

CONSISTENT PERFORMANCE RELIABLE RESULTS

Affinity NT™
Oxygenation System
With Balance™ Biosurface



Medtronic
Further, Together

DESIGN THAT SET THE STANDARD



6+
MILLION
Produced on single
manufacturing line

Affinity NT Oxygenation System

The Affinity NT oxygenation system set the standard for the industry as the first to feature a radial blood flow design and graduated fiber winding.

Pre-membrane Access Port

- Engineered to facilitate easy prime
- Provides ability to measure pre-membrane pressure
- Offers option for hemoconcentrator access

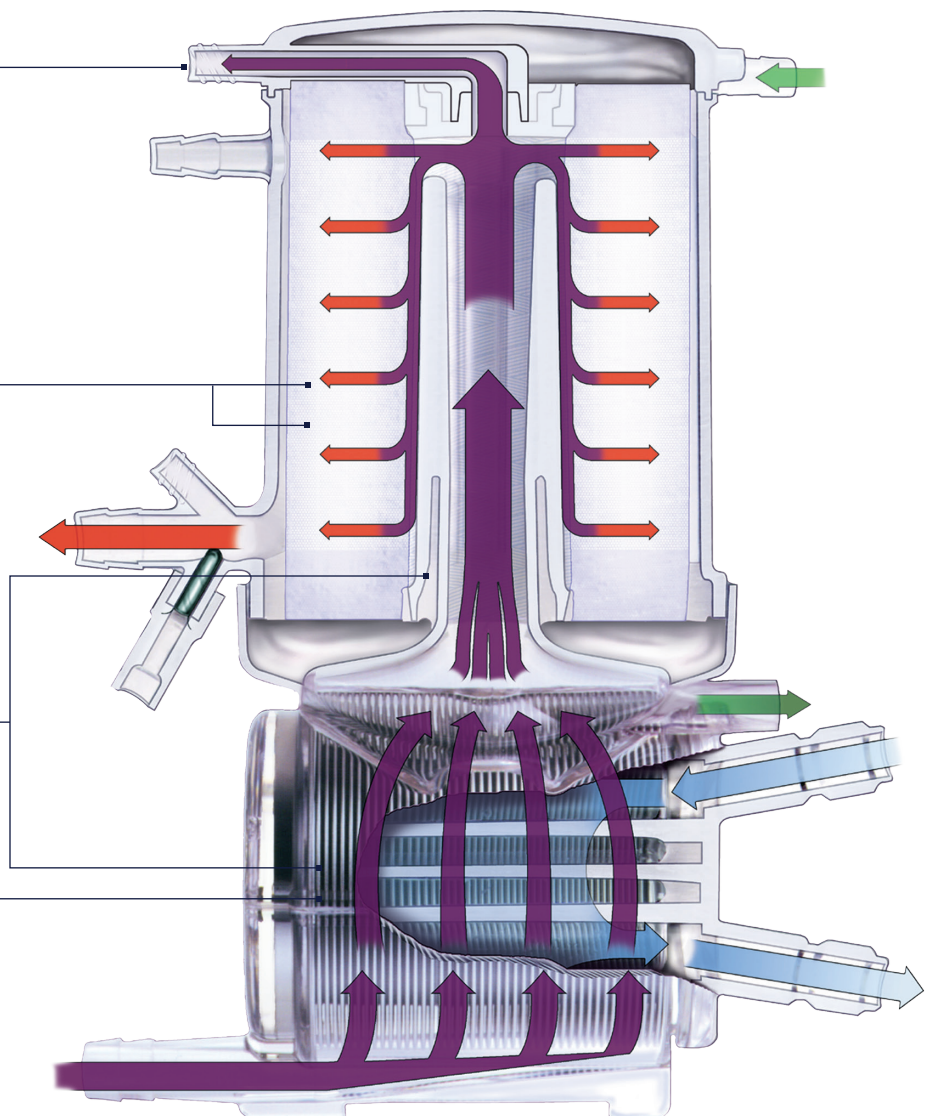
Proprietary Graduated Fiber Bundle Density Technology and Radial Flow Design Provides:

- Enhanced gas transfer
- Low pressure drop
- Short, uniform blood flow path
- Avoidance of areas of stasis

Reinforced bonds for greater robustness

Stainless Steel Heat Exchanger

- Consistent performance with minimal pressure drop



UNOBSTRUCTED VISIBILITY



The design of the system allows for a clear view of the blood, gas, and water phases.

