

AQUAMAX® Filter



The AQUAMAX® range using polyethersulfone membrane is engineered to meet the needs of patients with clinical indication for CRRT^{1,2}:

- Acute Kidney Injury (AKI)
- Fluid overload
- Sepsis²
- AKI induced by Cardiopulmonary bypass³
- Acid-base abnormalities
- Hyperkalemia

**Individualise your therapy,
without changing the membrane.**

- Optimised for convective and diffusive therapies (CVVH, CVVHD, CVVHDF)⁴
- High hydraulic permeability providing exemplary fluid removal (SCUF)⁵
- Remarkable clearance of small and medium sized molecules⁶
- Indicated for use with heparin or regional citrate anticoagulation⁷
- Choice of four filters with varying membrane surface areas

**All CRRT indications,
one filter.**

Target recovery.

AQUAMAX® Filter

Concentrations of IL-6 during ultrafiltration²

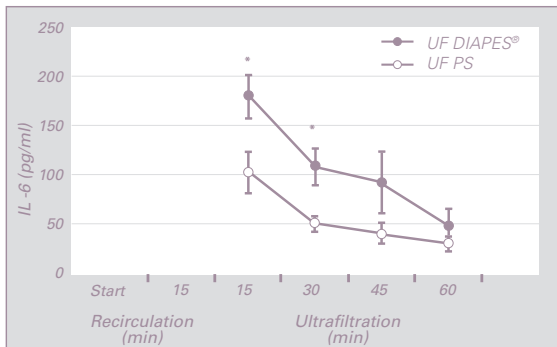


Figure 1 shows significant reduction in ultrafiltrate levels of IL-6 vs conventional polysulphone.

In vivo measured sieving coefficients⁸

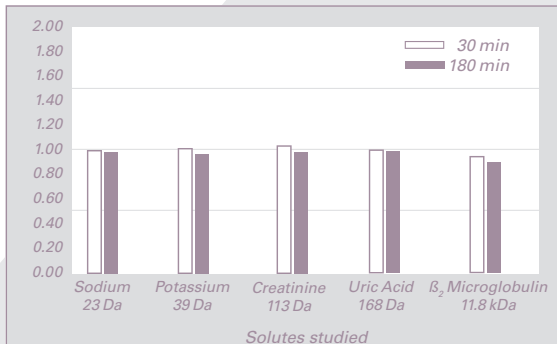


Figure 2 demonstrates the remarkable consistency of permeability in different sized molecules over time.

Colour coded end caps

Correct orientation and optimal blood flow⁷

Standard ISO and Luer-lock fittings

One standard ISO and Luer-lock/Hansen* fittings, one standard AQUAMAX® for all CRRT modalities⁷

AQUAMAX® Polyethersulfone

Membrane permeability allows middle molecules up to 66 kDa⁹ to be removed including selected cytokines/inflammatory mediators associated with sepsis²

Membrane

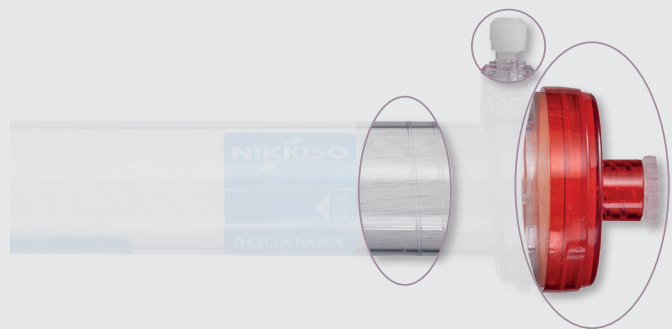
High hydraulic permeability with structural strength in each fibre, providing enhanced convective and diffusive properties⁴

Spacer yarns

Prevents clustering of capillaries and enables even distribution of dialysate maximising clearance¹⁰

