



5008S CorDiax

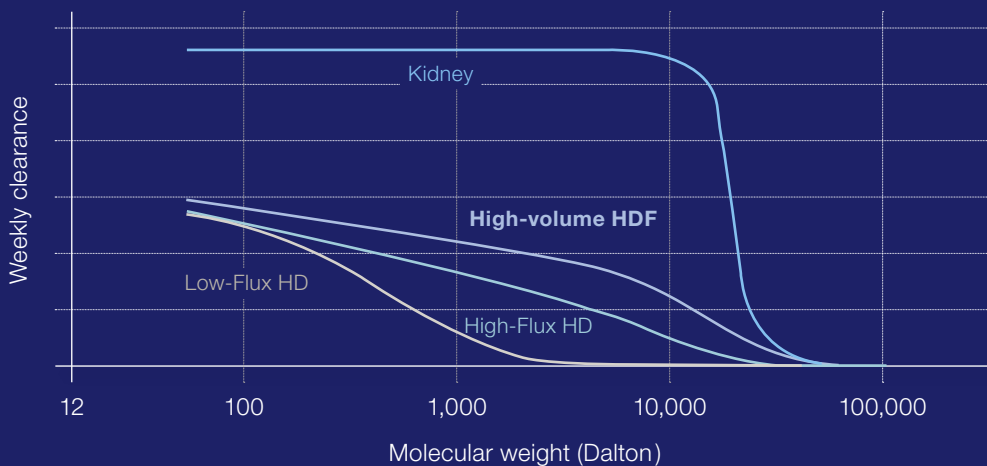
Making HighVolumeHDF easy and efficient

What is high-volume HDF?

An effective in-center therapy for your patients.

High-volume hemodiafiltration (HDF) is the most effective modality in the typical in-center 4-hour hemodialysis setting with regard to patient survival.^{1,2}

This renal replacement therapy more closely replicates the purification profile of natural kidneys, thanks to the combination of two principles: diffusion and convection.³



Graph adapted from Benz MR et al. 2012³

Why high-volume HDF?

Patients live longer.^{1,4}

The most recent CONVINCe study presents a compelling body of evidence supporting higher survival rates with online high-volume HDF with a 23% reduction in the risk of mortality in the HDF vs. HD group (hemodialysis).¹ In addition to these clinical advantages, high-volume HDF is easy to carry out and brings economic value^{1,5}.

23%

reduction in mortality risk between HDF and HD groups, as indicated by the CONVINCe study¹



Discover more!

How to implement HighVolumeHDF?

With excellent medical and technical support from Fresenius Medical Care

Our commitment to making HighVolumeHDF available to all patients has resulted in an integrated business and therapy solution, coupled with dedicated support from our technicians, medical, scientific and application specialists.

Medical & Scientific Information

Access scientific publications and our extensive therapy implementation experience. Open to address medical questions and provide solutions.

Proactive Technical Service

With certified planning, installation, support, and maintenance of equipment.

Education & Guidance

Therapy implementation and guidance for the clinic stakeholder through online and on-site medical and technical trainings, medical forums, and practical experience in established HighVolumeHDF centers.

Water Quality Documentation & Control

Concerned about water quality? We cover you from tap to needle.

HighVolumeHDF Technology

Work with technology to perform reliable and high-quality HighVolumeHDF while improving use of resources.

Automation & Documentation

Create therapy evidence effortlessly with automation.

HighVolumeHDF Disposables

We deliver what you need: Consumables specifically designed to fulfill both adults and pediatric prescriptions.

We offer therapy solutions tailored to your specific needs enabling a seamless and sustainable transition from HD to HighVolumeHDF with no additional workload.



5008S CorDiax. More than hemodialysis.

5008S CorDiax. Advanced dialysis care system

With the 5008S CorDiax we provide an advanced dialysis care system that incorporates HighVolumeHDF as the standard treatment mode. With this integrated standard setup of the 5008S CorDiax, you are ready to perform high-volume HDF without additional preparations.

