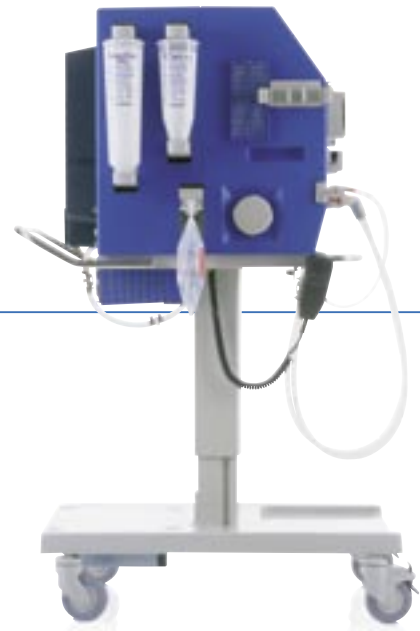


# AK 200 S and AK 200 ULTRA™ S Specifications



## Features

### Quick preparation

Automatic self-test  
Pre-settable treatment parameters

### Treatment flexibility

Pre-settable acetate/bicarbonate fluid composition  
Direct setting of  $\text{Na}^+$  and  $\text{HCO}_3^-$   
Adjustable dialysis fluid flow  
Profiling of  $\text{Na}^+$ ,  $\text{HCO}_3^-$  and UF  
Single Needle/Single Pump with low recirculation  
Single Needle/Double Pump with low recirculation Isolated UF  
Hemodiafiltration  
BiCart Select  
Blood Volume Sensor

### Hygiene

Chemical and heat disinfection – automatic and integrated  
CleanCart cleaning, decalcification, disinfection  
Pre-settable disinfection options, chemical disinfection memory  
Automatic disinfection cycle verification

### Options

pH meter  
Ultrafiltered dialysis fluid  
Battery backup  
Electrical adjustable stand  
One or two blood pumps  
Blood pressure meter  
Diascan

## Specifications

### Blood flow control

Flow rate, double needle:  
0 and 20 to 500 ml/min  
Flow rate, single needle, single pump:  
0 and 20 to 500 ml/min, time or pressure-controlled  
Mean flow, single-needle, double pump:  
0 and 10 to 400 ml/min, stroke volume controlled

### Blood pressure supervision

Arterial pressure: -700 to +750 mmHg  
System pressure: -700 to +750 mmHg  
Venous pressure: -700 to +750 mmHg

### Air detection (Level detector)

Method: Ultrasonic detector  
Drip chamber size: 22 mm diameter

### Heparin administration

Flow rate: 0 to 10 ml/h, programmable stop time, accumulated volume read-out

### Water supply

Inlet pressure: 100 to 800 kPa (1 to 8 bar)  
Inlet temperature: 5 to 30 °C  
Quality: Fluid should comply with national & international standards, e.g. ANSI/AAMI

### Optional modes

Profiling: Sodium, bicarbonate and UF  
Hemodiafiltration: Single or double-needle

### Dialysis fluid preparation and monitoring

Temperature:  
Adjustable between 30 to 39 °C  
Flow rate: 300 to 700 ml/min  
Acetate mode:  
 $\text{Na}^+$  range 130 to 150 mmol/l  
Bicarbonate mode:  
 $\text{Na}^+$  range 115 to 160 mmol/l  
 $\text{HCO}_3^-$  range 20 to 40 mmol/l  
pH meter: Range 1.0 to 9.9

### Substitution fluid

Substitution flow rate: 0.3 to 2.0 litres/h

### Ultrafiltration control

UF volume: Adjustable, 0 to 30 l  
Accuracy:  $\pm 50$  ml/h or  $\pm 2.5\%$   
UF rate: 0 to 4 l/h

### Blood leakage detection

Infrared light

### Disinfection and cleaning

Chemical: Peracetic acid, hypochlorite or formaldehyde  
Heat: Heat, liquid citric acid or CleanCart  
Rinse/drain/decalcification:  
Rinse, citric acid or CleanCart C

### Power supply

Mains voltage: 115/230V AC ( $\pm 10\%$ )  
Frequency: 50 to 60 Hz ( $\pm 5\text{Hz}$ )

Power consumption:  
Max 2250 W at 230V or 1650 W at 115V  
Fully prepared for battery backup

### Connection of external equipment

Connectors: RS 232C or RS 422

### Dimensions and weight

Weight: 81 to 88 kg  
Width: Machine 570 mm, stand 573 mm  
Depth: Machine 610 mm, stand 753 mm  
Height: 1152 to 1382 mm in 5 fixed positions or 1175 to 1340 mm adjustable

### Operating environment

Ambient temperature: 18 to 35 °C  
Relative humidity: 15 to 85%  
Approx. 1000 meters above sea level

