wasserLaB

ULTRAMATIC PLUS

ULTRAPURE WATER TYPE I from Purified Water

Highest quality ultrapure water,
for your laboratory's most critical applications

The equipment of the ULTRAMATIC PLUS range supplies Type I Water (ASTM D1193) of the highest quality, starting from purified water (Type II Water or Osmotized Water), incorporating the highest technologies in the production and control of the ultrapure water obtained.

Water quality supplied:

	Ultramatic Plus DI	Ultramatic Plus GR	Ultramatic Plus GRUF
Resistivity	18,2 MΩ.cm	18,2 MΩ.cm	18,2 MΩ.cm
TOC	<10 ppb	<3 ppb	<3 ppb
Bacterial count	<0.01 cfu/ml	<0.01 cfu/ml	<0.01 cfu/ml
Particles	0.22 µm	0.22 µm	Ultrafiltration
Endotoxins			<0.001 EU/ml
RNases			<1pg/ml
DNases			<5 pg/ml

Versions	Ultramatic Plus DI	Ultramatic Plus GR	Ultramatic Plus GRUF
Reference	QUDI0011	QUGR0011	QUGF0011
Dispensing flow rate	<2 l/min	<2 l/min	<2 l/min
Ultra Purification Module	✓	✓	✓
Ionic polishing Module	✓		
Photo-oxidation Lamp		✓	✓
Polishing Module		✓	✓
Ultra Filtration Module			✓
Final Filter 0.22 µm	✓	✓	✓

Ultramatic Plus DI:

Perfect for ionic applications

- Inorganic trace analysis
- AA, IC, ICP-MS
- Photometry

Ultramatic Plus GR:

Suitable for general applications of Ultrapure Water

Analytical methods such as organic and inorganic trace analysis, HPLC, ICP-MS, IC and TOC analysis.

Ultramatic Plus GF (GRUF):

Suitable for general applications of Ultrapure Water and general techniques of molecular biology

Molecular biology, DNA sequencing, PCR, other molecular biology techniques, monoclonal antibody production.

Ultrapure water purification process
Type I Water

The equipment integrates various technologies to optimise the water purification process through the following stages:

Ultrapurification module

The purified feed water passes through an Ultrapurification module that reduces ionic contaminants to achieve a resistivity of 18.2 MΩ-cm.

Ionic Polishing Module (DI version)

Final deionisation by ion exchange in resin beds, to eliminate ionic contaminants to trace levels, obtaining Ultrapure Type I Water.

Photo-oxidation lamp for TOC reduction (GR and GF versions)

The photo-oxidation lamp is designed to reduce TOC (Total Organic Carbon) in water. It emits ultraviolet radiation at two specific wavelengths: 254 nm, with a germicidal action that deactivates microorganisms present, and 185 nm, which generates free hydroxyl radicals. These radicals efficiently oxidise the organic compounds dissolved in the water, transforming them into carbonate and bicarbonate ions. Subsequently, these ions are retained in the second stage of Ion Refinement, eliminating trace ions and ensuring superior water purity. As a result, a resistivity of 18.2 MΩ.cm is achieved, which guarantees Ultrapure Water quality with the highest purity standards for laboratory applications and sensitive industrial processes.

Polishing Module (GR and GF versions)

It is an essential stage in the water purification process, which focuses on reducing especially dissolved organic matter (TOC) and trace ions present in the water. These elements are crucial to achieve the necessary purity levels in ultrapure water. By removing the last traces of ionic and organic contaminants, water with a resistivity of 18.2 MΩ-cm is obtained.

