

Cardioprotective Haemodialysis

Concentrates and Solutions

Extended Product Range



Cardioprotective Haemodialysis **SPOT**



**FRESENIUS
MEDICAL CARE**

Acid Concentrates

AC-F – Liquid 1+44 acid concentrates in canisters

The mixing ratio for all acid concentrates listed below is 1+44. All of them are designed for use with bibag®, Flexicart or liquid bicarbonate concentrate 8.4%. The labels of acid concentrates are marked red.

Liquid acid concentrates in canisters (1 + 44 AC-F)

Composition of ready-to-use dialysis fluid (after mixing with bicarbonate concentrate 8.4% and purified water)

Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Acetate mmol/L	Glucose g/L	Osmolarity mosm/L	Art. No. 4.7 L	Art. No. 7.8 L
AC-F 119/4	138.00	1.00	1.00	0.5	107.00	32.00	3.00	1.00	288	662 263 1	662 262 1
AC-F 113	138.00	1.00	1.75	0.5	108.50	32.00	3.00	1.00	290	362 163 1	362 162 1
AC-F 207	138.00	2.00	1.25	0.5	108.50	32.00	3.00	–	285	F00002004	F00002005
AC-F 219/3	138.00	2.00	1.00	0.5	108.00	32.00	3.00	1.00	290	462 863 1	462 862 1
AC-F 213	138.00	2.00	1.75	0.5	109.50	32.00	3.00	1.00	292	362 463 1	362 462 1
AC-F 229	138.00	2.00	1.25	0.5	109.50	32.00	3.00	2.00	298	762 163 1	–
AC-F 319	138.00	3.00	1.00	0.5	109.50	32.00	3.00	1.00	292	662 363 1	662 362 1
AC-F 313	138.00	3.00	1.75	0.5	110.50	32.00	3.00	1.00	294	462 663 1	462 662 1
AC-F 419	138.00	4.00	1.25	0.5	110.50	32.00	3.00	1.00	295	262 163 1	262 162 1
AC-F 413/1	138.00	4.00	1.50	0.5	110.00	32.00	3.00	1.00	296	462 763 1	462 762 1
Canisters / pallet										90	60

Granudial AF – Dry acid concentrates

Granudial AF must be dissolved with purified water with the help of a suitable mixing device according to the instructions given in the package insert in order to obtain liquid acid concentrate. The yielded liquid acid concentrate is for use in a mixing ratio of 1+34. It is designed for use with bibag® or Flexicart or liquid bicarbonate concentrate 8.4%.



Dry acid concentrates: Granudial AF

Composition of the ready-to-use dialysis fluid (after mixing with bicarbonate concentrate 8.4% and purified water)

Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Acetate mmol/L	Glucose g/L	Weight kg	Litres of conc./box	Art. No.
AF 10	140.00	2.00	1.50	1.0	109.00	32.00	6.00	–	25	100	508 712 C
AF 11	140.00	3.00	1.50	1.0	110.00	32.00	6.00	–	25	100	508 787 C
AF 13	140.00	2.00	1.25	1.0	108.50	32.00	6.00	–	25	100	508 823 C
AF 15	138.00	2.00	1.75	0.5	108.50	32.00	6.00	–	25	100	508 704 C
Boxes / pallet										24	



**FRESENIUS
MEDICAL CARE**

Concentrates and Solutions

Product Range



Protect your Patient

Cardioprotective Haemodialysis

The reduction of risk factors for cardiovascular diseases (CVD) is core to the development of dialysis systems and products at Fresenius Medical Care. Outstanding cardioprotection must be reflected in all levels of product development and application.

Wide-ranging cardioprotection

There have been tremendous improvements in the quality and efficacy of haemodialysis (HD) therapy in recent years. Despite this, cardiovascular diseases (CVD) remain the leading cause of death for patients with end-stage renal disease (ESRD).

SP

Services

Over 30 years of experience in dialysis at your service.

- Project Planning and Consulting
- Training and Education
- Technical Services
- Water Quality Service (WQS)
- Medical Information Services

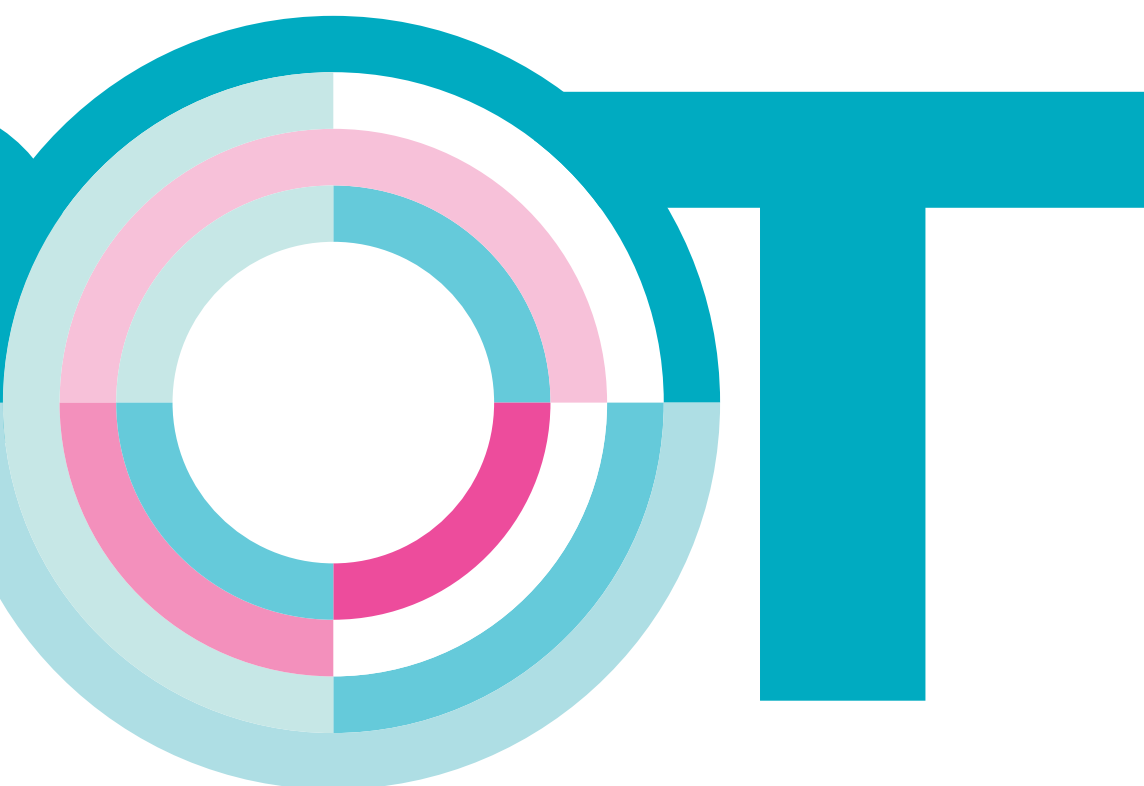
Products

State-of-the-art technologies enable advanced cardioprotective therapies.

- CorDiax product line:
 - 5008 CorDiax and 5008S CorDiax
 - FX CorDiax haemodiafilter
 - BCM-Body Composition Monitor
- Classix product line:
 - 4008S classix
 - FX classix dialysers
- Therapy Data Management System (TDMS)
- Online Purification Cascade (OPC)

Moreover, both overall and cardiovascular mortality are markedly greater in ESRD patients than in the general population. This is why we put Cardioprotective Haemodialysis on the SPOT. A comprehensive approach that includes services, products and therapies is needed to

achieve the best therapeutic performance – meaning improved clinical outcomes and better quality of life, enhanced control of therapy costs, and simpler, safer handling.



Outcomes

Achieving better outcomes with cardioprotective therapies.

- Reduced mortality risk
- Fewer cardiovascular complications
- Optimised use of resources

Therapies

Cardioprotective therapies designed by the world market leader in haemodialysis.

- High-Flux dialysis
- HighVolumeHDF®
- Advanced Fluid Management

Acid Concentrates

smartbag® – Liquid 1+44 acid concentrates in bags

The smartbag® is a flexible canister which combines the advantages of a canister and a bag.



The smartbag® 4.7 L – containing liquid acid concentrates (1+44 AC-F)

Compositions of ready to use dialysis fluid (after mixing with bicarbonate concentrate 8.4 % and purified water)

Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Acetate mmol/L	Glucose g/L	Osmolarity mosm/L	Art. No. 4.7 L Box of 60	Art. No. 4.7 L Box of 2
smartbag® 111.5	138.00	1.00	1.50	0.5	108.00	32.00	3.00	1.00	289.55	F00 000 064	F00 000 64D
smartbag® 211.25	138.00	2.00	1.25	0.5	108.50	32.00	3.00	1.00	290.80	F00 000 065	F00 000 65D
smartbag® 211.5	138.00	2.00	1.50	0.5	109.00	32.00	3.00	1.00	291.55	F00 000 066	F00 000 66D
smartbag® 211.75	138.00	2.00	1.75	0.5	109.50	32.00	3.00	1.00	292.30	F00 000 232	F00 002 32D
smartbag® 311.25	138.00	3.00	1.25	0.5	109.50	32.00	3.00	1.00	292.80	F00 000 067	F00 000 67D
smartbag® 311.5	138.00	3.00	1.50	0.5	110.00	32.00	3.00	1.00	293.55	F00 000 068	F00 000 68D
smartbag® 411.25	138.00	4.00	1.25	0.5	110.50	32.00	3.00	1.00	294.89	F00 000 236	–
Acid concentrate per pallet										564 L	564 L
Bags / box – boxes / pallet										60–2	2–60



The smartbag® CA 4.2 L – containing liquid acid concentrates (1+44 AC-F)

Compositions of ready to use dialysis fluid (after mixing with bicarbonate concentrate 8.4 % and purified water)

Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Citrate mmol/L	Acetate mmol/L	Glucose g/L	Art. No. 4.2 L Box of 72	Art. No. 4.2 L Box of 2
smartbag® CA 211.5	138.00	2.00	1.50	0.50	109.00	32.00	1.00	-	1.00	F00 000 949	F00 006 557
smartbag® CA 211.75	138.00	2.00	1.75	0.50	109.50	32.00	1.00	-	1.00	-	F00 006 558
smartbag® CA 311.5	138.00	3.00	1.50	0.50	110.00	32.00	1.00	-	1.00	F00 002 007	F00 020 07D
smartbag® CA 311.75	138.00	3.00	1.75	0.50	110.50	32.00	1.00	-	1.00	-	F00 006 559
smartbag® CA 411.5	138.00	4.00	1.50	0.50	111.00	32.00	1.00	-	1.00	F00 002 008	F00 006 560
Acid concentrate per pallet										604 L	504 L
Bags / box – boxes / pallet										72–2	2–60

Concentrate platforms: for application with 5008 CorDiax - M442061 / for application with 5008S CorDiax - M423591

smartbag® 300 L – Liquid 1+44 acid concentrates

The smartbag® 300 L facilitates central concentrate supply at a minimum of storage space.



The smartbag® 300 L – containing liquid acid concentrates (1+44 AC-F)

Compositions of ready to use dialysis fluid (after mixing with bicarbonate concentrate 8.4% and purified water)

Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Acetate mmol/L	Glucose g/L	Osmolarity mosm/L	Art. No. 300 L
smartbag® 211.25	138.00	2.00	1.25	0.5	108.50	32.00	3.00	1.00	290.80	F00 001 168
smartbag® 211.5	138.00	2.00	1.50	0.5	109.00	32.00	3.00	1.00	291.55	F00 003 068
smartbag® 311.25	138.00	3.00	1.25	0.5	109.50	32.00	3.00	1.00	292.80	F00 003 069
smartbag® 311.5	138.00	3.00	1.50	0.5	110.00	32.00	3.00	1.00	293.55	F00 003 070
smartbag® 411.25	138.00	4.00	1.25	0.5	110.50	32.00	3.00	1.00	294.89	F00 006 659
Acid concentrate per pallet										600 L
Boxes/pallet										2

Please order your individual retrofit kit (Art. No. 6362981) for CDS 08.

Code message: e. g. **smartbag® 211.5** (2xx.x = K⁺ in mmol/L) (x1x.x = Glucose in g/L) (xx1.5 = Ca²⁺ in mmol/L)

Acid Concentrates

AC-F – Liquid 1+44 acid concentrates in canisters

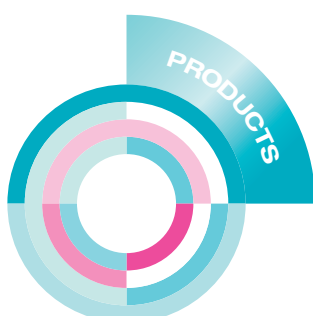
The mixing ratio for all acid concentrates listed below is 1+44. All of them are designed for use with bibag.

Within the haemodialysis machine 1 litre of acid concentrate is mixed with 1.575 litres of liquid bicarbonate concentrate 8.4 % and 42.425 litres of purified water in order to obtain 45 litres of ready-to-use dialysis fluid. The mixing ratio of the haemodialysis machine must be set accordingly (1+44 AC-F).



The labels of acid concentrates are marked red.

Liquid acid concentrates in canisters (1+44 AC-F)											
Composition of ready-to-use dialysis fluid (after mixing with bicarbonate concentrate 8.4 % and purified water)											
Canister 4.2 L		Canister 7.8 L		Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Cl ⁻	HCO ₃ ⁻	Acetate	Glucose
Type	Art. No.	Type	Art. No.	mmol/L	mmol/L	mmol/L	mmol/L	mmol/L	mmol/L	mmol/L	g/L
AC-F 211.25	F00 006 337	AC-F 219/1	462 462 1	138.00	2.00	1.25	0.50	108.50	32.00	3.00	1.00
AC-F 211.5	F00 006 338	AC-F 213/4	262 862 1	138.00	2.00	1.50	0.50	109.00	32.00	3.00	1.00
AC-F 211.75	F00 006 339	AC-F 213	362 462 1	138.00	2.00	1.75	0.50	109.50	32.00	3.00	1.00
AC-F 311.25	F00 006 340	AC-F 313/2	562 962 1	138.00	3.00	1.25	0.50	109.50	32.00	3.00	1.00
AC-F 311.5	F00 006 341	AC-F 313/1	562 662 1	138.00	3.00	1.50	0.50	110.00	32.00	3.00	1.00
AC-F 311.75	F00 006 343	AC-F 313	462 662 1	138.00	3.00	1.75	0.50	110.50	32.00	3.00	1.00
AC-F 411.25	F00 006 344	AC-F 419	262 162 1	138.00	4.00	1.25	0.50	110.50	32.00	3.00	1.00
AC-F 411.5	F00 006 345	AC-F 413/1	462 762 1	138.00	4.00	1.50	0.50	111.00	32.00	3.00	1.00
Canisters / pallet		90	60								



Granudial AF – Dry acid concentrates

Granudial AF must be dissolved with purified water with the help of a suitable mixing device according to the instructions given in the package insert in order to obtain liquid acid concentrate. The yielded liquid acid concentrate is for use in a mixing ratio of 1+34.



Dry acid concentrates: Granudial AF											
Composition of the ready-to-use dialysis fluid (after mixing with bicarbonate concentrate 8.4 % and purified water)											
Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Acetate mmol/L	Glucose g/L	Weight kg	Litres of conc./box	Art. No.
AF80	138.00	2.00	1.50	0.5	106.00	32.00	6.00	1.00	29	100	F00 000 405
AF81	138.00	3.00	1.50	0.5	107.00	32.00	6.00	1.00	29	100	F00 000 406
AF82	138.00	2.00	1.75	0.5	106.50	32.00	6.00	1.00	29	100	F00 000 854
AF83	138.00	2.00	1.25	0.5	105.50	32.00	6.00	1.00	29	100	F00 000 855
AF84	138.00	4.00	1.50	0.5	108.00	32.00	6.00	1.00	29	100	F00 003 558
Boxes / pallet											24

DIAMIX Semi – Dry acid concentrates

DIAMIX must be dissolved with purified water with the help of a suitable mixing device to obtain liquid acid concentrate for use in a mixing ratio of 1+44.



Semi-dry acid concentrates: DIAMIX											
Composition of the ready-to-use dialysis fluid (after mixing with bicarbonate concentrate 8.4 % and purified water)											
Type	Na ⁺ mmol/L	K ⁺ mmol/L	Ca ²⁺ mmol/L	Mg ²⁺ mmol/L	Cl ⁻ mmol/L	HCO ₃ ⁻ mmol/L	Acetate mmol/L	Glucose g/L	Weight kg	Litres of conc./barrel	Art. No. 193 L
DIAMIX AC-F 219/1	138.00	2.00	1.250	0.5	108.50	32.00	3.00	1.00	349	750	800 157 1
DIAMIX AC-F 213/4	138.00	2.00	1.500	0.5	109.00	32.00	3.00	1.00	349	750	800 257 1
DIAMIX AC-F 313/2	138.00	3.00	1.250	0.5	109.50	32.00	3.00	1.00	349	750	800 357 1
DIAMIX AC-F 313/1	138.00	3.00	1.500	0.5	110.00	32.00	3.00	1.00	349	750	800 457 1
DIAMIX AC-F 419	138.00	4.00	1.250	0.5	110.50	32.00	3.00	1.00	349	750	800 557 1
DIAMIX AC-F 413/1	138.00	4.00	1.500	0.5	111.00	32.00	3.00	1.00	349	750	800 657 1

Bicarbonate Concentrates

bibag

The online dry bicarbonate concentrate for Fresenius Medical Care haemodialysis machines.



bibag				
Type	Weight	Composition	Units / box	Art. No.
bibag	650 g	NaHCO ₃	16 bags	508 992 1
bibag	900 g	NaHCO ₃	12 bags	508 991 1
bibag 5008	650 g	NaHCO ₃	16 bags	506 078 1
bibag 5008	900 g	NaHCO ₃	12 bags	506 080 1
Boxes / pallet				56

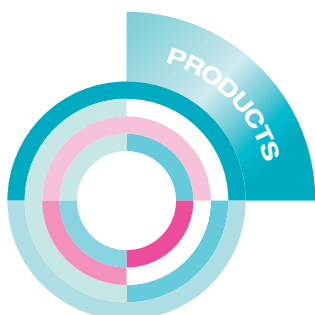
bibag 5008 is the standard module for the 5008 CorDiax, 5008S CorDiax and 4008 classix HD machines.

Granudial BI – Dry bicarbonate concentrate

Granudial BI must be dissolved with purified water with the help of a suitable mixing device according to the instructions given in the package insert in order to obtain liquid 8.4 % bicarbonate concentrate.



Dry bicarbonate concentrates: Granudial BI						
Composition of the concentrate						
Type	Na ⁺ mmol/L	HCO ₃ ⁻ mmol/L	Quantity	Weight / Box kg	Litres of conc./box	Art. No. for 1 box
BI 84	1000	1000	4 bags / box	34	400	508 861 C*
BI 840	1000	1000	2 bags / box	17.5	200	508 860 1**
Boxes / pallet						*24 **48



Rinsing Solutions

Saline 0.9 % in Frekaflex bags

Frekaflex bags are made of PVC and are equipped with 2 Luer-Lock connectors. The solution is specified for rinsing and priming the tubing system and may not be used as infusion solution.



