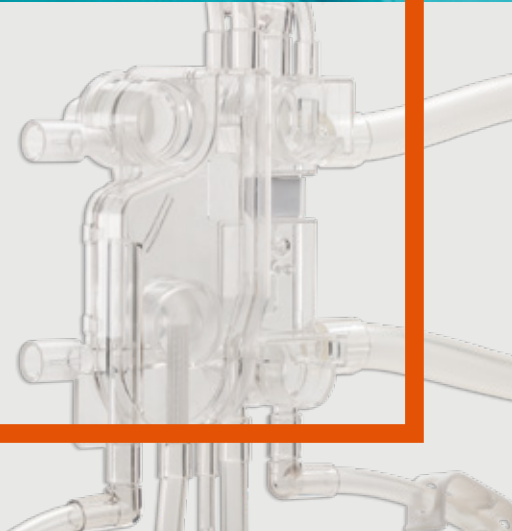


# THE AUTOMATIC CHOICE FOR **SIMPLIFIED DIALYSIS**



Automatica™ BL 500  
bloodlines



# IMPROVED AUTOMATION AND EFFICIENCY



## Automatica™ BL 500 bloodlines are designed for use with the Flexya™ hemodialysis system and help streamline setup for dialysis treatments

Improved automation includes cassette positioning, pump segment loading, “one-button” priming, and the air removal procedure. Compared to standard hemodialysis systems, the cassette reduces the number of set-up steps needed to prepare the machine up to 40 percent.<sup>1</sup>

Benefits of the automation include:

- Integrated, compact design simplifies routine operations so they can be delivered quickly and consistently.
- Barcode-reading system automatically preselects the treatment mode that corresponds to the bloodlines in use.
- One-button priming mode eliminates routine tasks and saves nurses' valuable time; the machine will automatically adjust flow direction and level in the venous chamber.<sup>1</sup>
- Comprehensive monitoring of a full set of pressures within the extracorporeal blood circuit may help early detection of coagulation.



**UP TO 40%**  
REDUCTION IN THE  
NUMBER OF TASKS  
PERFORMED



ONE-BUTTON  
PRIMING MODE  
**SAVES TIME**



# ENHANCED CASSETTE TECHNOLOGY



## Efficient and consistent workflow

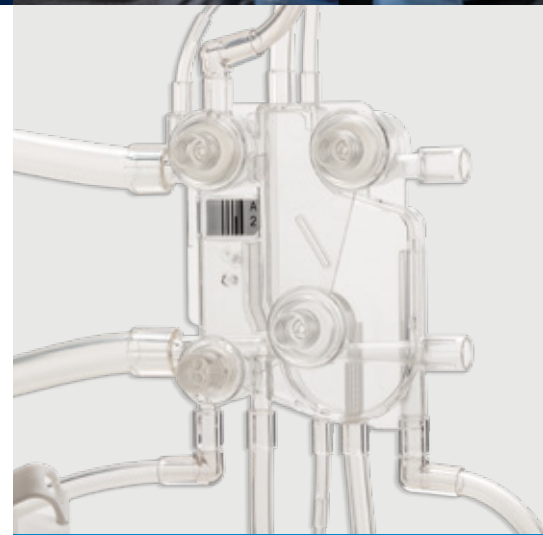
The cassettes used with Automatica™ BL 500 bloodlines enable nurses to perform a variety of treatments following the same workflow:

- It takes just one motion to connect the pre-assembled device to the machine.
- Treatment mode and infusion method can be changed at any time by simply pressing a button.

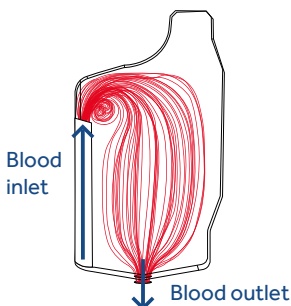
## Improved blood flow dynamics throughout treatment

The interaction between blood and extracorporeal circuit elements can activate coagulation pathways and increase clotting. This can lead to incremental patient blood loss, nursing workload, disposable consumption, and treatment cost.<sup>2</sup> The new cassette design improves blood flow dynamics<sup>3</sup> and may prevent thrombosis and clotting phenomena.<sup>2,4</sup>

- The venous chamber is integrated into the compact layout of the cassette to reduce the air-blood interface.
- Blood path promotes mixing and helps reduce areas at greatest risk of stagnation, while supporting a streamlined flow with minimal shear stress.
- The absence of areas where bubbles can remain trapped promotes better air removal during priming.

