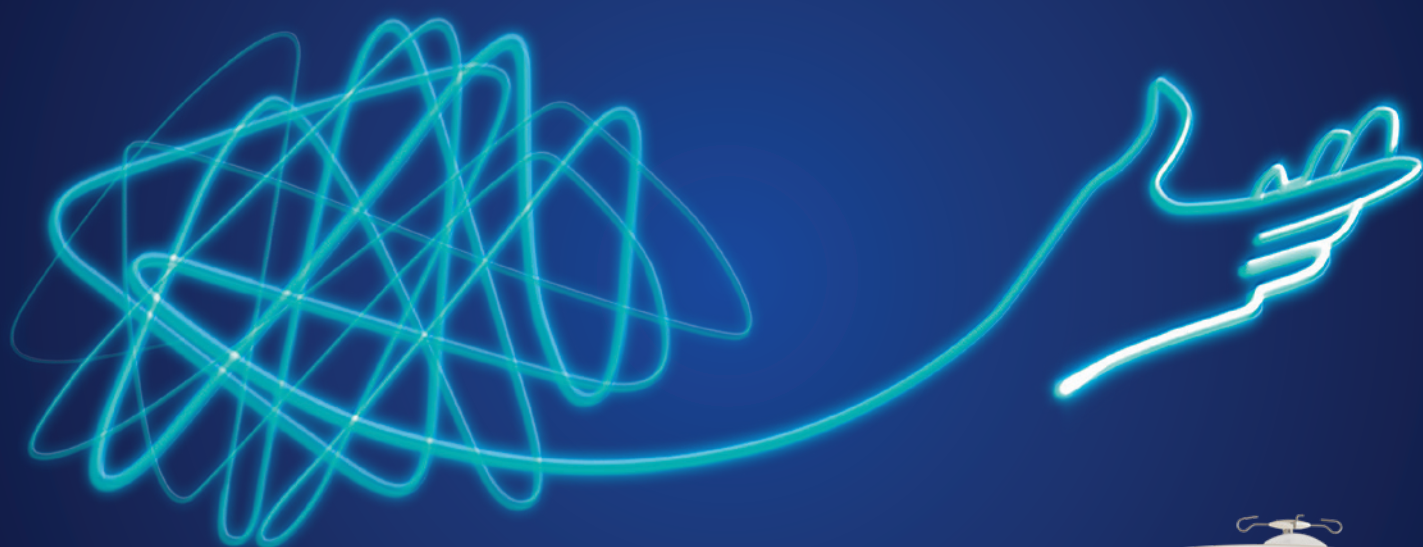


Cardioprotective Haemodialysis

6008 CAREsystem

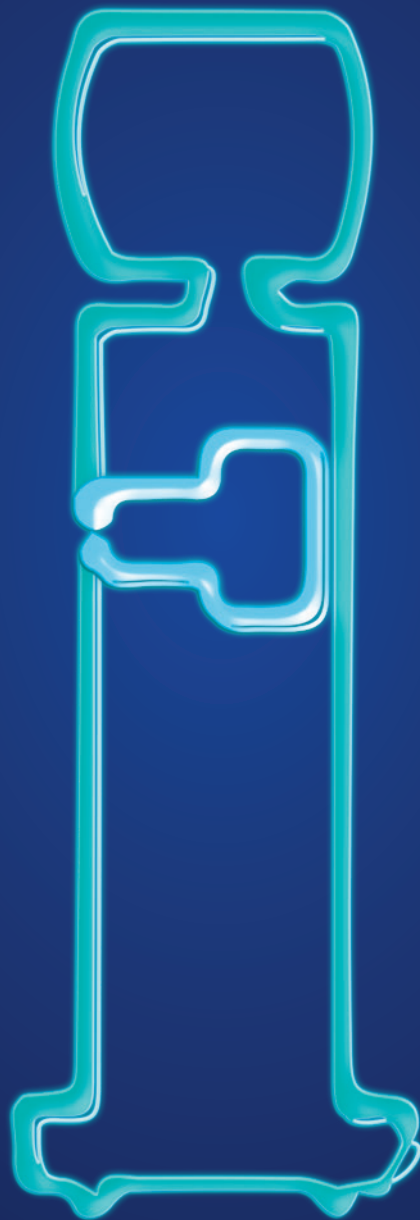
More care. Less complexity.