Saline 0.9 % in Frekaflex bags					
Type	Na ⁺ mmol/L	Cl ⁻ mmol/L	Art. No. 30 × 250 mL	Art. No. 15 × 500 mL	Art. No. 10 × 1000 mL
Saline 0.9 %	154	154	F00 004 551	F00 004 550	F00 004 549
Bags / pallet			1680	840	560



**FRESENIUS
MEDICAL CARE**

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Haemodialysis

Bloodlines, Tubing Systems, Accessories

Product Range



2010/2011



Fresenius Medical Care

5008 Therapy System – the innovation ...

Enabling the application of ONLINE Haemodiafiltration in the most practical way.



ONLINE Priming/ONLINE HDF

- Saline free priming of extracorporeal circuit
- ONLINE HDF treatment as standard
- Enabled by the SafeLine included in every bloodline set

Reliable Precision

- Exact measurement of arterial pressure via pressure dome
- Trouble-free air detection directly on system tube

Convenience

- Clear layout and optimised tube lengths
- Machine assisted set-up and disassembling
- Reduced filling volume and less blood-air contact

4008 Sustained dependability

Reliability established over several years and millions of treatments.



Superior quality and safety

- Consistent and validated manufacturing
- Rigorous testing of bloodline performance
- Highly compatible interface between bloodlines and machine

Reliable therapy

- Matured technology recognised worldwide
- Extensive experience in the production of bloodlines – ensuring consistent product quality

Meeting diverse needs

- Appropriate sterilisation to suit varying demands
- Broad product range to meet all requirements

Ensuring safety with the authentic Fresenius Medical Care Original Bloodlines....

Quality and reliability characterise the Fresenius bloodlines in function and use.



Handling

- Clearly colour-coded components
- Ergonomic components and layout

Quality

- Certified quality systems for development, production and sales
- Perfect compatibility to machine interfaces

Safety

- Assurance of highest safety and performance with our 4008 and 5008 machines
- Transducer protector with integrated inspection windows
- Injection port with enlarged finger-protection shield

Biocompatibility

- Use of plasticisers with high haemocompatibility and low cytotoxic reaction
- Free of DEHP

Product Range 5008

DEHP-free

LifeLine^{Beta}

- Phtalate free
- Beta-sterilisation by accelerated electrons (e-beam)
- Fewer material alterations in comparison to gamma-irradiation
- No radioactive source of radiation

Adult Bloodlines

Beta sterilisation – DEHP free

Type	To be used with	Filling volume	Units per box	Art.-No.
AV-Sets				
AV-Set ONLINEplus 5008-R	5008/5008S	132 ml	24	F00000384
AV-Set ONLINEplus BVM 5008-R	5008	136 ml	24	F00000385
AV-Set ONLINE Priming 5008S-R	5008S	132 ml	24	F00000700
SN-Sets				
SN-Set ONLINEplus 5008-R	5008/5008S	166 ml	20	F00000386
SN-Set ONLINEplus BVM 5008-R	5008	169 ml	20	F00000387



Paediatric Bloodlines

Beta sterilisation – DEHP free

Type	To be used with	Inner diameter pump segment	Filling volume	Units per box	Art.-No.
AV-Sets					
AV-Set ONLINEplus BVM Paed 5008-R	5008	8 mm	108 ml	24	F00001068
SN-Sets					
SN-Set ONLINEplus BVM Paed 5008-R	5008	8 mm	142 ml	20	F00001069



BVM: Blood Volume Monitor

-R: Beta Sterilisation (Radiation)

Inner diameter of pump segment: 8 mm

Diameter of venous bubble catcher: 22 mm

Product Range 4008

DEHP-free

LifeLine_{Beta}

- Phtalate free
- Sterilisation by accelerated electrons (e-beam)
- Less material alterations in comparison to gamma-irradiation
- No radioactive source of radiation

Adult Bloodlines

Beta sterilisation – DEHP free

Type	To be used with	Filling volume	Units per box	Art.-No.
AV-Sets				
AV-Set B-R	2008/4008	161 ml	24	F00001124
AV-Set SRB-R	2008/4008	161 ml	24	F00000257
AV-Set SRB BVM-R	4008	172 ml	24	F00000258
SN-Sets				
SN-Set B-R	2008/4008	197 ml	20	F00001125
SN-Set SRB L-R	2008/4008	211 ml	20	F00000259
SN-Set SRB L BVM-R	4008	225 ml	20	F00001132

Paediatric Bloodlines

Beta sterilisation – DEHP free

Type	To be used with	Inner diameter pump segment	Filling volume	Units per box	Art.-No.
AV-Sets					
AV-Set-FMC Paed R	2008/4008	6.4 mm	117 ml	24	F00001064
AV-Set-FMC BVM/BTM Paed R	4008	6.4 mm	126 ml	24	F00001065
AV-Set-FMC Paed/Baby R	2008/4008	6.4 mm	56 ml	24	F00001063
SN-Sets					
AV-SN-Set-FMC Paed R	2008/4008	6.4 mm	155 ml	24	F00001067
AV-SN-Set-FMC Paed/Baby R	2008/4008	6.4 mm	88 ml	24	F00001066

All paediatric bloodlines 4008 are equipped with spike, waste bag and recirculation connector.

- S: Spike
 R: Recirculation connector
 B: Waste bag
 L: Long tubes to SN expansion chamber (needed for SN-treatment with 4008 S)
 BVM: Blood Volume Monitor
 -R: Beta Sterilisation (Radiation)

Inner diameter of pump segment: 8 mm
 Diameter of venous bubble catcher: 22 mm





Adult Bloodlines ETO sterilisation

BasicLine

- Sterilisation by ethylene oxide
- Special pre-conditioning and degassing process leads to minimised residual ETO content

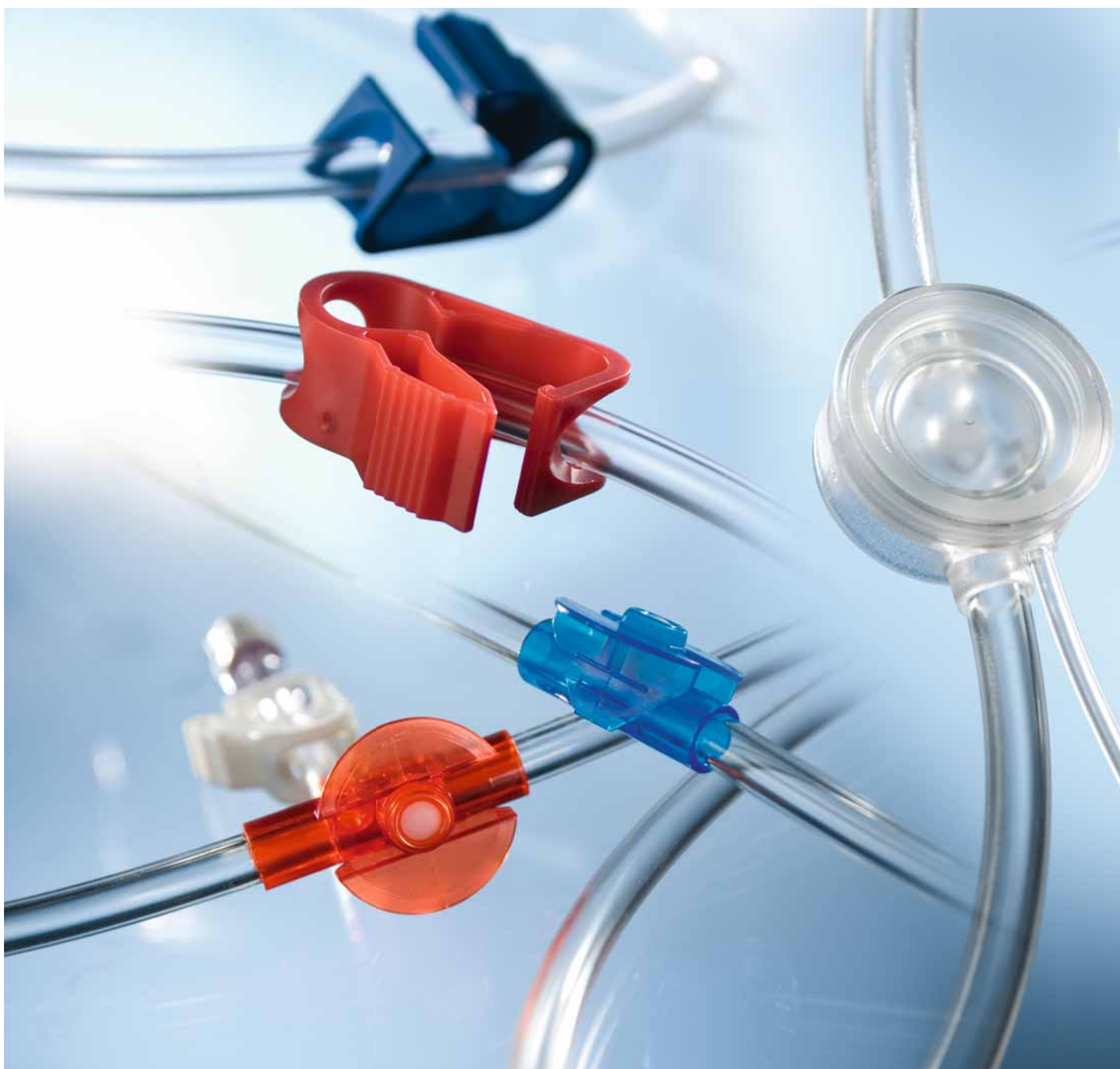
Type	To be used with	Filling volume	Spike	Waste bag	Recirculation connector	Units per box	Art.-No.
AV-Sets							
AV-Set-FMC (FA 204 C/FV 204 C)	2008/4008	161 ml	•		•	24	5000541
AV-Set-FMC (FA 204 B/FV 204 B)	2008/4008	161 ml		•		24	5000561
AV-Set-FMC (FA 204 C/FV 204 E)	2008/4008	161 ml	•	•	•	24	5003451
AV-Set-FMC (FA 204 C/FV 204 E) BVM	4008	172 ml	•	•	•	24	5016631
SN-Sets							
AV-SN-Set-FMC (FA 514 SN C/FV 204 E)	2008/4008	211 ml	•	•	•	20	5017411

BVM: Blood Volume Monitor

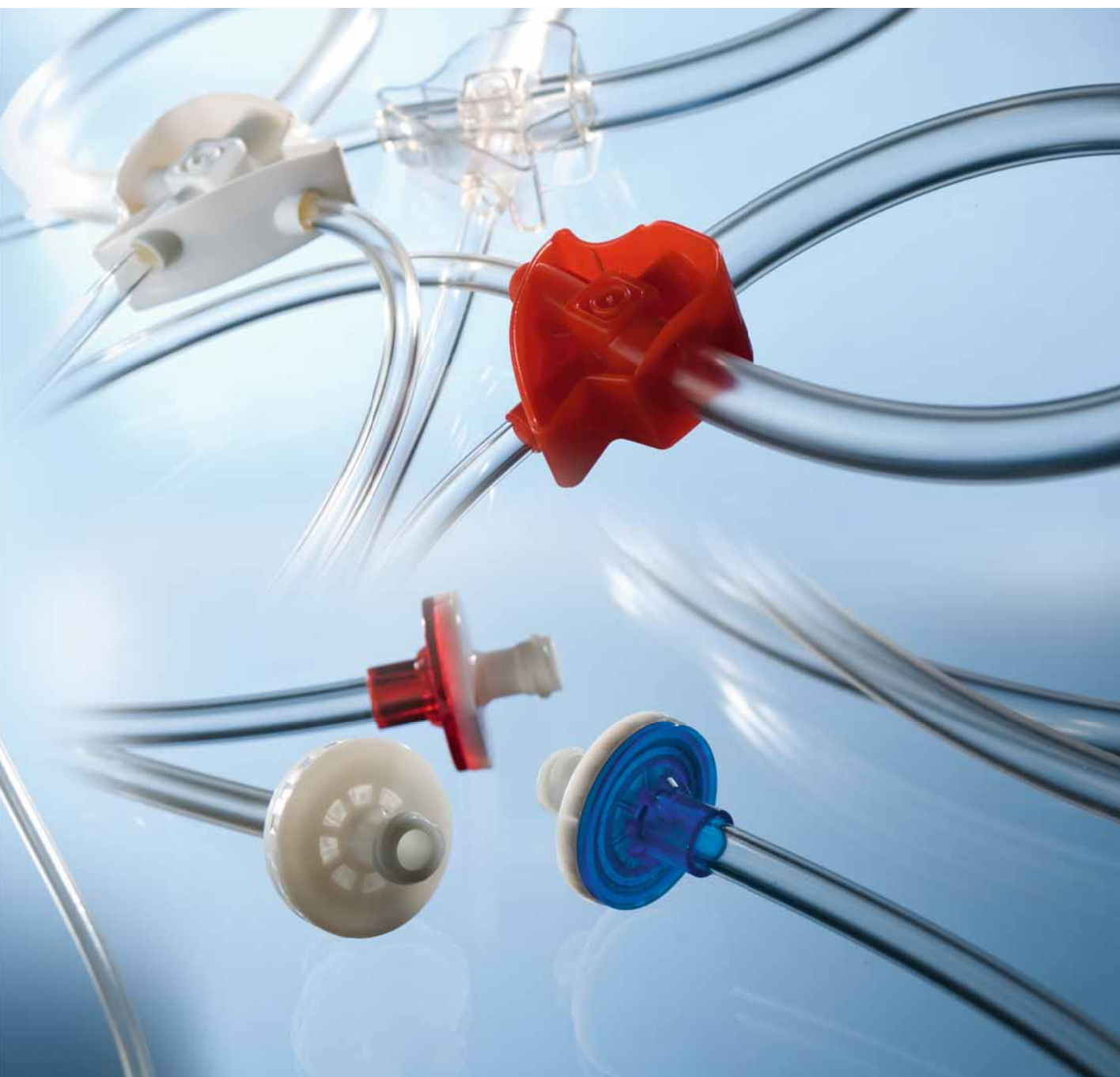
Inner diameter of pump segment: 8 mm

Diameter of venous bubble catcher: 22 mm

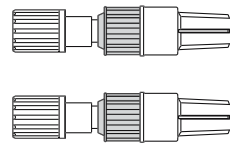
Fresenius Medical Care's bloodline components ...



... developed to meet all your needs



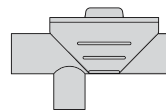
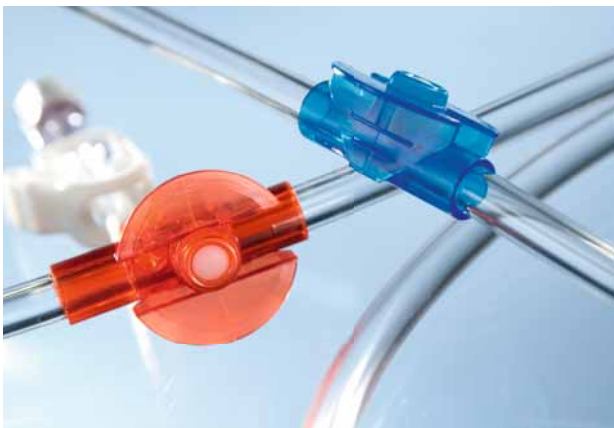
Components



Patient connectors

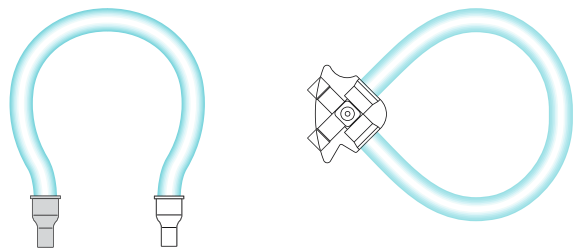
Optimal handling and safety:

- Ergonomic grip on the rotating part ensures secure connection
- Easy to remove protective caps



Injection ports

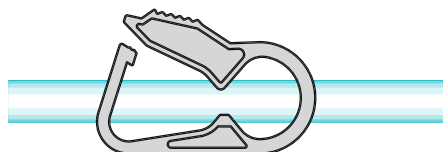
- Latex-free septum
- Colour coding
- Large finger-protection shield



Pump segment 4008/5008

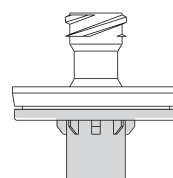
- Perfect fit to the Fresenius Medical Care dialysis machines (geometry, shore hardness, occlusion performance)
 - Qualified for the effective blood flow measurement
 - Allows achievement of prescribed dialysis dose

Components



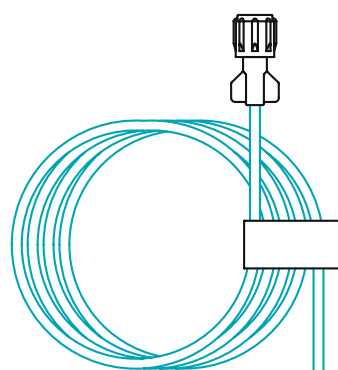
Line clamps

- Colour coding
- Optimal ergonomics for easy and reliable handling
- No additional clamps required



Transducer protectors

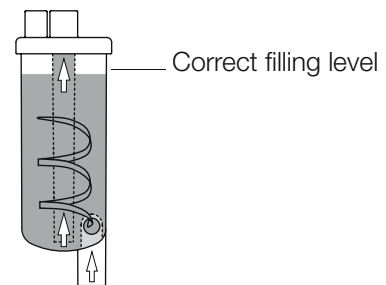
- Inspection windows
- Colour coding



Heparin line

- Luer-Lock female Adapter with protecting cap
- Easy to remove paper tape

Components



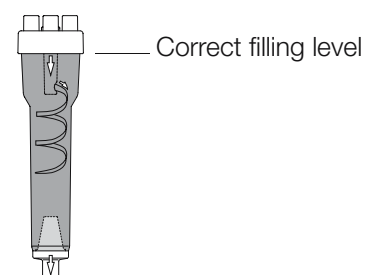
Arterial bubble catcher

- Dynamic blood flow due to special geometry
- Safe and effective air separation



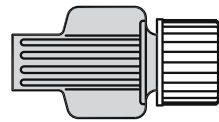
Single Needle chamber

- Dynamic blood flow
- Level mark for easy handling



Venous bubble catcher

- Inlet distributor reduces activation of clotting
 - Directed blood flow
 - No "free fall" of blood
- Allows an easy and correct positioning in the air detector due to the special shape of venous bubble trap (22 mm Ø)



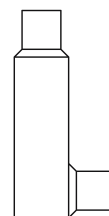
Dialyser connector

- Soft material allows safe connection to dialyser
- Easy to remove protective caps



Pressure dome

- Precise pressure measurement
- Reduced filling volume
- No blood-air contact



BVM cuvette

- Precise BVM measurement
- Easy handling

AV-Set ONLINEplus 5008-R (F00000384)