ONLINEplus technology

Our advanced ONLINE technology eliminates further requirements for the preparation and infusion of substitution fluid due to automated processes:

- ONLINEplus technology – production of fluid for ONLINEpriming* and HighVolumeHDF
- With the 5008S CorDiax, high volumes of sterile and non-pyrogenic substitution fluid can be prepared cost-effectively by filtering ready-prepared dialysis fluid through the endotoxin-retaining DIASAFEplus filters.⁶
- This double-stage filtration process prevents endotoxins and microorganisms from entering the substitution fluid for ONLINEpriming* and HighVolumeHDF, which has proven to be efficient and practical, and also compliant with ISO standards.**
- AutoFlow automatically adjusts the dialysate flow rate to the effective blood flow rate during treatment, selecting the appropriate AutoFlow factor based on the treatment mode.
- EcoFlow automatically reduces dialysate and energy consumption during preparation and after reinfusion while being designed to prevent bacterial growth.

0

effort required to switch from HD to HighVolumeHDF when using the 5008 series and 6008 CAREsystem

28 %

savings of dialysis fluid with AutoFlow feature in HighVolumeHDF can be achieved when using the 5008 series and 6008 CAREsystem⁷



Our water quality

Fresenius Medical Care offers easy and reliable water quality management in line with the same international standards (ISO 23500-5) applied to high-flux HD as part of a complete therapeutic system for HighVolumeHDF.

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

** In accordance with ISO 23500-5 and ISO 11663.

AutoSub *plus* – Automatically improves substitution volumes for HighVolumeHDF^{9,10}

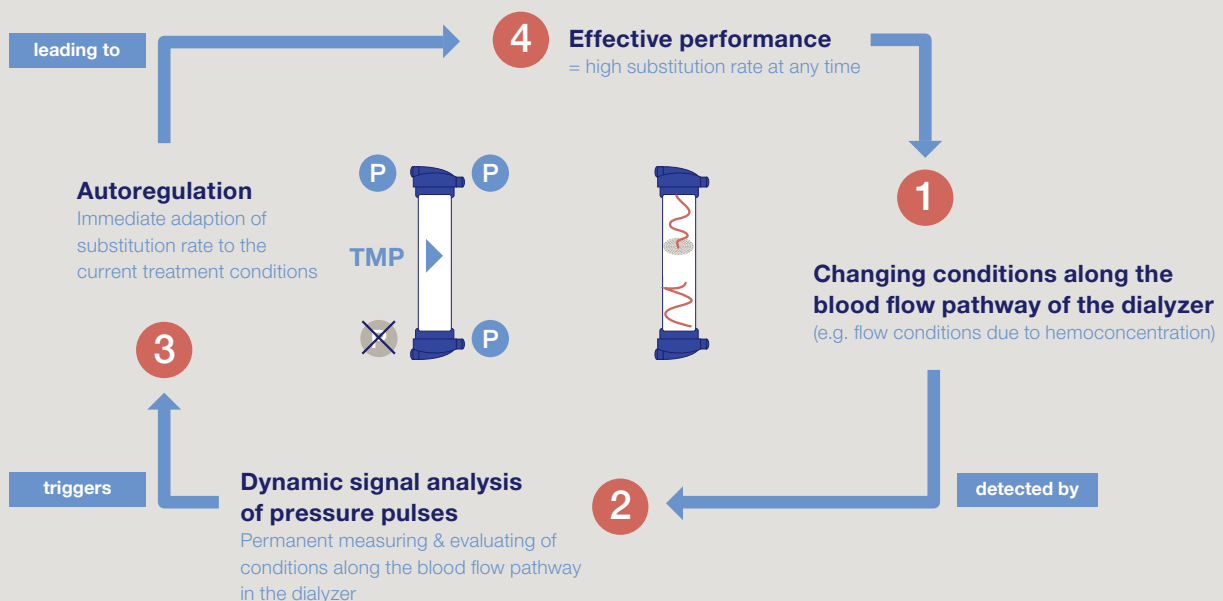
AutoSub *plus* enables substitution volumes to be individually maximized for every patient, while simultaneously avoiding hemoconcentration and filter clotting. The unique AutoSub *plus* goes beyond conventional pressure control systems.¹¹

