

Labagua HPLC, ultrapure water system

DESCRIPTION

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

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

Any configuration of a Labagua 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.

Labagua 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 Labagua 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 Labagua 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 Labagua 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 Labagua 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 Labagua systems include:

- 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



CAT. NUMBER

BS-070104-A02	230VAC 50Hz Euro plug
BS-070104-A06	230VAC 50/60Hz UK plug
BS-070104-A03	230VAC 50/60Hz AU plug
BS-070102-NK	IQ OQ document, including validation dongle

Model specific modules:

- **Labagua Trace** - Point-of-use microfilter
- **Labagua HPLC** - Point-of-use microfilter, TOC monitor
- **Labagua 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.

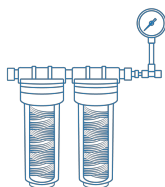
- Type of feedwater: Potable
- Minimum pressure: ≥ 0.8 bar
- Maximum pressure: ≤ 4 bar
- Conductivity: $<1300 \mu\text{S}/\text{cm}$
- Temperature: 5 to 35°C
- pH: 4 - 10
- Fouling Index: <10
- Iron: <0.1 ppm as CaCO_3
- Aluminum: <0.05 ppm as CaCO_3
- Manganese: <0.05 ppm as CaCO_3
- Free Chlorine: <1 ppm
- Langerier Saturation Index: $<+0.2$
- TOC: <2000 ppb

SPECIFICATIONS

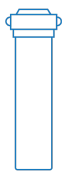
Ultrapure (Grade 1) water resistivity	18.2 M Ω x cm
Ultrapure (Grade 1) water conductivity	0.055 $\mu\text{S}/\text{cm}$
Pure (Grade 2) water resistivity	> 10 M Ω x cm
Pure (Grade 2) water conductivity	$< 0.1 \mu\text{S}/\text{cm}$
TOC	< 2 ppb
Bacteria	< 1 CFU/ml
Endotoxins	< 0.15 EU/ml
Particles $> 0.22 \mu\text{m}$	$< 1/\text{ml}$
Deionization module life (standard module)	1 m3
Storage tank	30 l
Feed water pressure	0.8 – 4 bar
Feed water conductivity	$< 1300 \mu\text{S}/\text{cm}$
Dimensions (W×D×H)	320×560×620 mm
Weight	25 kg
Power consumption	130 W
Nominal operating voltage	230 V, 50/60 Hz



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



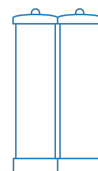
External pre-filter set
(carbon/1 µm) with manometer
BS-070104-KK



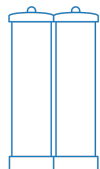
Internal prefilter set
BS-070104-AK



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



Polishing module
BS-070104-BK



Deionization module
BS-070104-IK



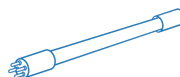
Microfilter - 0.22µm non sterile
BS-070104-EK



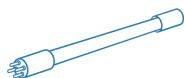
Microfilter - 0.22µm sterile
BS-070104-FK



Ultrafilter
BS-070104-GK



UV bulb 254 nm
BS-070104-CK



UV bulb 185 nm
BS-070104-DK