Arterial line

Venous line

SafeLine

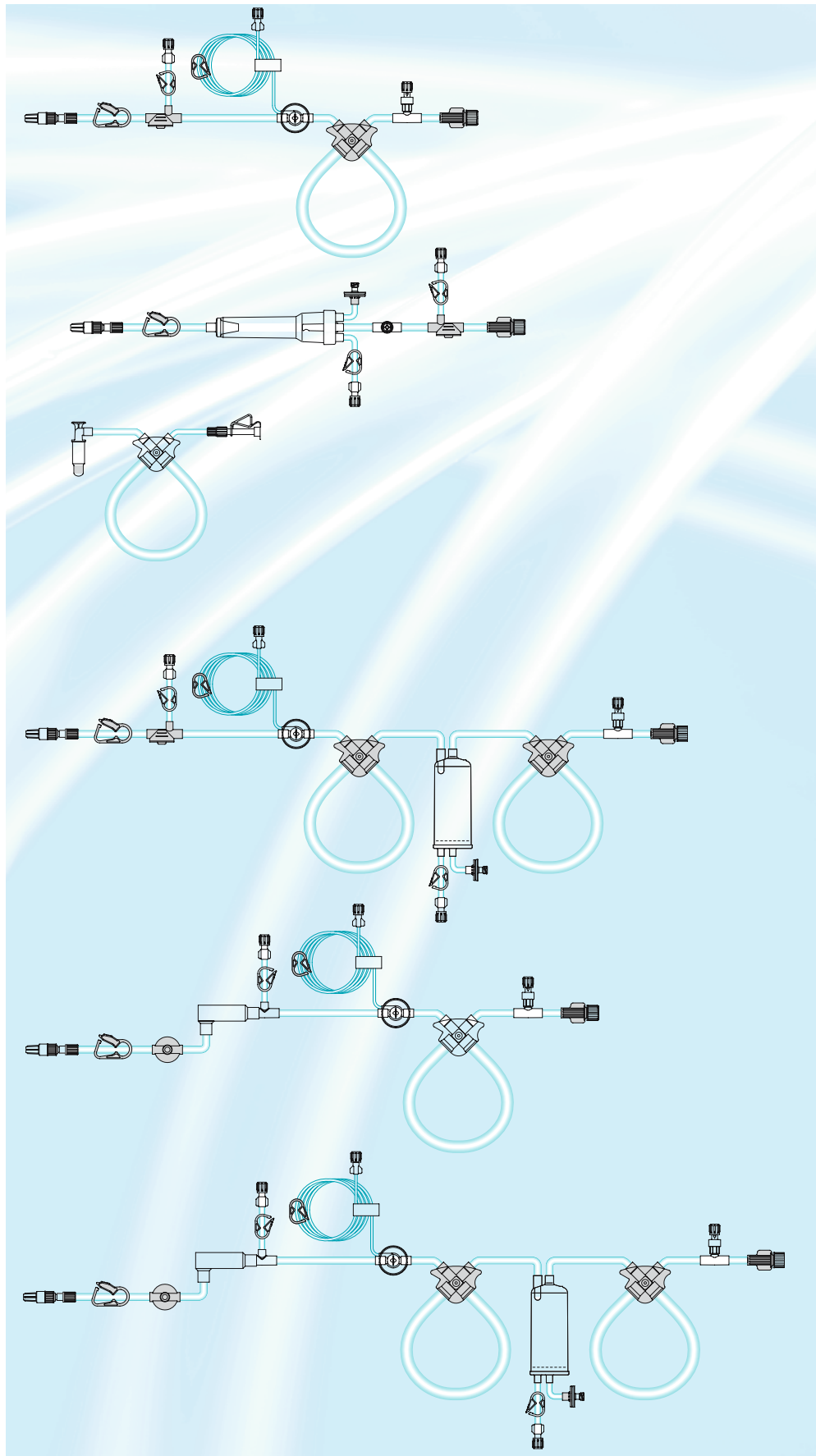
Variants

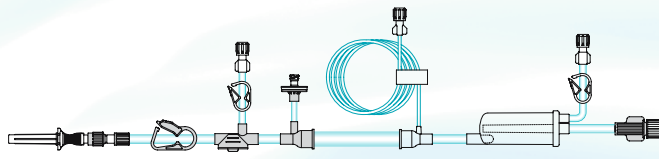
(Venous line and SafeLine
unchanged)

SN-Set ONLINEplus 5008-R
(F00000386)

AV-Set ONLINEplus BVM 5008-R
(F00000385)

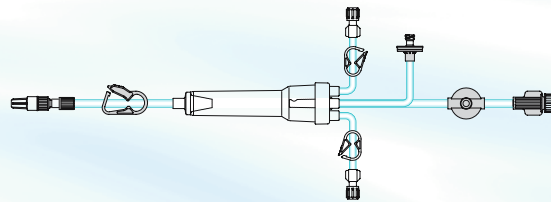
SN-Set ONLINEplus BVM 5008-R
(F00000387)



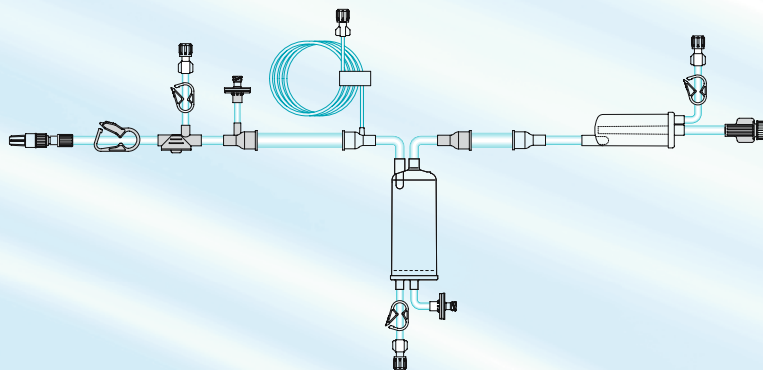


AV-Set SRB-R
(F00000257)

Arterial line



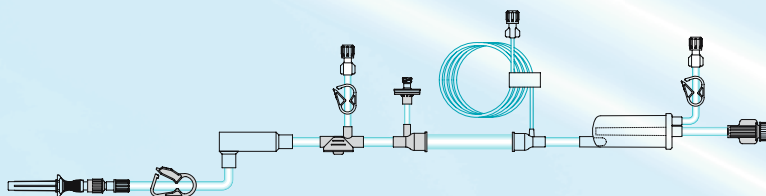
Venous line



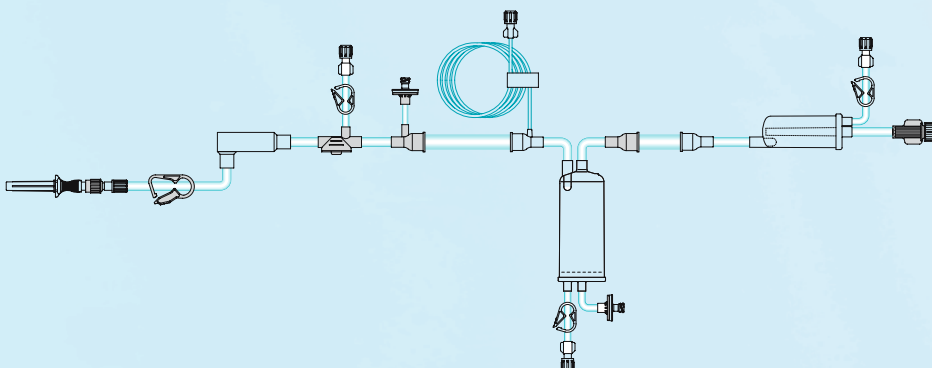
Variants

(Venous lines unchanged)

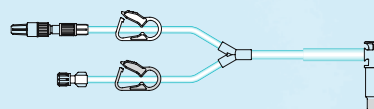
SN-Set B-R
(F00001125)



AV-Set SRB BVM-R
(F00000258)



AV-SN-Set-FMC (FA 514-SN C/
FV 204E) BVM
(5017411)



SafeLine
(F00001195)

Technical drawings paediatric lines

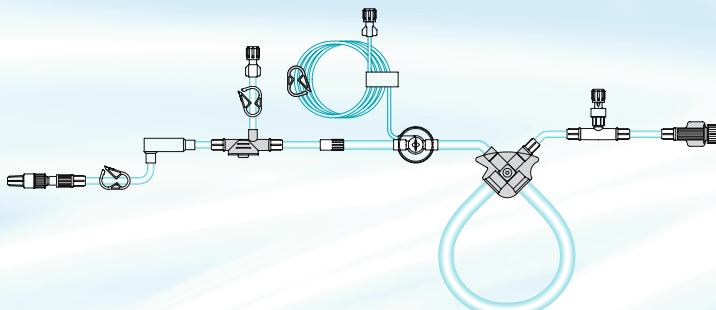
5008

AV-Set ONLINEplus – BVM

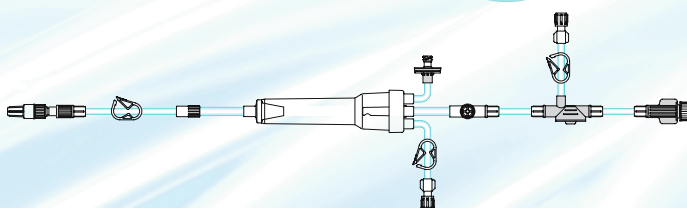
Paed 5008-R

(F00001068)

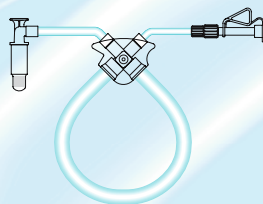
Arterial line



Venous line



SafeLine

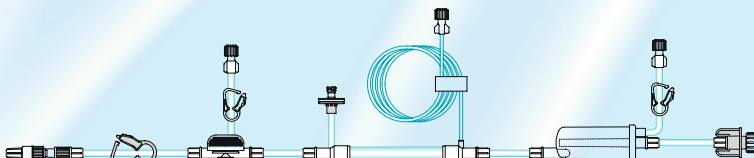


4008

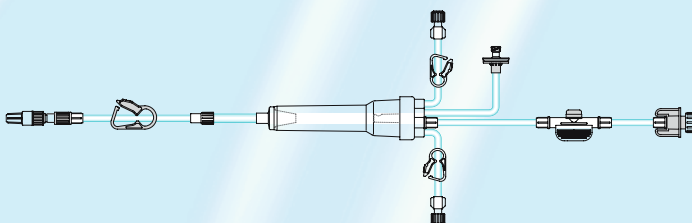
AV-Set-FMC Paed R

(F00001064)

Arterial line



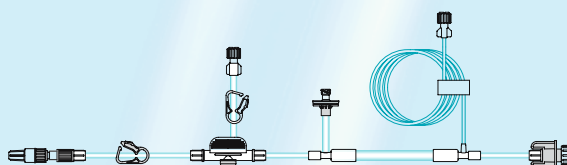
Venous line



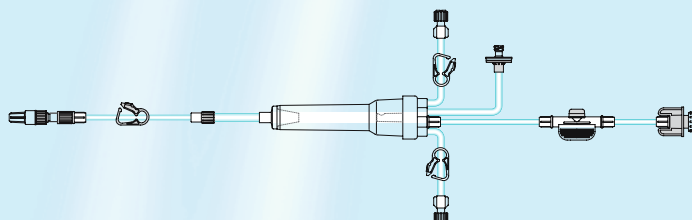
AV-Set-FMC Paed/Baby R

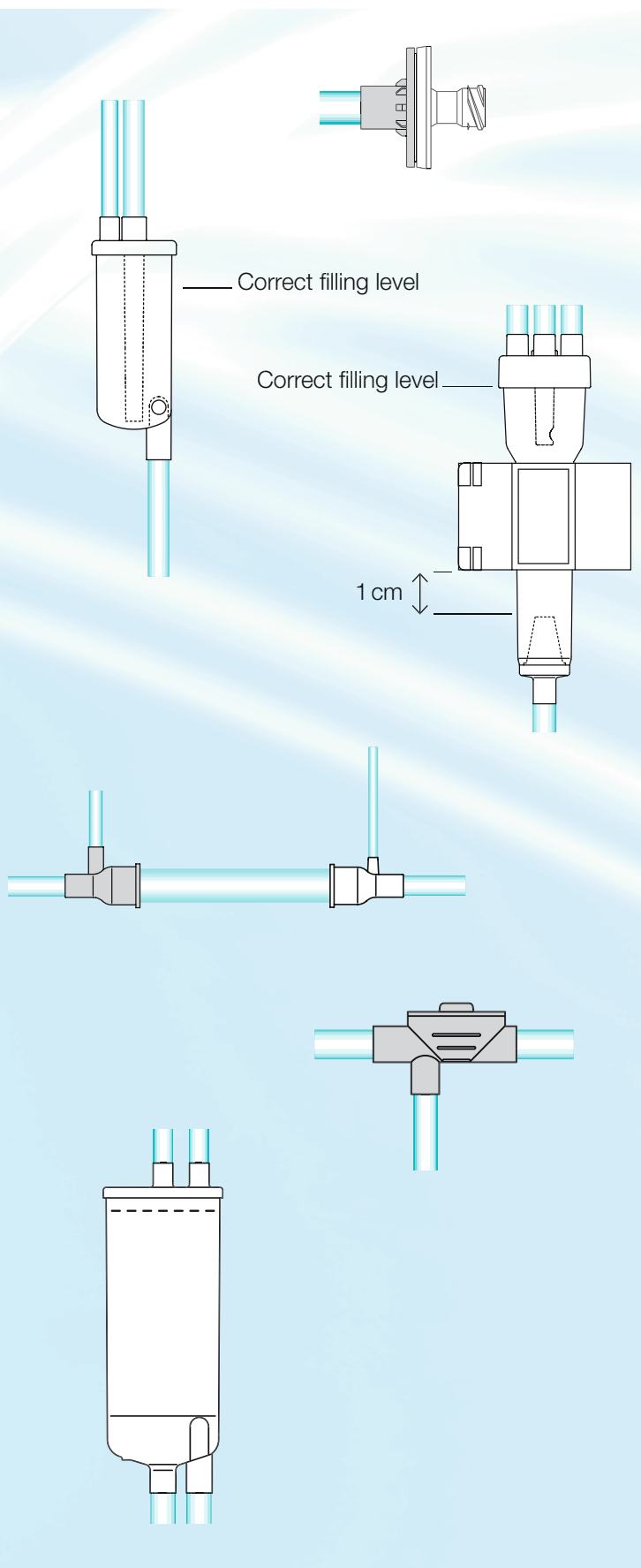
(F00001063)

Arterial line



Venous line





Pressure line

Connect the pressure transducer protector to the machine ensuring it is straight and secure (do not overtighten!). If the membrane is wet, replace either the bloodline or the pressure line with a new one.

Arterial bubble catcher

For level setting release the cap, raise the level slowly to the filling line. Make sure that the caps are secure and the clamps closed.

Venous bubble catcher (4008)

Rest the shoulder of the chamber on the top of the level detector holder, so the filter of the chamber is 1 cm below the level of the door.

Make sure that the caps are secure and the clamps closed.

Pump segment (4008)

Insert the pump segment with the red colour coding on the left hand side.

SN-pump segment (4008)

Make sure that all air has been removed during the priming of the pump segment.

Injection port

Clean the septum by using an alcohol wipe. Hold the injection port by the finger grips underneath the protection shield. Insert the needle directly into the septum (90°).

SN-chamber

Place the chamber into the holder.

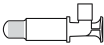
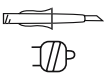
Connect the pressure line (see above).

Make sure that the caps are secure and the clamps closed.

Do not invert the chamber.

During priming, the filling level will be set automatically (do not raise the level manually).

Accessories

Type	To be used with	Sterilisation	Description	Connectors	Units per box	Art.-No.
HF / HDF						
Drainage connector	4008/5008	Beta	ONLINEplus HDF 5008		12	7030031
Safeline	4008	Beta	ONLINEplus 4008, pump segment 6.4 mm		100	F00001195
Tubing system FS 130	4008	ETO	Standard HDF, Pump segment 4.4 mm		40	5046301
Infusion sets						
Frekaflex infusion set	4008	ETO	Infusion set Luer-Lock male / Luer-Lock male with roller clamp		150	2889011
Infusion set	4008	ETO	Infusion set with vented spike, Luer-Lock male and drip chamber		150	5016371
Transfer set	4008	ETO	Infusion set Luer-Lock male / Luer-Lock male		150	5016391
Waste bags						
Waste bag 2,000 ml	4008	ETO	Rinsing of extracorporeal circuit		100	5015091
Transducer protectors						
Transducer protector	4008/5008	ETO	Luer-Lock male/female		100	5015911
Pressure line 30 cm	4008/5008	ETO	Complete pressure line 30 cm, Luer-Lock male/female		100	5014631
Pressure line 60 cm	4008/5008	ETO	Complete pressure line 60 cm, Luer-Lock male/female		200	5019151
Various accessories						
Heparin syringe 30 ml	5008	ETO	Luer-Lock male, separate closure cap, latex-free plug		100	5030321
Heparin syringe 20 ml	4008/5008	ETO	Luer-Lock male, separate closure cap, latex-free plug		120	F0000125*
SN-adaptor Luer-Lock	4008/5008	ETO	Y-adaptor, 2 x Luer-Lock female, 1 x Luer-Lock male		100	5027851

* coming soon

Type	To be used with	Sterilisation	Description	Connectors	Units per box	Art.-No.
Scissor clamp	4008/5008	---	For clamping tubes		5	2845241
Recirculation connector	4008/5008	Beta	For short-circuit of A/V-set, Luer-Lock female / Luer-Lock female		100	5015971
Adapter Luer-Lock female / Luer-Lock female	4008/5008	ETO	For short circuit of blood tubings (A/V-sets)		100	5014801
Adapter Luer-Lock male / Luer-Lock male	4008/5008	ETO	For short circuit of fistula needles		100	5014771
Spike	4008/5008	Beta	Spike/Luer-Lock female		100	5015921
Prolongation 75 cm	4008/5008	Beta	Luer-Lock male/female		100	7030011
Dialyser exchange set	4008/5008	ETO	Tubing system for exchange of dialyser during treatment, short-circuit AV-set		75	5018001
Mounts						
Universal mount, single	4008	---	Mount for arterial bubble trap for 4008 E/H		1	5000271
Universal mount, double	4008	---	Mount for arterial bubble trap and SN expansion chamber, for 2008 and 4008 B/S		1	5000261
HD Connection-Disconnection Set						
proHD Set S		ETO	Drape, nitrile gloves, non-woven gauzes, adhesive tapes, haemostatic plasters		170	F00000836
proHD Set M		ETO	Drape, nitrile gloves, non-woven gauzes, adhesive tapes, haemostatic plasters		170	F00000837
proHD Set L		ETO	Drape, nitrile gloves, non-woven gauzes, adhesive tapes, haemostatic plasters		170	F00000838
The letters S, M and L in the name of the proHD Sets indicate the glove size. For more detailed information see brochure F00001561						



Fresenius Medical Care

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www.fmc-ag.com

Haemodialysis

Citrosteril

For Heat Disinfection of Haemodialysis Machines
with Recirculation



Fresenius Medical Care

Citrosteril

For Heat Disinfection of Haemodialysis Machines with Recirculation

Citrosteril – for thermochemical disinfection in haemodialysis machines, e.g. haemodialysis system 4008 or therapy system 5008.

