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ORDIN DE PLATA NR.: 138                                TIP.DOC. 1 :
                                DATA EMITERII:27 octombrie 2022 :
=====:
PLATITI: 79500-00                                LEI: Saptezeci si Noua Mii Cinci Su :
te lei 00 bani                                         :
:
=====:
PLATITOR: (R) S.C. "OXIVI                                CONTUL DE PLATI/CODUL IBAN :
T-MED" S.R.L.                                MD44ML000000002251729503 :
                                CODUL FISCAL :1007600044280 / :
:
=====:
PRESTATORUL PLATITOR                                CODUL BANCII:
BC"Moldindconbank"S.A. suc."Invest" Chisinau                                :MOLDMD2X329:
=====:
BENEFICIAR (R) Centrul pen                                CONTUL DE PLATI/CODUL IBAN :
tru Achizi?ii Publice Central MD23TRPCCC518430B01859AA :
izate in Sanatate                                CODUL FISCAL :1016601000212 / :
:
=====:
PRESTATORUL BENEFICIAR                                CODUL BANCII:
Ministerul Finantelor - Trezoreria de Stat                                :TREZMD2X :
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DESTINATIA PLATII:/Pl02/79500,00 Pentru : TIPUL TRANSFERULUI :
garantia pentru oferta la procedura de a:                                NORMAL/URGENT :N:
chizi?ie publica nr. ocds-b3wdpl-MD-166:                                :
3341557614 din 30.10.2022                                :
:                                :
:                                L.S. :
=====:
                                CODUL TRANZACTIEI:101: :
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                                DATA EXECUTARII: : EMITENTULUI :
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                                (semnatura electronica) :
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L.S.                                (semnatura electronica) :
CONducator:                                :
                                (semnatura manuala) :
CONTABIL-SEF:                                :
                                (semnatura manuala) :
SEMnatura PRESTATORUL                                L.S. :
:
MOTIVUL REFUZULUI                                : L.S. :
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CERTIFICAT
privind lipsa sau existența restanțelor față de bugetul public național

Nr.
№ A2221466

din
от 26.10.2022

1. Destinația / Назначение

AGENȚIA ACHIZIȚII PUBLICE

2. Date despre contribuabil / Информация о налогоплательщике

Denumirea Наименование	Codul fiscal / Numărul de identificare Фискальный код / Идентификационный номер
S.C. OXIVIT-MED S.R.L.	1007600044280
Adresa sediului de bază (strada, numărul) Адрес основного месторасположения (улица, номер)	Codul - Denumirea localității Код - Наименование населенного пункта
Decebal bd. nr.82 of.90	0110-SEC.BOTANICA

3. Atestarea lipsei sau existenței restanțelor conform datelor Sistemului Informațional Automatizat /

Подтверждение отсутствия или наличия недоимки согласно данных Информационной автоматизированной системы

La data emiterii prezentului certificat restanța față de bugetul public național constituie/ На дату выдачи данной справки недоимка перед национальным публичным бюджетом составляет:
0,00 lei/лей.

4. Valabil pînă la / Действителен до 10.11.2022

5. Autentificarea Serviciului Fiscal de Stat / Подтверждение Государственной налоговой службы

ȘEF interimar al DDF Botanica

Funcția/Dолжность

Semnătura/Подпись

Mariana VOLOH

Numele și prenumele/Фамилия и имя

L.Ș/ М.П.

Executor: Galina Gînga
Numele și prenumele/Фамилия и имя

Este extras din Sistemul Informațional al SFS SIA „Contul curent al contribuabilului”// 26.10.2022 ora 15:31:47
cu aplicarea prevederilor pct. 82-83 Ordin IFPS nr.400 din 14.03.2014 (Monitorul Oficial 72-77/399, 28.03.2014)

[NOTA \(36 413,72\)](#)

REPUBLICA



MOLDOVA

CERTIFICAT DE ÎNREGISTRARE

Societatea Comercială "OXIVIT-MED" S.R.L.
ESTE ÎNREGISTRATĂ LA CAMERA ÎNREGISTRĂRII DE STAT

Numărul de identificare de stat - codul fiscal
1007600044280

Data înregistrării

30.07.2007

Data eliberării

30.07.2007

Bordeianu Tatiana, registrator de stat

*Funcția, numele, prenumele persoanei
care a eliberat certificatul*

semnătura

MD 0067985





I.P. "AGENȚIA SERVICII PUBLICE"

Departamentul înregistrare și licențiere a unităților de drept

EXTRAS
din Registrul de stat al persoanelor juridice

nr. 8871 din 05.05.2021

Denumirea completă: **Societatea Comercială «OXIVIT-MED» S.R.L.**

Denumirea prescurtată: **S.C. «OXIVIT-MED» S.R.L.**

Forma juridică de organizare: **Societate cu Răspundere Limitată.**

Numărul de identificare de stat și codul fiscal: **1007600044280.**

Data înregistrării de stat: **30.07.2007.**

Sediul: **MD-2032, bd. Decebal, 82, ap.(of.) 90, mun. Chișinău, Republica Moldova.**

Modul de constituire: **nou creată.**

Obiectul principal de activitate:

- 1 Importul, fabricarea, comercializarea, asistența tehnică și (sau) reparația dispozitivelor medicale și (sau) a opticii;**
- 2 Comerțul cu ridicata al parfumurilor și produselor cosmetice;**
- 3 Comerțul cu amănuntul al produselor cosmetice și de parfumerie, articolelor de toaletă;**
- 4 Intermedieri pentru vânzarea unui asortiment larg de mărfuri;**
- 5 Alte tipuri de comerț cu amănuntul în magazine nespecializate;**
- 6 Alte tipuri de comerț cu ridicata;**
- 7 Închirierea altor mașini și echipamente.**

Capitalul social: **5400 lei.**

Administrator: KOJEVNIKOV DMITRII, IDNP 0972305012362,

Asociați:

1. KOJEVNIKOV DMITRII , IDNP 0972305012362

cota 5400.00 lei, ce constituie 100 %.

Prezentul extras este eliberat în temeiul art. 34 al Legii nr. 220-XVI din 19 octombrie 2007 privind înregistrarea de stat a persoanelor juridice și a întreprinzătorilor individuali și confirmă datele din Registrul de stat la data de: 05.05.2021.

Specialist coordonator
tel. 022-207-840

Lazari Aliona



EEI 0358094

OXIVIT MED

c/f: 1007600044280; adresa: str. Decebal 82-90, or. Chișinău, Republica Moldova

telefon: + 373 22 808002; fax: + 373 22 808003

web: www.oxivit-med.com; e-mail: info@oxivit-med.com

Lista fondatorilor companiei SRL „Oxivit-Med”

Nr.	Numele, Prenumele	Codul Personal
1	Kojevnikov Dmitrii	0972305012362

! Indications, Safety, and Warnings

HEALTHCARE PROFESSIONALS

AFFINITY NT™ OXYGENATION SYSTEM

With Balance™ Biosurface



OVERVIEW

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.

CONSISTENT PERFORMANCE RELIABLE RESULTS

The Affinity NT™ oxygenator continues the Affinity™ tradition of high performance and convenience.

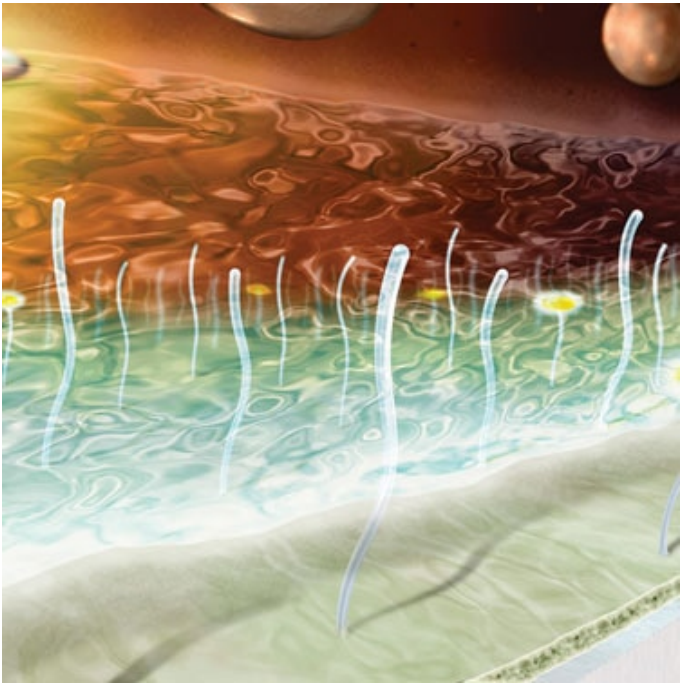
6+
MILLION
Produced on single
manufacturing line

- Proprietary graduated fiber bundle density technology and radial flow design for enhanced gas transfer and low pressure drop
- Excellent air handling capabilities with separate venous and cardiectomy inlets, a final screen intended to remove air and other potential emboli, and a design that prevents blood contact with defoamer (unless foam is present)
- Clear design for unobstructed visibility pre- and post-membrane for ease in

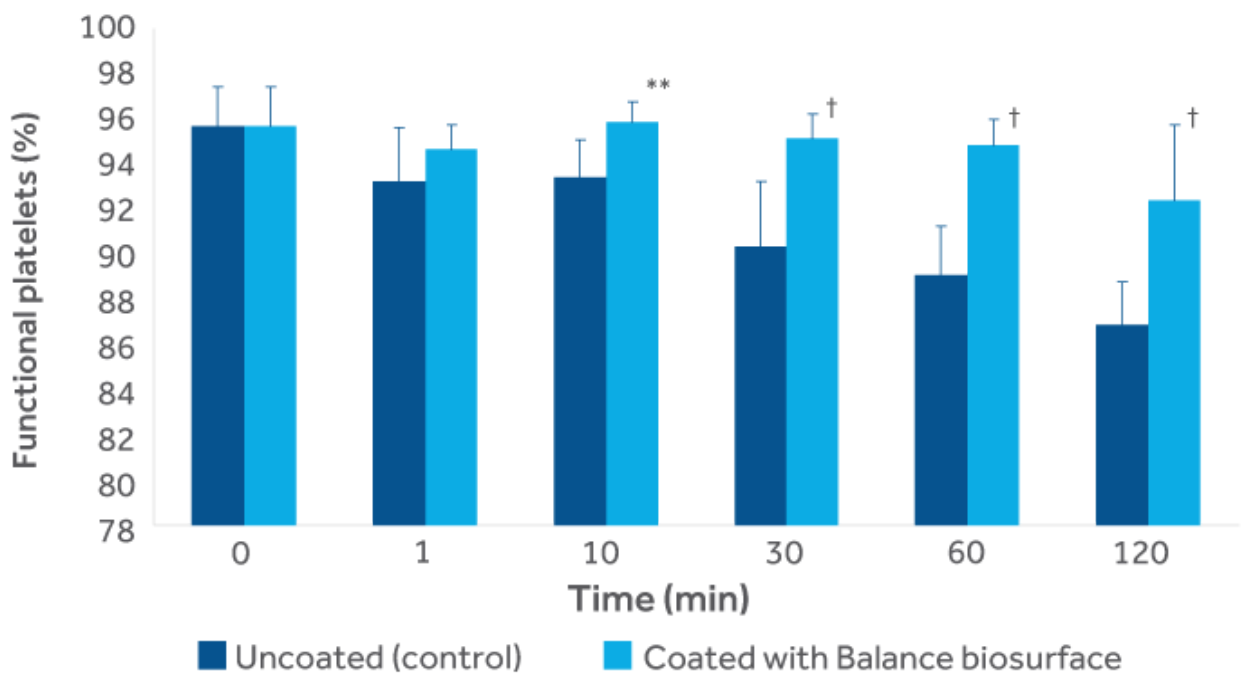
BALANCE BIOSURFACE*

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

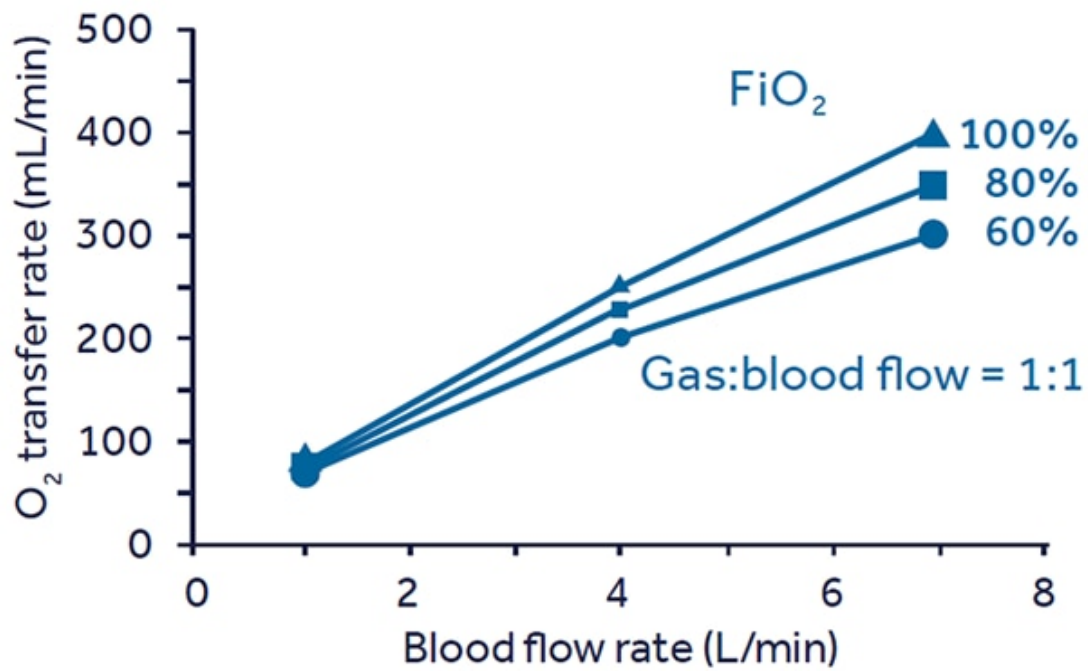


% FUNCTIONAL PLATELETS OVER TIME†

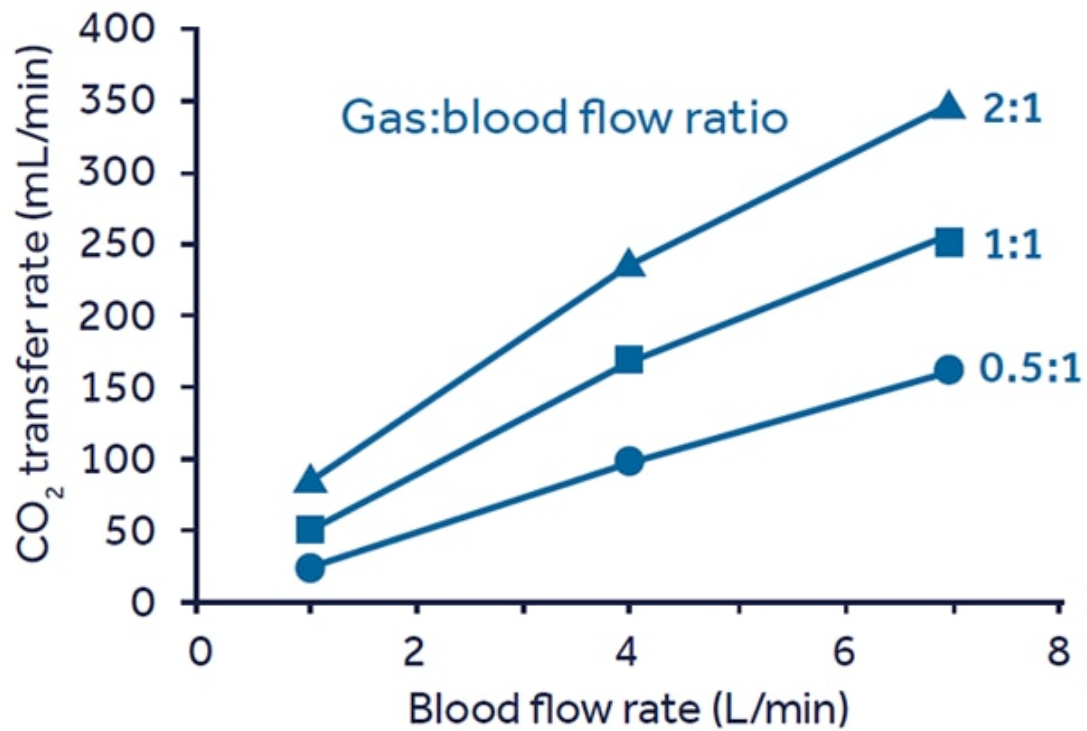


OXYGENATOR PERFORMANCE DATA

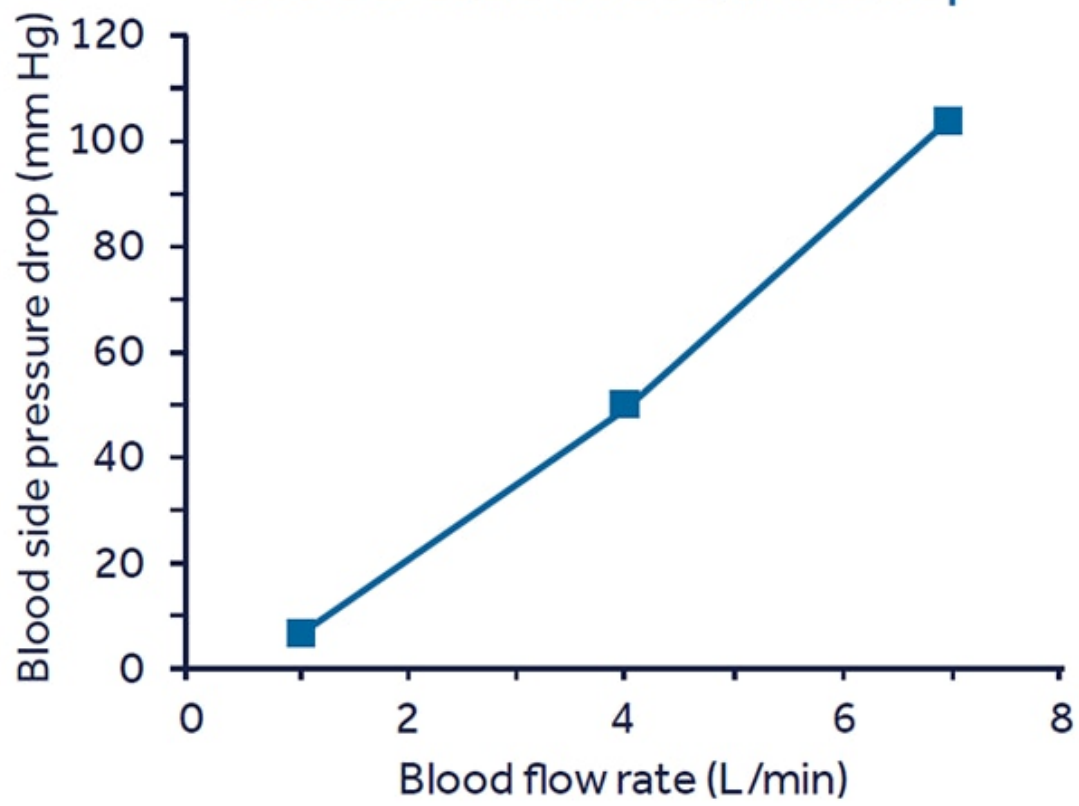
O₂ Transfer Rate

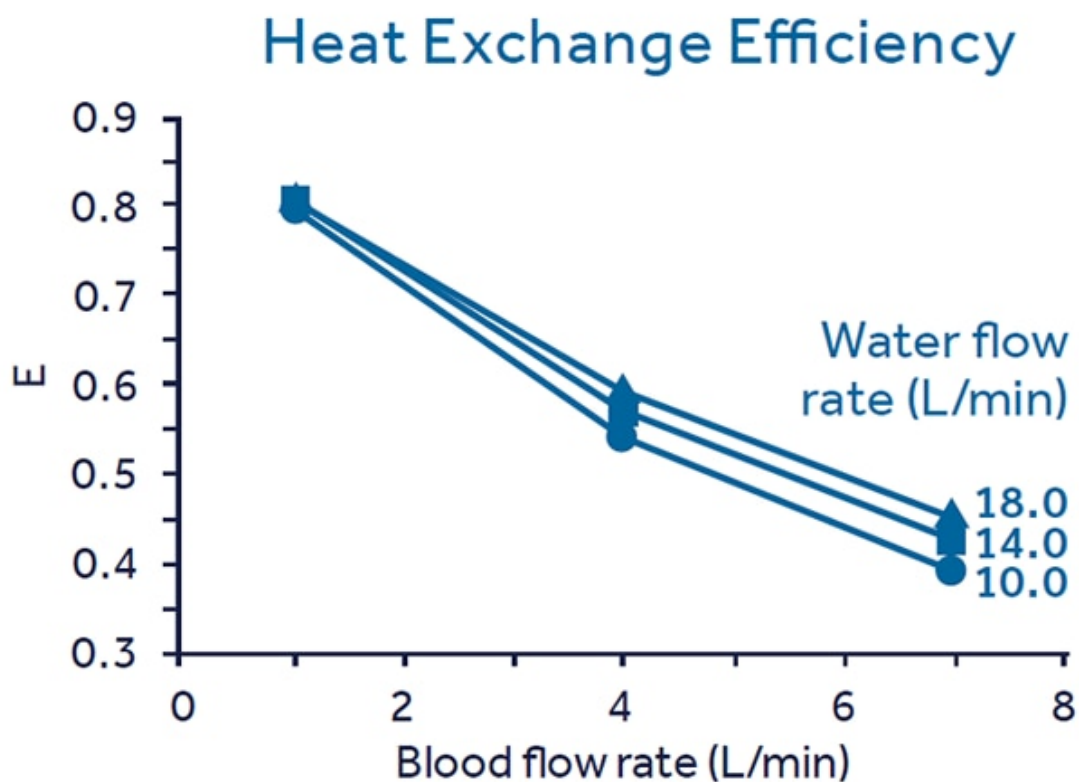


CO₂ Transfer Rate



Blood Side Pressure Drop





MANUALS AND TECHNICAL GUIDES

Find the Affinity NT™ oxygenation system technical manual in the product labeling supplied with each device.

MODEL SPECIFICATIONS



AFFINITY NT™ OXYGENATOR

Membrane type: Microporous polypropylene hollow fibers

Membrane surface area: 2.5m²

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 outlet port: 3/8" nonbarbed

Water ports: 1/2" quick disconnects



AFFINITY NT™ CVR SPECIFICATIONS

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: 200ml

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

ORDERING INFORMATION

OXYGENATORS

PRODUCT NUMBER	541B
PRODUCT DESCRIPTION	Affinity NT™ integrated uncoated CVR/oxygenator with Balance Biosurface
UNITS/CASE	2
PRODUCT NUMBER	511B
PRODUCT DESCRIPTION	Affinity NT™ oxygenator with Balance Biosurface
UNITS/CASE	Available in custom tubing packs

ACCESSORIES AND HOLDERS

MODEL NUMBER	61399401093
PRODUCT DESCRIPTION	Affinity™ oxygenator with integrated CVR holder
UNITS/CASE	1
MODEL NUMBER	61399401072
PRODUCT DESCRIPTION	Affinity™ oxygenator holder
UNITS/CASE	1
MODEL NUMBER	TP
PRODUCT DESCRIPTION	Temperature probe
UNITS/CASE	1

* Cortiva™ BioActive Surface, formerly marketed under the Carmeda® brand name. Carmeda is a registered trademark of Carmeda AB (Sweden). 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.

REQUEST MORE INFORMATION

CONTACT US

RELATED THERAPY

- Perfusion

LIFELINE (TECHNICAL AND CLINICAL) SUPPORT

US Based Technical Support - 24/7

+ 1-877-526-7890

rs.cstechsupport@medtronic.com

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CARDIAC RHYTHM MANAGEMENT AND CARDIOVASCULAR DIAGNOSTICS & SERVICES

PRODUCT CATALOGUE 2021



TABLE OF CONTENT



PACEMAKERS (IPG)

Single Chamber, Dual Chamber, Leadless



CRT PACEMAKERS (CRT-P)



DEFIBRILLATORS (ICD)

Single Chamber, Dual Chamber



CRT DEFIBRILLATORS (CRT-D)



PACING LEADS AND DELIVERY SYSTEMS



DEFIBRILLATION LEADS AND DELIVERY SYSTEMS



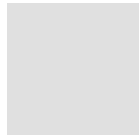
LEFT-HEART LEADS AND DELIVERY SYSTEMS



ACCESSORIES



INSERTABLE CARDIAC MONITORS



PATIENT MANAGEMENT SOLUTIONS



PROCEDURE INNOVATIONS

Antibacterial Envelope, External Pacemakers

PACEMAKERS (IPG)

Single Chamber (SR)



AZURE™ XT SR MRI

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- Lead Monitor (RV) with Auto Polarity Switch
- CareAlert Monitoring
- Carelink connectivity with CareAlerts

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Conducted AF Response (CAFR)

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Histograms Reports
- Ventricular Episodes including EGMs

Model	W2SR01
M (g)	22.5
V (cc)	12.25
Size (mm) (HxWxD)	42.6 x 50.8 x 7.4
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



AZURE™ S SR MRI

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- Lead Monitor (RV) with Auto Polarity Switch
- CareAlert Monitoring
- Carelink connectivity with CareAlerts

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Ventricular Episodes including EGMs

Model	W3SR01
M (g)	22.5
V (cc)	12.25
Size (mm) (HxWxD)	42.6 x 50.8 x 7.4
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ASTRA™ XT SR MRI SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- Lead Monitor (RV) with Auto Polarity Switch
- CareLink connectivity

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Conducted AF Response (CAFR)

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure

- OptiVol 2.0

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Histograms Reports
- Ventricular Episodes including EGMs

Model	X2SR01
M (g)	22.5
V (cc)	12.2
Size (mm) (HxWxD)	42.6 x 50.8 x 7.4
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTESTA™ SR MRI SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	ATSR01
M (g)	21.5
V (cc)	9.7
Size (mm) (HxWxD)	40.2 x 42.9 x 7.5
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPHERA™ SR MRI SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	SPSR01
M (g)	21.5
V (cc)	9.7
Size (mm) (HxWxD)	40.2 x 42.9 x 7.5
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ADVISA SR MRI™

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- Lead Monitor (RV) with Auto Polarity Switch
- CareLink connectivity

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Histograms Reports
- Ventricular Episodes including EGMs

Model	A3SR01
M (g)	21.0
V (cc)	11.9
Size (mm) (HxWxD)	51 x 42 x 8
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ENSURA SR MRI™

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- Lead Monitor (RV) with Auto Polarity Switch
- CareLink connectivity

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Ventricular Episodes including EGMs

Model	EN1SR01
M (g)	21.0
V (cc)	11.9
Size (mm) (HxWxD)	51 x 42 x 8
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ADAPTA[®] SR

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	ADSR01	ADSR03	ADSR06
M (g)	21.5	22.5	22.5
V (cc)	9.7	10.5	11.0
Size (mm) (HxWxD)	40.2 x 42.9 x 7.5	42.9 x 42.9 x 7.5	43.3 x 42.9 x 7.5
Connector	IS-1 BI/UNI	IS-1 BI/UNI; 3.2 mm LP BI	5 or 6 mm UNI



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SENSIA[®] SR

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	SESR01
M (g)	21.5
V (cc)	9.7
Size (mm) (HxWxD)	40.2 x 42.9 x 7.5
Connector	IS-1 BI/UNI



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	SES01
M (g)	21.5
V (cc)	9.7
Size (mm) (HxWxD)	40.2 x 42.9 x 7.5
Connector	IS-1 BI/UNI



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PACEMAKERS (IPG)

Dual Chamber (DR)



AZURE™ XT DR MRI SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareAlert Monitoring
- Carelink connectivity with CareAlerts

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP):
AAI(R) ↔ DDD(R)

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure

- OptiVol 2.0

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Histograms Reports
- Heart Failure Management Report
- Atrial and Ventricular Episodes including EGMs

Model	W2DR01
M (g)	22.5
V (cc)	12.75
Size (mm) (HxWxD)	46.6 x 50.8 x 7.4
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



AZURE™ S DR MRI

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareAlert Monitoring
- Carelink connectivity with CareAlerts

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP):
AAI(R)<->DDD(R)

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch
- Atrial Preference Pacing (APP)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Ventricular Episodes including EGMs

Model	W3DR01
M (g)	22.5
V (cc)	12.75
Size (mm) (HxWxD)	46.6 x 50.8 x 7.4
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ASTRA™ XT DR MRI SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP):
AAI(R) ↔ DDD(R)

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure

- OptiVol 2.0

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Histograms Reports
- Atrial and Ventricular Episodes including EGMs

Model	X2DR01
M (g)	22.5
V (cc)	12.75
Size (mm) (HxWxD)	46.6 x 50.8 x 7.4
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTESTA™ DR MRI SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Managed Ventricular Pacing Mode (MVP): AAI(R) <-> DDD(R)
- Search AV+ up to 600ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Sinus Preference
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	ATDR01	ATDRS1 (Small)	ATDRL1 (Longevity)
M (g)	27.1	23.6	31.3
V (cc)	12.1	11.1	13.1
Size (mm) (HxWxD)	44.7 x 47.9 x 7.5	44.7 x 42.9 x 7.5	45.4 x 52.3 x 7.5
Connector	IS-1 BI/UNI		

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPHERA™ DR MRI

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Search AV+ up to 600 ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	SPDR01	SPDRL1 (Longevity)
M (g)	27.1	31.3
V (cc)	12.1	13.1
Size (mm) (HxWxD)	44.7 x 47.9 x 7.5	45.4 x 52.3 x 7.5
Connector	IS-1 BI/UNI	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ADVISA DR MRI™

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Histograms Reports
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

Model	A3DR01
M (g)	22.0
V (cc)	12.7
Size (mm) (HxWxD)	45 x 51 x 8
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ENSURA DR MRI™

SURESCAN™

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch
- Atrial Preference Pacing (APP)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Ventricular Episodes including EGMs

Model	EN1DR01
M (g)	22.0
V (cc)	12.7
Size (mm) (HxWxD)	45 x 51 x 8
Connector	IS-1 BI/UNI

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ADAPTA™ DR

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)
- Search AV+ up to 600ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Sinus Preference
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	ADDR01	ADDR03	ADDR06	ADDRS1 (Small)	ADDRL1 (Longevity)
M (g)	27.1	28.1	28.5	23.6	31.3
V (cc)	12.1	13.0	14.2	11.1	13.1
Size (mm) (HxWxD)	44.7 x 47.9 x 7.5	46.7 x 47.9 x 7.5	50.3 x 47.9 x 7.5	44.7 x 42.9 x 7.5	45.4 x 52.3 x 7.5
Connector	IS-1 BI/UNI	IS-1 BI/UNI; 3.2 mm LP BI	5 or 6 mm UNI	IS-1 BI/UNI	IS-1 BI/UNI



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



ADAPTA[®] D

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Managed Ventricular Pacing Mode (MVP): AAI(R) <-> DDD(R)
- Search AV+ up to 600 ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	ADD01
M (g)	27.1
V (cc)	12.1
Size (mm) (HxWxD)	44.7 x 47.9 x 7.5
Connector	IS-1 BI/UNI



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ADAPTA[®] VDD

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Search AV+ up to 600 ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	ADVDD01
M (g)	23.6
V (cc)	11.1
Size (mm) (HxWxD)	44.7 x 42.9 x 7.5
Connector	IS-1 BI/UNI



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SENSIA[®] DR

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Search AV+ up to 600 ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Non-competitive Atrial Pacing (NCAP)

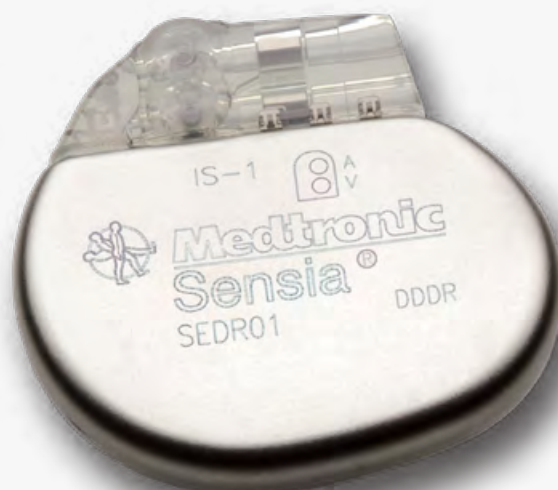
ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	SEDRO1	SEDRL1 (Longevity)
M (g)	27.1	31.1
V (cc)	12.1	13.1
Size (mm) (HxWxD)	44.7 x 47.9 x 7.5	45.4 x 52.3 x 7.5
Connector	IS-1 BI/UNI	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SENSIA[®] D

PACEMAKERS (IPG)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Automatically monitors for implant detection and continuously adapts key device parameters to ensure the therapies are optimized.

- Implant Detection
- TherapyGuide
- Capture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Search AV+ up to 600 ms

AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

- ModeSwitch with Blanked Flutter Search
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Rate Hysteresis
- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Histogram Reports
- Atrial and Ventricular Episodes including EGMs
- Additional Clinician Selected Diagnostics

Model	SED01
M (g)	27.1
V (cc)	12.1
Size (mm) (HxWxD)	44.7 x 47.9 x 7.5
Connector	IS-1 BI/UNI



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PACEMAKERS (IPG)

Leadless



MICRA™ AV

TRANSCATHETER PACING SYSTEM

PACEMAKERS (IPG)

GENERAL DESCRIPTION

- Miniaturized: Completely self-contained within the heart, no leads required
- Designed to provide AV Synchrony (VDD)
- Engineered for a minimally invasive approach
- Integrated delivery system facilitates a streamlined implant procedure via femoral approach
- Atraumatic FlexFix™ nitinol tines provide secure capsule placement
- CareLink connectivity

COMPLETELY AUTOMATIC – SIMPLE TO USE

- Continuously adapts key device parameters to ensure the therapies are optimized.
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)

ENSURING AV SYNCHRONY

- Dynamic sensing that adjusts pacing based on the mechanical atrial contraction
- Accelerometer-based mechanical atrial sensing

DIAGNOSTICS

- Quick Look II
- Histogram Reports

ELECTRODES

- Surface area:
- Anode: 22 mm²
- Cathode: 2.5 mm²
- Steroid eluting cathode

MICRA DELIVERY CATHETER

- Catheter system with a handle that controls deflection and deployment of the Micra pacing capsule
- It can function as a retrieval catheter post tether removal
- Outer diameter: 7.8 mm (23 Fr)
- Effective length: 105 cm
- Radiopacity: Gold (99.99% purity)

MICRA INTRODUCER SHEATH

- Lubricious hydrophilic coating facilitates smooth vessel navigation
- Stopcock for aspirating and flushing
- Radiopaque marker on end of Introducer
- Inner diameter: 7.8 mm (23 Fr)
- Outer diameter: 9.0 mm (27 Fr)
- Working length: 55.7 cm
- Dilator:
 - Working length: 69.9 cm
 - Guidewire compatibility: 0.89 mm (0.035 in)

Model	MC1AVR1
M (g)	1.75
V (cc)	0.8
Length (mm)	25.9
Outer Diameter (mm (Fr))	6.7 (20.1)

MRI SureScan

Full Body 1.5 and 3T MRI:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



MICRA™ VR

TRANSCATHETER PACING SYSTEM

PACEMAKERS (IPG)

GENERAL DESCRIPTION

- Miniaturized: Completely self-contained within the heart, no leads required
- Engineered for a minimally invasive approach
- Integrated delivery system facilitates a streamlined implant procedure via femoral approach
- Atraumatic FlexFix™ nitinol tines provide secure capsule placement
- CareLink connectivity

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareLink connectivity

DIAGNOSTICS

- Quick Look II
- Histogram Reports

ELECTRODES

- Surface area:
- Anode: 22 mm²
- Cathode: 2.5 mm²
- Steroid eluting cathode

MICRA DELIVERY CATHETER

- Catheter system with a handle that controls deflection and deployment of the Micra pacing capsule
- It can function as a retrieval catheter post tether removal
- Outer diameter: 7.8 mm (23 Fr)
- Effective length: 105 cm
- Radiopacity: Gold (99.99% purity)

MICRA INTRODUCER SHEATH

- Lubricious hydrophilic coating facilitates smooth vessel navigation
- Stopcock for aspirating and flushing
- Radiopaque marker on end of Introducer
- Inner diameter: 7.8 mm (23 Fr)
- Outer diameter: 9.0 mm (27 Fr)
- Working length: 55.7 cm
- Dilator:
- Working length: 69.9 cm
- Guidewire compatibility: 0.89 mm (0.035 in)

Model	MC1VR01
M (g)	1.75
V (cc)	0.8
Length (mm)	25.9
Outer Diameter (mm (Fr))	6.7 (20.1)

MRI SureScan

Full Body 1.5 and 3T MRI:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



CRT PACEMAKERS (CRT-P)



PERCEPTA™ QUAD CRT-P MRI SURESCAN™

CRT PACEMAKERS (CRT-P)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Therapy Guide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA, RV and LV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
- AdaptivCRT
- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress 2.0 LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Sequential MPP
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.

Model	W4TR04
M (g)	30
V (cc)	20.5
Size (mm) (HxWxD)	59 x 46.5 x 11
Connector	2x IS-1 / 1x IS-4

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



PERCEPTA™ CRT-P MRI SURESCAN™

CRT PACEMAKERS (CRT-P)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Therapy Guide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA, RV and LV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
- AdaptivCRT
- CardioSync Optimization Test
- 5 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- Optiol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

Model	W1TR04
M (g)	30
V (cc)	20
Size (mm) (HxWxD)	59 x 46.5 x 11
Connector	3x IS-1

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SERENA™ QUAD CRT-P MRI

SURESCAN™

CRT PACEMAKERS (CRT-P)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Therapy Guide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA, RV and LV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Sequential MPP
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

Model	W4TR05
M (g)	30
V (cc)	20.5
Size (mm) (HxWxD)	59 x 46.5 x 11
Connector	2x IS-1 / 1x IS-4

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



SERENA™ CRT-P MRI SURESCAN™

CRT PACEMAKERS (CRT-P)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Therapy Guide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA, RV and LV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP):
AAI(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- 5 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

Model	W1TR05
M (g)	30
V (cc)	20
Size (mm) (HxWxD)	59 x 46.5 x 11
Connector	3 x IS-1

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SOLARA™ QUAD CRT-P MRI SURESCAN™

CRT PACEMAKERS (CRT-P)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Therapy Guide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA, RV and LV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP):
AAI(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- VectorExpress LV Automated Test
- 16 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

Model	W4TR06
M (g)	30
V (cc)	20.5
Size (mm) (HxWxD)	59 x 46.5 x 11
Connector	2x IS-1 / 1x IS-4

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SOLARA™ CRT-P MRI SURESCAN™

CRT PACEMAKERS (CRT-P)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Implant Detection
- Therapy Guide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- Lead Monitor (RA, RV and LV) with Auto Polarity Switch
- CareLink connectivity

MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV pacing.

- Updated Managed Ventricular Pacing Mode (MVP): AA(R)<->DDD(R)

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- 5 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch
- Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Sleep Function
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min⁻¹ for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG
- Atrial and Ventricular Episodes including EGMs

*Subject to availability

Model	W1TR06
M (g)	30
V (cc)	20
Size (mm) (HxWxD)	59 x 46.5 x 11
Connector	3 x IS-1

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



DEFIBRILLATORS (ICD)

Single Chamber (VR)



COBALT™ XT VR MRI SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA), Atrial Fibrillation (AF) burden and Fast V. Rate During AF
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- SmartShock™ 2.0+ Technology with Intrinsic ATP™ Algorithm
- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging ChargeSaver with Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol™ 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- AF Diagnostic (Trends and Histograms)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

**Subject to availability*

Model	DVPA2D1	DVPA2D4
M (g)	79	79
V (cc)	33.2	33.8
Size (mm) (HxWxD)	66 x 51 x 13	66 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



COBALT™ VR MRI SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA), Atrial Fibrillation (AF) burden and Fast V. Rate During AF
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- TruAF™ Detection Algorithm
- Conducted AF Response (CAFR)
- AF Diagnostic (Trends and Histograms)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVPB3D1	DVPB3D4
M (g)	79	79
V (cc)	33.2	33.8
Size (mm) (HxWxD)	66 x 51 x 13	66 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CROME™ VR MRI SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVPC3D1	DVPC3D4
M (g)	79	79
V (cc)	33.2	32.8
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PRIMO MRI™ VR

SURESCAN™

DEFIBRILLATORS (ICD)

AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVMD3D1	DVMD3D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



MIRRO MRI™ VR

SURESCAN™

DEFIBRILLATORS (ICD)

AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVME3D1	DVME3D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VISIA AF MRI™ XT VR SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA), Atrial Fibrillation (AF) burden and Fast V. Rate During AF
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol™ 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- AF Diagnostic (Trends and Histograms)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DVFB2D1	DVFB2D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	66 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VISIA AF™ XT VR

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA), Atrial Fibrillation (AF) burden and Fast V. Rate During AF
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- AF Diagnostic (Trends and Histograms)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

**Subject to availability*

Model	DVAB2D1
M (g)	77
V (cc)	33
Size (mm) (HxWxD)	66 x 51 x 13
Connector	IS-1 / DF-1
Max Program. / Delivered Energy (J)	35 / 36



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VISIA AF MRI™ S VR SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA), Atrial Fibrillation (AF) burden and Fast V. Rate During AF
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- AF Diagnostic (Trends and Histograms)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVFC3D1	DVFC3D4
M (g)	77	77
V (cc)	33	33
Size(mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VISIA AF™ S VR

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA), Atrial Fibrillation (AF) burden and Fast V. Rate During AF
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- AF Diagnostic (Trends and Histograms)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVAC3D1
M (g)	77
V (cc)	33
Size (mm) (HxWxD)	66 x 51 x 13
Connector	IS-1 / DF-1
Max Program. / Delivered Energy (J)	35 / 36



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EVERA MRI® XT VR

SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DVMB2D1	DVMB2D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EVERA® XT VR

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DVBB2D1	DVBB2D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EVERA MRI® S VR

SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVMC3D1	DVMC3D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EVERA[®] S VR

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RV)
- Auto-adjusting sensitivity (RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – Wavelet, Stability, Onset
- Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)

ADDITIONAL PACING FEATURES

- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DVBC3D1	DVBC3D4
M (g)	77	77
V (cc)	33	33
Size (mm) (HxWxD)	66 x 51 x 13	64 x 51 x 13
Connector	IS-1 / DF-1	DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



DEFIBRILLATORS (ICD)

Dual Chamber (DR)



COBALT™ XT DR MRI

SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry
- Bluetooth® Wireless Telemetry (BlueSync™ Technology)

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- SmartShock™ 2.0+ Technology with Intrinsic ATP™ Algorithm
- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ChargeSaver with ATP Before and During Charging
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Updated Managed Ventricular Pacing Mode (MVP): AAI(R)DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DDPA2D1	DDPA2D4
M (g)	79	80
V (cc)	33.1	33.7
Size (mm) (HxWxD)	66 x 51 x 14	66 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



COBALT™ DR MRI SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry
- Bluetooth® Wireless Telemetry (BlueSync™ Technology)

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Updated Managed Ventricular Pacing Mode (MVP): AAI:(R)/DDDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DDPB3D1	DDPB3D4
M (g)	79	80
V (cc)	33,1	33,7
Size (mm) (HxWxD)	66 x 51 x 14	64 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CROME™ DR MRI SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Updated Managed Ventricular Pacing Mode (MVP): AAI(R)DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DDPC3D1	DDPC3D4
M (g)	79	80
V (cc)	33.1	33.7
Size (mm) (HxWxD)	66 x 51 x 13	66 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PRIMO MRI™ DR

SURESCAN™

DEFIBRILLATORS (ICD)

AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DDMD3D1	DDMD3D4
M (g)	77	78
V (cc)	33	34
Size (mm) (HxWxD)	66 x 51 x 15	68 x 51 x 15
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



MIRRO MRI™ DR

SURESCAN™

DEFIBRILLATORS (ICD)

AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- SVT Discriminators – PR Logic, Stability, Onset
- PR Logic programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DDME3D1	DDME3D4
M (g)	77	78
V (cc)	33	34
Size (mm) (HxWxD)	66 x 51 x 13	66 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EVERA MRI™ XT DR

SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Managed Ventricular Pacing Mode (MVP): AA(R)<->DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DDMB2D1	DDBB2D4
M (g)	77	78
V (cc)	33	34
Size (mm) (HxWxD)	66 x 51 x 14	68 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



EVERA[®] XT DR

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Algorithm to help manage heart failure.

- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Managed Ventricular Pacing Mode (MVP): AAI(R) <-> DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DDBB2D1	DDBB2D4
M (g)	77	78
V (cc)	33	34
Size (mm) (HxWxD)	66 x 51 x 13	68 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



EVERA MRI™ S DR

SURESCAN™

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Managed Ventricular Pacing Mode (MVP): AAI(R) <-> DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DDMC3D1	DDMC3D4
M (g)	77	78
V (cc)	33	34
Size (mm) (HxWxD)	66 x 51 x 14	68 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EVERA[®] S DR

DEFIBRILLATORS (ICD)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA and RV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- Managed Ventricular Pacing Mode (MVP): AAI(R) <-> DDD(R)
- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DDBC3D1	DDBC3D4
M (g)	77	78
V (cc)	33	34
Size (mm) (HxWxD)	66 x 51 x 13	66 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CRT DEFIBRILLATORS (CRT-D)



COBALT™ XT HF Quad CRT-D MRI SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- SmartShock™ 2.0+ Technology with Intrinsic ATP™ Algorithm
- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
- AdaptivCRT
- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress 2.0 LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Sequential MPP
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.

Model	DTPA2Q1 (Quad)	DTPA2QQ (Quad)
M (g)	82	83
V (cc)	36.3	35.5
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



COBALT™ XT HF CRT-D MRI SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- SmartShock™ 2.0+ Technology with Intrinsic ATP™ Algorithm
- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
- AdaptivCRT
- CardioSync Optimization Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

**Subject to availability*

Model	DTPA2D1	DTPA2D4
M (g)	82	82.1
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	71 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



COBALT™ HF Quad CRT-D MRI SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress 2.0 LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Sequential MPP Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTPB2Q1 (Quad)	DTPB2QQ (Quad)
M (g)	83	83
V (cc)	36.3	35.5
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



COBALT™ HF CRT-D MRI SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTPB2D1	DTPB2D4
M (g)	82	82.1
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	71 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



CROME™ HF Quad CRT-D MRI SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress 2.0 LV Automated Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- Mode Switch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTPC2Q1 (Quad)	DTPC2QQ (Quad)
M (g)	83	83
V (cc)	36.3	35.5
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



CROME™ HF CRT-D MRI SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- Bluetooth® Wireless Telemetry (BlueSync™ Technology)
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- Mode Switch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTPC2D1	DTPC2D4
M (g)	82	82.1
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	71 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	40 / 40	40 / 40

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CLARIA MRI™ QUAD CRT-D SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
- AdaptivCRT
- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress 2.0 LV Automated Test
- 16 LV pacing vectors and 5 vectors for MPP with Quadripolar LV lead
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.

Model	DTMA2Q1 (Quad)	DTMA2QQ (Quad)
M (g)	82	81
V (cc)	36	35
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



CLARIA MRI™ CRT-D

SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
- AdaptivCRT
- CardioSync Optimization Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.

Model	DTMA2D1	DTMA2D4
M (g)	80	80
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	73 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



AMPLIA MRI™ QUAD CRT-D

SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- Multiple Point Pacing (MPP)
- VectorExpress LV Automated Test
- 16 LV pacing vectors and 5 vectors for MPP with Quadripolar LV lead
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias. Automatic and Patient-activated atrial cardioversion (CV)

- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.

Model	DTMB2Q1 (Quad)	DTMB2QQ (Quad)
M (g)	82	81
V (cc)	36	35
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



AMPLIA MRI™ CRT-D

SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.

Model	DTMB2D1	DTMB2D4
M (g)	80	80
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	73 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



COMPIA MRI™ QUAD CRT-D SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- VectorExpress LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS Quick Look II

- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTMC2QQ (Quad)
M (g)	81
V (cc)	35
Size (mm) (HxWxD)	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	35 / 36

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



COMPIA MRI™ CRT-D

SURESCAN™

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- Ventricular Sense Response (VSR)
- Managed Ventricular Pacing (MVP)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTMC2D1	DTMC2D4
M (g)	80	80
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	71 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan lead:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VIVA™ QUAD XT CRT-D

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- VectorExpress LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

Automatic and Patient-activated atrial cardioversion (CV)

- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTBA2Q1 (Quad)	DTBA2QQ (Quad)
M (g)	82	81
V (cc)	36	35
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.

VIVA™ XT CRT-D

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- AdaptivCRT
- CardioSync Optimization Test
- 4 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

**Subject to availability*

Model	DTBA2D1	DTBA2D4
M (g)	80	80
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	73 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VIVA™ QUAD S CRT-D

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- VectorExpress LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

*Subject to availability

Model	DTBB2QQ (Quad)
M (g)	81
V (cc)	35
Size (mm) (HxWxD)	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1
Max Program. / Delivered Energy (J)	35 / 36



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



VIVA™ S CRT-D

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- 4 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)
- OptiVol 2.0
- Heart Failure Risk Stratification (TriageHF)*

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
- Atrial ATP with Reactive ATP
- ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)
- Atrial Preference Pacing (APP)
- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)
- Atrial Rate Stabilization (ARS)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Heart Failure Management Report
- Leadless ECG

**Subject to availability*

Model	DTBB2D1	DTBB2D4
M (g)	80	80
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	73 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



BRAVA™ QUAD CRT-D

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ATP Before and During Charging with ChargeSaver
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- SVT Discriminators – PR Logic, Wavelet, Stability, Onset
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- VectorExpress LV Automated Test
- 16 LV pacing vectors with Quadripolar LV lead
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DTBC2Q1 (Quad)	DTBC2QQ (Quad)
M (g)	82	81
V (cc)	36	35
Size (mm) (HxWxD)	74 x 51 x 13	74 x 51 x 13
Connector	IS-1 / IS-4 / DF-1	IS-1 / IS-4 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



BRAVA™ CRT-D

CRT DEFIBRILLATORS (CRT-D)

COMPLETELY AUTOMATIC – SIMPLE TO USE

Continuously adapts key device parameters to ensure the therapies are optimized.

- TherapyGuide
- Capture Management (RA, RV and LV)
- Auto-adjusting sensitivity (RA and RV)
- CareAlert sounds incl. Lead Integrity Alert (LIA)
- CareLink connectivity
- Wireless telemetry

VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular tachyarrhythmias.

