

Ultrapure Water System



HALIOS 12



HALIOS lab water systems make your work as pleasant and comfortable as possible and maximize at the same time your lab productivity



The HALIOS 12 lab water series is modular designed and can be connected directly to tap water. With an integrated 10l tank and a production rate of 12l/h it provides a high flexibility to adapt to your specific needs.

Each system meets and exceeds ASTM type 1 and 2 standards. An integrated pre-treatment cartridge guarantees a long durability of the RO membrane and the following purification cartridges as well as a constant ideal ultrapure water quality for reproducible results of analysis. Interact only with your external tabletop dispenser.

The compact production unit can be easily integrated in the lab environment.



Features

- ✓ Reliable ultrapure water quality - ASTM type 1⁺ and 2
- ✓ External dispenser
 - ❖ detachable and ergonomically shaped
 - ❖ rotatable and vertically adjustable
- ✓ Simple and economical change of the consumables
- ✓ Pre-treatment cartridge for a direct connection to tap water
- ✓ Large and intuitive touchscreen
- ✓ Leak water detector
- ✓ Pressure reducer
- ✓ Data capture via USB
- ✓ Accurate, adjustable volume dispensing
- ✓ Dry-run protection
- ✓ Simple disinfection procedure
- ✓ Pressure and flow sensor
- ✓ Production rate monitoring
- ✓ Tank water conductivity and temperature measurement
- ✓ Plug and Use – All consumables and installation material are included
- ✓ Note on the replacement of all consumables (no obligation to replace)
- ✓ Complete recirculation ensures the highest microbial purity
- ✓ Warnings and notes in clear text
- ✓ Alarm history
- ✓ 100% Made in Germany
- 🌱 ECO Mode to extend the cartridge life by up to 20%



System configuration

- Wide-range power supply 80-264V / 50-60Hz
- Housing with an easily accessible service cover
- Compact production unit fits easily into various free spaces in the lab
- Exchange of consumables within seconds due to quick-connect couplings
- Integrated pressure reducer for different inlet pressures
- Flow meter for an accurate volume dispensing
- Pressure sensor for monitoring of the working pressure and as a dry-running protection
- Two low-noise and durable pressure and recirculation pumps for the complete internal recirculation of all wetted parts up to the final dispensing valve
- Integrated pre-treatment cartridge protects from impurities in the feedwater and protect the RO membrane as well as guarantees reproducible results of analysis, a high capacity and low operating costs
- RO membrane removes up to 99% of all impurities in the feed water
- Ultrapure water cartridge for the final removal of organics and remaining ions
- Up to three measuring cells for the exact measurement of the conductivity and temperature after each purification cartridge
- Flush valve for the effective cleaning of all wetted parts as well as an adjustable quality flush during stand-by
- Dispenser with microfiltration for the sterile ultrapure water withdrawal at the point of use
- 10l pure water tank with conical bottom and pure water (type 2) outlet



Tabletop dispenser

- Ergonomic design for a one-handed operation
- All dosing functions can be easily executed with the rotary encoder at the dispensing handle
- The external dispenser can be placed independent of the production unit
- For an even greater range the HALIOS handle can be detached and reattached with a simple hand movement



User interface

- Large and intuitive touchscreen
- Stored dispensing reports with all information ensure an absolute traceability of the water withdrawals
- Individual adjustment for displaying the conductivity (MΩcm or μS/cm)
- Multilevel conductivity and temperature monitoring for pure and ultrapure water, temperature compensated with stepless limit adjustments
- High-precision measuring with integrated reference resistors as well as deactivatable temperature compensation acc. to USP
- Leakage monitor with error message and automatic shut-off of the feed water supply
- Continuous surveillance of all relevant parameters and values incl. early reminders when a change of consumables is pending
- GLP-compliant data storage via USB
- ECO Mode to extend the cartridge life by up to 20%



Optional

- UV-unit (185 | 254nm) for the ultimate microbiological purity and TOC reduction
- Flushed and integrated ultrafiltration module for the retention of pyrogens, endotoxins, proteins and nucleases (DNases and RNases)
- Real-time TOC monitor for the continuous TOC measurement of the organic compound acc. to USP
- Up to 4 external dispensers can be connected to one production unit
- External pure water tanks in 30, 60 or 100l
- EDI module for residual desalination for a continuous quality improvement and lower running costs
- Potential-free contact for collective error signal
- XXL dispenser (height +15cm) for even more space underneath the dispensing handle
- Wall mounts for production unit, tank and dispenser
- UV tank disinfection
- Pressure outlet
- Qualification documents



Feed water requirements

Feed water quality	Potable tap water
Conductivity at 25°C	< 2000µS/cm
Total organic carbon (TOC)	< 1ppm
Inlet pressure*	1 – 6bar
Temperature	5 – 35°C

Additional pre-treatment units are available if the feed water is out of specs

Ultrapure water specifications (ASTM type 1)¹:

Resistivity (Conduct.) at 25°C ²	18.2MΩcm (0.055µS/cm)
Total Organic Carbon ³ (TOC)	≤ 2ppb (µg/l) ≤ 10ppb (w/o option – UV lamp)
Particle content ⁴	< 1/ml
Bacteria	< 0,01 CFU/ml ⁴ < 0,005 CFU/ml ⁵
Pyrogens (endotoxins) ⁵	< 0,001 EU/ml
RNases ⁵	< 0,004ng/ml
DNases ⁵	< 0,024pg/µl
Flow rate	Up to 2l/min

Pure water specifications in the tank (ASTM type 2)

Resistivity (Conduct.) at 25°C	> 10MΩcm (<0,1µS/cm)
TOC	≤ 30ppb (µg/l)
Performance	12l/h

¹ The actual values may vary depending on the nature and concentration of the contaminants in the feed water

² Conductivity/resistivity can also be displayed non-temperature compensated as required by USP

³ In the appropriate operating conditions

⁴ With sterile filter capsule at the POU

⁵ With option – ultrafiltration module

Technical data

Ambient temperature	+2 - 35°C
Supply voltage	90-240V / 50-60Hz
Connected load	120W
Connection size	R ¾“
Weight (complete):	25kg



Dimensions