- pH value 1.7 to 2.0
- dissolution of blood residues
- excellent removal of CaCO_3
- disinfection and decalcification in one process
- active ingredients composed of natural substances
- biodegradable
- odourless
- free from colouring additives

Action

The synergistic effect of its components makes Citrosteril a potent disinfectant solution.

Citrosteril at 84°C has a broad spectrum of microbicidal activity and works bactericidal, virus inactivating (HBV, HCV, HIV) and fungicidal.



Specifications and order information:

100g Citrosteril contains:

21 g citric acid 1-hydrate; lactic acid, malic acid

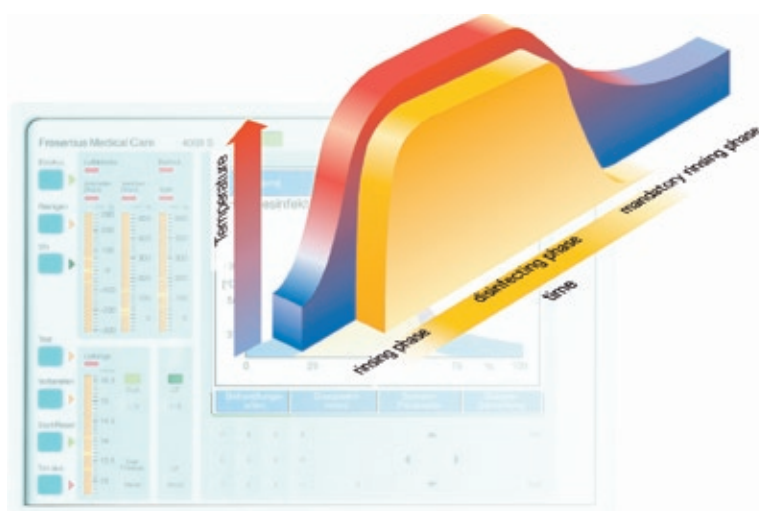
Unit	Language combination	Art. No.
1 × 5L	multilingual	508 533 1
6 × 2L	multilingual	508 536 1

Literature:

Solbach W, Universität zu Lübeck: Verification of the sporicidal efficacy of the product Citrosteril at 85°C in the Fresenius 5008 dialysis machine, 20.12.2002

Labor Dr. Merk&Kollegen, Ochsenhausen: Antiviral efficacy of Citrosteril against bovine Parvovirus, 9.9.2005

Further information is available on request.



Fresenius Medical Care

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www.fmc-ag.com



DIASAFE[®]plus
Fresenius Polysulfone[®] Dialysis Fluid Filter



Fresenius Medical Care

Cardioprotective Haemodialysis

Despite significant improvements in the quality and efficacy of haemodialysis therapy in recent years, cardiovascular disease (CVD) remains the leading cause of death for dialysis patients. Today, almost every other dialysis patient dies from cardiovascular complications.

Fresenius Medical Care is supporting nephrologists world-wide in reducing their patients' risks for cardiovascular morbidity and mortality.

Innovative membranes like Fresenius Polysulfone® and Helixone®, modern monitoring devices like the Blood Volume Monitor, the Blood Temperature Monitor and Online Clearance Monitoring (OCM®), ultra-pure dialysis fluid prepared with DIASAFE®*plus* and modern ONLINE haemodiafiltration systems support the reduction of CVD risk factors.

Moreover, one of our major goals in coming years is the development and implementation of innovative new therapies and products that further improve the cardiovascular prognosis of dialysis patients.



The Dialysis Fluid Filter DIASAFE®*plus*

The quality and purity of the dialysis fluid are of major concern in modern-day renal replacement therapies, as large volumes of dialysis fluid come into contact with the patient's bloodstream during each treatment.

Bacterial endotoxins present in contaminated dialysis fluid may elicit undesirable acute reactions and influence the long-term outcome of patients on chronic haemodialysis.

Although water used for the production of dialysis fluid is treated by a series of purification steps, it still may not meet the stringent requirements on bacterial contamination levels laid down by various regulatory bodies.

By the application of special filters that are highly efficient in retaining bacterial contaminations, the required purity grades of dialysis fluid can be achieved easily.

The DIASAFE®*plus* filter, located at the end of the water treatment chain, ensures the safe production of ultrapure dialysis fluid. This is attributed to the excellent endotoxin-retention capabilities of its Fresenius Polysulfone® fibres.



DIASAFE®*plus* is an integral part of contemporary dialysis machines. Only three handling steps are necessary to install or exchange DIASAFE®*plus* (Fig. 1):

- Open the locks of the filter holder
- Slide DIASAFE®*plus* filter into the guide grooves
- Close the locks – DIASAFE®*plus* is ready to use



Fig. 1: DIASAFE®*plus* can be connected with 3 rapid handling steps only. The DIAFIX™ lock system ensures a safe and hygienic connection.

The use of DIASAFE®*plus* is a key step towards Good Dialysis Practice.

Dialysis Fluid Purity

Dialysis fluids may contain microbial impurities such as endotoxins derived from bacterial fragments. Endotoxins are known to cause acute adverse reactions and promote long-term complications in haemodialysis patients ^(1, 2).

The toxic properties of endotoxins can be ascribed mainly to their lipid A component, which is not exposed by intact bacteria, but released only during growth or lysis of gram-negative bacteria ^(3, 4).

Endotoxin fragments may have molecular weights well below 2000 Da. These fragments are small enough to pass across both, low- and high-flux haemodialysis membranes into the patient's blood-stream (Fig. 2).

With respect to endotoxin permeability, significant differences exist between the various types of dialysis membranes, thereby offering variable degrees of safety during haemodialysis ⁽³⁾.

In order to avoid endotoxin-related complications during routine haemodialysis, the European Best Practice Guidelines for Haemodialysis (EBPG) ⁽⁵⁾ advise the usage of water having a purity level in compliance with the recommendations of the European Pharmacopoeia. However, the usage of ultrapure water for conventional high-flux dialysis is strongly recommended by the EBPG (Table 1).

Ultrapure water or dialysis fluid can easily be achieved through the application of special dialysis fluid filters – such as DIASAFE[®]plus.

	Pure water	Ultrapure water
Microbial contaminations (CFU/mL)	≤ 100	< 0.1
Bacterial endotoxins (IU/mL)	< 0.25	< 0.03

Table 1: The different purity levels of pure and ultrapure water according to the EBPG.

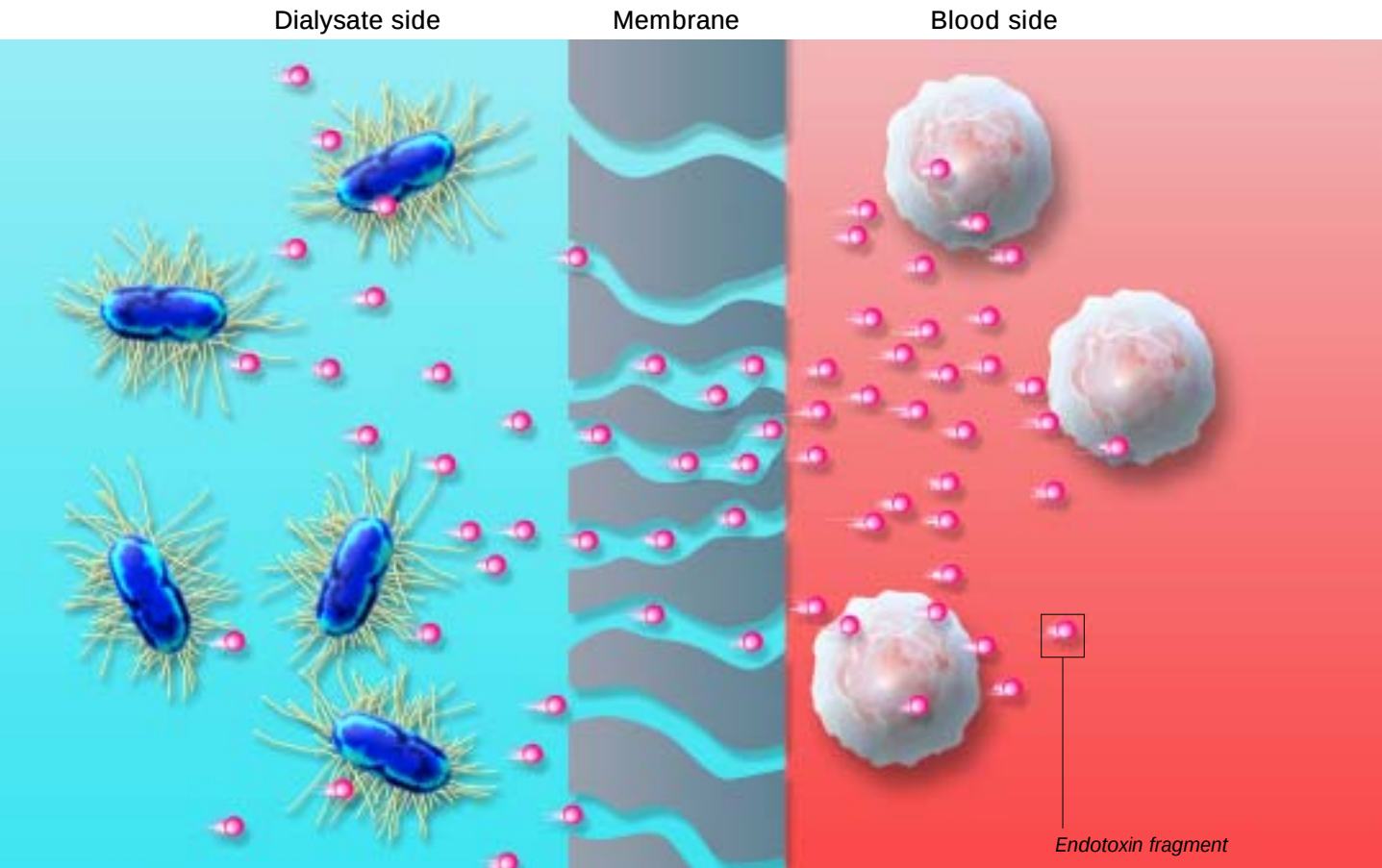


Fig. 2: Fragments of bacterial endotoxins enter the patient's blood-stream and activate leucocytes, thereby leading to acute and chronic complications in haemodialysis patients.

Clinical Advantages of Using Ultrapure Dialysis Fluid

Endotoxins can activate immune-competent cells in a number of ways, thereby contributing to chronic inflammation that is present in all haemodialysis patients ⁽⁶⁾ (Fig. 3). Recent evidence demonstrates that chronic inflammation is a major risk-factor for progressive atherosclerotic cardiovascular disease (CVD) ⁽⁷⁾.

Besides the application of haemodialysis membranes with a high biocompatibility, the usage of ultrapure dialysis fluid, in particular, has been shown to reduce markers of chronic inflammation in haemodialysis patients ⁽⁸⁾. Therefore, it is suggestive that ultrapure dialysis fluid has a beneficial effect on inflammatory diseases such as atherosclerotic CVD ⁽⁹⁾.

Moreover, oxidative stress – a situation, in which the normal balance between production of reactive oxygen species (ROS) and antioxidant activity is tilted in favour of ROS – is increased by several treatment-related stimuli, including bacterial endotoxins derived from the dialysis fluid ^(10, 11).

As oxidative stress is associated with the progression of malnutrition, anaemia and inflammatory diseases such as atherosclerosis, it appears desirable to reduce dialysis-induced oxidative mechanisms, e. g. through the usage of biocompatible membranes and ultrapure dialysis fluid ^(10, 11).

The importance of ultrapure dialysis fluid in routine haemodialysis treatments is emphasized by the finding that endotoxins act in synergy with advanced glycation end-products (AGE), which enhance inflammation and oxidative stress ⁽¹²⁾. Furthermore, the use of ultrapure dialysis fluid has been shown to reduce the plasma levels of the AGE compound pentosidine ⁽¹³⁾.

Finally, ultrapure dialysis fluid has also been shown to improve iron utilization and the response to erythropoietin; thus, ultrapure dialysis fluid could be beneficial for anaemia treatment allowing for a reduction in erythropoietin dosage, while maintaining optimal haemoglobin levels ^(14, 15).

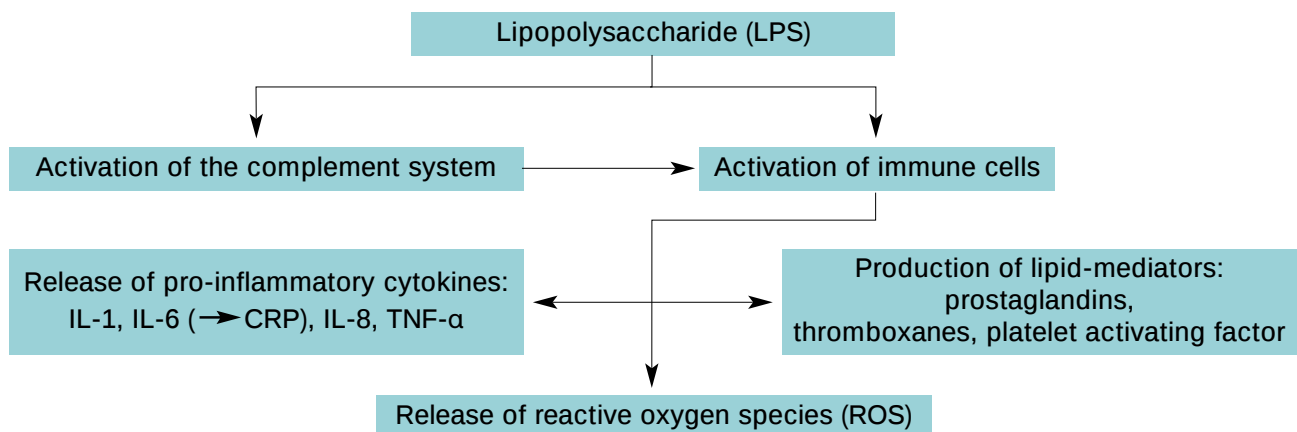


Fig. 3: Endotoxins (LPS) stimulate the release of pro-inflammatory cytokines, reactive oxygen species and lipid-mediators from immune-competent cells.

DIASAFE[®]plus in the ONLINEplus[™] System

Ultrapure dialysis fluid prepared with the DIASAFE[®]plus dialysis fluid filter, together with haemodialysers containing endotoxin-retaining membranes (Fresenius Polysulfone[®] or Helixone[®]) are the main building blocks for a high-quality haemodialysis treatment.

The ONLINEplus[™] system takes the quality standards of convective treatment modalities as haemodiafiltration/haemofiltration (HDF/HF) one step further: using two DIASAFE[®]plus dialysis fluid filters in series, an

extremely high microbiological safety is achieved by double filtration of the substitution fluids used in ONLINE HDF/HF therapies ⁽¹⁶⁾.

Besides improving hygiene and safety of convective therapy modalities, the ONLINEplus[™] option also offers additional treatment features and adds to ease of handling.

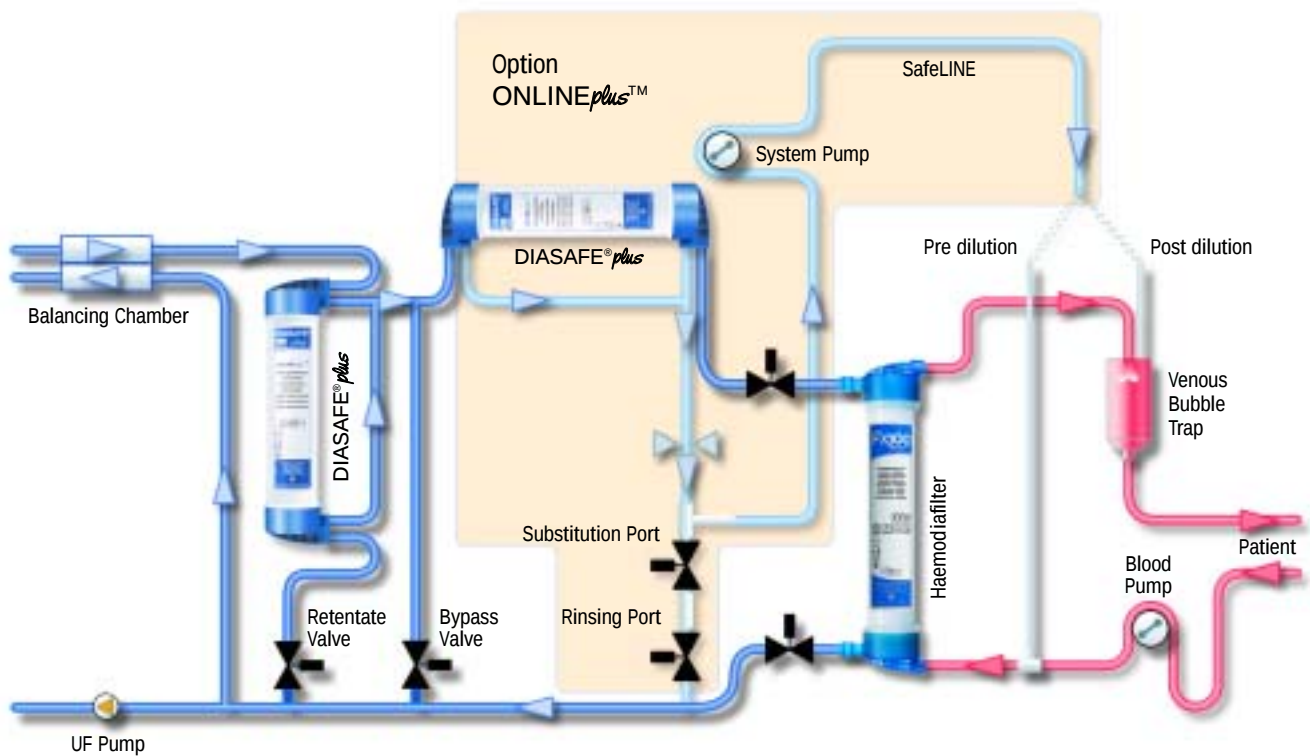


Fig. 4: Schematic flow chart of ONLINE haemodiafiltration with the ONLINEplus[™] system

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12. Reznikov LL et al.: Effect of advanced glycation end products on endotoxin-induced TNF- α , IL-1 and IL-8 in human peripheral blood mononuclear cells. *Clin Nephrol* 61: 324-336, 2004.
13. Izuhara Y et al.: Ultrapure dialysate decreases plasma pentosidine, a marker of carbonyl stress. *Am J Kidney Dis* 43: 1024-1029, 2004.
14. Sitter T et al.: Dialysate related cytokine induction and response to recombinant human erythropoietin in hemodialysis patients. *Nephrol Dial Transplant* 15: 1207-1211, 2000.
15. Hsu PY et al.: Ultrapure dialysate improves iron utilisation and erythropoietin response in chronic haemodialysis patients – a prospective cross-over study. *J Nephrol* 17: 693-700, 2004.
16. Weber C et al.: Novel online infusate-assisted dialysis system performs microbiologically safely. *Artif Organs* 24: 323-328, 2000.