**FRESENIUS
MEDICAL CARE**

6008 CAREsystem

Our next step in Cardioprotective Haemodialysis

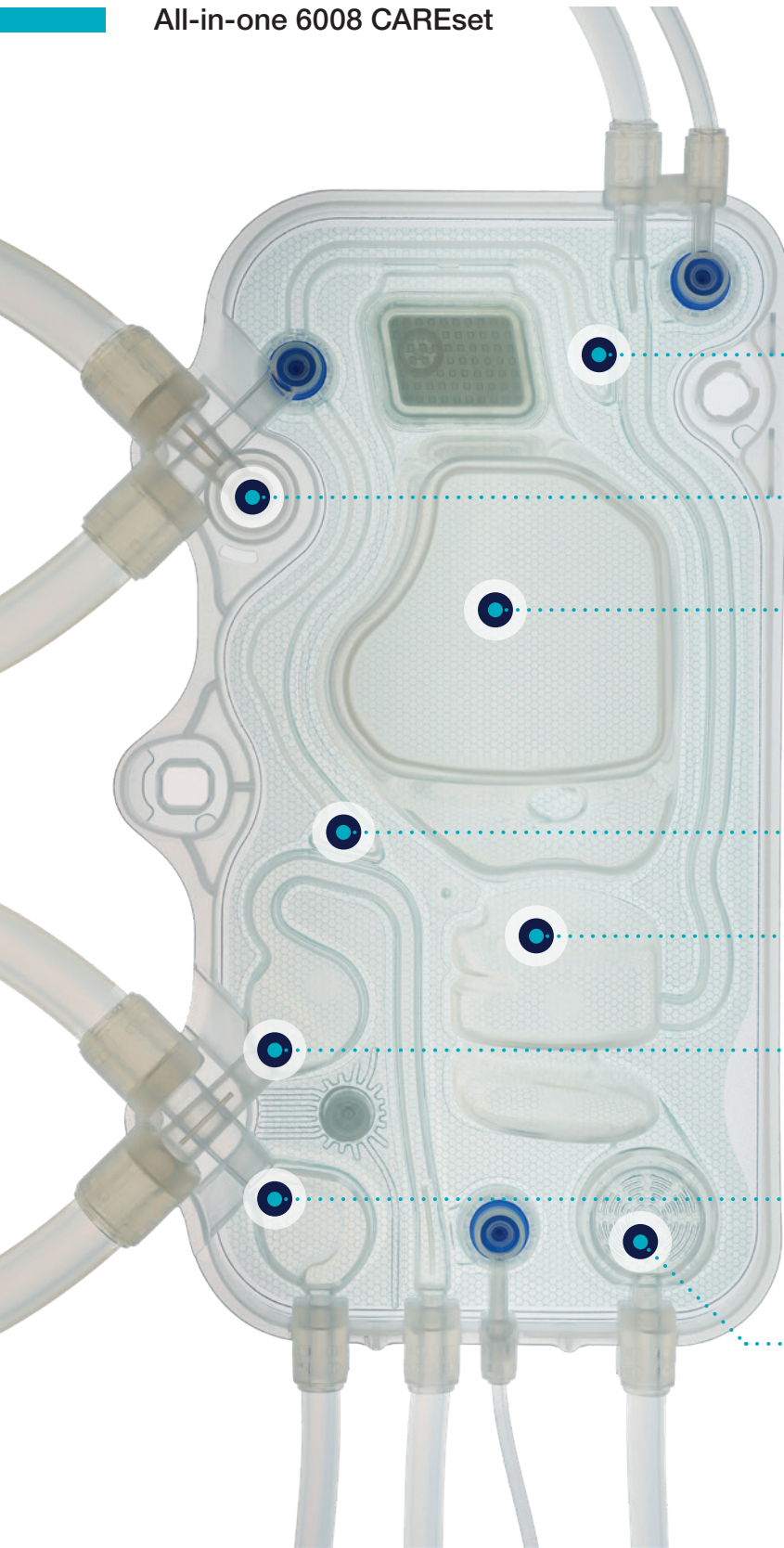


6008 CAREset

All-in-one 6008 CAREset



reddot design award
winner 2018*



- **Post-dilution port**
Easy to switch between treatment modalities
- **Integrated infusion port**
Easy delivery of HighVolumeHDF®
- **Single-Needle chamber**
Maximum flexibility in the delivery of therapy
- **Pre-dilution port**
Easy to switch between treatment modalities
- **Venous chamber**
Innovative technologies for an air-free design
- **Air-free pressure measurement (pre-filter)**
Reduced risk of blood coagulation
- **Air-free pressure measurement (arterial)**
Reduced risk of blood coagulation
- **Air-free pressure measurement (venous)**
Reduced risk of blood coagulation

**Information: The Red Dot Design Award is an international design competition, dating back to 1955. It is one of the most sought-after seals of quality for good design. The 6008 CAREset won this award in the "Medical devices and technology" category. For more details, please visit: <https://www.red-dot.org>*



Our commitment to Cardioprotective Haemodialysis: 6008 CAREsystem

Fresenius Medical Care dedicates itself towards improving patients' lives. We are focussing all our efforts on fostering better clinical outcomes. Cardiovascular diseases are the most common comorbidities in patients with end-stage renal disease and are the leading cause of death in dialysis patients,^{1,2,3} thus posing a challenge for healthcare professionals in daily clinical practice.

Cardioprotective Haemodialysis contributes towards the reduction of dialysis related risk factors for cardiovascular diseases and is close to our hearts, reflecting our commitment to continuously developing innovative products and therapies.

Driven by Cardioprotective Haemodialysis, we aim to offer holistic solutions for patients and healthcare professionals. HighVolumeHDF® is an important solution for implementing Cardioprotective Haemodialysis in the 6008 CAREsystem and it is offered as a standard treatment modality.

The 6008 CAREsystem with its advanced therapy options is also addressing today's challenges of efficiency, eco-friendliness and optimised workflows, resulting in more care and less complexity.

With the 6008 CAREsystem, Fresenius Medical Care leverages leading-edge technology to deliver advanced dialysis therapy more easily – leaving more time for direct patient care. More patients can benefit from improved outcomes and a higher level of care quality.



Advanced therapies

Less complexity in therapy delivery



Patient and user safety

Setting benchmarks in patient safety



Simplified workflows

Improved level of care quality



Direct cost savings

Economic efficiency and eco-friendliness



Advanced therapies

Less complexity in advanced therapy delivery

The 6008 CAREsystem represents highest standard for therapy. By reducing necessary handling steps and simplifying workflows, renal replacement therapy becomes less complex, leaving more time for individual patient care.

The all-in-one disposable with completely pre-connected bloodlines for all treatment modalities allows for an easy switch of treatment modality and delivery of HighVolumeHDF®, which provides maximum flexibility. Innovative technologies enable an air-free design and the lowest extracorporeal volume, which both contribute to minimise the risk of clotting during therapy.

Advanced therapies

Advanced therapy delivery with maximum flexibility

With a design focused on superior flexibility in therapy management and innovative technologies, the 6008 CAREsystem makes renal replacement therapy less complicated.

Air-free design and lowest extracorporeal volume

- Innovative technologies lead to an air-free and flow-optimised design of the extracorporeal system
- Lowest extracorporeal volume, for minimised contact between blood and foreign material*
- Less blood-air contact and the low extracorporeal volume may reduce the risk of clotting during therapy⁴

Maximum flexibility in therapy delivery

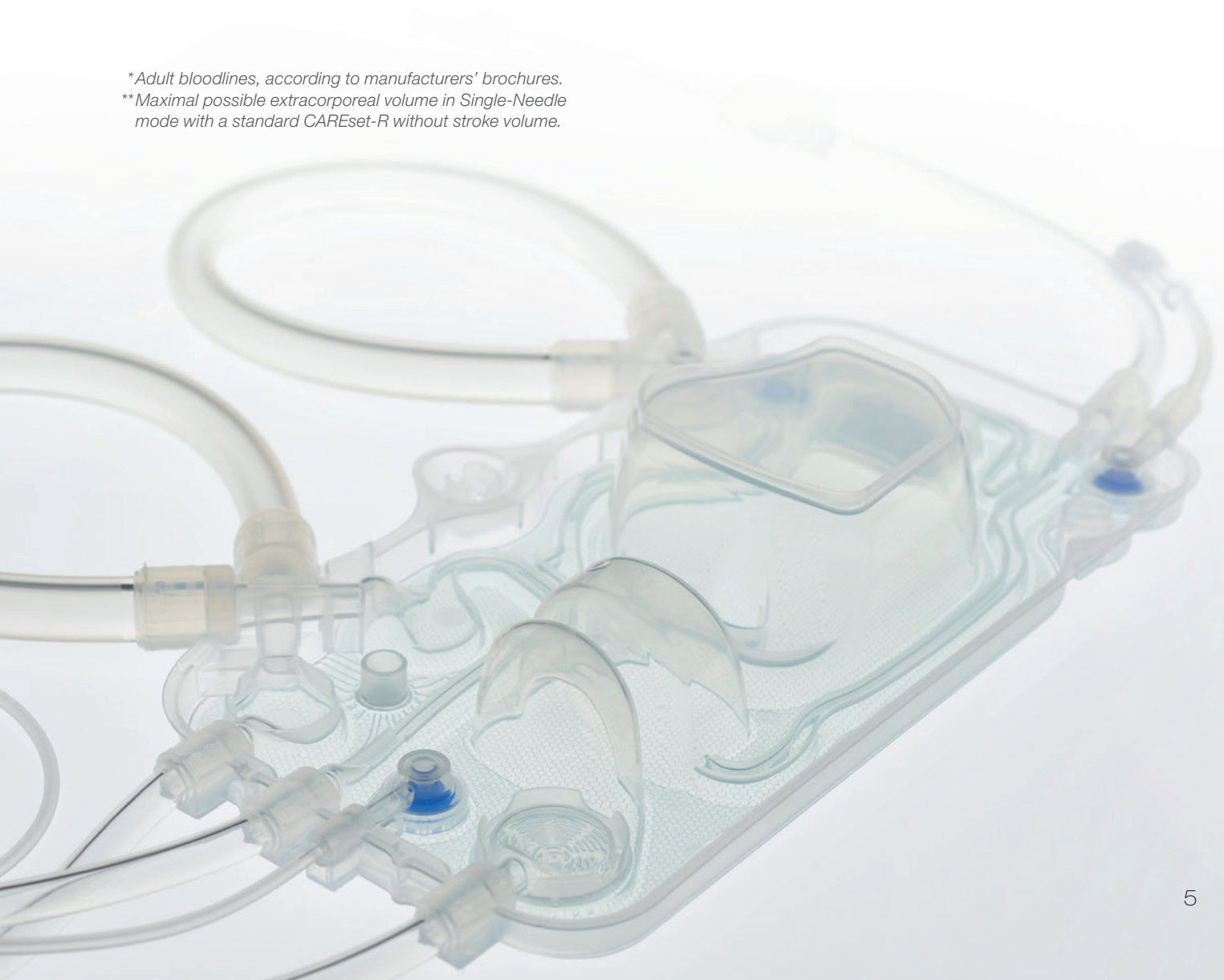
- Easy to switch between treatment modalities at the touch of a button, at any time, without manual interactions
- Only one disposable for HD, HighVolumeHDF®, Double-Needle and Single-Needle treatments

