CFU/ml)	1 - 10	1 - 10	<1	<1	<1
Endotoxin (EU/ml)	<1.0	<b>&lt;0.1</b>	<b>&lt;0.01</b>	<0.01	<b>&lt;0.001</b>

# water system... just got smarter!

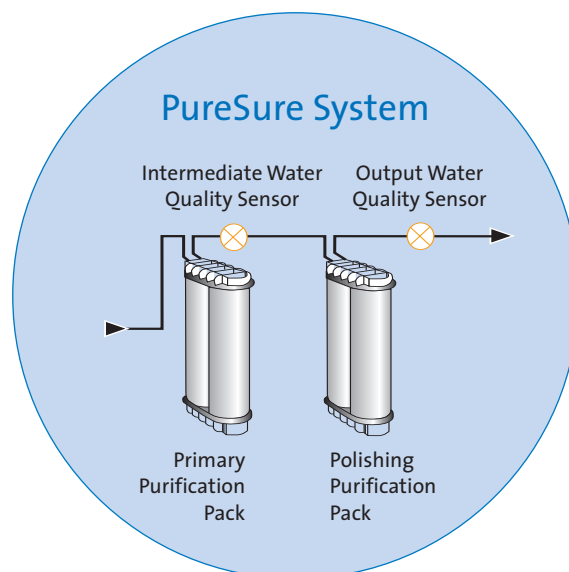
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- **Unique PureSure system**
    - Ensures purity beyond just 18.2MΩ-cm
    - Extends the life of your purification cartridges
    - Advance warning of cartridge change so you are free to continue your research
  - **Real time TOC monitoring**
    - System reports on Total Organic Carbon every 2 seconds
    - Ensures confidence in organic quality
  - **Sensitive electronic dispense** offers accurate flow control from single droplets up to 2 liters/min
  - **Automatic self calibration** of electronic circuitry – takes just 4 seconds every time the system is in process mode
  - **Unique Volumetric Profile Dispense** facility for easy recording, replication and speedy dispensing of multiple set volumes
  - **PIN coded** protection of critical operating parameters
  - **Cartridge Identification technology**
    - Provides validatable traceability
    - Your guarantee of capacity, quality and safety
  - **Efficient fast rinse ultrafiltration cartridge**
    - Filters out endotoxin, proteins and nucleases
    - Rinses up to 7 times faster than other endotoxin filters
    - Significantly reduces costs of sanitization
  - **New Labpure purification cartridges**
    - High capacity cartridges
    - Longer life in system
  - **Full spectrum UV treatment**
    - Low microbial and organic specification
    - High transmittance synthetic quartz sleeve for higher efficiency
    - Lamp failure alarm

## PURELAB Genetic Process Flow



### Guaranteed Water Purity

- **Unique PureSure system**
  - Ensures removal of trace elements beyond 18.2MΩ-cm
  - Extends the life of your purification cartridges
  - Provides advance warning of usable cartridge life, so you are free to continue your research
- **Unique disinfection regime** ensures that all internal wetted components are sanitized
- **Automatic pre-rinse on start-up** purges static feedwater lines to optimize the purity and long-term efficiency of the ultra-purification process
- **Unique real time TOC monitoring.** The organic quality of your water is displayed and updated every 2 seconds. No waiting for 'off-line' results.



### Compact Versatile Design

PURELAB Ultra systems are space saving in design with multiple positioning options. They can be mounted on a bench, a wall or integrated within your laboratory furniture – whichever is most convenient and elegant. There is also a wide range of accessories to further complement the PURELAB Ultra.





## Validation Support

Validation is a key requirement in many laboratories. ELGA offers a market leading validation support manual to meet GLP, FDA or other validation protocols. In addition the PURELAB Ultra incorporates a number of unique features to assist with system validation.

- **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
- **On board continuous calibration** to verify electronic circuitry

## Easy Maintenance

ELGA LabWater's international network of service technicians can provide for all your local ongoing needs including calibration and requalification visits. Additionally, the PURELAB Ultra has been designed to ensure that routine user maintenance is very simple and straightforward.

- **Easy access** to routine parts and consumables
- **Fast rinse filters** for faster sanitization
- **Local experts** available by telephone
- **Simple 'ask the expert'** website service

## Precision Dispensing at your Fingertips

All PURELAB Ultra systems feature the very latest precision dispensing technology.

- **High flow rate of 2 liters per minute**
- **Unique drop-by-drop dispense function**
- **Optional Remote Dispense Station**
- **Optional flexible Dispense Gun**

## Unique Volumetric Profile Dispense

The Volumetric Profile Dispense facility enables you to easily record and then replicate specific volumes and flow patterns for accurate and speedy repeat dispensing.



## A commitment to excellence

ELGA LabWater has many thousands of systems installed worldwide and more customers are discovering the benefits of ELGA's design and engineering excellence. This success is built on a commitment to technological innovation and excellence in manufacture:

- **Ongoing research and development** keeps the PURELAB Ultra at the forefront of technological innovation and delivers a high degree of future proofing
- **A commitment to the highest quality control processes** guarantees reliability and compliance with both international, environmental, and user organization specific standards\*

\* Designed and manufactured under an ISO 9001 : 2000 total quality system.  
Tested to comply with CE, EMC, EN 61010, ETL (UL, CSA), PIRA, WEEE Directive and other standards as appropriate.