- Ventricular cardioversion/defibrillation
- Ventricular antitachycardia pacing (ATP)
- ChargeSaver with ATP Before and During Charging
- Smart Mode
- Programmable RV sensing and pacing polarity
- Programmable HV shocking vectors
- 3 detection zones allowing VF and FVT zone overlap
- T-Wave and RV Lead Noise Discriminators
- Confirmation+
- PR Logic and Wavelet programmable to discriminate SVT in VF zone

HEART FAILURE (HF) MANAGEMENT

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test
- 4 LV pacing vectors
- Ventricular Sense Response (VSR)
- Atrial Tracking Recovery (ATR)

AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Conducted AF Response (CAFR)
- Non-competitive Atrial Pacing (NCAP)

ADDITIONAL PACING FEATURES

- PVC Response
- Ventricular Safety Pacing (VSP)
- Ventricular Rate Stabilization (VRS)
- Dual Zone Rate Response Pacing with Rate Profile Optimization

DIAGNOSTICS

- Quick Look II
- Cardiac Compass Trends
- Leadless ECG

Model	DTBC2D1	DTBC2D4
M (g)	80	80
V (cc)	35	35
Size (mm) (HxWxD)	71 x 51 x 13	73 x 51 x 13
Connector	IS-1 / DF-1	IS-1 / DF-4
Max Program. / Delivered Energy (J)	35 / 36	



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



IPG LEADS AND SYSTEMS



CAPSURE SENSE MRI™

SURESCAN™

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Lengths for 4574: 45, 53 (cm)
- Lengths for 4074: 52, 58 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

- Body: 1.8 mm (5.3 Fr)

ELECTRODES

- Porous Ring Shape
- Electrode Surface Area
 - Tip: 2.5 mm²
 - Ring: 24.0 mm²
- Tip-to-Ring Spacing for 4574: 9 mm
- Tip-to-Ring Spacing for 4074: 17 mm

MATERIAL

- Insulator: Polyurethane (outer 55D), Silicone (inner)
- Conductor: MP35N Nickel Alloy
- Tip Electrode: Platinum/Iridium with porous Titanium Nitride coating
- Ring Electrode: Platinum Alloy with porous Titanium Nitride coating

STYLETS WITH 4574

- Inserted
 - 1 gray straight
- Packaged
 - 2 purple straight

STYLETS WITH 4074

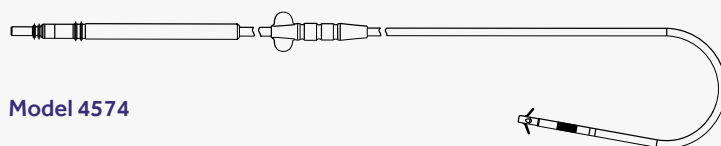
- Inserted
 - 1 gray straight
- Packaged
 - 1 gray straight
 - 2 purple straight

Model	4574	4074
Fixation	Passive / Tines	
Shape Chambers	J-shaped RA	Straight RV
Polarity	Bipolar	
Insulation	Polyurethane	
Introducer Size with/out Guidewire (Fr)	7.0 / 9.0	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4574



Model 4074

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CAPSUREFIX NOVUS MRI®

SURESCAN™

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Standard Lengths: 45, 52, 58, 65, 85 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

Body: 1.9 mm (5.7 Fr)

ELECTRODES

- Extendable/Retractable Helix Screw
- Helix Length: 1.8 mm
- Electrode Surface Area
 - Helix: 4.2 mm²
 - Ring: 22.0 mm²
- Tip-to-Ring Spacing: 10.0 mm

MATERIAL

- Insulator: Polyurethane (outer 55D), Silicone with Siloxane® treatment (inner)
- Conductor: MP35N Nickel Alloy
- Helix Electrode: Platinum Alloy with porous Titanium Nitride coating
- Ring Electrode: Platinum Alloy with porous Titanium Nitride coating
- Connector Ring: Stainless steel
- Connector Pin: Stainless steel

STYLETS

- Inserted
 - 1 gray straight
- Packaged
 - 1 gray straight
 - 1 blue straight
 - 1 gray J-shaped*
 - 1 blue J-shaped*
 - 1 white J-shaped*

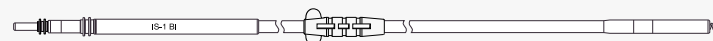
* Not available for leads 65 or 85 cm

Model	4076
Fixation	Active/ Screw-in
Shape / Chambers	Straigh / RA and RV
Polarity	Bipolar
Insulation	Polyurethane
Introducer Size with/out Guidewire (Fr)	7.0 / 9.0

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4076

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CAPSUREFIX NOVUS MRI®

SURESCAN™

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Standard Lengths: 35, 45, 52, 58, 65, 85 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

- Body: 2.0 mm (6.1 Fr)

ELECTRODES

- Extendable/Retractable Helix Screw
- Helix Length: 1.8 mm
- Electrode Surface Area
 - Helix: 4.2 mm²
 - Ring: 22.0 mm²
- Tip-to-Ring Spacing: 10.0 mm

MATERIAL

- Insulator: Silicone with Siloxane® treatment (inner)
- Conductor: MP35N Nickel Alloy
- Helix Electrode: Platinized Platinum Alloy
- Ring Electrode: Platinized Platinum Alloy
- Connector Ring: Stainless steel
- Connector Pin: Stainless steel

STYLETS

- Inserted
 - 1 gray straight
- Packaged
 - 1 gray straight
 - 1 blue straight
 - 1 gray J-shaped*
 - 1 blue J-shaped*
 - 1 white J-shaped*

* Not available for leads 65 or 85 cm

Model	5076
Fixation	Active/ Screw-in
Shape / Chambers	Straigh / RA and RV
Polarity	Bipolar
Insulation	Silicone
Introducer Size with/out Guidewire (Fr)	7.0 / 9.0

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 5076

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SELECTSECURE® MRI

SURESCAN™

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Standard Lengths: 59, 69, 74 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

- Body: 1.4 mm (4.1 Fr)

ELECTRODES

- Fixed Screw
- Helix Length: 1.8 mm
- Electrode Surface Area
 - Helix: 3.56 mm²
 - Ring: 16.9 mm²
- Tip-to-Ring Spacing: 9.0 mm

RECOMMENDED GUIDE CATHETER*

- C315 or C304

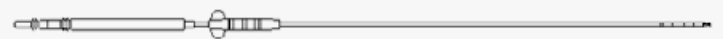
*Not included in the package – to be ordered separately

Model	3830
Fixation	Active/ Screw-in
Shape / Chambers	Straigh / RA and RV
Polarity	Bipolar
Insulation	Polyurethane
Introducer Size with/out Guidewire	5.5 Fr Inner Diameter

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 3830

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SELECTSITE®

DEFLECTABLE CATHETER

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Deflectable guide catheters for SelectSecure® Model 3830 leads

DEFLECTABLE CATHETER

- Material: Polyether block amide

CATHETER DILATOR

- Material: Polyethylene
- Outer diameter: 1.85 mm (5.6 Fr)

GUIDE WIRE

- Material: Stainless steel
- Length: 120 cm
- Diameter: 0.09 cm, 0.035 in

INTRODUCER VALVE

- Material: Silicone
- Inner diameter: 9 Fr max

UNIVERSAL II SLITER

- Blade Material: Stainless steel
- Handle Material: Polycarbonate

NEEDLE (not included into C304-HIS package)

- 18 gauge, 1.2 mm

SYRINGE (not included into C304-HIS package)

- 12 cc

Model	C304 -HIS	C304S 59	C304L 69	C304XL 74
Description	Deflectable + preshaped		Deflectable	
Length	43 cm	30 cm	40 cm	45 cm
Compatible Lead	3830-59, 69,74	3830-59	3830-69	3830-74
Inner Diameter (mm (Fr))		1.9 (5.7)		
Outer Diameter (mm (Fr))		2.8 (8.4)		



Model C304S59, C304L69, C304XL74



Model C304-HIS

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



C315

CATHETER

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Fixed shape guide catheters for SelectSecure® Model 3830 leads
- Package includes only catheter and dilator
- Package does not include introducer, guide wire, slitter, needle nor syringe
- To be ordered separately
- Use of introducer is optional – C315 catheter and dilator can be produced directly into the vein

CATHETER DILATOR

- Material: Polyether block amide
- Integrated valve
- In-line hub
- Hydrophilic coating
- Compatible with a 7 Fr Introducer
- Compatible with:
 - Universal II slitter 6230 UNI (to be ordered separately)
 - Adjustable slitter 6232 ADJ (to be ordered separately)

DILATOR

- Compatible with a 0.038" guide wire

Model	C315H20	C315J	C315S4	C315S5
Description	Fixed shape			
Length (cm)	20	30	30	30
Compatible Lead	for 49 cm or longer 3830 leads	for 59 cm or longer 3830 leads		
Inner Diameter (mm (Fr))	1.8 (5.4)			
Outer Diameter (mm (Fr))	2.4 (7.0)			

Model	C315S10	C315H40	C315HIS
Description	Fixed shape		
Length (cm)	40	40	43
Compatible Lead	for 69 cm or longer 3830 leads		
Inner Diameter (mm (Fr))	1.8 (5.4)		
Outer Diameter (mm (Fr))	2.4 (7.0)		



Model S4

Model S5

Model S10



Model J

Model H20

Model H40

Model HIS

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



CAPSURE® EPI

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Lengths for 4965: 25, 35, 50 (cm)
- Lengths for 4968: 25, 35, 60 (cm)

CONNECTOR

- IS1 Unipolar (4965)
- IS1 Bipolar (4968)

DIAMETER

- Body for 4965: 1.5 mm (4.5 Fr)
- Body for 4968: 2.5 mm (8.0 Fr)

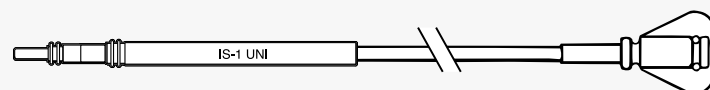
ELECTRODES

- Hemispherical, Platinized, Porous
- Electrode Surface Area for 4965
 - Cathode: 14 mm²
- Electrode Surface Area for 4968
 - Cathode: 6 mm²
 - Anode: 14 mm²

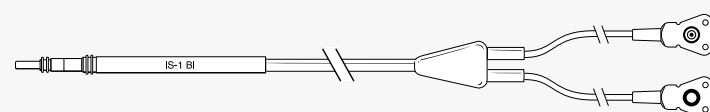
MATERIAL

- Insulator: Silicone
- Conductor: MP35N Nickel Alloy
- Electrode: Platinized Platinum

Model	4965	4968
Fixation	Sutured / Epicardial	
Shape / Chambers	RA and RV	
Polarity	Unipolar	Bipolar
Insulation	Silicone	



Model 4965



Model 4968

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SCREW-IN

PACING LEADS AND DELIVERY SYSTEMS

GENERAL

- Lengths: 25, 35, 53 (cm)

CONNECTOR

- IS1 Unipolar

DIAMETER

- Body: 2.2 mm (6.5 Fr)

ELECTRODES

- Helical Screw
- Helix Length: 1.8 mm²
- Electrode Surface Area
 - Cathode: 6.6 mm²

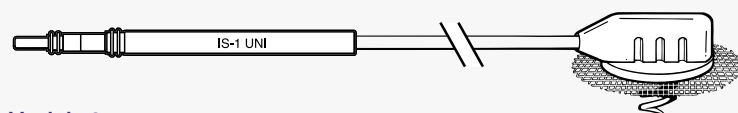
MATERIAL

- Insulator: Silicone
- Conductor: MP35N Nickel Alloy
- Electrode: Platinized Alloy

EPICARDIAL IMPLANT TOOL 10626 – SOLD SEPARATELY

- Device Length
 - Overall: 350 mm
 - Shaft: 180 mm
- Shaft Angle: 65°
- Material
 - Acetal resin and stainless steel

Model	5071
Fixation	Screw-in / Epicardial
Shape / Chambers	RV
Polarity	Unipolar
Insulation	Silicone



Model 5071

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



DEFIBRILLATION LEADS AND DELIVERY SYSTEMS



SPRINT QUATTRO[®] MRI

SURESCAN[™]

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Standard Length: for 6946M: 55, 62 (cm)

DIAMETER

- Body: 2.8 mm (8.6 Fr)

ELECTRODES

- Electrode Surface Area
 - Tip: 2.5 mm²
 - Ring: 25.2 mm²
 - RV Coil: 614 mm²
 - SVC Coil: 860 mm²
- Electrode Lengths
 - RV Coil: 57 mm
 - SVC Coil: 80 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

MATERIAL

- Insulator: Silicone, PTFE, ETFE
- Conductors: MP35N
- Tubing Design: Multilumen with Compression Lumens
- Tip and Ring Electrodes: Sintered (Tip) Platinum/Iridium alloy with Titanium Nitride (TiN) coating
- RV/SVC coils: Platinum-clad Tantalum

STYLETS

- Inserted
 - 1 purple straight
- Packaged
 - 2 purple straight
 - 2 gray straight

Model	6946M
Fixation	Passive / Tines
Polarity	Quadripolar
Defibrillation Coils	RV / SVC
Connectors	1x DF4
Insulation	Silicone
Introducer Size without/with Guidewire (Fr)	9.0 / 11

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 6946M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPRINT QUATTRO®

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Standard Length: for 6946M: 72 (cm)

DIAMETER

- Body for 6946M: 2.8 mm (8.6 Fr)

ELECTRODES

- Electrode Surface Area
 - Tip: 2.5 mm²
 - Ring: 25.2 mm²
 - RV Coil: 614 mm²
 - SVC Coil: 860 mm²
- Electrode Lengths
 - RV Coil: 57 mm
 - SVC Coil: 80 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

MATERIAL

- Insulator: Silicone, PTFE, ETFE
- Conductors: MP35N
- Tubing Design: Multilumen with Compression Lumens
- Tip and Ring Electrodes: Sintered (Tip) Platinum/Iridium alloy with Titanium Nitride (TiN) coating
- RV/SVC coils: Platinum-clad Tantalum

STYLETS

- Inserted
 - 1 purple straight
- Packaged
 - 2 purple straight
 - 2 gray straight

Model	6946M
Fixation	Passive / Tines
Polarity	Quadripolar
Defibrillation Coils	RV / SVC
Connectors	1x DF4
Insulation	Silicone
Introducer Size without/with Guidewire (Fr)	9.0 / 11



Model 6946M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPRINT QUATTRO SECURE S MRI™

SURESCAN™

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Lengths for 6935: 58, 65 (cm)
- Lengths for 6935M: 55, 62 (cm)

DIAMETER

- Body: 2.8 mm (8.6 Fr)

ELECTRODES

- Electrode Surface Area
 - Tip: 5.7 mm²
 - Ring: 25.2 mm²
 - RV Coil: 614 mm²
- Electrode Lengths
 - RV Coil: 57 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

MATERIAL

- Insulator: Silicone, PTFE, ETFE
- Conductors: MP35N
- Tubing Design: Multilumen with Extra Lumens
- Tip and Ring Electrodes: Platinized platinum alloy
- RV coil: Platinum-clad Tantalum

STYLETS

- Inserted
 - 1 purple straight
- Packaged
 - 2 purple straight
 - 2 gray straight

Model	6935	6935M
Fixation	Active/ Screw-in	
Polarity	Tripolar	
Defibrillation Coils	RV	
Connectors	1x IS1 1 x DF1	1x DF4
Insulation	Silicone	
Introducer Size without/with Guidewire (Fr)	9.0 / 11	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 6935



Model 6935M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPRINT QUATTRO SECURE S®

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Lengths for 6935: 52, 75, 100 (cm)
- Lengths for 6935M: 49, 72, 97 (cm)

DIAMETER

- Body: 2.8 mm (8.6 Fr)

ELECTRODES

- Electrode Surface Area
 - Tip: 5.7 mm²
 - Ring: 25.2 mm²
 - RV Coil: 614mm²
- Electrode Lengths
 - RV Coil: 57 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

MATERIAL

- Insulator: Silicone, PTFE, ETFE
- Conductors: MP35N
- Tubing Design: Multilumen with Extra Lumens
- Tip and Ring Electrodes: Platinized platinum alloy
- RV coil: Platinum-clad Tantalum

STYLETS

- Inserted
 - 1 purple straight
- Packaged
 - 2 purple straight
 - 2 gray straight

Model	6935	6935M
Fixation	Active/ Screw-in	
Polarity	Tripolar	
Defibrillation Coils	RV	
Connectors	1x IS1 1 x DF1	1x DF4
Insulation	Silicone	
Introducer Size without/with Guidewire (Fr)	9.0 / 11	



Model 6935



Model 6935M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPRINT QUATTRO SECURE MRI™

SURESCAN™

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Lengths for 6947: 58, 65 (cm)
- Lengths for 6947M: 55, 62 (cm)

DIAMETER

- Body: 2.8 mm (8.6 Fr)

ELECTRODES

- Electrode Surface Area
 - Tip: 5.7 mm²
 - Ring: 25.2 mm²
 - RV Coil: 614mm²
 - SVC Coil: 860mm²
- Electrode Lengths
 - RV Coil: 57 mm
 - SVC Coil: 80 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

MATERIAL

- Insulator: Silicone, PTFE, ETFE
- Conductors: MP35N
- Tubing Design: Multilumen with Extra Lumens
- Tip and Ring Electrodes: Platinized platinum alloy
- RV/SVC coil: Platinum-clad Tantalum

STYLETS

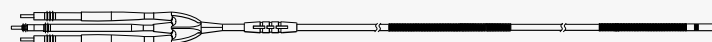
- Inserted
 - 1 purple straight
- Packaged
 - 2 purple straight
 - 2 gray straight

Model	6947	6947M
Fixation	Active/ Screw-in	
Polarity	Quadripolar	
Defibrillation Coils	RV/SVC	
Connectors	1x IS1 2x DF1	1x DF4
Insulation	Silicone	
Introducer Size without/with Guidewire (Fr)	9.0 / 11	

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 6947



Model 6947M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SPRINT QUATTRO SECURE®

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting
- Lengths for 6947: 75, 100 (cm)
- Lengths for 6947M: 72, 97 (cm)

DIAMETER

- Body: 2.8 mm (8.6 Fr)

ELECTRODES

- Electrode Surface Area
 - Tip: 5.7 mm²
 - Ring: 25.2 mm²
 - RV Coil: 614 mm²
 - SVC Coil: 860 mm²
- Electrode Lengths
 - RV Coil: 57 mm
 - SVC Coil: 80 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

MATERIAL

- Insulator: Silicone, PTFE, ETFE
- Conductors: MP35N
- Tubing Design: Multilumen with Extra Lumens
- Tip and Ring Electrodes : Platinized platinum alloy
- RV/SVC coils: Platinum-clad Tantalum

STYLETS

- Inserted
 - 1 purple straight
- Packaged
 - 2 purple straight
 - 2 gray straight

Model	6947	6947M
Fixation	Active/ Screw-in	
Polarity	Quadripolar	
Defibrillation Coils	RV/SVC	
Connectors	1x IS1 2x DF1	1x DF4
Insulation	Silicone	
Introducer Size without/with Guidewire (Fr)	9.0 / 11	



Model 6947



Model 6947M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



TRANSVENE LEAD

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Standard Length: 50 (cm)

DIAMETER

- Body: 2.5 mm (7.5 Fr)

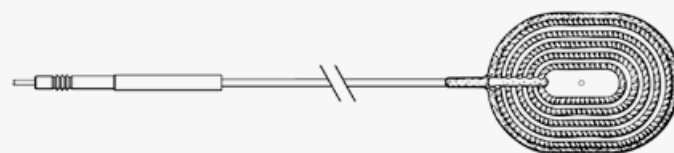
ELECTRODES

- Electrode Surface Area
 - 6721S: 370 mm²
 - 6721M: 660 mm²
 - 6721ML: 840 mm²

MATERIAL

- Insulator: Silicone
- Conductor: Multifilar MP35N Composite
- Electrode Surface: Platinum Alloy

Model	6721S	6721M	6721L
Fixation		Sutures	
Polarity		Unipolar	
Defibrillation Coils		Epi Patch	
Connectors		1x DF1	
Insulation		Silicone	
Introducer Size without/with Guidewire (cm)	3 coils: 5.0 x 8.0	4 coils: 6.1 x 9.1	5 coils: 7.2 x 10.2



Model 6721 (S/M/L)

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



TRANSVENE LEAD

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Standard Lengths: 35, 52, 58, 110 (cm)

DIAMETER

- Body: 1.8 mm (7.5 Fr)

ELECTRODES

- Electrode Surface Area
 - Coil: 160 mm²
- Electrode Length:
 - Coil: 80 mm

MATERIAL

- Insulator: Silicone
- Conductor: Multifilar MP35N Composite
- Electrode Surface: Platinum Alloy

Model	6937
Fixation	N/A
Polarity	Unipolar
Defibrillation Coils	SVC
Connectors	1 x DF1
Insulation	Silicone
Introducer Size without/with Guidewire (Fr)	9.0 / 10.5



Model 6937

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SUBCUTANEOUS LEAD

DEFIBRILLATION LEADS AND DELIVERY SYSTEMS

GENERAL

- Standard Lengths: 41, 58 (cm)

DIAMETER

- Body: 2.5 mm (7.5 Fr)

ELECTRODES

- Electrode Surface Area
 - Coil: 500 mm²
- Electrode Length:
 - Coil: 250 mm

MATERIAL

- Insulator: Silicone
- Conductor: Multifilar MP35N Composite
- Electrode Surface: Platinum Alloy

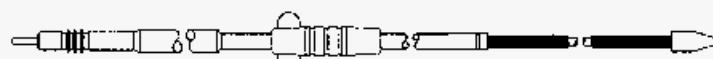
CONTENTS OF STERILE PACKAGE

- 1 Model 6996 SQ Lead (with stylet + stylet guide)
- 2 introducer sheaths 10.5 Fr x 33 cm length
- 2 PTFE split tubings
- 2 slitters

TUNNELING TOOL 6996T – SOLD SEPARATELY

- Device Length
 - Overall: 421 mm
 - Tunneling: 338 mm
- Material
 - Stainless Steel
- Tunneling Diameter: 3.1 mm

Model	6996SQ
Fixation	Sutures on Anchoring Sleeve
Polarity	Unipolar
Defibrillation Coils	Subcutaneous
Connectors	1 x DF1
Insulation	Silicone
Introducer Size without/with Guidewire (Fr)	10.5 x 33 cm Length



Model 6996SQ

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



LEFT-HEART LEADS AND DELIVERY SYSTEMS



ATTAIN ABILITY™ MRI

SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

- Body: 1.3 mm (4.0 Fr)

ELECTRODES

- Dual electrode, 21 mm spacing
- Electrode Surface Area
 - Tip: 5.8 mm²
 - Ring: 5.8 mm²

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Connector Pin: Stainless Steel
- Connector Ring: Stainless Steel

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419678, Purple knob, 98 cm – for 4196-78
- Attain Hybrid GWR419688, Purple knob, 108 cm – for 4196-88

RECOMMENDED STYLET

- Diameter: 0.014 to 0.016 in

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- Stylets

STYLETS

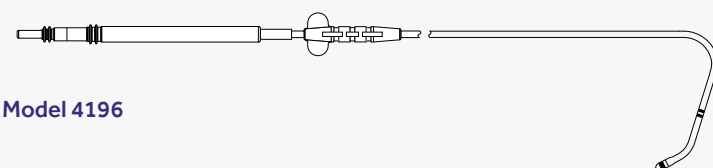
- Packaged
 - 2 gray straight
 - 2 purple straight

Model	4196
Fixation	Preformed Body
Shape / Chambers	Dual Canted / LV
Polarity	Bipolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4196

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN ABILITY™ PLUS MRI

SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

- Body: 1.77 mm (5.3 Fr)

ELECTRODES

- Dual electrode, 21 mm spacing
- Electrode Surface Area
 - Tip: 5.8 mm²
 - Ring: 5.8 mm²

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Connector Pin: Stainless Steel
- Connector Ring: Stainless Steel

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419678, Purple knob, 98 cm – for 4296-78
- Attain Hybrid GWR419688, Purple knob, 108 cm – for 4296-88

RECOMMENDED STYLET

- Diameter: 0.014 to 0.016 in

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- Stylets

STYLETS

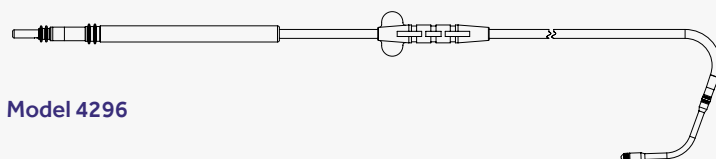
- Packaged
 - 2 gray straight
 - 2 purple straight

Model	4296
Fixation	Preformed Body
Shape / Chambers	Dual Canted / LV
Polarity	Bipolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4296

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN ABILITY™ STRAIGHT MRI SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS1 Bipolar

DIAMETER

- Body: 1.3 mm (4.0 Fr)

ELECTRODES

- Dual electrode, 21 mm spacing
- Electrode Surface Area
 - Tip: 5.8 mm²
 - Ring: 5.8 mm²

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Connector Pin: Stainless Steel
- Connector Ring: Stainless Steel

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419678, Purple knob, 98 cm – for 4396-78
- Attain Hybrid GWR419688, Purple knob, 108 cm – for 4396-88

RECOMMENDED STYLET

- Diameter: 0.014 to 0.018 in

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- Stylets

STYLETS

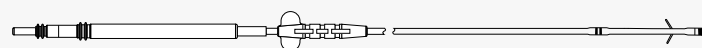
- Packaged
 - 2 gray straight
 - 2 purple straight

Model	4396
Fixation	Tines
Shape / Chambers	Straight / LV
Polarity	Bipolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4396

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN PERFORMA™ MRI

SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS4-LLLL

DIAMETER

- Body: 1.7 mm (5.3 Fr)

ELECTRODES

- Electrodes Surface Area
 - All: 5.8 mm²
- Distance between electrodes:
 - LV1-LV2: 21 mm
 - LV2-LV3: 1.3 mm
 - LV3-LV4: 21 mm

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Connector Pin: MP35N
- Connector Ring: MP35N

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419578, Orange knob, 98 cm – for 4298-78
- Attain Hybrid GWR419488, Orange knob, 108 cm – for 4298-88

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- 2 AccuRead 2.0 analyzer cable interface tools
- Stylets

STYLETS

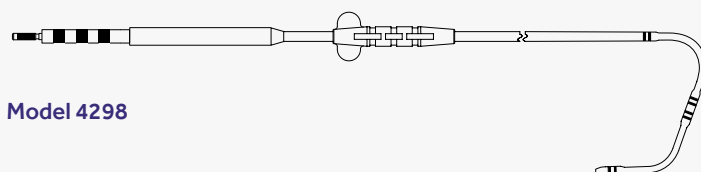
- Packaged
 - 2 gray straight
 - 2 purple straight

Model	4298
Fixation	Preformed Body
Shape / Chambers	Dual Canted/ LV
Polarity	Quadripolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN PERFORMA™ STRAIGHT MRI SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS4-LLLL

DIAMETER

- Body: 1.7 mm (5.3 Fr)

ELECTRODES

- Electrodes Surface Area
 - All: 5.8 mm²
- Distance between electrodes:
 - LV1-LV2: 21 mm
 - LV2-LV3: 1.3 mm
 - LV3-LV4: 21 mm

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Connector Pin: MP35N
- Connector Ring: MP35N

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419678, Orange knob, 98 cm – for 4398-78
- Attain Hybrid GWR419688, Orange knob, 108 cm – for 4398-88

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- 2 AccuRead 2.0 analyzer cable interface tools
- Stylets

STYLETS

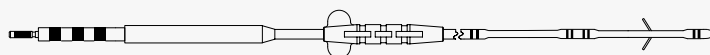
- Packaged
 - 2 gray straight
 - 2 purple straight

Model	4398
Fixation	Tines
Shape / Chambers	Straight/ LV
Polarity	Quadripolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4398

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN PERFORMA™ S MRI

SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS4-LLLL

DIAMETER

- Body: 1.7 mm (5.3 Fr)

ELECTRODES

- Electrodes Surface Area
 - All: 5.8 mm²
- Distance between electrodes:
 - LV1-LV2: 21 mm
 - LV2-LV3: 1.3 mm
 - LV3-LV4: 21 mm

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Connector Pin: MP35N
- Connector Ring: MP35N

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419678, Orange knob, 98 cm – for 4598-78
- Attain Hybrid GWR419688, Orange knob, 108 cm – for 4598-88

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- 2 AccuRead 2.0 analyzer cable interface tools
- Stylets

STYLETS

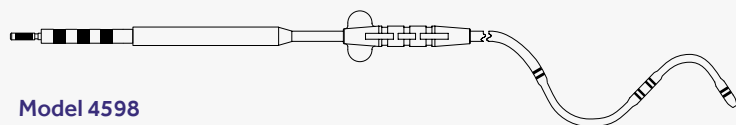
- Packaged
 - 2 gray straight
 - 2 purple straight

Model	4598
Fixation	Preformed Body
Shape / Chambers	S-Shape/ LV
Polarity	Quadripolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4598

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN STABILITY™ QUAD MRI SURESCAN™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Steroid eluting on all electrodes
- Standard Lengths: 78, 88 (cm)

CONNECTOR

- IS4 -LLLL

DIAMETER

- Body: 1.47 mm (4.4 Fr)
- Helix: 1.87 mm (5.6 Fr)

ELECTRODES

- Quadripolar electrode, 21 mm spacing
- Electrodes Surface Area
 - All: 5.8 mm²
 - Ring: 5.8 mm²
- Distance between electrodes:
 - LV1-LV2: 21 mm
 - LV2-LV3: 1.3 mm
 - LV3-LV4: 21 mm
 - LV3 – Helix tip: 10 mm

HELIX

- Fixed, side
- Not electrically active
- Length – ¾ turn exposed length
- Distance from Helix tip to lead body – 0.25 mm
- Helix location – 38.1 mm proximal to tip nose

MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inner
- Conductor: SI-PI coated 25% Ag-core-MP35N
- Tip Electrode: Platinum/Iridium with Titanium Nitride coating
- Ring Electrode: Platinum/Iridium with Titanium Nitride coating
- Helix: Platinum/Iridium alloy
- Connector Pin: MP35N
- Connector Ring: MP35N

RECOMMENDED GUIDE WIRE

- Diameter: 0.014 to 0.018 in
- Attain Hybrid GWR419578, Blue knob, 98 cm
- Attain Hybrid GWR419588, Blue knob, 108 cm

ACCESSORIES PACKAGED WITH LEAD

- Lead with Anchoring Sleeve
- Guide Wire Insertion Tool
- Guide Wire Steering Handle
- Guide Wire Clip
- Stylets

STYLETS

- Packaged
 - 2 gray straight
 - 2 purple straight
 - 2 blue J-shaped

Model	4798
Fixation	Preformed Body with Helix (active fixation)
Shape / Chambers	Canted/ LV
Polarity	Quadripolar
Insulation	Polyurethane
Guide Catheter Size (Inner Diameter) (Fr)	5.7

MRI SureScan

Full Body 1.5 and 3T MRI with any MRI SureScan cardiac device:

- No MRI scan exclusion zone and no scan duration restriction
- MRI scan possible for the entire life of the system
- No Patient size restriction and no condition restrictions (e.g. fever)



Model 4798

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN COMMAND® SUREVALVE™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Guide catheters for left-heart delivery
- Compatible transvenous devices:
- Leads 2.1 mm (6.2 Fr) max diameter
- Other devices 2.4 mm (7.1 Fr) max diameter
- Package **does not include** guidewire nor splitter
- To be ordered separately

CATHETER

- Material: Polyether block amide, polyamide 12
- Hydrophilic Coating distal 1/3 of the outer shaft

CATHETER DILATOR

- Material: Polyethylene
- Inner diameter: 0.96 mm (2.8 Fr)
- Outer diameter: 2.4 mm (7.1 Fr)

SUREVALVE INTEGRATED VALVE

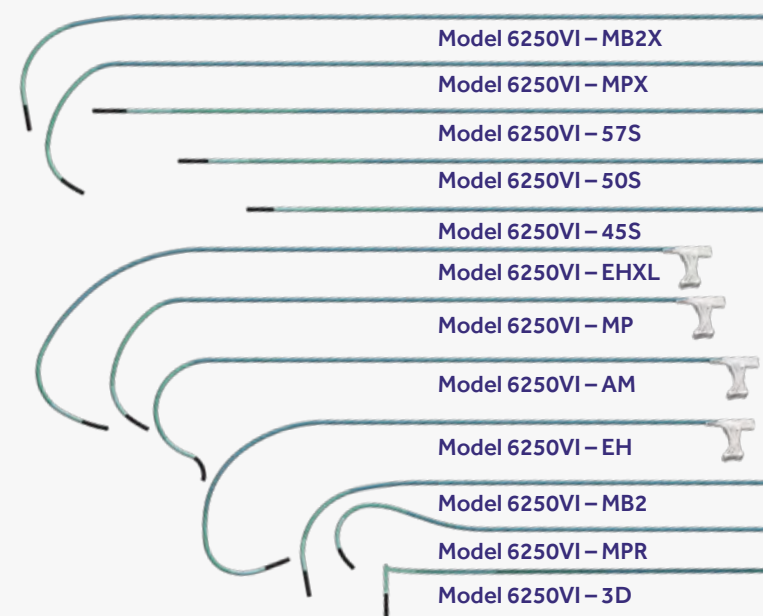
- Material: Polypropylene with SBC overmold

VALVE TOOL

- Material: Polypropylene with SBC overmold

Model	6250VI-45S	6250VI-50S	6250VI-57S	6250VI-AM	6250VI-MB2	6250VI-MB2X
Description	Straight	Straight	Straight	Amplatz	Multi-purpose bend 2	Multi-purpose bend 2 extra
Usable Length (cm)	45	50	57.5	50	45	50
Min. Inner Diameter (Fr)	2.4 (7.2)					
Max. Outer Diameter Proximal / Distal (mm (Fr))	3.0 (9.0) / 2.8 (8.5)					

Model	6250VI-MP	6250VI-MPX	6250VI-MPR	6250VI-EH	6250VI-EXHL	6250VI-3D
Description	Multi-purpose	Multi-purpose extra	Multi-purpose right	Extended hook	Extended hook extra large	3-D (for right-sided implant)
Usable Length (cm)	50	50	45	50	57.5	45
Min. Inner Diameter (mm (Fr))	2.4 (7.2)					
Max. Outer Diameter Proximal / Distal (mm (Fr))	3.0 (9.0) / 2.8 (8.5)					



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN COMMAND[®] SUREVALVE[™] KITS

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Left-Heart Delivery System with 2 Guide
- Compatible transvenous devices:
 - Leads 2.1 mm (6.2 Fr) max diameter
 - Other devices 2.4 mm (7.1 Fr) max diameter

CATHETER

- Material: Polyether block amide, polyamide 12
- Hydrophilic Coating distal 1/3 of the outer shaft

CATHETER DILATOR

- Material: Polyethylene
- Inner diameter: 0.96 mm (2.8 Fr)
- Outer diameter: 2.4 mm (7.1 Fr)

SUREVALVE INTEGRATED VALVE

- Material: Polypropylene with SBC overmold

VALVE TOOL

- Material: Polypropylene with SBC overmold

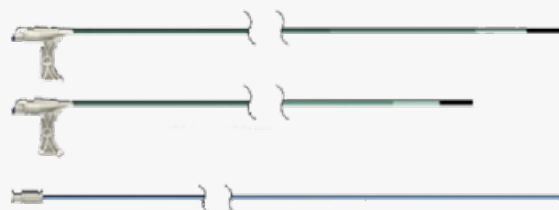
MEDTRONIC UNIVERSAL II 6230UNI SLITTER

- Material: Stainless steel, polycarbonate

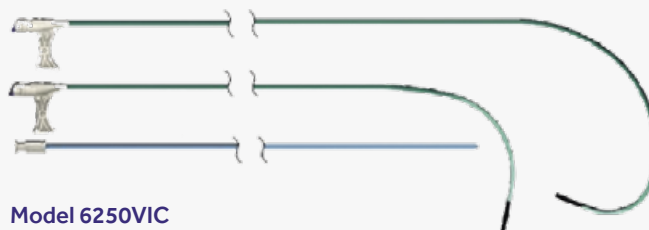
GUIDEWIRE

- Material: Stainless steel
- Length: 120 cm
- Diameter: 0.9 cm (0.035 in)

Model	6250VIS	6250VIC
Description	Left-Heart Delivery System Straight Catheter Kit	Left-Heart Delivery System Curved Catheter Kit
Catheters included	6250VI-45S and 6250VI-50S	6250VI-EH 6250VI-MB2
Minimum Inner Diameter (mm (Fr))	2.4 (7.2)	
Max. Outer Diameter Proximal / Distal (mm (Fr))	3.0 (9.0) / 2.8 (8.5)	



Model 6250VIS



Model 6250VIC

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN SELECT™ II SUREVALVE™

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Delivery Catheter System for Sub-Selection in a wide variety of patient anatomies
- 7 Fr sub-selection catheters capable of delivering 4 Fr and 5.3 Fr leads directly to vein branches
- Petite Length Attain Select II: 57 cm catheters for 78 cm lead delivery
- Compatible leads:
 - Body max outer diameter: 1.77 mm (5.3 Fr)
 - Electrode tip max outer diameter: 1.88 mm (5.6 Fr)
- Other transvenous compatible devices:
 - Delivery catheter max outer diameter: 1.85 mm (5.5 Fr)
 - Straight Blue Inner Catheter max outer diameter: 0.89 mm (2.7 Fr)
- Package does not include guidewire nor slitter
 - To be ordered separately

CATHETER

- Material: Polyether block amide, polyamide 12

STRAIGHT BLUE INNER CATHETER

- Provides a soft distal tip and increased curve shape control
- Material: Polyether block amide
- Usable length: 80 cm
- Inner diameter: 1.0 mm (3.0 Fr)
- Outer diameter: 1.85 mm (5.5 Fr)

SUREVALVE INTEGRATED VALVE

- Material: Polypropylene with SBC overmold

VALVE TOOL

- Material: Polypropylene with SBC overmold

Model	6248VI-90S	6248VI-90	6248VI-90L	6248VI-130
Description	90° short curved tip	90° curved tip	90° long curved tip	130° curved tip
Usable Length (cm)	65			
Compatible Outer Guide Catheter Max Length (cm)	57.5			
Compatible Lead Min Length (cm)	88			
Inner Diameter (mm (Fr))	1.9 (5.7)			
Outer Diameter (mm (Fr))	2.4 (7.2)			

Model	6248VI-130L	6248VI-90SP	6248VI-90P	6248VI-130P
Description	130° long curved tip	90° short curved tip	90° curved tip	130° curved tip
Usable Length (cm)	65	57 (Petite)	57 (Petite)	57 (Petite)
Compatible Outer Guide Catheter Max Length (cm)	57.5	50		
Compatible Lead Min Length (cm)	88	78		
Inner Diameter (mm (Fr))	1.9 (5.7)			
Outer Diameter (mm (Fr))	2.4 (7.2)			

Model 6248VI – 90SP

Model 6248VI – 90S

Model 6248VI – 130P

Model 6248VI – 130

Model 6248VI – 130L

Model 6248VI – 90P

Model 6248VI – 90

Model 6248VI – 90L

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN[®]

DEFLECTABLE

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Deflectable Catheter System for left-heart delivery
- Compatible transvenous devices:
- Leads 2 mm (6 Fr) max diameter

DEFLECTABLE CATHETER

- Material: Polyether block amide

CATHETER DILATOR

- Material: Polyethylene
- Length: 60 cm
- Outer diameter: 2.3 mm (7.0 Fr)

GUIDE WIRE

- Material: Stainless Steel
- Length: 120 cm
- Outer diameter: 0.09 cm (0.035 in)

ADJUSTABLE HEMOSTASIS VALVE

- Inner Diameter: 15 Fr max

MEDTRONIC UNIVERSAL SLITTER 6230UNI

- Material: Stainless steel, polycarbonate

NEEDLE

- Dimensions: 18 gauge, 1.2 mm

SYRINGE

- Volume: 12 cc

Model	6227DEF04
Usable Length	Deflectable
Inner Diameter (cm)	45
Outer Diameter (mm (Fr))	2.4 (7.2)
Insulation (mm (Fr))	3.3 (9.9)



Model 6227DEF04

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN®

VENOGRAM BALLOON

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Venogram balloon catheter for coronary sinus
- Package includes:
 - Venogram balloon catheter
 - 1.25 cc syringe

DIAMETER

- Catheter Body: 1.9 mm

BALLOON

- Max Inflation Capacity: 1.25 cc
- Inflated Balloon Diameter: 10 mm

MATERIAL

- Catheter Body: Polyurethane
- Balloon: Latex

RECOMMENDED GUIDE WIRE

- Diameter: 0.025 in (0.64 mm)

Model	6215
Description	Venogram Balloon Catheter
Usable Length (cm)	80
Guide Catheter Size (Inner Diameter) (Fr)	7.0



restrictions (e.g. fever)

Model 6215

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



MEDTRONIC SLITTERS

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Slitter for LV guide catheters
- Slit two catheters in the same procedure
- Single use; Disposable

DEFLECTABLE CATHETER

- Handle: Polycarbonate
- Blade: Stainless Steel
- Trigger in 6232ADJ: ABS

Model	6232ADJ	6230UNI
Description	Medtronic Adjustable Slitter	Medtronic Universal II Slitter
Lead Stabilization	Lead mechanically secured in lead channel	Lead secured with thumb pressure

Model 6232ADJ



Model 6230UNI



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



ADJUSTABLE VALVE

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL

- Adjustable Hemostasis Valve for use with LV delivery systems
- Rotating luer lock for variable positioning of side port
- Hemostatic to 103 kPa (15 PSI)

Model	6248VAL
Description	Medtronic Adjustable Valve
Max. Inner Diameter (Fr)	15



Model 6248VAL

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



ATTAIN HYBRID[®]

GUIDE WIRE

LEFT-HEART LEADS AND DELIVERY SYSTEMS

GENERAL




- Guide wire with stylet features
- Straightens the cants of the Attain OTW leads
- Optimizes lead trackability




DIAMETER

- Body: 0.014 in

MATERIAL

- Core wire: Stainless Steel
- Sleeve: PET
- Coating: Lubricious Pro/Pel[®] silicone

Model	GWR419478	GWR419488	GWR419578
Knob Color	Orange	Orange	Blue
Support			
Length (cm)	98	108	98
Recommended Lead Models	4298, 4398	4298, 4398	4195, 4598
Lead Length (cm)	78	88	78

Model	GWR419588	GWR419678	GWR419688
Knob Color	Blue	Purple	Purple
Support			
Length (cm)	108	98	108
Recommended Lead Models	4195, 4598	4196, 4296, 4396	4196, 4296, 4396
Lead Length (cm)	88	78	88

GWR419478



GWR419488



GWR419578



GWR419588



GWR419678



GWR419688



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ACCESSORIES



MEDTRONIC STYLETS





ACCESSORIES





GENERAL

- Stylets for use with transvenous leads
- Package includes:
 - 2 straight stylets (sterile)
 - 2 stylet guides (sterile)

MATERIAL

- Wire: Stainless Steel
- Knob: Plastic

Model	6057	6082	6054	6093
Knob Color	Blue	Gray	Rust	Purple
Shape				
Diameter (in)	0.014	0.014	0.016	0.016
Distal End	Ball-tipped	Extended taper, Ball-tipped	Tapered, Ball-tipped	Extended-taper, Ball-tipped
# in kit	2	2	2	2
Lengths (cm)	45, 52, 58, 65, 75, 110	45, 52, 55, 58, 62, 65, 72, 75, 97, 110	45, 52, 53, 58, 65, 75, 85, 110	52, 58, 65, 75, 85, 100

Model	6282*	6052	6091	6094
Knob Color	Gray	White	Gray	Blue
Shape				
Diameter (in)	0.014	0.014	0.014	0.014
Distal End	Extended taper, Ball-tipped	Blunt	Extended taper, Ball-tipped	
# in kit	15	2	2	2
Lengths (cm)	75, 85	45, 53, 58	45, 53, 58, 65	45, 52, 58

* Hemostasis valve compatible (downsized knobs)

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



PEELABLE INTRODUCERS

ACCESSORIES

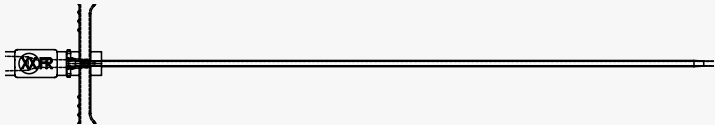
GENERAL

- Peelable Percutaneous Lead Introducers (PLI) for use with transvenous leads

PACKAGE INCLUDES:

- 1 introducer sheath with tapered vessel dilator
- 1 thin-wall needle (18 gauge)
- 1 disposable syringe
- 1 flexible J guide wire with tip straightener:
 - Diameter: 1 mm (0.035 in)
 - Length: 60 cm (23.6 in)

Model	6207-S1	6208-S1	6209-S1	6210-S1	6211-S1	6212-S1	6214-S1
Size (Fr)	7	8	9	10.5	11	12	14
# of kits	1						



Model 62xx-S1

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SAFESHEATH CSG®

WORLEY BRAIDED CORE INTRODUCERS

ACCESSORIES

GENERAL

- SafeSheath CSG® Worley Braided Core Introducer System for Coronary Sinus Access

PACKAGE INCLUDES:

- 1 tear-away sheath w/side port
- 1 dilator
- 1 needle (18 gauge)
- 1 syringe (12 cc)
- 1 guidewire (135 cm)
- 1 curved guiding core
- 1 transvalvular insertion tool (TVI) (7 Fr)

Model	CSGWORB C19M	CSGWORL BC19M	CSGWORB C29M
Size (Fr)		9	
# of kits		5	
Lenght (cm)	40	50	50



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SAFESHEATH CSG®

EXTRUDED CORE INTRODUCERS

ACCESSORIES

GENERAL

- SafeSheath CSG® Worley Braided Core Introducer System for Coronary Sinus Access

PACKAGE INCLUDES:

- 1 tear-away sheath w/side port
- 1 dilator
- 1 needle (18 gauge)
- 1 guidewire (135 cm)
- 1 curved guiding core
- 1 transvalvular insertion tool (TVI) (7 Fr)

Model	CSGWORLEY109M	CSGWORL19M
Size (Fr)	9	
# of kits	5	
Length (cm)	40	50



Model CSGWORLEY109M



Model CSGWORL19M

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SAFESHEATH II®

LEAD INTRODUCERS

ACCESSORIES

GENERAL

- SafeSheath II® Hemostatic Peel-away Introducer System for Vascular Access with
- low insertion/withdrawal force lubricated valve
- ergonomically-designed, easy-splitting hub
- extruded score line sheath
- infusion side port
- snap-fit dilator

PACKAGE INCLUDES:

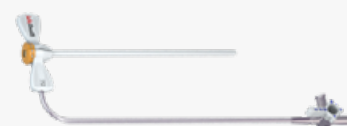
- 1 tear-away sheath w/side port
- 1 dilator
- 1 needle (18 gauge)
- 1 syringe (12 cc)
- 1 guidewire (Standard-50cm / Long-60cm)

Model	SS5	SS6	SS7	SS8	SS85
Knob Color	5	6	7	8	8.5
# in kit	5				
Lengths (cm)	13				

Model	SS9	SS95	SS10	SS105	SS11
Knob Color	9	9.5	10	10.5	11
# in kit	5				
Lengths (cm)	13				

Model	SS12	SS125	SSL6	SSL7	SSL8
Knob Color	12	12.5	6	7	8
# in kit	5				
Lengths (cm)	13	13	23	23	23

Model	SSL9	SSL10	SSL105	SSL11
Knob Color	9	10	10.5	11
# in kit	5			
Lengths (cm)	23			



Model SSx



Model SSLx

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



FLOWGUARD®

VALVED PEELABLE INTRODUCERS

ACCESSORIES

GENERAL

- FlowGuard® Valved Peelable Introducers for use with transvenous leads
- Sliding valve feature for procedural flexibility
- Low-profile handle and interlock system to prevent dilator pop-out during insertion

Model	10729-001	10729-002	10729-003	10729-004
Size (Fr)	7.0	8.0	9.0	10.5
# of kits	1			
Sheath Length (cm)	13	15	15	15
Dilator Length (cm)	18	21.5	21.5	21.5

Model	10730-001	10730-002	10730-003	10730-004
Size (Fr)	7.0	8.0	9.0	10.5
# of kits	5			
Sheath Length (cm)	13	15	15	15
Dilator Length (cm)	18	21.5	21.5	21.5



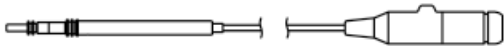
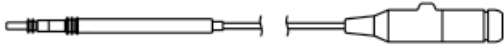
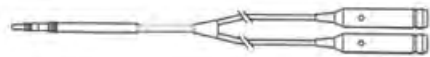



Model 10729-00x
Model 10730-00x

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PACING LEAD ADAPTORS

ACCESSORIES

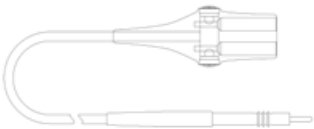



Model	Description	
BLV-BIS-10	LV-1 Bipolar Lead to IS-1 Bipolar IPG - 10cm	
BLV-BIS-40	LV-1 Bipolar Lead to IS-1 Bipolar IPG - 40cm	
B-IS-15SS2	5mm Bifurcated Bipolar Lead or two 5mm Unipolar Leads to IS-1 Bipolar IPG	
BIS-IS-15	Two IS-1 UNI Leads to IS-1 BI IPG	
BIS-BIS-17	3.2mm Low Profile Bipolar Lead to IS-1 BI IPG - Permanent Extension	
BIS-BIS-40	IS-1 BI Lead to IS-1 BI IPG - Permanent Lead Extension	

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ICD LEAD ADAPTORS

ACCESSORIES

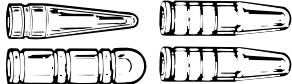



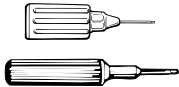






Model	Description	
6726	DF-1 Y Adaptor/Extender – 25cm or 37cm	
6707	6,5 mm to DF-1 - Adaptor Kit – 15cm	
6920	Upsizing Sleeve for HV Leads 3,2mm LP or DF-1 to 6,5mm 3 Units per Kit	
5019	DF-4 Adapter - Removes SVC coil from shock path and allows use of additional defibrillation DF-1 lead/ patch	

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



ADDITIONAL ACCESSORIES

ACCESSORIES

Model	Description	
5867-3M	Lead End Cap Kit	
6056	Pinch-on Tool 6056 for Medtronic Screw-in Leads	
6056M	Individual package for AccuRead 2.0 tool	
5873C	Lead Service Installation Kit	
5873W	Lead wrench kit	
80118	Medical adhesive	
6717	6.5mm Unipolar Connector Port Pin Plug, 1 per kit	
6719	DF-1 unipolar connector Port Pin Plug, 1 per kit	
6725	IS-1 connector port pin plug, 1 per kit - may be used as a part of the MRI CRT-D SureScan systems in place of a right atrial lead	
6177	Sterile Programming Head Cover - 10 per kit	
9466	Patient Magnet - 4 per kit	

NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



INSERTABLE CARDIAC MONITORS (ICM)



LINQ II™

INSERTABLE CARDIAC MONITORS (ICM)

GENERAL

- Insertable Cardiac Monitor (ICM) with 4.5 years longevity*
- TruRhythm™ Detection
- Pause Detection Algorithm
- PVC Detection Algorithm
- Automatically Detected Episodes: up to 27 min
- Patient-Activated Symptom: up to 30 min
- Symptom/Auto Correlated Episodes: up to 4 min
- CareLink connectivity
- Smart Memory Management
- Bluetooth® Wireless Telemetry (BlueSync™ Technology): two-way communication
- Remote programming capability

ARRHYTHMIA DETECTION

- Pause/Asystole
- Bradycardia
- Tachycardia (VT/FVT)
- Atrial Tachycardia (AT) / Atrial Fibrillation (AF) with enhanced detection

DIAGNOSTICS

- Quick Look
- Cardiac Compass:
 - Programming and interrogation events
 - Patient symptoms
 - AT/AF total time per day
 - Ventricular rate during AT/AF
 - Average ventricular rate
 - Patient activity
 - Heart rate variability
 - Ventricular rate during AT/AF histogram (time in or out of AT/AF)
 - PVC

COMPATIBLE DEVICES

- In-clinic Programmer
 - Reveal LINQ™ Mobile Manager
- Patient Monitor
 - MyCareLink Heart™ Mobile App, or MyCareLink Relay™ Home Communicator
- Symptom Marker
 - MyCareLink Heart™ Mobile App, or Patient Assistant PA97000 (for MyCareLink Relay™ Home Communicator)

PACKAGE CONTENT

- LINQ II™ Insertable Cardiac Monitor (preloaded in the included insertion tool handle)
- Incision tool
- Insertion tool plunger
- Insertion tool handle
- Product documentation

* Nominal settings

Model	LNQ22
M (g)	3.4
V (cc)	1.4
Size (mm)	45.1 x 8.0 x 4.2

MRI Compatibility

- MR-Conditional at 3.0 and 1.5 Tesla
- No-post insertion waiting period



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



REVEAL LINQ™

INSERTABLE CARDIAC MONITORS (ICM)

GENERAL

- Insertable Cardiac Monitor (ICM) with 3 years life*
- TruRhythm™ Detection
- Auto-activated events: 29 min of ECG
- Patient-activated events: 30 min of ECG
 - Up to 14 min of ECG prior to activation
- CareLink connectivity

ARRHYTHMIA DETECTION

- Pause/Asystole
- Bradycardia
- Tachycardia (VT/FVT)
- Atrial Tachycardia (AT) / Atrial Fibrillation (AF) with enhanced detection

DIAGNOSTICS

- Quick Look
- Cardiac Compass Trends:
 - AT/AF burden
 - Ventricular rate during AT/AF
 - Day and night average ventricular rate
 - Daily activity
 - Heart rate variability
- AT/AF summary
- Rate histograms
- Episode list
- Episode counters

PATIENT ASSISTANT – MODEL PA96000

- 10cmx4cmx1cm
- Record button - captures patient-activated episodes
- Non-replaceable battery chosen for size, cost, and energy capacity
- Designed to operate at least 200 operations over 3 years plus shelf life and leakage

PACKAGE CONTENT

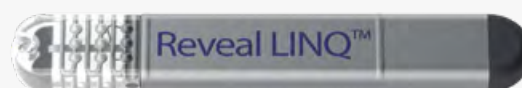
- Reveal LINQ™ ICM (preloaded in the included insertion tool)
- Incision tool
- Insertion tools
- Reveal PA96000

* Nominal settings

Model	LNQ11
M (g)	2.5 ± 0.5
V (cc)	1.2
Size (mm)	44.8 x 7.2 x 4.0

MRI Compatibility

- MR-Conditional at 3.0 and 1.5 Tesla
- No-post insertion waiting period



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



REVEAL[®] XT

INSERTABLE CARDIAC MONITORS (ICM)

GENERAL

- Insertable Cardiac Monitor (ICM) with 3 years life*
- Auto-activated events: 27 min of ECG
- Patient-activated events: 22.5 min of ECG
 - Up to 14 min of ECG prior to activation
- Up to 30 events in total
- CareLink connectivity
- Reveal Vector Check for optimal positioning

ARRHYTHMIA DETECTION

- Asystole
- Bradycardia
- Ventricular Tachycardia (VT) / Fast Ventricular Tachycardia (FVT)
- Atrial Tachycardia (AT) / Atrial Fibrillation (AF)

DIAGNOSTICS

- Quick Look
- Cardiac Compass Trends:
 - AT/AF total time per day
 - Ventricular rate during AT/AF
 - Day and night average ventricular rate
 - Patient activity
 - Heart rate variability
- AT/AF summary
- Rate histograms
- Episode list
- Episode counters

PATIENT ASSISTANT – MODEL PA96000

- 10cmx4cmx1cm
- Record button - captures patient-activated episodes
- Non-replaceable battery chosen for size, cost, and energy capacity
- Designed to operate at least 200 operations over 3 years plus shelf life and leakage

PACKAGE CONTENT

- Reveal XT ICM
- Conductive patches for Vector Check
- Reveal PA96000

* Nominal settings

Model	9529
M (g)	15
V (cc)	9
Size (mm)	62 x 19 x 8

MRI SureScan

- MR-Conditional at 3.0 and 1.5 Tesla
- 6-week post-insertion waiting period



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CARELINK™ NETWORK

PATIENT MANAGEMENT SOLUTIONS

GENERAL

The CareLink™ Network is a remote monitoring service for patients with Medtronic implanted cardiac devices. The service allows patients to send full device data to their clinic from home or away. The monitoring solution collects patients' device data and sends it to a secure server.

Healthcare providers can analyze the patient device diagnostic data via the CareLink™ Network Clinician Website through their internet browser. The site is also used to enroll clinic users, enroll patients, and perform other administrative duties.