Advanced Single-Needle system

- With a reduced extracorporeal blood volume (max. 130 mL)**
- In HD and HDF modes (pre- and post-dilution)

**Adult bloodlines, according to manufacturers' brochures.*

***Maximal possible extracorporeal volume in Single-Needle mode with a standard CAREset-R without stroke volume.*



Advanced therapies

Leveraging the benefits of HighVolumeHDF®

Due to its potential effects on cardiovascular risk factors, HighVolumeHDF® is currently considered one of the most efficient dialysis modalities.^{5,6,7,10} Use of this advanced therapy improves outcomes, leading to fewer cardiovascular complications and a reduced mortality risk.⁷⁻⁹

Easy delivery of HighVolumeHDF®

More patients can benefit from improved outcomes⁷⁻⁹ due to the simplicity of HighVolumeHDF® delivery:

- HighVolumeHDF® without manual interactions
- Improved workflow and hygiene due to the automatic connection to the integrated infusion port
- Auto-start of ONLINE preparation after the self-test, without any manual interaction
- Easy to switch from HD to HDF (pre- and post-dilution) at the touch of a button

Maximisation of substitution rate

AutoSub *plus* enables the automatic maximisation of substitution rate:

- The substitution volume is individualised for each patient
- Conditions within the dialyser are continuously monitored
- Optimum performance by avoiding interruptions and alarms

Cardioprotective Haemodialysis

HighVolumeHDF® has a positive impact on all-cause mortality as well as cardiovascular mortality.^{8,9}

The efficient removal of middle molecules may have a positive impact on cardiovascular risk factors, such as anaemia¹¹ and β_2 microglobulin¹⁰.

AutoSub *plus* automatically maximises substitution volumes, allowing for HighVolumeHDF® in daily clinical practice.¹²

*ONLINEpriming comprises ONLINE preparation (rinsing), ONLINE bolus and ONLINE reinfusion.

**Internal unpublished data of Fresenius Medical Care Deutschland GmbH.

Intelligent substitution fluid management

ONLINE^{plus} technology — most advanced, yet cost-effective:

- Provides state-of-the-art therapy without additional user effort
- High cost effectiveness due to production of sterile and non-pyrogenic fluid for ONLINE^{priming}* and HighVolumeHDF®
- Reduced intake of sodium chloride during ONLINE^{priming} (136 mmol/L) in comparison to normal saline solution (154 mmol/L)¹³
- Easy application in daily routines

Cardioprotective Haemodialysis

Diasafe®^{plus} filters enable the production of sterile and non-pyrogenic dialysis and substitution fluid.**

The use of ultrapure dialysis fluid is associated with lower cardiovascular morbidity due to the reduction/prevention of chronic microinflammation.¹⁴



Advanced therapies

Individual therapy support

The 6008 CAREsystem offers various state-of-the-art therapy features, allowing the treatment to be automatically and continuously optimised to achieve the best possible patient outcomes and to reduce intradialytic symptoms.

Monitoring the effective dialysis dose

OCM® – Online Clearance Monitor

- Easy and transparent monitoring of the delivered dialysis dose and plasma sodium without additional effort and cost
- Monitoring of having achieved the prescribed dialysis dose which may lead to better patient outcome¹⁵
- OCM® in combination with the BCM-Body Composition Monitor is a highly-reliable way to accurately measure the achieved dialysis dose¹⁶

Cardioprotective Haemodialysis

Achieving normohydration and avoiding too high ultrafiltration rates through effective fluid management therapy is associated with better outcomes for dialysis patients.^{17,18,19} Regulating the patient's fluid status through Advanced Fluid Management with the BCM-Body Composition Monitor as its key component may lead to reduced mortality^{17,18}, better control of hypertension¹³ and reduction in antihypertensive medication¹³.

Advanced Fluid Management

Chronic volume overload is a common condition amongst patients with ESRD and is directly associated with cardiovascular diseases.²⁰ Hydration status is also an important and independent predictor of mortality in HD patients.^{17,18} The accurate assessment of fluid status and body composition remains a major challenge.²¹

BCM-Body Composition Monitor

The BCM-Body Composition Monitor is specifically designed for use in patients with ESRD, and is therefore fundamental to the Fresenius Medical Care's Fluid Management Therapy approach. The BCM-Body Composition Monitor allows a simple, non-invasive and objective assessment of a patient's overhydration* and key nutritional parameters* and, in combination with the Fluid Management Tool**, supports the physician in determining a dialysis patient's individual fluid status.^{21,22}

BVM – Blood Volume Monitor

The Blood Volume Monitor (BVM) helps to achieve the prescribed dry weight and helps to prevent intradialytic hypotensive episodes:²³

- The ultrafiltration rate is automatically adjusted in accordance with the measured relative blood volume change
- The BVM enables the precise online determination of relative changes in the blood volume (RBV), haematocrit value (Hct) and haemoglobin value (Hb)

**Please note that parameters displayed should only be regarded as a guide and that a qualified medical diagnosis is always necessary.*

***Must be purchased separately.*

Individual temperature control

BTM – Blood Temperature Monitoring

With the help of the unique BTM, an individual's pre-dialytic body temperature can automatically be maintained throughout dialysis treatment:

- Reduction of intradialytic complications²⁴ and stabilisation of haemodynamic parameters²⁵:
 - Stabilisation of the intradialytic body temperature
 - Control of thermal energy balance
- Requires no user interaction due to automatic measurement and adaption



BVM and BTM

Advanced Access Management

BTM – Recirculation measurement

- Early detection of vascular access dysfunction, possible via recirculation measurement and vascular access flow determination, ensures an effective dialysis dose^{26,27}
- Regular monitoring of vascular access condition through BTM recirculation measurement, without user interaction and additional costs



Cardioprotective Haemodialysis

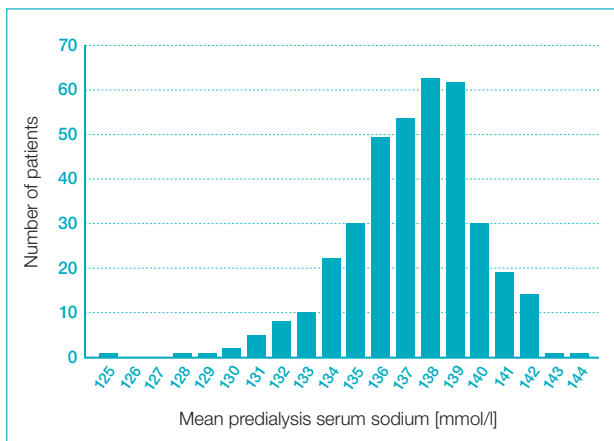
Better haemodynamic stability can be achieved during dialysis treatment due to the BTM's temperature control.²⁴

Individualised Sodium Management

One important goal in dialysis therapy is to keep interdialytic dietary salt intake and intradialytic sodium removal balanced. Sodium load during dialysis may lead to an increase in interdialytic weight gain and hypertension, both of which are major cardiovascular risk factors.