Technical Data

Membrane material	Fresenius Polysulfone®
Effective Surface (m ²)	2.2
Weight (g)	170
Housing material	Polypropylene
Potting material	Polyurethane
Sealings	Silicone
Connection to machine	DIAFIX™ Lock System
Filtration rate	5 mL/min mm HG (3.75 L/min bar; max. 2 bar)
Operating time	Standard HD: max. 12 weeks ONLINE HF/HDF, ONLINE priming/rinsing: max. 12 weeks or 100 treatments
Disinfection	Puristeril® 340 or Puristeril® <i>plus</i> (peracetic acid) Diasteril® (hydroxyacetic acid) or Citrosteril® (citric acid) Sporotal® 100 (sodium hypochlorite) max. 11 times
Article number	500 820 1



Fresenius Medical Care



esco Rock Salt Tablets

High-quality rock salt for regeneration purposes

- ✓ EN 973, Type B
- ✓ High-quality rock salt

Field of application

Water softening via ion exchange is the best way to obtain soft water. esco rock salt tablets provide the ideal application properties for use in water softening systems.

- ◆ High purity
- ◆ even dissolving
- ◆ constant quality control



esco Rock Salt Tablets

High-quality rock salt for regeneration purposes

Product range

Packaging size: 25 kg bag
(40 x 25 kg
per pallet)

Type of packaging: PE bag

GTIN: 25 kg:
4003885170543

We would be happy to provide you
with a sample.

For more information on this and
other products, please do not hesitate
to contact us.

Product quality

The deposits for esco industrial
rock salt are located in the north
of Germany. They naturally fea-
ture a high ratio of pure white
salt crystals.

esco rock salt tablets complies
with the requirements of EN
973, Type B for regeneration
salts in ion exchangers.

Product properties

esco rock salt tablets is a mined
product that was formed around
200 million years ago in the
Zechstein sea. The high sodium
chloride content of 99 % and the
pure white color make esco rock
salt tablets a first-class quality
product.

The special shape of esco rock
salt tablets ensures maximum
solubility and dissolving speed.

Certification

esco production facilities hold
valid certification to EN ISO
9001.

Service

We offer our customers first
class service, guaranteed con-
sistently high product quality
and a reliable international de-
livery.

Company

esco – european salt company
is the leading salt producer in
Europe and exports significant
quantities overseas. Water sof-
tening products are constantly
being developed and exceed le-
gal requirements. This is made
possible by the company's ex-
tensive experience in the water
softening products market.

Puristeril® 340

Cold Disinfectant for Haemodialysis Machines



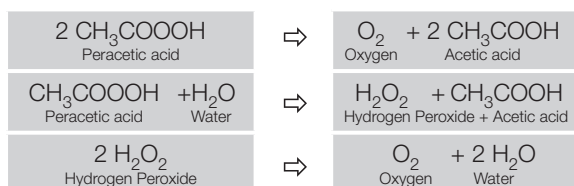
Fresenius Medical Care

Puristeril® 340

Disinfecting Agent for Haemodialysis Machines Based on Peracetic Acid

Superior efficacy

- Puristeril® 340 shows the superior efficacy of a peracetic acid-based disinfectant.
- Peracetic acid is widely used for disinfection due to its exceptionally broad spectrum of microbiocidal activity at low concentrations and short exposure times.
- Puristeril® 340 decomposes in a non-toxic way. The following degradation reactions take place:



- After use Puristeril® 340 is easily removable by rinsing with water.
- Due to the low pH value, the necessary decalcification of haemodialysis machines is easily achieved.
- Puristeril® 340 is designed for cold disinfection. In principle it can be used for all haemodialysis systems like haemodialysis machines, water treatment devices and circuit pipes.

Specification

Puristeril® 340 contains peracetic acid and hydrogen peroxide.

Disinfection

Puristeril® 340 is bactericidal, fungicidal, sporicidal, virucidal (incl. HBV/HCV/HIV).

Use Puristeril® 340 in accordance with the instructions provided by the manufacturer of the machine. Puristeril® 340 can be used in all Fresenius Medical Care 2008, 4008 and 5008 haemodialysis machines as well as the GENIUS® system.

For disinfection of water treatment systems, proceed according to the manufacturer's instruction.



Testing for residual disinfectant

For safety reasons, a test to show the absence of residual disinfectant residues must be performed after the completion of the disinfection procedure. The absence of Puristeril® 340 is detectable by potassium iodide starch paper (art.no. 508 521 3).

Stability and storage

Properly stored, the disinfectant remains fully effective for 18 months after production. Keep container sealed at all times and store in an upright position. If possible, store in well-aired rooms at 5 to 25°C. Do not expose to direct sunlight.

Order information

Article	Quantity	Art. No.
Puristeril® 340	1 × 5 kg	508 562 1 (multilingual)
Puristeril® 340	1 × 10 kg	508 563 1 (multilingual)
Puristeril® 340 GENIUS®	1 × 3 kg	508 567 1 (multilingual)

Evaluations are available on request.



Fresenius Medical Care

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Head office: Elise-Kröner-Straße 1 · 61352 Bad Homburg v. d. H.

www.fmc-ag.com

proVencare **Catheter Sets**





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Single Lumen

- Premium quality, reliable vascular access
- Straight or curved single connecting tube
- Advanced versions with integrated fork transition piece for less recirculation available



Paediatric Double Lumen

- Small sizes for paediatric care
- Developed with the high standards of proVencare Double Lumen Catheters
- Committed to the special needs of your little patients



Double Lumen

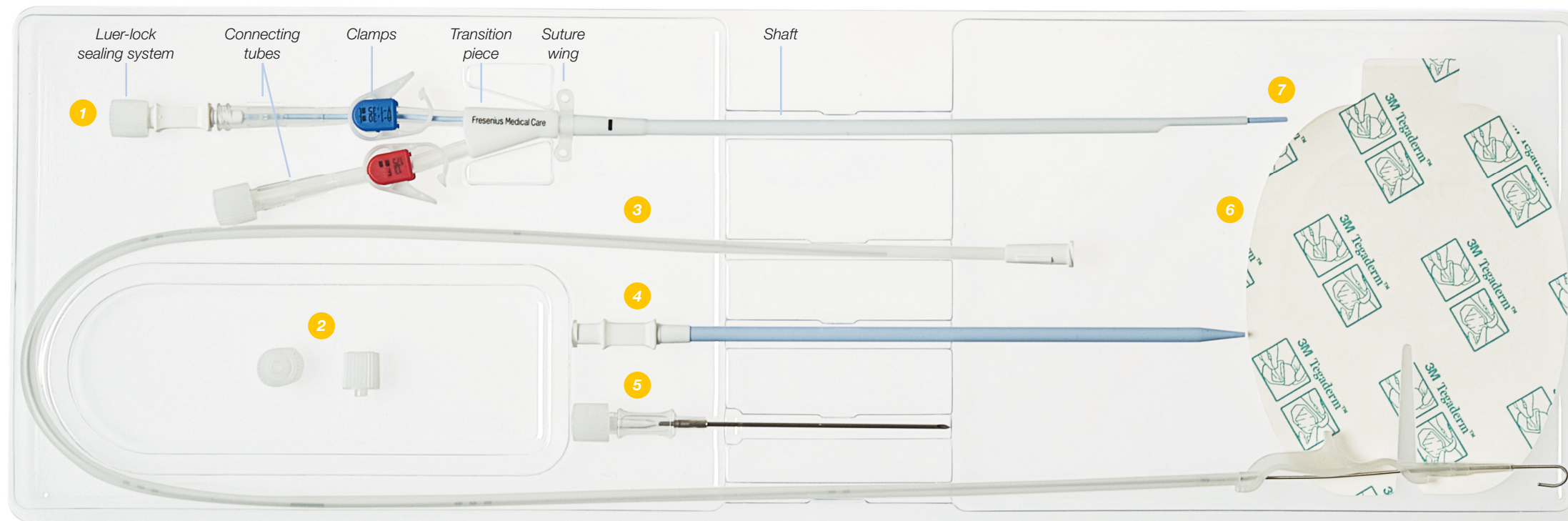
- Developed for continuous access and return blood flows
- Materials and geometry optimised for your patients' comfort
- Excellent fit with Fresenius Medical Care blood purification therapies



High Flow Double Lumen

- Designed for high blood flows
- Optimised for multiFiltrate therapies
- Enables higher efficacy with continuous renal replacement therapies





proVencare Catheter Sets

Each proVencare Catheter set is sterilised and contains:

- 1 1 proVencare Catheter with 2 luer-lock caps
- 2 2 replacement luer-lock caps
- 3 1 insertion aid including J-tipped safety guidewire
- 4 1 dilator
- 5 1 Seldinger needle
- 6 1 wound dressing

Additional component of the proVencare High Flow Double Lumen Catheter Set:

- 7 1 mandrin, inserted in the return lumen

proVencare premium quality

All proVencare Catheters are specially designed and manufactured for smooth and steady blood transport. Injection moulding is used to manufacture the transition piece of proVencare Catheters, which results in smooth transitions between the catheter shaft and tubes. Curvings with the lowest possible resistance allow the purified blood to flow back into the vein freely.



Cross-section through the transition piece of a proVencare Double Lumen Catheter: The smooth transitions and deep-seated anchoring of the connecting tubes are visible.

Select materials and component design

The **shaft** of all proVencare Catheters is made of thermosensitive polyurethane, which is rigid during insertion, but becomes soft and flexible at body temperature to increase your patients' comfort. Lateral and terminal openings are devised to reduce recirculation and carefully trimmed to avoid blood cell and vessel wall damage.

The **transition piece** of all proVencare Double Lumen Catheters is conically shaped to smoothly close the insertion site and to maintain a stable catheter position. It is labelled with an insertion marker for precise positioning in the patient's vein.

The **connecting tubes** are flexible and resistant to kinks, so that continuous blood flows are maintained even after repeated closing and opening of clamps. The tubes are securely attached within the transition piece for deep-seated and firm anchoring.

All **clamps** are fitted with a security insert for fast and reliable closure. They are colour-coded to distinguish access and return lumen and indicate all relevant catheter parameters: volume, length and diameter.

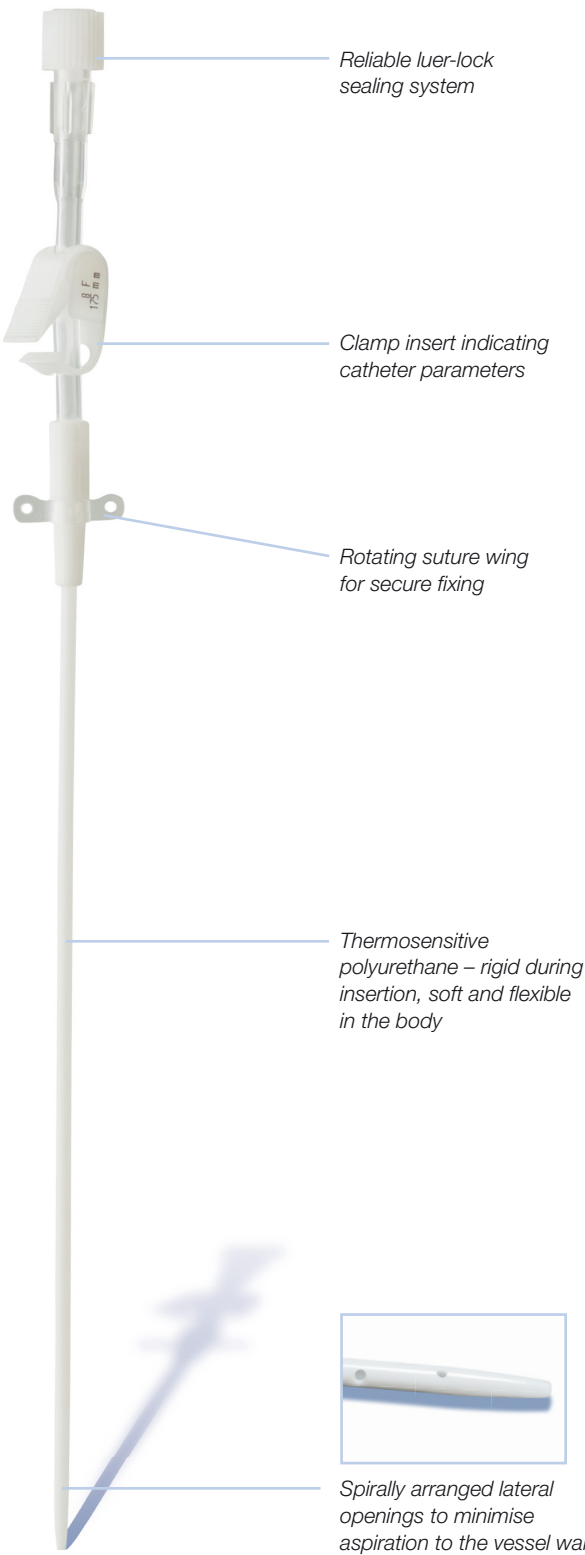
The transparent **rotating suture wing** has a small contact area to reduce the risk of skin irritation and infection. Any symptoms can be detected early.

Reliable luer-lock sealing system: The caps have a tapered and hollow inner cone, so that the lock is completely sealed without damage to the female luer-lock connector. The caps and connectors consist of different types of plastic, the latter being harder and more resistant to strong tightening forces. These features result in excellent sealing properties.



- **Materials, geometry and components aligned for excellent performance**
- **Optimised for continuous acute dialysis treatments**
- **proVencare Catheter Sets: premium quality in every aspect**

proVencare Single Lumen Catheter Sets



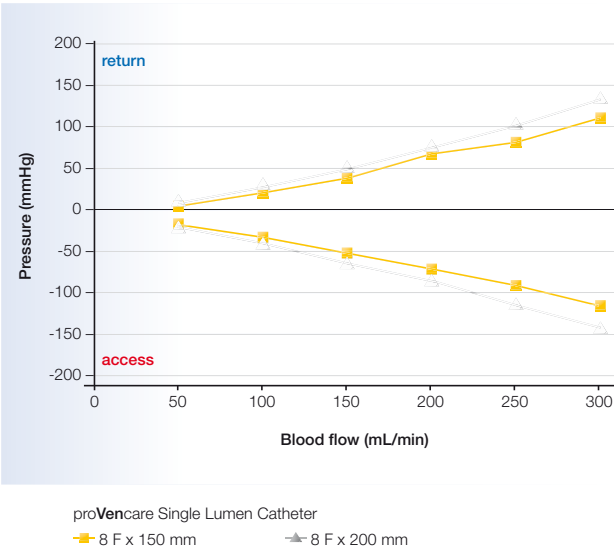
Premium quality, reliable vascular access

proVencare Single Lumen Catheters are specially designed and manufactured for blood transport, i. e. to avoid blood cell and vessel wall damage.

Spirally arranged lateral openings

In addition to the terminal opening, the proVencare Single Lumen Catheter has spirally arranged lateral openings along the catheter shaft to minimise aspiration to the vessel wall during blood intake.

Blood flows and pressure drops



Access and return blood flows of proVencare Single Lumen Catheters at different pressure levels (in vitro investigation).

Integrated fork transition piece

The proVencare Single Lumen Catheter version with integrated fork transition piece enables single needle HD – a second catheter is not necessary. Compared to an external Y-adaptor dead volume, recirculation and number of connectors are reduced.

Applications

The proVencare Single Lumen Catheters are available with and without integrated fork transition piece. Versions without integrated fork transition piece can be ordered with a straight or curved connecting tube.

Single Lumen Catheter Sets – straight (1 connector)			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FSC-817,5	8	175	F00002303
FSC-825	8	250	F00002305

Single Lumen Catheter Sets – curved (1 connector)			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FSC-812,5J	8	125	F00002306
FSC-815J	8	150	F00002307
FSC-820J	8	200	F00002308

Single Lumen Sets - straight With integrated fork transition piece and 2 connectors			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FSC-815Y	8	150	F00002302
FSC-820Y	8	200	F00002304



- Premium quality, reliable vascular access
- Straight or curved single connecting tube
- Advanced versions with integrated fork transition piece for less recirculation available

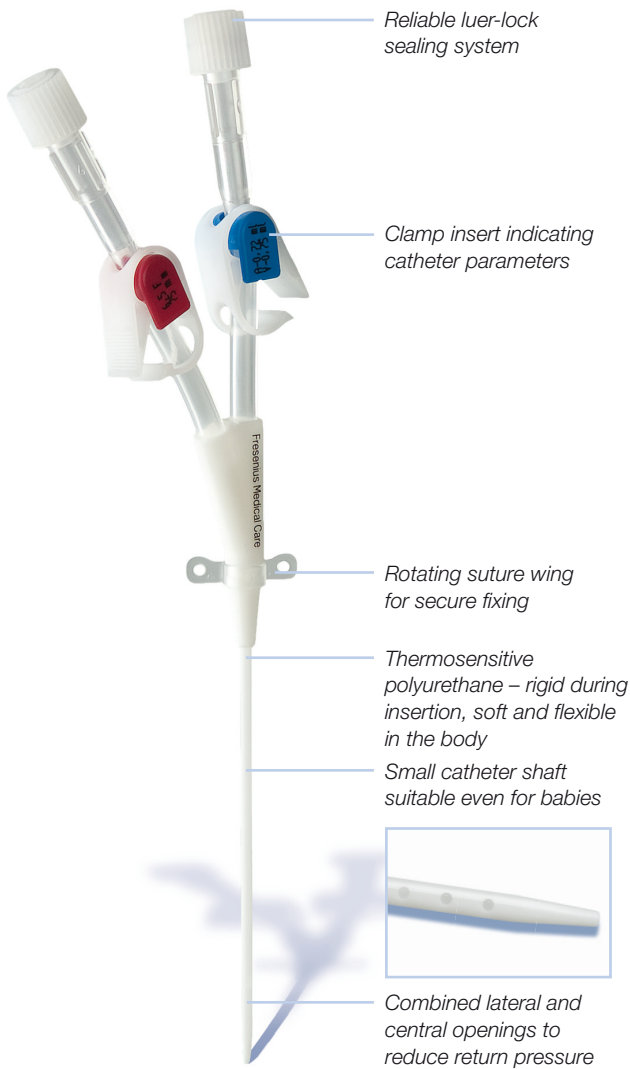
proVencare Paediatric Double Lumen Catheter Sets

Small sizes

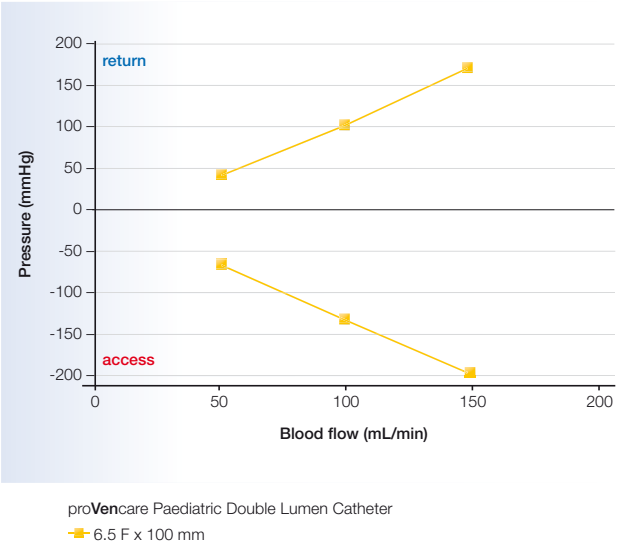
proVencare Paediatric Double Lumen Catheter shaft sizes (diameter and length) are adapted for small children and even suitable for babies.

