

Ultrapure Water System
HALIOS 40



HALIOS 40 lab water systems are designed for direct connection to tap water, combining high-performance, ease of use and comfort with enhanced lab productivity.



The HALIOS 40 Lab Water Series features a modular design and direct connection to tap water, offering versatility and adaptability for diverse laboratory needs.


Equipped with an stackable 50 L tank and a production rate of 40 L/h, it delivers reliable performance tailored to specific requirements.

Each system exceeds ASTM Type 1 and 2 standards, ensuring exceptional water purity.

The compact production unit integrates seamlessly into any lab environment, with operations streamlined through an external tabletop dispenser.



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
- ✓ 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 from the tank until the point of use ensures the highest microbial purity
- ✓ Warnings and notes in clear text
- ✓ UV-unit (185 | 254nm) for the ultimate microbiological purity and TOC reduction
- ✓ 10" Prefilter for a direct connection to tap water
- ✓ 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
- 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
- Dual wavelength UV disinfection for lowest TOC values
- Up to five 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
- 50 L Pure water tank with sloped bottom and pure water (type 2) outlet
- ECO Mode extends the cartridge life by up to 20%

Various options to adapt to your specific needs:

- Ultrafiltration module - Flushed and integrated for the retention of pyrogens, endotoxins, proteins and nucleases (DNases and RNases)
- TOC monitor – Real time for the continuous TOC measurement of the organic compound acc. to USP
- Up to 4 external dispensers can be connected to one production unit
- EDI module for residual desalination for a consistent quality 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
- UVC-LED (mercury-free) 265nm tank disinfection
- Pressure outlet
- Qualification documents



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 (M Ω .cm or μ S/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 sensor monitors 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%



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



Pure water tank 50 L

- Made of PE for a for a minimum release of extractables
- A smooth inner surface prevents biofilm formation
- A sterile overflow and an advanced vent filter with CO₂ Adsorber protecting your stored water against airborne contaminants
- Sloped bottom and circulation ensure the highest microbial purity
- Pressurized outlet (2 L/min)
- Dispensing gun for type 2 water
- Optional UV-LED 265nm disinfection lamp (mercury-free)



Feed water requirements

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

Additional pretreatment units are available if the feed water is out of specs

Ultrapure water specifications (ASTM type 1)¹:

Resistivity (Conduct.) at 25°C ²	18.2 MΩ.cm (0.055 µS/cm)
Total Organic Carbon ³ (TOC)	≤ 2ppb (µg/L)
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	< 0.004 ng/mL
DNases ⁵	< 0.024 pg/µL
Flow rate	Up to 2 L/min

Pure water specifications in the tank (ASTM type 2)

Resistivity (Conduct.) at 25°C	> 10 MΩ.cm (<0.1 µS/cm)
TOC	≤ 30 ppb (µg/L)
Performance	40 L/h at 25°C

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, otherwise typically ≤5ppb

⁴ With sterile filter capsule at the POU and in the appropriate operating conditions

