

## 8.6 Technical specifications

For the complete specifications for each component, refer to the individual User Manuals and Instructions. The relevant system specifications are listed below.

### 8.6.1 Operating data

<b>Pump P-901</b>	
Flow rate range	0.01–100 ml/min
Flow rate increments	0.01 ml/min
Pressure range	0–10 MPa (100 bar, 1450 psi)
pH stability range	1–13 (1–14 < 1 day exposure)
Viscosity	Max. 5 cP
Flow rate accuracy	± 2% or 20 µl/min whichever is greater
Flow rate reproducibility	rsd < 0.5% at flow rate 0.5 ml/min
Gradient composition Accuracy Reproducibility	± 1% at 0.5–100 ml/min rsd < 0.25% at flow rate <0.5–100 ml/min
Internal volume Stroke volume Total volume	286 µl 1850 µl
<b>Pump P-903</b>	
Flow rate range Flow rate increments	0.001–10 ml/min 0.001 ml/min
Pressure range	0–25 MPa (250 bar, 3625 psi)
pH stability range	1–13 (1–14 < 1 day exposure)
Viscosity	Max. 5 cP
Flow rate accuracy	± 2% or 2 µl/min whichever is greater (with compression compensation activated)
Flow rate reproducibility	rsd < 0.5% at flow rate 0.05 ml/min
Gradient composition Accuracy Reproducibility	± 1% at 0.05–10 ml/min rsd < 0.25% at flow rate <0.05–10 ml/min
Internal volume Stroke volume Total volume	35.6 µl 556 µl

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<b>Monitor UV-900</b>	
Wavelength range	190-700 nm in step of 1 nm, 3 wavelengths simultaneously
Bandwidth	4 nm
Wavelength accuracy	± 2 nm
Wavelength reproducibility	± 0.01 nm
Wavelength switch time	< 500 ms (one cycle from 214 nm to 254 nm and back to 214)
Linearity <sup>1</sup>	< 2% deviation up to 2 AU at 260 nm with Uracil at pH 2
Noise <sup>1, 2</sup> (at 230 nm)	< 6×10 <sup>-5</sup> AU, with 10 mm cell, H <sub>2</sub> O at 1 ml/min
Drift <sup>1</sup> (at 254 nm)	< 2×10 <sup>-4</sup> AU/h
Flow cell Max. flow rate Max. pressure	100 ml/min 2 MPa (20 bar, 290 psi)
1. Specified for 10 mm flow cell 2. Typical values at room temperature after warm up	
<b>Monitor UPC-900 UV measurement</b>	
Absorbance range	0.001–5.0 AU (full scale)
Autozero range	-0.2–2.0 AU
Baseline adjust	Adjustable 0–100% of full scale
Wavelengths Hg lamp, fixed by changing filter Zn lamp	254 and 280 nm 313, 365, 405, 436 and 546 nm 214 nm
<b>UV flow cell, 2 mm</b>	
Flow rate	0–100 ml/min
Max. pressure	4.0 MPa (40 bar, 580 psi)
Max. back-pressure	0.05 MPa at 100 ml/min
Liquid temperature range	+4 to +60 °C
Optical path length	2 mm

Cell volume	2 $\mu\text{l}$ (30 $\mu\text{l}$ detector volume)
<b>UV flow cell, 5 mm</b>	
Flow rate	0–20 ml/min
Max. pressure	4.0 MPa (40 bar, 580 psi)
Max. back-pressure	0.02 MPa at 20 ml/min
Optical path length	5 mm
Cell volume	6 $\mu\text{l}$ (10 $\mu\text{l}$ detector volume)
<b>Conductivity unit</b>	
Conductivity range	1 $\mu\text{S/cm}$ –999.9 mS/cm
Deviation from theoretical conductivity	Max. $\pm$ 2% of full scale calibration range or $\pm$ 10 $\mu\text{S/cm}$ whichever is greater in the range 1 $\mu\text{S/cm}$ –300 mS/cm
Reproducibility	Max. $\pm$ 1% maximum or $\pm$ 5 $\mu\text{S/cm}$ whichever is greater in the range 1 $\mu\text{S/cm}$ –300 mS/cm
Noise	Max. $\pm$ 0.5% of full scale calibrated range
<b>Conductivity flow cell</b>	
Flow rate	0–100 ml/min
Max. pressure	5 MPa (50 bar, 725 psi)
Max. back-pressure	0.01 MPa at 100 ml/min
<b>pH measurement (optional)</b>	
pH range	0 to 14

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**8.6.2 Physical data**

Degree of protection	IP 20
Power requirement	100–240 V ~ 50–60 Hz
Power consumption	600 VA
Fuse specification	ÄKTApurifier: T 6.3 AL/ 250 VAC
Dimensions, W × H × D	450 × 610 × 490mm
Weight	ÄKTApurifier: 41 kg ÄKTApurifier UPC: 38 kg
Environment	+4 to +40 °C, 10–95% relative humidity (non-condensing), 84–106 kPa (840–1060 mbar atmospheric pressure).

**8.6.3 Compliance with safety standards**

The CE symbol and declaration of conformity	The CE symbol and corresponding declaration of conformity is valid for the instrument only if it is: <ul style="list-style-type: none"> <li>• used for laboratory purposes, not for clinical or <i>in vitro</i> purposes</li> <li>• used as a stand-alone unit</li> <li>• used in the same state as it was delivered from GE Healthcare except for alterations described in this User Manual</li> <li>• connected to other CE labelled GE Healthcare modules or other products as recommended.</li> </ul>
Safety standards	This product meets the requirement of the Low Voltage Directive (LVD) 73/23/EEC through the following harmonized standards: <ul style="list-style-type: none"> <li>• EN 61010-1</li> <li>• IEC 61010-1</li> <li>• CAN/CSA-C22.2 No. 61010-1</li> <li>• UL 61010-1</li> </ul>

EMC standards	<p>This device meets the requirements of the EMC Directive 89/336/EEC through the following harmonized standards:</p> <ul style="list-style-type: none"> <li>• EN 61326 (emission and immunity)</li> <li>• EN 55011, GR 1, Class A (emission)</li> </ul> <p>This is a Class A product. In a domestic environment, it may cause radio interference, in which case the user may be required to take suitable measures.</p> <p>This device complies with part 15 of the FCC rules (emission). Operation is subject to the following two conditions:</p> <ul style="list-style-type: none"> <li>• This device may not cause harmful interference.</li> <li>• This device must accept any interference received, including interference that may cause undesired operation.</li> </ul>
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#### 8.6.4 Hardware requirements

Refer to Section *System requirements* in the *UNICORN User Manuals* supplied.

#### 8.6.5 Software requirements

Refer to Section *System requirements* in the *UNICORN User Manuals* supplied.

#### 8.6.6 Network requirements

Refer to Section *System requirements* in the *UNICORN User Manuals* supplied.