- AutoSub *plus* continuously analyzes the conditions directly in the fiber. From these analysis results, the substitution rate is permanently adapted to the current treatment conditions without any need for user interaction.
- Supports higher substitution volumes in HDF, enabling effective convective removal of middle molecules – a factor associated with improved clinical outcomes and patient survival.^{4,12}
- Automatically improves substitution flow rates in post-dilution HDF⁸ to avoid excessive hemoconcentration within the dialyzer by continuously adapting the substitution flow.

79 %

of HDF sessions can achieve HighVolumeHDF with AutoSub *plus*⁸

Functional principle of Autosub *plus*



+ Venous Access Monitor (VAM)

The Venous Access Monitor (VAM) offers dynamic and highly sensitive monitoring of the venous pressure and is able to recognize drops in pressure of 15 mmHg or more:

- Highly sensitive alarm system as blood loss would become critical within a very short time during HighVolumeHDF where high blood flows are aspired. If an alarm is emitted, the blood pump is stopped immediately, and the venous clamp is closed.

100% of 5008S CorDiax devices are equipped with a Venous Access Monitor – setting a standard in this safety feature category.

+ VenAcc**

- **The VenAcc**, an external wetness detector, is designed for the quick detection of blood loss, and is recommended for patients undergoing home and nocturnal dialysis. In addition to VAM and VenAcc, a leakage sensor and the door concept enable the immediate recognition of leakages in the extracorporeal blood system.

+ Blood Line Kinking function and filter clotting monitoring (BLK)

- **Detects kinked tubing between** the blood pump and the venous bubble catcher as well as clots beginning to develop in the dialyzer and issues a warning.
- Helps to detect kinking to avoid mechanically generated hemolysis.
- The **5008S CorDiax** provides non-invasive, air-free arterial pressure monitoring without a blood-air interface.
- Blood circuits reducing blood-air interface may reduce the risk of coagulation during dialysis.¹³

+ Blood Temperature Monitor (BTM)

The Blood Temperature Monitor (BTM)** is able to measure the recirculation and therefore determine the corresponding vascular access flow¹⁴ during treatment. This helps to evaluate the quality of vascular access and to monitor its trend.¹⁵

- For symptomatic hypotensive episodes due to an increase in body temperature
 - well-known complication affecting patients during dialysis.¹⁶
- Can automatically maintain individual's predialytic body temperature throughout dialysis treatment.
- Can slightly adapt temperature within the pre-set limits, if a change in body temperature is required.

+ Advanced therapies for home patients

With its specially tailored home version*, the 5008S CorDiax offers the full benefits from conventional HD to **HighVolumeHDF** with enhanced safety features and easy handling.

- **HighVolumeHDF** with **FX CorDiax hemodiafilters** for efficient toxin removal, with fully automatic adjustment of substitution rates (*AutoSub plus*), without the need for user intervention.
- Built-in **Venous Access Monitor (VAM)** and optional wetness detector (VenAcc* device) for optimal monitoring of venous access.
- Special user interface (as part of the specially tailored home version*) adapted to the patient's needs.

*Some features are optional and must be purchased separately.

**Must be purchased separately.

5008S CorDiax. Your benefits.

Thanks to our advanced **ONLINEplus technology, together with high-standard safety features**, the application of **HighVolumeHDF in daily clinical routine has been greatly simplified**, supporting nursing staff by streamlining daily workflows. In addition, using the **5008S CorDiax can involve economic and ecological benefits without compromising dialysis performance.**¹⁷

Volume matters

79% of patients on HDF achieve **HighVolumeHDF with AutoSub plus.**⁸

Convenient handling

100% saline bag-free due to the integrated **ONLINEpriming** of the 5008S CorDiax.