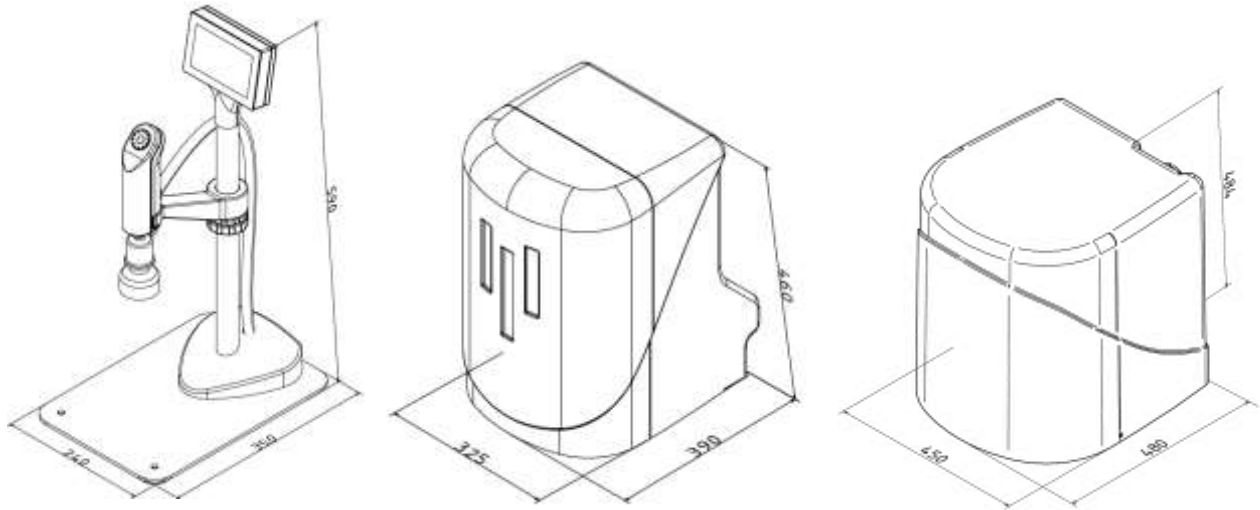
⁵ With option – ultrafiltration module

Technical data

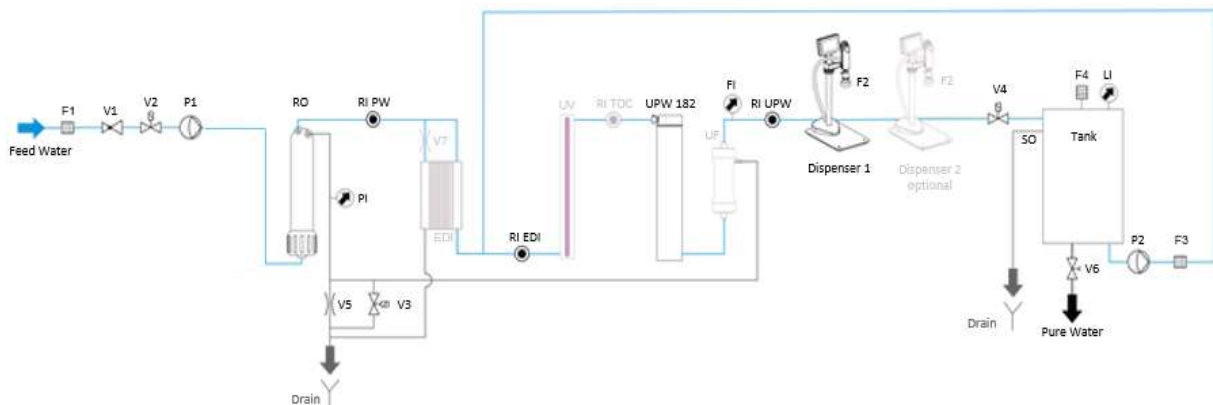
Ambient temperature	+2 – 35 °C
Supply voltage	90-240V / 50-60Hz
Connected load	120 W
Connection size	R ¾"



Dimensions HALIOS 40 and 50 L Tank



Flow Chart (simplified)



F1:	Particle filter (inlet)	RI PW:	Conductivity cell pure water	UF:	Ultrafilter (optional)
F2:	Sterile filter capsule 0.2µm	RI EDI:	Conductivity cell EDI (optional)	UPW 182:	Ultrapure water cartridge
F3:	Particle filter (tank)	RI TOC:	Conductivity cell TOC (optional)	UV:	UV lamp 185/254nm
FI:	Flow meter	RI UPW:	Conductivity cell ultrapure water	SO:	Sterile overflow
LI:	Level sensor	RO:	Reverse osmosis module	V1:	Pressure reducer
P1:	RO pump	EDI:	Electrodeionization module (optional)	V2- V4:	Solenoid valves
P2:	Circulation pump			V5:	Pressure hold valve
PI:	Pressure sensor				