Individual Sodium Management with the 6008 CAREsystem allows for a diffusive sodium balance thanks to a closed-circuit control.

Patients' predialysis serum sodium is widely spread



Graph adapted from Lindley EJ et al., *Reducing Sodium Intake in Hemodialysis Patients*, *Semin Dial.* 2009 May-Jun; 22(3):260-263.

Graph: Patients' predialysis serum sodium is widely spread

The graph shows predialysis serum sodium for 369 unselected patients averaged over a period of 6 months (dialysate sodium 137 mmol/l, laboratory normal range for serum sodium concentration 135–145 mmol/l).

Currently, sodium concentration of the predialysis plasma is usually rarely determined individually. If the dialysate sodium should not follow a standard prescription, but should be aligned to the predialysis plasma sodium, plasma sodium must be determined

in the laboratory prior to each dialysis without Sodium Management. The individual dialysate sodium prescription is the key factor to setting the sodium concentration gradient.

Acting on diffusive sodium mass transfer in terms of a reduced diffusive sodium load may lead to:^{28,29,30}

- A reduction of thirst
- A reduction of interdialytic weight gain
- A modification of short-term outcomes thanks to reduced fluid overload and reduced blood pressure.

Guidelines strongly recommend an individualised dialysate sodium:^{31,32}

Sodium loading during HD clearly results in greater thirst with resultant volume expansion, increased cardiac workload and subsequent hypertension.³¹

There is evidence to suggest that high dietary sodium intake and inadequate sodium removal during HD can result in excess fluid intake and hypertension.

Individualizing dialysate Na to the plasma Na concentration may improve haemodynamic stability during dialysis.³²

6008 CAREsystem Sodium Management facilitates individualised dialysate sodium prescription management in order to better meet guideline recommendations. The individualised Sodium Management helps to avoid sodium load during dialysis.



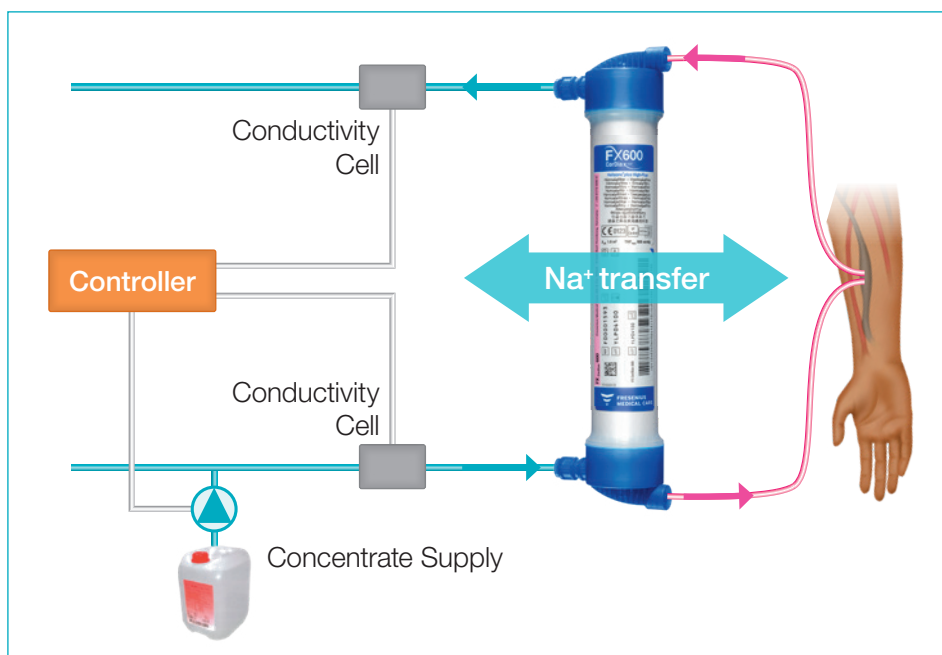
Advanced therapies

Easy alignment of dialysate sodium with plasma sodium concentration at the touch of a button

Continuous measurements of dialysate conductivity determine the amount of diffusive sodium supplied to or removed from the patient. The device continuously measures the conductivity of the incoming and outgoing dialysate and determines the sodium balance using a kinetic model. Sodium Control (Na-control)

automatically adapts the dialysate sodium to the plasma sodium of the patient. It individualises the sodium prescription, helping to avoid additional costs and workload, can make extra time-consuming blood samples obsolete and is easily implemented in clinical practice.³⁰

Principle of continuous balancing of diffusive sodium transfer with individualised Sodium Management



Information about patients' salt intake enhances nutritional education

Salt intake during the interdialytic period is dependent on patient behaviour and is a strong driver of volume overload.³⁴ Visualisation of patients' sodium removal with Sodium Management provides information about interdialytic salt intake, enhances nutritional

education and may improve HD patient outcomes. Combining Sodium Management and BCM-based assessment of fluid status lays the path for precise and personalised sodium and fluid management and may improve haemodialysis patient outcomes.

The trend of predialysis plasma sodium may indicate pathologic changes

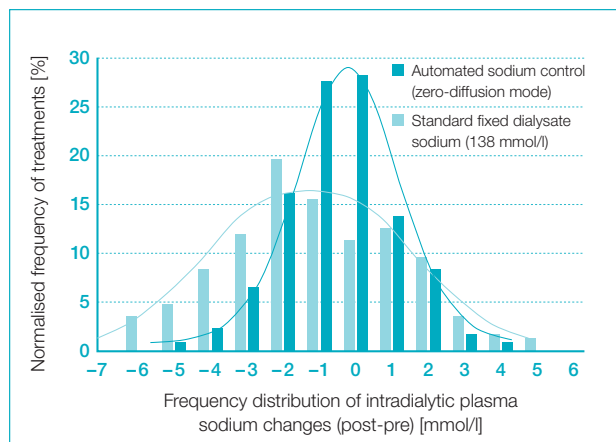
The monitoring of predialysis plasma sodium trend data (supported by a TDMS – Therapy Data Management System)* could indicate potential pathologic changes over time.