Patient safety

All of 5008S CorDiax devices are equipped with a **Venous Access Monitor**.

Medication savings

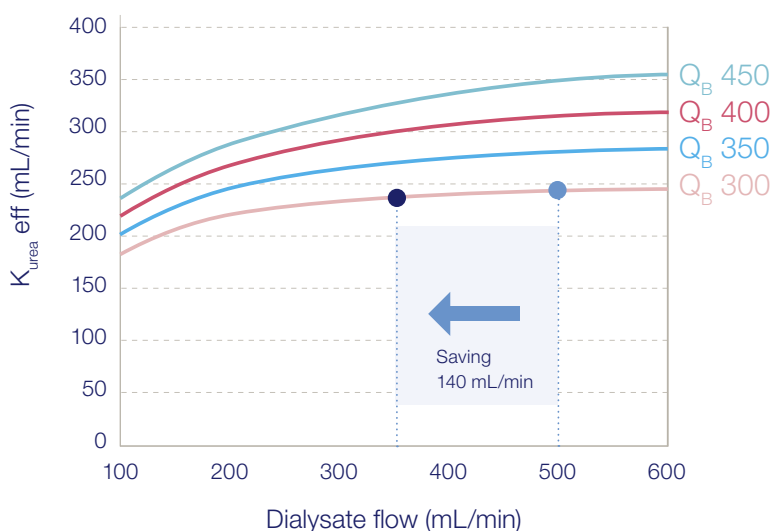
Up to 9% estimated reduction in requirement for EPO with HDF as compared to HD.¹⁸

Direct cost savings

~ 11,500 kg of waste reduced per year due to **ONLINEpriming.**^{*}

5008S CorDiax. Good for the environment and the budget.

Dialysate flow savings with AutoFlow without compromising K_{urea} ^{**}



With the 5008S CorDiax, savings can be substantial for water, wastewater, concentrates, and energy, thereby improving costs and environmental performance.

- K at $Q_D = 500$ mL/min
- K at $Q_D = 360$ mL/min with AutoFlow ($Q_D = 1.2 \times Q_B$)

^{**} Internal unpublished data of Fresenius Medical Care Deutschland GmbH.

^{*} Assumptions: Waste includes discarded fluid within saline solution and waste bag and discarded bags (discarded fluid waste ~ 90%, discarded plastic waste ~ 10%). The calculation is based on an amount of 10,000 treatments, each making use of 1x NaCl 0.9% Frekaflex 1,000 mL and 1x NaCl 0.9% Frekaflex 500 mL, 1x Waste bag, 1x AV-set Online plus 5008-R and 1x FX CorDiax 800. Only preparation (rinsing) and reinfusion are considered. The waste reduced per treatment amounts to approximately 1.15 kg. (Internal unpublished data of Fresenius Medical Care Deutschland GmbH)

A full portfolio. For every life.

Quality dialysis is rooted in something deeper than technology, therapies, and products. It is rooted in a deep understanding of you, your center and your work.

Because we know that you want to provide **quality care for every patient**. You want to save time and costs. Trust your equipment. Get the right answers. Have support and training at hand. **Effectively, safely. Sustainably.** This allows you to provide the uncompromised **quality care needed for every patient – so they are free to live the lives they can.**

With us, **the world's leading dialysis partner for products and services, by your side, you have access to everything you need.**

From reliable dialysis devices to automation in daily tasks. From consumables to better therapy standards. Always with you in mind.

Because we offer true partnership and a full-spectrum portfolio that includes hard-earned knowledge that helps you make a genuine impact. Backed up by global technical support and training.

From people who know your daily challenges – and products you can rely on to deliver.

A full portfolio. For all your needs.

For every life.



5008S CorDiax. Technical information.