Ultrafiltration Module (GF Version)

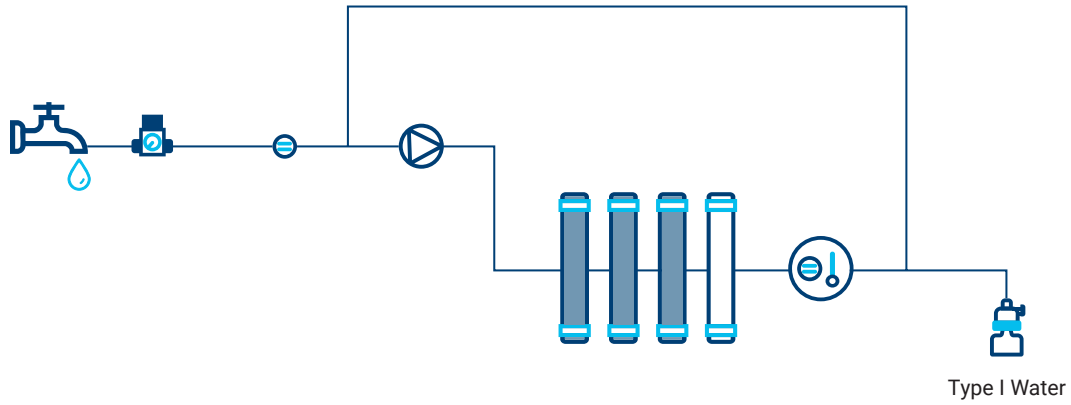
Designed for the most critical applications in molecular biology (such as PCR, DNA sequencing, electrophoresis, Western Blot, among others), this module has a hydrophilic encapsulated hollow fibre membrane with a large filtering surface (0.56 m²). Its main function is to efficiently remove bacteria, pyrogens and nucleases present in the water, ensuring its suitability for this type of techniques.

0.22 µm amicrobic final filter

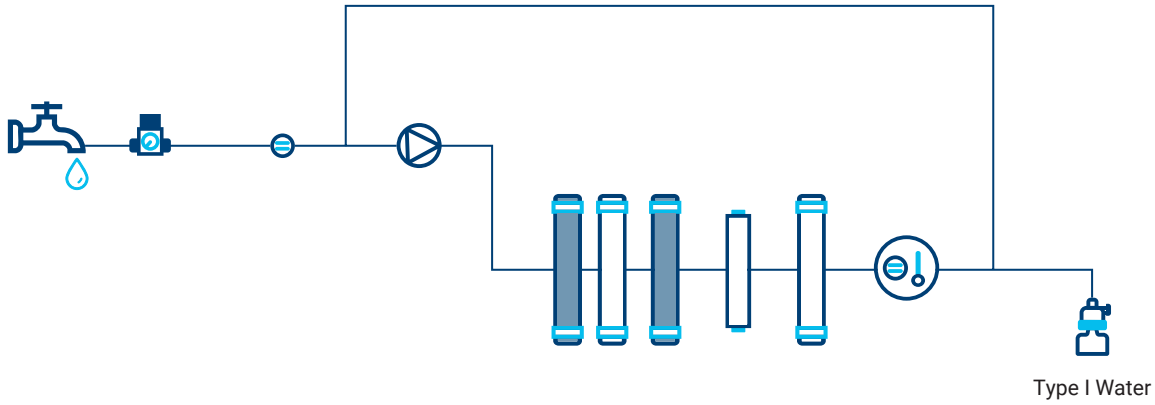
With a high flow membrane and free of extractables, i.e., manufactured in such a way that it does not release particles, chemicals, monomers, or any other type of contaminants that may affect the quality of the water or interfere with sensitive experiments. This filter is designed for efficient particle retention and to achieve a bacterial count ≤ 0.01 cfu/ml, ensuring microbiological purity of the water at the end of filtration.