### Safety

The AK 200 S complies with the following standards:

IEC 60601-1 General requirements for safety, Class 1, type B

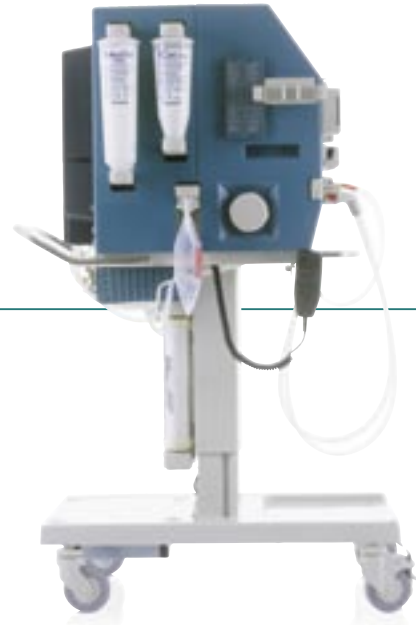
IEC 60601-2-16 Particular requirements for safety of haemodialysis, haemodiafiltration and haemofiltration equipment

IEC 60601-2-30 Particular requirements for the safety of automatic cycling indirect blood pressure monitoring equipment

IEC 60601-1-2 Electromagnetic compatibility

**CE 0086 This product is CE-marked in accordance with the requirements in EC Council Directive 93/42/EEC of 14 June, 1993, concerning medical devices**

# AK 200 ULTRA S



## Features

### Quick preparation

Automatic self-test  
Pre-settable treatment parameters

### Treatment flexibility

Online HDF with pre- or post-dilution  
Online HF with pre- or post-dilution  
All modes with ultra-pure dialysis fluid  
Online preparation of substitution fluid for HF and HDF  
Adjustable dialysis fluid flow  
300 - 700 ml/min  
Profiling of Na<sup>+</sup>, HCO<sub>3</sub><sup>-</sup> and UF  
Designed for the BiCart and BiCart Select system  
SN/SP and SN/DP with minimum recirculation  
Blood Volume Sensor

### Hygiene

Chemical and heat disinfection – automatic and integrated  
CleanCart cleaning, decalcification, disinfection  
Chemical disinfection memory

### Options

pH meter  
Battery backup  
Electrical adjustable stand  
Blood pressure meter  
Diascan

## Specifications

### Blood flow control

Flow rate, double needle:  
0 and 20 to 500 ml/min (HD)  
0 and 20 to 700 ml/min (HDF/HF)  
Flow rate, single needle, single pump:  
0 and 20 to 500 ml/min, time- or pressure-controlled  
Mean flow, single-needle, double pump:  
0 and 10 to 400 ml/min, stroke volume controlled

### Blood pressure supervision

Arterial pressure: -700 to +750 mmHg  
System pressure: -700 to +750 mmHg  
Venous pressure: -700 to +750 mmHg

### Air detection (Level detector)

Method: Ultrasonic detector  
Drip chamber size: 22 mm diameter

### Heparin administration

Flow rate: 0 to 10 ml/h, programmable  
stop time, accumulated volume read-out

### Water supply

Inlet pressure: 100 to 800 kPa (1 to 8 bar)  
Inlet temperature: 5 to 30 °C  
Quality: Fluid should comply with national & international standards, e.g. ANSI/AAMI

### Optional modes

Profiling: Sodium, bicarbonate and UF

### Dialysis fluid preparation and monitoring

Temperature:  
Adjustable between 30 to 39 °C  
Flow rate: 300 to 700 ml/min  
Acetate mode:  
Na<sup>+</sup> range 130 to 150 mmol/l  
Bicarbonate mode:  
Na<sup>+</sup> range 115 to 160 mmol/l,  
HCO<sub>3</sub><sup>-</sup> 20 to 40 mmol/l  
pH meter: Range 1.0 to 9.9

### Substitution fluid

Substitution flow rate: 0.3 to 25 l/h  
Substitution fluid volume: 0 to 150 litres

### Ultrafiltration control

UF volume: Adjustable, 0 to 30 l  
Accuracy: ± 50ml/h or ± 2.5%  
UF rate: 0 to 4 l/h

### Blood leakage detection

Infrared light

### Disinfection and cleaning

Chemical: Peracetic acid, hypochlorite or formaldehyde  
Heat: Heat, liquid citric acid or CleanCart  
Rinse/drain/decalcification:  
Rinse, citric acid or CleanCart C

### Power supply

Mains voltage: 115/230V AC (± 10%)  
Frequency: 50 to 60 Hz (± 5Hz)

Power consumption:  
Max 2250 W at 230V  
Fully prepared for battery backup

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Connectors: RS 232C or RS 422

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