General data

Dimensions 5008S CorDiax	1,680 × 520 × 780 mm (H × W × D) at dialysis chair/bed level (width at base: 520 mm, depth with canister holder: 900 mm)
Weight	approx. 114 kg
Water supply Water inlet pressure Water inlet temperature Max. drain height Flush (optional)	1.5 to 6.0 bar 5 to 30 °C; for "integrated hot rinse" 85 to 95 °C 1 m Rinsing of the water supply area
Concentrate supply Supply pressure Central supply	0 to -100 mbar; 1 m max. suction height with Central Delivery System (CDS): 0.05 to 2.0 bar 2 central acid concentrates (optional)
Electrical data Power supply Current consumption	110 to 240 V AC ± 10%, 50 to 60Hz Approx. 6 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: volt-free alarm outlet (alternating contact max. 24 V/24 W). LAN (RJ 45) port for data exchange with Therapy Data Management System (optional)
Extracorporeal circuit	
Arterial pressure measurement Display range Accuracy Resolution	-300 mmHg to +300 mmHg ± 7 mmHg 5 mmHg
Alarm reaction	Dynamic, static, immediately
Venous pressure measurement Display range Accuracy Resolution	-100 mmHg to +500 mmHg ± 7 mmHg 5 mmHg
Arterial blood pump Blood flow range Accuracy Resolution	30 to 600 mL/min ± 10% 10 mL/min
Single-Needle system (optional)	With 2 blood pumps, 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 AutoFlow (selectable) EcoFlow	0 to 1000 mL/min (steps of 100 mL/min) Automatic adaptation of the dialysate flow to the effective blood flow Stand-by flow during preparation and after reinfusion
Dialysis fluid temperature	34 to 39 °C
Dialysate concentration (conductivity) Range Accuracy Resolution	12.8 to 15.7 mS/cm ±0.1 mS/cm 0.1 mS/cm
Dialysis fluid acid component Mixing ratio Adjustment range	Adjustable, e.g. 1+44, 1+34 125 to 151 mmol/L, depending on the concentrate used ± 10% of the base value
Dialysis fluid bicarbonate component Default mixing ratio Adjustment range	1+27.6 (others possible) 20.0 to 40.0 mmol/L (depending on the concentrate used; steps of 0.5 mmol/L)
OCM® Accurate Clearance K	Online Clearance Monitoring ±6% (Double-Needle)
Bicarbonate dry concentrate	bibag
Dialysis fluid filter system	DIASAFE®plus
ONLINEplus Substitution rate Accuracy	ONLINE Hemo(dia)filtration 25 to 600 mL/min ± 10%
Balancing accuracy Pressure holding tests	±0.1% relative to the total dialysis fluid volume Event controlled
Ultrafiltration UF rate Pump volume accuracy Parameters displayed	0 to 4000 mL/h (in steps of 10 mL) ± 1% UF goal, UF time, UF rate, UF volume
Blood leak detector Sensitivity	≤ 0.5 mL blood/min (Hct = 25%) flow rate 100 mL/min to 1000 mL/min
BTM (optional) Body temperature change Body temperature control Recirculation measurement	Accuracy ±0.2 °C Allowed change rate ±0.5 °C/h Accuracy ±2%
BPM (optional) Display range Accuracy Resolution	Systole: 60 mmHg to 250 mmHg Diastole: 40 mmHg to 200 mmHg MAP: 45 mmHg to 235 mmHg Pulse: 40 to 200 1/min ≤ ±5 mmHg 1 mmHg
Disinfection and cleaning programs*	
Rinse Temperature/flow	37 °C/600 to 700 mL/min (adjustable)
Hot rinse (recirculation) Temperature/flow	85 °C/600 to 700 mL/min (adjustable)
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)
Disinfection Puristeril® 340/plus (recirculation) Temperature/flow	37 °C/600 to 700 mL/min (adjustable)

*Various program combinations selectable. Technical changes reserved.



Contact us

If you would like more information on our specialized **HighVolumeHDF** product lines, please contact us:

Local Contact

Do it for your patients: Just push the button

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