Optimal Visibility Achieved

- Clear lid and housing
- Excellent visibility of venous inlet column on the outside of the cardiotomy



Vacuum-assisted Venous Drainage (VAVD) Compatible

- A negative/positive pressure-relief valve is built into the lid — 150 mm Hg/0-5 mm Hg, which features a special obturator valve cap engineered to ensure valve patency
- Non-venting caps for ease of setup for VAVD procedures (except inlet, outlet, vacuum, and recirculation caps)

Removable Sampling Manifold

- One-way valve and color-coded sampling lines

Versatile Cardiotomy Turret

- 3/8" and 1/4" filtered ports for priming ease
- Multiple filtered luer ports
- Cardiotomy ports on rotating turret
- Rotating turret easily clears manifold

Optimum Operating Levels

- Maximum capacity of 4,000 ml
- Minimum operating level of 200 ml
- Designed for excellent low-level visualization with color-coded volume measurements and low-level warning label

Excellent Air Handling Capabilities

- Separate venous and cardiotomy inlets
- Designed to prevent blood contact with defoamer unless foam is present
- Final screen provides additional barrier intended to remove air and other potential emboli

Hollow Fiber Oxygenator

Total visibility pre-membrane and post-membrane for your priming confidence

Simple Drop-in Holder

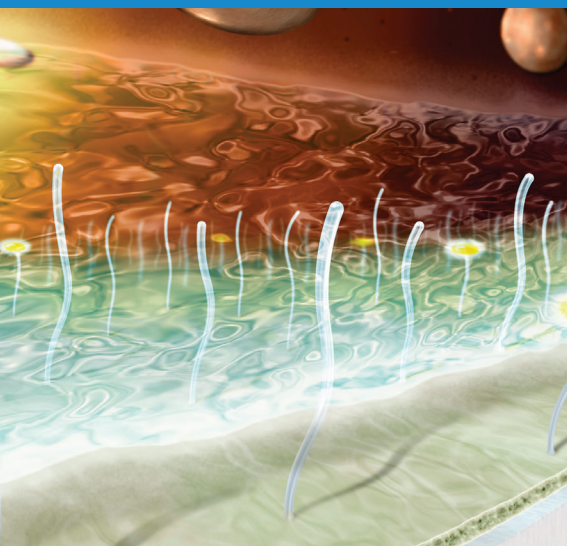
Articulated design is compatible with left- and right-hand setup



BALANCE BIOSURFACE*

A balanced approach to preserving platelet function

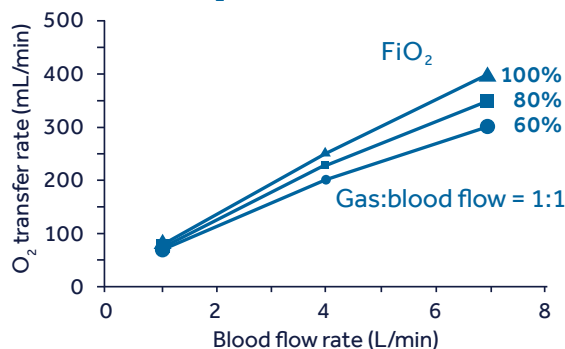
Balance's heparin-free, hydrophilic polymer surface reduces platelet adhesion and activation.¹ Platelet activation has been shown to play a role in systemic inflammatory response.²⁻⁵ Preserve your patients' platelet function with Balance™ biosurface.¹