This information may be clinically used as a trigger for further considerations in case of deviations from the normal range, or for monitoring short- and mid-term trends for potential indication of pathological changes.³⁵

Benefits of the easy and individualised Sodium Management with the 6008 CAREsystem

- Controlling diffusive sodium transfer allows for an individualised sodium prescription.
- Visualisation of patients' sodium removal for every treatment provides valuable information about their interdialytic salt intake.
- Trend analysis via optional data management* of predialysis plasma sodium may help to indicate pathologic changes.

Zero sodium diffusion narrows the distribution of plasma sodium changes³³



Graph adapted from Canaud et al.,
Kidney International (2019) 95, 296-309.³³

Graph: Zero sodium diffusion narrows the distribution of plasma sodium changes

Frequency distribution of intradialytic plasma sodium changes when dialysing 30 patients either with a standard fixed dialysate sodium of 138 mmol/l (light blue) or with Sodium Management and a target of zero diffusive transfer (dark blue).

*Therapy Data Management System is an umbrella term for different products, which are optional and must be purchased separately

Advanced therapies

Paediatric therapy: 6008 CAREsystem Paed*

With the 6008 CAREsystem Paed, Fresenius Medical Care offers a haemodialysis system designed especially for the treatment of paediatric patients. It fulfils highest quality standards for the best treatment outcomes, making HDF therapy available to children and easy to perform.

Reduced complexity in paediatric therapy

One machine for almost all ages and one disposable for all relevant therapies:

- Avoid need for different machines
- Approved and validated machine for paediatric therapies**
- Sophisticated safety concept:
Adapted software*, incl. additional safety features to monitor the venous path (VAM, VenAcc)
- Enabling HighVolumeHDF®, an advanced method aiming at maximising substitution volumes in HDF also at low blood flows

**6008 CAREsystem Paed consists of 6008 HD machine with Option Low Volume, 6008 CAREset Low Volume and selected FX dialysers*

***≥10 kg body weight*

****Extracorporeal volumes:*

78 mL with 6008 CAREset Low Volume-R;

83 mL with 6008 CAREset Low Volume BVM-R.



6008 CAREset – Suitable for paediatric treatments

- Minimised volume of the extracorporeal circuit***
- Air-free design
- Reduced burden of potentially hazardous substances: DEHP-free, less PVC (–22 % in comparison to 5008 AV-Set), less plasticiser in total due to Biofine components (plasticiser-free)

6008 Paed – A well thought-out system

- Software adapted to paediatric needs for improved safety (e.g. adapted air/microbubble detection sensitivity and blood flow rates)
- High balancing accuracy
- User set-up designed for paediatric treatments
- Increased probability of early detection of venous needle dislodgement
(VAM – Venous Access Monitor, VenAcc)

Cardioprotective Haemodialysis

An optimised dialysis therapy is essential for children because renal disease can cause growth retardation and lead to the development of cardiovascular problems.³⁶

Children on daily HDF are less prone to cardiovascular changes, they grow better in comparison to those on HD and there is less impact of dialysis on their lives.³⁷

HDF is associated with reduced inflammation, oxidative stress and an improved endothelial risk profile, compared to high-flux HD in children.³⁸





Patient and user safety

Setting benchmarks in patient safety

Safety should be a self-evident, non-negotiable aspect of dialysis. With over 30 years of experience, we offer intelligent safety solutions and state-of-the-art technologies, setting new benchmarks in patient and user safety. Safety with Fresenius Medical Care means a high level of security, thanks to the 6008 CAREsystem's innovative safety features.

Fewer process steps and touch points critical to hygiene lead to a reduced risk of infection and cross-contamination and contribute to advanced patient and user safety. Various innovative features, like blood reinfusion in a closed circuit, ensure a high level of patient and workplace safety.

Patient and user safety

Fewer risk-related steps

The sophisticated built-in safety features offer improved patient safety with the potential to reduce undesirable incidences and simultaneously simplify daily routines.

Reduction of process steps and touch points critical to hygiene³⁹

- Fully-integrated air-free pressure measurement makes conventional pressure transducers redundant
- Reduced number of manual connection steps
- Automatic connection to an integrated infusion port
- ONLINE closed-circuit reinfusion: no arterial disconnection of patient is necessary for reinfusion

Consequently, our intelligent safety features reduce the potential risk of infection and cross-contamination for both healthcare professionals and patients,³⁹ leading to high levels of patient and workplace safety.

The 6008 CAREsystem enables the simultaneous reinfusion (ONLINE closed-circuit reinfusion) of the arterial and venous line. This automatic reinfusion mode facilitates the reinfusion process, as no patient disconnection of the arterial bloodline is necessary any longer. In case of catheter care, the arterial lumen of the catheter can automatically be flushed by reinfusion.



Patient and user safety

Reduced risk of adverse events

Striving for superior patient safety means thinking further and beyond state-of-the-art technologies. So well-known problems are solved by innovative solutions. With the 6008 CAREsystem, Fresenius Medical Care offers intelligent safety features which ease daily routines, whilst at the same time supporting the nursing staff's responsibility as therapy providers.

Reduced risk of external blood loss

Sudden dislodgement of the venous needle, partial disconnection of the Luer-Lock connections or any other untight connections can cause the patient to lose a critical amount of blood, which can even lead to death within a few minutes. The 6008 CAREsystem offers various solutions to minimise the risk of external blood loss. Still, the user remains responsible for patient safety at all times during treatment.

VAM – Venous Access Monitor

VAM has been developed to support healthcare professionals in the early detection of venous needle dislodgement:

- Dynamic and highly-sensitive monitoring of the venous pressure
- VAM is designed to recognise drops in pressure of 15 mmHg onwards
- Increased likelihood of early detection of venous needle dislodgement by informing the user via an alarm

VenAcc – Minimised risk of external blood loss

The VenAcc, an external wetness detector, is designed for the quick detection of blood loss and is recommended for patients undergoing home or nocturnal dialysis:

- Increased safety for patients who have a higher risk of venous needle dislodgement
 - Home, paediatric or nocturnal patients
 - Confused or restless patients
- Sophisticated wetness detector (VenAcc) allows blood loss to be detected quickly

In addition to VAM and VenAcc, the leakage sensor and the door concept allow for the immediate recognition of leakages in the extracorporeal blood system.

Reduced risk of blood coagulation

- Low extracorporeal volume with its minimised contact between blood and foreign material in combination with a reduced blood-air contact may reduce the risk of clotting during therapy
- Non-invasive, air-free arterial and venous pressure monitoring reduces the blood-air interfaces, with the potential of the reduced risk of blood coagulation⁴

Reduced risk of haemolysis

One serious complication during dialysis is mechanically-induced haemolysis, which is primarily caused by kinking in the blood tubing system. Conventional dialysis machines often do not detect kinking of the blood line between the blood pump and the venous bubble catcher, which is a potential cause of haemolysis. The 6008 CAREsystem monitors the complete extracorporeal system, even between the blood pump and the venous chamber and may lead to:

- Reduced risk of haemolysis
- Early detection of filter clotting



Figure 2: VenAcc (wetness detector) with VenAcc Patch (sensor plaster)



Simplified workflows

Improved level of care quality

When therapy management is getting more and more complex, there is a growing demand for easy operability. A further challenge nowadays is to treat an increasing number of patients with the same amount of nursing staff, making efficiency in dialysis treatments of high importance. In order to optimise processes and therefore achieve economic advantages for the dialysis centre, the 6008 CAREsystem offers improved workflows for nursing staff. Intelligent technologies contribute to reducing user interactions required during set-up and disconnection phase and to lower pressure on staff. With a design focussed on easy handling and usability, our product features aim to facilitate therapy delivery. Therefore, all components of the 6008 CAREsystem are aligned to simplify routine procedures, in order to give you more time for individual patient care.

