

# AquaBplus B2 Data Sheet



## Compliance with ISO Standards

The AquaBplus B2 double-stage reverse osmosis system streamlines compliance with ISO dialysis water quality standards.

- |             |  |
|-------------|--|
| ISO 23500-1 | Part 1: addresses general requirements for the preparation and quality management of fluids for hemodialysis and related therapies |
| ISO 23500-2 | Part 2: covers water treatment equipment for hemodialysis applications and related therapies                                       |
| ISO 23500-3 | Part 3: specifies minimum requirements for water used in hemodialysis and related therapies  |

**The AquaBplus B2 system delivers the operational benefits and technical advantages that renal care facilities demand.**

## Features

### Economical

- Modular design to fit individual needs

### Protective

- High permeate quality facilitated by dead-space free tubing connection

### Convenient

- Initial self-testing of all safety-relevant actuators and sensors

### Functional

- Chemical disinfection with HD integration possible
- Comprehensive data cleansing, quality documentation, and trend monitoring

- Data logging (service data recording)
- Detailed error reporting
- Permeate sample port
- Remote online monitoring available
- Semiautomatic decalcification
- Ring base for safety
- Separate emergency operation for first and second stages
- Soft membrane start and stop capabilities
- Internal leakage sensor and integrated leakage monitoring
- Visual LED indicator with buzzer

## Options

- External leakage sensor
- Connection of up to three permeate ring mains
- Automatic heat disinfection of the permeate\*
- Infrastructure data management system
- Fresenius Medical Care Service Software
- Heat disinfection of up to four dialysis machines in parallel or up to 2.4 L/m of consumption\*

\* When equipped with HF option

# Technical Data

## Specifications

<b>Hemodialysis Device</b>	Up to 50 machines running at 800 mL/hr per device
<b>Permeate Capacity</b>	500-2500 L/h
<b>Efficiency/Yield</b>	Up to 75%
<b>Dimensions</b> (h x w x d)	150 x 55 x 95 cm
<b>Weight</b> (filled)	150-320 kg
<b>Concentrate Pressure</b>	Max. 25 BAR
<b>Noise Level</b>	Noise level in <b>SUPPLY</b> mode: 62-73 dB (distance of 1 m) <i>(depending on system capacity and features)</i>
<b>Permeate Operating Pressure</b>	Max. 6 BAR

## Electrical Supply

<b>Electrical Supply/Three-phase Current</b>	208 V~, 60 Hz; 3/N/PE
<b>Power Consumption</b>	<b>AquaBplus B2 500:</b> 3 kVA + 3 kVA <b>AquaBplus B2 1000:</b> 4 kVA + 3 kVA <b>AquaBplus B2 1500:</b> 4 kVA + 4 kVA <b>AquaBplus B2 2000:</b> 4 kVA + 4 kVA <b>AquaBplus B2 2500:</b> 4.5 kVA + 4 kVA
<b>Radiated Heat/Loss</b>	<b>AquaBplus B2 500:</b> 0.5 kW + 0.5 kW <b>AquaBplus B2 1000:</b> 0.65 kW + 0.5 kW <b>AquaBplus B2 1500:</b> 0.65 kW + 0.65 kW <b>AquaBplus B2 2000:</b> 0.65 kW + 0.65 kW <b>AquaBplus B2 2500:</b> 0.65 kW + 0.65 kW
<b>Overcurrent Protection</b>	2 x 20 A tripping characteristic (depending on voltage/version) D or K or similar recommended (due to high starting currents) Residual current circuit breaker RCD 30 mA recommended
<b>Socket</b>	208 V: hardwired/CEE socket
<b>Type of Protection Against Electric Shock</b>	Protection Class I
<b>Applied Parts Classification</b>	Type B
<b>Degree of Ingress Protection Against Liquids</b>	Drip-proof
<b>Leakage Currents</b>	According to EN 60601-1
<b>Overvoltage Category</b>	II
<b>Pollution Severity</b>	II
<b>Material Group</b>	III b
<b>Operating Mode</b>	Continuous operation (standby)

# Technical Data

## Specifications

**Bacteria (CFU) and Endotoxins (EU)** >99%

**Total Dissolved Solids** >96%

Product water quality depends on inlet water quality

## Water Supply

**Feed Pressure** Dynamic 2-6 bar

**Minimum Inlet Flow**  
Minimum inlet flow in liters per hour at maximum outlet capacity and a yield of 75%

**AquaBplus B2 500:** min. 2000 L/h  
**AquaBplus B2 1000:** min. 3000 L/h  
**AquaBplus B2 1500:** min. 4000 L/h  
**AquaBplus B2 2000:** min. 5000 L/h  
**AquaBplus B2 2500:** min. 6000 L/h

**Permeate Connection** Direct PE-Xa connector 25 x 3.5 (feed and return) on the system

**Inlet Water Connection** 1 1/4" external thread, stainless steel

**Drain Water Connection** DN 70 (HT pipe)

## Operating Conditions

**Water Hardness** <1.0 °dH

**Iron** <0.1 mg/L

**Manganese** <0.1 mg/L

**Chloride** <100 mg/L

**Silicate** <25 mg/L

**Total Chlorine** 0.1 mg/L

**Feed Water Conductivity** <2500 uS/cm

**Total Salt Content** 1500 mg/L

**pH** 6-8

**Silt Density Index** <3

**Feed Water Temperature** Min. 5°C/max. 35°C

**Atmospheric Pressure** Ambient pressure: 700-1150 hPa

**Ambient Temperature Range** +5°C to +35°C

**Relative Humidity** Up to 80% at 20°C (non-condensing)

## External Connection Options

**Ethernet** Electrically isolated interface for data exchange (RJ45) CAT5  
The system can be connected to the in-house network

**External Start/Stop** Isolated inputs to start the AquaBplus B2 in **SUPPLY** mode or to stop all operating modes

**Volt-free Contacts: Warning, Alarm, Supply** 24V AC/DC/1A

**External Failure** Electrically isolated input as "collective alarm" from external equipment

**External Leakage** e.g., AquaDETECTOR

# Technical Data

## Transport and Storage Conditions

### Storage Temperature Range

+5°C to +40°C (protect from freezing)

Any additional equipment connected to this system must comply with the applicable IEC or ISO standards (such as IEC 60950-1 for information technology equipment). Plus, all system configurations must comply with the requirements for medical systems (according to Annex I to EN 60601-1).

### Storage Time

Storage time of preserved system: maximum 12 months

### Atmospheric Pressure

Ambient pressure: 500-1,150 hPa

### Relative Humidity

Up to 80% at 20°C (non-condensing)

## Materials in Contact with Dialysis Water

Type		Material
Polymers	PP	Polypropylene
	PE	Polyethylene
	PSU	Polysulfone
	PPO	Polyphenylene oxide
	PVDF	Polyvinylidene fluoride
Rubber	EPDM	Ethylene propylene diene monomer
		Silicone
Metals	1.4571	Stainless steel
	1.4404	Stainless steel
	Ti	Titanium
Ceramics	Al2O3	Ceramic

## Indications for Use

The **AquaBplus** Water Purification Systems are reverse osmosis units intended for use with hemodialysis systems to remove organic and inorganic substances and microbial contaminants from the water used for treating hemodialysis patients or other related therapies. These devices are intended to be a component in a complete water purification system, and are not complete water treatment systems. Each reverse osmosis unit must be preceded by pre-treatment devices, and may need to be followed by post-treatment devices as well, to meet current AAMI/ANSI/ISO and federal (U.S.) standards.

### FMCNA.COM

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P/N 103845-01 Rev B 02/2020



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