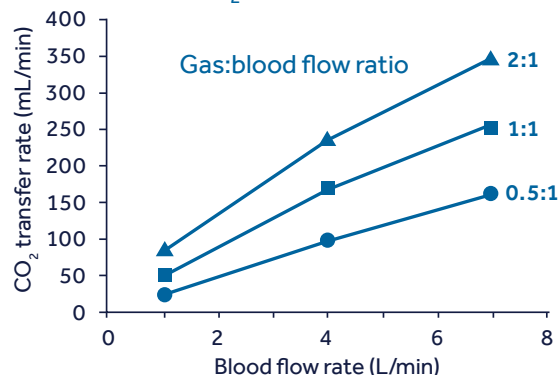
Balance™ Biosurface

AFFINITY NT BENCH TEST PERFORMANCE INFORMATION†

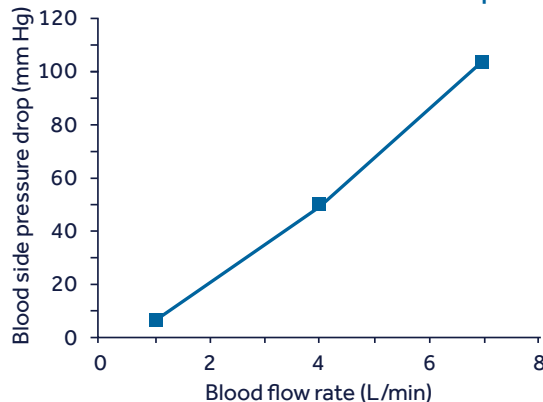
O₂ Transfer Rate



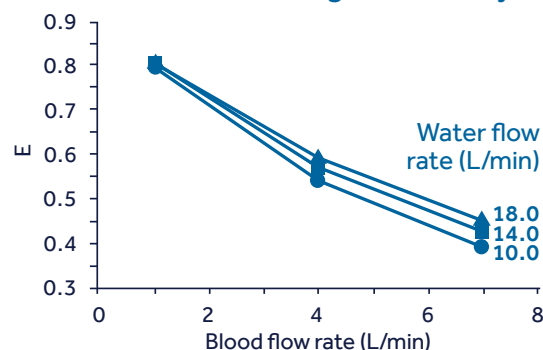
CO₂ Transfer Rate



Blood Side Pressure Drop



Heat Exchange Efficiency



*Technology licensed under agreement from BioInteractions, Limited, United Kingdom.

†Representative of the Affinity NT with Balance Biosurface. Bench data on file. Not necessarily predictive of clinical performance results.

¹ Medtronic data on file.

² Morrell CN, Aggrey AA, Chapman LM, Modjeski KL. Emerging roles for platelets as immune and inflammatory cells. *Blood*. May 1, 2014;123(18):2759-2767.

³ Sonmez O, Sonmez M. Role of platelets in immune system and inflammation. *Porto Biomedical Journal*. November-December 2017;2(6):311-314.

⁴ Mirza I, Kottke-Marchant K. In: Kottke-Marchant K, ed. *An Algorithmic Approach to Hemostasis Testing*. 2nd ed. College of American Pathologists; 2016:30-31.

⁵ Thomas MR, Storey RF. The role of platelets in inflammation. *Thromb Haemost*. August 31, 2015;114(3):449-458.

ORDERING INFORMATION



Affinity NT Oxygenator

Membrane type: microporous polypropylene hollow fibers
 Membrane surface area: 2.5 m²
 Static priming volume: 280 ml
 Recommended blood flow rate: 1-7 L/min
 Maximum water side pressure: 30 psi
 Arterial outlet port: 3/8"
 Venous inlet port: 3/8"
 Arterial sample port: female luer port
 Access port: female luer port
 Recirculation port: 1/4"
 Gas inlet port: 1/4"
 Gas outlet port: 3/8" nonbarbed
 Water ports: 1/2" quick disconnects



Affinity NT CVR

Reservoir volume capacity: 4,000 ml
 Recommended blood flow rate: 1-7 L/min
 Maximum cardiotomy blood flow rate: 6 L/min
 Minimum operating level: 200 ml
 Cardiotomy filtration: 30 µm
 Venous inlet screen: 200 µm
 Final reservoir screen: 150 µm
 Positive pressure relief valve crack: < 5 mm Hg
 Vacuum pressure relief valve crack: > 150 mm Hg

Affinity NT™ Oxygenation System

Indications: The Affinity NT oxygenator with Balance™ biosurface is intended to be used in an extracorporeal perfusion circuit to oxygenate and remove carbon dioxide from the blood and to cool and warm the blood during routine cardiopulmonary bypass (CPB) procedures up to 6 hours in duration. The Affinity NT™ cardiotomy/ venous reservoir (CVR) is intended to be used in an extracorporeal perfusion circuit to collect venous and cardiotomy suctioned blood during routine CPB procedures up to 6 hours in duration.

Contraindication: Use the device only as indicated

Warnings: Follow a strict anticoagulation protocol and routinely monitor anticoagulation during all procedures. Maintain adequate anticoagulation per institution CPB protocol. Clear all gas emboli from the extracorporeal circuit before initiating bypass. Gas emboli are hazardous to the patient. Continually monitor the

extracorporeal circuit for air bubbles or leaks. Do not use the device if air bubbles or leaks are observed during priming or operation as they may result in air embolism to the patient or fluid loss.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician. For a complete listing of indications, contraindications, precautions, and warnings, please refer to the Instructions for Use, which accompany each product.

OXYGENATORS

Product Number	Product Description	Units/case
541B	Affinity NT Integrated Uncoated CVR/ Oxygenator with Balance Biosurface	2
511B	Affinity NT Oxygenator with Balance Biosurface	Available in custom tubing packs

ACCESSORIES AND HOLDERS

Model Number	Product Description	Units/case
61399401093	Affinity Oxygenator with Integrated CVR Holder	1
61399401072	Affinity Oxygenator Holder	1
TP	Temperature Probe	1

For information on other Medtronic technologies for extracorporeal circulation, blood processing, and diagnostics, visit medtronic.com.

Medtronic

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