



formula<sup>®</sup>  
therapy



*The right therapy way*



## TREATMENT MODES

### HEMODIALYSIS

- Double-needle dialysis
- Single-needle dialysis (single pump)
- Single-needle dialysis (double pump)

- Isolated dialysis

### HDF WITH ENDOGENOUS REINFUSION

- HFR Evolution<sup>®</sup>
- HFR Aequilibrium

### HEMODIAFILTRATION ON-LINE

- HDF Pre or Post dilution
- PHF<sup>®</sup>: Pre or Post dilution Paired On-line HDF
- On-line Mid-Dilution HDF

## PROFILES (applicable to all treatments)

- Profiles: 

Partial conductivity	Ultrafiltration
Total conductivity	Heparin

## TYPES OF DIALYSING SOLUTION (usable with all the above treatments)

- Acetate
- Liquid bicarbonate
- Powder bicarbonate
- standard acid concentrate
- acid concentrate without acetate LYMPHA<sup>®</sup>
- standard acid concentrate
- acid concentrate without acetate LYMPHA<sup>®</sup>

## TECHNICAL DATA

### SENSORS

Natrium, Lector, Sphygmo - Hemox and Pulsar (optional)

### APPLICATIONS

Kt/V, thermal balance, sodium balance, Cardium (if Pulsar is present) measurement

### BLOOD FLOW CONTROL

Double-needle flow	20 ÷ 700 mL/min. in steps of 10 mL/min
Single-needle flow (single pump)	20 ÷ 700 mL/min in steps of 10 mL/min with "stroke-pressure" control
Single-needle flow (double pump)	20 ÷ 700 mL/min in steps of 10 mL/min with "pressure-stroke" control and automatic efficiency and switching pressure adaptive control system

### INFUSION

Infusion flow in on-line HDF	from 0.5 to 21 L/h
On-line infusion	±10%
End-infusion detector	Ultrasound

### EXTRACORPOREAL CIRCUIT PRESSURE MONITORING

Venous pressure	-400 ÷ 800 mmHg
Arterial pressure	-400 ÷ 800 mmHg
Infusion pressure (Pinf)	-400 ÷ 800 mmHg
Prefilter pressure (Ppre)	-400 ÷ 800 mmHg
Blood filter ultrafiltration pressure (in HFR only) (Pufe)	-400 ÷ 800 mmHg
HFR blood filter TMP	Ppre - Pufe

### HEPARIN PUMP

Syringe capacity	20, 30, 50 mL
Infusion flow	0.1 ÷ 10 mL/h step of 0.1 mL/min

### AIR DETECTOR

Detection method	ultrasound
Detection	on venous line
Sensitivity	bubble 100 µl

### BLOOD DETECTOR

Detection method	infrared rays
Detection	on arterial line
	on venous drip chamber

### DIALYSIS FLUID PRIMING AND MONITORING

Flow	300, 500, 800 mL/min
Temperature	35° ÷ 39°C
Double ultrafiltration	Forclean Plus + Forclean i

### DIALYSIS FLUID CONDUCTIVITY

Total	12.1 ÷ 15.7 mS/cm
Partial	2.4 ÷ 3.6 mS/cm (3 mS/cm)
	4.0 ÷ 6.0 mS/cm (5 mS/cm)

### ULTRAFILTRATION CONTROL

Type of control	single pass through Coriolis flowmeter
Hourly weight loss	0.1 ÷ 4 Kg/h
Accuracy	± 1 g/min, ± 1% total UF

### BLOOD LEAK DETECTOR

Detection method	optical
Detection method for HFR	optical
Sensitivity	0.5 mL/min of blood 25% hematocrit

### DISINFECTIONS

Full chemical disinfection:	Amuchina, Oxagal (38°C), user
Full chemical disinfection with dwell time:	OXAGAL agent, duration < 80 h
Hot descaling:	Citric acid, user Max 85°C - Mean 50°C
Chemical descaling:	Acetic acid (38°C)
Heat disinfection:	Max 94°C - Mean 85°C
Weekly disinfection:	configurable
Centralised disinfection:	configurable

### DIMENSIONS AND WEIGHT

Height	1740 mm
Depth	755 mm
Width	500 mm
Weight	91 kg

### WATER SUPPLY

Quality	in conformity with national and international standards, e.g. AAMI, WQD-1998
Input temperature	5°C ÷ 32°C
Input pressure	0.9 ÷ 4.0 bar
Water filter	Multipure
Centralised kit	input water pressure 0.9 - 7.5 bar; input temperature 5°-94°C (in rinsing and maintenance)

### ELECTRICAL POWER SUPPLY

Voltage	110/240 VAC ± 10%
Frequency	from 50 to 60 Hz
Absorption	mean 1000 W (flow 800 mL/min - Tin 17° C - Tdial 37,5° C - Tamb 20° C) maximum 230V 8A, 115V 16A

### AMBIENT OPERATING CONDITIONS

Temperature	10°C ÷ 40°C
Relative humidity	0 ÷ 95%
Pressure	atmospheric

### EXTERNAL CONNECTIONS

RS232 interface for external connections (opto-isolated)

### SAFETY STANDARDS

General standards:	IEC 60601-1, EN 60601-1
Collateral standards:	IEC 60601-1-1, EN 60601-1-1 IEC 60601-1-2, EN 60601-1-2 IEC 60601-1-4, EN 60601-1-4
Particular standards:	IEC 60601-2-16, EN 60601-2-16 IEC 60601-2-30, EN 60601-2-30
Other standards:	ISO 14971, EN ISO 14971



Bellco S.r.l.  
Via Camurana, 1  
41037 Mirandola (Mo) Italy  
Tel.: +39 0535 29111  
Fax: +39 0535 25501  
bellco@bellco.net  
www.bellco.net