- Compatible with 99.9% Medtronic implantable devices.
- Operates on the Microsoft™ Windows™ operating system with database support based on Microsoft's SQL (Structured Query Language) Server software
- Administration for hospital CareLink network service set-up
- Access to secure server space for data hosting of active patient data using CareLink
- Unlimited healthcare professional users per hospital
- Access to Vodafone worldwide data network and their roaming partners
- Patient transmissions:
 - Scheduled
 - Customizable color-coded CareAlerts
 - Patient-initiated transmissions
- Technical support
- CareLink clinician website upgrades
- CareLink monitor software upgrades
- Training of healthcare professionals and patient groups
- Online access for healthcare professionals to the Medtronic Academy for training on website
- CareLink Mobile Application for clinicians
- Updates

SECURITY MEASURES

- ISO 27001 and SOC II-certified
- Hosted in Europe at SAS70
- Certified site
- Managed by Medtronic personnel

DIEN CODE	SSA4-CLNETSERVICE (varies per country)
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NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



MYCARELINK HEART™ MOBILE APP

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- Patient app for remote monitoring of Medtronic BlueSync™ enabled cardiac implantable devices in the Medtronic CareLink™ Network
- Replaces the traditional bedside monitor to securely transfer heart device data using patient smartphone or tablet
- Best option for patients owning compatible iOS and Android smart device¹ and comfortable with using apps or smart technology

MAIN FEATURES

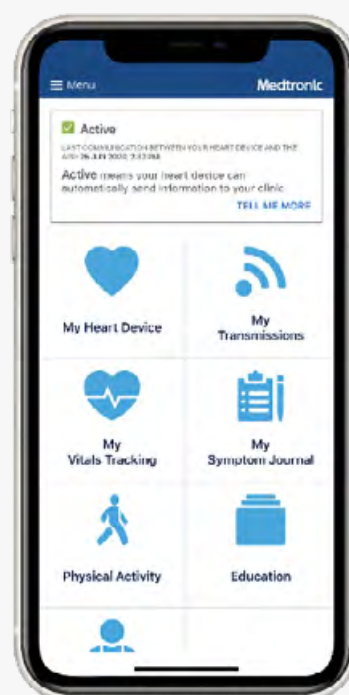
- Cellular or Wi-Fi connectivity through patient's smart device
- Bluetooth® Low Energy is designed to minimize battery drain of the implantable device
- Enhanced security with data encryption from end to end
- Automatic notifications help patients stay connected
- Upgradable throughout lifetime of the device
- Allows patients to view select device data such as battery life and access in-app education content

¹ Please visit www.MCLHeart.com for a list of compatible smartphones and tablets

Model Patient app	27000
Model Application for IOS	MSW003
Application for Android	MSW004



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



MYCARELINK RELAY™ HOME COMMUNICATOR

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- Patient bedside communicator for remote monitoring of Medtronic BlueSync™ enabled cardiac implantable devices in the Medtronic CareLink™ Network
- Best option for patients that rarely carry a mobile device or not comfortable with using apps or smart technology

MAIN FEATURES

- Integrated cellular 4G LTE connectivity with international coverage and Wi-Fi connectivity
- Bluetooth® Low Energy is designed to minimize battery drain of the implantable device
- Enhanced security with data encryption from end to end
- Optimized Bluetooth® & cellular antenna design
- Requires little to no user interaction

POWER SUPPLY

- AC powered, 100-240 V, 50-60 Hz, 0.5 A Max

PHYSICAL CHARACTERISTICS

- Ambient light sensor automatically turns off lights in the dark
- Light Ring to show activity
- Progress bar to display transmission status
- Button to checks status or send patient-initiated transmissions

Model	24960
M (g)	N/A
Size (mm)	N/A



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



MYCARELINK SMART™ MONITOR

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- Patient monitor for remote monitoring of Medtronic cardiac implantable devices in the Medtronic CareLink™ Network
- Designed to be paired with one single implantable device
- Designed to be paired with IPGs, CRT-Ps and Micra TPS devices

CONNECTIVITY AND TRANSMISSIONS

- Transmission data sent via MCL Smart App installed on patient's / caregiver's smart device
- Bluetooth connection between the reader and the smart device
- Inductive telemetry between the implanted device and the reader
- Designed for manual transmissions
- Intended to support non-wireless implantable devices

POWER SUPPLY

- Battery powered
 - 3x AA alkaline batteries

PHYSICAL CHARACTERISTICS

- Reader with 3 indicator LED lights
- App installed on a smart device

Model	25000
M (g)	164 (without batteries)
Size (mm)	155 x 80 x 30



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



MYCARELINK™ MONITOR

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- Patient monitor for remote monitoring of Medtronic cardiac implantable devices in the Medtronic CareLink™ Network
- Designed to be paired with one single implantable device

CONNECTIVITY AND TRANSMISSIONS

- Cellular technology, with international coverage
- Supports wireless data transmissions (when paired to wireless implantable device)
- Can send the wireless transmission when in range of up to 3 m from the implanted device
- Designed for automatic as well as manual transmissions

POWER SUPPLY

- AC powered, 100-240V, 50-60Hz

PHYSICAL CHARACTERISTICS

- Reader with 3 indicator LED lights
- Docking station with animated LCD display

Model	24952
M (g)	N/A
Size (mm)	207 x 153 x 66



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



SMARTSYNC™ DEVICE MANAGER

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- Tablet-Based programmer for interrogating and programming compatible Medtronic cardiac implantable devices*
- Includes the Pacing System Analyzer (PSA)
- Intended to support implants and follow-ups
- Enables wireless, streamlined and secure digital workflow

MAIN FEATURES

- Free iOS Application, is compatible with certain models of the Apple iPad Pro and iPad Air**
- Pacing System Analyzer integrated in the Base Station
- Telemetry B (inductive), BlueSync™ Technology (wireless)
- E-strip recorder, with annotating options
- Report Exporting options: save to network folder, USB***
- Possibility to connect to external printer via WiFi

POWER SUPPLY

- Patient Connector: AC powered with 3 hours of battery back-up
- Base Unit: AC powered
- PSA: powered separately from the base, using 2 AA batteries

COMPONENTS AND ACCESSORIES

- 24970A Base unit
- 24967 Patient Connector
- 249705 Power cord
- 2090 EC/ECL ECG cable with plug and leadwires
- 2292 surgical cables
- 249704 Carry case

SYSTEM COMPONENTS

- SmartSync iOS application
- Base unit:
 - Including the Pacing System Analyzer
 - Communicating via Bluetooth® with tablet
- Patient connector:
 - Communicating via Tel B with Astra™ Pacemakers; via Bluetooth Low energy with BlueSync™ enabled devices
 - Communicating via Bluetooth® with tablet
- Tablet
 - Apple iPad Pro and iPad Air**
 - Hospital owned or Medtronic Managed Tablet (MMT)

* More information on compatible devices can be found in the CareLink SmartSync Device Manager materials

** More information on compatible iPad models can be found in the CareLink SmartSync Device Manager materials

*** Depending on Country and tablet option

Model	24970A
Base unit	
Weight (kg)	0.91
Size (cm)	4.6 x 24 x 20.8
Model	24967
Patient connector	
Weight (kg)	0.25
Size (cm)	16.7 x 7.3 x 3.0



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



REVEAL LINQ™ MOBILE MANAGER

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- The Reveal LINQ™ Mobile Manager is an innovative, app-based device management system for Reveal LINQ™ and LINQ II™ insertable cardiac monitor (ICM).
It enables procedure simplicity and programmer portability for device activation, programming, CareLink™ Network pre-enrollment and follow-up checks - all from the same tablet.
- Generate reports quickly and simply
- Simplify staff training with guided animations
- Easily access patient education modules directly from the app*
- Streamline workflows for initial device activation or follow-up
- Access a built-in Help Menu to answer device activation and follow-up device check questions
- Setting up patients up to 7 days prior to implant
- Automatically pre-enroll your patients in the Medtronic CareLink™ Network
- Access data on the CareLink™ Network within minutes after device activation or follow-up device checks, while connectivity with the CareLink™ Network is established

MAIN FEATURES

- The LMM application is a free iOS application
- www.LINQMobileManager.com - follow the links to download the app

POWER SUPPLY

- Patient connector: AC powered with 3 hours of battery back-up

SYSTEM COMPONENTS

- LMM iOS application
- Patient connector:
 - Communicating via Tel B with Reveal LINQ™
 - Communicating via Bluetooth® with LINQ II™ and tablet
- Reveal LINQ™ and LINQ II™ ICMs
- Tablet – hospital-owned or Medtronic Managed Tablet (MMT)

* May vary based on geography

Model
Patient connector

24967



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CARELINK EXPRESS™ MOBILE SYSTEM

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- The CareLink Express™ Mobile System allows the interrogation of any compatible Medtronic cardiac Implantable device, with secure and rapid transfer of the data to the CareLink™ Network for remote interpretation.
- The CareLink Express™ System provides secure access and transfer of data, seamlessly integrating into a follow-up clinic's CareLink system.

MAIN FEATURES

- Compatible with 99% of Medtronic cardiac devices supported on the CareLink™ Network¹
- The CareLink Express™ Mobile application is a free iOS application

POWER SUPPLY

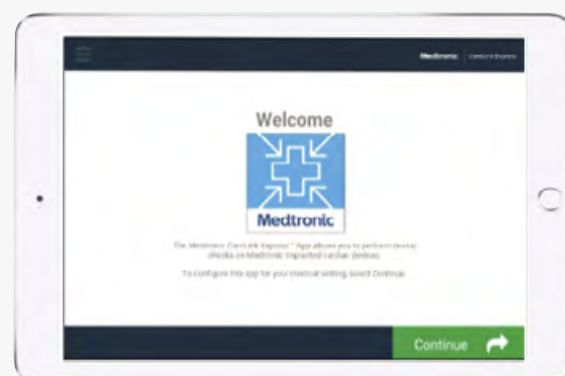
- Patient connector: AC powered with 3 hours of battery back-up

SYSTEM COMPONENTS

- CareLink Express™ Mobile iOS application
- Patient connector (Tel A/B):
 - Communicating via Tel B with all devices
 - Communicating via Bluetooth with tablet
- Tablet – hospital-owned or Medtronic-supplied tablet
- CareLink Express™ Website
- Carrying Case for patient connector and the tablet (ordered separately)

¹ Supported devices on CareLink™ Network - Data on File (Jan 2014)

Model Patient connector	24967
Model Application for IOS	31302
Carrying Case	249653



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CARELINK ENCORE™ PROGRAMMER

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- System for interrogating and programming Medtronic and Vitatron cardiac implantable devices
- Intended to support follow-ups

MAIN FEATURES

- Built in WiFi and ethernet
- keyboard
- Resistive touch screen
- PDF viewer
- Electronic strip recorder
- USB printing (no integrated printer available)
- Telemetry A and B (no wireless)
- Emergency button for VVI pacing

POWER SUPPLY

- AC powered with 2 hours of battery back-up

ACCESSORIES (IN THE PACKAGE)

- 26901 Programming head
- 26902 Rechargeable battery
- 26905 Stylus
- 26906 Power cord
- 26907 Power supply

Model	29901
M (g)	4.94
Size (mm)	35.5 x 35.5 x 10.2



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CARELINK® 2090 PROGRAMMER

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- System for interrogating and programming Medtronic, Vitatron and NayaMed cardiac implantable devices
- Intended to support implants and follow-ups

MAIN FEATURES

- Ethernet card
- Mechanical keyboard
- Display screen
- Integrated printer - possibility to connect to external printer via parallel port or USB
- Telemetry A, B (inductive) and C (wireless)
- Emergency button for VVI pacing

POWER SUPPLY

- AC powered

ACCESSORIES

- 2290 Medtronic Analyzer
- 2067/L Programmer head
- 2090TPS/XS Touch pen
- 2090EC/ECL ECG cable with plug and leadwires
- 6092 Printer paper

PACKAGE CONTENTS

- 2090 CareLink Programmer
- 2090TPS/XS Touch pen
- 2090EC/ECL ECG cable with plug and leadwires
- 6092 Printer paper

Model	2090
M (kg)	11.3
Size (mm)	12.7 x 40.6 x 55.8



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



CARELINK® 2290 ANALYZER

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- Accessory that installs into the Medtronic CareLink® 2090 Programmer
- Designed to analyze the electrical performance of a cardiac lead system
- Uses the programmer as a control and display platform

MAIN FEATURES

- Automatic measurement of P- and R-wave amplitudes and slew rates
- Automatic lead impedance measurement
- Real-time display of atrial and ventricular EGM
- Rapid atrial stimulation to 800 min⁻¹ (ppm)
- Advanced analysis features, including antegrade and retrograde conduction tests, and a pulse width versus amplitude threshold analysis
- Measurement reports
- Backup battery in the event of a power loss
- Electrical isolation from the programmer
- Emergency VVI pacing

PACKAGE CONTENTS

- 2290 Analyzer
- 2292 Analyzer surgical cable
- 9 V Battery
- Screwdriver
- Product literature

Model	2290
M (kg)	N/A
Size (mm)*	N/A

* installs into the Medtronic CareLink® 2090 Programmer



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



FOCUSON™

MONITORING AND TRIAGING SERVICE

PATIENT MANAGEMENT SOLUTIONS

GENERAL

- FocusOn™ is a service that monitors and triages CareLink™ transmissions from all Medtronic implantable cardiac devices.
- All incoming data is reviewed and classified based on its clinical relevance (colour-code classification), according to a customized protocol instructed by the treating physicians.
- The FocusOn™ Team notifies the hospital clinical teams via email and/or phone /SMS and according to the customized colour-coding classification.
- All FocusOn™ triaged data and transmissions are accessible via the FocusOn™ platform.
- Available for:
 - IPG, CRT-P
 - ICD, CRT-D
 - ICM

QUALITY PROCESS

- All the data is reviewed by two different certified ECG/ cardiac device specialists to maximize accuracy and quality control through redundancy.
- The ECG specialists are supervised by cardiologists.

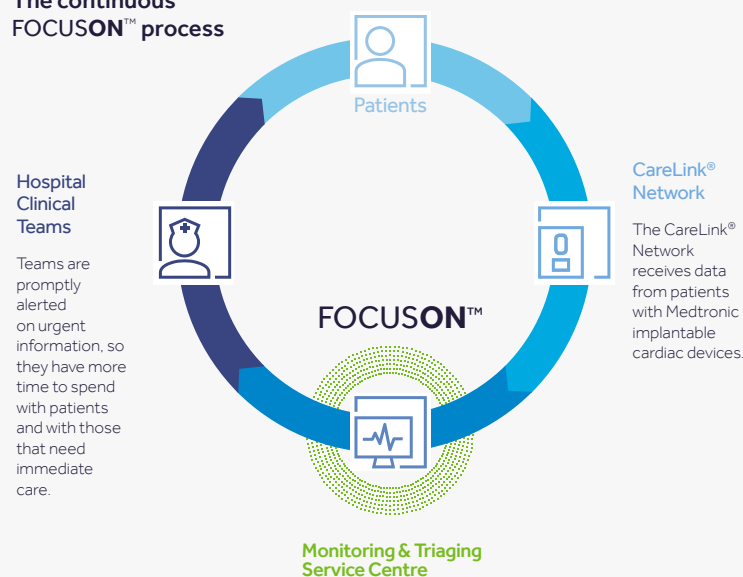
Service Time

Days	Mon-Fri (no bank holidays)
Hours	7am – 6pm CET

Service Level Agreement and escalation methods

Days	Phone/SMS and e-mail	Same working day
Days	E-mail	Next working day
Hours	Weekly e-mail	Once a week

The continuous FOCUSON™ process



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



BECONNECTED SERVICE

PATIENT MANAGEMENT SOLUTIONS

GENERAL

BECONNECTED is a patient support service designed to free up clinic time by directing patients to the experienced BeConnected team:

- Helping patients onboard with their optimal monitoring solution:
 - Education on remote monitoring
 - Screening for optimal monitoring solution with the ability to ship bedside monitor to patient home address
 - Set-up of patient monitoring solution.
- Helping patients with general device & remote monitoring questions.

SCOPE

- Service offered in local language

CONTACT NUMBER

Austria	00800-26663282
Belgium	00800-26663282
Finland	990800-26663282
Ireland	00800-26663282
Netherlands	00800-26663282
Portugal	00800-26663282
Spain	00800-26663282
Sweden	00800-26663282
Switzerland	00800-26663282
United Kingdom	00800-26663282
Service hours*	Monday- Friday 8am – 4pm Ability to leave voicemail outside of office hours

*Service hours may vary

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



PROCEDURE INNOVATIONS



TYRX™

ABSORBABLE ANTIBACTERIAL ENVELOPE

PROCEDURE INNOVATIONS

GENERAL

The TYRX Envelope is a fully absorbable sterile device designed to hold a Cardiac Implantable Electronic Device (CIED) securely in place to create a stable environment when implanted in the body. The envelope's bioabsorbable polymer coating contains antibacterial agents Minocycline and Rifampin.

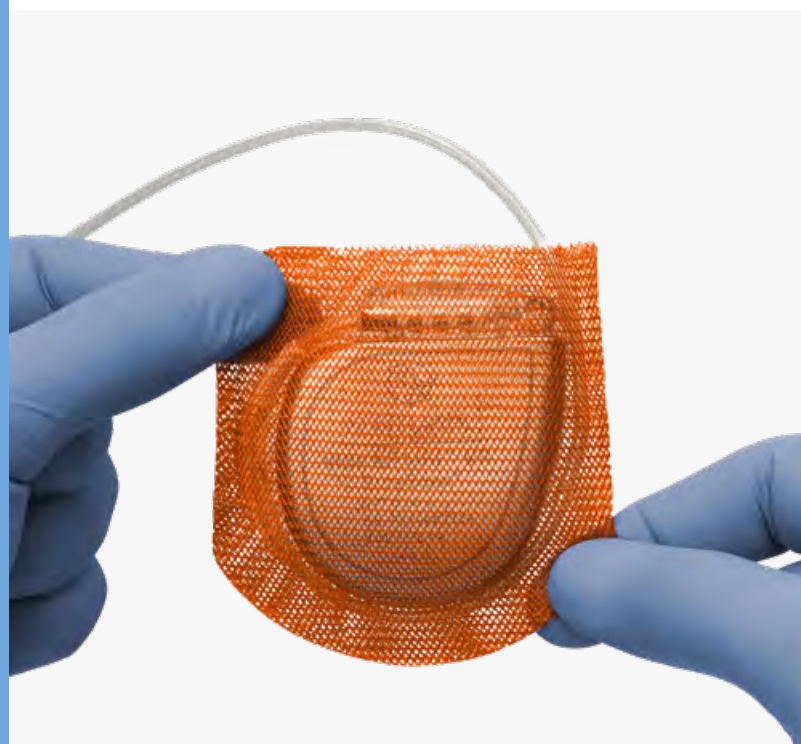
- Fully absorbs into the body in ~9 weeks
- Large pore mesh:
 - Knitted from absorbable filaments (glycolide, caprolactone and trimethylene carbonate)
 - Filaments coated with a bioabsorbable polymer containing antibacterial agents
- Single Use Only
- Storage: between 2 - 25° C

ANTIBIOTICS

- Minocycline and Rifampin have been shown to reduce infection in an in vivo model of bacterial challenge following surgical implantation of the generator or defibrillator.¹
- Locally delivered Minocycline and Rifampin sustained for 7 days
- Minocycline has been shown to be effective against:
 - Gram-positive bacteria such as *S aureus*
 - Gram-negative bacteria such as *E coli*, *E aerogenes*, *H influenzae* and *A baumannii*
- Rifampicin has been shown to be effective against:
 - Gram-positive bacteria such as *S aureus* (including MRSA) and *S epidermidis*
 - Gram-negative bacteria such as *H influenzae*

¹ Huntingdon Life Sciences Studies TR-2011-043, TR-2011-044, TR-2011-045, TR-2011-047, TR-2011-056.

Model	CMRM6122INT	CMRM6133INT
Description	TYRX Absorbable Antibacterial Envelope (Medium)	TYRX Absorbable Antibacterial Envelope (Large)
Size (cm)	6.3 x 6.9	7.4 x 8.5
Minocycline dose (mg)	5.1	7.6
Rifampin dose (mg)	8.0	11.9



NOTE: This is not intended to be a full product description. For full description, refer to the Device Specification Sheet and/or Manual.



EXTERNAL PACEMAKER

SINGLE CHAMBER

PROCEDURE INNOVATIONS

GENERAL

- Battery Powered External Temporary Pacemaker
- Pacing Continuation upon Battery Removal
- Compatible with Medtronic cables 5832, 5833, 5487, 5433A/V and 5846A/V
- NO direct connection of heart wires

PACING FEATURES

- Pacing Modes: AAI, AOO, VVI, VOO
- Basic Pacing Rate: 30 – 200 ppm
- Rapid Atrial Pacing Rate: 80 – 800 ppm

ADDITIONAL PROGRAMMABLE PARAMETERS

- Output Amplitude
- Pulse Width
- Sensitivity
- Ventricular Blanking

PACKAGE CONTENT

- Single Chamber External Temporary Pacemaker Model 53401
- Two AA 1.5 V alkaline batteries
- Carrying case Model 53409

ACCESSORIES (NOT INCLUDED)

- 5409 Disposable Pouch: 5 units in package
- 53408 Replacement Covers (Main Covers and Rapid Atrial Pacing Cover)
- 53409 Carrying Case
- 53407 IV Pole Replacement Hook and Replacement Knobs

Model	53401
M (g)	499
Dimension (cm)	20.2 x 6.6 x 4.1
Battery	Two IEC type LR6-sized (AA-sized) 1.5 V alkaline batteries (Duracell MN1500, Eveready E91 or equivalent)



NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EXTERNAL PACEMAKER

DUAL CHAMBER

PROCEDURE INNOVATIONS

GENERAL

- Battery Powered External Temporary Pacemaker
- Pacing Continuation upon Battery Removal
- Compatible with Medtronic cables 5832, 5833, 5487, 5433A/V and 5846A/V
- NO direct connection of heart wires

PACING FEATURES

- Pacing Modes: DDD, DOO, DDI, AAI, AOO, VVI, VOO
- Basic Pacing Rate: 30 – 200 ppm
- Upper Rate: 80 – 230 ppm
- Rapid Atrial Pacing Rate: 80 – 800 ppm

ADDITIONAL PROGRAMMABLE PARAMETERS

- Output Amplitude
- Pulse Width
- Sensitivity
- AV Interval
- PVARP
- Ventricular Blanking

PACKAGE CONTENT

- Dual Chamber External Temporary Pacemaker Model 5392
- Two AA 1.5 V alkaline batteries

ACCESSORIES (NOT INCLUDED)

- 5409 Disposable Pouch: 5 units in package
- 53922 Disposable Cover: 3 units in package
- 53923 Carrying Case
- 53921GLBL IV Pole Replacement

Model	5392
M (g)	680
Dimension (cm)	20.3 x 8.6 x 4.45
Battery	Two IEC type LR6-sized (AA-sized) 1.5 V alkaline batteries









NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



EPG PATIENT AND SURGICAL CABLES

PROCEDURE INNOVATIONS

Model	Description	Channel	Lenght (m)	
5832S	Surgical Cable, Reusable, One channel, Small Clips	A or V	1.83	
2292	Surgical Cable, Reusable, Two channels	A and V	3.66	
5833S / 5833SL	Surgical Cable, Disposable, Small Clips	A or V	1.83 / 3.66	
5487 / 5487L	Surgical Cable, Disposable	A or V	1.83 / 3.66	
5433A / 5433AL	Patient Cable, Reusable	A	1.83 / 3.66	
5433V / 5433VL	Patient Cable, Reusable	V	1.83 / 3.66	
5846A / 5846AL	Patient Cable, Disposable	A	1.83 / 3.66	
5846V / 5846VL	Patient Cable, Disposable	V	1.83 / 3.66	

NOTE: This is not intended to be a full product description.
For full description, refer to the Device Specification Sheet and/or Manual.



GLOSSARY



GLOSSARY

2:1 block rate – a conduction ratio in which every second atrial event is refractory. This results in a ventricular pacing rate that is one half as fast as the atrial rate. Also known as second-degree Mobitz Type II AV block.

Active Can – option to select the device case as an active electrode for delivering defibrillation and cardioversion therapies.

activities of daily living rate (ADL Rate) – the approximate target rate that the patient's heart rate is expected to reach during activities of daily living.

activities of daily living response (ADL response) – a programmable parameter that alters the slope of the rate response curve to adjust the targeted rate distribution in the submaximal rate range to match the patient's activity level.

activity sensor – accelerometer in the device that detects the patient's body movement.

AdaptivCRT – algorithm that enhances cardiac resynchronization therapy (CRT) by adjusting CRT parameter values automatically while the patient is ambulatory.

AF/Afl feature – PR Logic feature designed to discriminate between rapidly conducted atrial fibrillation or atrial flutter and ventricular tachyarrhythmia.

Antitachycardia pacing (ATP) – therapies that deliver rapid sequences of pacing pulses to terminate tachyarrhythmias.

Arrhythmia episode data – system that compiles an arrhythmia episode log that the clinician can use to view summary and detailed diagnostic data quickly, including stored EGM, for the selected arrhythmia episode.

AT/AF detection – feature that analyzes the atrial rate and its effect on the ventricular rhythm to determine whether the patient is currently experiencing an atrial tachyarrhythmia. Depending on programming, the device delivers a programmed sequence of atrial therapies or continues monitoring without delivering therapy.

AT/AF Interval – programmable interval used to define the AT/AF detection zone. The median atrial interval must be shorter than this value to detect an AT/AF episode.

ATP During Charging – device delivers a ventricular antitachycardia therapy sequence while the device charges its capacitors for the first defibrillation therapy during a VF episode.

Atrial antitachycardia pacing (ATP) – therapies that respond to an AT/AF episode or a Fast AT/AF episode with rapid sequences of pacing pulses to terminate detected atrial tachyarrhythmias.

Atrial cardioversion – therapy that delivers a high-voltage shock to treat an AT/AF episode or a Fast AT/AF episode. Atrial cardioversion delivery is synchronized to a sensed ventricular event and cannot exceed a programmable daily limit within programmable times.

Atrial Preference Pacing – atrial rhythm management feature that adapts the pacing rate to slightly higher than the intrinsic sinus rate.

Atrial Preference Pacing (APP) – atrial rhythm management feature that adapts the pacing rate to slightly higher

GLOSSARY

than the intrinsic sinus rate.

Atrial Rate Stabilization (ARS) – atrial rhythm management feature that eliminates a prolonged pause following a premature atrial contraction (PAC).

atrial refractory period – interval that follows an atrial paced or sensed event during which the device senses events but responds to them in a limited way. This interval is applied when the device is operating in a single chamber, atrial pacing mode.

Atrial therapy scheduling – feature that enables the clinician to program the delivery of automatic atrial therapies. Each time that an AT/AF therapy is needed, the device schedules one of the available therapies based on clinician programming.

atrial tracking – dual chamber pacing operation that paces the ventricle in response to atrial events.

Atrial Tracking Recovery (ATR) – feature that helps to restore atrial tracking if it is lost due to successive atrial events falling in the refractory period following ventricular senses.

Auto PVARP – Adjusts PVARP (Post-Ventricular Atrial Refractory Period) in response to changes in the patient's heart rate or pacing rate. PVARP is longer at lower tracking rates to prevent pacemaker-mediated tachycardia (PMT) and shorter at higher rates to maintain 1:1 tracking.

AV synchrony – coordinated contraction of the atria and ventricles for most effective cardiac output.

blanking period – time interval during which sensing in a chamber is disabled to avoid oversensing.

Burst+ pacing – antitachycardia pacing (ATP) therapy that delivers sequences of atrial pacing pulses with an interval that is a programmable percentage of the tachycardia cycle length, followed by up to 2 premature stimuli delivered at programmable intervals. With each sequence of Burst+ pacing delivered; the device shortens the pacing interval by a programmable interval.

Burst pacing – antitachycardia pacing (ATP) therapy that delivers sequences of ventricular pacing pulses with an interval that is a programmable percentage of the tachycardia cycle length. With each sequence of Burst pacing delivered, the device shortens the pacing interval by a programmable interval.

Capture Management – feature that monitors pacing thresholds with daily pacing threshold searches and, if programmed to do so, adjusts the pacing amplitudes toward a target amplitude.

Cardiac Compass Trends – overview of the patient's condition over the last 14 months with graphs that display long-term clinical trends in heart rhythm, such as frequency of arrhythmias, heart rates, and device therapies.

cardiac resynchronization therapy (CRT) – delivery of coordinated pacing pulses to the left and right ventricles designed to treat ventricular dysynchrony.

Combined Count detection – feature designed to prevent a delay in VF detection when ventricular tachyarrhythmia fluctuates between the VF and VT zones.

Conducted AF Response – feature that adjusts the pacing rate to help promote a regular ventricular rate during

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AT/AF episodes.

crosstalk – condition when pacing in one chamber is sensed as intrinsic activity in another chamber.

Decision Channel annotations – annotations to stored and telemetered EGM that document details about tachyarrhythmia detection operations.

device reset – automatic device operation to recover from a disruption in device memory and control circuitry. Programmed parameters may be set to default reset values. This operation triggers a device status indicator.
device status indicators – warnings that describe problems with device memory or operation.

EffectivCRT Diagnostic – feature that determines the percentage of effective CRT pacing. It provides data about the effectiveness of CRT pacing on the Quick Look screen and in RATE HISTOGRAMS, Cardiac Compass TRENDS, and EffectivCRT EPISODES.

EffectivCRT During AF – algorithm that dynamically adjusts the pacing rate in response to changes in the percentage of effective CRT pacing to promote CRT delivery in non-tracking modes.

EffectivCRT episodes data – feature that compiles diagnostic information to help the clinician identify the cause of ineffective CRT pacing and reprogram the device to avoid it.

electromagnetic interference (EMI) – energy transmitted from external sources by radiation, conduction, or induction that can interfere with device operations, such as sensing, or can potentially damage device circuitry.

EOS (End of Service) – battery status indicator displayed by the implantable device app to indicate that the device should be replaced immediately and that it may not operate per specifications.

event – a sensed or paced beat.

evoked response detection – the act of detecting the electrical signal generated by the contracting myocardium immediately following a pacing pulse.

exertion rate range – rates at or near the Upper Sensor Rate that are achieved during vigorous exercise.

Flashback – diagnostic feature that records the intervals that immediately preceded tachyarrhythmia episodes or that preceded the last interrogation of the device and plots the interval data over time.

Heart Failure Management Report – report that summarizes the patient's clinical status and observations since the last follow-up appointment and provides graphs that show trends in heart rates, arrhythmias, and fluid accumulation indicators over the last 14 months.

High Rate Timeout – feature that allows the device to delivery therapy for any ventricular tachyarrhythmia that continues beyond the programmed length of time.

Holter telemetry – telemetry feature that transmits EGM and marker data continuously for a programmable number of hours, regardless of whether telemetry actually exists between the device and device manager.

Home communicator – instrument that wirelessly receives information from a patient's implanted device and then

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transmits the information to the Medtronic CareLink Network via a cellular phone network or a home WiFi network. This dedicated instrument is placed within range of where the patient sleeps.

last session – refers to the last time the device was successfully interrogated before the current interrogation. A session ends 8 hours after the last interrogation.

median atrial interval – the seventh in a numerically ordered list of the 12 most recent A-A intervals.

median ventricular interval – the seventh in a numerically ordered list of the 12 most recent V-V intervals.

Medtronic CareAlert Monitoring – the continuous monitoring for, and silent, wireless transmission of, alert data between an implanted device and the Medtronic CareLink Network.

Medtronic CareAlert notifications – alert information sent via the Medtronic CareLink Network that notifies clinics and clinicians of events that impact patients or their implanted devices.

Medtronic CareLink Network – Internet-based service that allows a patient to transmit cardiac device information from home or other locations to the physician over a secure server. The CareLink Network may be unavailable in some geographic locations.

Mode Switch – feature that switches the device pacing mode from a dual-chamber atrial tracking mode to a non-tracking mode during an atrial tachyarrhythmia. This feature prevents rapid ventricular pacing that may result from tracking a high atrial rate and restores the programmed pacing mode when the atrial tachyarrhythmia ends.

MR Conditional – an item that has been demonstrated to pose no known hazards in a specified MR environment with specified conditions for use.

MRI SureScan – a feature that permits a mode of operation that allows a patient with a SureScan system to be safely scanned by an MRI machine while the device continues to provide appropriate pacing.

Multiple point pacing (MPP) – feature that allows the device to deliver a second, separately programmed LV pacing pulse during CRT pacing.

MVP (Managed Ventricular Pacing) – atrial-based pacing mode that is designed to switch to a dual chamber pacing mode in the presence of AV block. The MVP feature is intended to reduce unnecessary right ventricular pacing by promoting intrinsic conduction. The MVP modes are AAIR \leftrightarrow DDDR and AAI \leftrightarrow DDD.

Non-Competitive Atrial Pacing (NCAP) – programmable pacing feature that prohibits atrial pacing within a programmable interval after a refractory atrial event.

non-sustained VT (VT-NS) – ventricular rhythm that is fast enough to fall within the programmed VT and VF zones for at least 5 beats but does not meet any episode detection criteria.

Onset – feature that helps prevent detection of sinus tachycardia as VT by evaluating the acceleration of the ventricular rate.

OptiVol 2.0 fluid status monitoring – feature that identifies a potential increase in thoracic fluid, which may indicate lung congestion, by monitoring changes in thoracic impedance.

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OptiVol event – an occurrence of the OptiVol 2.0 Fluid Index exceeding the programmed OptiVol Threshold, which may indicate fluid accumulation in the patient's thoracic cavity.

OptiVol Threshold – a programmable value of the OptiVol 2.0 Fluid Index. Values above this threshold may indicate fluid accumulation in the patient's thoracic cavity and define the occurrence of an OptiVol event.

Other 1:1 SVTs feature – PR Logic feature designed to withhold ventricular detection for supraventricular tachycardias that exhibit nearly simultaneous atrial and ventricular activation.

oversensing – inappropriate sensing of cardiac events or noncardiac signals. Examples include far-field R-waves, T-waves, myopotentials, and electromagnetic interference.

Paced AV (PAV) interval – programmable delay between an atrial pace and its corresponding scheduled ventricular pace.

pacemaker-mediated tachycardia (PMT) – a rapid, inappropriately paced rhythm that can occur with atrial tracking modes. PMT results when a device senses and tracks retrograde P-waves in the DDD mode or the DDDR mode.

pacing threshold – minimum pacing output that consistently captures the heart.

patient alert – a tone emitted from an implanted device to notify the patient of an alert condition.

Patient app – application that automatically gathers information from a patient's implanted device and transmits it to clinicians through the Medtronic CareLink Network. This application is installed on a patient-owned tablet or smart phone and communicates with the implanted device via Bluetooth® wireless technology.

PMOP (Post Mode Switch Overdrive Pacing) – atrial intervention feature that works with the Mode Switch feature to deliver overdrive atrial pacing during the vulnerable phase following an AT/AF episode termination.

Post Shock Pacing – feature that provides temporary pacing support after a high-voltage therapy by increasing the pacing amplitude and pulse width to prevent loss of capture.

Post VT/VF Shock Pacing – feature that provides temporary overdrive pacing that may improve cardiac output after a high-voltage therapy.

Pre-arrhythmia EGM storage – programmable option to record EGM from before the onset or detection of a tachyarrhythmia. While this feature is operating, the device records EGM continuously. If a tachyarrhythmia episode occurs, the most recently collected EGM is added to the episode record to document the rhythm at onset.

PR Logic – set of features that uses pattern and rate analysis to discriminate between supraventricular tachycardias (SVTs) and true ventricular tachyarrhythmias.

Progressive Episode Therapies – feature that causes the device to skip therapies or modify high-voltage energy levels to ensure that each therapy delivered during an episode is at least as aggressive as the previous therapy.

PVAB (Post-Ventricular Atrial Blanking) – interval after ventricular events during which atrial events are ignored by bradycardia pacing features or are not sensed by the device, depending on the programmed PVAB method.

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PVARP (Post Ventricular Atrial Refractory Period) – atrial refractory period following a ventricular event used to prevent inhibition or pacemaker-mediated tachycardias (PMTs) in dual chamber pacing modes.

PVC (premature ventricular contraction) – a sensed ventricular event that directly follows any other ventricular event with no atrial event between them.

PVC Response – feature that extends PVARP following a premature ventricular contraction (PVC) to avoid tracking a retrograde P-wave and to prevent retrograde conduction from inhibiting an atrial pace.

Quick Look – implantable device app screen that presents overview data about device operation and patient rhythms collected since the last patient session. It includes links to more detailed status and diagnostic information stored in the device, such as arrhythmia episodes and therapies provided.

Ramp pacing – antitachycardia pacing (ATP) therapy that delivers pacing pulses with progressively shorter pacing intervals per pulse. Each sequence of Ramp pacing that is delivered during a therapy includes an additional pacing pulse.

Rate Adaptive AV (RAAV) – dual chamber pacing feature that varies the Paced AV (PAV) and Sensed AV (SAV) intervals as the heart rate increases or decreases to maintain 1:1 tracking and AV synchrony.

Rate Drop Response – feature that monitors the heart for a significant drop in rate and responds by pacing the heart at an elevated rate for a programmed duration.

Rate Drop Response episodes data – feature that displays beat-to-beat data that is useful in analyzing Rate Drop Response episodes and the events leading up to those episodes.

Rate Histograms – diagnostic feature that shows range distributions for a patient's heart rate.

rate profile – rate histogram of the sensor rates used by Rate Profile optimization to automatically adjust Rate Response settings.

Rate Profile Optimization – feature that monitors the patient's daily and monthly sensor rate profiles and adjusts the rate response curves over time to achieve a prescribed target rate profile.

Rate Response – feature that adjusts the cardiac pacing rate in response to changes in sensed patient activity.

Reactive ATP – algorithm that allows the device to repeat programmed atrial antitachycardia pacing (ATP) therapies during long AT/AF episodes. Therapies are repeated after a programmed time interval or when the atrial rhythm changes in regularity or cycle length.

reference impedance – a baseline against which daily thoracic impedance is compared to determine if thoracic fluid is increasing.

refractory period – time interval during which the device senses events normally but classifies them as refractory and responds to them in a limited way.

Remaining longevity estimate – an estimate of remaining device longevity that is displayed on the Quick Look screen and the BATTERY AND LEAD MEASUREMENTS window. This information includes a graphical display for

GLOSSARY

easy reference and the estimated number of years or months of remaining longevity. In the battery and lead measurements window, the minimum and maximum number of years or months of remaining device longevity are also provided. The remaining longevity estimate is updated when parameters are reprogrammed and when the device is interrogated.

RESUME – programming command that reinstates automatic tachyarrhythmia detection.

retrograde conduction – electrical conduction from the ventricles to the atria.

RRT (Recommended Replacement Time) – battery status indicator displayed by the implantable device app to indicate when replacement of the device is recommended.

RV Lead Integrity Alert – feature that sounds an alert tone to warn the patient that a potential RV lead problem is suspected, which could indicate a lead fracture.

RV Lead Noise Alert – feature that sounds an alert tone when RV Lead Noise Discrimination withholds VT/VF detection because of the presence of noise on the RV lead. Noise could indicate lead fracture, breached lead insulation, lead dislodgment, or improper lead connection.

RV Lead Noise Discrimination – feature that compares a far-field EGM signal to the near-field sensing signal to differentiate RV lead noise from VT/VF. If lead noise is identified when these signals are compared, the device withholds VT/VF detection and therapy and triggers an RV Lead Noise Alert.

Sensed AV (SAV) interval – programmable delay following an atrial sensed event that schedules a corresponding ventricular pace.

sensed event – electrical activity across the sensing electrodes that exceeds the programmed sensitivity threshold and is identified by the device as a cardiac event.

Sensing Integrity Counter – diagnostic counter that records the number of short ventricular intervals that occur between patient sessions. A large number of short ventricular intervals may indicate double-counted R-waves, lead fracture, or a loose setscrew.

sensor rate – the pacing rate determined by the level of patient activity and the programmed rate response parameters; this rate is adjusted between the Upper Sensor Rate and the operating Lower Rate.

sequence, ATP – one programmable set of antitachycardia pacing (ATP) therapy pulses.

Sinus Tach feature – PR Logic feature designed to discriminate between high rate sinus tachycardia and ventricular tachyarrhythmia.

Sleep – feature that causes the device to pace at a slower rate during a programmed sleep period.

Smart Mode – feature that disables an ATP therapy that has been unsuccessful in 4 consecutive episodes so the device can treat subsequent episodes more quickly with therapies that have been effective.

Stability – feature that helps prevent detection of atrial fibrillation as ventricular tachyarrhythmia by evaluating the stability of the ventricular rate. If the device determines that the ventricular rate is not stable, it withholds VT detection.

GLOSSARY

SUSPEND – programming command that temporarily deactivates the tachyarrhythmia detection functions.

SVT V. Limit – feature that allows you to program a highest rate for which PR Logic and Wavelet can withhold detection and therapy.

synchronization – period during defibrillation and cardioversion therapies when the device attempts to deliver the therapy shock simultaneously with a sensed ventricular event.

thoracic impedance – impedance across the thorax as measured from 2 points within the thorax.

TWave Discrimination – feature that withholds VT/VF detection when a fast ventricular rate is detected because of oversensed T-waves.

undersensing – failure of the device to sense intrinsic cardiac activity.

ventricular antitachycardia pacing (ATP) – therapies that respond to a VT episode or an FVT episode with rapid sequences of pacing pulses to end detected ventricular tachyarrhythmias.

ventricular cardioversion – therapy that delivers a high-voltage shock to treat a VT or an FVT episode. Therapy is synchronized to a sensed ventricular event.

ventricular fibrillation (VF) therapies – therapies that deliver automatic defibrillation shocks to treat VF episodes. The first defibrillation therapy requires VF confirmation before delivery. After the first shock has been delivered, shocks are delivered asynchronously if synchronization fails.

Ventricular Rate Stabilization (VRS) – ventricular rhythm management feature that adjusts the pacing rate dynamically to eliminate the long pause that typically follows a premature ventricular contraction (PVC).

Ventricular Safety Pacing (VSP) – pacing therapy feature that prevents inappropriate inhibition of ventricular pacing caused by crosstalk or ventricular oversensing.

Ventricular Sense Response (VSR) – feature intended to promote continuous CRT pacing by providing ventricular pacing in response to ventricular sensed events.

Ventricular sensing episodes data – feature that compiles diagnostic information to help the clinician identify the cause of ventricular sensing episodes and reprogram the device to avoid these episodes.

VF confirmation – device operation that confirms the presence of VF after initial detection but before a defibrillation therapy is delivered. This feature applies only to the first programmed VF therapy.

VT/VF detection – feature that uses programmable detection zones to classify ventricular events. Depending on programming, the device delivers a scheduled therapy, re-evaluates the patient's heart rhythm, and ends or re-detects the episode.

VT monitoring – programmable option that allows the device to detect fast rhythms as VT and record episode data without delivering VT therapy.

GLOSSARY

Wavelet – feature designed to prevent detection of rapidly conducted SVTs as ventricular tachyarrhythmias by comparing the shape of each QRS complex during a fast ventricular rate to a template.

Brief Statement

See the device manual for detailed information regarding the instructions for use, the implant procedure, indications, contraindications, warnings, precautions, and potential adverse events. If using an MRI SureScan™ device, see the MRI SureScan™ technical manual before performing an MRI. For further information, contact your local Medtronic representative and/or consult the Medtronic website at [medtronic.eu](https://www.medtronic.eu).

For applicable products, consult instructions for use on www.medtronic.com/manuals.

Manuals can be viewed using a current version of any major internet browser.

For best results, use Adobe Acrobat® Reader with the browser.

IMPORTANT REMINDER

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SURGICAL HEART THERAPIES PRODUCT CATALOG

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- Surgical Ablation
- Revascularization

INTERNATIONAL

CAUTION: For distribution only in markets where the products have been approved.

Medtronic
Further, Together

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Freestyle™

Aortic Root Bioprosthesis

A stentless valve that is naturally designed to maximize flow, particularly for young patients.

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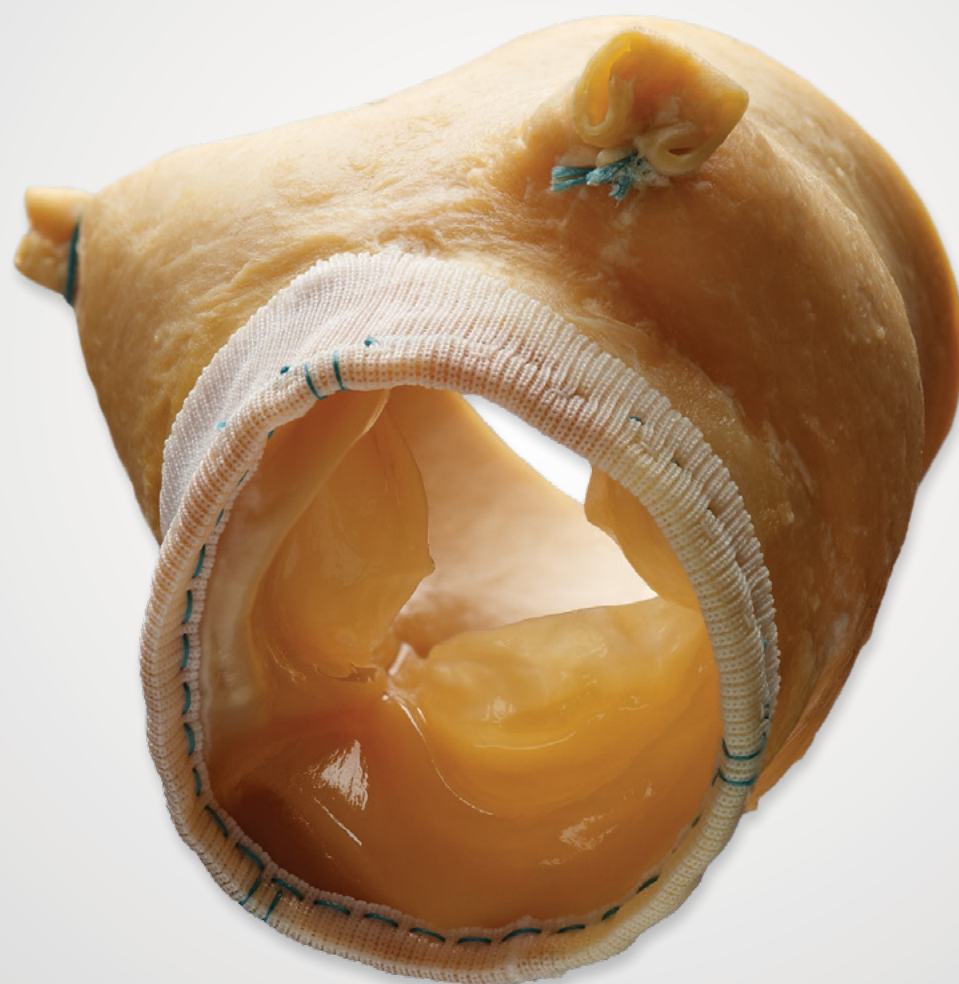
Superior Hemodynamics^{1,2,3}

Intelligently Designed

- Functions like a native valve with low gradients and laminar flow¹
- Absence of stent and sewing ring leaves more room for blood to flow through the valve; improves postoperative coronary flow more than a stented bioprosthesis^{2,3}

Maximum Flow

- Designed to function like a native valve with physiologic hemodynamics
- Excellent mean pressure gradients and EOAs out to 10 years⁴
- Strong clinical outcomes and excellent durability at 15 years⁴



References

1. Westaby S., et al. Valve replacement with a stentless bioprosthesis: Versatility of the porcine aortic root. *J Thorac Cardiovasc Surg* 1998;116:477-84.
2. Bakhtiary F, et al. Stentless bioprostheses improve postoperative coronary flow more than stented prostheses after valve replacement for aortic stenosis. *J Thorac Cardiovasc Surg* 2006;131:883-8.
3. Silberman S, et al. Exercise hemodynamics of aortic prostheses: Comparison between stentless bioprostheses and mechanical valves. *Ann Thorac Surg* 2001;72:1217-21.
4. Freestyle Aortic Root Bioprosthesis 15-year clinical compendium 2012 ©Medtronic.



Freestyle™

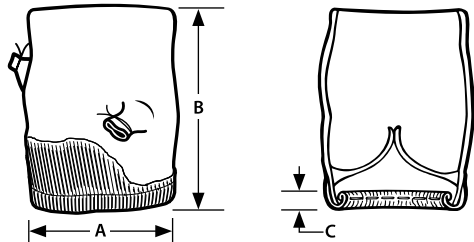
Aortic Root Bioprosthesis

A stentless valve that is naturally designed to maximize flow, particularly for young patients.

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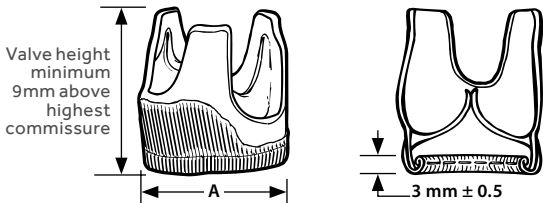
Freestyle Full Root Bioprosthesis

Order Number	Size (mm)	A Outside Diameter	B Profile Height	C Inner Cloth Height
		(± 0.2mm)	(± 2mm)	(±0.5mm)
FR99519	19	19.0	30	3.0
FR99521	21	21.0	32	3.0
FR99523	23	23.0	32	3.0
FR99525	25	25.0	34	3.0
FR99527	27	27.0	34	3.0
FR99529	29	29.0	39±0.3	3.0



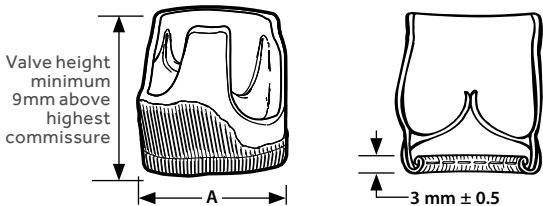
Prestyled Freestyle Complete Subcoronary Bioprosthesis

Order Number	Size (mm)	A Outside Diameter
		(+0.5mm - 0.0mm)
995CS19	19	19.0
995CS21	21	21.0
995CS23	23	23.0
995CS25	25	25.0
995CS27	27	27.0
995CS29	29	29.0



Prestyled Freestyle Modified Subcoronary Bioprosthesis

Order Number	Size (mm)	A Outside Diameter
		(+0.5mm - 0.0mm)
995MS19	19	19.0
995MS21	21	21.0
995MS23	23	23.0
995MS25	25	25.0
995MS27	27	27.0
995MS29	29	29.0



Freestyle Valve Accessories

Order Number	Description
T7625FR	Freestyle Accessory Tray
7639	Handle (234mm length) pliant, without locknut to be used with Freestyle bioprosthesis
7639XL	Handle (368mm length) pliant, without locknut to be used with Freestyle bioprosthesis
7990SET	Freestyle Obturator Set (no handles)

Hancock™ II

Bioprosthetic Valve

The valve that has stood the test of time to make outcomes as predictable as procedures.

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The Standard For Reliability and Consistency

- Proven durability in all patients, especially those ≥60 years of age^{1,2}
- Highly studied surgical valve delivering strong results and consistent outcomes from multiple centers^{1,3}
- More than 97% freedom from SVD after 20 years for patients ≥65 years of age¹
- Radiopaque for future valve-in-valve procedures
- Optimal performance and value



References

1. David T, et al. Hancock II Bioprosthesis for aortic valve replacement: The gold standard of bioprosthetic valves durability. *Ann Thorac Surg* 2010;90: 775-81.

2. Borger M, et al. Twenty year results of the Hancock II bioprosthesis. *Journal of Heart Valve Disease*. January 2006;15:49-56.

3. Valfre C, et al. The fate of Hancock II porcine valve recipients 25 years after implant. *European Journal of Cardio-Thoracic Surgery*. 2010;28:141-6.



Hancock™ II

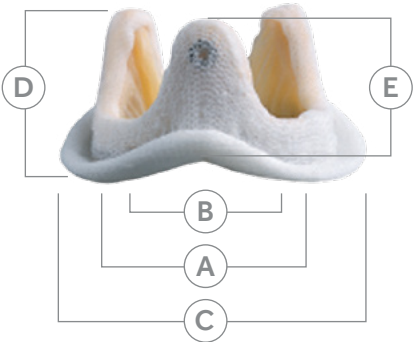
Bioprosthetic Valve

The valve that has stood the test of time to make outcomes as predictable as procedures.

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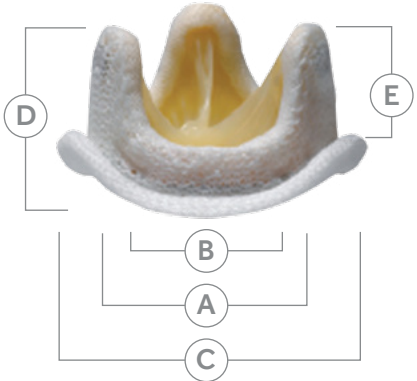
Hancock II Aortic Heart Valve

Order Number	A Valve Size (Stent O.D.†)	B Orifice Diameter (Stent I.D.)	C Suture Ring Diameter	D Valve Height	E Aortic Protrusion
	(±0.5mm)	(±0.5mm)	(±1mm)	(±0.5mm)	(±0.5mm)
T505C221	21	18.5	27.0	15.0	12.0
T505C223	23	20.5	30.0	16.0	13.5
T505C225	25	22.5	33.0	17.5	15.0
T505C227	27	24.0	36.0	18.5	15.5
T505C229	29	26.0	39.0	20.0	16.0



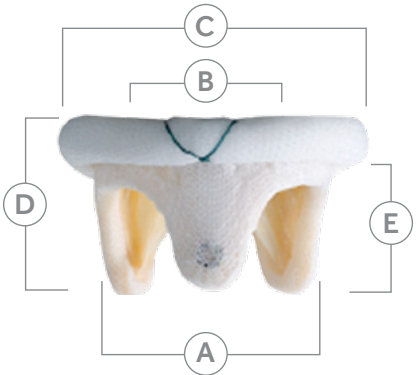
Hancock II Ultra™ Aortic Heart Valve

Order Number	A Valve Size (Stent O.D.†)	B Orifice Diameter (Stent I.D.)	C Suture Ring Diameter	D Valve Height	E Aortic Protrusion
	(±0.5mm)	(±0.5mm)	(±1mm)	(±0.5mm)	(±0.5mm)
T505U221	21	18.5	26.0	15.0	12.0
T505U223	23	20.5	28.0	16.0	13.5
T505U225	25	22.5	30.0	17.5	15.0
T505U227	27	24.0	32.0	18.5	15.5
T505U229	29	26.0	34.0	20.0	16.0



Hancock II Mitral Heart Valve

Order Number	Valve Size (Stent O.D.†) A	Orifice Diameter (Stent I.D.) B	Suture Ring Diameter C	Valve Height D	Ventricular Protrusion E
	(±0.5mm)	(±0.5mm)	(±1mm)	(±0.5mm)	(±0.5mm)
T510C25	25	22.5	33.0	18.0	13.5
T510C27	27	24.0	35.0	19.0	14.0
T510C29	29	26.0	38.0	20.5	15.5
T510C31	31	28.0	41.0	22.0	17.0
T510C33	33	30.0	43.0	23.0	17.5



Hancock II Tissue Valve Accessories

Order Number	Description
T7610HKA	Tray, Accessory, Hancock II, Aortic
T7610HKM	Tray, Accessory, Hancock II, Mitral
T7505UX	Tray, Accessory, Hancock II Ultra, Supra-X Aortic Sizer Set
7505UX	Hancock II Ultra, Supra-X Aortic Sizer Set
7639	Handle (234mm length) pliant, without locknut handle to be used with Hancock II, Hancock II ULTRA prostheses
7639XL	Handle (368mm length) pliant, without locknut handle to be used with Hancock II, Hancock II ULTRA prostheses
7505SET	Hancock II Aortic Obturator Set (no handles, no tray)
7510SET	Hancock II Mitral Obturator Set (no handles, no tray)

† Equivalent to annulus diameter

Mosaic™ Bioprosthesis

A versatile platform designed to easily facilitate aortic or mitral valve replacement in open or minimally invasive procedures.

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Undeniably Durable

- Designed to facilitate aortic and mitral valve replacement in open or minimally invasive procedures
- 80% freedom from explant due to SVD at 16 years in the mitral position¹
- 81% freedom from explant due to SVD at 17 years in the aortic position²



References

1. Medtronic Mosaic Mitral Bioprosthesis 16-year Clinical Compendium. ©2016 Medtronic.
2. Medtronic Mosaic Aortic Bioprosthesis 17-year Clinical Compendium. ©2016 Medtronic.

Mosaic™

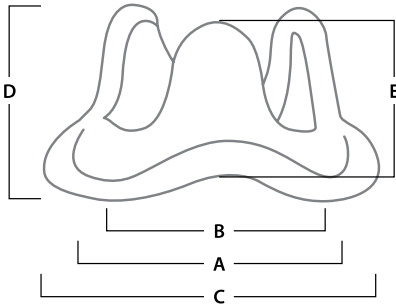
Bioprosthesis

A versatile platform designed to easily facilitate aortic or mitral valve replacement in open or minimally invasive procedures.

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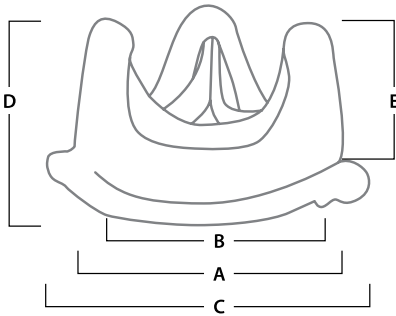
Mosaic Aortic Valve, Model 305

Order Number	A Valve Size (Stent O.D.†)	B Orifice Diameter (Stent I.D.)	C Suture Ring Diameter	D Valve Height	E Aortic Protrusion
	(±0.5mm)	(±0.5mm)	(±1mm)	(±0.5mm)	(±0.5mm)
305C219	19	17.5	25.0	13.5	11.0
305C221	21	18.5	27.0	15.0	12.0
305C223	23	20.5	30.0	16.0	13.5
305C225	25	22.0	33.0	17.5	15.0
305C227	27	24.0	36.0	18.5	15.5
305C229	29	26.0	39.0	20.0	16.0



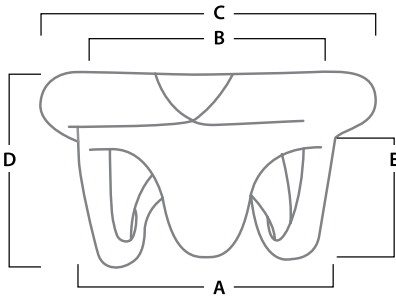
Mosaic Ultra Aortic Valve, Model 305

Order Number	A Valve Size (Stent O.D.†)	B Orifice Diameter (Stent I.D.)	C Suture Ring Diameter	D Valve Height	E Ventricular Protrusion
	(±0.5mm)	(±0.5mm)	(±1mm)	(±0.5mm)	(±0.5mm)
305U219	19	17.5	24.0	13.5	11.0
305U221	21	18.5	26.0	15.0	12.0
305U223	23	20.5	28.0	16.0	13.5
305U225	25	22.5	30.0	17.5	15.0
305U227	27	24.0	32.0	18.5	15.5
305U229	29	26.0	34.0	20.0	16.0



Mosaic Mitral Valve, Model 310

Order Number	A Valve Size (Stent O.D.†)	B Orifice Diameter (Stent I.D.)	C Suture Ring Diameter	D Valve Height	E Ventricular Protrusion
	(±0.5mm)	(±0.5mm)	(±1mm)	(±0.5mm)	(±0.5mm)
310C25	25	22.5	33.0	18.0	13.5
310C27	27	24.0	35.0	19.0	14.0
310C29	29	26.0	38.0	20.5	15.5
310C31	31	28.0	41.0	22.0	17.0
310C33	33	30.0	43.0	23.0	17.5



Mosaic Bioprosthesis Accessories

Order Number	Description
T7308C	Mosaic Aortic Sizers
T7615MSM	Tray, Accessory, Mosaic, Mitral
T7308U	Tray, Accessory, Mosaic Ultra Aortic
7308U	Mosaic Ultra Aortic Sizers
7639	Handle (234mm length) pliant, without locknut to be used with Mosaic or Mosaic Ultra prostheses
7639XL	Handle (368mm length) pliant, without locknut to be used with Mosaic or Mosaic Ultra prostheses
7308C	Mosaic Aortic Sizer Set (no handles, no tray)
7310	Mosaic Mitral Obturator Set (no handles, no tray)

† Equivalent to annulus diameter

Medtronic Open Pivot™ Mechanical Heart Valves

Optimal performance with excellent quality of life benefits.