Low priming solution requirement

AQUAMAX® requires only 1L prime for effective treatment preparation¹¹



AQUAMAX® is included in every AQUASET®**

Characteristics ⁶	AQUAMAX® HF03	AQUAMAX® HF07+	AQUAMAX® HF12	AQUAMAX® HF19
Membrane surface area (m ²)	0.3	0.7	1.2	1.9
Priming volume (mL)	32	49	73	109
Pressure drop (mmHg)	<40	<80	<50	<25

Membrane: High-flux Polyethersulfone | Thickness: 30 µm | Inner diameter: 200 µm | Sterilisation: Ethylene Oxide | Single use only

¹ Kidney Disease for Improving Global Outcomes KDIGO Clinical Practice Guideline for Acute Kidney Injury (2012) Chapter 5.1 Page 91 Table 17 Kidney International Supplements.

² Schindler R, Elimination of Cytokines from Plasma by Ultrafiltration, Using Conventional Polysulfone or DIAPES membranes. Results, Page 39 Fig 1 (b) and para 2 lines 5-10. In: Locatelli et al (eds). Polyethersulfone: Membranes for Multiple Clinical Applications. 2003. Contributions to Nephrology 138, ISBN 3-8055-7485-1.Karger, Basel.

³ Liu D, Liu B, Liang Z, Yang Z, Ma F, Yang Y, Hu W. Acute Kidney Injury following Cardiopulmonary Bypass: A Challenging Picture. Oxid Med Cell Longev. 2021 Mar 9;2021.

⁴ Ballestri et al., Ultrastructural Features of Polyethersulfone Membranes. Discussion, Page 25, para 2, lines 5-9. In: Locatelli et al (eds).

Polyethersulfone: Membranes for Multiple Clinical Applications. 2003. Contributions to Nephrology 138, ISBN 3-8055-7485-1.Karger, Basel.

⁵ Ronco et al., Performance of DIAPES® Filters in CRRT. Conclusions, Page 151, para 2, lines 2-3. In: Locatelli et al (eds).

Polyethersulfone: Membranes for Multiple Clinical Applications. 2003. Contributions to Nephrology 138, ISBN 3-8055-7485-1.Karger, Basel.

⁶ Ronco et al., Performance of DIAPES® Filters in CRRT. Results, Page 149 para 1, lines 1-5, Fig 4 In: Locatelli et al (eds).

Polyethersulfone: Membranes for Multiple Clinical Applications. 2003. Contributions to Nephrology 138, ISBN 3-8055-7485-1.Karger, Basel.

⁷ AQUAMAX®, Instructions for Use, 02-2021 IB051013311001.

⁸ Ronco et al., Performance of DIAPES® Filters in CRRT. Results, Page 149, Fig 4 and para 1, lines 1-3. In: Locatelli et al (eds).

Polyethersulfone: Membranes for Multiple Clinical Applications. 2003. Contributions to Nephrology 138, ISBN 3-8055-7485-1.Karger, Basel.

⁹ Samtleben, et al. Comparison of the new polyethersulfone high-flux membrane DIAPES® HF800 with conventional high-flux membranes during on-line haemodiafiltration.

Nephrology, Dialysis, Transplantation 2003 Nov;18(11):2382-2386.

¹⁰ Brandt T, Weise F, Physical and Chemical Characteristics of Different Polyethersulfone Membranes. Principles of Membrane Manufacturing, Page 6, lines 4 -7. In: Locatelli et al (eds).

Polyethersulfone: Membranes for Multiple Clinical Applications. 2003. Contributions to Nephrology 138, ISBN 3-8055-7485-1.Karger, Basel.

¹¹ Aquarius™ System, Instructions for Use, section 5.3.

* using a separate Hansen adaptor

** available in selected countries

AQUAMAX® Hemofilter
Nikkiso Belgium bv
Industriepark 6
3300 Tienen
Belgium
CE 0123

AQUALINE Tubing
Haemotronic S.p.A.
Via Carreri, 16
41037 Mirandola
Italy
CE 0123

AQUASET & CITRASET RCA
Assembled by Haemotronic
Via Carreri, 16
41037 Mirandola
Italy

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