Patients benefit from the advantage of an improved level of care quality, too.

Simplified workflows

Fewer user actions required

There is already a shortage of healthcare professionals to treat the ever-growing number of medically-challenging patients, resulting in a need for machines with advanced capabilities which can be operated easily and safely. The 6008 CAREsystem ensures optimised workflows and a reduced number of handling steps, leaving more time for patient care.

More time for patient care due to simplified workflows

- Less work-related pressure
- Time saving for increased direct patient care and patient education
- Improved level of care quality
- Reduction in the number of major handling steps per HDF treatment by 24% (versus 5008 CorDiax)³⁹
- Potential reduction in operating time of about 44% (~3 min.) for one nurse treating one fistula patient in comparison to the 5008 CorDiax⁴⁰



Simplified workflows

Advanced process automation

The 6008 CAREsystem offers advanced process automation which results in a reduced number of handling steps by (see figure 3):

- One-step setup for the priming and rinsing of the extracorporeal system due to the automatic connection of the ONLINE infusion port after the T1 test
- The switch of treatment modality at the touch of a button
- The automatic emptying programme for the 6008 CAREset, including the dialyser
- Emergency button initiating four essential steps at once:
 - Blood flow reduction
 - ONLINE bolus administration
 - UF stop
 - Start blood pressure measurement (optional)

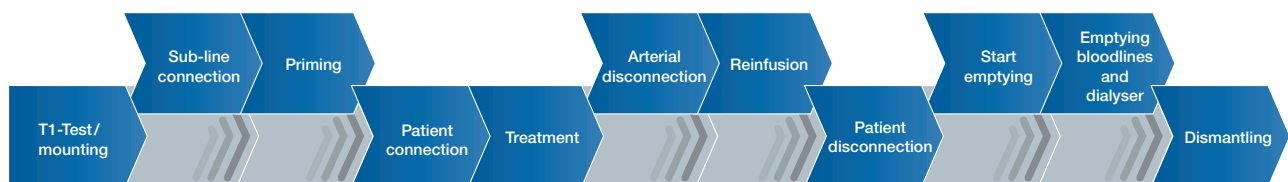


Figure 3: Handling steps with 6008 CAREsystem (lower ones) in comparison to conventional devices (lower + upper ones)

Intuitive user interface

Centralised operation and information via a generous touchscreen display (see Figure 4):

- Simple and logical data entry and quick access to treatment protocol
- Sophisticated, stress-free handling of alarms during treatment, with an integrated support function for troubleshooting
- Same well-known user interface as the 5008 CorDiax series

Reduced treatment documentation effort

Therapy documentation and data management are time-consuming processes in the daily treatment of dialysis patients. When using the 6008 CAREsystem, therapy documentation is supported by:

- Online therapy documentation in combination with the Therapy Data Management System (TDMS*)
 - Advanced bedside documentation via touchscreen and data Xchange panel (dXp)
 - Automated treatment data monitoring
- Offline treatment documentation on a PatientCard (current prescription and previous three treatments of individual patients)

**Must be purchased separately.*



Figure 4:
User interface with treatment screen



Direct cost savings

Economic efficiency and eco-friendliness

Ideally, a comprehensive therapeutic approach not only improves clinical outcomes and gives patients a better quality of life, but also enhances the control of therapy costs.

The 6008 CAREsystem allows you to perform advanced renal replacement therapies in a highly-efficient way, involving both economic and environmental aspects.

The all-in-one CAREset, which has a compact design and is made of lightweight material (e.g. Biofine), simplifies logistics and reduces the weight of waste, thus contributing to the optimisation of economic efficiency and eco-friendliness.

Direct cost savings

Sensible use of resources

The 6008 CAREsystem supports the sensible and sustainable use of resources by saving operating costs and dialysate, as well as the potential reduction of waste and training efforts, which in turn can lead to significant cost savings.

Reduced operating costs and dialysate flow savings

In addition to advanced treatment options and economic benefits, the 6008 CAREsystem is also favourable in terms of eco-friendliness.⁴¹ Fresenius Medical Care supports the sensible and environmentally-sustainable use of resources by saving water, concentrates and energy in the use phase, without compromising treatment quality.⁴² This in turn can lead to further cost savings.

EcoFlow

- Reduction of the dialysate flow rate to 100 mL/min during idle time
- Saving dialysate and energy consumption while avoiding bacterial growth and the calcification of machine hydraulics

AutoFlow

- AutoFlow automatically adjusts the dialysate flow rate to the effective blood flow rate during treatment
- AutoFlow could provide reduced operating costs due to savings of water, waste water, concentrates and energy⁴²
- Automatic selection of AutoFlow factor based on treatment mode, always achieving an optimal ratio between economic considerations and treatment quality



Direct cost savings

Sensible use of resources

Efficient and simplified operations

ONLINE*plus* technology is a cost-effective method for the production of sterile, non-pyrogenic and bicarbonate buffered electrolyte solution:

- No need for ready-made rinse solutions due to ONLINE*priming* (ONLINE preparation [rinsing], ONLINE bolus and ONLINE reinfusion) in all treatment modes (also in HD)
- Unlimited amount of priming fluid and substitution fluid for HighVolumeHDF®

Advanced service-friendliness

Fresenius Medical Care is known for providing high-quality, reliable products and services. The 6008 CAREsystem contributes to support and facilitate daily routines with its service-friendliness:

- High reliability due to long-lasting components, which are readily available, should they need replacing
- Easy and comprehensive diagnosis of errors and detailed technical error memory with Service Software, (e.g. interactive, real-time hydraulic flow chart) and the Service Card
- Remote service: quick diagnostic inspection via remote access to the dialysis machine
- 24-month maintenance intervals

Simplified logistics

- Simplified order process: all-in-one 6008 CAREset for all treatment modalities
- Reduced environmental footprint since the manufacturing, transportation and disposal of the saline solution and waste bag is obsolete

Potential waste savings

Approximately 2,000 kg waste can be saved per year for an average centre (based on 10,000 treatments/year) resulting in potential waste cost savings* compared to 5008 CorDiax⁴¹:

- Compact design and lightweight material (CAREset contains Biofine components with a lower density in comparison to PVC)
- Waste disposal of saline solution and waste bag is not required, due to the integrated substitute and rinse port
- Automatic emptying of all disposables (CAREset, dialyser and bibag)

Less training effort

Reduced initial training effort due to the reduced treatment complexity and simplified workflows compared to 5008 CorDiax series:

- Animated screens support the quick learning of user procedures, which leads to less time and effort required during the training period
- The same user philosophy as the 5008 CorDiax platform enables a fast transition to the 6008 CAREsystem
- Nurses are able to handle the machine within a shorter period of time