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Fundamentally Different Design

- Unique axis of suspension results in leaflet movement responsive to physiological demands
- Gentle, passive washing ensures complete washing of the pivot in both open and closed positions

Quiet

- Most patients cannot hear the sound of their valve after implantation¹
- Low levels of hemolysis and thromboembolic events^{2,3}
- Orifice design and unique leaflet movement result in excellent EOAs, even in small sizes^{4,5}



References

1. Sezai A, et al. Evaluation of valve sound and its effects on ATS prosthetic valves in patients' quality of life. *Ann Thorac Surg.* 2000;69:507-12.
2. Shiono M, et al. Multi-institutional experience of the ATS open pivot bileaflet valve in Japan. *Ann Thorac Cardiovasc Surg.* 1996;2(1):51-8.
3. Sezai A, et al. Fifteen years of experience with ATS mechanical heart valve prostheses. *J Thorac Cardiovasc Surg.* 2010;139(6):1494-500.
4. ATS Medical Inc. Pre-market Approval Application - Summary of Safety and Effectiveness: 2000. Washington DC: U.S. Food and Drug Administration. 2000:P990046.
5. Feng Z, et al. In vitro hydrodynamic characteristics among three bileaflet valves in the mitral position. *Artif Organs.* 2000;24(5):346-54.



Open Pivot Standard

Intra-annular valve with generous, compliant cuff for exceptional implantability



Open Pivot AP

Supra-annular compact cuff configuration for excellent suturability and conformability



Open Pivot AP360

Supra-annular flanged cuff configuration for maximum flexibility, needle penetration and conformability

Medtronic Open Pivot™ Mechanical Heart Valves

Optimal performance with excellent quality of life benefits.

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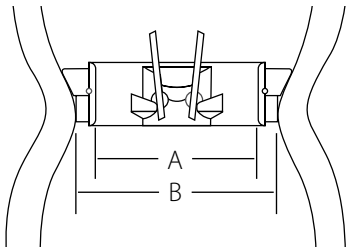
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Open Pivot Standard Heart Valve Aortic

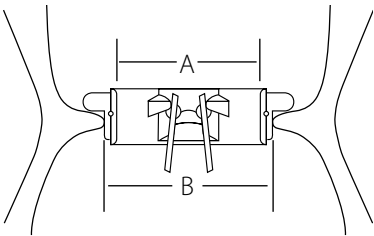
Order Number	Valve Size (mm)	A Orifice Inner Diameter (mm)	B Tissue Annulus (mm)	Geometric Orifice Area (cm ²)
500FA19	19	14.8	19.5	1.55
500FA21	21	16.8	21.5	2.02
500FA23	23	18.8	23.5	2.56
500FA25	25	20.8	25.5	3.17
500FA27	27	22.8	27.5	3.84
500FA29	29	24.8	29.5	4.59
500FA31	31	26.8	31.5	5.35



Standard Aortic

Open Pivot Standard Heart Valve Mitral

Order Number	Valve Size (mm)	A Orifice Inner Diameter (mm)	B Tissue Annulus (mm)	Geometric Orifice Area (cm ²)
500DM19	19	14.8	19.5	1.55
500DM21	21	16.8	21.5	2.02
500DM23	23	18.8	23.5	2.56
500DM25	25	20.8	25.5	3.17
500DM27	27	22.8	27.5	3.84
500DM29	29	24.8	29.5	4.59
500DM31	31	26.8	31.5	5.35
500DM33	33	26.8	33.5	5.35



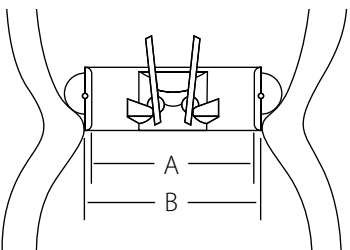
Standard Mitral

Open Pivot Accessories

Order Number	Description
576	OPHV Sizer Set, (Std, AP series, Handle, Tray)
556	OPHV Aortic and Mitral Handle Rotator Set
558	OPHV Leaflet Actuators (Non-sterile bag of 5)
569	OPHV Bendable Handle
577	OPHV Standard Sizer Set (just sizers)
578	OPHV AP Series Sizer Set (just sizers)
579	OPHV Sizer Sterilization Tray (tray only)
580	OPHV Screw-on Mitral Rotator End Set

Open Pivot AP and AP360° Heart Valves Aortic

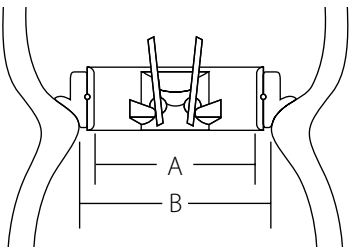
Order Number	Valve Size (mm)	A Orifice Inner Diameter (mm)	B Tissue Annulus (mm)	Geometric Orifice Area (cm ²)
501DA16/505DA16	16	14.8	16.2	1.55
501DA18/505DA18	18	16.8	18.2	2.02
501DA20/505DA20	20	18.8	20.2	2.56
501DA22/505DA22	22	20.8	22.2	3.17
501DA24/505DA24	24	22.8	24.2	3.84
501DA26/505DA26	26	24.8	26.2	4.59
501DA28/505DA28	28	26.8	28.2	5.35



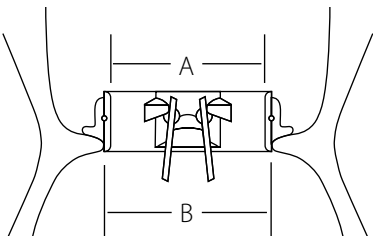
AP Aortic

Open Pivot AP360° Heart Valves Mitral

Order Number	Valve Size (mm)	A Orifice Inner Diameter (mm)	B Tissue Annulus (mm)	Geometric Orifice Area (cm ²)
501DM16	16	14.8	16.2	1.55
501DM18	18	16.8	18.2	2.02
501DM20	20	18.8	20.2	2.56
501DM22	22	20.8	22.2	3.17
501DM24	24	22.8	24.2	3.84
501DM26	26	24.8	26.2	4.59
501DM28	28	26.8	28.2	5.35



AP360° Aortic



AP360° Mitral



Contegra™

Pulmonary Valve Conduit

An integrated valved conduit for reconstruction or replacement of the natural right ventricular outflow tract (RVOT) or replacement of a failed homograft or composite pulmonary conduit.

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Natural

- Derived from a bovine jugular vein
- Flexible for unique tailoring as only natural tissue can offer
- Blood passes easily across a continuous tissue interface and natural sinus

Versatile

- Proximal length allows for infundibular shaping without patching
- Resilient wall retains suture and supports hemostatic suture line
- No additional materials necessary for proximal anastomosis

Convenient

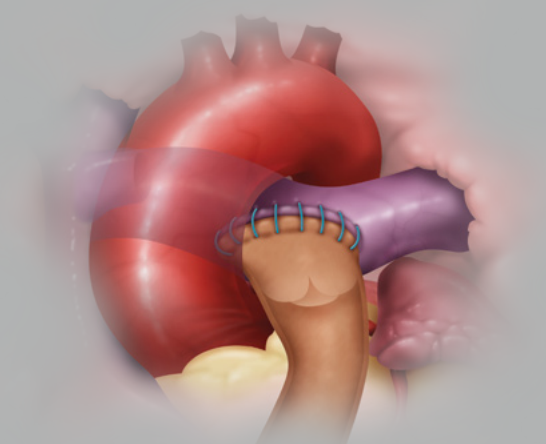
- Available in supported and unsupported models
- Preserved in buffered glutaraldehyde
- Readily available—no thawing or preclotting required



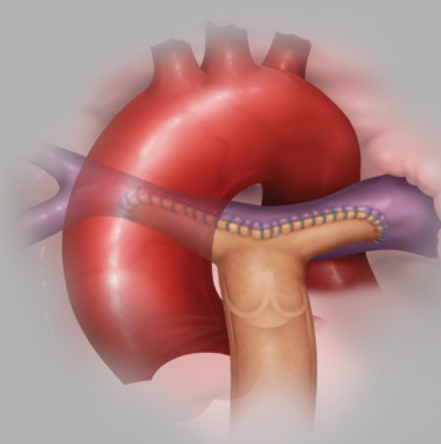
No discontinuity between the lumen and valve



Thin, compliant leaflets open fully and close readily with minimal pressure



Thin, extensible tissue is especially suited for anastomosis



Easily customized to individual needs

Contegra™

Pulmonary Valve Conduit

An integrated valved conduit for reconstruction or replacement of the natural right ventricular outflow tract (RVOT) or replacement of a failed homograft or composite pulmonary conduit.

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Contegra Pulmonary Valve Conduit - Supported

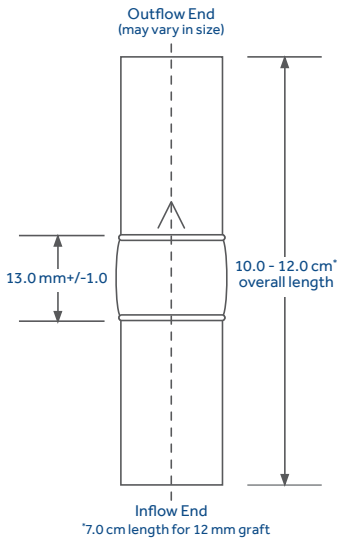
Order Number	Internal Diameter (Inflow End) (mm)
200SH12	12
200SH14	14
200SH16	16
200SH18	18

Model 01-0055 Torque Wrench (optional reusable jar opener)

Storage Temperature

+15 °C
+59 °F

+25 °C
+77 °F



Contegra Pulmonary Valve Conduit - Unsupported

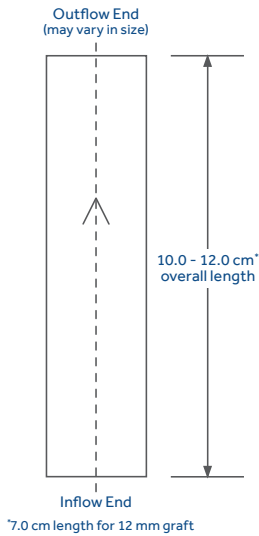
Order Number	Internal Diameter (Inflow End) (mm)
200H12	12
200H14	14
200H16	16
200H18	18

Model 01-0055 Torque Wrench (optional reusable jar opener)

Storage Temperature

+15 °C
+59 °F

+25 °C
+77 °F



Hancock™

Bioprosthetic Valved Conduit

With options for right and left heart applications.

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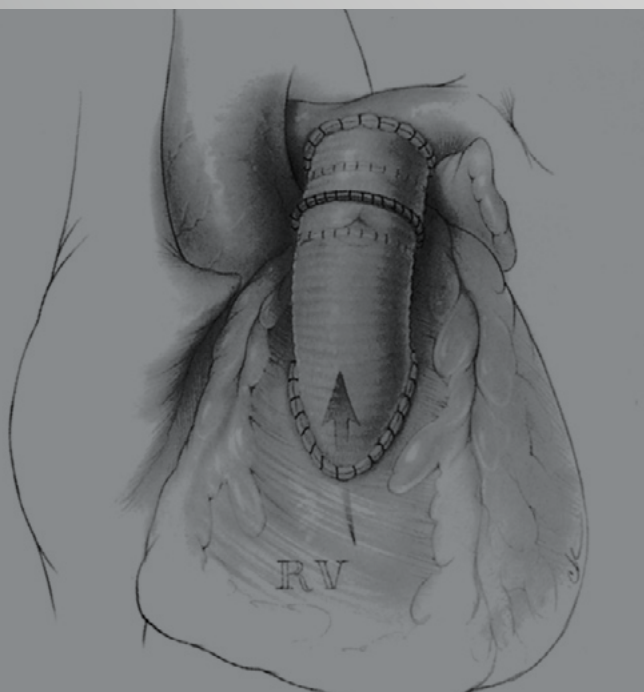
REVASCULARIZATION

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A Proven Alternative

Hancock valved conduits offer proven performance for reconstruction of congenital or acquired cardiac and great vessel malformations or pathologies for right heart applications.

- Porcine aortic valve sutured into a Dacron woven fabric conduit
- Stentless—optimizes the ratio of the conduit outer diameter to the inner diameter
- An external reinforcing ring at the valve annulus supports leaflet coaptation and allows radiographic visualization



HancockTM

Bioprosthetic Valved Conduit

With options for right and left heart applications.

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Model 150 | Hancock Modified Oriface Bioprosthetic Standard-Porosity Valved Conduits

Order Number	Valve Size (mm)
HC15012	12
HC15014	14
HC15016	16
HC15018	18
HC15020	20
HC15022	22
HC15025	25

For right heart applications



Model 105 | Hancock Bioprosthetic Low-Porosity Valved Conduits

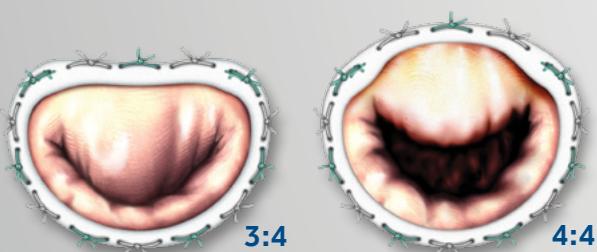
Order Number	Valve Size (mm)
HC05012	12
HC05014	14
HC05016	16
HC05018	18
HC05020	20
HC05022	22
HC05025 	26

For right and left heart applications

Intentional Design

Unique composite design considers both cardiac cycles

- **Cardiac Systole**
The ring remodels the mitral valve orifice to normal 3:4 ratio between the anteroposterior and transverse diameters
- **Cardiac Diastole**
The ring's dynamic characteristics allow physiologic motion and movement to maintain the normal 4:4 ratio between anteroposterior and transverse diameters



Implant Ease

- Low profile design allows for ease of implant
- Unique eyelet design allows for easy anchoring to the trigones



Provides enough stiffness for posterior remodeling, while preserving dynamic annular motion

CG Future™

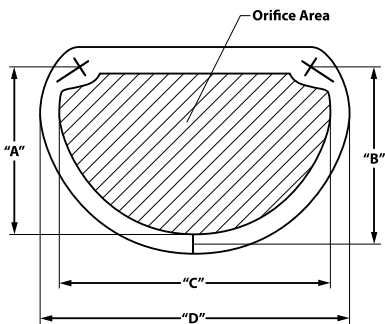
Semi-Rigid Annuloplasty Ring and Band

More physiologically-based mitral solutions.

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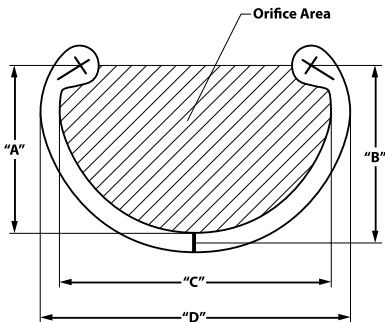
CG Future Annuloplasty Ring, Model 638R

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Orifice Area (mm²)
638RL24	24	15.27	16.53	24.0	28.9	269.3
638RL26	26	16.38	17.64	26.0	30.9	314.9
638RL28	28	17.48	18.73	28.0	32.9	364.3
638RL30	30	18.59	19.85	30.0	34.9	417.3
638RL32	32	19.71	20.97	32.0	36.9	474.7
638RL34	34	20.83	22.09	34.0	38.9	536.0
638RL36	36	21.92	23.18	36.0	40.9	600.9
638RL38	38	23.04	24.29	38.0	42.9	669.4



CG Future Annuloplasty Band, Model 638B

Order Number	Band Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Orifice Area (mm²)
638BL26	26	16.38	17.64	26.0	30.9	332.0
638BL28	28	17.48	18.73	28.0	32.9	382.8
638BL30	30	18.59	19.85	30.0	34.9	437.4
638BL32	32	19.71	20.97	32.0	36.9	496.3
638BL34	34	20.83	22.09	34.0	38.9	559.2
638BL36	36	21.92	23.18	36.0	40.9	625.1
638BL38	38	23.04	24.29	38.0	42.9	695.7



CG Future Annuloplasty Band Accessories

Order Number	Description
T7630	CG Future Accessory Tray
7615	Annuloplasty Handle (216mm length)
7615XL	Annuloplasty Handle (373mm length)
7638S	CG Future Sizer Set (8 reusable sizers, 24 - 38mm)

Contour 3D™

Tricuspid Annuloplasty Ring

Accommodates anterior motion; provides posterior support.

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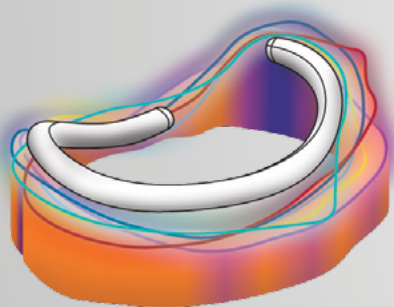
SURGICAL ABLATION

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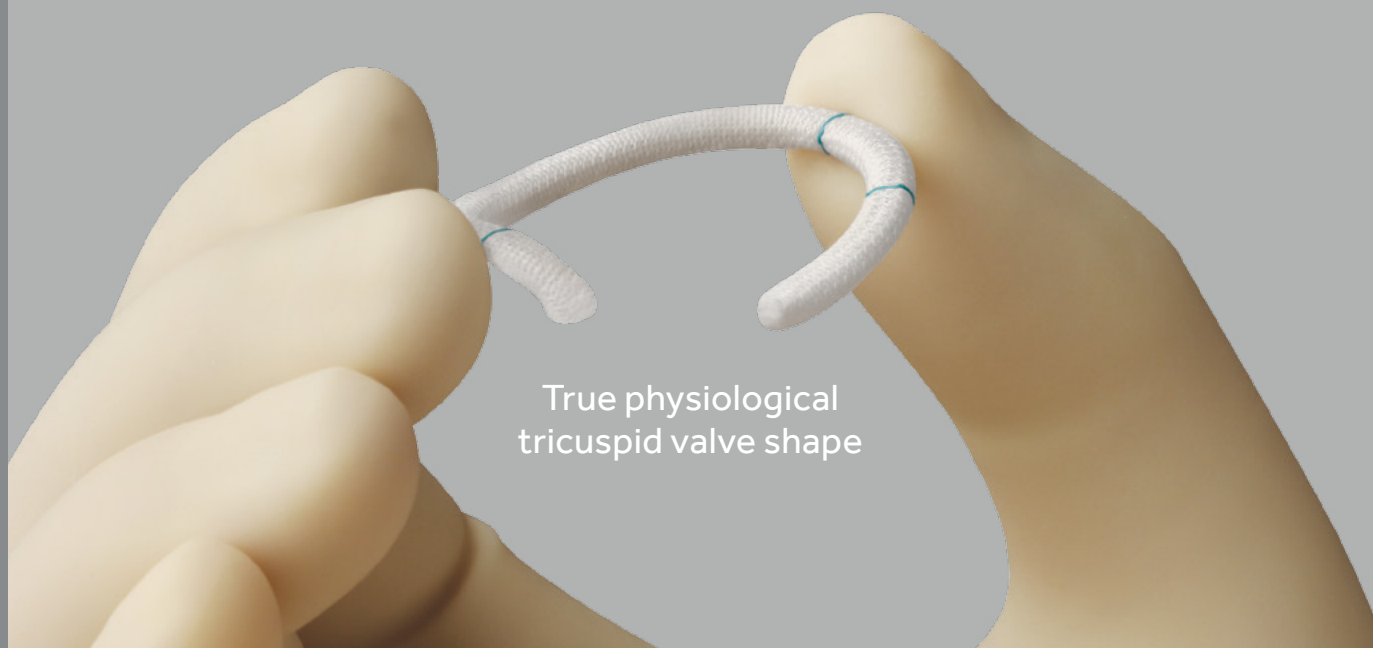
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Restores Anatomic 3D Shape

- Design of the Contour 3D ring is based on CT data from functional human tricuspid valves—offering surgeons a 3D remodeling ring anatomically shaped to the normal tricuspid annulus



- Low profile and smooth penetration
- Low profile height of 3.3mm helps to avoid interference with the heart's conduction system. In addition, unique fabric allows for smooth needle penetration



True physiological
tricuspid valve shape

Contour 3D™

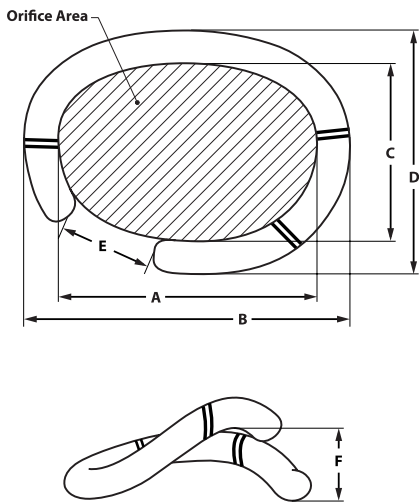
Tricuspid Annuloplasty Ring

Accommodates anterior motion; provides posterior support.

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Contour 3D Annuloplasty Ring, Model 690R

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Orifice Area (mm²)
690R26	26	24	32	16	24	10	7	326.1
690R28	28	26	34	18	25	11	7	387.2
690R30	30	28	36	19	27	12	8	449.2
690R32	32	30	38	21	28	13	8	512.4
690R34	34	32	40	22	30	14	9	588.6
690R36	36	34	42	23	31	15	9	665.1



Contour 3D Annuloplasty Ring Accessories

Order Number	Description
T7690	Contour 3D Accessory Tray
7686	Annuloplasty Handle (216mm length)
7686XL	Annuloplasty Handle (373mm length)
7690S	Contour 3D Sizer Set (6 reusable sizers, 26 - 36mm)
7690SD	Contour 3D Sizer Set (6 disposable silicone sizers, 26 - 36mm)

Duran AnCore™

Flexible Annuloplasty Ring and Band

A clinically inspired design by Carlos Duran, MD, PhD, with technology proven by more than 36 years of clinical experience.

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Duran AnCore Ring

- Flexibility allows preservation of the natural physiologic motion of the annulus resulting in optimal hemodynamics¹
- Adapts to changes in the mitral orifice area during entire cardiac cycle²

Duran AnCore Band

- Optimum choice when only posterior annulus support is required^{3,4}
- Band length extends beyond the trigones to provide secure suturing

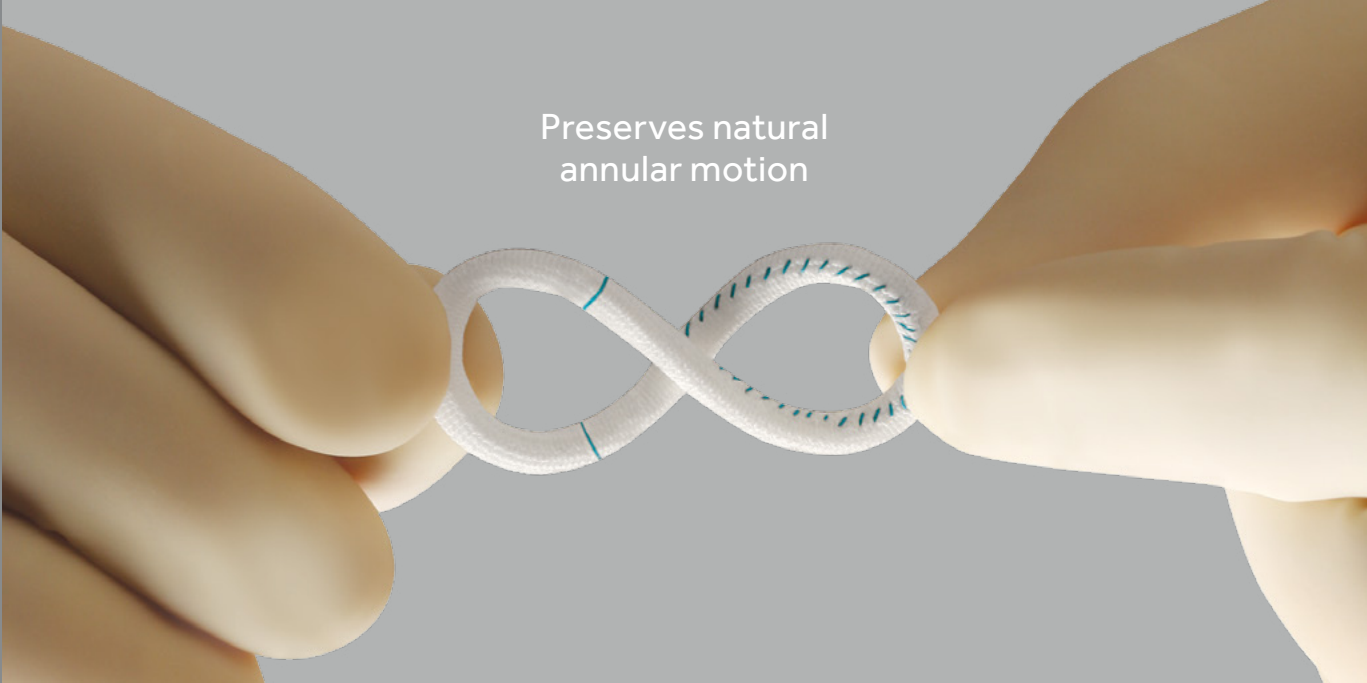
Ease of Implant

- Patented chordal guide facilitates replacement of mitral valve chordae tendineae



References

1. Kunzelman KS, Reimink MS, Cochran RP. Flexible Versus Rigid Ring Annuloplasty for Mitral Valve Annular Dilatation: A Finite Element and Model. *J Heart Valve Dis.* 1998;7:108-116.
2. Yamaura Y, Yoshikawa J, Yoshida K, et al. Three-dimensional Analysis of Configuration and Dynamics in patients with an Annuloplasty Ring by Multiplane Transesophageal Echocardiography: Comparison Between Flexible and Rigid Annuloplasty Rings. *J Heart Valve Dis.* 1995;4:618-22.
3. Duran CMG. Duran Flexible Annuloplasty Repair of the Mitral and Tricuspid Valves: Indications, Patient Selection, and Surgical Techniques using the Duran Flexible Annuloplasty Ring. Medtronic, Inc. 1992.
4. Odell JA, Schaff HV, Orszulak TA. Early Results of a Simplified Method of Mitral Valve Annuloplasty. *Circulation.* 1995;92 (Suppl 2):11-150-4.



Preserves natural
annular motion

Duran AnCore™

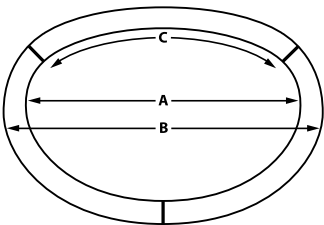
Flexible Annuloplasty Ring and Band

A clinically inspired design by Carlos Duran, MD, PhD,
with technology proven by more than 36 years of clinical experience.

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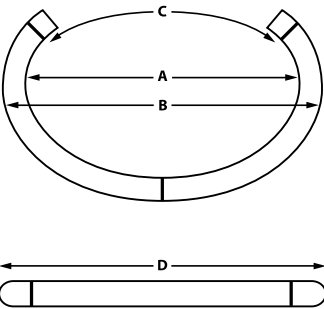
Duran AnCore Annuloplasty Ring, Model 620R

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)
620RG23	23	25.8	31.8	23
620RG25	25	27.8	33.8	25
620RG27	27	29.8	35.8	27
620RG29	29	31.7	37.7	29
620RG31	31	33.8	39.8	31
620RG33	33	35.8	41.8	33
620RG35	35	37.7	43.7	35



Duran AnCore Annuloplasty Band, Model 620B

Order Number	Band Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)
620BG23	23	25.8	31.8	23	59
620BG25	25	27.8	33.8	25	63
620BG27	27	29.8	35.8	27	67
620BG29	29	31.7	37.7	29	73
620BG31	31	33.8	39.8	31	77
620BG33	33	35.8	41.8	33	81
620BG35	35	37.7	43.7	35	85



Duran AnCore Annuloplasty Ring and Band Accessories

Order Number	Description
T7660	Duran AnCore Accessory Tray
7620H/7686	Annuloplasty Handle (216mm length)
7620HXL/7686XL	Annuloplasty Handle (373mm length)
7620S	Duran AnCore Sizer Set

Profile 3D™

Rigid Annuloplasty Ring

Engineered to maintain anterior and posterior dimensions of the mitral annulus.

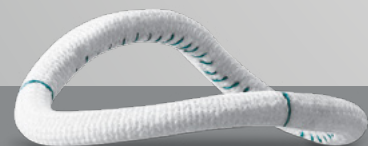
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Restoring Annular Geometry

- Unique asymmetrical 3D design engineered to maintain anterior and posterior dimensions of mitral annulus to restore annular geometry

Saddle Shape

- The saddle shape, based on the annular geometry of normal human mitral annuli, may reduce stress and increase mitral valve durability^{1,2}
- Design provides a consistent 25% anterior curvature and 15% posterior curvature reducing peak leaflet stress³



25%
Anterior
Curvature

15%
Posterior
Curvature

Restores annular geometry

References

1. Published U.S. Patent Application Nos. 2005-0021135 A1 and 2006-0025856 A1.
2. Fedak P, McCarthy P, Bonow R. Evolving concepts and technologies in mitral valve repair. *Circulation*. 2008;117:963-74.
3. Salgo I, Gorman J, Gorman R, et al. Effect of annular shape on leaflet curvature in reducing mitral leaflet stress. *Circulation*. 2002;106:711-7.

Profile 3D™

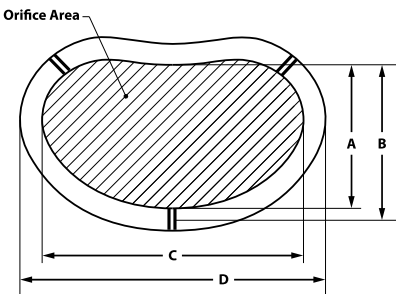
Rigid Annuloplasty Ring

Engineered to maintain anterior and posterior dimensions of the mitral annulus.

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Profile 3D Annuloplasty Ring, Model 680R

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Orifice Area (mm²)
680R24	24	13.4	15.0	24.2	30.5	278
680R26	26	14.5	16.1	26.2	32.5	325
680R28	28	15.6	17.2	28.2	34.5	376
680R30	30	16.7	18.3	30.2	36.5	430
680R32	32	17.8	19.4	32.2	38.5	489
680R34	34	18.9	20.5	34.2	40.5	550
680R36	36	19.8	21.4	36.2	42.5	612
680R38	38	20.9	22.5	38.2	44.5	683
680R40	40	22.0	23.6	40.2	46.5	756



Profile 3D Annuloplasty Ring Accessories

Order Number	Description
T7680	Profile 3D Accessory Tray
7686	Annuloplasty Handle (216mm length)
7686XL	Annuloplasty Handle (373mm length)
7680S	Profile 3D Sizer Set (6 reusable sizers, 26-36mm)

Simplici-T™

Flexible Annuloplasty Band

Designed to repair annular dilation while preserving 3D motion during the cardiac cycle.

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Eliminate the Need for Traditional Sizing

- Provides a custom fit for mitral and tricuspid patients through graduated markings that can be used to measure the implanted band length
- Unique, low-profile flexible band is supplied in a length of 100mm

Adapts to Pathology

- Adapts to the unique needs of every patient based on pathology. Band length is determined by the annular size and degree of plication.



Customizable, flexible band
for every patient



Simplici-T™

Flexible Annuloplasty Band

Designed to repair annular dilation while preserving 3D motion during the cardiac cycle.

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Simplici-T Annuloplasty Band, Model 670

Order Number		Band Size (mm)	Description
607100		100	Simplici-T Annuloplasty Band



Simulus™

Flexible Annuloplasty Ring and Band

Flexible ring and band enabling easy manipulation in varied approaches and exposures.

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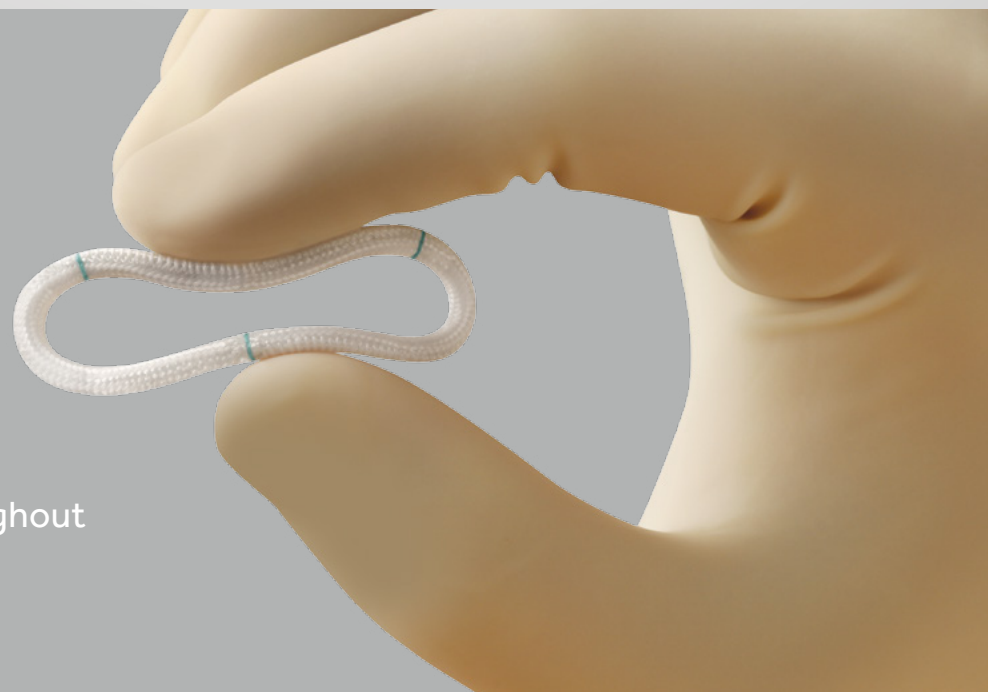
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Unique Braided Polyester

- Discourages bunching or crimping while enabling low resistance, smooth needle penetration
- Accommodates sternotomy, thoracotomy and minimally invasive procedures

Ease of Implant

- Trigone and midline posterior markers assist in precise suture placement and band positioning
- Flexible throughout cardiac cycle with a low profile design



Flexibility throughout cardiac cycle

Simulus™

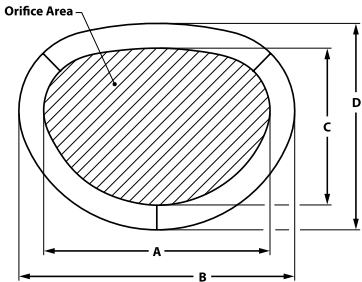
Flexible Annuloplasty Ring and Band

Flexible ring and band enabling easy manipulation in varied approaches and exposures.

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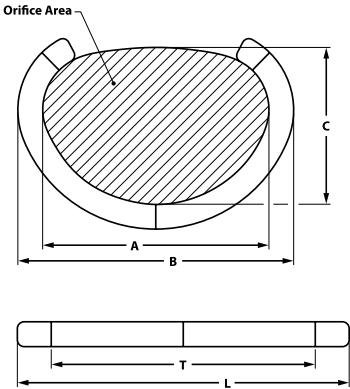
Simulus Flexible Annuloplasty Ring, Model 700FF

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Orifice Area (mm²)
700FF23	23	24	30	17.1	23.1	325
700FF25	25	27	33	19.5	25.5	418
700FF27	27	29	35	20.9	26.9	481
700FF29	29	31	37	22.3	28.3	550
700FF31	31	33	39	23.8	29.8	622
700FF33	33	35	41	25.2	31.2	700
700FF35	35	37	43	26.6	32.6	781
700FF37	37	39	45	28.0	34.0	867
700FF39	39	41	47	29.4	35.4	958



Simulus Flexible Annuloplasty Band, Model 700FC

Order Number	Band Size (mm)	A (mm)	B (mm)	C (mm)	L Straight Length (mm)	T Straight Length Between Trigone Markers (mm)	Orifice Area (mm²)
700FC23	23	24	30	17.1	59	53	325
700FC25	25	27	33	19.5	63	57	418
700FC27	27	29	35	20.9	67	61	481
700FC29	29	31	37	22.3	73	65	550
700FC31	31	33	39	23.8	77	69	622
700FC33	33	35	41	25.2	81	73	700
700FC35	35	37	43	26.6	85	77	781
700FC37	37	39	45	28.0	89	81	867
700FC39	39	41	47	29.4	93	85	958



Simulus Flexible Annuloplasty Ring and Band Accessories

Order Number	Description
750	Simulus Flexible Ring/Band Accessory Kit
755	Simulus Flexible Ring/Band Robotic Accessory Kit
752	Annuloplasty Handles (254mm length) (2)

Simulus™

Semi-Rigid Annuloplasty Ring and Band

Distinctive hybrid design enable shaping by dynamic annular motion.

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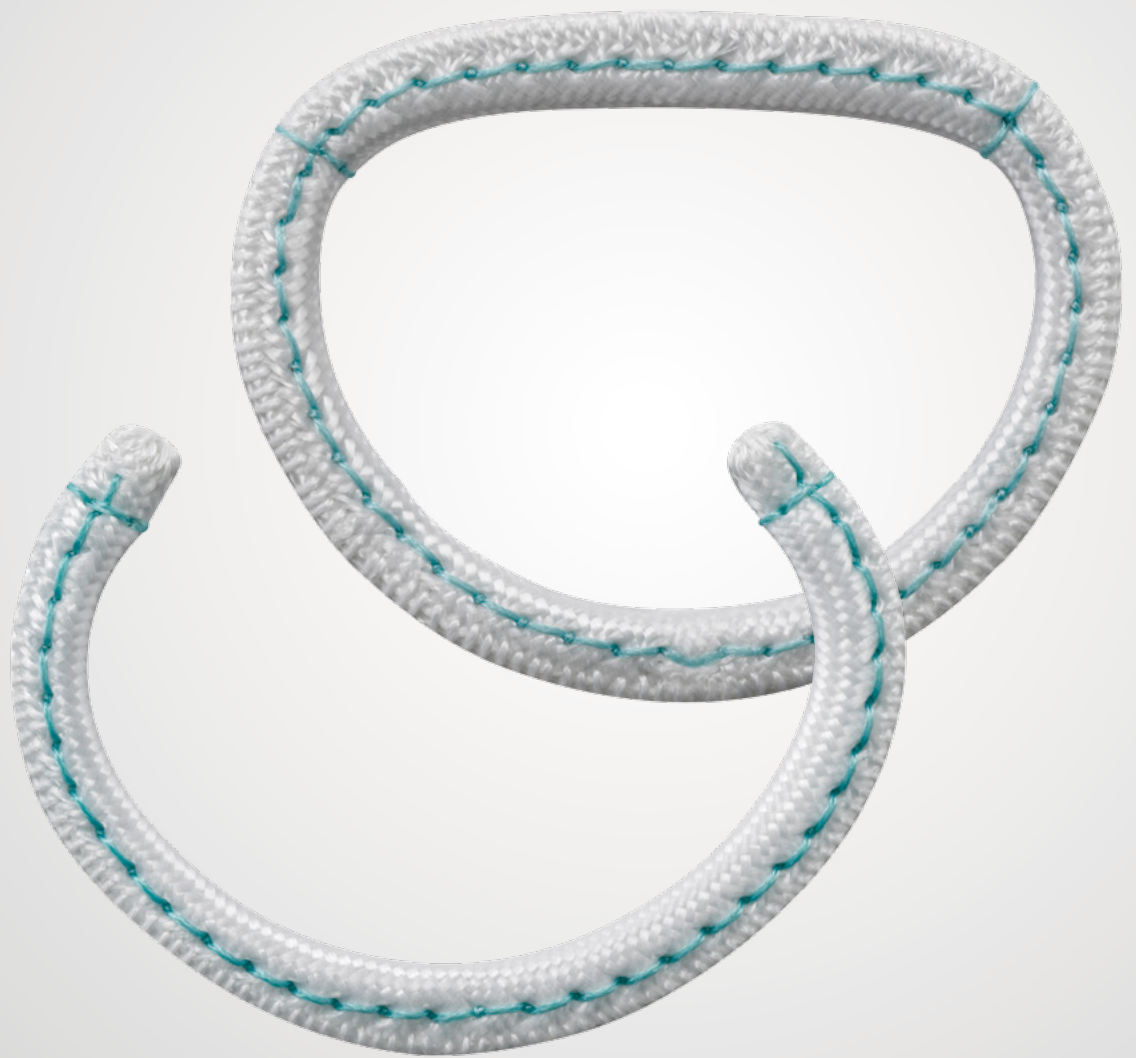
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Saddle and Flat Shape

- Defined suture area, and braided fabric for smooth needle penetration and one cut release
- Takes the shape of the annulus rising as a saddle in systole and flattening to a planar shape in diastole
- Respects annular motion while preserving posterior support

Sew-Easy Implant

- Braided polyester materials enables smooth needle penetration anywhere along ring or band preventing crimping or bunching
- Trigone markers assist in suture placement and positioning
- Flexible tips allow secure attachment at the trigones



Hybrid design to model natural annular dynamics



Simulus™

Semi-Rigid Annuloplasty Ring and Band

Distinctive hybrid design enable shaping by dynamic annular motion.

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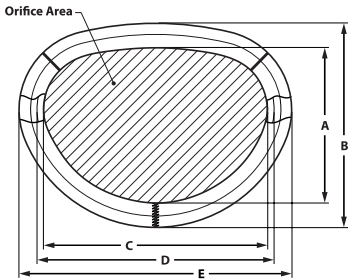
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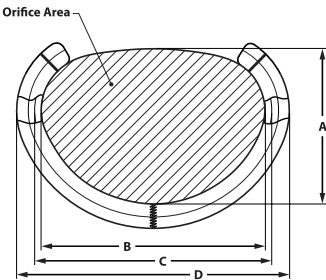
Simulus Semi-Rigid Annuloplasty Ring, Model 800SR

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Orifice Area (mm ²)
800SR24	24	15.6	23.4	22.6	24	30.3	281
800SR26	26	17.0	24.4	24.5	26	31.9	329
800SR28	28	18.3	25.6	26.3	28	33.7	381
800SR30	30	19.6	27.3	28.2	30	36.0	436
800SR32	32	20.9	28.3	30.1	32	37.6	497
800SR34	34	22.2	29.6	32.0	34	39.4	561
800SR36	36	23.5	30.9	33.9	36	41.3	630
800SR38	38	24.8	32.2	35.8	38	43.2	702
800SR40	40	26.1	33.5	37.6	40	45.1	779



Simulus Semi-Rigid Annuloplasty Band, Model 800SC

Order Number	Band Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Orifice Area (mm ²)
800SC24	24	15.6	22.6	24	30.3	281
800SC26	26	17.0	24.5	26	31.9	329
800SC28	28	18.3	26.3	28	33.7	381
800SC30	30	19.6	28.2	30	36.0	436
800SC32	32	20.9	30.1	32	37.6	497
800SC34	34	22.2	32.0	34	39.4	561
800SC36	36	23.5	33.9	36	41.3	630
800SC38	38	24.8	35.8	38	43.2	702
800SC40	40	26.1	37.6	40	45.1	779



Simulus Semi-Rigid Annuloplasty Ring and Band Accessories

Order Number	Description
850	Simulus Semi-Rigid Ring/Band Accessory Kit
752	Annuloplasty Handles (254mm length) (2)

Tri-Ad™

Adams Tricuspid Annuloplasty Ring

Designed to repair annular dilation while preserving 3D motion during the cardiac cycle.

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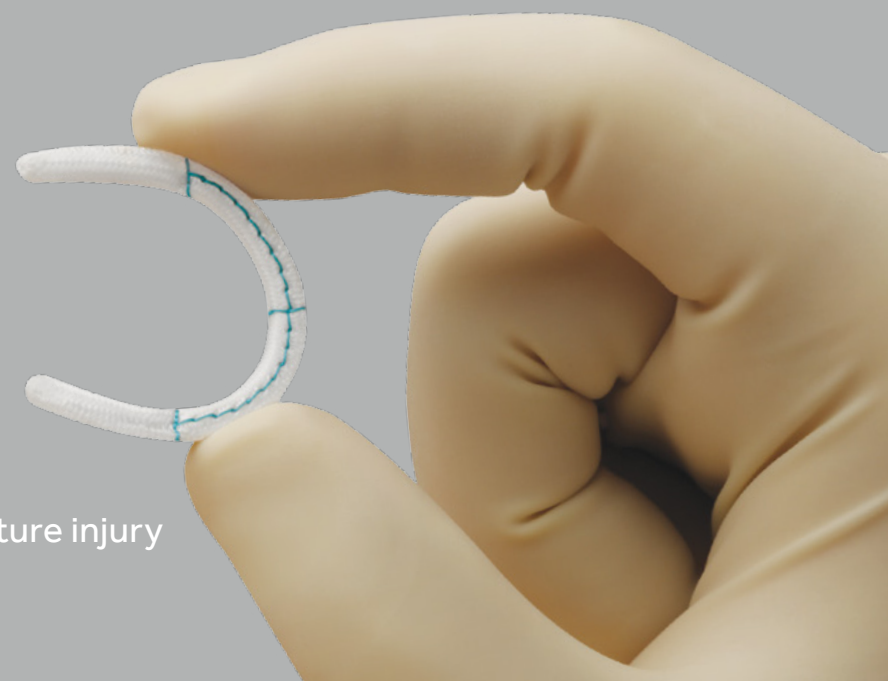
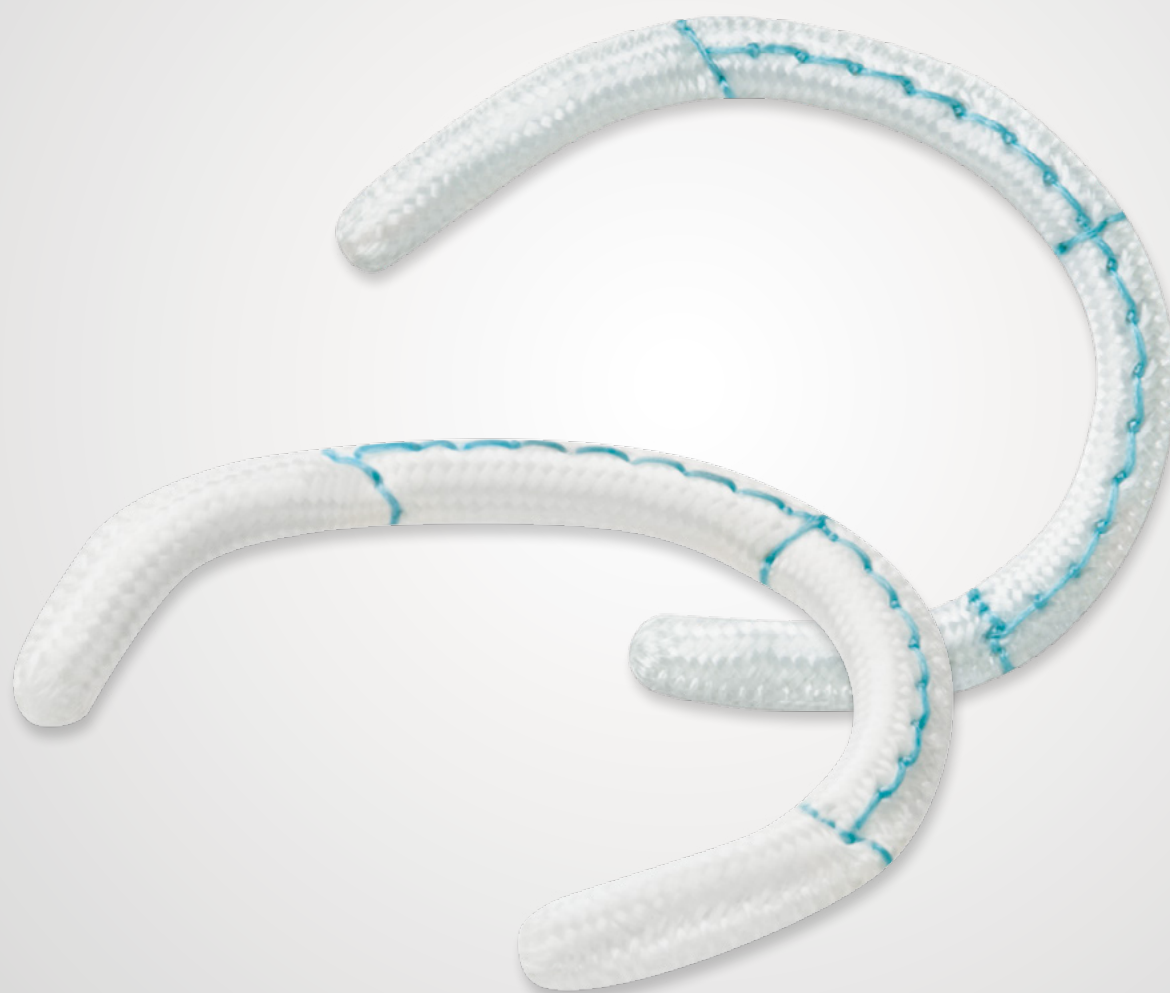
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Smooth Implantation

- Braided sewing ring construction provides smooth needle penetration that prevents bunching; one-cut release
- Large open area minimizes potential suture injury to conduction tissue

Adapts to Tricuspid Anatomy¹

- Repairs annular dilation while preserving 3D motion during cardiac cycle
- Enables adaption to non-planar geometry of the tricuspid valve in systole and diastole
- Semi rigid segment addresses annular dilation along right ventricular free wall



References

1. Milla, F. et al. Rationale and initial experience with the Tri-Ad Adams tricuspid annuloplasty ring. *Journal of Thoracic and Cardiovascular Surgery* 143;4S:S71-3.

Minimizes potential suture injury to conduction tissue

Tri-Ad™

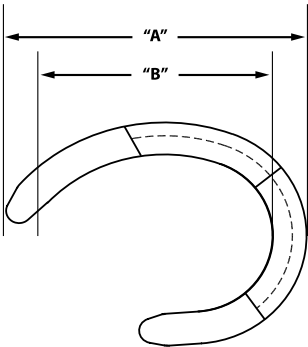
Adams Tricuspid Annuloplasty Ring

Designed to repair annular dilation while preserving 3D motion during the cardiac cycle.

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Tri-Ad Adams Tricuspid Annuloplasty Ring, Model 900SFC

Order Number	Ring Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Orifice Area (mm²)
900SFC26	26	17.4	25.8	25.6	33.2	15.5	365
900SFC28	28	19.4	27.6	28.1	24.9	17.1	435
900SFC30	30	20.9	29.1	30.6	37.2	18.5	502
900SFC32	32	22.3	30.7	31.5	38.2	20.0	557
900SFC34	34	24.0	32.3	34.7	41.1	20.9	654
900SFC36	36	25.5	33.8	36.3	42.9	21.9	730



Tri-Ad Adams Tricuspid Annuloplasty Ring Accessories

Order Number	Description
950	Tri-Ad Adams Ring Accessory Kit
951	Tri-Ad Adams Ring Sizer Set (polysulfone & silicone)
752	Annuloplasty Handles (254mm length) (2)

Streamline™ Temporary Pacing Leads

The Streamline family is the gold standard
in temporary pacing leads.

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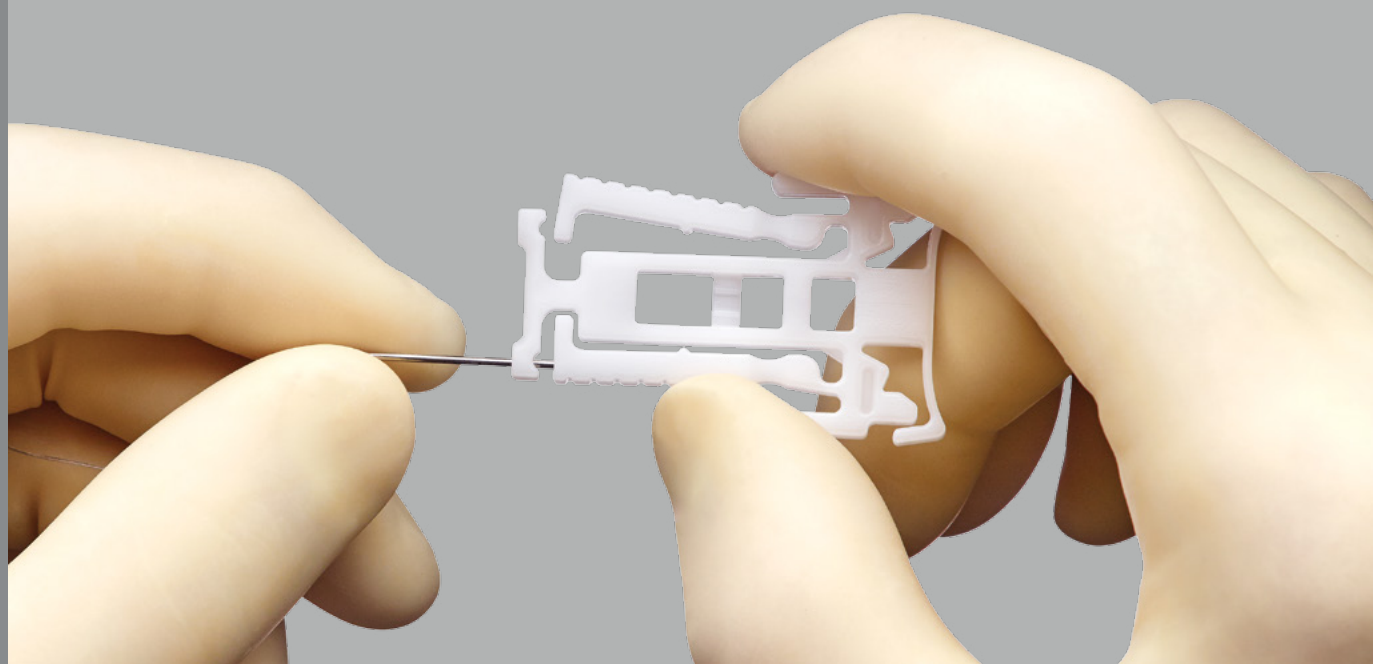
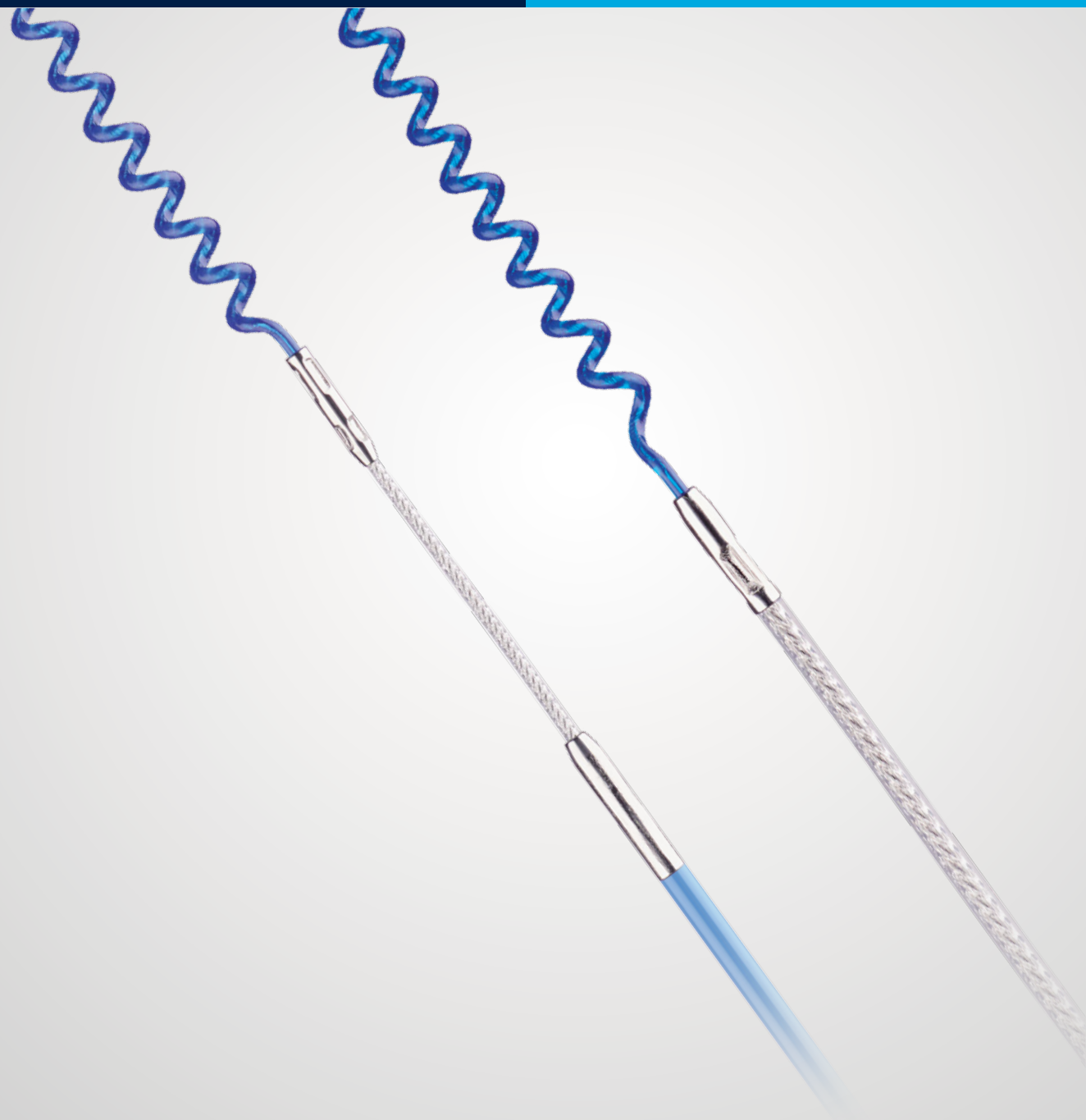
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Generations of Innovation

The Streamline family is designed for temporary pacing and sensing during and after cardiac surgery. The Streamline family includes models that offer consistent unipolar atrial and ventricular pacing, pediatric unipolar pacing and bipolar pacing. All Medtronic temporary pacing leads are compatible with Medtronic external pulse generators. Integrating more than 50 years of scientific and technological pacing expertise into our temporary pacing leads, Streamline is the lead you can trust.