Hydraulic diagrams

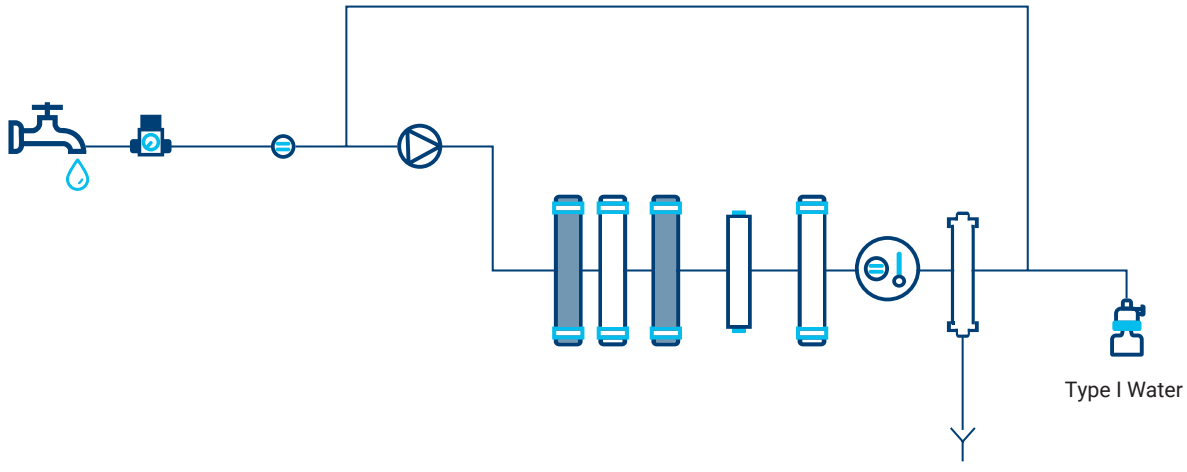
Ultramatic Plus DI

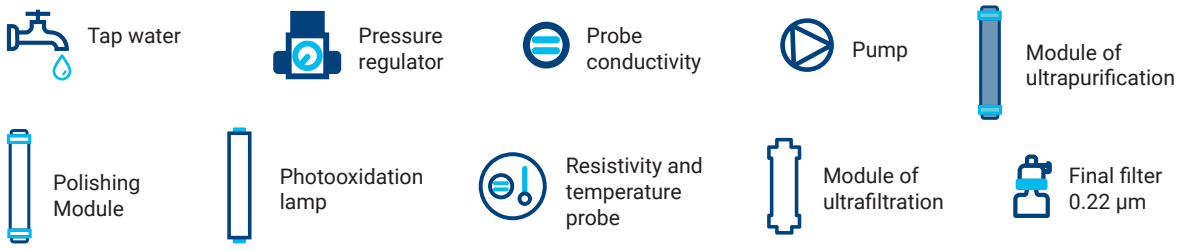


Ultramatic Plus GR

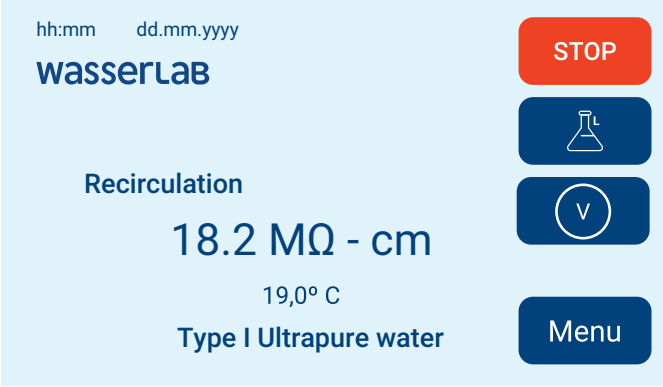


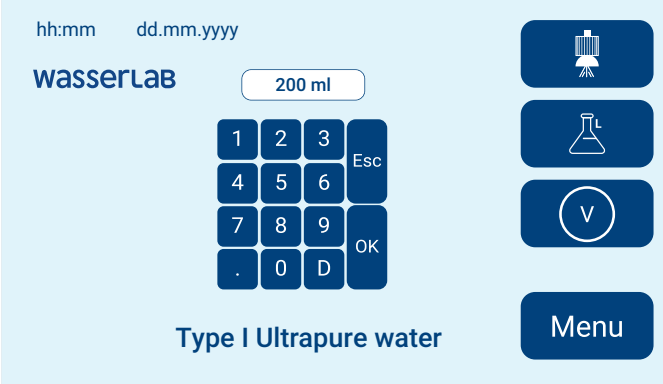
Ultramatic Plus GR UF

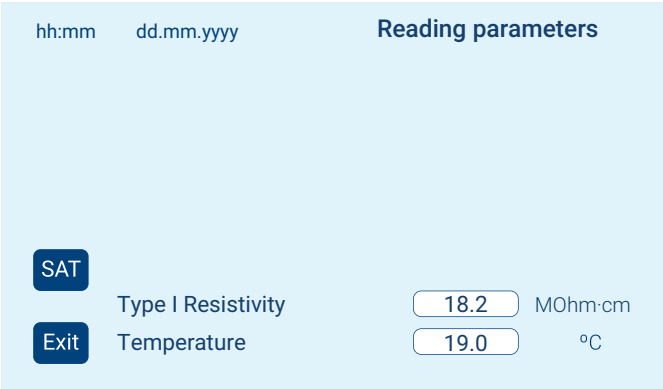


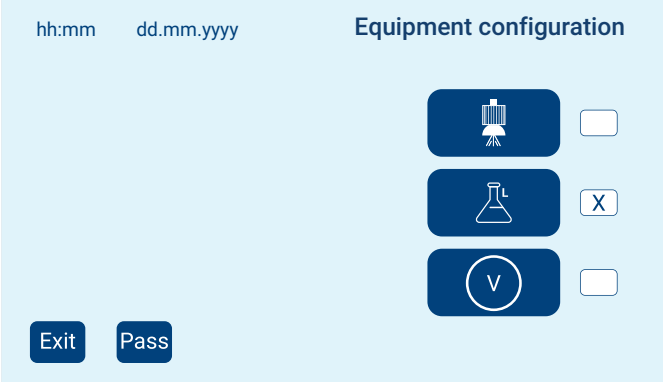


Operation and monitoring









1. Dispensing

The equipment is designed to operate automatically, ensuring that the tank is always kept full, thanks to its automatic stop system. In addition, its design ensures easy and accessible operation for the user.

It incorporates a 4.3 inch touch screen, which facilitates the dispensing of purified water in various ways, adapting to the user's needs.

Available options are:

- Manual dispensing
- Dispensing by volume[1]
- Dispensing by time

1. Accuracy not suitable for flush volumes.

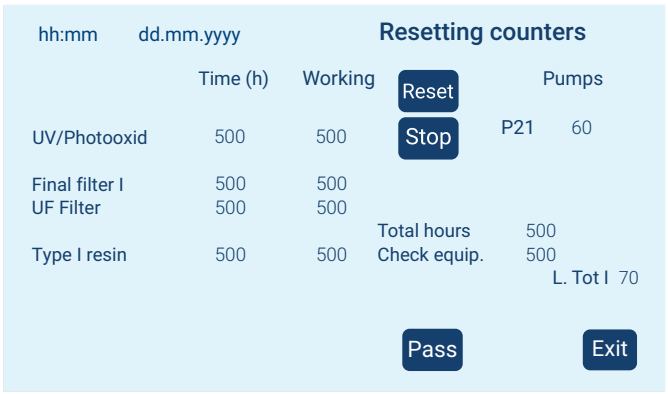
2. Monitoring

This comprehensive monitoring system allows detailed tracking of key aspects of the process, ensuring that the equipment is operating within ideal parameters and guaranteeing the quality of the water produced.

- Conductivity measurements (at 25ºC):
  - Equipment feed water (µS/cm).
- Resistivity measurement (at 25 ºC)
  - Type I Water Produced (MΩ.cm).
- Water temperature (ºC)
- Control of operating parameters:
  - Working hours of the different components of the system.
  - Liters produced during the purification process.

3. Customization and Security

The system offers customization options, allowing to adjust the type of dispensing and conductivity settings according to the user's needs. In addition, to ensure security and access control, the equipment has a custom password that allows the user to access specific menus and functions, ensuring that only authorised persons can make adjustments or modifications to the system.