Functional geometry

proVencare Paediatric Double Lumen Catheters have the same functional geometry as proVencare Double Lumen Catheters. The transition piece is conically shaped to smoothly close the insertion site and to maintain a stable position. The access lumen has lateral openings while the return lumen has combined lateral and central openings to reduce the return pressure.



Blood flows and pressure drops



Access and return blood flows of a proVencare Paediatric Double Lumen Catheter at different pressure levels (in vitro investigation).

High standards

proVencare Paediatric Double Lumen Catheters are designed and manufactured with the same high standards and premium materials as proVencare Double Lumen Catheters.

Applications

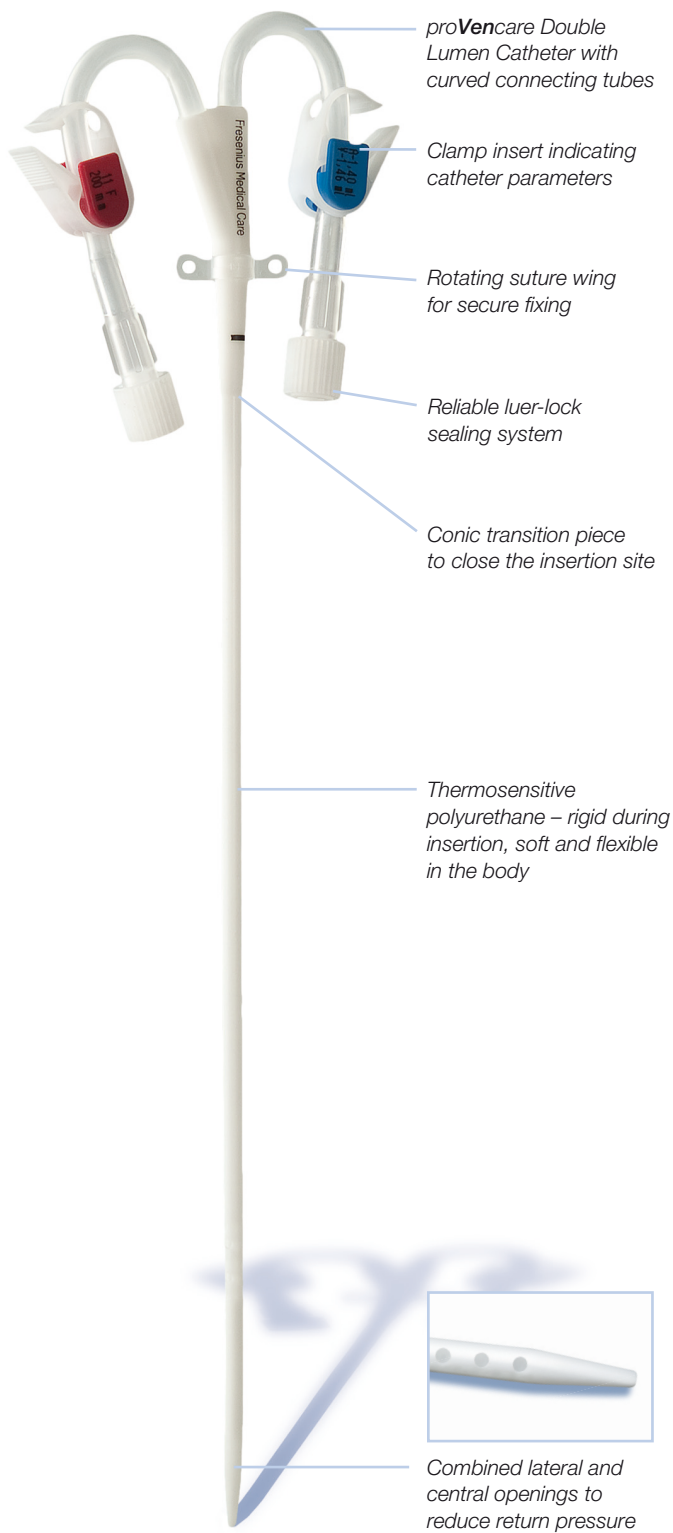
proVencare Paediatric Double Lumen Catheters are available with 6.5 and 8 French outer diameters. Insertion lengths range from 75 to 150 mm. Premium quality and adapted design ensure that your little patients receive the care they need.

Paediatric Double Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FDC-607,5P	6.5	75	F00002309
FDC-610P	6.5	100	F00002310
FDC-612,5P	6.5	125	F00002311
FDC-810P	8	100	F00002312
FDC-812,5P	8	125	F00002313
FDC-815P	8	150	F00002314



- Small sizes for paediatric care
- Developed with the high standards of proVencare Double Lumen Catheters
- Committed to the special needs of your little patients

proVencare Double Lumen Catheter Sets



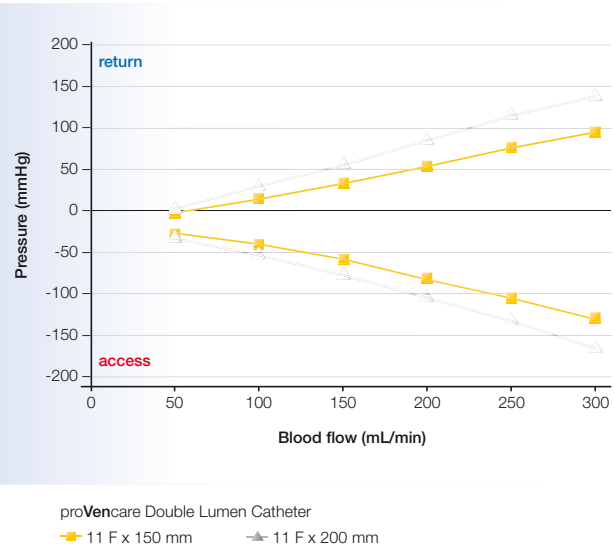
Premium materials

The catheter shaft of proVencare Double Lumen Catheters is made of thermosensitive polyurethane, which is rigid during insertion, but becomes soft and flexible at body temperature to increase your patients' comfort. The connecting tubes are flexible and resistant to kinks, so that continuous blood flows are maintained even after repeated closing and opening of clamps.

Functional geometry

The transition piece is conically shaped to smoothly close the insertion site and to maintain a stable position. The access lumen has lateral openings while the return lumen has combined lateral and central openings to reduce the return pressure.

Blood flows and pressure drops



Access and return blood flows of proVencare Double Lumen Catheters at different pressure levels (in vitro investigation).

Applications

The proVencare Double Lumen Catheters are available with straight connecting tubes (11 or 12 French diameter) or curved connecting tubes (11 French diameter). These are designed to enhance your patients' comfort while awake.

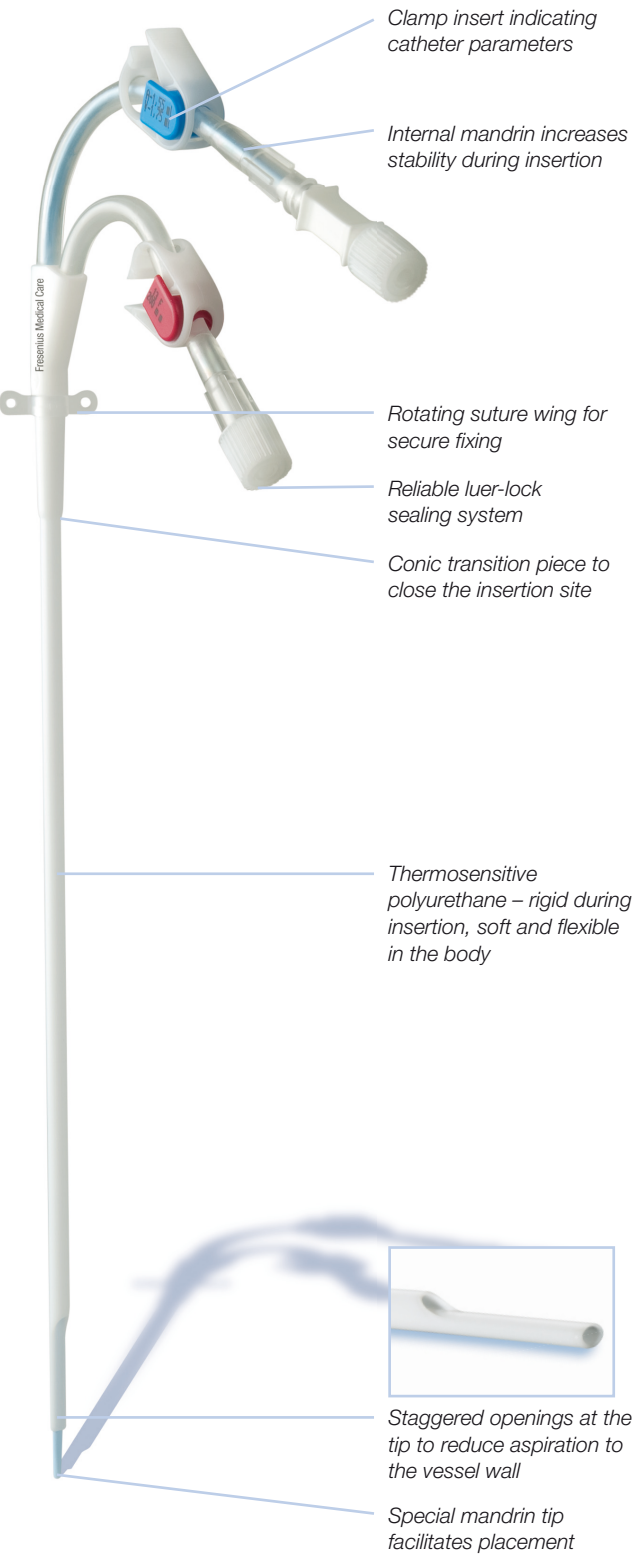
Double Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FDC-1115	11	150	F00002315
FDC-1117,5	11	175	F00002316
FDC-1120	11	200	F00002317
FDC-1125	11	250	F00002318
FDC-1215	12	150	F00002319
FDC-1220	12	200	F00002320

Double Lumen Catheter Sets – curved			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FDC-1112,5J	11	125	F00002321
FDC-1115J	11	150	F00002322
FDC-1117,5J	11	175	F00002323
FDC-1120J	11	200	F00002324



- Developed for continuous access and return blood flows
- Materials and geometry optimised for your patients' comfort
- Excellent fit with Fresenius Medical Care therapies

proVencare High Flow Double Lumen Catheter Sets



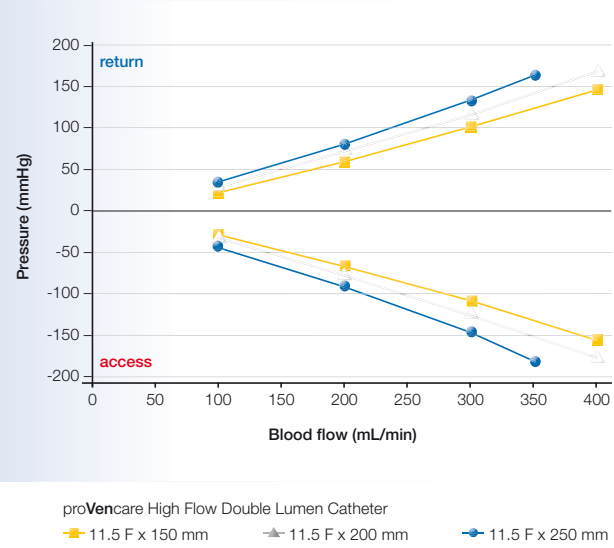
Kidney-shaped lumen

The kidney-shaped access lumen is larger than the oval return lumen. It is designed for optimal blood flow and contributes to equal pressure levels. With these premium features the proVencare High Flow Double Lumen Catheter achieves excellent blood flows at low access and return pressures.

Staggered openings

The staggered openings at the tip of the catheter reduce flow resistance, thus increasing blood flow. This tip design minimises aspiration to the vessel wall and thus leads to less treatment interruptions. Another benefit of the tip design is the good retention of lock solution.

Blood flows and pressure drops



Access and return blood flows of proVencare High Flow Double Lumen Catheters at different pressure levels (in vitro investigation).

Applications

proVencare High Flow Double Lumen Catheters are available with straight or curved connecting tubes. 13 French or 11.5 French outer diameters can be ordered. The latter is particularly suitable for citrate anticoagulation therapies with the multiFiltrate.

High Flow Double Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FHC-1115	11.5	150	F00002330
FHC-1120	11.5	200	F00002331
FHC-1125	11.5	250	F00002332
FHC-1315	13	150	F00002335
FHC-1317,5	13	175	F00002336
FHC-1320	13	200	F00002337
FHC-1325	13	250	F00002338

High Flow Double Lumen Catheter Sets – curved			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FHC-1115J	11.5	150	F00002333
FHC-1120J	11.5	200	F00002334
FHC-1315J	13	150	F00002339
FHC-1320J	13	200	F00002340



- Designed for high blood flows
- Optimised for multiFiltrate therapies
- Enables higher efficacy with continuous renal replacement therapies



Manufactured exclusively in Germany

All proVencare Catheters and their components are manufactured exclusively in Germany by specialised and highly skilled personnel. proVencare Catheter Sets are premium products of German quality craftsmanship you can trust.



Highest standard production process

proVencare Catheter Sets are manufactured in a production process that meets the highest standards. The clean room environment is one important aspect of the production process and provides stable conditions for the most reliable quality.



Premium quality

proVencare Catheter Sets are handcrafted premium products. They are manually assembled in a highly complex process comprising over 20 production steps. Polishing and refinement steps serve to further improve functionality and safety. Controls are performed after each step to ensure the high level of consistent quality.



Excellent service

All proVencare production sites are located in Germany and production volumes can be altered on short notice to fill your orders. Highly efficient storage facilities and company-owned transport services precisely regulate the flow of goods for fast and efficient delivery. Optimised package design enables space-saving shelf storage even under limited conditions. All packages have front facing labels, so that there is no need for tedious un- or repacking.

Key reader
Example: FDC-1115J = Fresenius Double Lumen Catheter 11 French 15 cm, curved
FSC = Single Lumen Catheter J = curved
FDC = Double Lumen Catheter P = paediatric
FHC = High Flow Catheter Y = integrated Y-adaptor



proVencare Single Lumen Catheter Sets

Single Lumen Catheter Sets with integrated fork transition piece – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FSC-815Y	8	150	F00002302
FSC-820Y	8	200	F00002304
Single Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FSC-817,5	8	175	F00002303
FSC-825	8	250	F00002305
Single Lumen Catheter Sets – curved			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FSC-812,5J	8	125	F00002306
FSC-815J	8	150	F00002307
FSC-820J	8	200	F00002308

Outstanding support

Our dedicated education department offers comprehensive training on all Fresenius Medical Care product categories, held at your facility by competent trainers with practical experience. Our local representatives are at your disposal for any questions or concerns you may have.

Time and cost efficiency

proVencare Catheter Sets are premium quality products optimised for blood transport. They are not prone to cause interruptions of the extracorporeal circuit and therefore minimise the need for costly and time-consuming exchanges.



proVencare Paediatric Double Lumen Catheter Sets

Paediatric Double Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FDC-607,5P	6.5	75	F00002309
FDC-610P	6.5	100	F00002310
FDC-612,5P	6.5	125	F00002311
FDC-810P	8	100	F00002312
FDC-812,5P	8	125	F00002313
FDC-815P	8	150	F00002314

proVencare Catheter accessories

All components of the proVencare Catheter Sets can be ordered separately.