Streamline™

Temporary Pacing Leads

The Streamline family is the gold standard in temporary pacing leads.

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Premium 6500 Unipolar Temporary Myocardial Pacing Lead

- Relaxed fixation coil minimizes trauma during pacing lead insertion
- Diameter of the curved myocardial needle has been reduced from 0.66mm to 0.61mm to minimize tissue perforation
- Discrete electrode for consistent sensing and pacing
- Easy-to-use breakaway chest needle has been reduced in diameter from 1.00mm to 0.86mm to minimize perforation
- Silastic fixation disc for atrial placement
- Connector pin sleeves insulate connector pins while not in use

Bipolar Coaxial 6495 Bipolar Temporary Myocardial Pacing Lead

- Features coaxial lead body for excellent electrical performance
- Curved myocardial needle is slimmer – reduced from 0.66mm to 0.61mm to minimize tissue perforation
- Two discrete electrodes are optimally spaced for consistent pacing and sensing
- Proximal electrode is swaged for smoother transition through tissue
- Relaxed fixation coil minimizes tissue trauma while securely positioning electrode
- Connector pin sleeves insulate connector pins while not in use

Pediatric 6491 Unipolar Pediatric Temporary Pacing Lead

- Smaller fixation coil well suited for thinner pediatric tissue
- Curved chest needle for greater leverage through small chest cavity
- Discrete electrode for consistent sensing and pacing
- Connector pin sleeves insulate connector pins while not in use

Atrial 6492 Unipolar Temporary Atrial Pacing Lead

- Smaller fixation coil well suited for thinner atrial tissue
- Discrete electrode for consistent sensing and pacing
- Straight breakaway chest needle diameter reduced from 1.00mm to 0.86mm minimizes trauma during lead insertion
- Connector pin sleeves insulate connector pins while not in use

Convenience 6494 Unipolar Temporary Myocardial Pacing Wire

The Convenience wire is a temporary pacing wire designed for either atrial or ventricular sensing and pacing.

- Conductive wire length extended from 50mm to 70mm
- Curved myocardial needle diameter reduced from 0.55mm to 0.43mm to minimize trauma during heart wire insertion
- Chest needle diameter reduced from 1.00 mm to 0.86 mm to minimize perforation
- Color-coded leads come conveniently packaged, two per sleeve
- Connector pin sleeves insulate connector pins while not in use

Important Safety Information
The possibility of dislodgement, lead fractures, threshold elevation and sensing inconsistency exists. Other potential complications include, but are not limited to, myocardial irritability, septicaemia and myocardial infections, myocardial bleeding and damage, especially during removal of the pacing lead(s).

Streamline Temporary Pacing Leads

Streamline Family	Description	Quantity
PREMIUM 6500	Model 6500 Unipolar Temporary Myocardial Pacing Lead	12
BIPOLAR COAXIAL 6495	Model 6495 Bipolar Temporary Myocardial Pacing Lead	6
PEDIATRIC 6491	Model 6491 Unipolar Pediatric Temporary Pacing Lead	12
ATRIAL 6492	Model 6492 Unipolar Temporary Atrial Pacing Lead	12
CONVENIENCE 6494	Model 6494 Unipolar Temporary Myocardial Pacing Wire	24

Cardioblate™ iRF

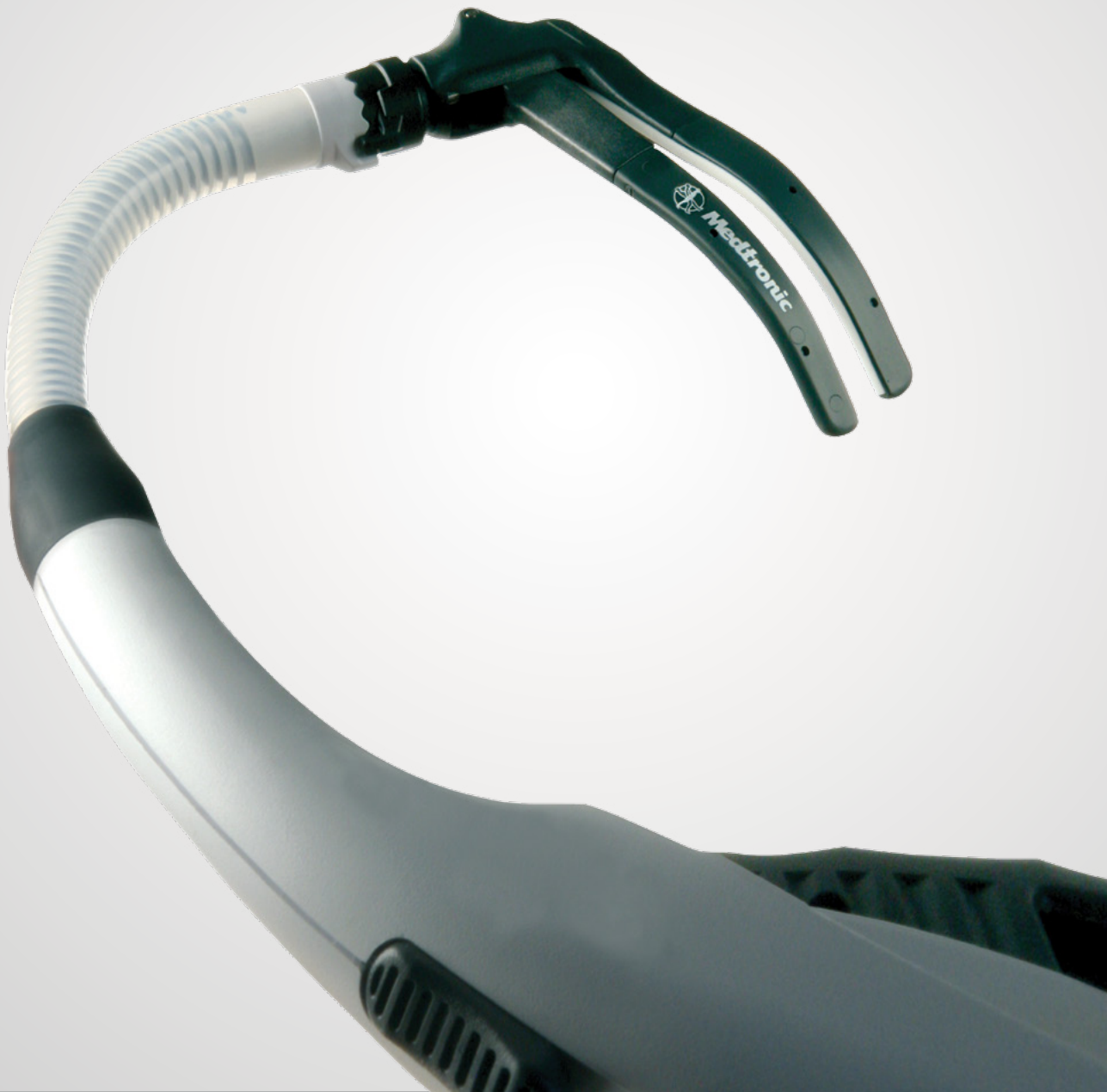
Surgical Ablation System

Unique malleability delivers irrigated RF to confidently create transmural lesions.

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Designed For Easy Access

Cardioblate iRF surgical ablation systems are designed with maneuverability, placement and visualization in mind. Uniquely malleable devices put surgeons in control of every procedure with superior energy sources that give greater confidence of lesion transmural.



Malleable Jaws | Conforms to pulmonary veins and atrial anatomies.



Rotatable Jaws | Rotate the head up to 300° to facilitate placement.

Cardioblate™ iRF

Surgical Ablation System

Unique malleability delivers irrigated RF to confidently create transmural lesions.

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Cardioblate iRF Surgical Ablation Systems

Order Number	Description
68000	Cardioblate Surgical Ablation System (includes generator, power cord and foot switch)
60813	Cardioblate Surgical Ablation Pen
60814	Cardioblate XL Surgical Ablation Pen
49205	Cardioblate MAPS Device
60831	Cardioblate PB2 Surgical Ablation Device
60841	Cardioblate LP Surgical Ablation Device
49260	Cardioblate Gemini™-s Surgical Ablation Device



Cardioblate iRF Clamps, Pens & MAPS Device

Order Number	Description
60832	BP2 & Pen (1 each packed and shipped together)
CK9014R	BP2 & XL Pen
60842	LP & XL Pen
CK9016R	LP & XL Pen (1 each packed and shipped together)
SGEMPACK	Cardioblate Gemini-s Surgical Ablation Device & Cardioblate MAPS Device (1 each packed and shipped separately)



Cardioblate iRF Accessories

Order Number	Description
60883	iRF Generator Footswitch
4807	iRF Generator Power Cord
10004D	DLP “Y” Connectors
68005	EGM Cable
5103	Y-adaptor for 2090/2290 Programmer
5437	EKG Slave Cable for 2090/2290 Programmer



CyroFlex™

Surgical Ablation System

Unique malleability delivers argon-powered cryoablation for reproducible, transmural lesions with a single probe.

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Designed For Easy Access

CryoFlex surgical ablation systems are designed with maneuverability, placement and visualization in mind. Uniquely malleable devices put surgeons in control of every procedure with superior energy sources that give greater confidence of lesion transmural.



Hand malleable | The tip of the probe can be custom shaped quickly by hand.



CryoFlex™

Surgical Ablation System

Unique malleability delivers argon-powered cryoablation for reproducible, transmural lesions with a single probe.

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CryoFlex Surgical Ablation Systems

Order Number	Description
65CS1	CryoFlex Control Panel
60SF7	CryoFlex Probe, 7cm
60SF2	CryoFlex Probe, 10cm
60SF3	CryoFlex 10-S Probe, 10cm
60CM1	CryoFlex Clamp and Probe, 10cm

CryoFlex and Cardioblate iRF Bundles

Order Number	Description
BP2CF	BP2 & CryoFlex 10cm Probe
BP2CF3	BP2 & CryoFlex 10-S Probe
LPCF	LP & CryoFlex 10cm Probe
LPCF3	LP & CryoFlex 10-S Probe

CryoFlex Accessories

Order Number	Description
67RAXNA	CryoFlex Regulator (with pressure sensor cables)
671PCNA	Power Cord; CryoFlex Control Panel
67H08	Gas Hose; CryoFlex System
65TC1	CryoFlex Tank Carrier



OPCAB

Conventional Beating Heart Surgery

Reliable stability for completing a beating heart anastomosis based on each surgeons preference.

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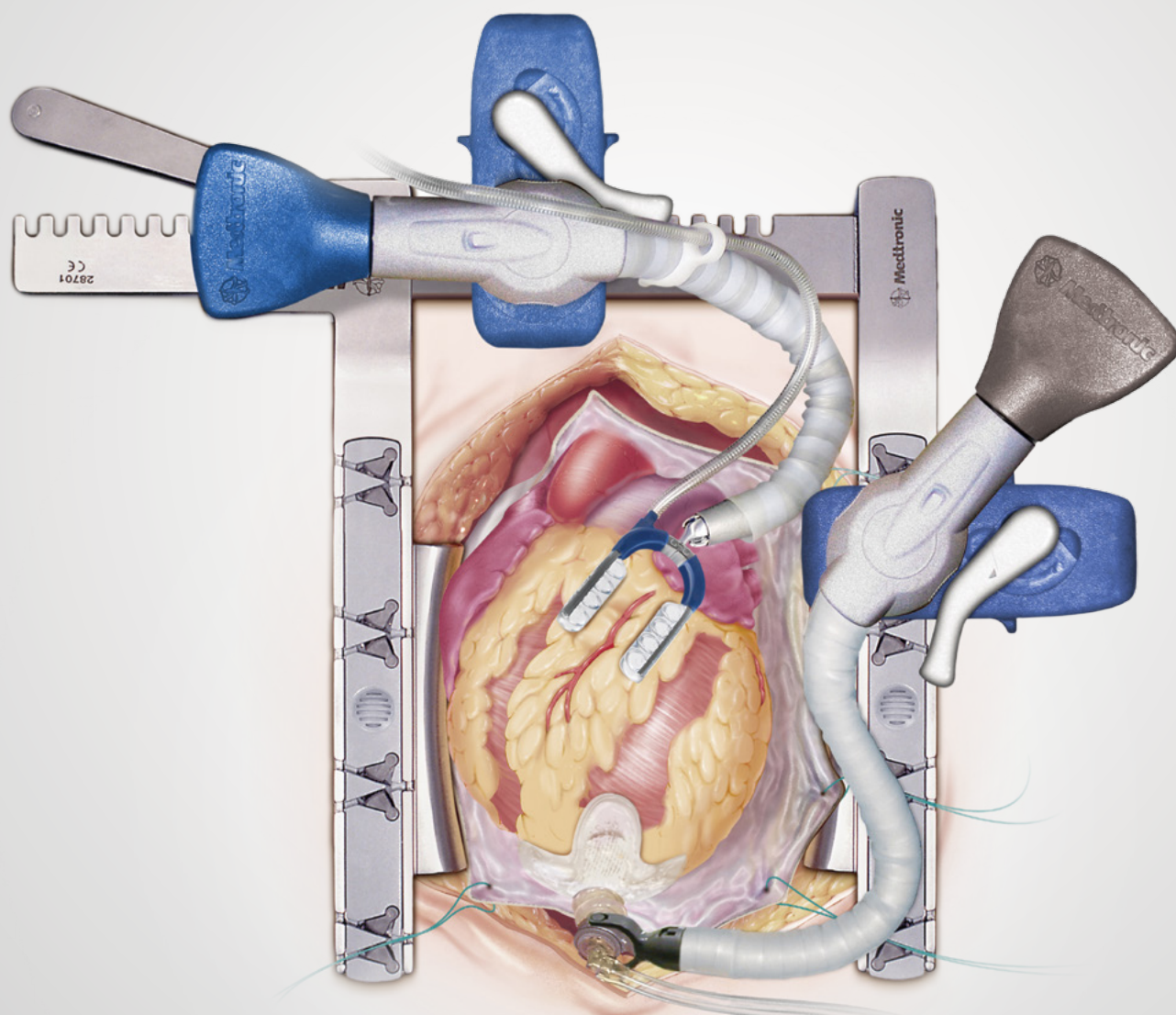
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Facilitating Solutions

Urchin™ and Starfish™ Heart Positioners work in concert with the Octopus™ Tissue Stabilizers to facilitate clinical solutions for OPCAB procedures. Cardiac Surgeons can choose from two positioner options, both of which provide enhanced visualization of the anastomotic sites.



OPCAB

Conventional Beating Heart Surgery

Reliable stability for completing a beating heart anastomosis based on each surgeons preference.

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Stabilizers

Order Number	Description
TS2500	Octopus Evolution AS Tissue Stabilizer
TS2000	Octopus Evolution Tissue Stabilizer
29403	Octopus 4.3 Tissue Stabilizer
29400	Octopus 4 Tissue Stabilizer



Positioner

Order Number	Description
HP3500	Urchin Evo Heart Positioner



Positioner

Order Number	Description
HP3000	Starfish Evo Heart Positioner



Beating Heart Stabilizer & Positioner Bundles

Order Number	Description
EASE	Octopus Evolution AS Tissue Stabilizer and Starfish Evo Heart Positioner
EAUE	Octopus Evolution AS Tissue Stabilizer and Urchin Evo Heart Positioner
ESE	Octopus Evolution Tissue Stabilizer and Starfish Evo Heart Positioner
EUE	Octopus Evolution Tissue Stabilizer and Urchin Evo Heart Positioner
43ES	Octopus 4.3 Tissue Stabilizer and Starfish Evo Heart Positioner
43EU	Octopus 4.3 Tissue Stabilizer and Urchin Heart Positioner
4EU	Octopus 4 Tissue Stabilizer and Urchin Evo Heart Positioner

Octobase Sternal Retractor System

Order Number	Description
28701	Retractor with reusable stainless steel blade inserts
28702	Stainless steel blanks - standard (reusable)
28703	Swivel blades - standard depth (reusable)
28704	Swivel blades - deep (reusable)
28705	Fixed blades - standard depth (reusable)
28706	Fixed blades - deep (reusable)
28707	Suture holder inserts (disposable)
28709	Retractor handle - replacement component
28710	Fixed skirted blades - deep (reusable)



MICS Bundles

Order Number	Description
NUB3	1 Starfish NS, 1 Octopus Nuvo
MICS 3	5 Octopus Nuvo, 5 Starfish NS, and 1 Thoratrak Retractor System
4ES	1 Octopus 4, 1 Starfish Evo

NOTE: Table clamps are not provided in the MICS Bundles

MICS Accessories

Order Number	Description
28042	Table Clamp



Order Number	Description
28045	Octopus Retractor Adaptor



Minimally Invasive Cardiac Surgery MICS CABG

The stability and familiarity of OPCAB — now available for minimally invasive procedures.

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HEART VALVES

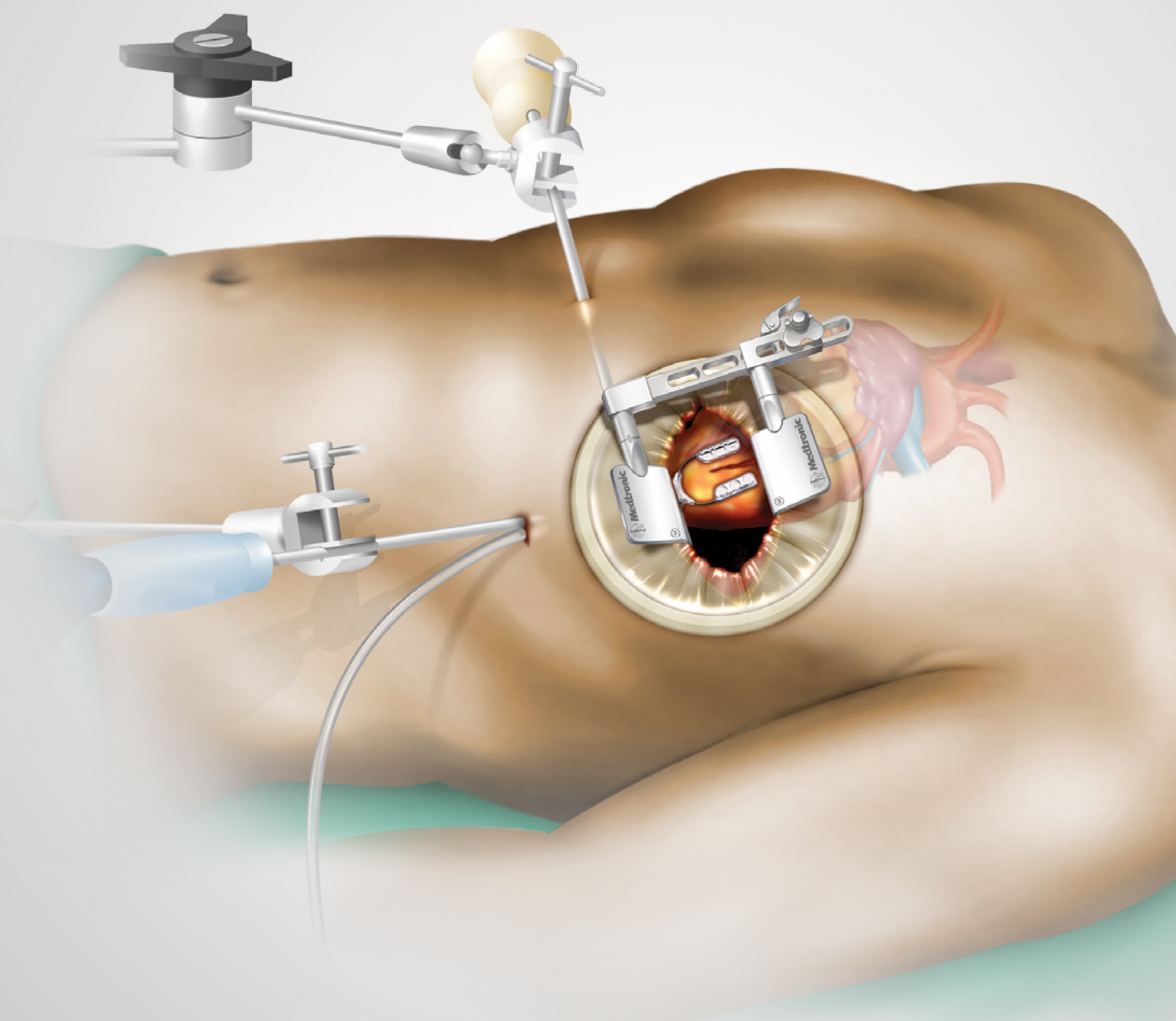
SURGICAL ABLATION

REVASCULARIZATION

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Direct Visualization, MICS Made Possible

Medtronic offers a complete portfolio of MICS enabling technologies and training opportunities for today's cardiac surgeons. Consider your options for CABG, Valve and Hybrid Coronary Revascularization (HCR) procedures using minimally invasive techniques and technologies.



Minimally Invasive Cardiac Surgery

MICS CABG

The stability and familiarity of OPCAB — now available for minimally invasive procedures.

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Stabilizer

Order Number	Description
TSMICS1	Octopus Nuvo Tissue Stabilizer



Stabilizer

Order Number	Description
TS102	Octopus NS Tissue Stabilizer



Positioner

Order Number	Description
HP102	Starfish NS Heart Positioner



MISC Bundles

Order Number	Description
NUB3	1 Starfish NS, 1 Octopus Nuvo
MICS 3	5 Octopus Nuvo, 5 Starfish NS, and 1 Thoratrak Retractor System
4ES	1 Octopus 4, 1 Starfish Evo

NOTE: Table clamps are not provided in the MICS Bundles

Thoratrak MICS Retractor System

Order Number	Description
28601	Blade - LIMA standard
28602	Blade - LIMA deep
28603	Blade - long thoracotomy standard
28604	Blade - long thoracotomy deep
28604B	Blade - long extended mount standard
28605	Blade - short thoracotomy standard
28606	Blade - short thoracotomy deep
28606B	Blade - short extended mount standard
28610	Thoratrak Retractor System (retractor + multiple blade sets)
28611	Retractor rack



MICS Accessories

Order Number	Description
28042	Table Clamp



Order Number	Description
28045	Octopus Retractor Adaptor



OPCAB Accessories Enabling Technologies

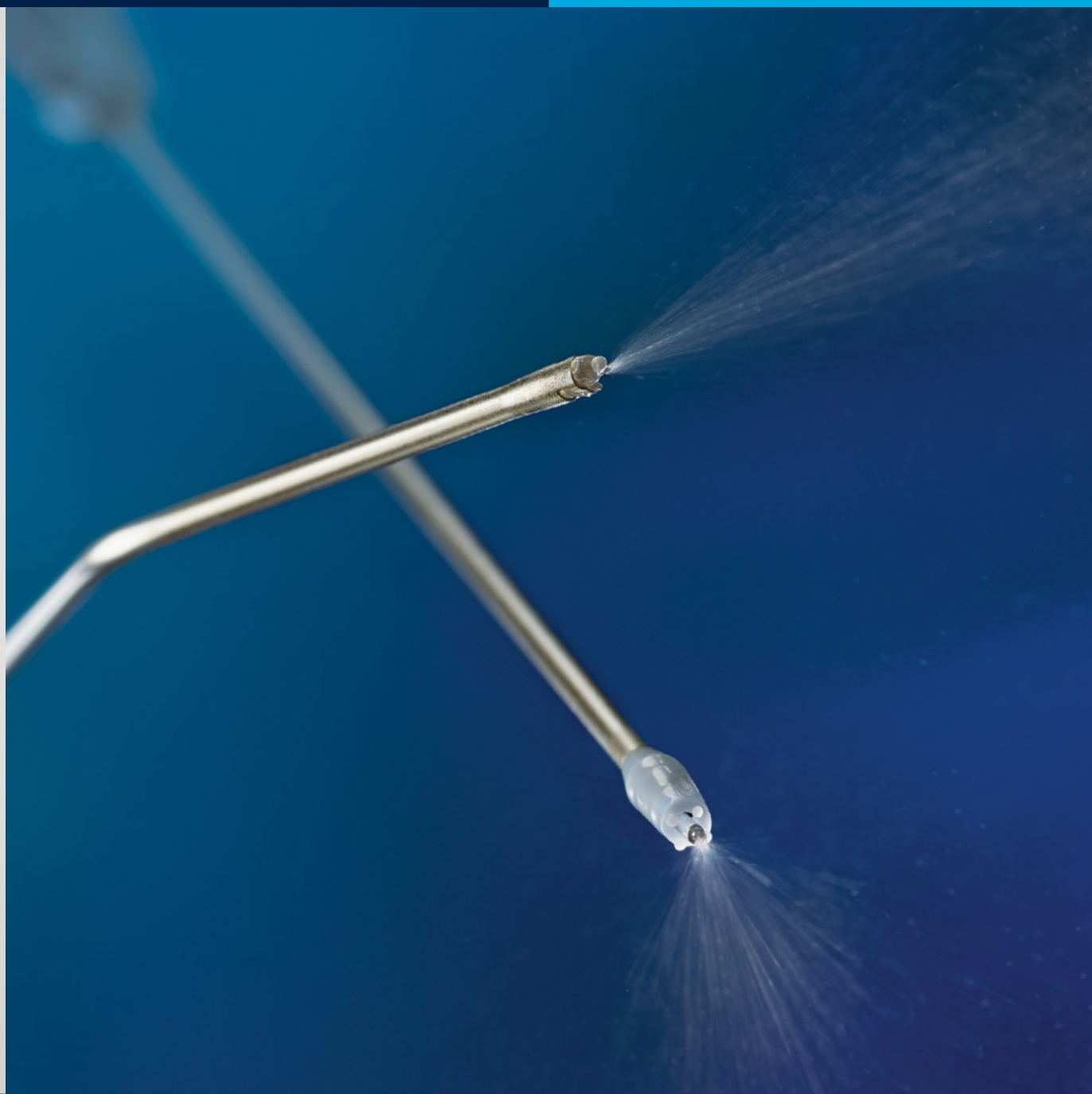
Contributing to the ease and success of your procedures.

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More Options for Beating Heart Surgery

Medtronic's numerous accessories can make OPCAB procedures easier and more successful. The Blower/Mister options facilitate a bloodless field. Shunts too provide a clear anastomotic site during the procedure while providing blood flow to the distal myocardium. And, QuickFlow DPS contains a complete set of components designed to establish rapid aorta-to-coronary perfusion during the beating heart procedure.



OPCAB Accessories

Enabling Technologies

Contributing to the ease and success of your procedures.

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Clearview™ Blower/Mister

Order Number	Description
22120	Clearview Blower/Mister (handpiece only) (qty 10)
22150	Clearview Blower/Mister (with attached tubing set) (qty 5)

AccuMist™ Blower/Mister

Order Number	Description
29150	Accumist Blower/Mister (qty 10)

ClearView Shunt

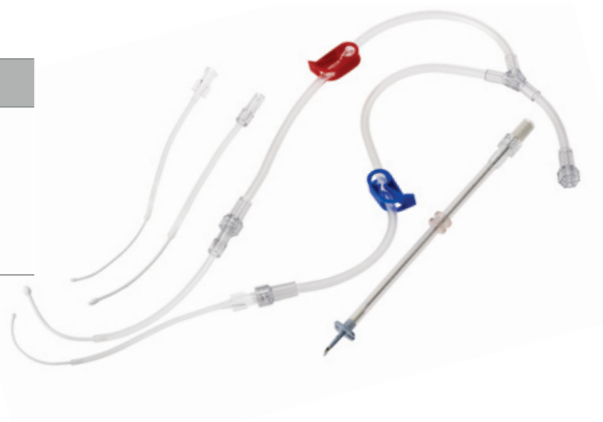
Order Number	Description
31100	1.00mm shunt, 14mm between bulbs (qty 5)
31125	1.25mm shunt, 14mm between bulbs (qty 5)
31150	1.50mm shunt, 14mm between bulbs (qty 5)
31175	1.75mm shunt, 14mm between bulbs (qty 5)
31200	2.00mm shunt, 14mm between bulbs (qty 5)
31225	2.25mm shunt, 14mm between bulbs (qty 5)
31250	2.50mm shunt, 14mm between bulbs (qty 5)
31275	2.75mm shunt, 14mm between bulbs (qty 5)
31300	3.00mm shunt, 14mm between bulbs (qty 5)

Quickflow DPS Distal Perfusion System

Order Number	Description
33100	Quickflow DPS Distal Perfusion System includes: 1-tubing set; 2-2.00mm elongated arteriotomy cannula; 1-3.00mm elongated arteriotomy cannula; 1-4.00mm elongated arteriotomy cannula; 1-14 gauge aortic root cannula

Off-Pump Accessories

Order Number	Description
28030	Vacuum Regulator
VP700	Portable Vacuum Pump with Regulator





For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use.

INTERNATIONAL

CAUTION: For distribution only in markets where the products have been approved.

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Fax: (763) 526-7888
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Medtronic

Engineering the extraordinary

Cannula catalog

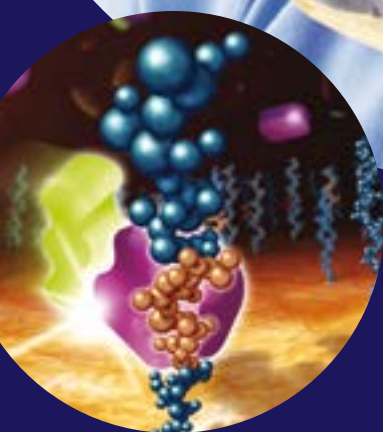
Medtronic in cardiac surgery

A company
like no other



The largest
cannula portfolio
worldwide, backed
by an even larger
commitment
– **to you.**

The products in this catalog are available for our
customers in Europe, Middle East, Africa and Russia



Cortiva™ BioActive Surface

- Durable, non-leaching end point-attached heparin
- Provides thromboresistance and enhanced blood compatibility

All product codes with * are also available with Cortiva™ BioActive Surface. For more information, contact your local Medtronic Cannula Products representative.

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For more information, contact your local Medtronic cannula products representative.

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Alleviate pain. Restore health. Extend life.

Living our mission with you

Our Mission guides our day-to-day work and reminds us that our efforts, large and small, transform the lives of millions of people each year.

We have been working with you to deliver trusted and innovative cannula options for more than 40 years for standard, pediatric, and MICS procedures – more recently ECLS – while offering your favorite cardiac suction, surgical support items, and cardio-kits.

Together, we can deliver the cardiac cannula solutions that matter most to you – and your patients.

Extracorporeal circuit

Arterial cannulae



Arterial cannulae are intended to deliver blood to the patient during cardiopulmonary bypass. Medtronic understands the importance of gentle flow in the often fragile aorta. We offer a number of different product variations to facilitate a variety of surgical techniques and to accommodate varying patient anatomies. Our adult and pediatric arterial cannulae are available in sizes from 6 Fr to 24 Fr in a variety of tip configurations, lengths, and connector sizes to meet your specific needs.

Arterial cannulae



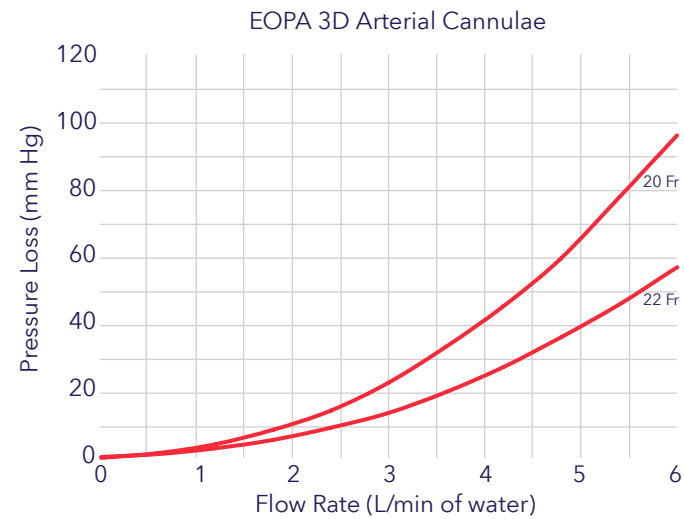
▶ EOPA 3D™	6
▶ Select 3D™ II	7
▶ EOPA™ Elongated One-Piece	8
▶ DLP™ One-Piece Pediatric	9
▶ DLP™ Straight Tip	10
▶ DLP™ Flexible Arch	11
▶ Select Series™ Straight Tip	12
▶ Select Series™ Angled Tip	13
▶ DLP™ Curved Tip with One-Piece Wirewound Body	14
▶ DLP™ Curved Tip Cannulae with Wirewound Body	15
▶ DLP™ Curved Tip	16
▶ DLP™ Curved Metal Tip	18

Arterial Cannulae

EOPA 3D™ Arterial cannulae



These cannulae offer unique tapered diffuse flow tips and kink-resistant, elongated wirewound bodies. The 3-D tip is designed with three integrated flutes to diffuse and disperse blood flow. Features include adjustable radiopaque suture ring, obturator, hemostasis cap, and depth markings.



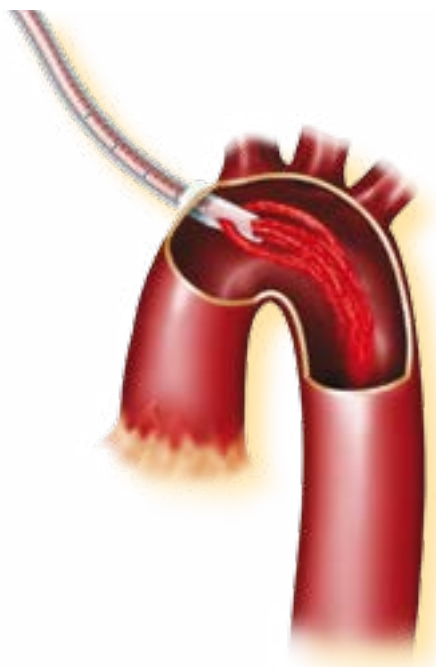
Vented 3/8 in (0.95 cm) connector

78220*	20 Fr (6.7 mm)
78222	22 Fr (7.3 mm)

Non-vented 3/8 in (0.95 cm) connector

78320	20 Fr (6.7 mm)
78322*	22 Fr (7.3 mm)

10 per carton



* Also available with Cortiva™ BioActive Surface.

Important Safety Information

EOPA 3D models: Cannula tip must be inserted beyond side ports to minimum depth marks to avoid possibility of tissue dissection of the aorta. Care and caution should be taken to avoid damage to vessels and cardiac tissue during cannulation or other cardiac surgery procedures.

Arterial Cannulae

Select 3D™ II Arterial cannulae



These cannulae offer beveled tips and tapered, one-piece, kink-resistant wirewound bodies. The tips feature three integrated flutes, which help diffuse and disperse blood flow.



11.5 in (29.2 cm)
overall length
45° tip

Vented 3/8 in (0.95 cm) connector

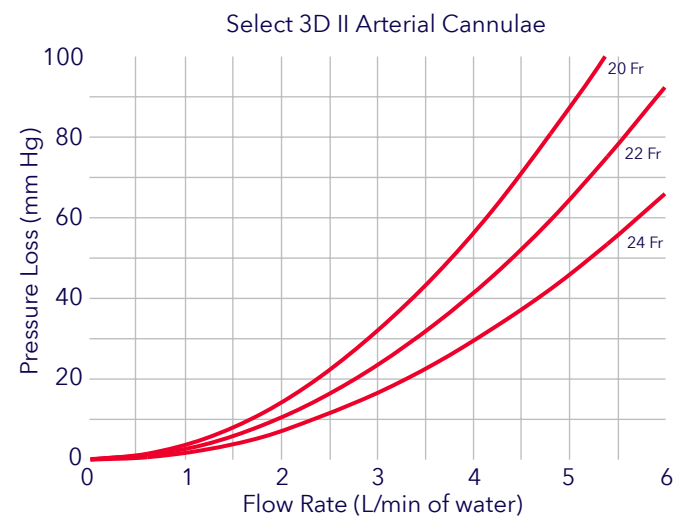
78420	20 Fr (6.7 mm)
78422	22 Fr (7.3 mm)
78424	24 Fr (8.0 mm)



Non-vented 3/8 in (0.95 cm) connector

78520	20 Fr (6.7 mm)
78522	22 Fr (7.3 mm)
78524	24 Fr (8.0 mm)

20 per carton

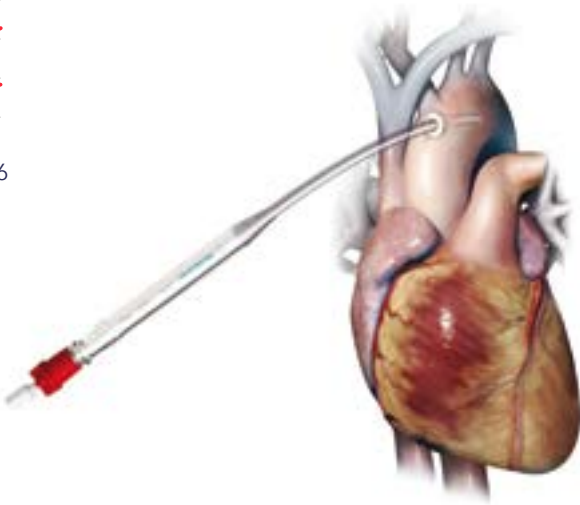
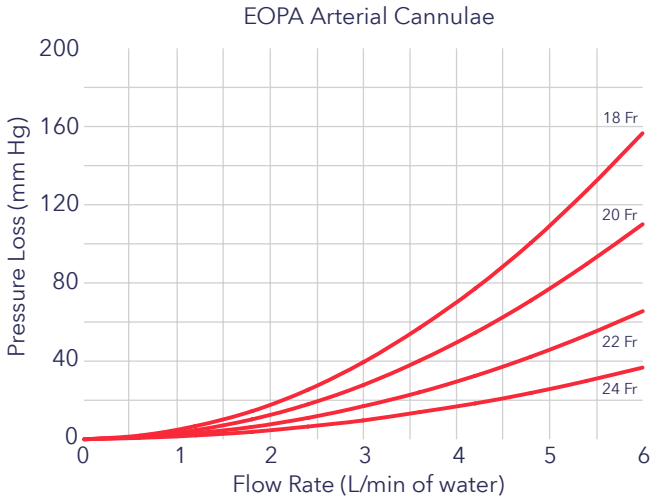


Arterial Cannulae

EOPA™ Elongated One-Piece Arterial Cannulae



These cannulae offer elongated, one-piece, kink-resistant wirewound bodies with an introducer and hemostasis cap. Features include depth markings and an adjustable radiopaque suture ring.



12 in (30.5 cm) overall length

Blunt tip introducer
without guidewire

Vented 3/8 in (0.95 cm) connector

77418	18 Fr (6.0 mm)
77420*	20 Fr (6.7 mm)
77422*	22 Fr (7.3 mm)
77424	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

77518	18 Fr (6.0 mm)
77520*	20 Fr (6.7 mm)
77522*	22 Fr (7.3 mm)
77524	24 Fr (8.0 mm)

10 per carton



12 in (30.5 cm) overall length

Dilator tip introducer
with 0.038 in (0.0965 mm) guidewire

Vented 3/8 in (0.95 cm) connector

77618*	18 Fr (6.0 mm)
77620*	20 Fr (6.7 mm)
77622*	22 Fr (7.3 mm)
77624	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

77718	18 Fr (6.0 mm)
77720*	20 Fr (6.7 mm)
77722*	22 Fr (7.3 mm)
77724	24 Fr (8.0 mm)

10 per carton

* Also available with Cortiva™ BioActive Surface.

Important Safety Information

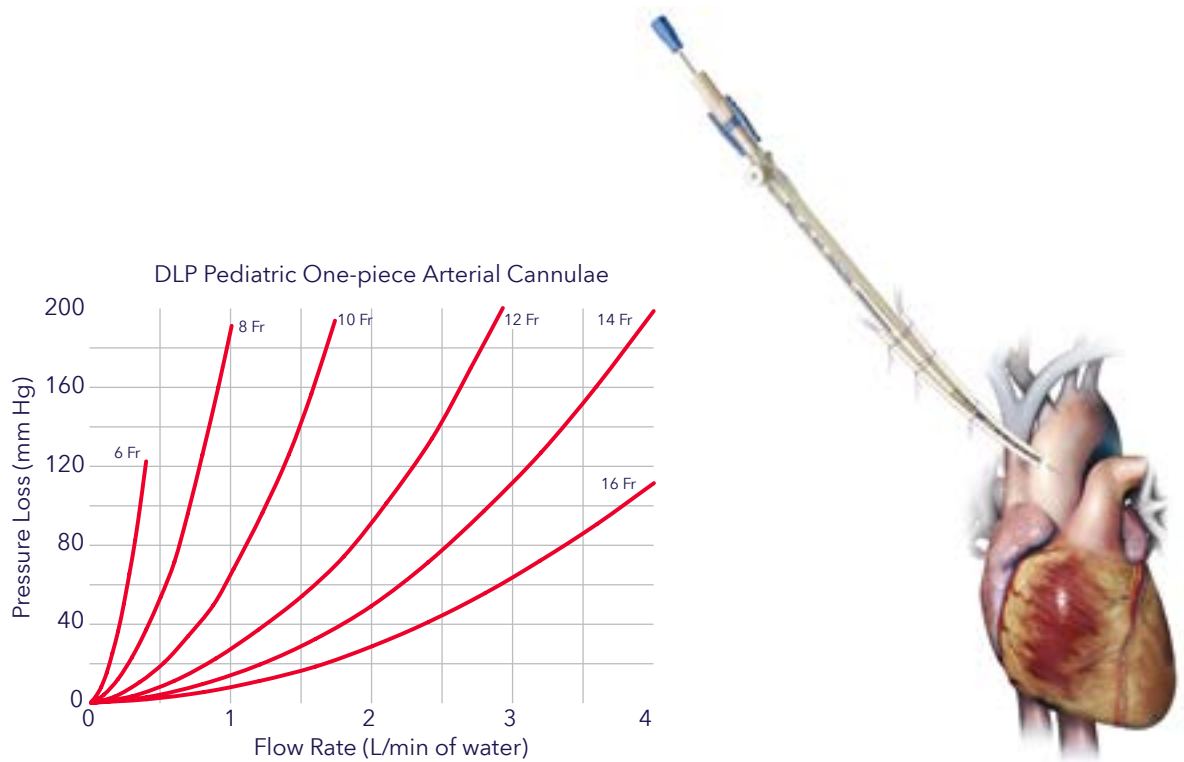
EOPA models with dilator tip introducer: A guidewire must be used for proper placement of introducer tip while inserting cannula to avoid trauma to the back wall of the aorta. Care and caution should be taken to avoid damage to vessels and cardiac tissue during cannulation or other cardiac surgical procedures.

Arterial Cannulae

DLP™ One-Piece Pediatric Arterial Cannulae



These cannulae offer beveled tips with elongated, one-piece, kink-resistant wirewound bodies. Features include an adjustable hemostasis introducer system and depth markings.



**9 in (22.9 cm)
overall length**

**Vented 1/4 in (0.64 cm)
connector (blue hub)**

77006*	6 Fr (2.0 mm)
77008*	8 Fr (2.7 mm)
77010*	10 Fr (3.3 mm)
77012*	12 Fr (4.0 mm)
77014*	14 Fr (4.7 mm)
77016*	16 Fr (5.3 mm)

**Non-vented 1/4 in (0.64 cm)
connector (blue hub)**

77106	6 Fr (2.0 mm)
77108	8 Fr (2.7 mm)
77110	10 Fr (3.3 mm)
77112	12 Fr (4.0 mm)
77114	14 Fr (4.7 mm)
77116	16 Fr (5.3 mm)

5 per carton



**9 in (22.9 cm)
overall length**

**Vented 3/16 in (0.48 cm)
connector (grey hub)**

77206	6 Fr (2.0 mm)
77208	8 Fr (2.7 mm)
77210	10 Fr (3.3 mm)
77212	12 Fr (4.0 mm)

**Non-vented 3/16 in (0.48 cm)
connector (grey hub)**

77306	6 Fr (2.0 mm)
77308	8 Fr (2.7 mm)
77310	10 Fr (3.3 mm)
77312	12 Fr (4.0 mm)

5 per carton



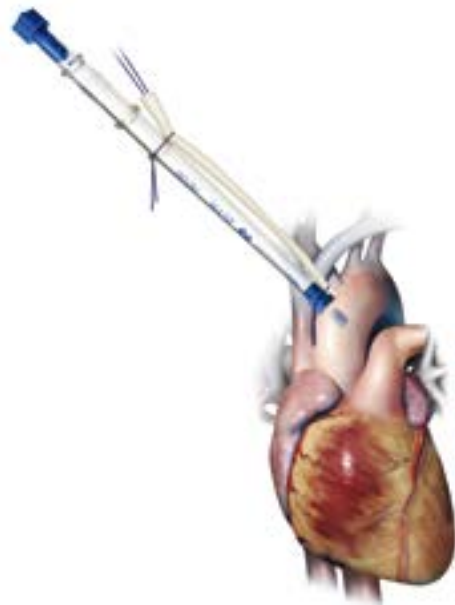
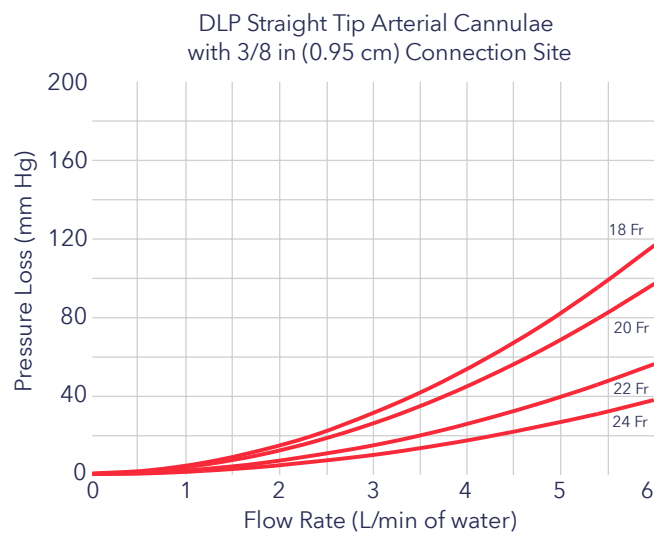
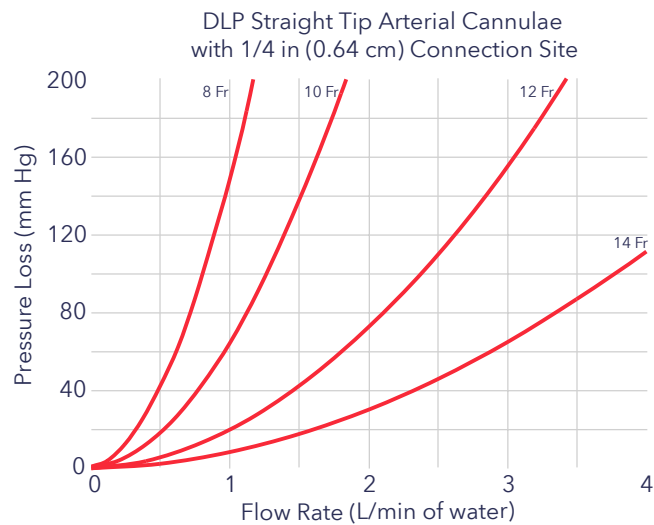
* Also available with Cortiva™ BioActive Surface.

Arterial Cannulae

DLP™ Straight Tip Arterial Cannulae



These pediatric and adult cannulae feature beveled tips and tapered bodies. A variety of sizes are available.



7 in (17.8 cm) overall length

Connection site 1/4 in (0.64 cm)

75008	8 Fr (2.7 mm)
75010	10 Fr (3.3 mm)
75012	12 Fr (4.0 mm)
75014	14 Fr (4.7 mm)

Connection site 3/8 in (0.95 cm)

75318*	18 Fr (6.0 mm)
75320*	20 Fr (6.7 mm)
75322	22 Fr (7.3 mm)
75324	24 Fr (8.0 mm)

20 per carton

8 in (20.3 cm) overall length

Vented 3/8 in (0.95 cm) connector

76020	20 Fr (6.7 mm)
76022	22 Fr (7.3 mm)
76024	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

76118	18 Fr (6.0 mm)
76120	20 Fr (6.7 mm)
76122	22 Fr (7.3 mm)
76124	24 Fr (8.0 mm)

20 per carton

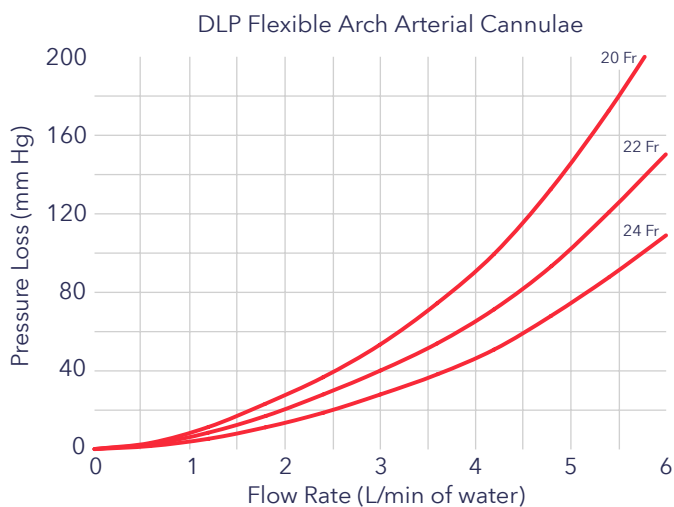
* Also available with Cortiva™ BioActive Surface.

Arterial Cannulae

DLP™ Flexible Arch Arterial Cannulae



These cannulae offer beveled tips and tapered, one-piece bodies. Features include adjustable ring and depth markings.



11 in (27.9 cm) overall length

Vented 3/8 in (0.95 cm) connector

70420	20 Fr (6.7 mm)
70422	22 Fr (7.3 mm)
70424	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

71420	20 Fr (6.7 mm)
71422	22 Fr (7.3 mm)
71424*	24 Fr (8.0 mm)

20 per carton

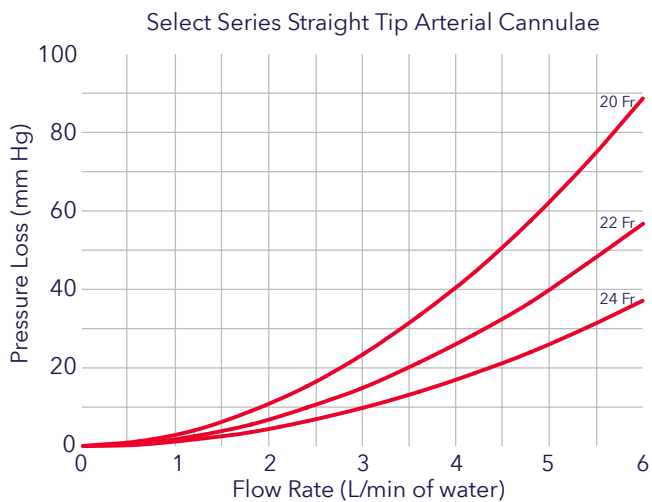
* Also available with Cortiva™ BioActive Surface.

Arterial Cannulae

Select Series™ Straight Tip Arterial Cannulae



These cannulae feature beveled tips and tapered, one-piece, kink-resistant wirewound bodies, and connector peel cap.



12 in (30.5 cm) overall length

Vented 3/8 in (0.95 cm) connector

72120	20 Fr (6.7 mm)
72122	22 Fr (7.3 mm)
72124*	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

72220	20 Fr (6.7 mm)
72222	22 Fr (7.3 mm)
72224*	24 Fr (8.0 mm)

20 per carton

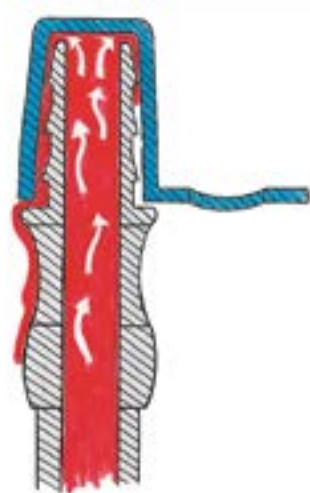
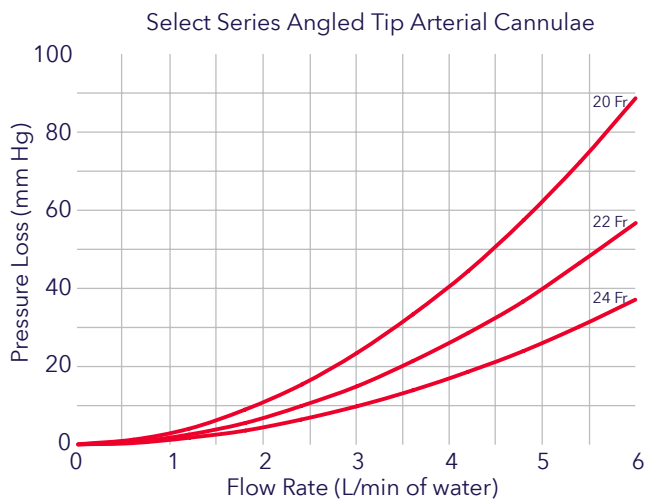
* Also available with Cortiva™ BioActive Surface.

Arterial Cannulae

Select Series™ Angled Tip Arterial Cannulae



These cannulae feature beveled tips and tapered, one-piece, kink-resistant wirewound bodies, and connector peel cap.



