

AFFINITY[®] ARTERIAL FILTER FAMILY

Featuring the new Pediatric Arterial Filter



The clear advantage for your pediatric and adult patients

Are you using the **best** arterial filter for your patients?



Medtronic welcomes the newest addition to the AFFINITY family, the **AFFINITY[®]** Pediatric Blood Filter

The AFFINITY[®] arterial filter is the number-one selling brand of arterial filters in the world. With ease of prime, effective air handling and optimum filtration, the AFFINITY[®] Arterial Filters benefit both patients and Perfusionists.

The AFFINITY[®] Arterial Filters are disposable devices designed to filter microemboli greater than the specified micron size from the circuit for periods up to six hours during cardiopulmonary bypass surgery.

The AFFINITY[®] Pediatric Arterial Filter is available coated with Carmeda[®]* BioActive surface (a heparin bioactive surface) that mimics critical characteristics of vascular endothelium to provide thromboresistance and biocompatibility.⁶⁻²²



Medtronic has developed systems with Perfusionists, Surgeons and operating rooms in mind to get closer to the patient.

- We focus on minimizing hemodilution and circuit surface area by using low-prime circuits, retrograde autologous priming (or RAP) techniques, and strategies for fluid management¹⁻⁴ to reduce bleeding with higher postoperative hematocrits.
- You may realize potential savings from a reduction in blood product usage.⁵
- The system includes Carmeda[®] BioActive surface, Bio-Console[®] 560, BioCal[®] Heater/Cooler, Minimax Plus[®] Oxygenator and Minimax[®] reservoirs.

What if there was an **ideal** arterial filter for your **pediatric patients?**



The filter would be low prime for lower hemodilution.

The AFFINITY® Pediatric Arterial Filter has a prime volume of 39 ml. This means less hemodilution for your patients.

The filter would give you patient flexibility by having a higher flow rate.

The AFFINITY® Pediatric Arterial Filter has a higher flow rate (3.2 lpm vs. 2.5 lpm) than competing pediatric filters. Robust design handles increased flow often needed at the end of case. Higher flow rate allows for a larger range of patient sizes.

The filter would save time by ease of prime.

The AFFINITY® Pediatric Arterial Filter is easy to prime. The filter housing is completely clear for unequalled visibility. It may be either gravity or pump primed.

The filter would be designed so well that trapped air would almost be a thing of the past.

The AFFINITY® Pediatric Arterial Filter has been designed to have no "hidden areas," such as opaque screen caps, urethane pleating and netting, where air and particulate can stick.

ORDERING INFORMATION

Model Number	Description	Packaging
S4014	30 micron Pediatric Arterial Blood Filter	Four/case
CB4014	30 micron Pediatric Arterial Blood Filter with Carmeda® BioActive Surface*	Four/case
HR4014	Holder for Series 4014 AFFINITY® Pediatric Arterial Filters	One/case
351	38 Micron Adult Arterial Blood Filter	Six/case
CB351	38 Micron Adult Arterial Blood Filter with Carmeda® BioActive Surface*	Six/case
351T	38 Micron Adult Arterial Blood Filter with Trillium® Biosurface	Six/case
353	20 Micron Adult Arterial Blood Filter	Six/case
CB353	20 Micron Adult Arterial Blood Filter with Carmeda® BioActive Surface*	Six/case
353T	20 Micron Adult Arterial Blood Filter with Trillium® Biosurface	Six/case
61399401119	Holder for Series 351/353 AFFINITY® Adult Arterial Filters-One Piece	One/case
61399400023	Holder for Series 351/353 AFFINITY® Adult Arterial Filters-Telescoping	One/case

SPECIFICATIONS

PEDIATRIC

Recommended Blood Flow Rate:
Up to 3.2 liters per minute (LPM)

Screen Size: 30 micron nominal

Prime Volume: 39 ml

Size: Infant / Pediatric

Inlet Connector: 0.64 cm (1/4 in)

Outlet Connector: 0.64 cm (1/4 in)

Vent Port: Standard Female Luer Lock

ADULT

Recommended Blood Flow Rate:
Up to 7 liters per minute

Screen Size: 20 micron nominal (353/CB353/353T)
38 micron nominal (351/CB351/351T)

Prime Volume: Less than 221 ml (353/CB353/353T)
205 - 219 ml (351/CB351/351T)

Size: Adult

Inlet Connector: 1.0 cm (3/8 in)

Outlet Connector: 1.0 cm (3/8 in)

Vent Port: Standard Female Luer Lock

* Carmeda® is a registered trademark of Carmeda A.B., Sweden. This product is coated with the Carmeda® BioActive Surface under license from Carmeda A.B. and is licensed for use only as part of an extracorporeal blood circulation system or circuit which includes an oxygenator or blood pump.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician.

For more information contact your local Medtronic Revascularization & Surgical Therapies Sales Representative or call Customer Service toll-free at 1-800-328-1357.

