

Oxiris

CYTOKINE - ENDOTOXIN AND CRRT HEMOFILTER



# Oxiris Set 3-IN-1 CRRT-SEPSIS MANAGEMENT

Blood purification beyond CRRT by targeting cytokine and endotoxin removal Powered By

PrisMax and Prismaflex

# **OXIRIS SET**

The Oxiris set is indicated for use only with the Prismaflex control unit or with PrisMax control unit (in countries where PrisMax is cleared or registered). It is intended for patients in need of blood purification, including continuous renal replacement therapy, and in conditions where excessive endotoxin and inflammatory mediator levels exist.

OXIRIS SET GENERAL DATA		
Weight	890 g	
Overall Dimensions	27 x 22 x 9 cm	
Blood volume in set ± 10 %	193 ml	
Minimal patient weight	30 kg	

#### Materials

**Oxiris** hollow fiber: Acrylonitrile and sodium methallyl sulfonate copolymer + PolyethyleneImine (surface treatment agent) + heparin grafted (4500+/-1500 IU/m²)

Filter housing and headers: Polycarbonate

Filter potting compound: Polyurethane

Tubing material: Plasticized polyvinyl chloride (PVC)

Cartridge: PETG

Sterilization mode: EtO (ethylene oxide)

Filter operating specifications		
Maximum TMP* (mmHg/kPa)	450/60	
Maximum blood pressure (mmHg/kPa)	500/66.6	
Range of blood flow rate	100-450 ml/min	
Filter data		
Nominal physical characteristics:		

Trommat projected endragers		
Effective surface area	1.5 m <sup>2</sup>	
Fiber internal diameter (wet)	240 µm	
Fiber wall thickness	50 µm	

# IN VITRO PERFORMANCES

# **CVVHD** clearances

Clearances versus inlet dialysate flow rate

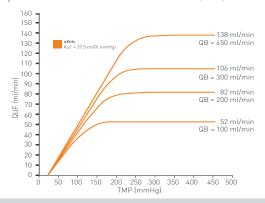
(Continuous veno-venous hemodialysis) (Saline, T = 37°C)

	<b>Oxiris set</b> Q <sub>B</sub> *** = 200 ml/min Q <sub>UF</sub> **** = 0 ml/min			
QD l/h ml/min	1 17	2.5 42	4 67	8 133
Urea (±10%)	17	42	66	117
Vitamin B <sub>12</sub> (±20%)	17	38	51	68
Inulin (±20%)	16	33	40	49

<sup>\*</sup>Transmembrane pressure.

### CVVH performances<sup>1</sup>

"In vitro" ultrafiltration with blood (values ±15%) (Continuous veno-venous hemofiltration) (Bovine blood at 37°C, Hematocrit 32%, Cp\*\*\* 60 g/l). Ultrafiltration is controlled by the **Prismaflex** system and is independent of the ultrafiltration coefficient (KUF)



#### Sieving coefficient

(Bovine plasma, Cp 60 g/l, T =  $37^{\circ}$ C) Q<sub>p</sub> = 100 ml/min, Q<sub>ur</sub> = 20 ml/min

a <sub>B</sub> 100 mg mm, a <sub>UF</sub> 20 mg mm		
Urea	1	
Vitamin B <sub>12</sub>	1	
Inulin	0.96	
[Human plasma, Cp 60 g/l, T=37°C]		
Musalahia	0.70	

Myoglobin	0.70
Albumin	<0.0045

## Cytokine adsorption

Cytokine adsorption removal rate [%]  $^{\rm [2]}$  (human plasma, Cp 60 g/l, 37°C)  $\rm Q_{\rm g}=150$  ml/min,  $\rm Q_{\rm UF}=0$  ml/min

IL-10 (± 10%)	96
IL-6 (± 10%)	84
HMGB-1 (± 10%)	94
TNF-a (± 30%)	82

 $<sup>^{[2]}\</sup>text{Removal}$  Rate expressed at t=120 min with a theoretical initial IL-10, IL-6, HMGB-1 and TNF-a respective concentration of 500 pg/ml, 1500 pg/ml, 30 ng/ml and 250 pg/ml.

#### **Endotoxin adsorption**

Lipopolysaccharide adsorption removal rate [%]<sup>[3]</sup> (human plasma, Cp 60 g/l, 37°C)  $Q_{\rm R}$  = 150 ml/min,  $Q_{\rm UF}$  = 0 ml/min

PS (+ 20%)	75

 $^{\text{\tiny{[3]}}}\text{Removal}$  Rate expressed at t=120 min with an initial LPS concentration after stabilization of 50±10 EU/ml

Cp: Protein concentration

RR: removal rate IL-10: Interleukin-10

IL-6: Interleukin-6

HMGB-1: High-mobility group box 1 TNF-a: Tumor necrosis factor – a

LPS: Lipopolysaccharide

ORDERING INFORMATION			
	Code N°	N° units/box	
Oxiris S set	955503	4	

<sup>1.</sup> Typical mean values obtained from laboratory testing of post-sterilization sample lots. Results may vary depending on patient and clinical conditions. Adsorption removal rate obtained in vitro are likely to differ from in vivo results. Adsorption characteristics change with the duration of observation.

For safe and proper use of the devices mentioned herein, please refer to the Instructions for Use.

Baxter, Oxiris, Prismaflex and Prismax are trademarks of Baxter International Inc. or its subsidiaries. NORD/MG146/20-0003 – August 2020

<sup>\*\*</sup>Access blood flow rate.

<sup>\*\*\*</sup>Protein concentration.

<sup>\*\*\*\*</sup>Ultrafiltration flow rate [1].

The ultrafiltration flow rate is the "patient fluid removal flow rate + replacement flow rate + pre-blood-pump flow rate".