12 in (30.5 cm) overall length
45° tip without side holes

Vented 3/8 in (0.95 cm) connector

72420	20 Fr (6.7 mm)
72422	22 Fr (7.3 mm)
72424	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

72520	20 Fr (6.7 mm)
72522	22 Fr (7.3 mm)
72524	24 Fr (8.0 mm)

20 per carton



12 in (30.5 cm) overall length
45° tip with side holes

Vented 3/8 in (0.95 cm) connector

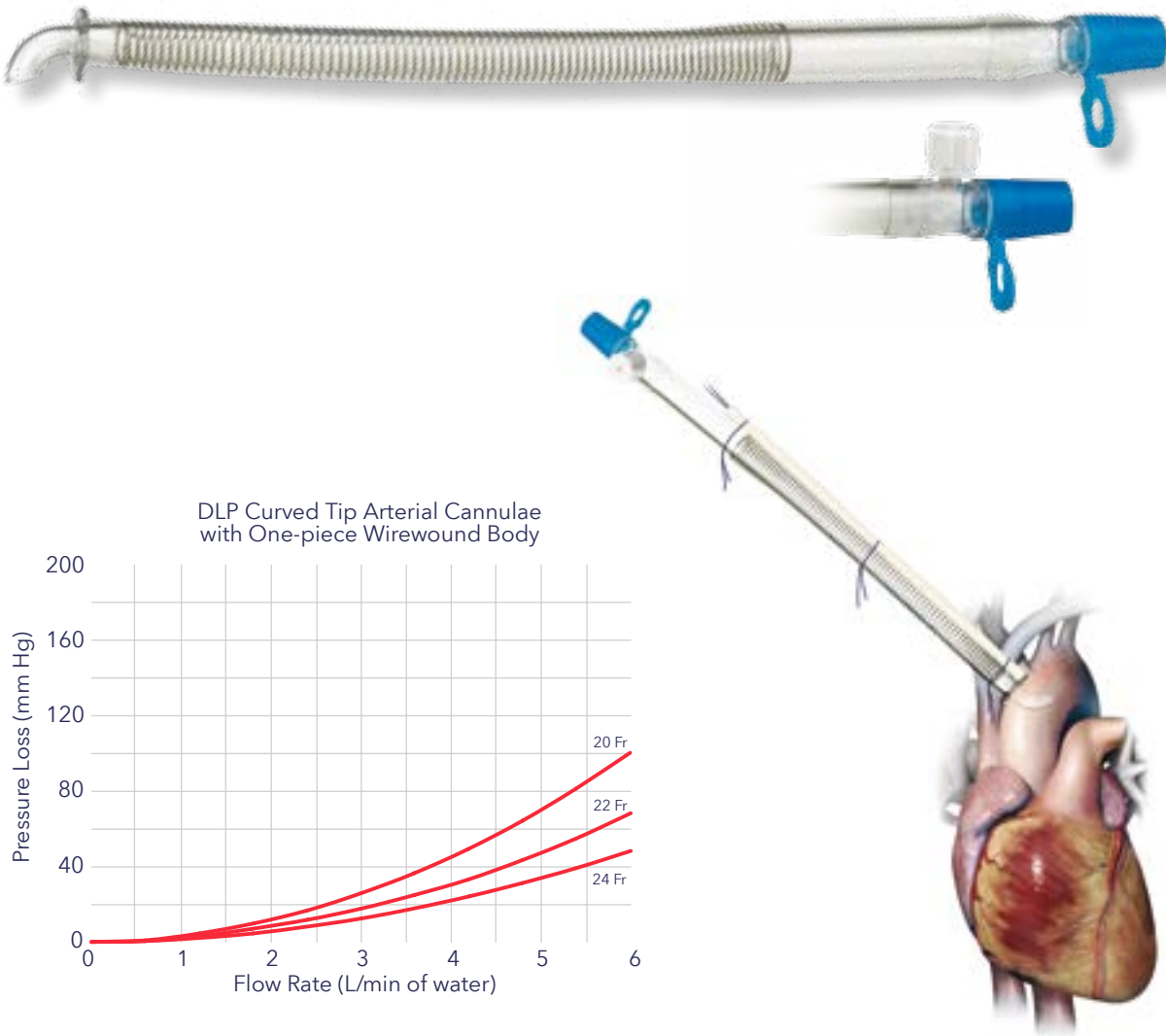
73420	20 Fr (6.7 mm)
73422	22 Fr (7.3 mm)
73424	24 Fr (8.0 mm)

Arterial Cannulae

DLP™ Curved Tip Arterial Cannulae with One-piece Wirewound Body



These cannulae feature beveled curved tips and tapered, one-piece, kink-resistant wirewound bodies, tip orientation line, and connector peel cap.



11 in (27.9 cm) overall length
Round flange

Vented 3/8 in (0.95 cm) connector

87220	20 Fr (6.7 mm)
87222*	22 Fr (7.3 mm)
87224	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

87120	20 Fr (6.7 mm)
87122	22 Fr (7.3 mm)
87124	24 Fr (8.0 mm)

10 per carton

* Also available with Cortiva™ BioActive Surface.

Arterial Cannulae

DLP™ Curved Tip Arterial Cannulae with Wirewound Body



These cannulae feature an overall longer length, beveled curved tips, and wirewound bodies with tip orientation line.



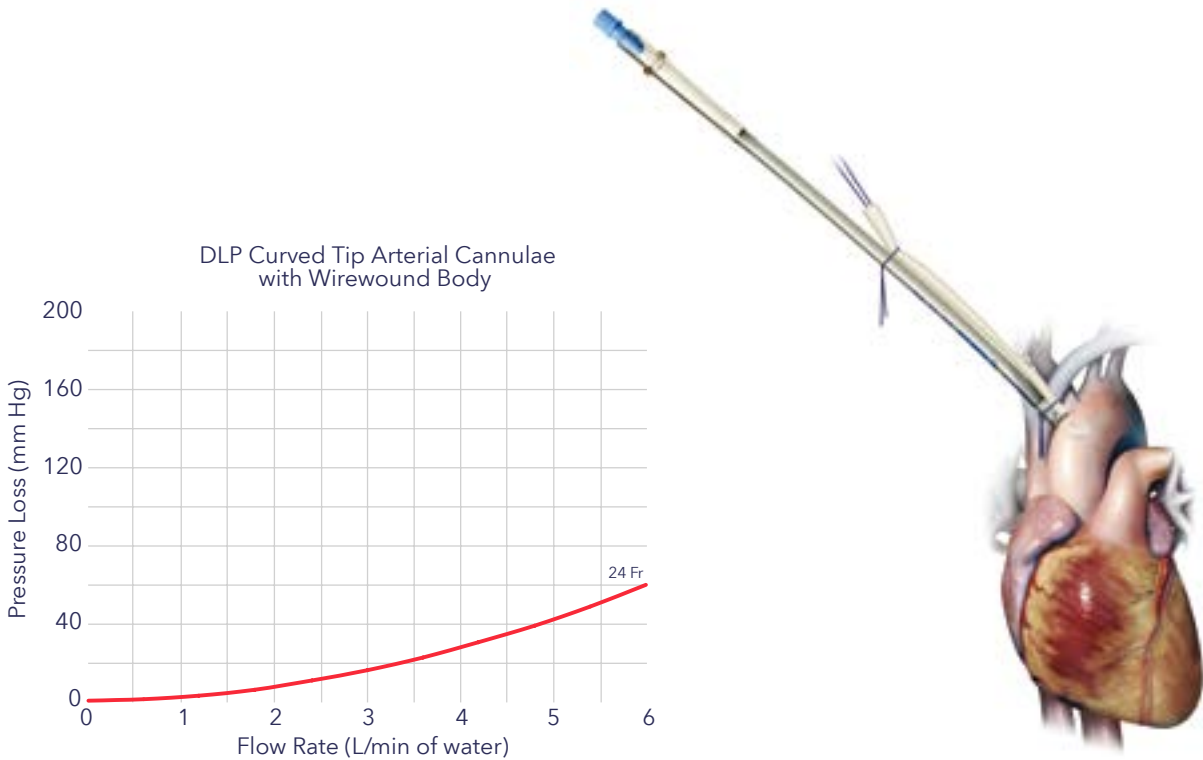
13 in (33.0 cm)
overall length

Curved tip with flange

Connection site 3/8 in (0.95 cm)

87024	24 Fr (8.0 mm)
--------------	----------------

10 per carton



13 in (33.0 cm)
overall length

Curved tip without flange

Connection site 3/8 in (0.95 cm)

87924	24 Fr (8.0 mm)
--------------	----------------

10 per carton

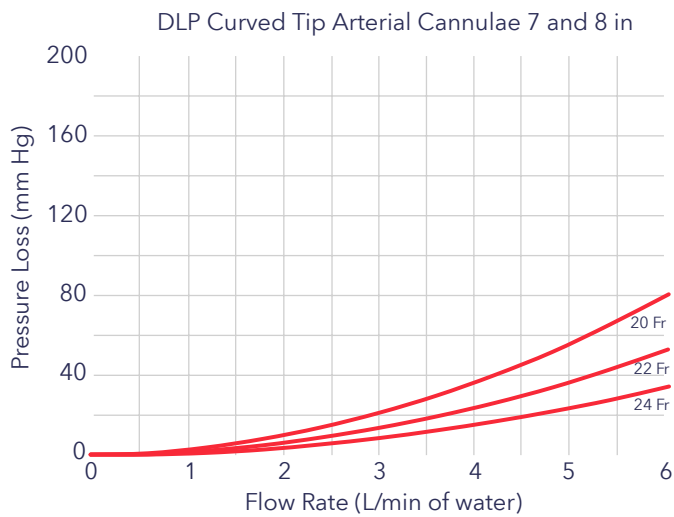


Arterial Cannulae

DLP™ Curved Tip Arterial Cannulae



These cannulae feature beveled curved tips and tapered bodies with tip orientation line.



7 in (17.8 cm) overall length

Curved tip with flange

Connection site 3/8 in (0.95 cm)

83020	20 Fr (6.7 mm)
83022	22 Fr (7.3 mm)
83024	24 Fr (8.0 mm)

20 per carton

7 in (17.8 cm) overall length

Curved tip without flange

Connection site 3/8 in (0.95 cm)

84020	20 Fr (6.7 mm)
84022	22 Fr (7.3 mm)
84024	24 Fr (8.0 mm)

20 per carton

8 in (20.3 cm) overall length

Curved tip with flange

Vented 3/8 in (0.95 cm) connector

88020	20 Fr (6.7 mm)
88022	22 Fr (7.3 mm)
88024	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

88120	20 Fr (6.7 mm)
88122	22 Fr (7.3 mm)
88124	24 Fr (8.0 mm)

20 per carton

8 in (20.3 cm) overall length

Curved tip without flange

Vented 3/8 in (0.95 cm) connector

89020	20 Fr (6.7 mm)
89022	22 Fr (7.3 mm)
89024	24 Fr (8.0 mm)

Non-vented 3/8 in (0.95 cm) connector

89120	20 Fr (6.7 mm)
89122	22 Fr (7.3 mm)
89124	24 Fr (8.0 mm)

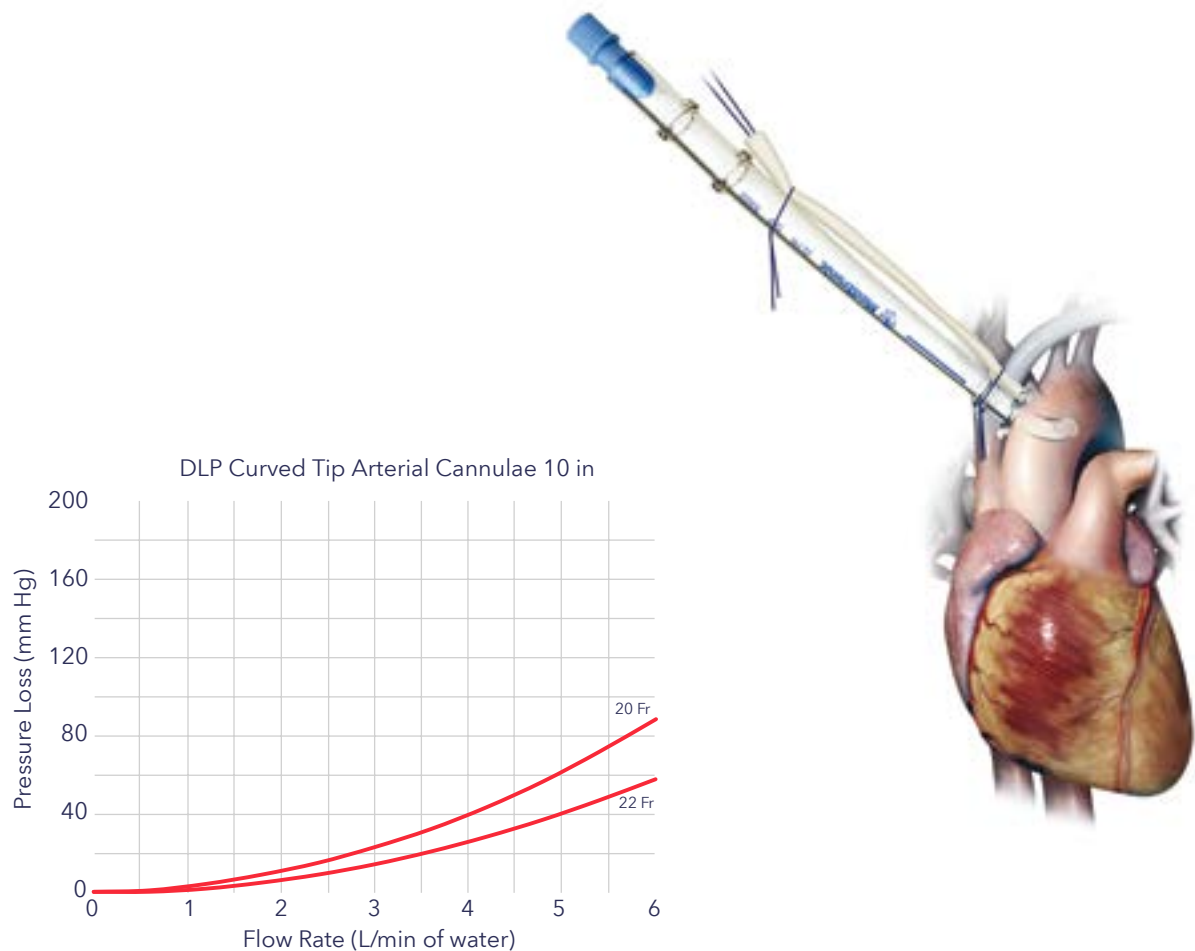
20 per carton

Arterial Cannulae

DLP™ Curved Tip Arterial Cannulae



These cannulae feature beveled curved tips and tapered bodies with tip orientation line.



* Also available with Cortiva™ BioActive Surface.

10 in (25.4 cm) overall length

Curved tip with flange and soft body

Vented 3/8 in (0.95 cm) connector

81020	20 Fr (6.7 mm)
81022	22 Fr (7.3 mm)

Non-vented 3/8 in (0.95 cm) connector

81120*	20 Fr (6.7 mm)
81122*	22 Fr (7.3 mm)

20 per carton

10 in (25.4 cm) overall length

Curved tip without flange and soft body

Vented 3/8 in (0.95 cm) connector

82020	20 Fr (6.7 mm)
82022	22 Fr (7.3 mm)

Non-vented 3/8 in (0.95 cm) connector

82120	20 Fr (6.7 mm)
82122	22 Fr (7.3 mm)

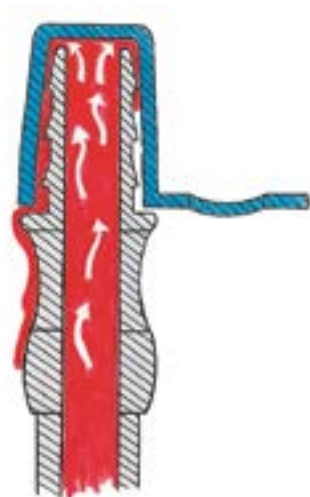
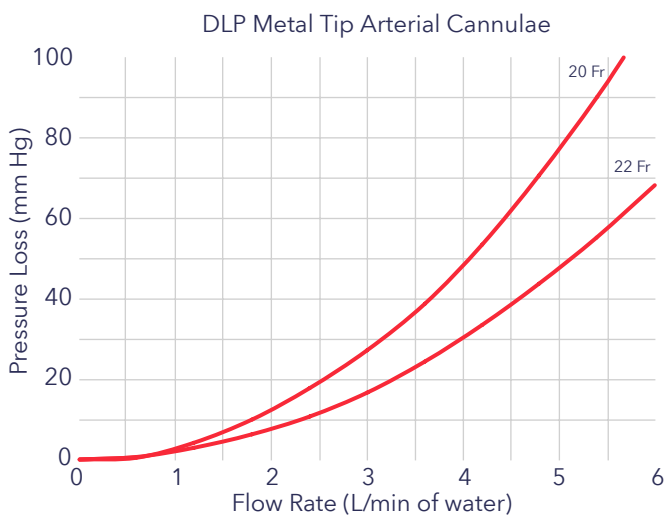
20 per carton

Arterial Cannulae

DLP™ Curved Metal Tip Arterial Cannulae



These cannulae feature beveled metal tips and tapered bodies with tip orientation line. A choice of either standard or soft flange is available.



10.5 in (26.7 cm) overall length

Soft flange

Vented 3/8 in (0.95 cm) connector

80020	20 Fr (6.7 mm)
80022	22 Fr (7.3 mm)

Non-vented 3/8 in (0.95 cm) connector

80120*	20 Fr (6.7 mm)
80122	22 Fr (7.3 mm)

20 per carton

10.5 in (26.7 cm) overall length

Standard flange

Vented 3/8 in (0.95 cm) connector

80220	20 Fr (6.7 mm)
80222	22 Fr (7.3 mm)

Non-vented 3/8 in (0.95 cm) connector

80320	20 Fr (6.7 mm)
80322	22 Fr (7.3 mm)

20 per carton

* Also available with Cortiva™ BioActive Surface.

Extracorporeal circuit

Femoral cannulae



The largest cannula portfolio worldwide.

Our commitment

– to you.

Femoral cannulae provide greater versatility of cannulation techniques to meet the needs of the changing patient population and the desire for smaller thoracic incisions. Designed to be placed in the femoral vein and/or artery, Medtronic femoral cannulae are ideally suited for both percutaneous and direct insertion. The unique flat wirewound, thin-wall construction of the Bio-Medicus™ cannulae maximizes flow rates and cannula flexibility. Our various sizes ensure the availability of a cannula to meet your specific needs.

Femoral cannulae



▶ Bio-Medicus™ NextGen Pediatric Arterial and Venous	21
▶ Bio-Medicus™ NextGen Arterial or Jugular Venous	22
▶ Bio-Medicus™ Percutaneous Kit, Multi-Stage venous	23
▶ Bio-Medicus™ NextGen Bi-caval Venous	24
▶ Bio-Medicus™ NextGen Insertion Kits	25
▶ DLP™ Venous	26
▶ DLP™ Arterial	27

Femoral Cannulae

Bio-Medicus™ NextGen Pediatric Arterial and Venous Cannulae



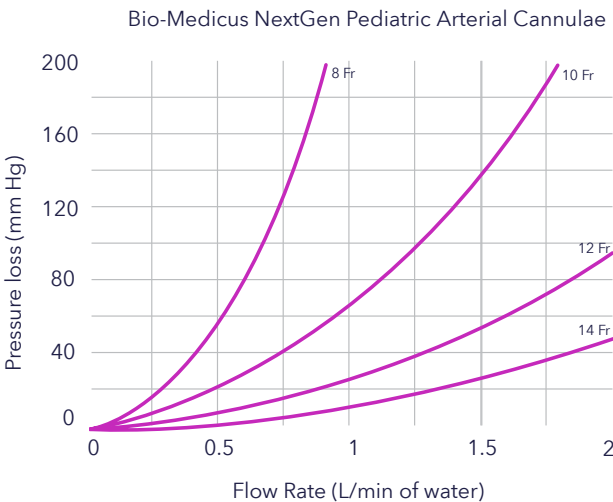
These pediatric cannulae offer a flexible, kink-resistant, thin-wall design that promotes maximum flow rates. The tip design eases insertion and provides a reinforced non-step transition zone along with smooth side holes. Both venous and arterial models are packaged with a tapered solid core and a percutaneous-style, guidewire-capable (0.025 mm dia), non-phthalate PVC introducer, allowing for either a traditional or Seldinger insertion. Each cannula includes a repositionable radiopaque suture ring, an improved friction-fit hemostasis cap, and a retention clip that aids in tubing management. These products are manufactured without DEHP.

Arterial

Non-vented 1/4 in (0.64 cm) connector

		Overall	Tip
96820-108	8 Fr (2.7 mm)	22.9 cm	10.0 cm
96820-110	10 Fr (3.3 mm)	22.9 cm	10.5 cm
96820-112	12 Fr (4.0 mm)	22.9 cm	11.0 cm
96820-114	14 Fr (4.7 mm)	22.9 cm	11.5 cm

1 per carton

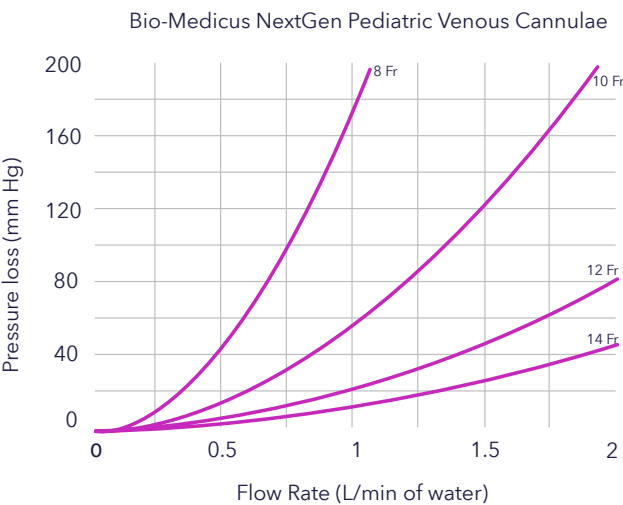


Venous

Non-vented 1/4 in (0.64 cm) connector

		Overall	Tip
96830-108	8 Fr (2.7 mm)	22.9 cm	10.0 cm
96830-110	10 Fr (3.3 mm)	22.9 cm	10.5 cm
96830-112	12 Fr (4.0 mm)	22.9 cm	11.0 cm
96830-114	14 Fr (4.7 mm)	22.9 cm	11.5 cm

1 per carton



Bio-Medicus Pediatric Cannulae



Retention Clip



See page 25 for 96553 insertion kit.

Femoral Cannulae

Bio-Medicus™ NextGen Femoral Arterial or Jugular Venous Cannulae

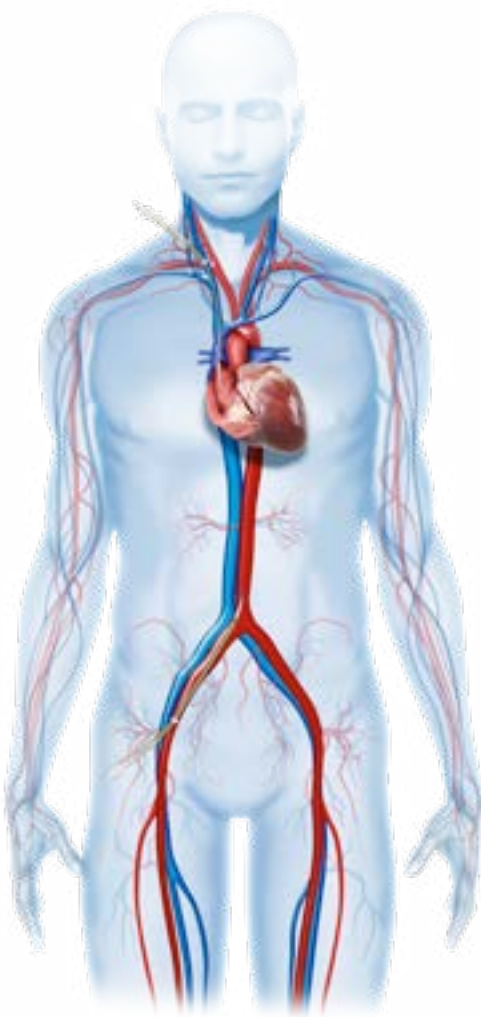


These cannulae offer a flexible, kink-resistant, thin-wall design that promotes maximum flow rates. The tip design eases insertion with a reinforced non-step transition zone, and smooth side holes. A silicone friction-fit cap and non-phthalate PVC introducer provide improved function as well. The percutaneous-style introducer, a repositionable radiopaque suture ring, and a 3/8 inch connection site are standard on all models.

Cannula kit includes:



White color dilator included with 21 Fr, 23 Fr, and 25 Fr models



12.5 in (31.8 cm) overall length

7.09 in (18.0 cm) tip

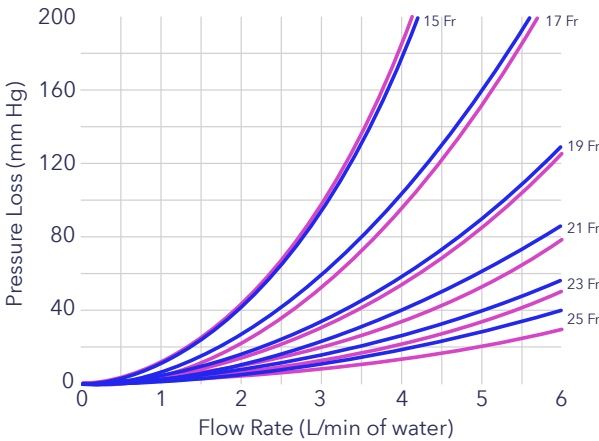
Vented 3/8 in (0.95 cm) connector

Cannula	Cannula Kit	French Size
96570-115	96530-115	15 Fr (5.0 mm)
96570-117	96530-117	17 Fr (5.7 mm)
96570-119	96530-119	19 Fr (6.3 mm)
96570-121	96530-121	21 Fr (7.0 mm)
96570-123	96530-123	23 Fr (7.7 mm)
96570-125	96530-125	25 Fr (8.3 mm)

1 per carton

Order your cannulae as single stand-alone units or with a kit included. For cannula singles, an insertion kit should be ordered.

Bio-Medicus NextGen Femoral Arterial/Jugular Venous Cannulae



• Bio-Medicus NextGen Femoral Arterial Cannulae
• Bio-Medicus NextGen Jugular Venous Cannulae



➤ See page 25 for 96552 insertion kit.

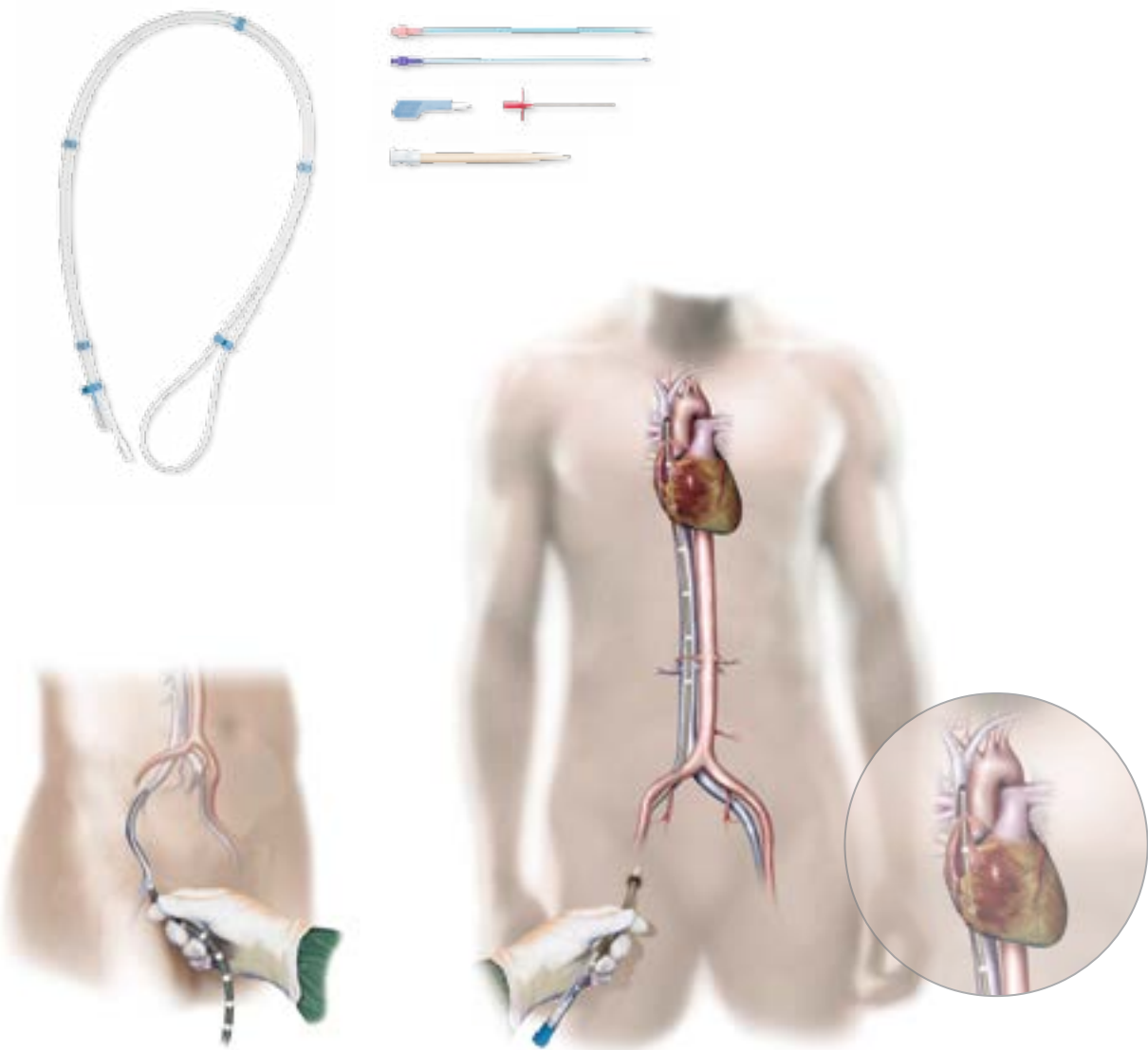
Femoral Cannulae

Bio-Medicus™ Percutaneous Kit, Multi-Stage Venous Femoral



These adult cannulae feature one-piece, kink-resistant, wirewound bodies with multiple side ports, an introducer with depth markings, and a tip taper location indicator. Insertion kit components are listed below.

Cannula kit includes:

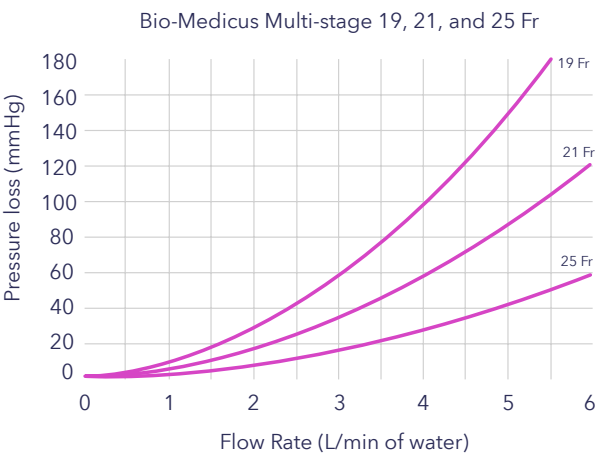


30 in (76.2 cm) overall length
23.6 in (60 cm) tip

Non-vented 3/8 in (0.95 cm) connector

96880-019	19 Fr (6.3 mm)
96880-021	21 Fr (7.0 mm)
96880-025	25 Fr (8.3 mm)

1 per carton



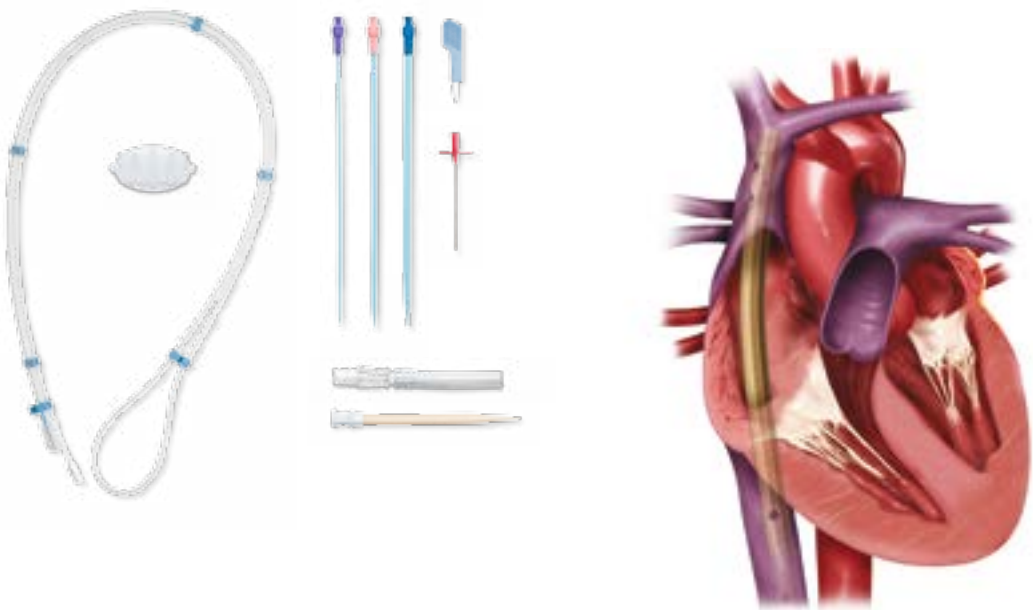
Femoral Cannulae

Bio-Medicus™ NextGen Femoral Bi-caval Venous Cannulae



These cannulae feature a flexible, kink-resistant, thin-wall design that promotes maximum flow rates. The tip design offers an elongated tapered introducer, a reinforced non-step tip transition zone, and smooth side holes. All of these enhancements add up to an easier insertion. Side holes positioned in the SVC and IVC near hepatic veins allow bi-caval drainage and optional isolation of the right atrium. A silicone friction fit cap and non-phthalate PVC introducer provide improved function as well. Each model is standard with a percutaneous-style introducer, a repositionable radiopaque suture ring, and a 3/8 inch connection site.

Cannulae with a kit include:



Bi-caval capability with optimized basket placement

Enables increased venous drainage; ideal for MICS or traditional cases.

Designed to enable right atrium occlusion and access.

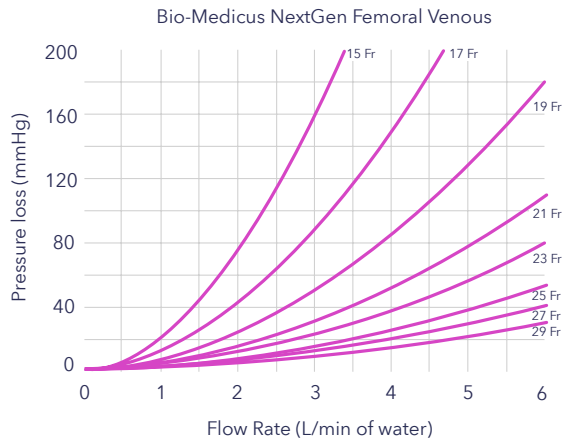
Non-vented 3/8 in (0.95 cm) connector

Cannula Singles	Cannula Kit	French Size	Overall Length	Tip Length
96670-115	96600-115	15 Fr (5.0 mm)	64.8 cm	48.9 cm
96670-117	96600-117	17 Fr (5.7 mm)	64.8 cm	48.9 cm
96670-119	96600-119	19 Fr (6.3 mm)	69.9 cm	54.0 cm
96670-121	96600-121	21 Fr (7.0 mm)	69.9 cm	54.0 cm
96670-123[†]	96600-123[†]	23 Fr (7.7 mm)	76.2 cm	60.0 cm
96670-125[†]	96600-125[†]	25 Fr (8.3 mm)	76.2 cm	60.0 cm
96670-127[†]	96600-127[†]	27 Fr (9.0 mm)	76.2 cm	60.0 cm
96670-129[†]	96600-129[†]	29 Fr (9.7 mm)	76.2 cm	60.0 cm

1 per carton

Order your cannulae as single stand-alone units or with a kit included. For cannula singles, an insertion kit should be ordered.

[†] 1/2 in (1.27 cm) to 3/8 in (0.95 cm) tubing adapter included.



See page 25 for 96551 insertion kit.

Femoral Cannulae

Bio-Medicus™ NextGen Insertion Kits



These adult and pediatric insertion kits provide components for peripheral cannulation via Seldinger technique. Designed for percutaneous or direct visualization insertion, these kits provide the following insertion components as listed below.



Venous

96551	<ul style="list-style-type: none">• 0.038 in (0.0965 mm) diameter; 180 cm (70.87 in) guidewire• #11 scalpel blade• 10 cc syringe• Stepped vessel dilator, 8 Fr/10 Fr, 12 Fr/14 Fr, and 16 Fr/18 Fr• Seldinger needle, 18 ga (1.02 mm)
	5 kits per carton



Pediatric Arterial/Venous

96553	<ul style="list-style-type: none">• 0.025 in (0.0635 mm) diameter; 60 cm (23.62 in) guidewire• #11 scalpel blade• 10 cc syringe• Stepped vessel dilator, 8 Fr/10 Fr, and 12 Fr/14 Fr• Seldinger needle, 18 ga (1.02 mm)
	5 kits per carton



Arterial/Jugular

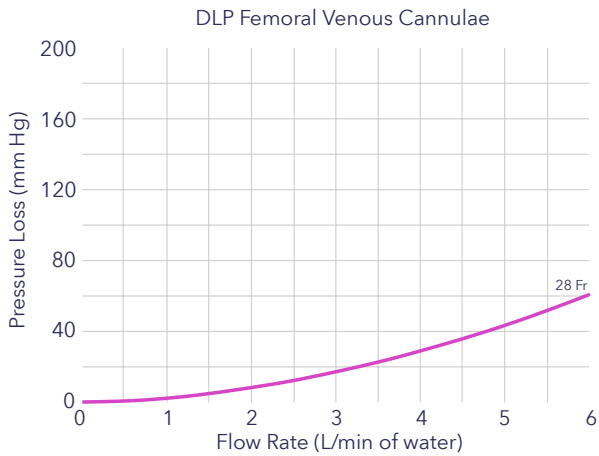
96552	<ul style="list-style-type: none">• 0.038 in (0.0965 mm) diameter; 100 cm (39.37 in) guidewire• #11 scalpel blade• 10 cc syringe• Stepped vessel dilator, 8 Fr/10 Fr, 12 Fr/14 Fr, and 16 Fr/18 Fr• Seldinger needle, 18 ga (1.02 mm)
	5 kits per carton

Femoral Cannulae

DLP™ Femoral Venous Cannulae



These cannulae feature multiple side holes, depth markings, and tapered tip introducer.



25.5 in (64.8 cm) insertion length
Connection site 3/8 in (0.95 cm) and 0.038 in (0.0965 mm) x 180 cm (70.87 in) guidewire

96328	28 Fr (9.3 mm)
Non-vented 3/8 in (0.95 cm) connector and 0.038 in (0.0965 cm) x 180 cm (70.87 in) guidewire	
96428	28 Fr (9.3 mm)
4 per carton	



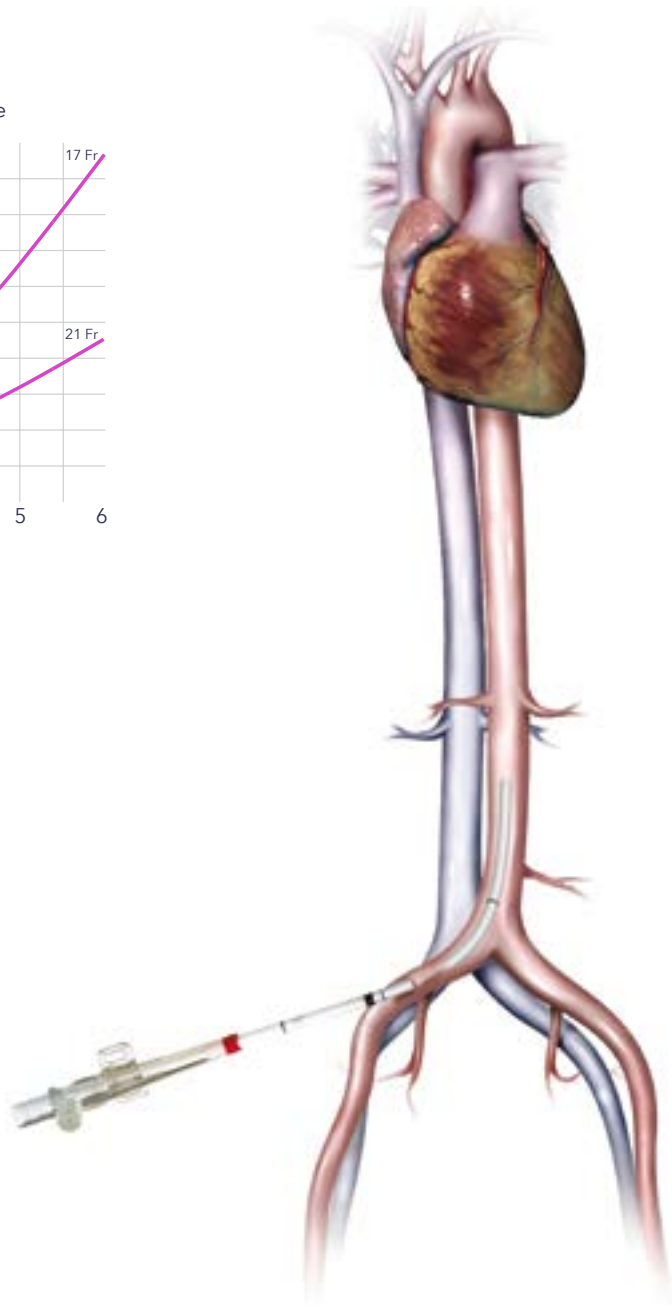
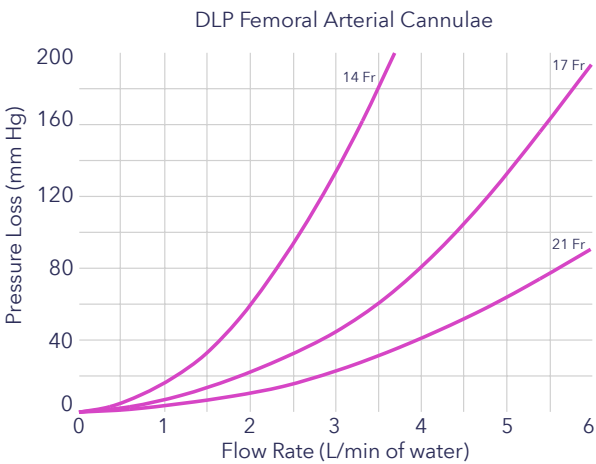
96328

Femoral Cannulae

DLP™ Femoral Arterial Cannulae



These cannulae feature multiple side holes, depth markings, and tapered tip introducer for placement over a 0.038 in (0.0965 cm) guidewire (**not included**).



7 in (17.8 cm) insertion length
Vented 3/8 in (0.95 cm) connector

57414	14 Fr (4.7 mm)
57417	17 Fr (5.7 mm)
57421	21 Fr (7.0 mm)

4 per carton



Extracorporeal circuit

Venous cannulae



Venous cannulae are designed to provide optimal venous drainage while providing flexibility and ease of use. We offer a variety of single stage venous cannulae with kink-resistant, wirewound bodies in sizes from 12 Fr to 40 Fr. These cannulae are offered in both straight and right angle with multiport tips and the option for a thin-wall metal tip design. Our product breadth ensures the availability of a cannula to meet your specific needs.

Venous cannulae



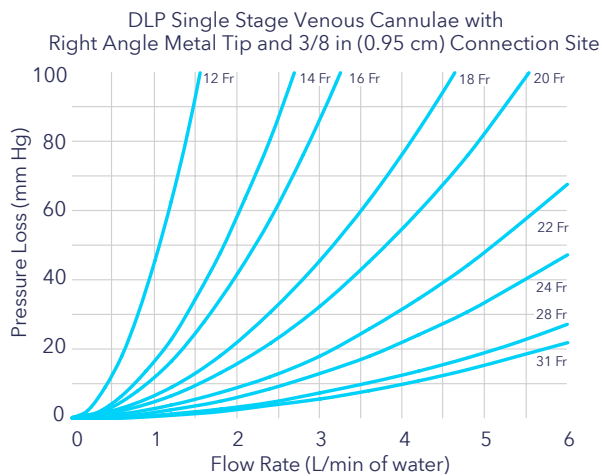
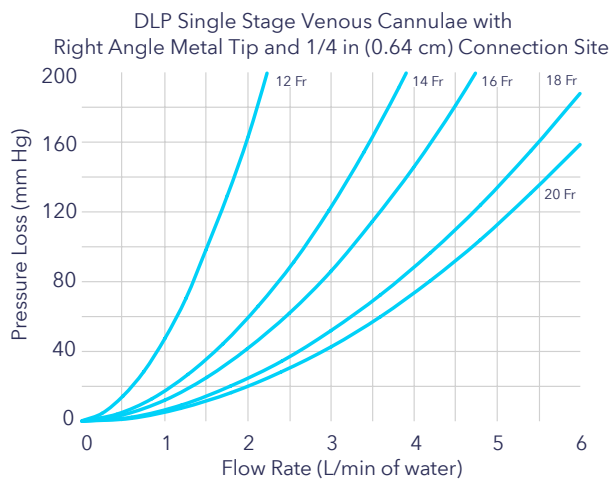
▶ DLP™ Single Stage with Right Angle Metal Tip	30
▶ DLP™ Single Stage	31
▶ DLP™ Single Stage with right angle	32
▶ DLP™ Malleable Single Stage	33
▶ VC2™	34
▶ MC2™ Two Stage	35
▶ MC2X™ Three Stage	36

Venous Cannulae

DLP™ Single Stage Venous Cannulae with Right Angle Metal Tip



These pediatric and adult cannulae feature beveled metal, multiport tips, and kink-resistant wirewound bodies with a tip orientation line. This construction allows for high flow rates with minimal pressure differential.



* Also available with Cortiva™ BioActive Surface.



**14 in (35.6 cm)
overall length**

Connection site 1/4 in (0.64 cm)

67312*	12 Fr (4.0 mm)
67314*	14 Fr (4.7 mm)
67316*	16 Fr (5.3 mm)
67318*	18 Fr (6.0 mm)
67320*	20 Fr (6.7 mm)

Connection site 3/8 in (0.95 cm)

69312	12 Fr (4.0 mm)
69314	14 Fr (4.7 mm)
69316	16 Fr (5.3 mm)
69318	18 Fr (6.0 mm)
69320*	20 Fr (6.7 mm)
69322	22 Fr (7.3 mm)
69324*	24 Fr (8.0 mm)
69328*	28 Fr (9.3 mm)
69331	31 Fr (10.3 mm)

10 per carton



**14 in (35.6 cm)
overall length**

Extended tip

Connection site 3/8 in (0.95 cm)

69428	28 Fr (9.3 mm)
69431	31 Fr (10.3 mm)

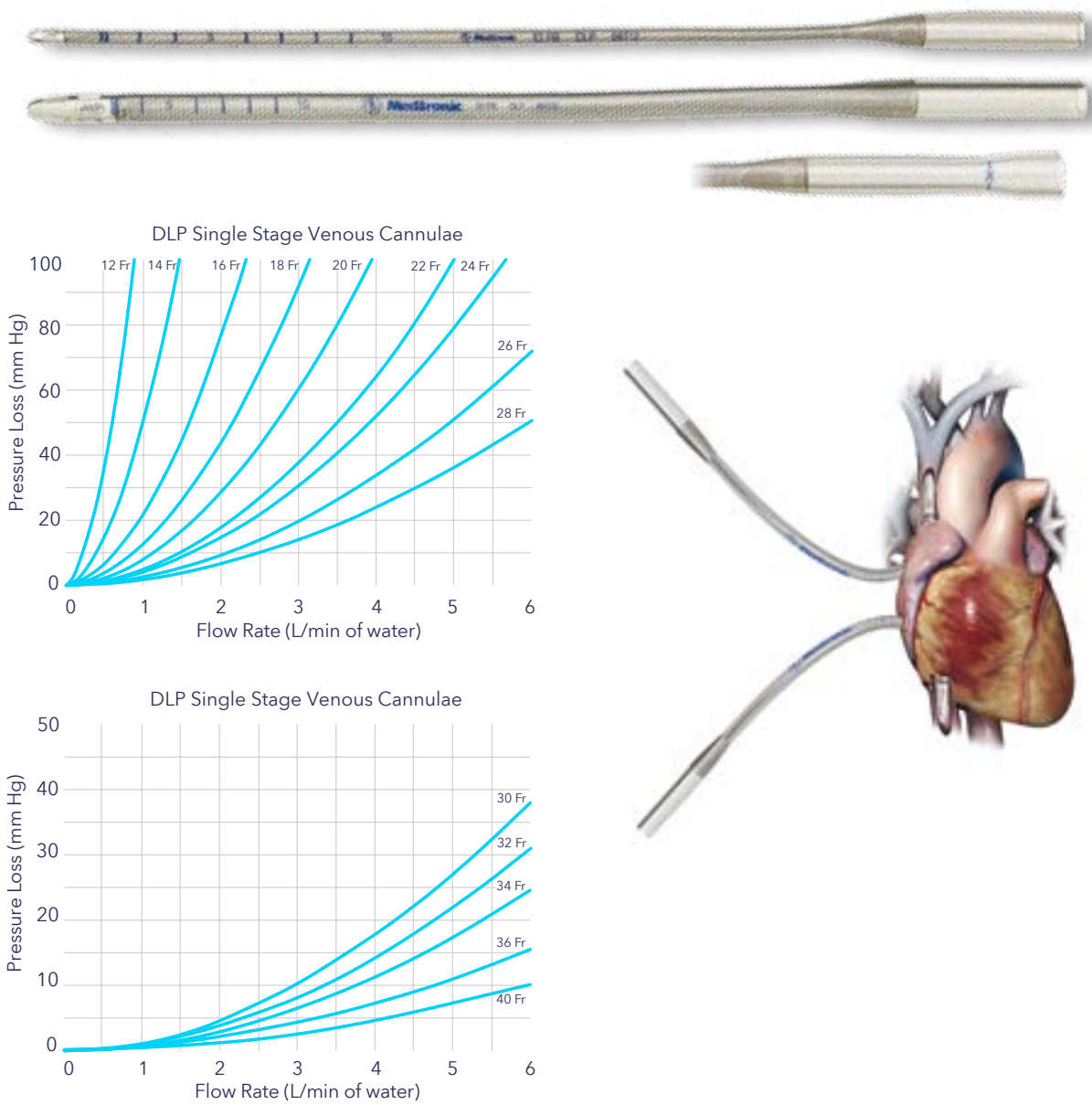
10 per carton

Venous Cannulae

DLP™ Single Stage Venous Cannulae



These pediatric and adult cannulae feature tapered, multiport tips and one-piece, kink-resistant wirewound bodies with depth markings.



12-16 in (30.5-40.6 cm) overall length

Connection site 1/4 in (0.64 cm)

66112*	12 Fr (4.0 mm)
66114*	14 Fr (4.7 mm)
66116*	16 Fr (5.3 mm)

Connection site 1/4 in-3/8 in (0.64-0.95 cm)

66118*	18 Fr (6.0 mm)
66120*	20 Fr (6.7 mm)
66122	22 Fr (7.3 mm)
66124*	24 Fr (8.0 mm)

Connection site 3/8 in (0.95 cm)

66126	26 Fr (8.7 mm)
66128*	28 Fr (9.3 mm)
66130	30 Fr (10.0 mm)
66132*	32 Fr (10.7 mm)
66134	34 Fr (11.3 mm)
66236*	36 Fr (12.0 mm)

Connection site 1/2 in (1.27 cm)

66136	36 Fr (12.0 mm)
66140	40 Fr (13.3 mm)

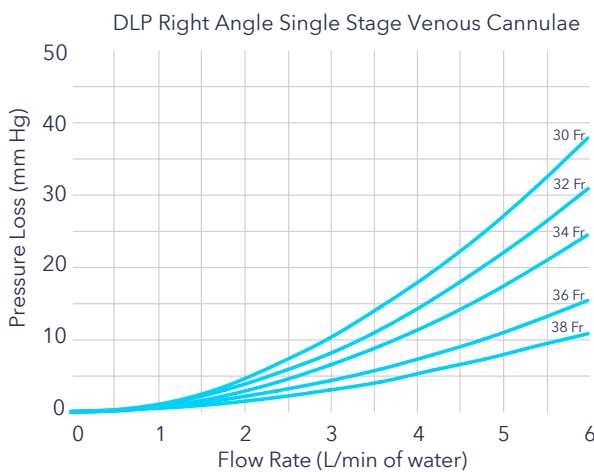
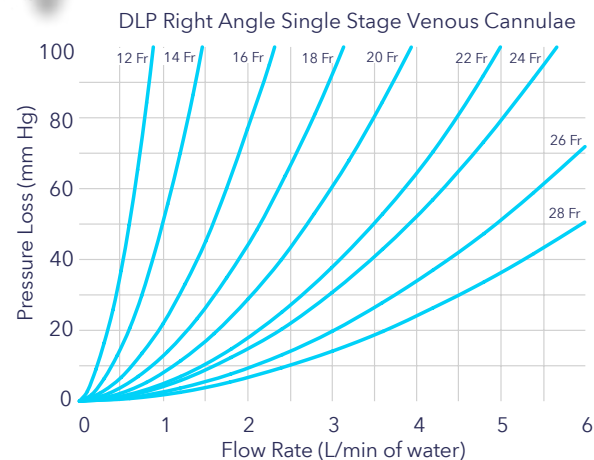
10 per carton

* Also available with Cortiva™ BioActive Surface.

Venous Cannulae

DLP™ Single Stage Venous Cannulae with right angle

These pediatric and adult cannulae feature tapered, multiport tips and one-piece, kink-resistant wirewound bodies with depth markings.



* Also available with Cortiva™ BioActive Surface.

12-15 in (30.5-38.1 cm) overall length

Connection site 1/4 in (0.64 cm)	
67512	12 Fr (4.0 mm)
67514	14 Fr (4.7 mm)
67516	16 Fr (5.3 mm)

Connection site 1/4 in-3/8 in (0.64-0.95 cm)	
67518	18 Fr (6.0 mm)
67520*	20 Fr (6.7 mm)
67522	22 Fr (7.3 mm)
67524*	24 Fr (8.0 mm)

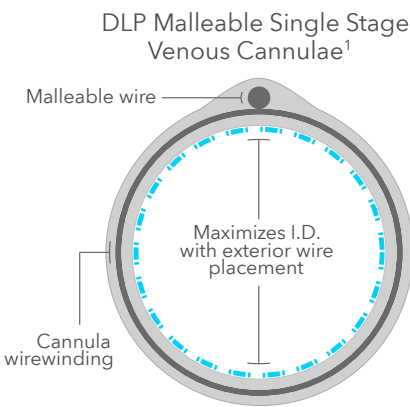
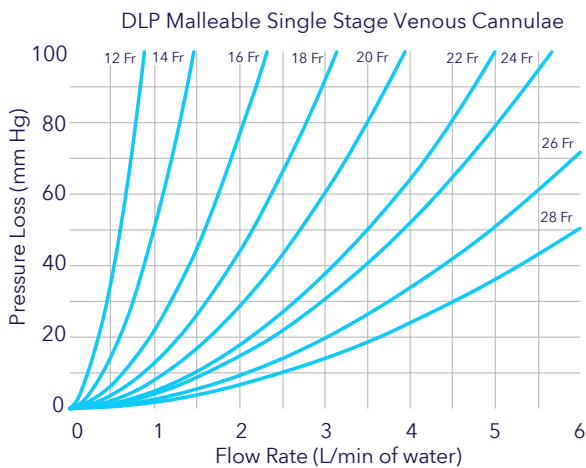
Connection site 3/8 in (0.95 cm)	
67526	26 Fr (8.7 mm)
67528*	28 Fr (9.3 mm)
67530*	30 Fr (10.0 mm)
67532*	32 Fr (10.7 mm)
67534*	34 Fr (11.3 mm)
67636*	36 Fr (12.0 mm)
67638	38 Fr (12.7 mm)
10 per carton	

Venous Cannulae

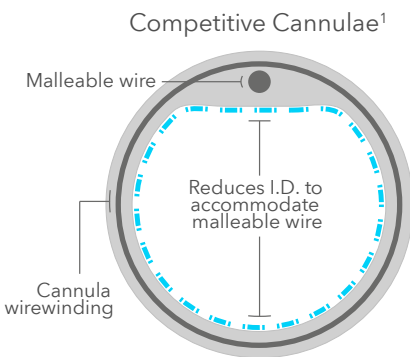
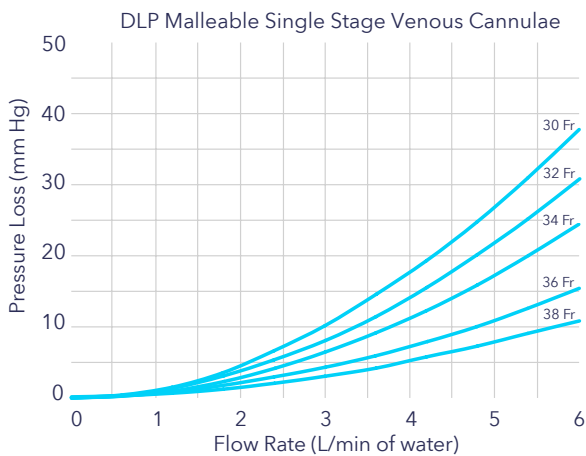
DLP™ Malleable Single Stage Venous Cannulae



These pediatric and adult cannulae feature multiport tips and malleable, one-piece, kink-resistant wirewound bodies with depth markings. This construction allows the surgeon to shape the cannulae. An integrated malleable wire outside the wirewinding optimizes the inner diameter (I.D.) for maximum flow performance.