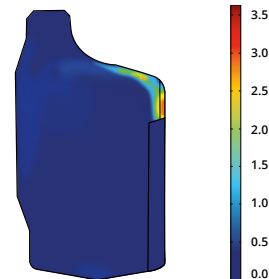


### Flow pathway



Computational fluid dynamics analysis demonstrates that blood flow in the venous chamber is streamlined to enhance recirculation and blood mixing, even at low speed at the inlet ( $v=0.05$  m/s).<sup>3</sup>

### Total wall shear stress (Pa)

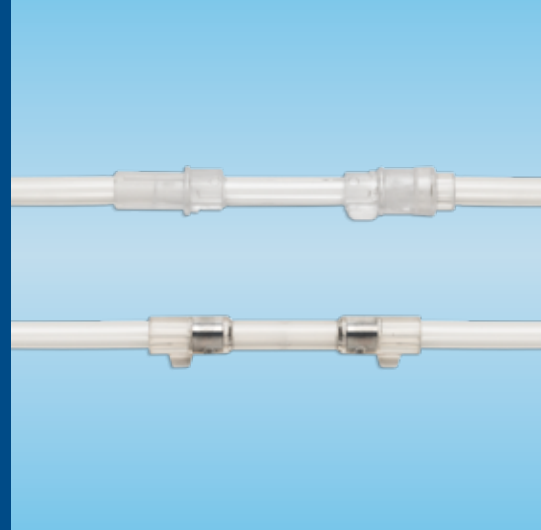


Total wall shear stress is well below the 8 Pa threshold,<sup>5,6</sup> known to favor hemolysis and platelet activation, including near the inlet where flow velocity is at peak levels.<sup>3</sup>

# ONE SYSTEM, MORE TREATMENT OPTIONS

To prevent or limit possible intradialytic hypotension,<sup>7,8</sup> Automatica™ BL 500 bloodlines are also available with technology that makes real-time patient monitoring possible throughout the treatment.

- Hemox™ cuvette enables Flexya™ hemodialysis system to continuously measure arterial blood hematocrit, temperature, and oxygen saturation.
- Natrium™ cuvette is used for the measurement of the ultrafiltrate conductivity during HFR therapy.



Code	Description	Units per box
BHD0000N	Bloodline for bicarbonate hemodialysis	18
BHD0010N	Bloodline for single-needle bicarbonate hemodialysis*	14
BHD1000N	Bloodline for bicarbonate hemodialysis with Hemox™	18
HDF0000N	Bloodline for online hemodiafiltration in pre, post, pre + post dilution	16
HDF1000N	Bloodline for online hemodiafiltration with Hemox™ in pre, post, pre + post dilution	16
HFR0000N	Bloodline for HFR therapy	14
HFR0100N	Bloodline for HFR therapy with Natrium™	14
HFR1000N	Bloodline for HFR therapy with Hemox™	14
HFR1100N	Bloodline for HFR therapy with Hemox™ and Natrium™	14
MID0000N	Bloodline for Mid-dilution therapy	16
MID1000N	Bloodline for Mid-dilution therapy with Hemox™	16
Accessory for Flexya™ hemodialysis system		
IB0577120/F	Expansion chamber for single-needle, single-pump (SNsp) haemodialysis treatment (only with Automatica™ BL 500 BHD and HDF bloodlines)	20

\*Single-needle, double-pump treatment mode.

## References

1. Based on internal test report, Flexya™ vs. Formula™ Therapy: comparative assessment of the level of automation. 2020 July.
2. Kessler M, Moureau F, Nguyen P. Anticoagulation in chronic hemodialysis: Progress toward an optimal approach. *Semin Dial.* 2015;28(5):474–489.
3. Based on internal test report ID AFP003 (images adapted), Automatica™ BL 500 bloodlines: fluid dynamic analysis of the venous chamber. 2016 March.
4. Based on internal test report ID AFP004, Flexya™ bloodlines conceptual study. 2018 November.
5. Spijker HT, Graaff R, Busscher HJ, van Oeveren W. On the influence of flow conditions and wettability on blood material interactions. *Biomaterials.* 2003;24(26):4717–4727.
6. Shankaran H, Alexandridis P, Neelamegham S. Aspects of hydrodynamic shear regulating shear-induced platelet activation and self-association of von Willebrand factor in suspension. *Blood.* 2003;101(7):2637–2645.
7. Donati G, Ursino M, Spazzoli A, Natali N, Schillaci R, Conte D, et al. Sodium prescription in the prevention of intradialytic hypotension: new insights into an old concept. *Blood Purif.* 2018;45:61–70.
8. Mancini E, Perazzini C, Gesualdo L, Aucella F, Limido A, Scolari F, et al. Intra-dialytic blood oxygen saturation (SO<sub>2</sub>): association with dialysis hypotension (the SOGLIA Study). *J Nephrol.* 2017;30(6):811–819.

Flexya™ hemodialysis system and Automatica™ BL 500 bloodlines are medical devices CE0123. Please refer to the User Manual and the Instructions for Use for complete instructions, contraindications, warnings and precautions.

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Specifications	
Materials	
Tubing	PVC Polyvinyl Chloride (Medical Grade, DEHP-free)
Cassette	PETG Polyethylene Terephthalate Glycol
Injection site	Polyisoprene
Hemox™ cuvette	PETG Polyethylene Terephthalate Glycol
Natrium™ cuvette	ABS Acrylonitrile Butadiene Styrene / Stainless steel
Tubing size	
Blood pump segment	8 × 12 mm
Patient lines	4.3 × 6.8 mm
Dialyzer lines	4.3 × 6.8 mm
Heparin lines	1 × 2.5 mm
Sterilization	
Method	E-Beam Radiation
Shelf life	3 years

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