



## Technical data

# WRO 300

- Easy handling
- Compact design
- Low noise level
- Excellent hygiene
  - Chemical disinfection
- Automated procedures minimize patient and caregiver involvement
  - Dialysis machine can start and stop WRO 300
  - Automatically shut-off at completion of disinfection process.



# WRO 300 Technical Data

## Water for Dialysis

The quality of the water used in the preparation of dialysis fluid is very important. Even water considered as acceptable according to existing tap water regulations may have chronic as well as acute effects on the dialysis patient. The Gambro single patient reverse osmosis monitor WRO 300 is specially designed to provide the high quality water needed for dialysis.

## Reverse osmosis

Reverse osmosis is today the preferred method for the purification of water for dialysis. This method removes more than 95% of dissolved salts and more than 99% of all particles, bacteria and pyrogens in the water. Most tap waters can therefore be purified to a standard

which complies with existing recommendations for water for dialysis. WRO 300 is a reverse osmosis unit designed specifically for dialysis. It combines simplicity, reliability and ease of use and is based on the long time experience of water treatment equipment within Gambro.

## Integrated chemical disinfection

When WRO 300 is fitted to a Gambro dialysis machine, one of the disinfection programs will allow an integrated chemical disinfection of the reverse osmosis unit, the connection line to the dialysis machine and the dialysis machine itself. This "end-to-end" action will ensure that the hygienic chain remains unbroken.

## Product water

Output:	Minimum 1100 ml/min at +10°C.
Quality:	Depends on inlet water quality. If potable water is used, and WRO 300 is maintained according to the manual, the following minimum rejection rates will be obtained:
Total dissolved salts:	> 95%
Bacteria and pyrogens:	> 99%

## Feed water supply

Input:	2,5 l/min required.
Pressure:	120 to 800 kPa (1.2 to 8 bar).
Temperature:	5 to 30°C.
Quality:	Potable water should be used. Softener followed by carbon/particle filter ensures optimum performance. Softener may be omitted if acid cleaning is performed on a regular basis.
	To insure maximum membrane life expectancy, the following limits should not be exceeded:

Iron:	< 0.1 mg/l
Manganese:	< 0.1 mg/l
Turbidity:	< 1 JTU
Total dissolved salts (TDS):	< 1500 mg/l
Fouling index (S.D.I.):	< 5
Chlorine:	< 0.1 mg/l

## Drain requirements

Maximum	2,5 l/min
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## Connections

### Supply and drain lines

Designed for flexible, reinforced tubing, 8 mm x 3 mm.

### Product water loop

Designed for flexible, reinforced tubing, 6 mm x 3 mm.

## User interface displays:

Product water conductivity:	Temperature compensated product water conductivity, operating range 0 to 500 µS/cm
Feed water conductivity:	Temperature compensated feed water conductivity, operating range 0 to 2000 µS/cm
Rejection rate:	Rejection rate, operating range 80 to 100%.
Time:	Date and time Time since last disinfection, cleaning, etc. Total run time

## Temperature measurement

Operating range:	1-100°C
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## Reverse osmosis membrane

Material:	Modified polyamide, thin film composite
Configuration:	Spiral wound
pH-tolerance:	2 to 11

## Disinfection & Cleaning

Chemical disinfection:	Automatic dilution of disinfectant. Rinse memory forcing the rinse program to start after chemical disinfection.
Cleaning:	Customized programs for different needs.

## Power supply

Mains voltage:	100, 110 or 230 V +/-10%, 50 or 60 Hz
Power:	230 V: max 500 W 100 V: max 500 W 110 V: max 500 W
Mains socket:	230 V: Dual earthed, type IEC83C4 115 V: Hospital grade earthed, type EC83A5-15

## Remote start

Cable length:	Max. 10 m
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## Ambient

temperature:	10 to 40° C
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## Dimensions

Depth:	Max:	500 mm
	Footprint:	380 mm
Width:	Max.	205 mm
	Footprint:	185 mm
Height:		560 mm
Weight:		28 kg

Specifications subject to change without prior notice. For further information and operating instructions, please refer to applicable operator's manual.

**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.



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