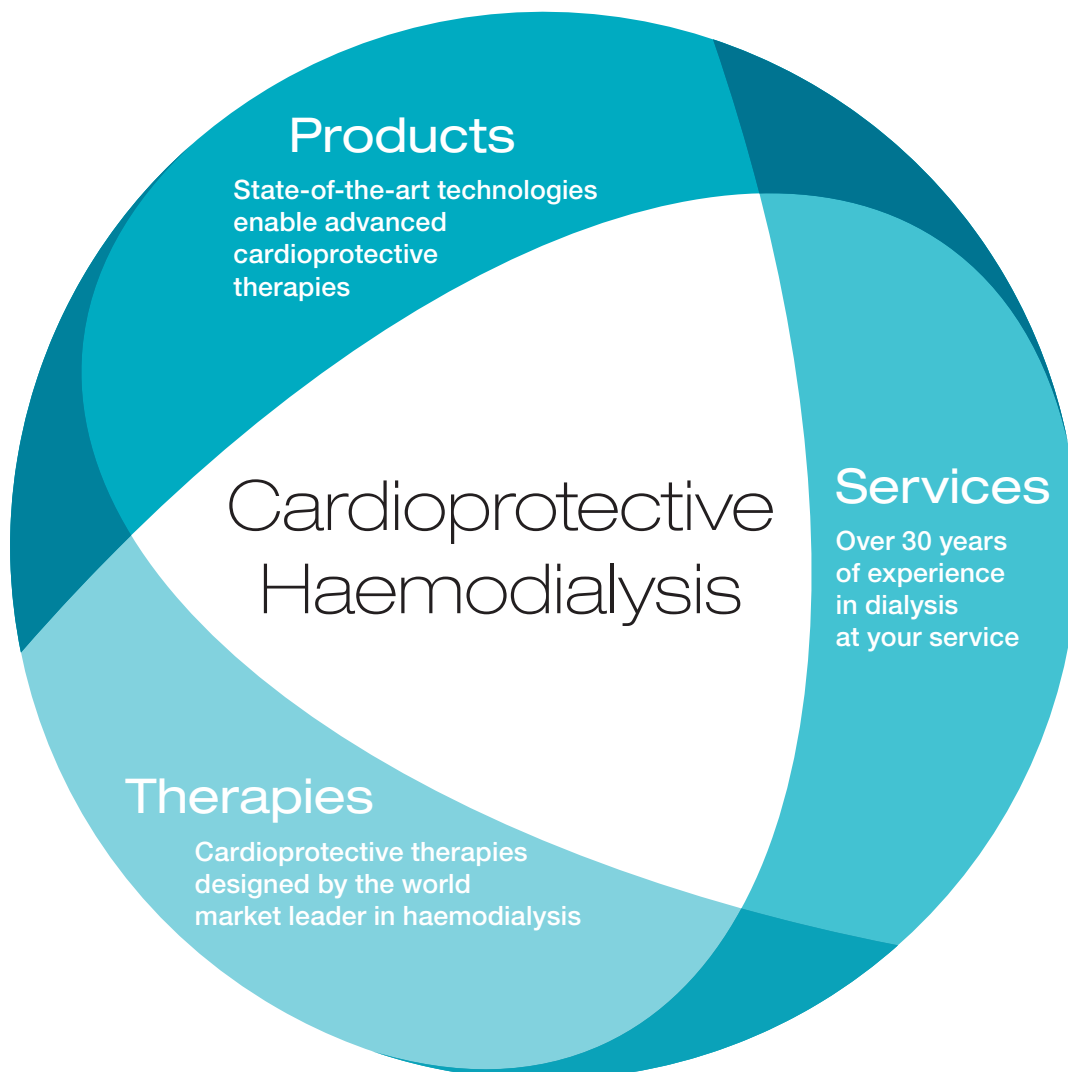


*The cost of waste disposal varies in different municipalities. The case mentioned here is an example from a German dialysis unit.

Our holistic approach for improved care

Fresenius Medical Care provides a holistic approach for Cardioprotective Haemodialysis by combining therapies, products and services for improved patient outcomes. Due to our comprehensive portfolio, we are able to provide solutions which contribute to an efficient management of cardiovascular risk factors and better day-to-day clinical handling.

Cardioprotective Haemodialysis aims to help health-care professionals be confident that they are providing the best possible care and outcomes for their patients. We are passionate about Cardioprotective Haemodialysis, offering advanced therapies, a comprehensive portfolio and broad experience for better care and clinic efficiency.





Products

- Therapy systems, e.g.
 - 6008 CAREsystem
 - 5008S CorDiax
- FX dialysers, e.g.
 - FX CorDiax dialysers
 - FX classix dialysers
- BCM-Body Composition Monitor
- Fluid Management Tool (FMT)
- Therapy Data Management System (TDMS)
- Online Purification Cascade (OPC)