REFERENCES

- Balachandran S, Cross MH, Karthikeyan S, Mulpur A, Hansbro SD, Hobson P. Retrograde autologous priming of the cardiopulmonary bypass circuit reduces blood transfusion after coronary artery surgery. *Ann Thorac Surg*. 2002 Jun;73(6):1912-8.
- Eising GP, Pfauder M, Niemeyer M, Tassani P, Schad H, Bauernschmitt R, Lange R. Retrograde autologous priming: is it useful in elective on-pump coronary artery bypass surgery? *Ann Thorac Surg*. 2003 Jan;75(1):23-7.
- Rosengart TK, DeBois W, O'Hara M, Helm R, Gomez M, Lang SJ, Altorki N, Ko W, Hartman GS, Isom OW, Krieger KH. Retrograde autologous priming for cardiopulmonary bypass: a safe and effective means of decreasing hemodilution and transfusion requirements. *J Thorac Cardiovasc Surg*. 1998 Feb;115(2):426-38.
- Shapira OM, Aldea GS, Treanor PR, Chartrand RM, DeAndrade KM, Lazar HL, Shemin RJ. Reduction of allogeneic blood transfusions after open heart operations by lowering cardiopulmonary bypass prime volume. *Ann Thorac Surg*. 1998 Mar;65(3):724-30.
- Blood transfusion in cardiac surgery patients: What are the costs? © Medtronic 2003. UC200401998 EN
What are you doing to reduce SIRS and bleeding in cardiopulmonary bypass patients? © Medtronic 2006. UC200604015 EN
- Larm O, et al. A new non-thrombogenic surface prepared by selective covalent binding of heparin via a modified reducing terminal residue. *Biomater Med Dev Art Org* 1983;11:161-8.
- Svenmarker S, et al. Neurological and general outcome in low-risk coronary artery bypass patients using heparin coated circuits. *Eur J Cardiothorac Surg* 2001;19:47-53.
- Fukutomi M, et al. Changes in platelet, granulocyte, and complement activation during cardiopulmonary bypass using heparin-coated equipment. *Artif Organs* 1996;20:767-76.
- Mahoney CB, et al. Transfusion after coronary artery bypass surgery: the impact of heparin bonded circuits. *Eur J Cardiothorac Surg* 1999;16:206-210.
- Elgue G, et al. Effect of surface-immobilized heparin on the activation of adsorbed Factor XII. *Artif Organs* 1993;17:721-726.
- Videm V, et al. In-vitro comparison of the heparin-coated and uncoated oxygenator circuits and 50% reduction of heparin dose. *J Thorac Cardiovasc Surg* 1991;101:654-6.
- Larm O, et al. An approach to anti-thrombosis by surface modification. Progress in Artificial Organs 1985. Cleveland: ISAIO Press 1986;313-8.
- Olsson P. Non-thrombogenic systems for extracorporeal gas exchange. *Int J Artif Organs* 1990;13:9.
- Larsson R, et al. The search for thromboresistance using immobilized heparin. Blood in contact with natural and artificial surfaces. *Ann NY Acad Sci* 1987;516:102-115.
- Belboul A, et al. Does heparin coating improve biocompatibility?: A study on complement, blood cells and postoperative morbidity during cardiac surgery. *Perfusion* 1997;12:385-391.
- Borowiec J, et al. Effects of heparin-coating of cardiopulmonary bypass circuits on leukocytes during simulated extracorporeal circulation. *Cardiovasc Surg* 1997;5:568-73.
- Kagisaki K, et al. Biocompatibility of heparin-coated circuits in pediatric cardiopulmonary bypass. *Artif Organs* 1997;21:836-40.
- Lundblad R, et al. Endothelin-1 and neutrophil activation during heparin-coated cardiopulmonary bypass. *Ann Thorac Surg* 1997;63:1361-7.
- Videm V, et al. Reduced granulocyte activation with heparin coated device in an invitro model of cardiopulmonary bypass. *Artif Organs* 1991;15:90-5.
- Borowiec J, et al. Heparin-coated circuits reduce activation of granulocytes during cardiopulmonary bypass - a clinical study. *J Thor Cardiovasc Surg* 1992;104:642-7.
- Mollnew T, et al. Formation of C5a during cardiopulmonary bypass. *Ann Thorac Surg* 1991;52:92-7.
- Mahoney CB. Heparin-bonded circuits: clinical outcomes and costs. *Perfusion* 1998;13:192-204.

World Headquarters

Medtronic, Inc.
710 Medtronic Parkway
Minneapolis, MN 55432-5604
USA
Tel: (763) 514-4000
Fax: (763) 514-4879
www.medtronic.com

Medtronic USA, Inc.
Toll-free: 1 (800) 328-2518
(24-hour technical support for physicians and medical professionals)

Revascularization & Surgical Therapies
7611 Northland Drive
Minneapolis, MN 55428-1088
Internet: www.perfusionsystems.com
FAX: (763) 391-9100

Customer Service and Product Orders
Toll-free at 1-800-854-3570

Europe

Medtronic Europe Sàrl
Route du Molliau 31
CH-1131 Tolochenaz
Switzerland
Tel: (41 21) 802 7000
Fax: (41 21) 802 7900
www.medtronic.com

Canada

Medtronic of Canada Ltd.
6733 Kitimat Road
Mississauga, Ontario L5N 1W3
Canada
Tel: (905) 826-6020
Fax: (905) 826-6620
Toll-free: 1 (800) 268-5346

Asia Pacific

Medtronic International, Ltd.
16/F Manulife Plaza
The Lee Gardens, 33 Hysan Avenue
Causeway Bay
Hong Kong
Tel: (852) 2891 4456
Fax: (852) 2891 6830
enquiryap@medtronic.com
www.medtronic.com

Latin America

Medtronic USA, Inc.
Doral Corporate Center II
3750 NW 87th Avenue Suite 700
Miami, FL 33178
USA
Tel: (305) 500-9328
Fax: (786) 709-4244
www.medtronic.com

UC200705715 EN
© Medtronic, Inc. 2007
All Rights Reserved
Printed in USA



Medtronic

Alleviating Pain · Restoring Health · Extending Life