Models 68124, 24 Fr, and 68130, 30 Fr



Edwards™ Malleable Single Stage Venous Cannula, Model TFM024L, 24 Fr
¹2013 Medtronic data on file.

* Also available with Cortiva™ BioActive Surface.

12-15 in (30.5-38.1 cm) overall length

Connection site 1/4 in (0.64 cm)

68112*	12 Fr (4.0 mm)
68114*	14 Fr (4.7 mm)
68116*	16 Fr (5.3 mm)

Connection site 1/4 in-3/8 in (0.64-0.95 cm)

68118*	18 Fr (6.0 mm)
68120*	20 Fr (6.7 mm)
68122	22 Fr (7.3 mm)
68124*	24 Fr (8.0 mm)

Connection site 3/8 in (0.95 cm)

68126	26 Fr (8.7 mm)
68128*	28 Fr (9.3 mm)
68130	30 Fr (10.0 mm)
68132*	32 Fr (10.7 mm)
68134	34 Fr (11.3 mm)

Connection site 1/2 in (1.27 cm)

68136*	36 Fr (12.0 mm)
68138	38 Fr (12.7 mm)

10 per carton



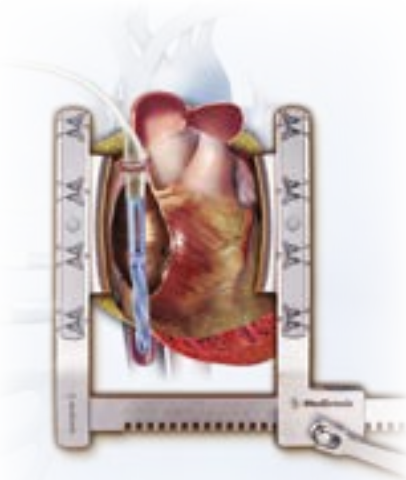
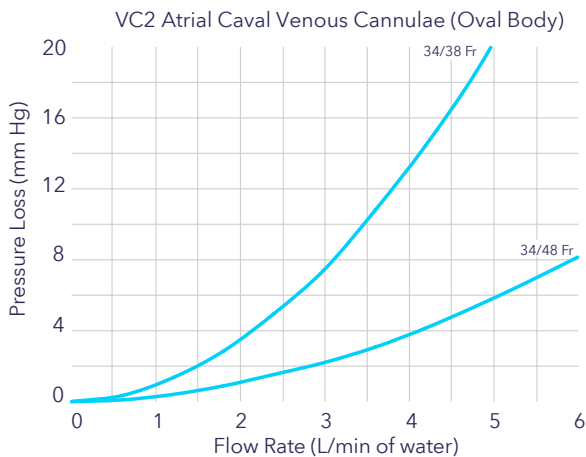
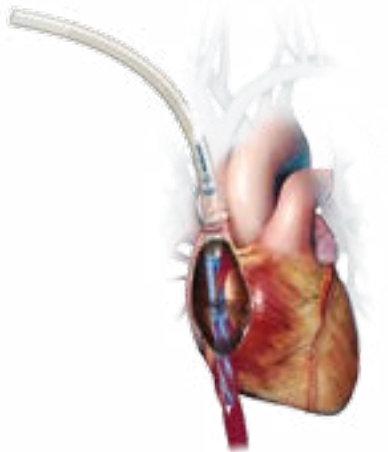
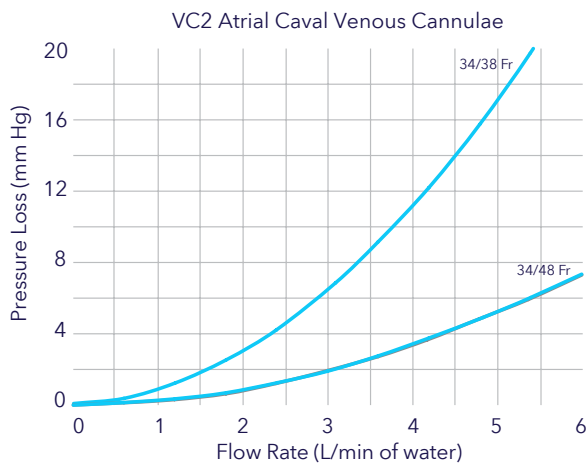
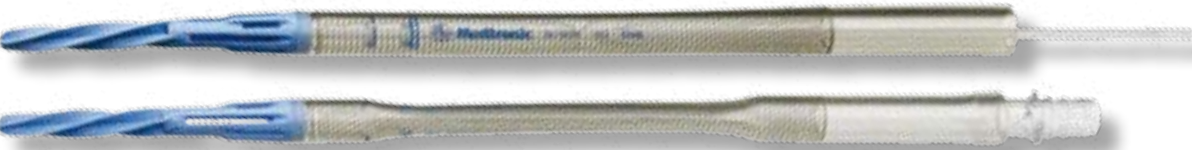
The malleable single stage venous cannulae allow the surgeon to manipulate the cannula shape into virtually any position.

Venous Cannulae

VC2™ Venous Cannulae



These cannulae offer swirl tips with slotted atrial baskets and kink-resistant, wirewound bodies that feature depth markings. The oval body presents a lower profile in the surgical field.



* Also available with Cortiva™ BioActive Surface.

15 in (38.1 cm) overall length

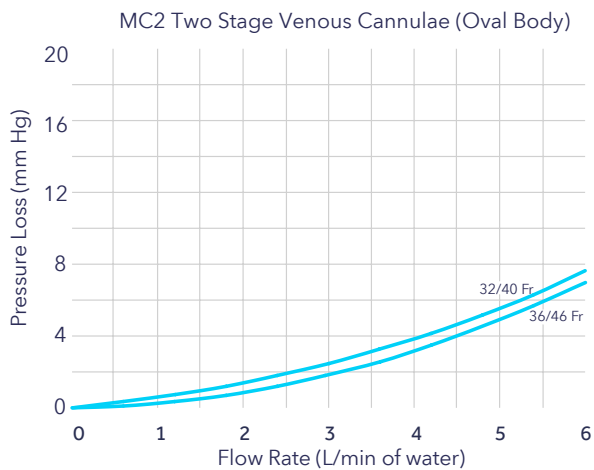
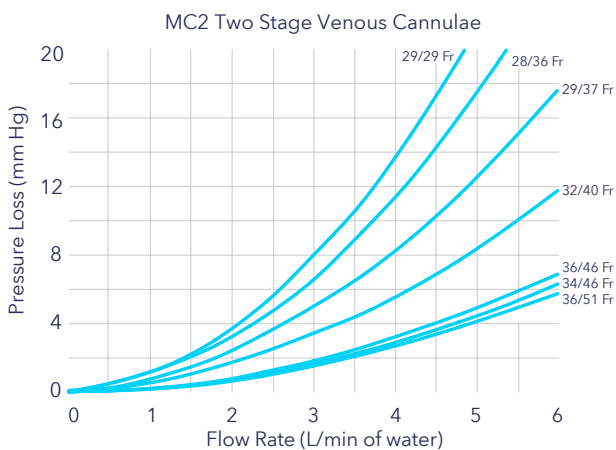
Wirewound body Connection site 3/8 in (0.95 cm)		Oval wirewound body Connection site 1/2 in (1.27 cm)	
93438	34/38 Fr (11.3/12.7 mm)	93464	34/48 Fr (11.3/16.0 mm)
Wirewound body Connection site 1/2 in (1.27 cm)		Oval wirewound body, non-vented 1/2 in (1.27 cm) connector	
93448	34/48 Fr (11.3/16.0 mm)	93463C	34/38 Fr (11.3/12.7 mm)
		93464C	34/48 Fr (11.3/16.0 mm)
Wirewound body, non-vented 1/2 in (1.27 cm) connector		10 per carton	
93438C*	34/38 Fr (11.3/12.7 mm)		
93448C	34/48 Fr (11.3/16.0 mm)		
Oval wirewound body Connection site 3/8 in (0.95 cm)			
93463	34/38 Fr (11.3/12.7 mm)		

Venous Cannulae

MC2™ Two Stage Venous Cannulae



These cannulae feature multiport tips with atrial baskets and kink-resistant, wirewound bodies with depth markings. The oval body presents a lower profile in the surgical field.



* Also available with Cortiva™ BioActive Surface.

15 in (38.1 cm) overall length

Connection site 3/8 in (0.95 cm)

91228*	28/36 Fr (9.3/12.0 mm)
--------	------------------------

Connection site 1/2 in (1.27 cm)

91236	36/46 Fr (12.0/15.3 mm)
-------	-------------------------

91240*	32/40 Fr (10.7/13.3 mm)
--------	-------------------------

91246*	34/46 Fr (11.3/15.3 mm)
--------	-------------------------

91251	36/51 Fr (12.0/17.0 mm)
-------	-------------------------

Non-vented 1/2 in (1.27 cm) connector

91228C*	28/36 Fr (9.3/12.0 mm)
---------	------------------------

91236C*	36/46 Fr (12.0/15.3 mm)
---------	-------------------------

91240C*	32/40 Fr (10.7/13.3 mm)
---------	-------------------------

91246C*	34/46 Fr (11.3/15.3 mm)
---------	-------------------------

91251C	36/51 Fr (12.0/17.0 mm)
--------	-------------------------

10 per carton

15 in (38.1 cm) overall length

Reduced stage body Connection site 1/2 in (1.27 cm)

91229	29/37 Fr (9.7/12.3 mm)
-------	------------------------

Non-vented 1/2 in (1.27 cm) connector

91229C	29/37 Fr (9.7/12.3 mm)
--------	------------------------

Thin-wall body Connection site 3/8 in (0.95 cm)

91329*	29/29 Fr (9.7/9.7 mm)
--------	-----------------------

Non-vented 3/8 in (0.95 cm) connector

91329C*	29/29 Fr (9.7/9.7 mm)
---------	-----------------------

Oval body Connection site 1/2 in (1.27 cm)

91263*	32/40 Fr (10.7/13.3 mm)
--------	-------------------------

91265*	36/46 Fr (12.0/15.3 mm)
--------	-------------------------

Oval body Non-vented 1/2 in (1.27 cm) connector

91263C*	32/40 Fr (10.7/13.3 mm)
---------	-------------------------

91265C*	36/46 Fr (12.0/15.3 mm)
---------	-------------------------

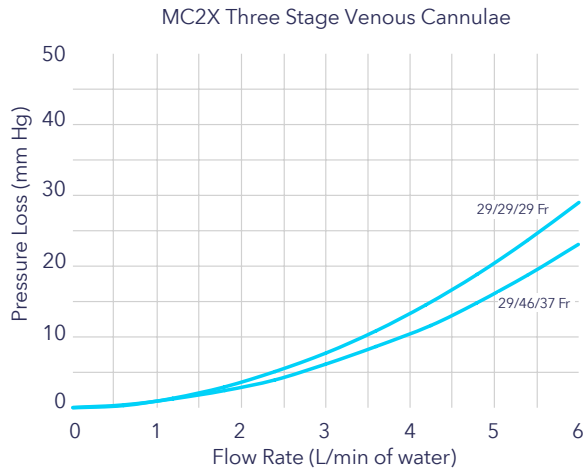
10 per carton

Venous Cannulae

MC2X™ Three Stage Venous Cannulae



These cannulae feature a thin-wall design that provides minimal pressure differential for use with vacuum or kinetically assisted venous drainage.



MC2X has a 31% thinner wall for a larger inner diameter when compared to competitive cannula²



Larger end hole of the MC2X allows for better flow opportunity³
^{2,3} 2013 Medtronic data on file.

15 in (38.1 cm) overall length

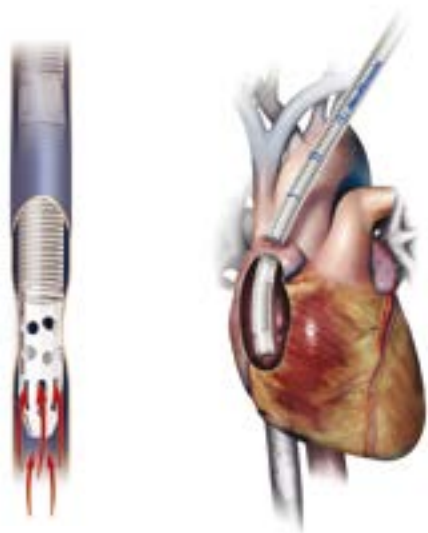
Connection site 3/8 in (0.95 cm)

91429* 29/29/29 Fr (9.7/9.7/9.7 mm)

Non-vented
3/8 in (0.95 cm) connector

91429C* 29/29/29 Fr (9.7/9.7/9.7 mm)

10 per carton



15.5 in (39 cm) overall length

Connection site 3/8 in (0.95 cm)

91437 29/46/37 Fr (9.7/15.3/12.3 mm)

Non-vented
3/8 in (0.95 cm) connector

91437C 29/46/37 Fr (9.7/15.3/12.3 mm)

10 per carton



* Also available with Cortiva™ BioActive Surface.

Cardioplegia circuit

Antegrade cannulae



Antegrade cannulae are designed to deliver cardioplegia solution to the heart via the arteries in the normal direction of blood flow (antegrade perfusion). Aortic root cannulae are intended to either aspirate air from the aorta or infuse cardioplegia solution directly into the aortic root near the aortic valve. We offer adult and pediatric aortic root cannulae in varying lengths to accommodate various techniques and patient anatomies. Our product breadth ensures the availability of a cannula to meet your specific needs.

Antegrade cannulae



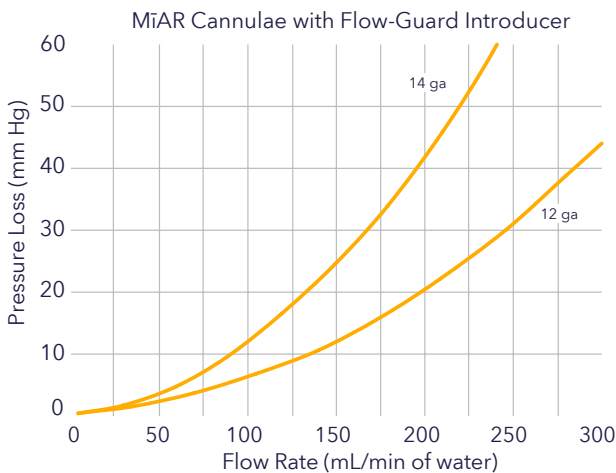
- ▶ MīAR™ Aortic Root with Flow-Guard 39
- ▶ DLP™ Dual Lumen Cardioplegia 40
- ▶ DLP™ Aortic Root 41
- ▶ DLP™ Aortic Root with Vent Line 42
- ▶ DLP™ Cardioplegia Needles 43
- ▶ DLP™ Coronary Ostial Perfusion 44

Antegrade Cannulae

MiAR™ Aortic Root Cannulae with Flow-Guard



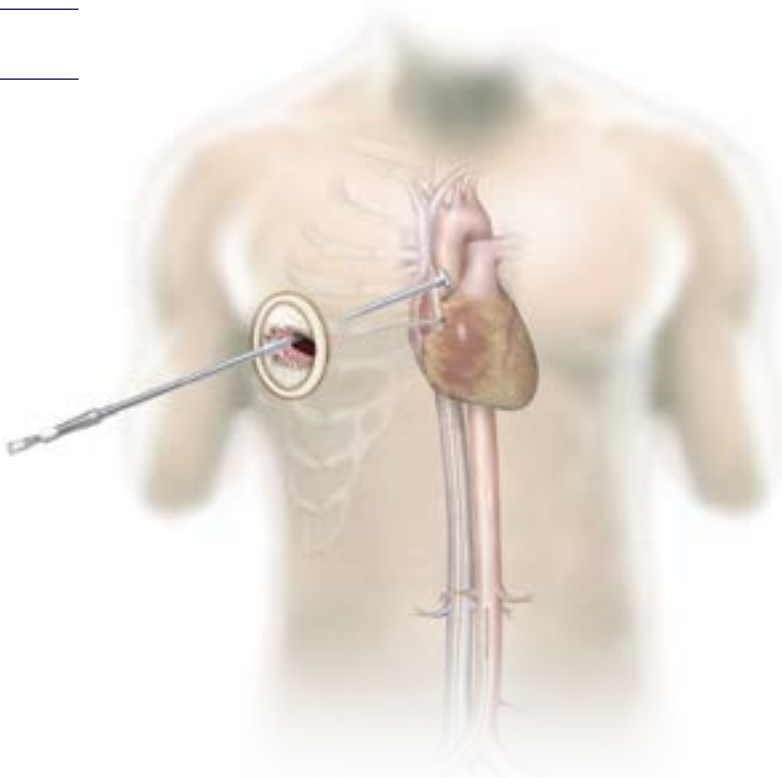
These Minimally Invasive Aortic Root (MiAR) models feature a 12.25 in (31 cm) cannula body to allow access into the chest for small incision techniques. This length also allows positioning of the luer connection to the cardioplegia line out of the surgeon's way, outside the chest incision. Additionally, these MiAR models include the Flow-Guard™ feature to maintain hemostasis during removal of the needle from the cannula.



**12.25 in (31 cm)
overall length**
**Flanged standard tip and
Flow-Guard introducer**

11012L	12 ga (9 Fr)
11014L	14 ga (7 Fr)

10 per carton



Antegrade Cannulae

DLP™ Dual Lumen Cardioplegia Cannulae



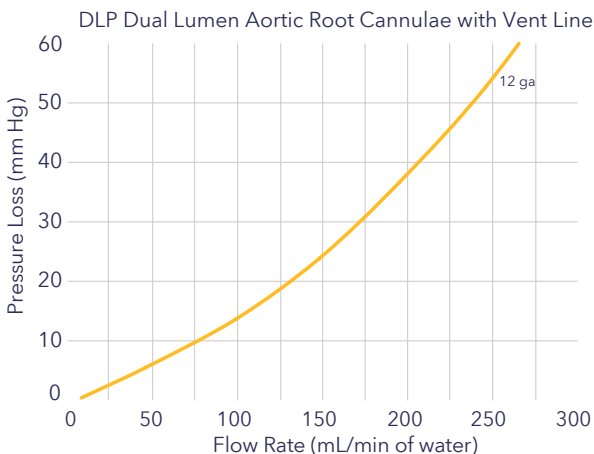
The dual lumen cannula features a tip attached to a clear body with a separate vent line. Additional features include left heart venting and simultaneous cardioplegia delivery and aspiration. Each cannula is supplied with a stainless steel introducer needle.

3.25 in (8.3 cm)
overall length

Standard tip

30401	12 ga (9 Fr)
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10 per carton



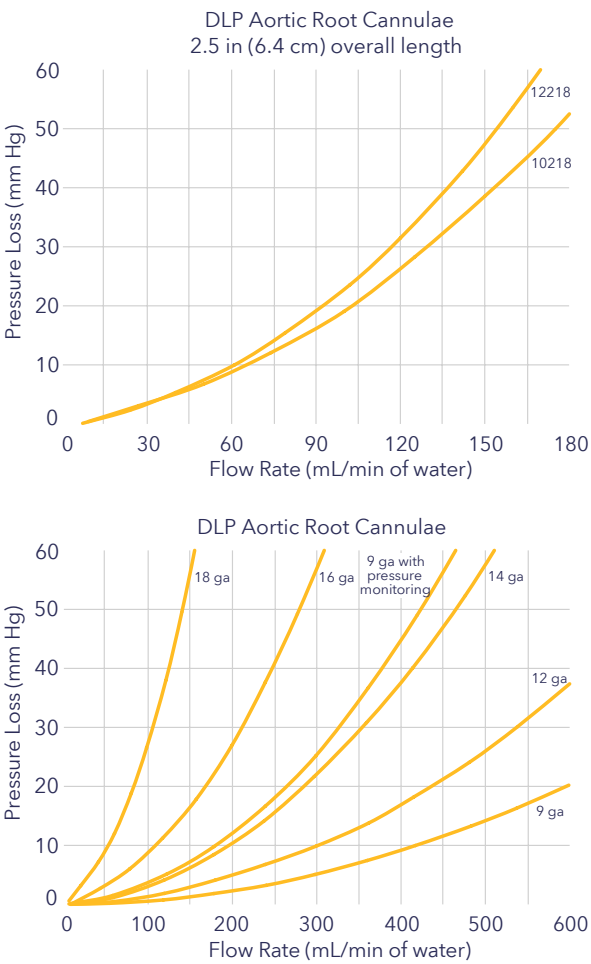
Dual Lumen Aortic Root
Application Detail

Antegrade Cannulae

DLP™ Aortic Root Cannulae



These pediatric and adult cannulae feature radiopaque tips attached to clear PVC bodies. Additional features available with these cannulae include aortic root pressure monitoring and left heart venting. All cannulae are supplied with a stainless steel introducer needle. All DLP Aortic Root Cannulae can be used to aspirate air emboli as well as administer cardioplegia.



Flow-Guard™ Introducer

2.5 in (6.4 cm) overall length

Flanged standard tip and
standard introducer

10218	18 ga (4 Fr) white tip and clear flange
12218	18 ga (4 Fr) blue one-piece tip and flange

20 per carton



5.75 in (14.6 cm) overall length

Slotted long tip and
standard introducer

10112	12 ga (9 Fr)
10114	14 ga (7 Fr)

20 per carton



5.5 in (14.0 cm) overall length

Flanged standard tip and
standard introducer

10009	9 ga (11 Fr)
10012*	12 ga (9 Fr)
10014	14 ga (7 Fr)
10016	16 ga (5 Fr)
10018	18 ga (4 Fr)

Flanged standard tip and
Flow-Guard introducer

11012	12 ga (9 Fr)
11014	14 ga (7 Fr)

20 per carton

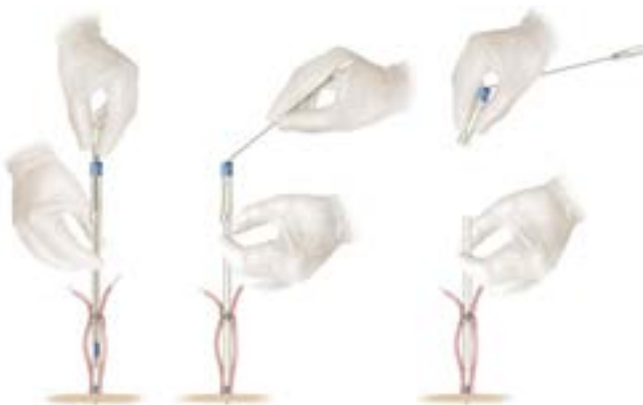


5.25 in (13.3 cm) overall length

Flanged pressure
monitoring tip and
standard introducer

23009	9 ga (11 Fr)
--------------	--------------

20 per carton



Flow-Guard Introducer Application Detail

* Also available with Cortiva™ BioActive Surface.

Important Safety Information

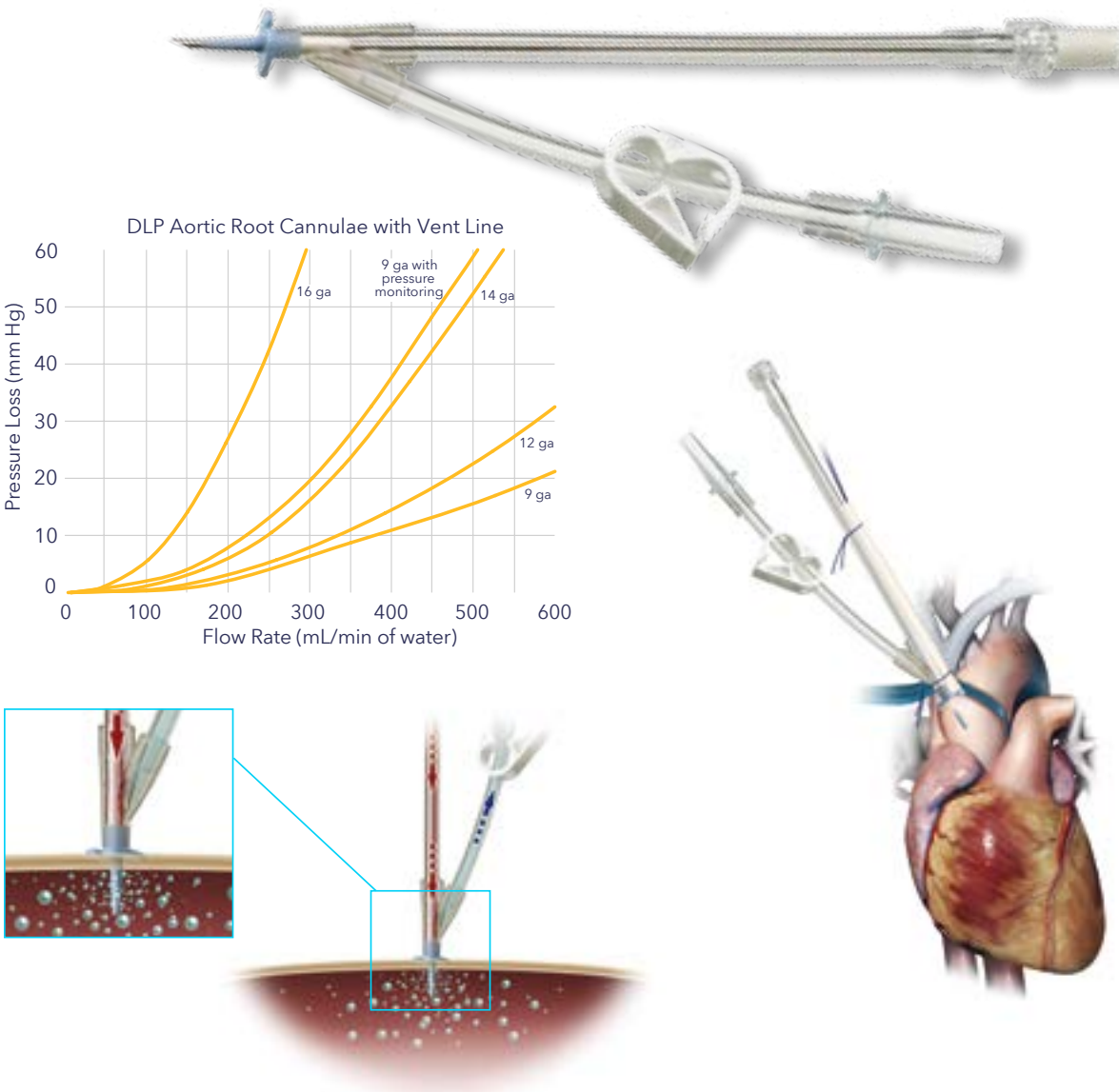
Care should be taken when inserting the needle to prevent perforation of the back wall of the aorta. Care and caution should be taken to avoid damage to vessels and cardiac tissue during cannulation or other cardiac surgery procedures. Additional care and caution may be necessary due to the unique adaptations required for minimally invasive techniques.

Antegrade Cannulae

DLP™ Aortic Root Cannulae with Vent Line



These cannulae feature radiopaque tips attached to clear bodies with separate vent lines. Additional features available with these cannulae include aortic root pressure monitoring and left heart venting. All cannulae are supplied with a stainless steel introducer needle.



* Also available with Cortiva™ BioActive Surface.

5.5 in (14.0 cm) overall length

Flanged standard tip and standard introducer

20009	9 ga (11 Fr)
20012*	12 ga (9 Fr)
20012S	12 ga (9 Fr) with two clamps
20014	14 ga (7 Fr)
20014L	14 ga (7 Fr), 8 in (20.3 cm) vent line
20016	16 ga (5 Fr)

Flanged standard tip and Flow-Guard™ introducer

21012	12 ga (9 Fr)
21014	14 ga (7 Fr)

20 per carton

5.75 in (14.6 cm) overall length

Slotted long tip and standard introducer

20112	12 ga (9 Fr)
20114	14 ga (7 Fr)

20 per carton

5.75 in (14.6 cm) overall length

Flanged long tip and standard introducer

20114WF	14 ga (7 Fr)
20114HWF	14 ga (7 Fr) with side holes

20 per carton

5.25 in (13.3 cm) overall length

Flanged pressure monitor- ing tip and standard introducer

24009	9 ga (11 Fr)
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20 per carton

Important Safety Information

Care should be taken when inserting the needle to prevent perforation of the back wall of the aorta. Care and caution should be taken to avoid damage to vessels and cardiac tissue during cannulation or other cardiac surgery procedures. Additional care and caution may be necessary due to the unique adaptations required for minimally invasive techniques.

Antegrade Cannulae

DLP™ Cardioplegia Needles

These needles feature stainless steel tips with a plastic depth stop. These needles are attached to flexible tubing with drape clamp and female luer.



Pediatric

6.5 in (16.5 cm) overall length

Tip length 1/4 in (0.64 cm) with hub stop

11316	16 ga (5 Fr)
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20 per carton

Adult

10 in (25.4 cm) overall length

Tip length 5/8 in (1.59 cm)
with 4 side holes and flange stop

10313	13 ga (8 Fr)
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20 per carton

Antegrade Cannulae

DLP™ Coronary Ostial Perfusion Cannulae



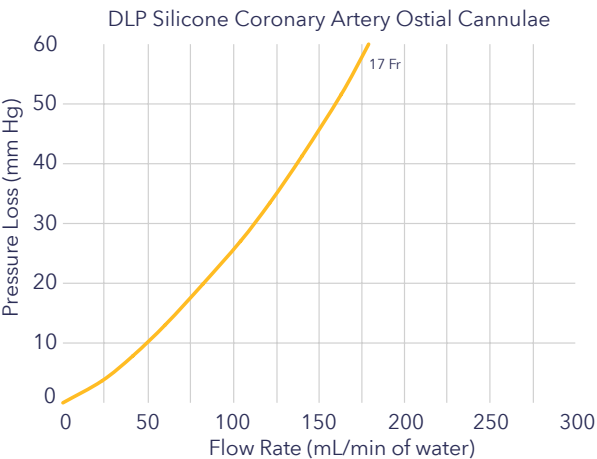
These cannulae feature silicone bodies with soft bulb-shaped tips. All cannulae have a female luer connection site.



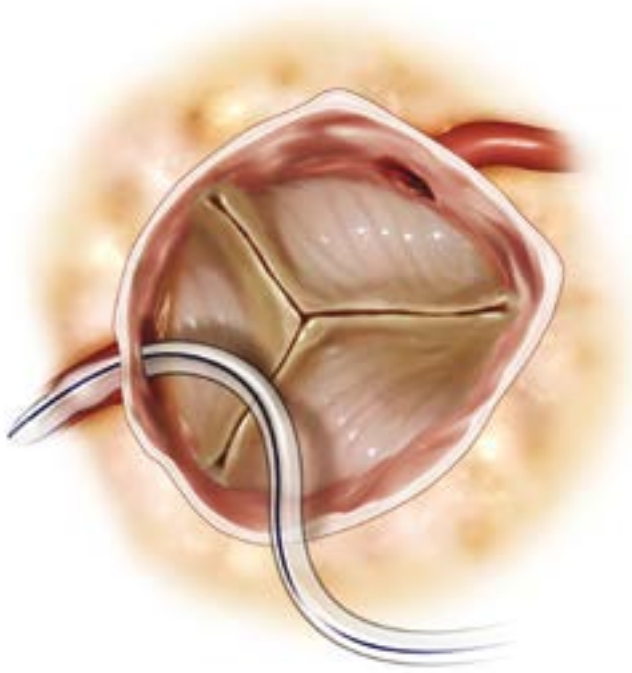
10 in (25.4 cm) overall length

30315	15 Fr (5.0 mm) bulb
30317	17 Fr (5.7 mm) bulb
30320	20 Fr (6.7 mm) bulb

10 per carton



Intracoronary cardioplegia

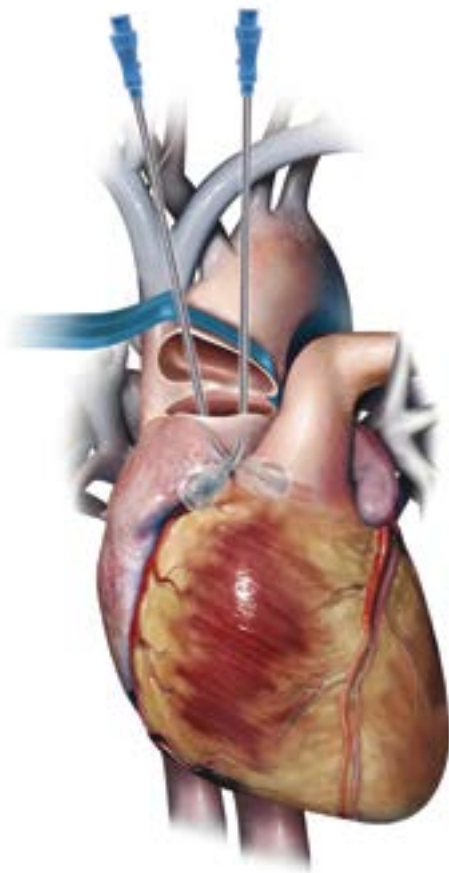
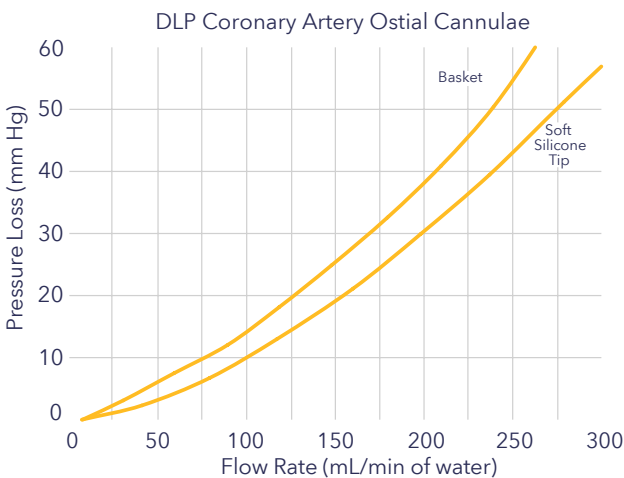


Antegrade Cannulae

DLP™ Coronary Ostial Perfusion Cannulae



These cannulae feature flanged, radiopaque basket tips or soft tips attached to malleable stainless steel shafts. All cannulae have a female luer connection site.



**6 in (15.2 cm)
overall length**

Basket tip

30010	10 Fr (3.3 mm)
30012	12 Fr (4.0 mm)
30014	14 Fr (4.7 mm)

20 per carton



**6 in (15.2 cm)
overall length**

Soft, concave tip

30050

10 per carton



**6 in (15.2 cm)
overall length**

Soft, convex tip

30055

10 per carton

Important Safety Information

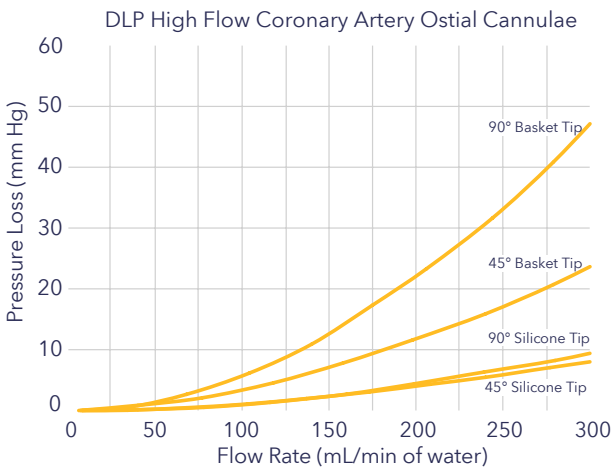
Care should be taken when inserting the needle to prevent perforation of the back wall of the aorta. Care and caution should be taken to avoid damage to vessels and cardiac tissue during cannulation or other cardiac surgery procedures. Additional care and caution may be necessary due to the unique adaptations required for minimally invasive techniques.

Antegrade Cannulae

DLP™ Coronary Ostial Perfusion Cannulae



These high flow cannulae feature flanged, radiopaque basket tips or soft silicone tips attached to large-bore, malleable stainless steel shafts. All cannulae have a female luer connection site.



Ostial antegrade cardioplegia



7.5 in (19.1 cm)
overall length

90° angle basket tip

30110	10 Fr (3.3 mm)
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30112	12 Fr (4.0 mm)
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30114	14 Fr (4.7 mm)
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10 per carton



7.5 in (19.1 cm)
overall length

45° angle basket tip

30212	12 Fr (4.0 mm)
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10 per carton



7.5 in (19.1 cm)
overall length

90° angle soft silicone tip

30155	10 Fr (3.3 mm)
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10 per carton



7.5 in (19.1 cm)
overall length

45° angle soft silicone tip

30255	10 Fr (3.3 mm)
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10 per carton

Important Safety Information

Care should be taken when inserting the needle to prevent perforation of the back wall of the aorta. Care and caution should be taken to avoid damage to vessels and cardiac tissue during cannulation or other cardiac surgery procedures. Additional care and caution may be necessary due to the unique adaptations required for minimally invasive techniques.

Cardioplegia circuit

Retrograde cannulae



Retrograde cannulae are designed to deliver cardioplegia solution to the heart via the coronary sinus in the reverse direction of normal blood flow (retrograde perfusion). We offer the retrograde cannulae in pediatric and adult sizes. The pediatric cannulae are offered with silicone bodies, with or without a guidewire stylet, and a manual-inflate cuff. Adult models are offered with a silicone or PVC body, a solid or guidewire stylet with a variety of handle options, and an auto- or manual-inflate cuff. Silicone bodies ensure product malleability under cold cardioplegia temperatures. The purpose of the cuff is to occlude the opening of the coronary sinus, forcing cardioplegia flow to the coronary vessel bed of the heart. Manual-inflate models require the clinician to inflate the cuff prior to delivering cardioplegia. Our product breadth ensures the availability of a cannula to meet your specific needs.

Retrograde cannulae



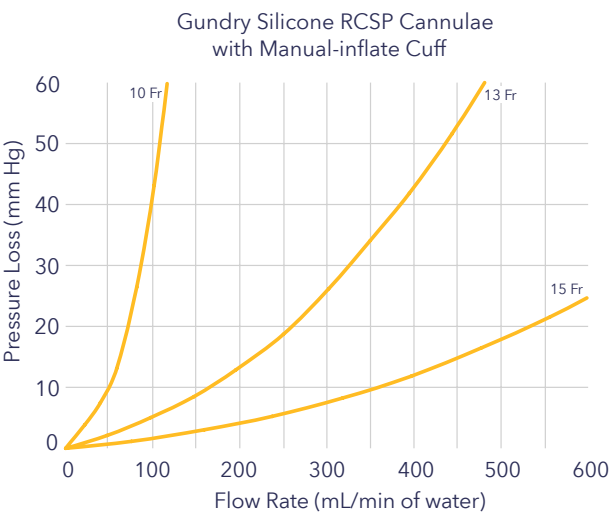
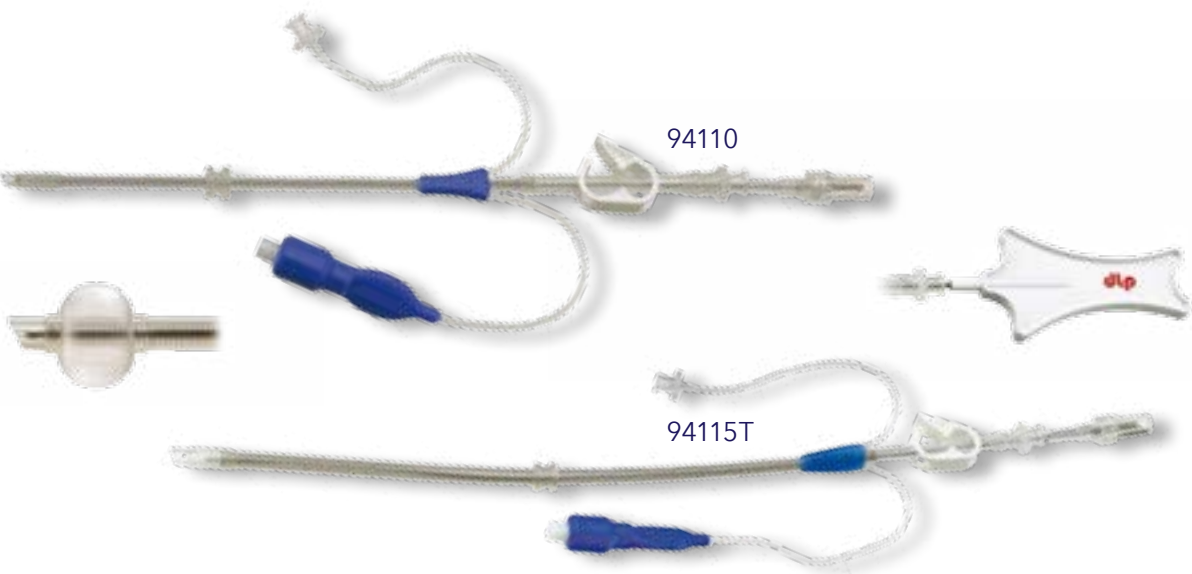
- ▶ Gundry™ Retrograde Coronary Sinus Perfusion
with Manual-Inflate Cuff 49
- ▶ DLP™ Retrograde Coronary Sinus Perfusion
with Manual-Inflate Cuff 50
- ▶ DLP™ Retrograde Coronary Sinus Perfusion
with Auto-Inflate Cuff 52

Retrograde Cannulae

Gundry™ Retrograde Coronary Sinus Perfusion Cannulae with Manual-Inflate Cuff



These pediatric and adult cannulae feature silicone bodies and manual-inflate cuffs with pressure monitoring lines. All cannulae have a guidewire stylet and either a male luer handle or a Tru-Touch™ handle. All cannulae come with a syringe for cuff inflation.



9 in (22.9 cm) overall length

Smooth cuff and wirewound body

12.5 in (31.8 cm) overall length

Smooth cuff and wirewound body

94110	10 Fr (3.3 mm) guidewire styletw
4 per carton	

94115T	15 Fr (5.0 mm) guidewire stylet
10 per carton	

12.5 in (31.8 cm) overall length

Smooth cuff, wirewound body, and integral stopcock

94113T	13 Fr (4.3 mm) guidewire stylet
10 per carton	
94615	15 Fr (5.0 mm) guidewire stylet
4 per carton	
94715	15 Fr (5.0 mm) guidewire stylet with Tru-Touch handle
10 per carton	

Retrograde Cannulae

DLP™ Retrograde Coronary Sinus Perfusion Cannulae with Manual-Inflate Cuff



These pediatric and adult cannulae feature silicone bodies and manual-inflate cuffs with pressure monitoring lines. All cannulae come with a smooth cuff and a syringe for cuff inflation.



9.5 in (24.1 cm) overall length

Smooth cuff, non-wirewound body, and integral stopcock

94006	6 Fr (2.0 mm) no stylet
94106	6 Fr (2.0 mm) guidewire stylet

4 per carton

12.5 in (31.8 cm) overall length

Smooth cuff and wirewound body

94215T	15 Fr (5.0 mm) solid stylet
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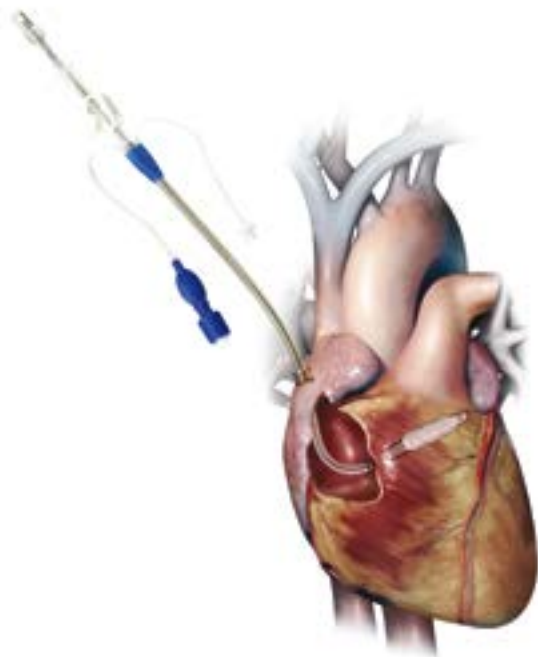
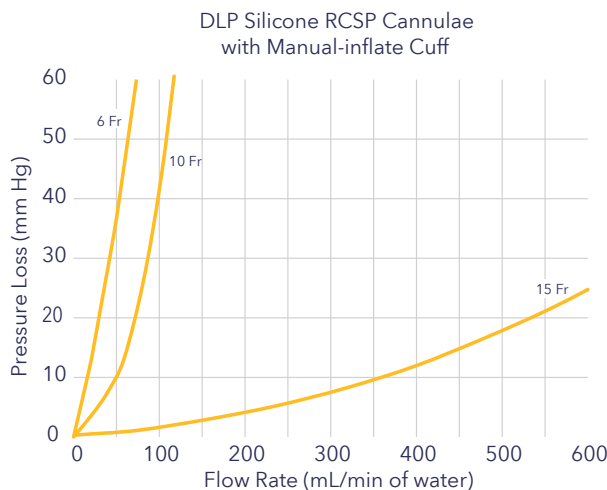
10 per carton

12.5 in (31.8 cm) overall length

Smooth cuff, wirewound body, and integral stopcock

94725	15 Fr (5.0 mm) solid stylet with Tru-Touch™ handle
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10 per carton

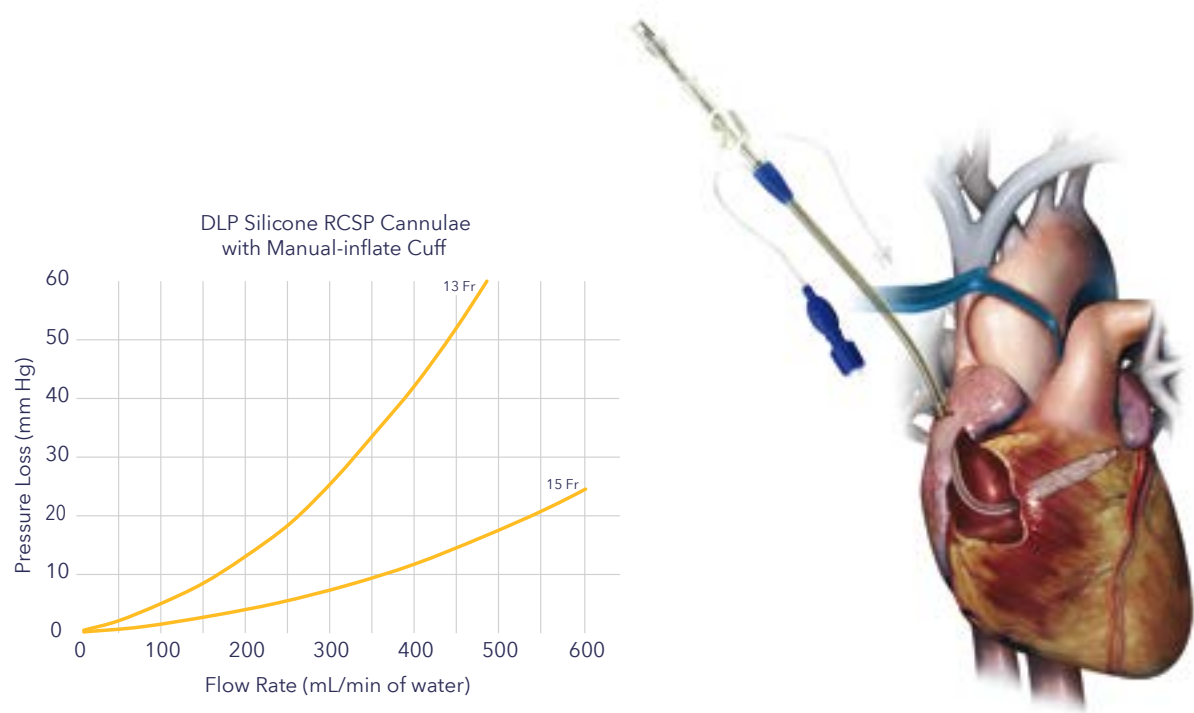


Retrograde Cannulae

DLP™ Retrograde Coronary Sinus Perfusion Cannulae with Manual-Inflate Cuff



These pediatric and adult cannulae feature silicone bodies and manual-inflate cuffs with pressure monitoring lines. A variety of cuffs and stylets are available. All cannulae come with a syringe for cuff inflation.



12.5 in (31.8 cm) overall length
Elongated cuff, wirewound body, and integral stopcock

94625	15 Fr (5.0 mm) solid stylet
94665	15 Fr (5.0 mm) guidewire stylet

10 per carton



12.5 in (31.8 cm) overall length
Ridged cuff, wirewound body, and integral stopcock

94913	13 Fr (4.3 mm) guidewire stylet
94913L	13 Fr (4.3 mm) guide-wire stylet and 6 in (15.2 cm) pressure monitoring and inflation line
94915	15 Fr (5.0 mm) guidewire stylet
94965	15 Fr (5.0 mm) guide-wire stylet with Tru-Touch™ handle
94975	15 Fr (5.0 mm) solid stylet with Tru-Touch handle

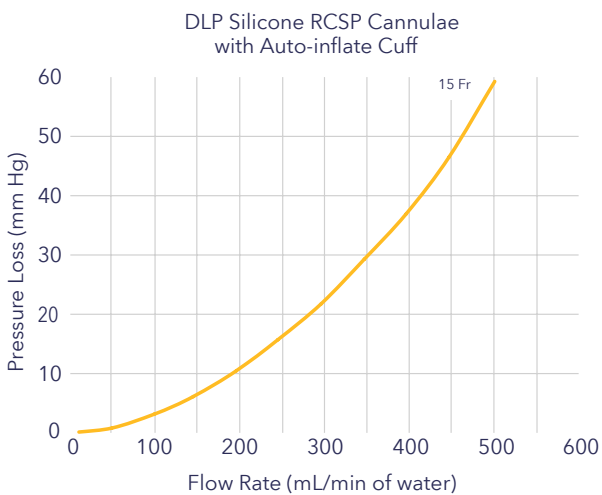
10 per carton

Retrograde Cannulae

DLP™ Retrograde Coronary Sinus Perfusion Cannulae with Auto-Inflate Cuff



These cannulae feature silicone bodies and auto-inflate cuffs with pressure monitoring lines. A variety of cuffs and stylets are available.



**12.5 in (31.8 cm)
overall length**
Smooth preformed cuff
and wirewound body

94315T	15 Fr (5.0 mm) solid stylet
94415T	15 Fr (5.0 mm) guide-wire stylet
94735	15 Fr (5.0 mm) solid stylet with Tru-Touch™ handle
94745	15 Fr (5.0 mm) guidewire stylet with Tru-Touch handle

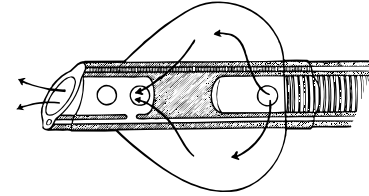
10 per carton



**12.5 in (31.8 cm)
overall length**
Ridged preformed cuff, wirewound
body, and integral stopcock

94995	15 Fr (5.0 mm) guidewire stylet with Tru-Touch handle
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10 per carton



Silicone Auto-inflate
Cuff Flow Detail

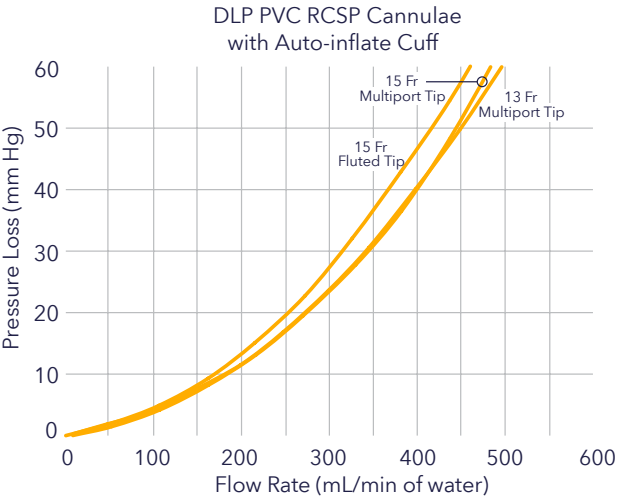
Silicone auto-inflating cuffs offer the convenience of cuff inflation without the need for a syringe. Their unique flow-through design allows cardioplegia to circulate through the cuff before exiting the cannula tip. These cuffs also feature a dual pressure monitoring system, which normally provides intra-sinus pressure monitoring through the port in the tip. However, should the tip inadvertently become occluded, the second port will monitor intra-cuff pressure. This feature greatly reduces the potential for coronary sinus damage due to overinflation.

Retrograde Cannulae

DLP™ Retrograde Coronary Sinus Perfusion Cannulae with Auto-Inflate Cuff



These cannulae feature PVC bodies and polyurethane auto-inflate smooth cuffs with pressure monitoring lines. A variety of stylets are available.



10 in (25.4 cm) overall length
Smooth preformed cuff, short fluted bullet-nosed tip, and integral stopcock

94885K	15 Fr (5.0 mm) solid stylet with Tru-Touch™ handle
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10 per carton



11 in (27.9 cm) overall length
Smooth preformed cuff, multiport tip, and integral stopcock

94533	13 Fr (4.3 mm) solid stylet with Tru-Touch handle
94535	15 Fr (5.0 mm) solid stylet with Tru-Touch handle

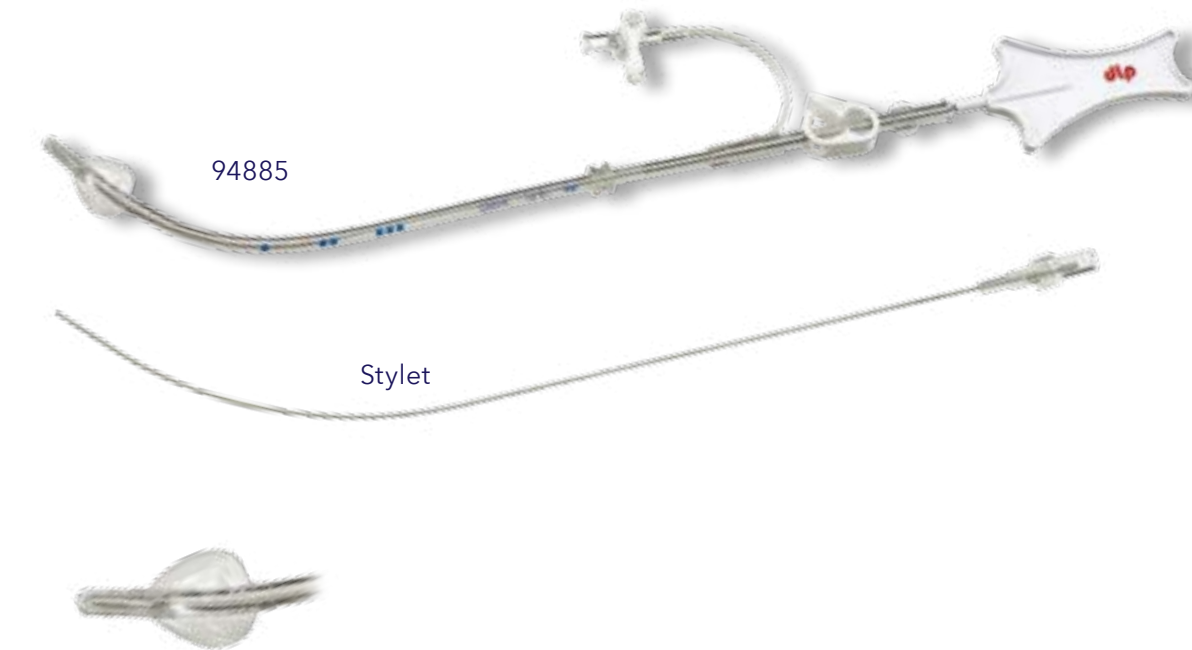
10 per carton

Retrograde Cannulae

DLP™ Retrograde Coronary Sinus Perfusion Cannulae with Auto-Inflate Cuff



These cannulae feature PVC bodies and polyurethane auto-inflate cuffs with pressure monitoring lines. A variety of cuffs and stylets are available.