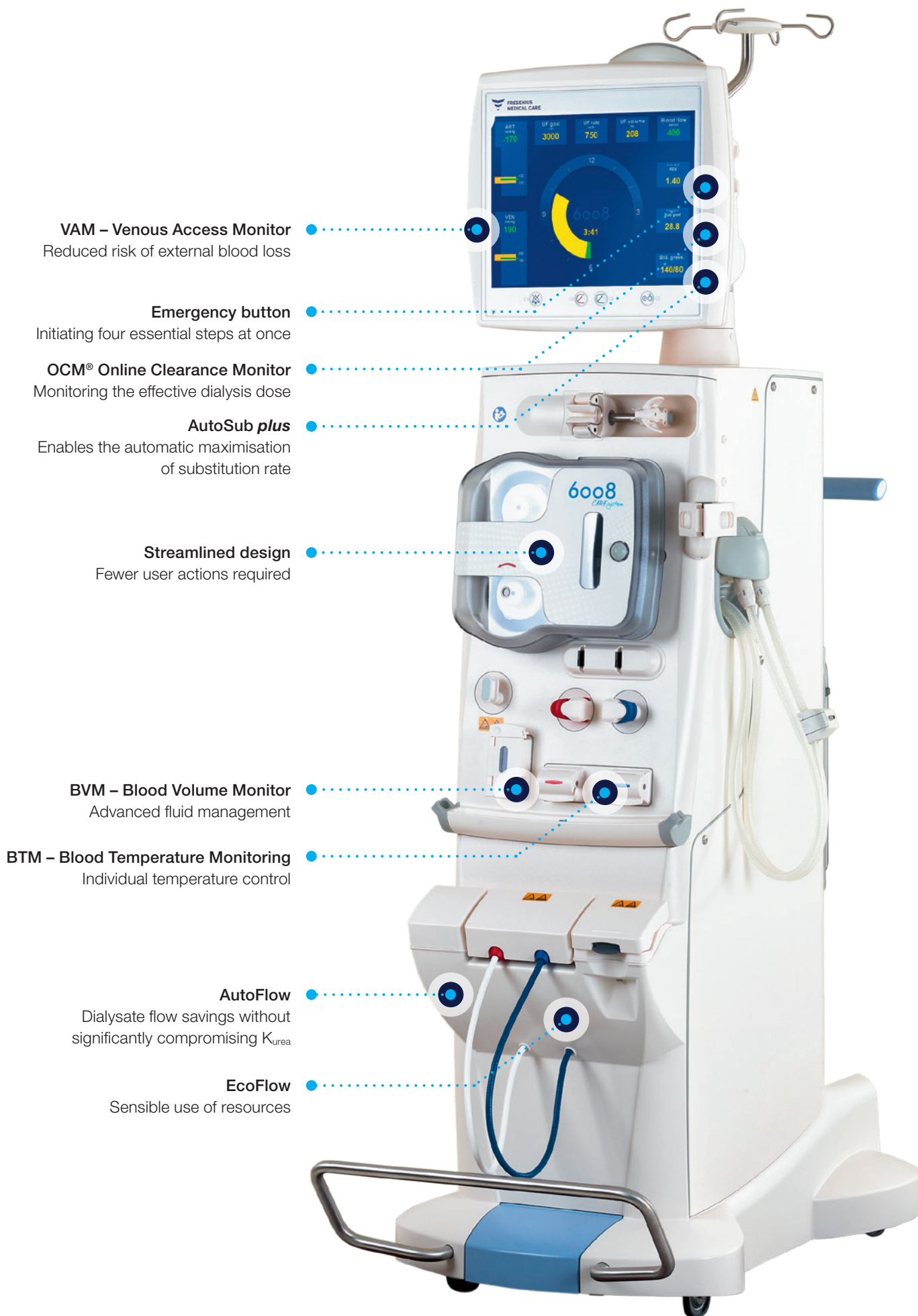
Therapies

- High-flux haemodialysis
- HighVolumeHDF®
- Advanced Fluid Management
- Advanced Access Management

Services

- Project planning and consulting
- Water Quality Service (WQS)
- Medical Information Services
- Training and Education
- Technical Services





VAM – Venous Access Monitor

Reduced risk of external blood loss

Emergency button

Initiating four essential steps at once

OCM® Online Clearance Monitor

Monitoring the effective dialysis dose

AutoSub *plus*

Enables the automatic maximisation of substitution rate

Streamlined design

Fewer user actions required

BVM – Blood Volume Monitor

Advanced fluid management

BTM – Blood Temperature Monitoring

Individual temperature control

AutoFlow

Dialysate flow savings without significantly compromising K_{urea}

EcoFlow

Sensible use of resources

IT workflow support
Retrospective treatment data
documentation

DIASAFE®plus
Sterile and non-pyrogenic
dialysis and substitution fluid



Technical data

General data	
Dimensions	1,680 x 350 x 780 mm (H x W x D) at dialysis chair/bed level (width at base: 520 mm, depth with canister holder: 900 mm)
Weight	approx. 115 kg
Water supply	
Water inlet pressure	1.5 to 6.0 bar
Water inlet temperature	5 to 30 °C; for "integrated hot rinse" 85 to 95 °C
Max. drain height	1 m
Flush (optional)	Rinsing of the water supply area
Concentrate supply	
Supply pressure	0 to –100 mbar; 1 m max. suction height with Central Delivery System (CDS); 0.05 to 2.0 bar
Central supply	2 central acid concentrates (optional)
Electrical data	
Power supply	100 to 240 V AC ± 10 %, 50 to 60 Hz
Current consumption	Approx. 8 A (at 230 V) at a water inlet temperature of 17 °C, dialysate temperature 37 °C, Dialysate flow: 500 mL/min
External connections	Alarm output: potential free alarm outlet (alternating contact max. 24 V/24 W). LAN (RJ 45) port for data exchange with the Therapy Data Management System (optional)
Extracorporeal circuit	
Arterial pressure monitoring	
Display range	–300 mmHg to +300 mmHg
Accuracy	± 7 mmHg
Resolution	5 mmHg
Alarm reaction	Dynamic, static, immediately
Venous pressure monitoring	
Display range	–100 mmHg to +500 mmHg
Accuracy	± 7 mmHg
Resolution	5 mmHg
Arterial blood pump	
Blood flow range	30 to 600 mL/min
Accuracy	± 10 %
Resolution	10 mL/min
Single needle system (optional)	Internal pressure/pressure control with variable stroke volume (max. 60 mL/min)
Air bubble detector	Ultrasound transmission measurement through tubing, additional capacitive level and infrared optical monitoring
Heparin pump	Delivery range: 0.5 to 10 mL/h Bolus function: 1.0 to 20.0 mL Syringe size: 20 mL, 30 mL
Dialysis fluid circuit	
Dialysis fluid flow range	
Selectable	0 to 1000 mL/min (steps of 100 mL/min)
AutoFlow (selectable)	Automatic adaptation of the dialysate flow to the effective blood flow
Eco Flow	Stand-by flow during preparation and after reinfusion
Dialysis fluid temperature	34 to 39 °C

Dialysis fluid concentration (conductivity)	
Range	12.8 to 15.7 mS/cm
Accuracy	± 0.1 mS/cm
Resolution	0.1 mS/cm
Dialysis fluid acid component	
Mixing ratio	Adjustable, e.g. 1+44, 1+34
Adjustment range	125 to 151 mmol/L, depending on the concentrate used ± 10 % of the base value
Dialysis fluid bicarbonate component	
Default mixing ratio	1+27.6 (others possible)
Adjustment range	20.0 to 40.0 mmol/L (depending on the concentrate used; increments of 0.5 mmol/L)
OCM®	Online Clearance Monitoring
Accurate Clearance K	± 6 %
Bicarbonate dry concentrate	biBag®
Dialysis fluid filter system	DIASAFE® <i>plus</i>
ONLINE^{plus}	
Substitution rate	25 to 600 mL/min
Accuracy	± 10 %
Balancing accuracy	± 0.1 % related to the total dialysis fluid volume
Pressure holding tests	Event controlled
Ultrafiltration	
UF rate	0 to 4000 mL/h (in steps of 10 mL)
Pump volume accuracy	± 1 %
Parameters displayed	UF goal, UF rate, UF time, UF volume
Blood leak detector	
Sensitivity	≤ 0.35 mL blood/min (Hct = 32 %) flow rate 100 mL/min to 1000 mL/min
BTM (optional)	
Temperature measurement	Accuracy ± 0.2 °C
Body temperature control	Allowed change rate ± 0.5 °C/h
Recirculation measurement	Accuracy ± 2 %
BVM (optional)**	
Relative Blood Volume (RBV)	1.7 % (absolute)
Haematocrit (Hct)	± 2.9 Hct % (if plasma protein concentration range is 60 to 85 g/L)
Haemoglobin (Hb)	± 0.8 g/dl
BPM (optional)	
Display range	Systole: 60 mmHg to 250 mmHg Diastole: 40 mmHg to 200 mmHg MAP: 45 mmHg to 235 mmHg Pulse: 40 to 200 1/min
Accuracy	≤ ± 5 mmHg
Resolution	1 mmHg
Disinfection and cleaning programmes*	
Rinse	
Temperature/flow	37 °C/600 to 700 mL/min (adjustable)
Hot rinse (recirculation)	
Temperature/flow	85 °C/max. 600 mL/min
Cleaning Sporotal® 100 (recirculation)	
Temperature/flow	37 °C/600 to 700 mL/min (adjustable)
Heat disinfection Diasteril®/Citrosteril® (recirculation)	
Temperature/flow	85 °C/600 to 700 mL/min (adjustable)
Cold disinfection Puristeril® 340/plus (recirculation)	
Temperature/flow	37 °C/600 to 700 mL/min (adjustable)

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* Various programme combinations selectable.

** Therapy options must be purchased separately.

Technical changes reserved.

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