## Unrivalled service and support

Every PURELAB Ultra comes complete with one essential extra feature – first class service and support wherever you are in the world.



### Service Excellence

- We aim to offer you a first time fix service level
- We offer a wide range of maintenance contracts that minimize interruptions to your research
- All of our calibration equipment is maintained to traceable standards and handled by fully trained service technicians



### Training

- “Hands on” operation training arranged on or off site for you to optimize system performance and reduce the risk of downtime
- Application and design seminars are available to keep you up-to-date with the latest technologies and system engineering considerations



### Technical Assistance

- Specialized local representatives with the knowledge to ensure that you have the perfect fit for your application and your budget
- Dedicated local support teams on hand to provide advice on system performance, trouble shooting and parts identification



### Online Facility

- User friendly “on line” support facility providing an “Ask the expert” service
- Download application information including water purity recommendations and system design advice
- Download consumable and maintenance planners to ensure optimum cost efficiency and performance

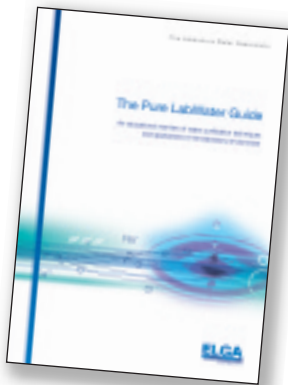


## Technical Specifications

Model	Life Science		Analysis		General Science
	Genetic	Bioscience	Analytic	Ionic	Scientific
<b>Performance Specifications</b>					
Inorganics at 25°C	18.2MΩ-cm	18.2MΩ-cm	18.2MΩ-cm	18.2MΩ-cm	18.2MΩ-cm
TOC (RO pretreatment)	1 – 3 ppb	3 – 10 ppb	1 – 2 ppb	3 – 10 ppb	3 – 10 ppb
Bacteria	<0.1 CFU/ml <sup>1,2</sup>	<0.1 CFU/ml <sup>1,2</sup>	<0.1 CFU/ml <sup>1,2</sup>	<0.1 CFU/ml <sup>1,2</sup>	<1 CFU/ml <sup>1</sup>
RNase and DNase	Removed	Removed			
Bacterial Endotoxin	<0.001 EU/ml	<0.001 EU/ml			
pH	Effectively neutral	Effectively neutral	Effectively neutral	Effectively neutral	Effectively neutral
<b>Product Specifications</b>					
Weight (Ex purification packs)	15.0 kg	14.5 kg	15.0 kg	14.5 kg	14.0 kg
Dimensions	Height: 490mm Width: 410mm Depth: 365mm				
Operational Mode Displays	Power on, process on, intermittent operation, recirculation, dispense operation, Volumetric Profile Dispense, sanitization, feedwater flush				
Safety Features	Power fail-safe, low feed shut-off, audio-visual alarms, PIN coded system settings, dispense shut-off during disinfection, auto-restart				
System Monitoring	Water purity between purification cartridges (MΩ-cm or μS/cm), product water purity (MΩ-cm or μS/cm. Water quality measurements also available uncompensated to comply with USP requirements), product water temperature (°C), continuous TOC monitoring (Genetic and Analytic models only), consumable change reminders, continuous calibration of water quality electronics to traceable references, date and time				
Dispense Flows	Variable from one droplet to 2 liters/min				
Capacity (per single Labpore cartridge pack change)	Liters at 18.2 MΩ-cm = $\frac{80,000}{\mu\text{S/cm} + (2.3 \times \text{ppm CO}_2)}$				
<b>Feedwater Specifications</b>					
Source	Designed to polish RO permeate, deionized, SDI or distilled feedwater (ELGA recommends the use of feeds incorporating RO such as a PURELAB Prima or PURELAB Option system)				
Maximum FI	<1 (0.2 micron membrane prefilter is recommended for all non-RO feeds)				
Maximum Conductivity (RO Feed)	50 μS/cm				
Minimum Resistivity (SDI Feed)	1 MΩ-cm				
Maximum TOC	50 ppb				
Maximum Carbon Dioxide	30 ppm				
Maximum Silica	2 ppm				
Particulates	Filtration down to 0.2 micron				
Temperature	1 – 40°C				
Pressure Maximum	0.7 bar (10 psi)				
Pressure Minimum	0.07 bar (1 psi) or flooded suction to the recirculation pump				

<sup>1</sup> With point-of-use filter    <sup>2</sup> <1 CFU/ml without point-of-use filter





## Free Pure LabWater Guide

Our Pure LabWater Guide is a must for anybody who uses pure water or wishes to learn more about the subject. This unique guide provides an educational overview of water purification techniques and applications in the laboratory.

To receive your FREE copy, go online at [www.elgalabwater.com](http://www.elgalabwater.com)

## The Single Source Solution

Within the ELGA family of water purification systems, the PURELAB Ultra provides peak water purity for your most demanding applications. ELGA also manufactures a wide range of other systems for general laboratory grade and primary grade water.

Every ELGA system has been carefully designed to give you uncompromising water quality in a cost-effective, convenient, and easy to use package.



## Contact your nearest ELGA LabWater representative at:

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