Type	Product	Size	Art. No.	Min. order quantity
PN-177	Seldinger needle	17 G x 70 mm	F00002351	50 pieces
PN-187	Seldinger needle	18 G x 70 mm	F00002352	50 pieces
G-3250J	J-tipped guidewire	0.032" x 500 mm	F00002353	15 pieces
G-3570J	J-tipped guidewire	0.035" x 700 mm	F00002354	15 pieces
G-3870J	J-tipped guidewire	0.038" x 700 mm	F00002355	15 pieces
Cap	Cap	Standard	F00002357	100 pieces
D-815	Dilator	8 F x 150 mm	F00002358	15 pieces
D-1015	Dilator	10 F x 150 mm	F00002359	15 pieces
D-1115	Dilator	11 F x 150 mm	F00002360	15 pieces



proVencare Double Lumen Catheter Sets

Double Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FDC-1115	11	150	F00002315
FDC-1117,5	11	175	F00002316
FDC-1120	11	200	F00002317
FDC-1125	11	250	F00002318
FDC-1215	12	150	F00002319
FDC-1220	12	200	F00002320
Double Lumen Catheter Sets – curved			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FDC-1112,5J	11	125	F00002321
FDC-1115J	11	150	F00002322
FDC-1117,5J	11	175	F00002323
FDC-1120J	11	200	F00002324



proVencare High Flow Double Lumen Catheter Sets

High Flow Double Lumen Catheter Sets – straight			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FHC-1115	11.5	150	F00002330
FHC-1120	11.5	200	F00002331
FHC-1125	11.5	250	F00002332
FHC-1315	13	150	F00002335
FHC-1317,5	13	175	F00002336
FHC-1320	13	200	F00002337
FHC-1325	13	250	F00002338
High Flow Double Lumen Catheter Sets – curved			
Type	Diameter (French)	Insertion length (mm)	Art. No.
FHC-1115J	11.5	150	F00002333
FHC-1120J	11.5	200	F00002334
FHC-1315J	13	150	F00002339
FHC-1320J	13	200	F00002340



Fresenius Medical Care

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Devices



Filters



Kits



Fluids



Blood-gas exchanger



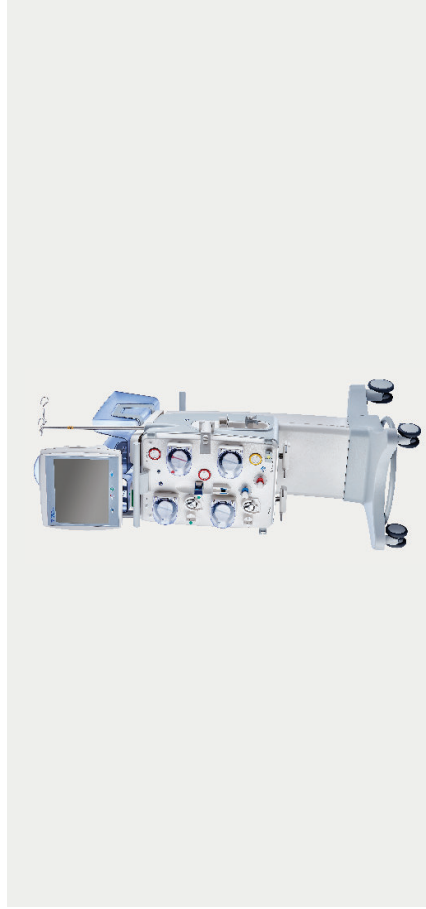
Adsorber



Accessories

Acute Blood Purification – Product Range (excl. pharmaceutical products)

Devices



multi**Filtrate**PRO



multi**Filtrate***

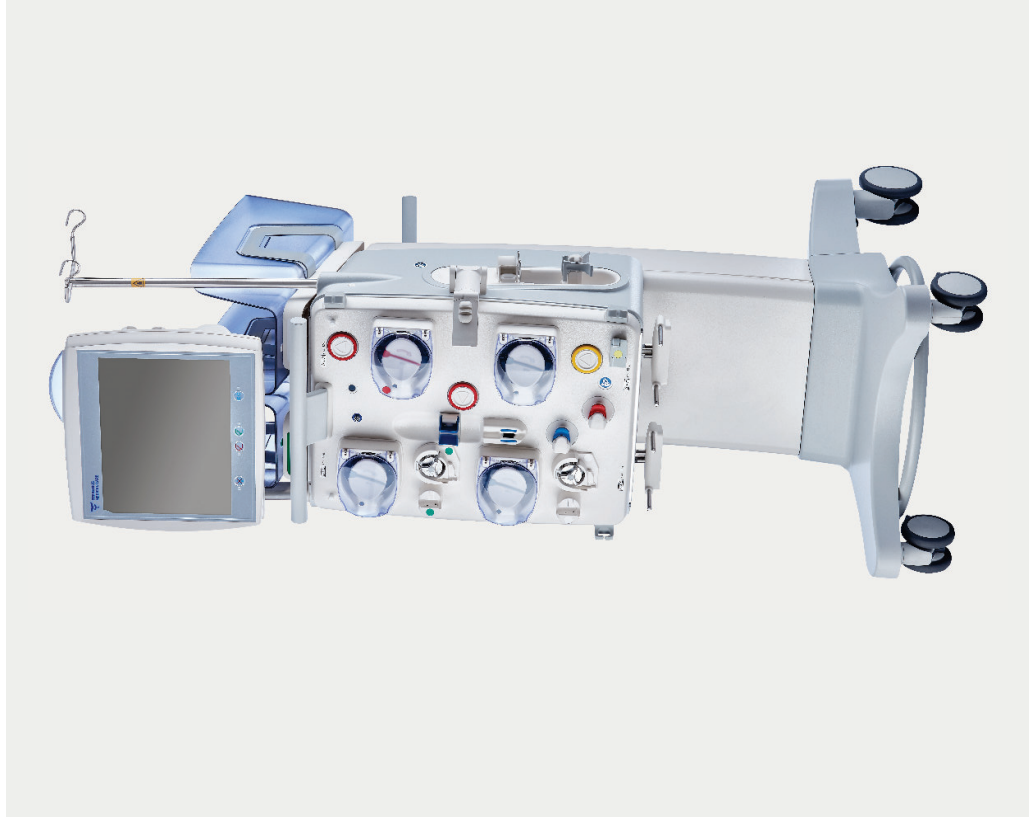
*multi**Filtrate** is in phase-out. Spare parts for the machine remain available in accordance with local service agreements

multiFiltratePRO Device

The multiFiltratePRO offers a wide range of therapeutic applications mostly in intensive care:

- Continuous Renal Replacement Therapy (CRRT) for patients with Acute Kidney Injury (AKI)
- Ci-Ca therapy option for Regional Citrate Anticoagulation (RCA)
- Therapeutic Plasma Exchange (TPE)
- Combination with adsorbers from other manufacturers to remove harmful substances from the blood
- Low-flow extracorporeal CO₂ removal with multiECCO2R in addition to CRRT

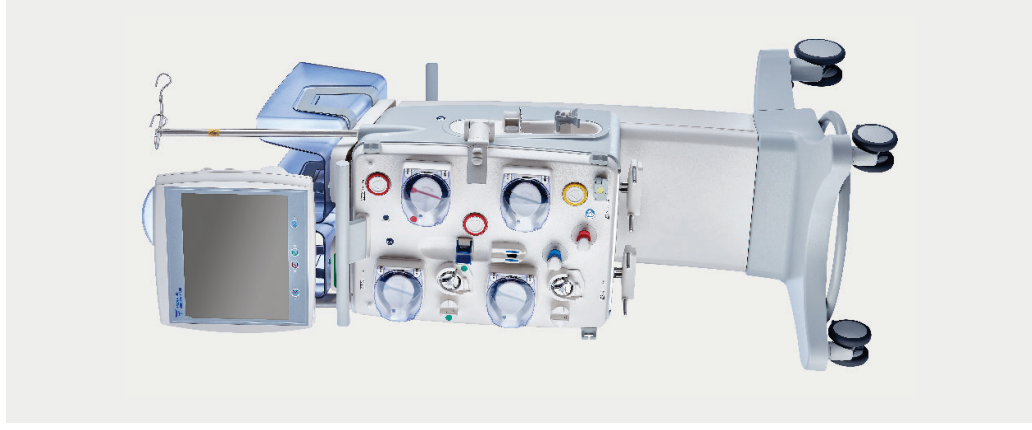
Name	Description	Article number
multiFiltratePRO	Standard version with heparin pump 30/50 ml, Ci-Ca module, two integrated fluid warmers, and PDMS connectivity functionality	M205001



multiFiltratePRO Additional equipment

Additional equipment includes machine accessories that have a specific purpose in connection with the multiFiltratePRO and enable functional or technical add-ons.

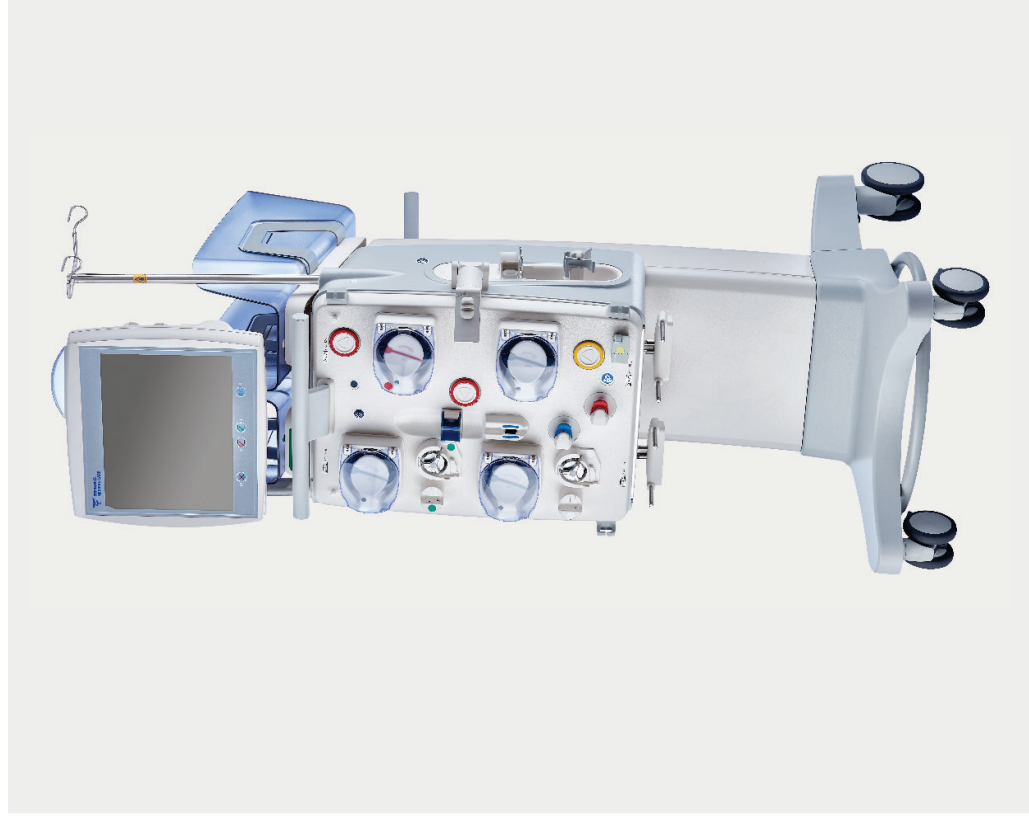
Name	Description	Article number
multiFiltratePRO adsorber holder	Mobile holder to add an adsorber	F00007585
multiECCO2R holder	Mobile holder to add the multiECCO2R gas exchanger	F00014754
Plasma bag holder multiFiltratePRO	Mobile holder to add plasma bags (FFP) or bottles	F40003201
Power cord with safety plug 7 m multiFiltratePRO	Power cord with safety plug CEE 7/7, Length: 7 meters	F40013913
Potential equalization cable 4 mm ² 7.5 m long multiFiltratePRO	Potential equalization cable 4 mm ² , Length: 7.5 meters	F40013914
LAN connection cable 3 m, CAT5	Ethernet cable with shielding CAT5 or better, Length: 3 meters	M280741
Nurse call cable with ferrite 3 m long multiFiltratePRO	Nurse call cable with ferrite, Length: 3 meters	M305101
multiFiltratePRO HL7-connector	Retrofit kit of a built-in gateway to support HL7 v2.6	On request



multiFiltratePRO Options

Specific options are available to enhance the application or technical functionality of multiFiltratePRO and to enable accounting for services.

Name	Description	Article number
multiFiltratePRO Network PEP	Option to activate network connectivity	F00007419
multiFiltratePRO Ci-Ca HD	Option to activate Ci-Ca CVVHD mode	F00007420
multiFiltratePRO Ci-Ca HDF	Option to activate Ci-Ca postCVVHDF mode	F00007421
multiFiltratePRO TPE	Option to activate TPE mode	F00008966



multiFiltrate Device

The multi**Filtrate** is designed to perform extracorporeal blood purification in the area of intensive care medicine. The fields of application include CRRT, MPS, HP, SCUF, ECCO₂R, and adsorber therapies.

multi**Filtrate** is in phase-out. Spare parts for the machine remain available in accordance with local service agreements.

Name	Description	Article number
multi Filtrate with integrated Ci-Ca module	Ci-Ca version with premounted Ci-Ca module for citrate anticoagulation, two IV poles, heparin pump, and two integrated fluid warmers	M201271
multi Filtrate	Basis version with heparin pump, IV pole and two integrated fluid warmers	M200701



multiFiltrate Additional equipment

Additional equipment includes machine accessories that have a specific purpose in connection with the multiFiltrate and enable functional or technical add-ons.

Name	Description	Article number
Dialyzer holder multiFiltrate	Mobile holder to add an adsorber or hemofilter	6777921
multiECCO2R holder	Mobile holder to add the multiECCO2R gas exchanger	F00007775
Plasma pole for SUB scales tray	Mobile holder to add plasma bags (FFP) or bottles	M280041
Power cord 5 m with safety plug multiFiltrate	Power cord with safety plug CEE 7/7, Length: 5 meters	F40014760
Potential equalization cable 4 mm ² 4 m long	Potential equalization cable 4 mm ² , Length: 4 meters	M383731
Nurse call cable 3 m long multiFiltrate	Nurse call cable with ferrite, Length: 3 meters	M017721
LAN connection cable 3 m, CAT5 multiFiltrate	Ethernet cable with shielding CAT5 or better, Length: 3 meters	M280741



multiFiltrate Options

Specific options are available to enhance the application or technical functionality of multi**Filtrate** and to enable accounting for services.

Name	Description	Article number
multiFiltrate Ci-Ca postCVVHDF	Option to activate Ci-Ca postCVVHDF mode	M283551



Filters



Ultraflux AV



Ultraflux EMiC 2



plasmaFlux

Ultraflux AV Filters

Ultraflux capillary hemofilter for CRRT

Ultraflux filters are designed for diffusive and convective removal of uremic toxins and for ultrafiltration in CRRT. Depending on the patient's condition, different surface areas are available, and several treatment modes can be applicable.

The filter can also be purchased in pre-packed kits combining products required for a single treatment.



Name	Surface area	Filling volume	Units per box	Article number
Ultraflux AV 1000 S	1.8 m ²	130 ml	12	5008981
Ultraflux AV 600 S	1.4 m ²	100 ml	12	5007361
Ultraflux AV 400 S	0.7 m ²	52 ml	12	5007341
Ultraflux AV paed	0.2 m ²	18 ml	20	5008231

Ultraflux EMiC 2 Filter

EMiC 2 hemofilter for middle molecule removal

EMiC 2 is a large-pore sized hemofilter used in CVVHD (continuous veno-venous hemodialysis) and SLEDD (sustained low-efficiency daily dialysis). The filter is available in pre-packed kits for CRRT. These kits are designed for the ICU environment, combining products required for a single treatment.



plasmaFlux Filters

plasmaFlux filter for Therapeutic Plasma Exchange

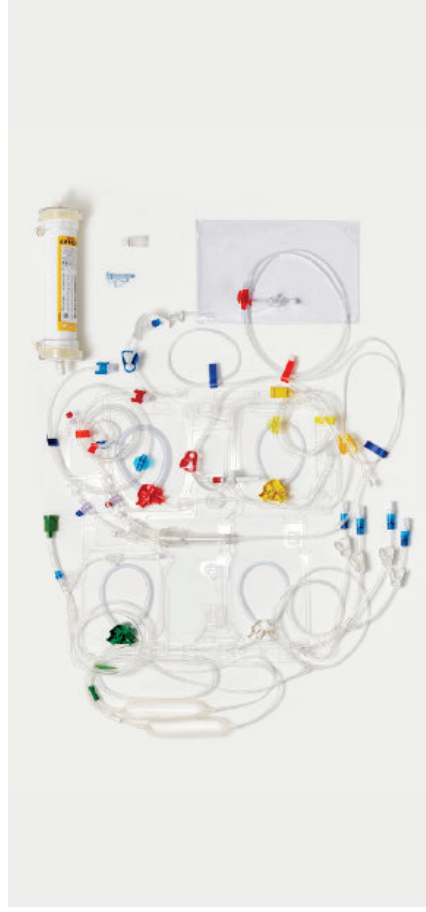
plasmaFlux is used for plasma filtration, i.e., separating plasma from whole blood.

Therapeutic Plasma Exchange can be applied to exchange plasma with the intention to remove harmful substances. Depending on the disease, this may be complemented by drug therapy.

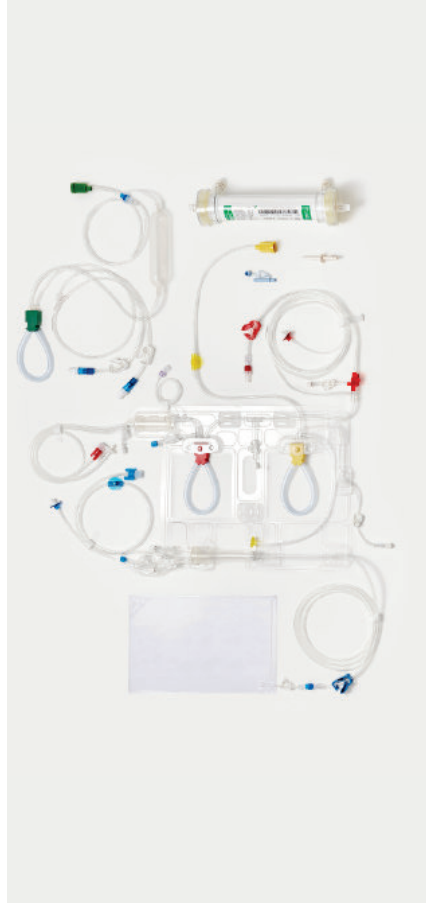


Name	Surface area	Filling volume	Units per box	Article number
plasmaFlux P2 dry	0.6 m ²	67 ml	10	5008031
plasmaFlux P1 dry	0.3 m ²	35 ml	10	5008021

Kits



multiFiltratePRO treatment kits



multiFiltrate treatment kits

multiFiltratePRO treatment kits Ci-Ca

These treatment kits contain tubing systems and filters for the respective treatment with regional citrate anticoagulation.

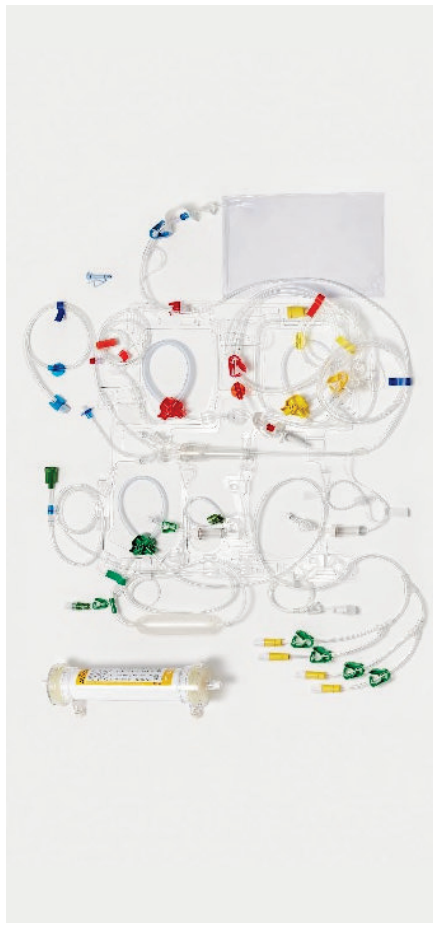


Name	Filter	Tubing system	Total blood filling volume	Article number
multiFiltratePRO-Kit Ci-Ca HD EMiC2	Ultraflux EMiC 2 (1.8 m ²)	multiFiltratePRO Ci-Ca HD	264 ml	F00000462
multiFiltratePRO-Kit Ci-Ca HD 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltratePRO Ci-Ca HD	264 ml	F00000463
multiFiltratePRO-Kit Ci-Ca HD 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltratePRO Ci-Ca HDF	264 ml	F00005329

Name	Description	Article number
Adapter Calcium SecuNect/LL	Adapter to connect a Calcium SecuNect 100 mmol/l solution bag to the relevant Luer lock connector for multiFiltratePRO treatment kits Ci-Ca	F00008114
Adapter Citrate SecuNect/HF	Adapter to connect a Citrate SecuNect 136 mmol/l solution bag to the SafeLock connector for multiFiltratePRO treatment kits Ci-Ca	F00008113

multiFiltratePRO treatment kits Ci-Ca with SecuNect

These treatment kits contain tubing systems with SecuNect connectors and filters for the respective treatment with regional citrate anticoagulation.