5. Data Output

The equipment is designed to allow the extraction of operating data to an external memory (USB). The report generated includes detailed records on the quality and quantity of water dispensed, as well as maintenance notices and changes made to consumables, providing a useful tool for monitoring and controlling system performance.

4. Automatisms

The system is equipped with a microprocessor that regulates the programmable recirculation of the Type I water contained in its circuit, ensuring the maximum quality of the water dispensed and making it impossible to dispense purified water with resistivity below a preset value.

These automatisms contribute to an efficient and low maintenance operation, ensuring the constant quality of the purified water.

6. Mobile phone notification (optional)

The system can send alarm notifications directly to mobile phones, allowing real-time alerts on different problems or irregularities in the operation of the equipment.

Easy and efficient maintenance:

A SIMPLE AND FAST PROCESS

Preventive maintenance, sanitization and calibration

Ease of maintenance and control of the system

The system has been carefully designed for ease of maintenance, allowing the user to perform tasks easily and efficiently. The replacement of consumables is carried out quickly, thanks to a quick-connect system with anti-drip technology built into the cartridges.

The service life of the consumables depends on several factors, such as the quality of the incoming water, including its turbidity, hardness and conductivity, as well as the amount of water dispensed over time.

The integrated software is configured to perform scheduled self-checks, ensuring constant and effective monitoring of the system's operation. This control ensures continuous monitoring of the equipment components and the values related to the quality of the water produced.

In addition, the system issues warnings to notify the user about the need to change consumables, water cuts or possible malfunctions of the measuring probes, allowing an early intervention in case of incidents.

System Sanitization

The system is designed to facilitate the sanitization of the equipment through a semi-automatic process, which ensures a thorough and effective cleaning of all its components. During sanitization, the equipment performs a series of automated steps that include the circulation of disinfectant solutions through critical parts of the system, such as membranes and filters. User intervention is limited to initiating and monitoring the process, following clear instructions provided by the system. This sanitization process is designed to remove microorganisms, bacteria and other contaminants that may have accumulated in the equipment, ensuring that the system continues to operate at maximum efficiency and that the water produced always maintains the highest quality standards. The function also helps to extend the life of the equipment by preventing the build-up of impurities that can affect its performance.

Additional system functionalities

Supply from tank

(Ref. KITDA001)

As an option, a 25 liters tank can be purchased with the equipment, which can be manually refilled with Osmotized or Type II Water to feed the Ultramatic Plus equipment.

The tank must be placed at a slightly higher level than the Ultramatic Plus equipment, so that it feeds the latter by gravity. Connections are included.

Optional Remote Dispensers

Remote digital control dispensers designed to allow additional Type I water outlets at a distance from the main equipment, optimising space and improving operational efficiency.

Pedestal support (Ref. W-DIS101-A03)

Wall solution (Ref. DIS103-A03)

Equipment can be integrated into furniture

The equipment is designed to be fully integrated into laboratory furniture, optimising the available space and leaving the laboratory work bench free for other tasks. Its minimalist design adapts perfectly to laboratory work environments, offering an aesthetic and functional solution that maximises efficiency without compromising system performance. We work with leading furniture brands.

Flexibility to offer solutions that ADAPT TO EACH LABORATORY

Adaptation to the needs of the available space

Wall bracket (Ref. 10261)

Base designed to allow safe and stable installation of the equipment directly on the wall. Its robust structure guarantees a firm mounting, optimising the use of space and ensuring that the equipment is well fixed and accessible. Ideal for environments where space in the work area needs to be freed up.

Compact Module (Ref. 10092)

A functional and compact design cabinet, it offers a solution for housing the equipment and its components in an orderly and efficient manner. Perfect for environments where equipment needs to be kept protected and in place, while ensuring accessibility and ease of use.

