Biosan SIA., Ratsupites 7, build. 2, Riga, LV-1067, Latvia,
Phone: +371 674 261 37, Fax: +371 674 281 01,
E-mail: marketing@biosan.lv, www.biosan.lv

# Labaqua HPLC, 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.

**Labaqua HPLC** produces water with very low organic carbon (TOC) content meeting requirements of liquid chromatography methods. **Labaqua HPLC** water can also be used for some microbiological and molecular biology applications.

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 ultrapure water can be used for the most demanding applications including, but not limited to: **Inorganic trace analysis, Liquid chromatography, Cell culture, Molecular biology.**

With resistivity of 18.2 Mega — Ohm*cm (0.055 µS/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.

Features:

- **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.
- **Total organic carbon (TOC) monitor** - organic contaminants may not have effect on conductivity of water, so conductivity sensors cannot be used for TOC monitoring. Therefore, a special TOC monitoring module is needed to measure TOC level.
- **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.

The Labaqua systems include:

- Boost pump
- Pre-filter set
- Reverse osmosis module
- Deionization module
- Final stage polishing module

## CAT. NUMBER

| | |
|---|---|
| BS-070104-A02 | 230VAC 50Hz Euro plug |
| BS-070104-A05 | 230VAC 50/60Hz UK plug |
| BS-070104-A06 | 230VAC 50/60Hz AU plug |
| BS-070102-NK | IQ OQ document, including validation dongle |

- 30L storage tank with an integrated Grade 2 dispensing valve
- Recirculation system

Model specific modules:

- **Labaqua Trace** - Point-of-use microfilter
- **Labaqua HPLC** - Point-of-use microfilter, TOC monitor
- **Labaqua Bio** - Point-of-use ultrafilter, UV sterilization module, TOC monitor

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.

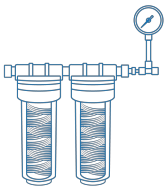
- Type of feedwater: Potable
- Minimum pressure: ≥ 0.5 bar
- Maximum pressure: ≤ 5 bar
- Conductivity: <1300 µS/cm
- Temperature: 5 to 35°C
- pH: 4 - 10
- Fouling Index: <10
- Iron: <0.1 ppm as CaCO3
- Aluminum: <0.05 ppm as CaCO3
- Manganese: <0.05 ppm as CaCO3
- Free Chlorine: <1 ppm
- Langerier Saturation Index: <+0.2
- TOC: <2000 ppb

## SPECIFICATIONS

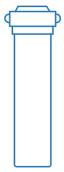
| | |
|---|---|
| Ultrapure (Grade 1) water resistivity | 18.2 MΩ x cm |
| Ultrapure (Grade 1) water conductivity | 0.055 µS/cm |
| Pure (Grade 2) water resistivity | > 10 MΩ x cm |
| Pure (Grade 2) water conductivity | < 0.1 µS/cm |
| TOC | < 2 ppb |
| Bacteria | < 1 CFU/ml |
| Endotoxins | < 0.15 EU/ml |
| 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×D×H) | 320×560×620 mm |
| Weight | 25 kg |
| Power consumption | 130 W |
| Nominal operating voltage | 230 V, 50/60 Hz |

## ACCESSORIES

External pre-filter set (polyphosphate/carbon/1 µm) with manometer
BS-070104-LK

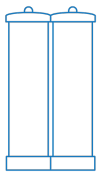


External pre-filter set (carbon/1µm) with manometer
BS-070104-KK

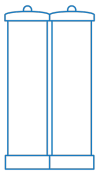


Internal prefilter set
BS-070104-AK

RO membrane (30 L/h)
BS-070102-MK



Polishing module
BS-070104-BK



Deionization module
BS-070104-IK

Microfilter - 0.22µm non sterile
BS-070104-EK

Microfilter - 0.22µm sterile
BS-070104-FK

Ultrafilter
BS-070104-GK

UV bulb 254 nm
BS-070104-CK

UV bulb 185 nm
BS-070104-DK