Name	Filter	Tubing system	Total blood filling volume	Article number
multiFiltratePRO SecuKit Ci-Ca HD EMiC2	Ultraflux EMiC 2 (1.8 m ²)	multiFiltratePRO SecuCas Ci-Ca HD	264 ml	F00008265
multiFiltratePRO SecuKit Ci-Ca HD 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltratePRO SecuCas Ci-Ca HD	264 ml	F00008264
multiFiltratePRO SecuKit Ci-Ca HDF 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltratePRO SecuCas Ci-Ca HDF	264 ml	F00008266

multiFiltratePRO treatment kits TPE

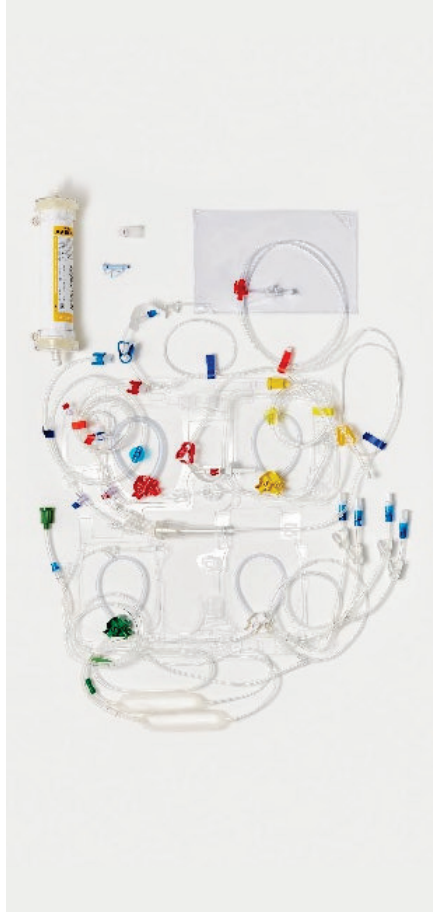
These treatment kits contain tubing systems and filters for Therapeutic Plasma Exchange (TPE).



Name	Filter	Tubing system	Total blood filling volume	Article number
multiFiltratePRO-Kit TPE P2dry	plasmaFlux P2 dry (0.6 m ²)	multiFiltratePRO TPE	183 ml	F00006443
multiFiltratePRO-Kit TPE P1dry	plasmaFlux P1 dry (0.3 m ²)	multiFiltratePRO TPE	151 ml	F00006441

multiFiltratePRO treatment kits Heparin

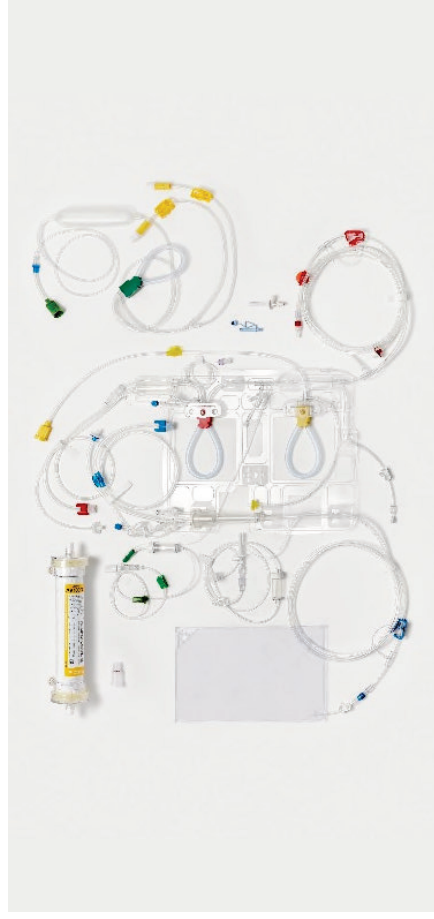
These treatment kits contain tubing systems and filters for the respective treatment with heparin anticoagulation.



Name	Filter	Tubing system	Total blood filling volume	Article number
multiFiltratePRO-Kit HDF 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltratePRO HDF	246 ml	F00000461
multiFiltratePRO Kit Paed HD 400	Ultraflux AV 400 S (0.7 m ²)	multiFiltratePRO paed HD	116 ml	F00009082

multiFiltrate treatment kits Ci-Ca

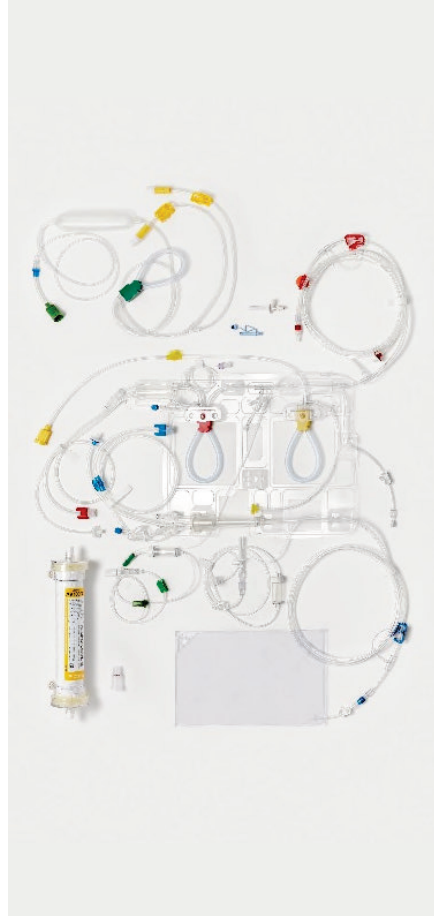
These treatment kits contain tubing systems and filters for the respective treatment with regional citrate anticoagulation.



Name	Filter	Tubing system	Total blood filling volume	Article number
multiFiltrate Kit Ci-Ca CVVHD EMiC 2	Ultraflux EMiC 2 (1.8 m ²)	multiFiltrate Ci-Ca Cassette, Ci-Ca Dialysate System multiFiltrate	276 ml	F00001172
multiFiltrate Kit Ci-Ca CVVHD 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltrate Ci-Ca Cassette, Ci-Ca Dialysate System multiFiltrate	276 ml	5039011
multiFiltrate Kit Ci-Ca postCVVHDF 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltrate Ci-Ca Cassette, Ci-Ca Dialysate System multiFiltrate, Substitute System multiFiltrate	276 ml	F00002290

multiFiltrate treatment kits Ci-Ca

These treatment kits contain tubing systems and filters for the respective treatment with regional citrate anticoagulation.

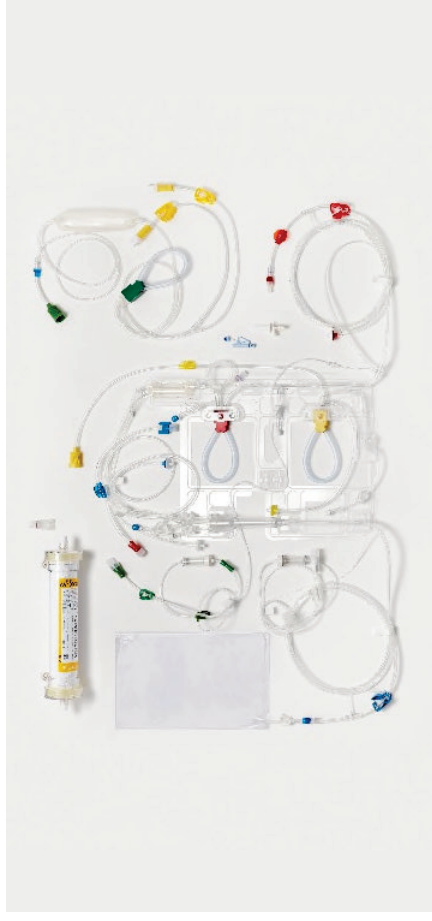


Accessories

Name	Description		Article number
Adapter Calcium SecuNect/LL	Adapter to connect a Calcium SecuNect 100 mmol/l solution bag to the relevant Luer lock connector on the calcium line for multi Filtrate and multi Filtrate PRO		F00008114
Adapter Citrate SecuNect/HF	Adapter to connect a Citrate SecuNect 136 mmol/l solution bag to the HF connector on the citrate line for multi Filtrate and multi Filtrate PRO		F00008113

multiFiltrate treatment kits Ci-Ca with SecuNect

These treatment kits contain tubing systems with SecuNect connectors and filters for the respective treatment with regional citrate anticoagulation.



Name	Filter	Tubing system	Total blood filling volume	Article number
multiFiltrate SecuKit Ci-Ca HD EMIc 2	Ultraflux EMIc 2 (1.8 m ²)	multiFiltrate SecuCas Ci-Ca, Ci-Ca Dialysate System multiFiltrate	276 ml	F00008261
multiFiltrate SecuKit Ci-Ca HD 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltrate SecuCas Ci-Ca, Ci-Ca Dialysate System multiFiltrate	276 ml	F00008260
multiFiltrate SecuKit Ci-Ca HDF 1000	Ultraflux AV 1000 S (1.8 m ²)	multiFiltrate SecuCas Ci-Ca, Ci-Ca Dialysate System multiFiltrate, Substitute System multiFiltrate	276 ml	F00008262

multiFiltrate treatment kits Heparin

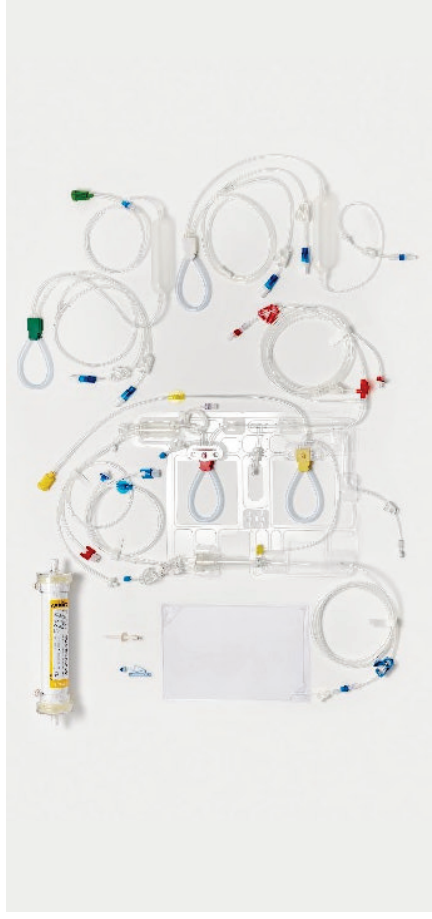
These treatment kits contain tubing systems and filters for the respective treatment with heparin anticoagulation.



Name	Filter	Surface area	Tubing system	Total blood filling volume	Article number
multiFiltrate Kit 9 CVVH 1000	Ultraflux AV 1000 S	1.8 m ²	multiFiltrate Cassette, Dialysate System multiFiltrate	277 ml	5038791
multiFiltrate Kit 7 HV-CVVH 1000	Ultraflux AV 1000 S	1.8 m ²	multiFiltrate Cassette, HV-CVVH Substitute System multiFiltrate	277 ml	5038181

multiFiltrate treatment kits Heparin

These treatment kits contain tubing systems and filters for the respective treatment with heparin anticoagulation.



Name	Filter	Surface area	Tubing system	Total blood filling volume	Article number
multiFiltrate Kit CVVHD EMiC 2	Ultraflux EMiC 2	1.8 m ²	multiFiltrate Cassette, Dialysate System multiFiltrate	277 ml	F00001173
multiFiltrate Kit 3 CVVHD 600	Ultraflux AV 600 S	1.4 m ²	multiFiltrate Cassette, Dialysate System multiFiltrate	247 ml	5038921
multiFiltrate Kit Paed CRRT / SCUF	Ultraflux AV paed	0.2 m ²	multiFiltrate paed CRRT/SCUF Set	72 ml	5039051

multiFiltrate treatment kits MPS

These treatment kits contain tubing systems and filters for Membrane Plasma Separation (MPS).



Name	Filter	Surface area	Tubing system	Further accessories	Total blood filling volume	Article number
multiFiltrate Kit 16 MPS P2dry	plasmaFlux P2 dry	0.6 m ²	multiFiltrate Cassette, MPS Substitute System multiFiltrate	multiEffluent Bag 10 l	214 ml	F00000215

Fluids



Ci-Ca Dialysate

Ci-Ca Dialysate K2 Solutions

Ci-Ca Dialysate K2

100% bicarbonate-buffered dialysis solution with 2 mmol/l potassium for citrate anticoagulation-based CRRT. PVC-, Latex- and DEHP-free. In-use stability 48 h. Yellow HF connector for color-coded guidance.

Shelf life: 24 months



Name	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Cl ⁻	HCO ³⁻	Glucose	Language	Packaging	Article number
Ci-Ca Dialysate K2 5000 ml	133 mmol/l	2 mmol/l	0 mmol/l	0.75 mmol/l	116.5 mmol/l	20 mmol/l	1 g/l	DE / NL / F / I / ES / PT / CS / HR	2 x 5 l bags/box, 104 bags/pallet	F00009639

Ci-Ca Dialysate K4 Solutions

Ci-Ca Dialysate K4

100% bicarbonate-buffered dialysis solution with 4 mmol/l potassium for citrate anticoagulation-based CRRT. PVC-, Latex- and DEHP-free. In-use stability 48 h. Yellow HF connector for color-coded guidance.

Shelf life: 24 months



Name	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Cl ⁻	HCO ³⁻	Glucose	Language	Packaging	Article number
Ci-Ca Dialysate K4 5000 ml	133 mmol/l	4 mmol/l	0 mmol/l	0.75 mmol/l	118.5 mmol/l	20 mmol/l	1 g/l	DE / NL / F / I / ES / PT / CS / HR	2 x 5 l bags/box, 104 bags/pallet	F00009640

Ci-Ca Dialysate K2 Plus Solutions

Ci-Ca Dialysate K2 Plus

Ci-Ca Dialysate Plus contains a phosphate concentration of 1.25 mmol/l.

Yellow HF connector for color-coded guidance.

100% bicarbonate-buffered dialysis solution with 2 mmol/l potassium for citrate anticoagulation-based CRRT. PVC-, Latex- and DEHP-free.

In-use stability 48 h.

Shelf life: 24 months



Name	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Cl ⁻	HCO ³⁻	H ₂ PO ₄ ⁻	Glucose	Language	Packaging	Art. no.
Ci-Ca Dialysate K2 Plus 5000 ml	133 mmol/l	2 mmol/l	0 mmol/l	1.00 mmol/l	115.75 mmol/l	20 mmol/l	1.25 mmol/l	1 g/l	DE / NL / F / I / ES / PT / CS / HR	2 x 5 l bags/box, 104 bags/pallet	F00009641

Ci-Ca Dialysate K4 Plus Solutions

Ci-Ca Dialysate K4 Plus

Ci-Ca Dialysate Plus contains a phosphate concentration of 1.25 mmol/l.

Yellow HF connector for color-coded guidance.

100% bicarbonate-buffered dialysis solution with 4 mmol/l potassium for citrate anticoagulation-based CRRT. PVC-, Latex- and DEHP-free.

In-use stability 48 h.

Shelf life: 24 months



Name	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Cl ⁻	HCO ³⁻	H ₂ PO ₄ ⁻	Glucose	Language	Packaging	Art. no.
Ci-Ca Dialysate K4 Plus 5000 ml	133 mmol/l	4 mmol/l	0 mmol/l	1.00 mmol/l	117.75 mmol/l	20 mmol/l	1.25 mmol/l	1 g/l	DE / NL / F / I / ES / PT / CS / HR	2 x 5 l bags/box, 104 bags/pallet	F00009642

Blood-gas exchanger



multiECCO2R

multiECCO2R Blood-gas exchanger and holder

multiECCO2R enables the delivery of low-flow ECCO₂R in combination with CRRT on a single therapy system using one vascular access.

EUROSETS S.r.l., Italy is the legal manufacturer of the multiECCO2R and Fresenius Medical Care Deutschland GmbH is a distributor in selected countries.



Name	Description	Article number
multiECCO2R	Blood-gas exchanger EU5060	F00008943
multiFiltratePRO multiECCO2R holder	Holder for multiFiltratePRO	F00014754
multiFiltrate multiECCO2R holder	Holder for multiFiltrate	F00007775

Adsorber



CytoSorb 300 mL

CytoSorb Adsorber and kit

Treatment kits for CytoSorb 300 mL

CytoSorb is an adsorber which can be used in hemoperfusion and CVVHD mode on multi**Filtrate** or CVVHD mode on multi**Filtrate**PRO.

CytoSorbents Corporation, USA is the legal manufacturer of CytoSorb and Fresenius Medical Care Deutschland GmbH is a distributor in selected countries.



Therapy system	Type/name	Adsorber	Tubing system	Further accessories	Added blood filling volume	Article number
multi Filtrate PRO, multi Filtrate	CytoSorb 300 ml Device	CytoSorb 300 mL	Not included	Not included	150 ml	TMD000171
multi Filtrate PRO, multi Filtrate	Adsorber Kit Cyto for CVVHD	CytoSorb 300 mL	Not included	Adsorber Rinsing System, Rinsing bag 10 l	150 ml	F00007129
multi Filtrate PRO, multi Filtrate	Adsorber Rinsing Kit Cyto	Not included	Not included	Adsorber Rinsing System, Rinsing bag 10 l	Not applicable	F00007336

Accessories



Accessories

Accessories

Accessories for extracorporeal blood treatments



Name	Description	Minimal order quantity	Article number
multiEffluent Bag 10 L	Filtrate collection bag with male Luer lock and drain with stop cock	40	5029011
multiEffluent Bag 10 L single-use	Filtrate collection bag with male Luer lock	40	5029031
Drainage Bag 2lt	Sterile waste bag with female Luer lock	100	5015091
Rinsing bag 10 L	Sterile waste bag with female Luer lock and drain with stop cock	40	F00005474
Scissor clamp (5 pieces)	To clamp lines temporarily	1 (à 5)	2845241
Adapter Hansen male / Luer-Lock male	Pre-Post CVVH Adapter: To set-up pre-post CVVH with multiFiltratePRO	30	5016881

Accessories

Accessories for extracorporeal blood treatments



Name	Description	Minimal order quantity	Article number
Vented spike	Vented spike with female Luer lock	12	F00007583
Spike	Spike with female Luer lock	100	F00007582
Recirculation connector	To connect access and return lines for recirculation, with eyelet	100	F00007581
Transducer Protector	Additional filter for pressure monitor line	100	F00007580
Pressure line for MTS	Pressure monitor line with filter for replacement, length 30 cm, blue	100	5014631
Pressure measurement line 60 cm	Pressure monitor line with filter for replacement, length 60 cm, white	200	5019151

Accessories

Accessories for extracorporeal blood treatments



Name	Description	Minimal order quantity	Article number
HF Female – Luer-Lock-Male	Adapter to connect solution bags with Luer lock to dialysate/substitute tubing system	100	5016891
HF Female – Spike Adapter	To connect solution bags with septum to dialysate/substitute tubing system	100	5016351
Adapter HF-Male Luer-Lock-Male	To connect solution bags with HF female to tubing systems with Luer lock male	100	5015451



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