Wall bracket

IQOQ Qualifiable Equipment for the Pharmaceutical Sector

The equipment is designed to be qualified in the processes of **IQOQ (Installation and Operational Qualification)** required in the pharmaceutical sector. It complies with industry specific regulatory standards, ensuring its suitability for use in regulated environments, where traceability, quality and process validation are critical to ensure compliance with current regulations.

Declaration of Product Use: WEEE Directive

In accordance with European Union legislation, this product will be considered **Waste Electrical and Electronic Equipment (WEEE)** once it reaches the end of its useful life.

For detailed information on the recycling and proper disposal of this product, please contact our website.

Quality Assurance to Facilitate GLP and cGMP Compliance

The system has been designed and manufactured to facilitate its integration into regulated working environments such as GLP (Good Laboratory Practices) and cGMP (current Good Manufacturing Practices). Some of its outstanding features include:

- Manufactured under the standards **ISO 9001:2015 and ISO 14001,** ensuring that the product meets the highest standards of quality and environmental management.
- **CE marking:** The equipment has passed rigorous safety and electromagnetic compatibility tests (emission and immunity), carried out by an external accredited centre, which certifies its compliance with European safety and performance standards.
- **Calibration certificate:** The equipment is delivered factory calibrated, guaranteeing its accuracy from the first moment of use. It also allows the adjustment and recalibration of the conductivity meter by means of a certified standard, traceable to the national standards of the Deutscher Kalibrierdienst (DKD) of Germany, ensuring the reliability and accuracy of the measurements over time.

Installation Requirements

- **AC power supply** 110 / 120 / 230 V - 50 - 60 Hz. with earth connection at a maximum of 2 meters from the equipment.
- **Tap water connection** (maximum 3 meters).
- **Connection:** 3/8" male gas thread.
- **Drainage** (maximum 3 meters).
- **Pre-treated feed water quality:**
  - Conductivity <20 µS/cm
  - pH: 4 - 10
  - TOC <50 ppb
  - Temperature: 5 - 35ºC
- **Pressure:** 1 bar.

Specifications:

Installation space for the equipment and its elements, guaranteeing an accessible work area for handling.

Dimensions:

- Ultramatic Plus equipment: 60 x 36 x 49 cm (height / width / depth).
- Compact module: 96 x 46 x 60 cm (height / width / depth).

Weight: 35 Kg.

Power consumption: 0.8 A (230 VAC) - 1.6 A (110 VAC).

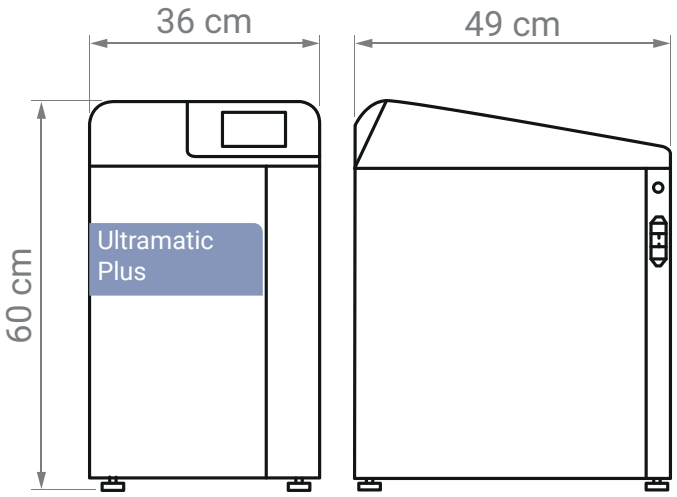
Power: 174 VA (230 VAC) - 174 VA (110 VAC).

Noise level: <50 dB.

Communication port: USB.

Language Software: Spanish, English, French, Portuguese and Italian.

Equipment



Wasserlab®

We are manufacturers of **water purification equipment** with an extensive track record in the installation of solutions in **multiple sectors.**

We offer **personalised advice** in the selection of equipment and we provide **comprehensive technical support** to guarantee optimum operation.

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