

LabAqua Ultrapure Water System

The Labaqua systems produce ultrapure and fresh water directly from tap water. These water purification systems are available in three versions for:

- Inorganic analysis methods
- Liquid chromatography
- Molecular biology



Ultrapure water system LabAqua



Water storage tank (30 L)

LabAqua Ultrapure Water System

Description

LabAqua ultrapure systems are multi-purpose water purification systems. The LabAqua systems produce ultrapure and pure water directly from tap water.

Any configuration of a LabAqua ultrapure system produces both ultrapure and pure water. Ultrapure (Grade 1) water is dispensed through the point-of-use filter on the front panel. Pure (Grade 2) water is dispensed directly from the storage tank.

LabAqua Trace ultrapure water can be used for the demanding applications including, but not limited to: General laboratory applications, Inorganic trace analysis.

With resistivity of 18.2 Mega — Ohm*cm (0.055 μ S/cm) ultrapure water produced by a LabAqua system exceeds requirements of all relevant standards (ISO 3696 Grade 1, ASTM Type I, CLSI Type I). Purified water is collected in a storage tank. An integrated recirculation system ensures consistent quality of water and reduces total organic carbon (TOC) to very low levels: <2ppb.

Pure water produced by the LabAqua systems complies with the requirements of ISO 3696 Grade 2 water and can be used for labware washing, wet chemistry methods, flame spectrophotometers, etc.

All LabAqua systems have a controller with a color graphic LCD display for water quality indication. The LCD display provides all necessary information about system status, as well as system flow-chart the remaining pre-filter life and deionization (DI) module performance. The smart DI module monitoring system also provides a reduction in running costs. A user is instructed to replace the DI module only when the module is near the end of its service life.

All cartridges and filters are easily accessible and no tools are required to replace them. The LabAqua system can be installed on a laboratory bench or mounted on a wall.



Display LabAqua

Benefits

Volumetric dispense - enables the user to set accurate dispensing volume for each dispense cycle. The dispense volume can be set either from the keyboard or by using "teaching" mode.

Water quality - embedded recirculation loop ensures stable premium water quality and enables practical elimination of Total Organic Carbon (TOC).

Low running costs - performance of the deionization and polishing modules is constantly monitored. Monitoring algorithm enables cutting running costs, as replacement of the modules is requested only when service life is close to the end.

Color graphic LCD display - system component status is reflected on the display in an intuitive color pattern (Green/Yellow/Red).

System flowchart - shows all component status and water quality parameters at a glance.

Models

LabAqua Trace: Gebrauchsfertiger Mikrofilter

LabAqua HPLC: Gebrauchsfertiger Mikrofilter und TOC-Monitor

LabAqua Bio: Gebrauchsfertiger Mikrofilter, UV-Sterilisationsmodul und TOC-Monitor

LabAqua Ultrapure Water System

Specifications

Ultrapure (Grade 1) water resistivity	18.2 MΩ x cm
Ultrapure (Grade 1) water conductivity	0.055 μS/cm
Pure (Grade 2) water resistivity	> 10 MΩ x cm
Pure (Grade 2) water conductivity	< 0.1 μS/cm
TOC	< 30 ppb
Bacteria	< 1 CFU/mL
Endotoxins	< 0.15 EU/mL
Particles > 0.22 μm	< 1/mL
Deionization module life (standard module)	1 m3
Storage tank	30 L
Feed water pressure	0.5 – 5 bar
Feed water conductivity	< 1300 μS/cm
Dimensions (W x D x H)	320 x 560 x 620 mm
Weight	24 kg
Power consumption	130 W
Nominal operating voltage	230 V / 50/60 Hz

Requirements for optimal use

Compliance of the system with the technical specification is ensured if the following minimum tap water requirements are followed and the maintenance requirements specified in the user manual are carried out in a timely manner.

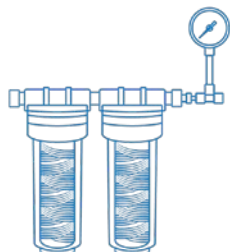
Type of feedwater:	Potable
Minimum pressure:	≥ 0.5 bar
Maximum pressure:	≤ 5 bar
Conductivity:	< 1300 μS/cm
Temperature:	5 to 35°C
pH:	4 - 10
Fouling Index:	< 10
Iron:	<0.1 ppm as CaCO ₃
Aluminum:	<0.05 ppm as CaCO ₃
Manganese:	<0.05 ppm as CaCO ₃
Free Chlorine:	<1 ppm
Langerier Saturation Index:	<+0.2
TOC:	<2000 ppb

Accessories inclusive

- Boost pump
- Pre-filter set
- Reverse osmosis module
- Deionization module
- Final stage polishing module
- 30L storage tank with an integrated Grade 2 dispensing valve
- Recirculation system

Accessories optional

- External pre-filter set **polyphosphate/carbon**/1 μm with manometer
- External pre-filter set **carbon**/1 μm with manometer
- Internal prefilter set
- RO membrane (30 L/h)
- Polishing module
- Deionization module
- Microfilter 0.22 μm non sterile
- Microfilter 0.22 μm sterile
- Ultrafilter
- UV bulb 254 nm/UV bulb 185 nm



External polyphosphate/carbon filter

External carbon filter

internal prefilter

RO membrane

Polishing/
Deionization module

Microfilter



LabAqua Ultrapure Water System

Applications

	Applications	Models		
		Trace	HPLC	Bio
General laboratory applications	Glassware rinsing	•	•	•
	Laboratory washers	•	•	•
	Autoclaves	•	•	•
	Electrochemistry	•	•	•
	Wet chemistry	•	•	•
	Spectrophotometry	•	•	•
	Buffer and media preparation	•	•	•
	Reagent preparation	•	•	•
Inorganic analysis methods	Flame atomic absorption spectrophotometry	•	•	•
	Graphite atomizer atomic absorption spectrophotometry	•	•	•
	Plasma mass-spectrometry (ICPMS)	•	•	•
	Plasma spectrophotometry (ICPOES)	•	•	•
	Ion chromatography	•	•	•
Organic analysis methods	Liquid chromatography (HPLC/UHPLC)		•	•
	Gas chromatography		•	•
	TOC (Total Organic Carbon) measurements		•	•
Molecular biology	Flow cytometry			•
	Cell and tissue culture			•
	Molecular biology			•