12 in (30.5 cm) overall length
Smooth preformed cuff, short fluted bullet-nosed tip, and integral stopcock

94885	15 Fr (5.0 mm) solid stylet with Tru-Touch™ handle
94895	15 Fr (5.0 mm) guidewire stylet with Tru-Touch handle

10 per carton



12.5 in (31.8 cm) overall length
Smooth preformed cuff, fluted bullet-nosed tip, and integral stopcock

94835	15 Fr (5.0 mm) solid stylet with Tru-Touch handle
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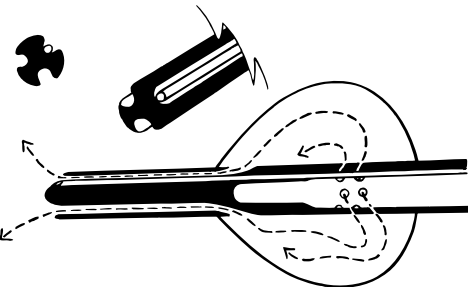
10 per carton



12.5 in (31.8 cm) overall length
Ridged preformed silicone cuff, short fluted bullet-nosed tip, and integral stopcock

94935	15 Fr (5.0 mm) solid stylet with Tru-Touch handle
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10 per carton



PVC Auto-inflate Cuff Flow Detail

Cardioplegia circuit

Cardiograde adapters



Cardioplegia adapters are designed to permit customization of the cardioplegia circuit. Medtronic adapters can be used to connect multiple cardioplegia cannulae and/or vein graft cannulae to a single inlet source, switch between antegrade and retrograde delivery of cardioplegia, and provide the option for attaching a vent line to cardioplegia cannulae. Additional adapters are available to extend the length of the cardioplegia circuit, recirculate the cardioplegia solution, or provide an extension to the pressure monitoring line.

Cardioplegia adapters



- ▶ DLP™ Perfusion 57
- ▶ DLP™ Perfusion/Venting 57
- ▶ DLP™ Extension Line 58
- ▶ DLP™ Pressure Monitoring Extension Line 58
- ▶ DLP™ Straight 59
- ▶ DLP™ "Y" 59
- ▶ DLP™ "Y" Type Recirculating 60
- ▶ DLP™ "Y" Type Coronary Perfusion 60
- ▶ DLP™ "Y" 61
- ▶ DLP™ Vein Graft Cannula 62
- ▶ DLP™ Cardioplegia Adapter with Pressure Port 63
- ▶ ARISS™ Perfusion Switches 63
- ▶ DLP™ Cardioplegia Management Set 64
- ▶ DLP™ Antegrade/Retrograde Stopcock 64
- ▶ DLP™ Multiple Perfusion Sets 65

Cardioplegia Adapters

DLP™ Perfusion Adapters



These adapters feature a barbed connector on one end and either a male luer or female luer on the other. Some models have a length of tubing between the barbed connector and luers.

2 in (5.1 cm) overall length

Male luer	
10007	1/4 in (0.64 cm) barbed connector
10008	3/8 in (0.95 cm) barbed connector
40 per carton	



3.25 in (8.3 cm) overall length

Tubing and female luer	
10022	1/4 in (0.64 cm) barbed connector
40 per carton	



DLP™ Perfusion/Venting Adapter

This adapter is a combination of perfusion adapter 10007 with an added high-flow stopcock that allows for venting. This 3-way stopcock has a large-bore inner diameter and has female and male luers on the ends.

Male luer	
13002	
20 per carton	



Cardioplegia Adapters

DLP™ Extension Line Adapters



These adapters feature soft (silicone-like) PVC tubing with or without a clamp, and male and winged female luers on the ends.

10 in (25.4 cm) overall length

Male and winged female luers

11001	without clamp
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10 per carton



20 in (50.8 cm) overall length

Male and winged female luers

11001G	with clamp
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20 per carton

DLP™ Pressure Monitoring Extension Line Adapters

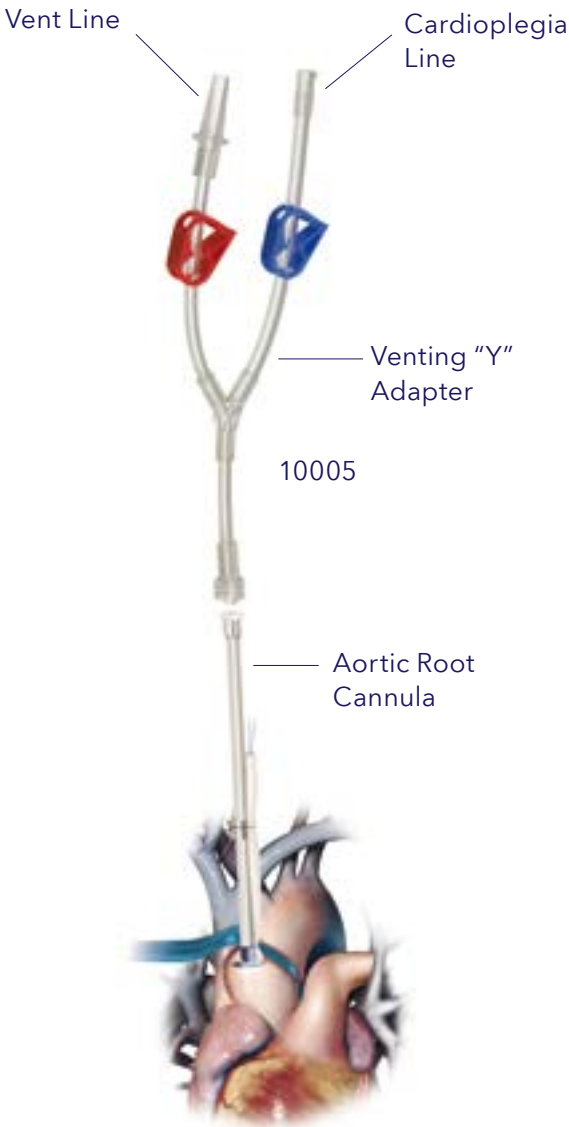
These adapters feature combinations of male and female luers on the ends.

6 ft (1.8 m) overall length

Male and female luers

25009	male x female luers
25010	male x male luers

20 per carton



Cardioplegia Adapters

DLP™ Straight Adapters



These adapters have a male luer on one end and a 1/4 inch (0.64 cm) connector on the other.

5 in (12.7 cm) overall length

Male luers	
10001	with vented 1/4 in connector
10001K	with vented 1/4 in connector and clamp
20 per carton	



DLP™ "Y" Adapters

These adapters feature a male luer on the single leg. A female luer is on the cardioplegia inlet leg and a 1/4 inch (0.64 cm) connector is on the venting leg.

Male luer on single leg	
10005†	7.5 in (19.1 cm) overall length with 3 in (7.6 cm) inlet leg and color-coded clamps
10534	8.5 in (21.6 cm) overall length with one-way valve in vent line and color-coded clamps
20 per carton	



†When used with 10005 Venting "Y" Adapter, an Aortic Root Cannula can be used to vent the left heart.

Cardioplegia Adapters

DLP™ “Y” Type Recirculating Adapters



These adapters feature a soft “Y” that has a two-leg option with 1/4 inch (0.64 cm) connectors and venting capabilities or a three-leg option that terminates with male luers.

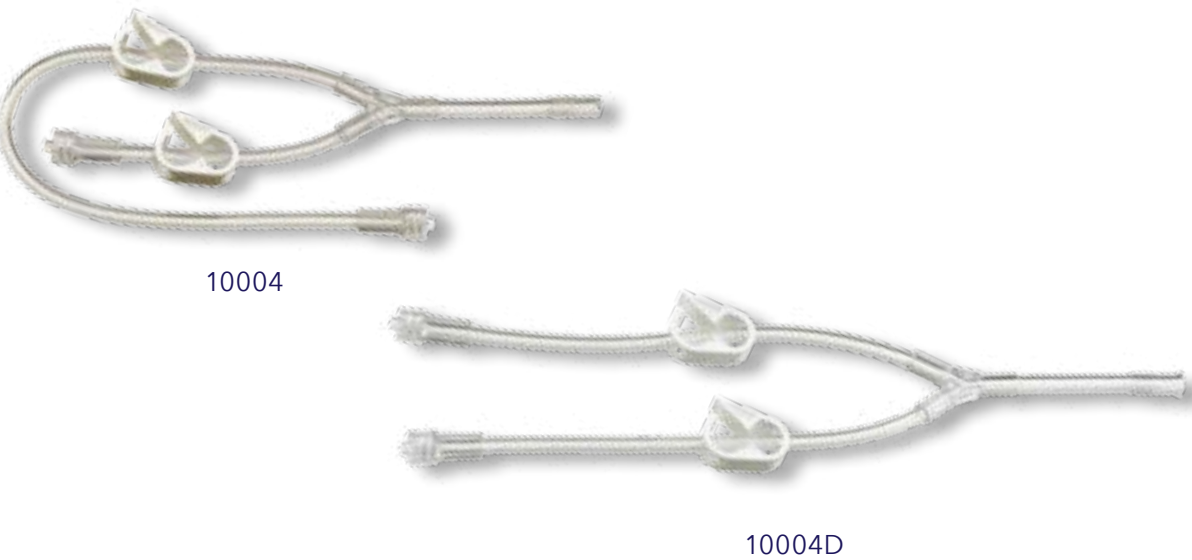
8 in (20.3 cm) overall length
Male luer on single leg

10003	color-coded clamps
20 per carton	



DLP™ “Y” Type Coronary Perfusion Adapters

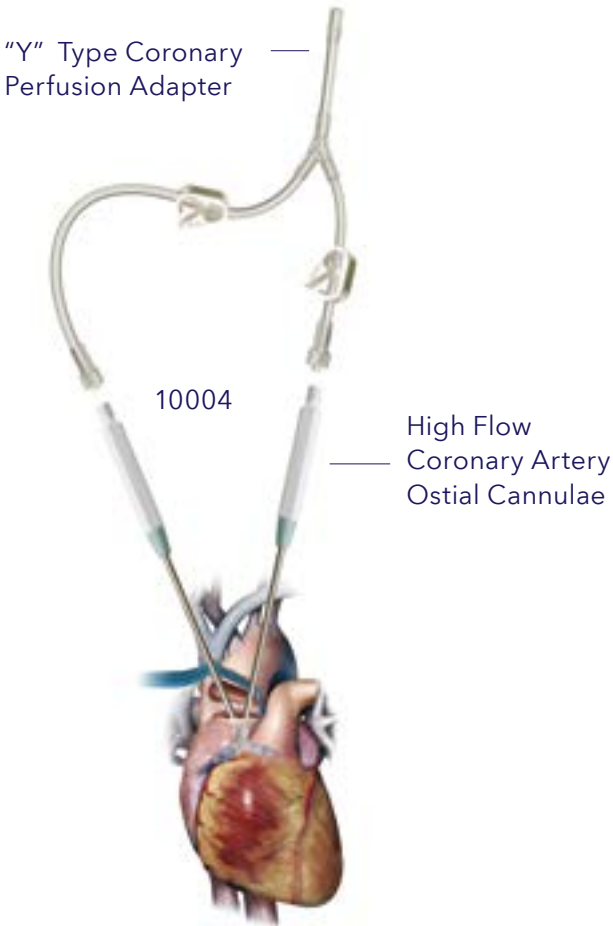
These adapters feature a rigid “Y” with two legs in various lengths that terminate with male luers.



Female luer on single leg

10004	3.5 in (8.9 cm) and 10 in (25.4 cm) legs and white clamps
10004D	6 in (15.2 cm) legs and white clamps
10700	3.5 in (8.9 cm) and 10 in (25.4 cm) legs and color-coded clamps
10706	6 in (15.2 cm) soft, silicone-like PVC legs and white clamps
10710	10 in (25.4 cm) soft, silicone-like PVC legs and white clamps

20 per carton



Cardioplegia Adapters

DLP™ "Y" Adapter



This adapter is a combination of Models 10004 and 10005 and features four legs. Two legs terminate in male luers, one terminates with a female luer, and the fourth terminates with a 1/4 inch (0.64 cm) connector.

20.5 in (52.1 cm) overall length

Combination with four legs	
10005BH	color-coded clamps
20 per carton	



This adapter features a female luer on the cardioplegia inlet leg and a 1/4 inch (0.64 cm) connector on the venting leg.

7.5 in (19.1 cm) overall length

Male luer on single leg	
10005OS	white clamps with color-coded arrows
20 per carton	



Cardioplegia Adapters

DLP™ Vein Graft Cannula



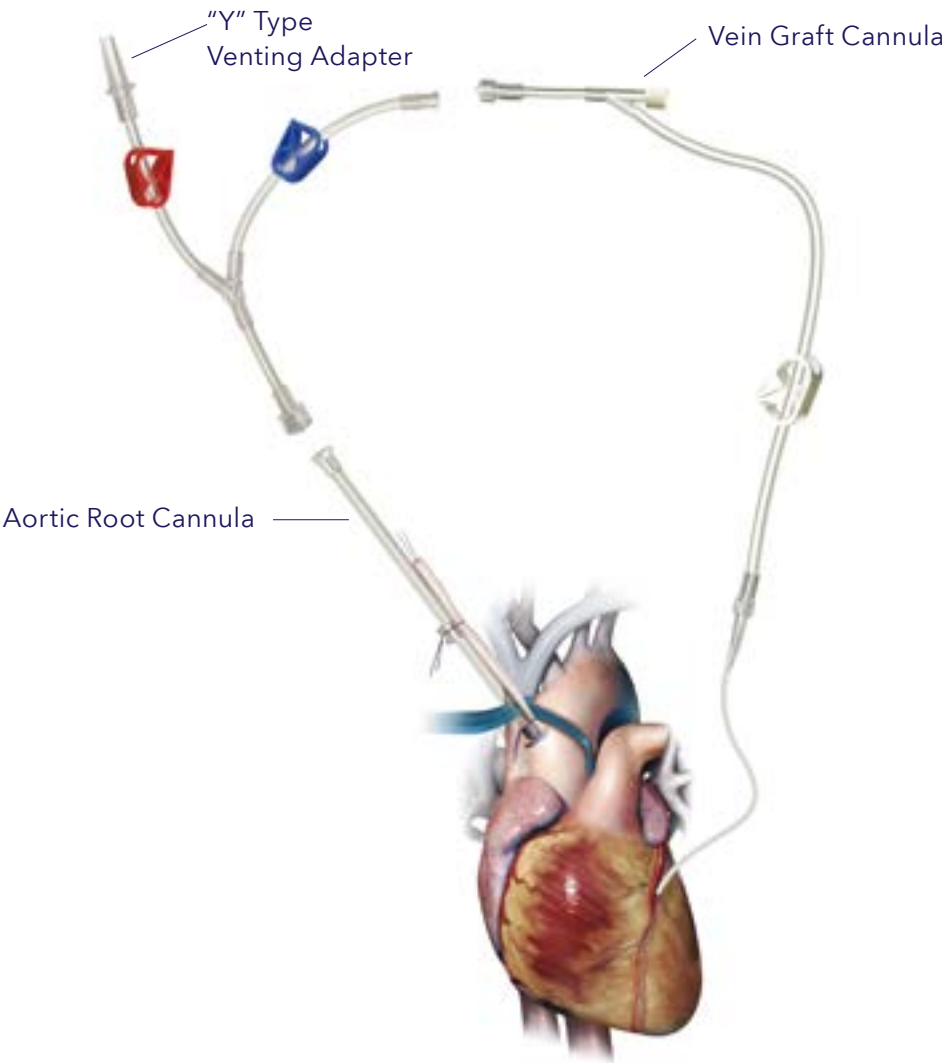
This product features a soft silicone tip with graduated steps to fit any vessel. The tip is attached to a "Y" adapter via tubing with clamps. The "Y" adapter terminates with a male luer.



25.5 in (63.5 cm) overall length

Male luer on single inlet leg	
10010	"Y" adapter with female luer and white clamp on male leg

20 per carton



The combination of a Vein Graft Cannula and an Aortic Root Cannula provides a way to perfuse the aortic root and vein graft. In this case the vein graft must be held with the fingers and not tied.

Cardioplegia Adapters

DLP™ Cardioplegia Adapter with Pressure Port



This adapter features a latex-free rubber septum to allow access for a pressure monitoring needle near the connection to the cardioplegia cannula.



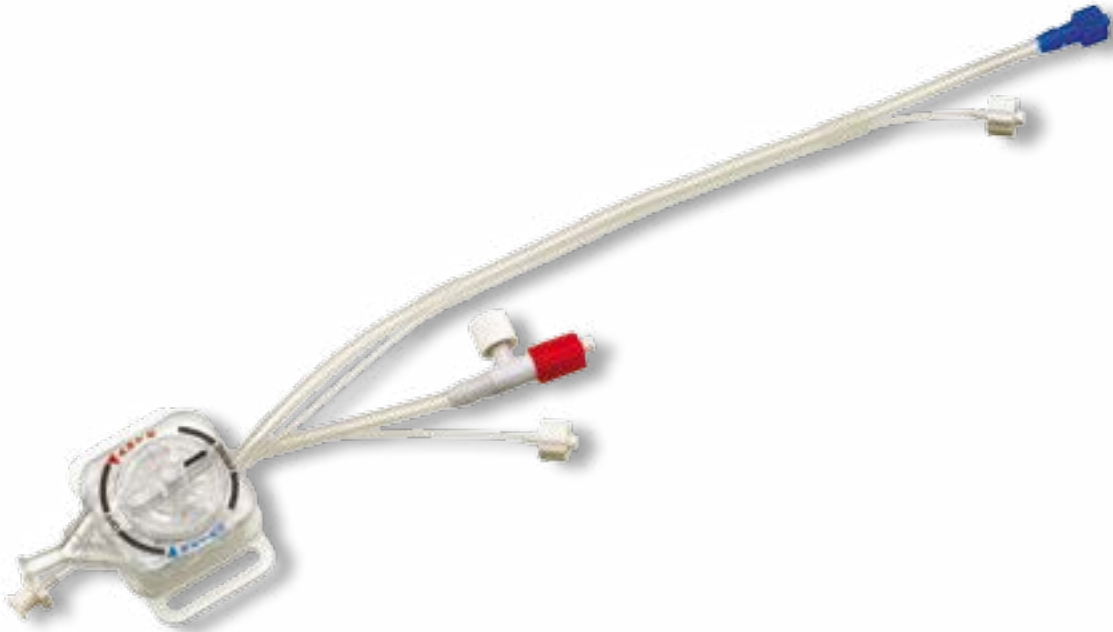
Locking male luer	
15004	
10 per carton	

ARISS™ Perfusion Switches

These table mount models allow the surgeon to switch between antegrade and retrograde cardioplegia delivery. These versions feature pressure monitoring lines that run alongside the inlet and outlet ports. The outlet ports are color coded for easy identification.

13 in (33.0 cm) overall length

Table mount models	
13000	unequal legs
13004	equal legs
10 per carton	

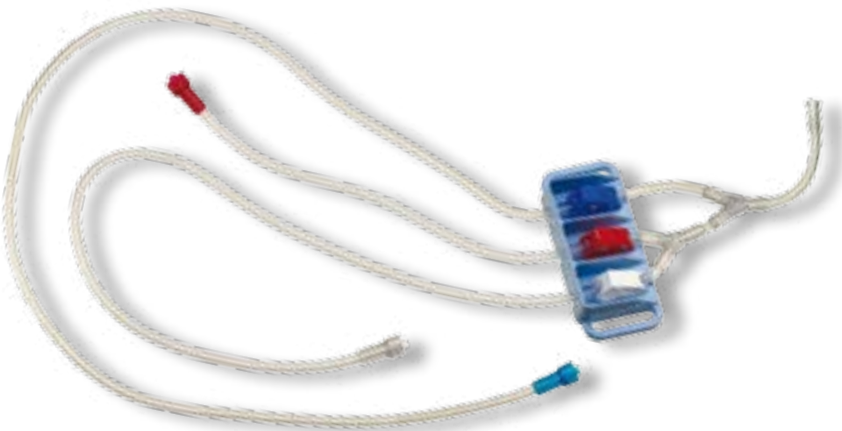


Cardioplegia Adapters

DLP™ Cardioplegia Management Set



This product features soft tubing with three legs that terminate in male luers. The legs have varying lengths and are set in a mounting bracket with adhesive pads on the back. The red clamp leg has a length of 10 inches (25.4 cm), the white clamp leg has a length of 20 inches (50.8 cm), and the blue clamp leg has a length of 30 inches (76.2 cm).



Female luer on single leg

13003	color-coded clamps
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5 per carton

DLP™ Antegrade/Retrograde Stopcock Adapter

This adapter features a large-bore, three-way stopcock and male luers on the outlet ports.

26.5 in (67.3 cm) overall length

Female luer on single leg

13001

10 per carton



Cardioplegia Adapters

DLP™ Multiple Perfusion Sets



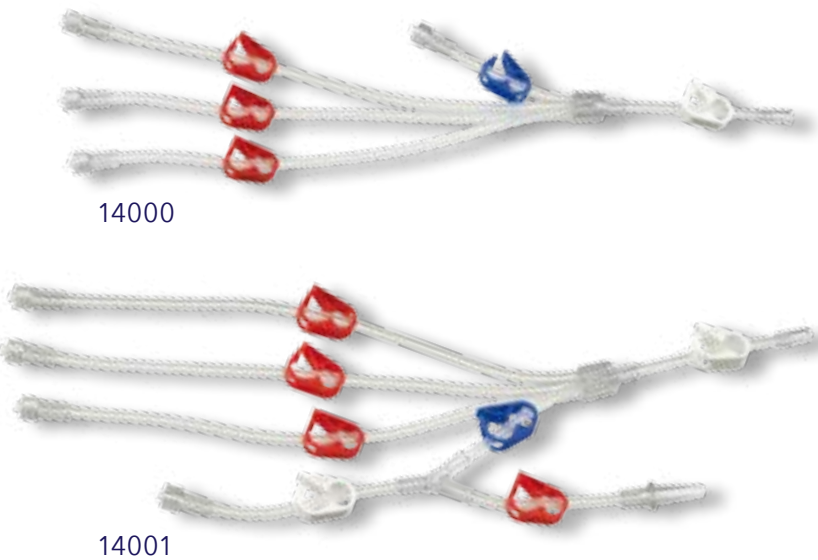
These products allow for simultaneous perfusion of the aortic root and up to three or more vein grafts. They feature inlet ports with male or female luer and clamps attached to an adapter that splits into four or more legs. These legs have color-coded clamps for easy identification and terminate with male luer. Models with a vent line terminate in a 1/4 inch (0.64 cm) connector.

12 in (30.5 cm) overall length

Female luer on single inlet leg with 4 legs

14003	4 - 8 in (20.3 cm) length legs with 3 red clamps and 1 blue clamp
14013	4 - 10 in (25.4 cm) length legs with red, blue, yellow, and white clamps

10 per carton



15 in (38.1 cm) overall length

Female luer on single inlet leg with 4 legs

14000	1 - 3 in (7.6 cm) length leg with blue clamp 3 - 10 in (25.4 cm) length legs with red clamps
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10 per carton

Female luer on single inlet leg with 4 legs and vent line

14001	1 - 8 in (20.3 cm) length vented leg with red clamp on vent line 3 - 10 in (25.4 cm) length legs with red clamps
14017	1 - 8 in (20.3 cm) length vented leg with stiff tubing and red clamp on vent line 3 - 10 in (25.4 cm) lengths stiff tubing and red clamps
14031	1 - 12 in (30.5 cm) length vented leg with yellow clamp on vent line 3 - 10 in (25.4 cm) length legs with red clamps

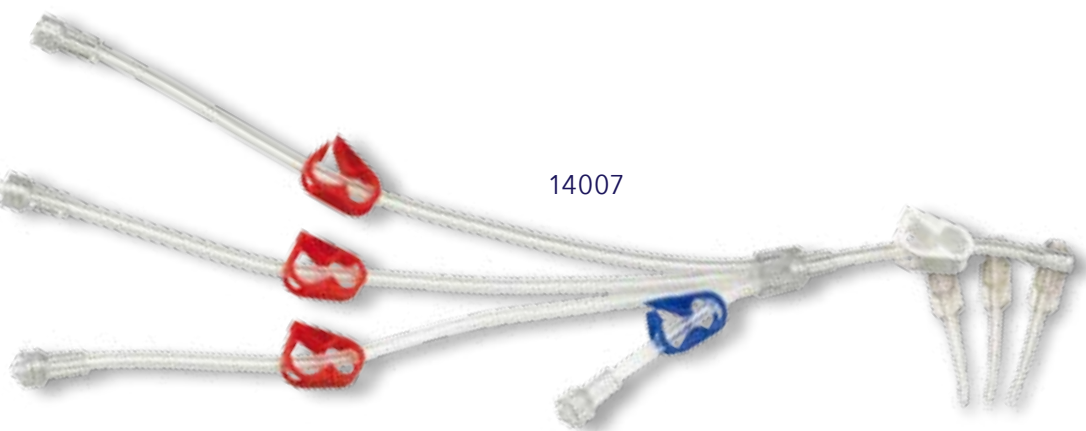
10 per carton



Cardioplegia Adapters

DLP™ Multiple Perfusion Sets

These products allow for simultaneous perfusion of the aortic root and up to three or more vein grafts. They feature inlet ports with male or female luers and clamps attached to an adapter that splits into four or more legs. These legs have color-coded clamps for easy identification and terminate with male luers.



15 in (38.1 cm) overall length

Female luer on single inlet leg with 4 legs and 3 free-flow vessel cannulae (Model 30003)

14007	1 - 3 in (7.6 cm) length leg with blue clamp
	3 - 10 in (25.4 cm) length legs with red clamps

10 per carton

Female luer on single inlet leg with 4 legs and 3 one-way valve vessel cannulae (Model 30001)

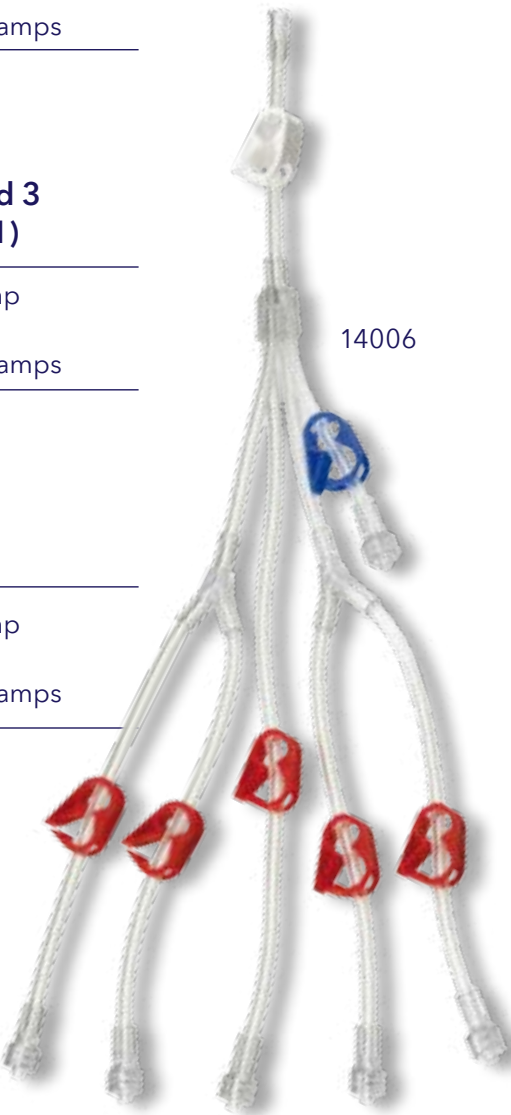
14008	1 - 3 in (7.6 cm) length leg with blue clamp
	3 - 10 in (25.4 cm) length legs with red clamps

10 per carton

Female luer on single inlet leg with 6 legs

14006	1 - 3 in (7.6 cm) length leg with blue clamp
	5 - 10 in (25.4 cm) length legs with red clamps

10 per carton



Products

Suction circuit



We offer suction products that are designed to provide either fine or gross suction to ensure a clear and dry surgical field. The Medtronic handheld cardiac suction tubes are designed for fine suction, while our intracardiac suction tubes and sumps are intended to provide suction within and around the heart. The Medtronic left heart vent catheters are designed for indirect and direct venting of the left ventricle and feature perforated tips. These vents are offered in different lengths, introducer styles, and in both silicone and PVC body construction. Our product breadth ensures the availability of a cannula to meet your specific needs.

Suction circuit



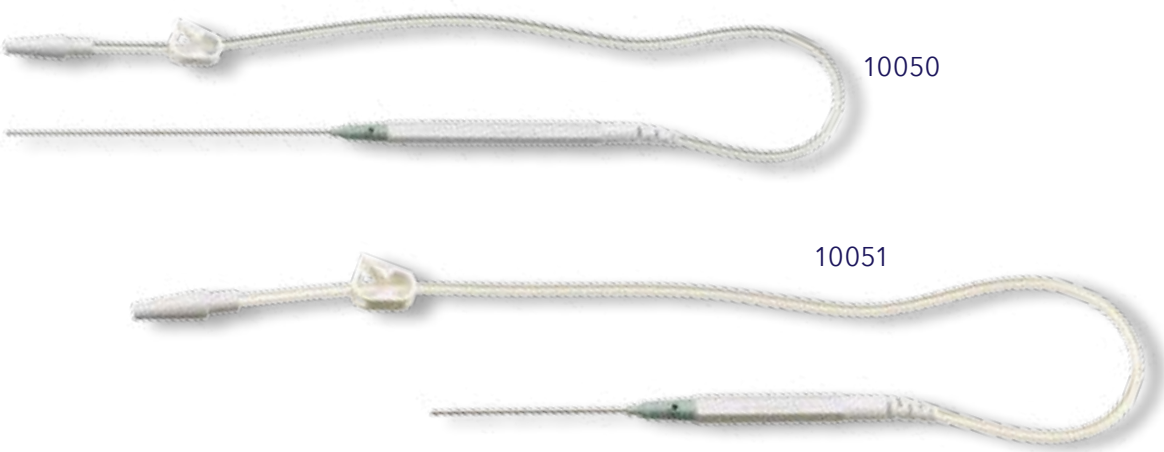
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Suction circuit

DLP™ Cardiac Suction Tubes



These suction tubes feature comfortable hand grips with a vacuum control port. The tip is made from a malleable stainless steel shaft, which allows the surgeon to gently shape to a desired preference. Models are available with or without a soft silicone tip. All suction tubes are equipped with a length of tubing and clamp terminating with a 1/4 inch (0.64 cm) connector.



3 in (7.6 cm)

approx. shaft and tip length

Frazier tip	
10051	6 Fr (2.0 mm) shaft
Soft tip	
10053	6 Fr (2.0 mm) shaft with 10 Fr (3.3 mm) tip
20 per carton	

6 in (15.2 cm)

approx. shaft and tip length

Frazier tip	
10050	6 Fr (2.0 mm) shaft
Soft tip	
10052	6 Fr (2.0 mm) shaft with 10 Fr (3.3 mm) tip
20 per carton	

Suction circuit

DLP™ Cardiac Suction Tubes



This suction tube features a comfortable hand grip. The tip is made from a malleable stainless steel shaft, which allows the surgeon to gently shape to a desired preference. The DLP Intracardiac Suction device offers a perforated pool tip to minimize the possibility of tissue occlusion while maintaining an opportunity for drainage. This suction tube is equipped with a length of tubing terminating with a 1/4 inch (0.64 cm) connector.



6 in (15.2 cm) overall length

Perforated pool tip

10060	10 Fr (3.3 mm) shaft with 20 Fr (6.7 mm) tip (28 holes in tip)
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20 per carton

Suction circuit

DLP™ Cardiac Suction Tubes



These suction tubes feature a comfortable hand grip. The tip shaft is made from rigid stainless steel. The Macro Sucker offers a fluted pool tip to minimize the possibility of tissue occlusion while maintaining an opportunity for drainage. The Mini Sucker has a soft, vented tip designed to clear blood from the surgical site with gentle suction.



7 in (18.0 cm)
approx. shaft and tip length

Macro Sucker	
10061	20 Fr (6.7 mm) tip with 16 Fr (5.3 mm) shaft
20 per carton	



4.75 in (12.1 cm)
approx. shaft and tip length

Mini Sucker	
10062	9 Fr (3.0 mm) tip with 11 Fr (3.7 mm) shaft
20 per carton	

Suction circuit

DLP™ Pericardial Sump



This sump features a fluted tip that is encased in a stainless steel spring and has a weight at the end. This tip is attached to soft, flexible tubing terminating in a connector.



15 in (38.1 cm) overall length

Weighted tip

12010	20 Fr (6.7 mm), 1/4 in (0.64 cm) connector
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20 per carton

DLP™ Pericardial/Intracardiac Sump

This sump features a weighted perforated pool tip to minimize the possibility of tissue occlusion while maintaining an opportunity for drainage. The perforated tip is attached to tubing that terminates with a 1/4 inch (0.64 cm) connector.



15 in (38.1 cm) overall length

Weighted tip

12112	20 Fr (6.7 mm)
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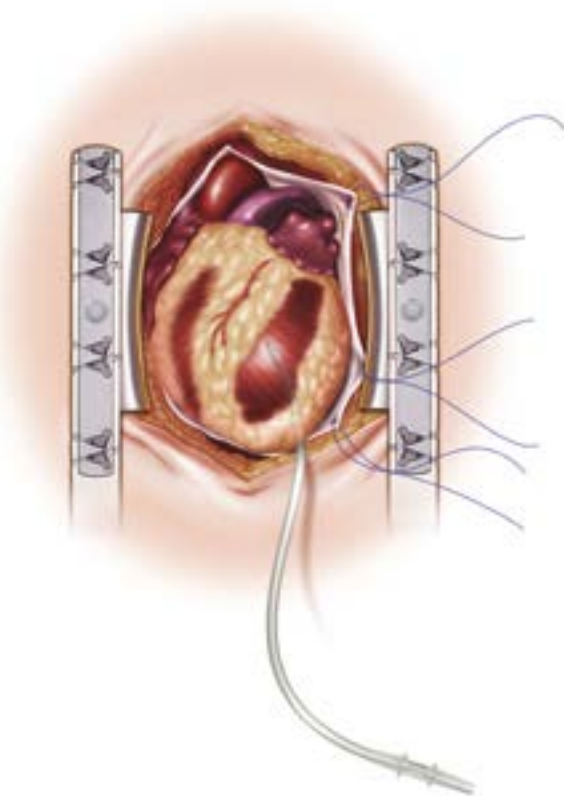
20 per carton

Suction circuit

DLP™ Cardiac Sump



These sumps feature a perforated pool tip to minimize the possibility of tissue occlusion while maintaining an opportunity for drainage. These sumps are available in pediatric and adult sizes. The perforated tip is attached to tubing that terminates with a 1/4 inch (0.64 cm) connector.



12 in (30.5 cm) overall length

12013	12 Fr (4.0 mm) (10 holes in tip)
20 per carton	

15 in (38.1 cm) overall length

12012	20 Fr (6.7 mm) (28 holes in tip)
20 per carton	

Suction circuit

DLP™ Left Heart Vent Catheters



These vent catheters are for direct and indirect venting of the left ventricle and feature perforated tips. A choice of either PVC or silicone is available, along with straight, preformed, or malleable bodies with depth markings. These vents are available in pediatric and adult sizes. Straight body models come with a malleable or stiff guidewire style introducer for easy insertion and placement. All vent catheters terminate with a vented or non-vented 1/4 inch (0.64 cm) connector.



PVC 13 in (33.0 cm) overall length

Preformed 1.5 in (3.8 cm) tip and vented connector	
12008*	10 Fr (3.3 mm) (8 holes in tip)
20 per carton	

Preformed 2 in (5.1 cm) tip and vented connector	
12001	13 Fr (4.3 mm) (14 holes in tip)
20 per carton	

2 in (5.1 cm) tip, vented connector, and malleable introducer	
12101	13 Fr (4.3 mm) (14 holes in tip)
20 per carton	



PVC 15 in (38.1 cm) overall length

Malleable body and vented connector	
12110	10 Fr (3.3 mm) (9 holes in tip)
12113	13 Fr (4.3 mm) (9 holes in tip)
12115	15 Fr (5.0 mm) (20 holes in tip)
20 per carton	



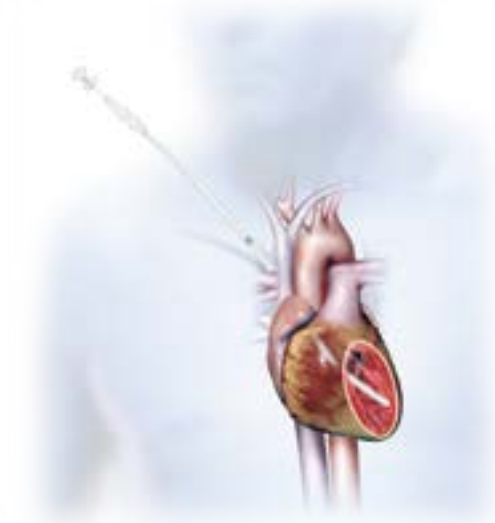
PVC 15 in (38.1 cm) overall length

Malleable body and non-vented connector	
12116	16 Fr (5.3 mm) (11 holes in tip)
12118	18 Fr (6.0 mm) (11 holes in tip)
20 per carton	



Silicone 16 in (40.6 cm) overall length

Non-vented connector and malleable introducer	
12016	16 Fr (5.3 mm) (20 holes in tip)
12002	20 Fr (6.7 mm) (24 holes in tip)
Non-vented connector and preformed introducer	
12220	20 Fr (6.7 mm) (24 holes in tip)
20 per carton	



* Also available with Cortiva™ BioActive Surface.



Products

Surgical support



The largest cannula portfolio worldwide.

Our commitment
– **to you.**

Surgical support products are designed to provide timesaving techniques and ease of use – and to facilitate the remainder of the surgical procedure. We offer a wide range of products to ensure that your specific needs are met.

Surgical support



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Surgical support

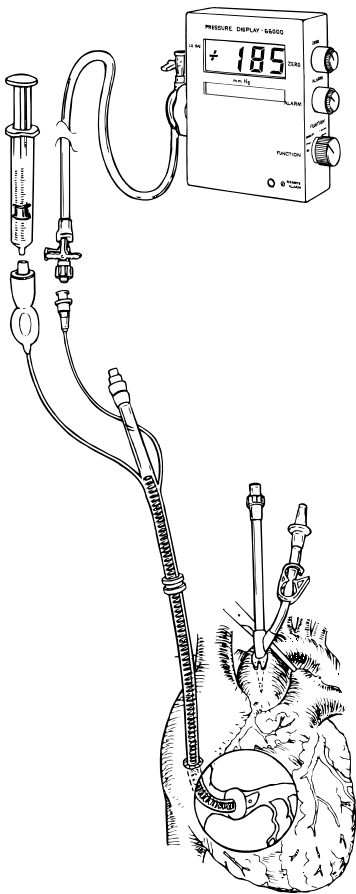
DLP™ Disposable Pressure Display Sets



These display sets are for use with our Pressure Display Box. They feature a silicone diaphragm inside a plastic dome with a stopcock that attaches to the transducer fitting on the Pressure Display Box. This dome is attached to a coil of tubing that terminates with either a male luer or a stopcock for convenient handling.

45 in (1.14 m) overall length

61000	stopcock
62000	male luer
10 per carton	



Surgical support

DLP™ Tourniquet Sets



These tourniquet sets consist of color-coded tubes in varying lengths and color combinations. They are available for pediatric and adult uses. Wire snares are included with the tube sets.

Standard sets

Tube length of 4 in (10.2 cm) and 6 in (15.2 cm)	
79016	12 Fr [3 - 4 in (10.2 cm) bronze, 3 - 6 in (15.2 cm) bronze, 2 - snares]
40 sets per carton	



Tube length of 5.5 in (14.0 cm)	
79003	12 Fr (1 - red, 2 - blue, 3 - clear, 1 - snare)
79015	12 Fr (1 - red, 2 - blue, 5 - clear, 2 - snares)
40 sets per carton	



Tube length of 7 in (17.8 cm)

79004	12 Fr (1 - red, 1 - blue, 1 - snare)
79006	12 Fr (1 - red, 1 - blue, 3 - clear, 1 - snare)
40 sets per carton	
79022	12 Fr (6 - small O.D. white radiopaque, 1 - snare)
79023	19 Fr (3 - large O.D. white radiopaque, 1 - snare)
20 sets per carton	
79026	12 Fr (2 - red, 2 - blue, 2 - clear) and 16 Fr (2 - large O.D. clear, 1 - snare)
79027	12 Fr (2 - red, 1 - blue, 1 - snare)
40 sets per carton	



79022



Vena cava sets

Tube length of 7 in (17.8 cm)	
79005	12 Fr (3 - clear, 1 - snare)
79009	12 Fr (4 - clear, 1 - snare)
40 sets per carton	



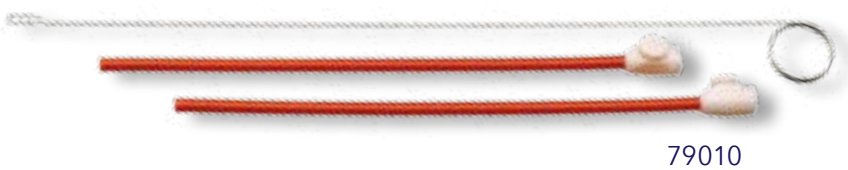
79005

Surgical support

TourniKwik™ Tourniquet Sets



These tourniquet sets consist of bronze-colored tubes in varying lengths that have a quick tie cap attached to one end. These caps eliminate the use of clamps by wrapping the suture string around the cap. Wire snares are included with each set of tubes.

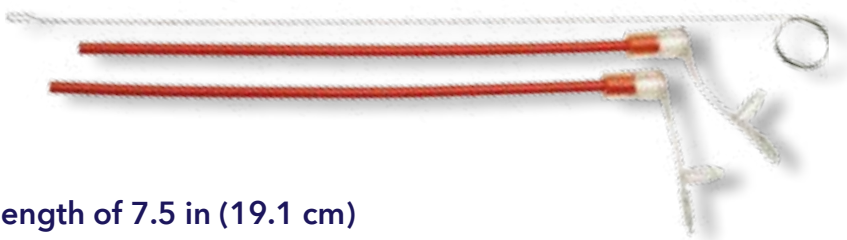


Tube length of 6 in (15.2 cm)	
79010	12 Fr (2 - tubes, 1 - snare)
79011	12 Fr (4 - tubes, 1 - snare)
40 sets per carton	

Tube length of 7.5 in (19.1 cm)	
79012	12 Fr (2 - tubes, 1 - snare)
79013	12 Fr (4 - tubes, 1 - snare)
40 sets per carton	

Sure-Snare™ Tourniquet Sets

These tourniquet sets consist of bronze-colored tubes in varying lengths that have a plug attached to one end. These plugs eliminate the use of clamps by pushing the plug into the tube end where the suture string exits.



Tube length of 5 in (12.7 cm)	
79020	22 Fr (2 - tubes, 2 - umbilical tapes, 2 - plastic snares)
20 sets per carton	



Tube length of 7.5 in (19.1 cm)	
79008	12 Fr (2 - tubes, 1 - wire snare)
20 sets per carton	

Surgical support

DLP™ Vessel Cannulae



These cannulae feature clear and radiopaque bodies and are available with or without a one-way valve. All the cannulae terminate with a female luer and have tips in various sizes and shapes.

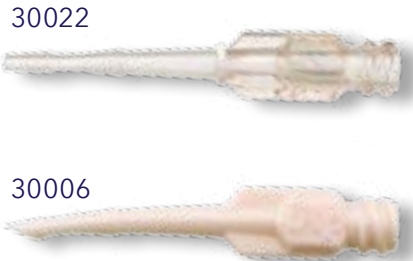
2 in (5.1 cm) overall length

Clear body	
30003	3 mm blunt tip
30004	2 mm blunt tip
30005	4 mm acorn tip
30007	3 mm beveled tip
40 per carton	



2 in (5.1 cm) overall length

Clear body with radiopaque band	
30022	3 mm blunt tip
20 per carton	



2 in (5.1 cm) overall length

Radiopaque body	
30006	3 mm beveled tip
30023	3 mm blunt tip
40 per carton	

2.5 in (6.4 cm) overall length

Clear body with one-way valve	
30000	3 mm beveled tip
30001	3 mm blunt tip
40 per carton	



2.5 in (6.4 cm) overall length

Radiopaque body with one-way valve	
30021	3 mm blunt tip
40 per carton	



Surgical support

DLP™ Arteriotomy Cannulae



This cannula features a stainless steel shaft with a bulb-shaped tip terminating with a female luer.

1.8 in (4.6 cm) overall length

31001	1 mm tip
20 per carton	



These cannulae feature a polyurethane tube with a bulb-shaped radiopaque tip connected to a winged female luer.



1.3 in (3.3 cm) overall length

31002	2 mm tip
31003	3 mm tip
20 per carton	



2.3 in (5.8 cm) overall length

31102	2 mm tip
31103	3 mm tip
31104	4 mm tip
31105	5 mm tip
31106	6 mm tip
20 per carton	

Surgical support

DLP™ Electro-Surgical Knife Cleaner



This device keeps electro-surgical knife blades clean with a quick swipe. It features a stainless steel spring attached to a plastic base, which has a self-adhesive pad. This allows the device to be placed at the most convenient site for the surgeon.

2.5 in (6.4 cm) overall length

60001
40 per carton



DLP™ Phrenic Nerve Pads

These pads are designed to help protect the phrenic nerve from the extreme cold during surgery. They are made of a closed-cell foam and contain slots. These slots can hold a pericardial sump in place. A radiopaque marker is tied to the pad.

38002	medium
38003	large
10 per carton	



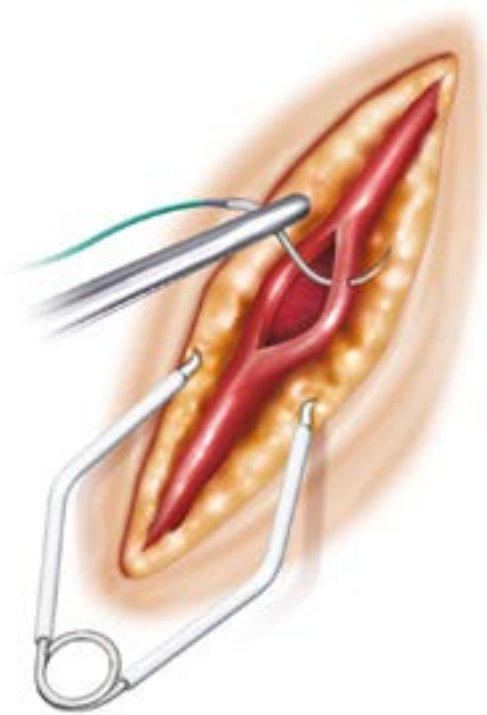
Surgical support

DLP™ Coronary Artery Retraction Clips



These clips are designed to help improve exposure to a coronary anastomosis site. Small prongs grab and gently hold tissue away from the vessel to improve vision.

16130	3.0 mm prong length
16150	5.0 mm prong length
10 per carton	



Surgical support

DLP™ Pressure Catheter Placement Set

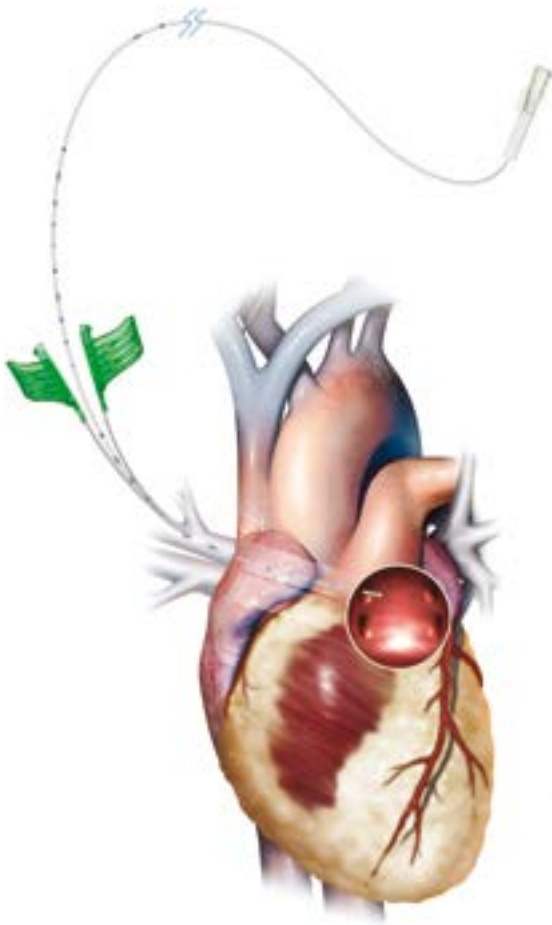


These sets are an ideal option for measuring cardiac performance postoperatively. The catheters measure left atrial pressure in real time to accurately display critical preload pressures of the left heart. The catheter tubing has depth markings and is attached to a female luer. There is a self-adhesive anchoring collar for securing the catheter at the desired location.



24 in (61.0 cm) overall length

50010	3 Fr (1.0 mm) catheter with 2 - 17 ga peel-away needles
50011	5 Fr (1.7 mm) catheter with 2 - 14 ga peel-away needles
10 per carton	



Catheter Models 50010 and 50011 are inserted through the chest wall and into the right superior pulmonary vein using two peel-away needles. The peel-away needles permit catheter insertion through the chest wall and pulmonary vein without utilizing an integral introducer.

Surgical support

DLP™ IV-decanter



This decanter includes several features to facilitate aseptic decanting of fluids from intravenous containers. It includes a large-bore spike that is attached to flexible tubing. This decanter also features a clamp, thereby eliminating spillage, reducing contamination.



8.5 in (21.6 cm) overall length

40040	Flexible tubing and clamp
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20 per carton

DLP™ Rapid Prime Set

This set facilitates the transfer of fluids during the priming of the circuit. It features a large-bore spike attached to flexible tubing with a clamp, and terminates with a male luer.



14 in (35.6 cm) overall length

With male luer

10021

10 per carton

Appendix

Product codes



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Extracorporeal Circuit - Arterial Cannulae

CB71424	Flexible Arch Arterial, 11" (28cm), 24 Fr. (8.0mm), 3/8" Non-Vented Connector with Cortiva™ BioActive Surface
CB72124	Arterial Cannula, Wirewound, Straight, 24 Fr., Vented connector with Cortiva™ BioActive Surface
CB72224	Arterial Cannula, Wirewound, Straight, Non-Vented Connector, 24 Fr. with Cortiva™ BioActive Surface
CB75318	Arterial Cannula, Adult Straight Tip with 3/8" conn. Site, 18 Fr. (6.0mm) with Cortiva™ BioActive Surface
CB75320	Arterial Cannula, Adult Straight Tip with 3/8" conn. Site, 20 Fr. (6.7mm) with Cortiva™ BioActive Surface
CB77006	Arterial, One Piece Pediatric 9" (23cm), 1/4" Vented Connector, 6 Fr. (2.0mm) with Cortiva™ BioActive Surface
CB77008	Arterial, One Piece Pediatric 9" (23cm), 1/4" Vented Connector, 8 Fr. (2.7mm) with Cortiva™ BioActive Surface
CB77010	Arterial, One Piece Pediatric 9" (23cm), 1/4" Vented Connector, 10 Fr. (3.3mm) with Cortiva™ BioActive Surface
CB77012	Arterial, One Piece Pediatric 9" (23cm), 1/4" Vented Connector, 12 Fr. (4.0mm) with Cortiva™ BioActive Surface
CB77014	Arterial, One Piece Pediatric 9" (23cm), 1/4" Vented Connector, 14 Fr. (4.7mm) with Cortiva™ BioActive Surface
CB77016	Arterial, One Piece Pediatric 9" (23cm), 1/4" Vented Connector, 16 Fr. (5.3mm) with Cortiva™ BioActive Surface
CB77420	Arterial Elongated One Piece 12" (30.5 cm), Blunt Tip introducer w/o guidewire, 20 Fr. (6.7 mm), vented with Cortiva™ BioActive Surface
CB77422	Arterial Elongated One Piece 12" (30.5 cm), Blunt Tip introducer w/o guidewire, 22 Fr. (7.3 mm), vented with Cortiva™ BioActive Surface
CB77520	Arterial Elongated One Piece 12" (30.5 cm), Blunt Tip introducer w/o guidewire, 20 Fr. (6.7 mm), non-vented with Cortiva™ BioActive Surface
CB77522	Arterial Elongated One Piece 12" (30.5 cm), Blunt Tip introducer w/o guidewire, 22 Fr. (7.3 mm), non-vented with Cortiva™ BioActive Surface
CB77618	Arterial Elongated One Piece 12" (30.5 cm), Dilator Tip introducer w/guidewire, 18 Fr. (6.0 mm), vented with Cortiva™ BioActive Surface
CB77620	Arterial Elongated One Piece 12" (30.5 cm), Dilator Tip introducer w/guidewire, 20 Fr. (6.7 mm), vented with Cortiva™ BioActive Surface
CB77622	Arterial Elongated One Piece 12" (30.5 cm), Dilator Tip introducer w/guidewire, 22 Fr. (7.3 mm), vented with Cortiva™ BioActive Surface
CB77720	Arterial Elongated One Piece 12" (30.5 cm), Dilator Tip introducer w/guidewire, 20 Fr. (6.7 mm), non-vented with Cortiva™ BioActive Surface
CB77722	Arterial Elongated One Piece 12" (30.5 cm), Dilator Tip introducer w/guidewire, 22 Fr. (7.3 mm), non-vented with Cortiva™ BioActive Surface
CB78222	EOPA 3D 22FR VENTED with Cortiva™ BioActive Surface
CB78322	EOPA 3D 22FR NON-VENTED with Cortiva™ BioActive Surface

CB80120	Arterial, Metal Tip, 8.5" (21.6cm), Soft Flange, 20 Fr. (6.7mm), 3/8" Non-Vent Conn with Cortiva™ BioActive Surface
CB81120	Arterial Cannula, Ultraflex Curved Tip, 10" (25cm) Soft Body, 3/8" Non-Vented Connector, 20 Fr. with Cortiva™ BioActive Surface
CB81122	Arterial Cannula, Ultraflex Curved Tip, 10" (25cm) Soft Body, 3/8" Non-Vented Connector, 22 Fr. with Cortiva™ BioActive Surface
CB87222	WireWound curved Tip Arterial Cannula, 22 Fr., 3/8" Vented Connector with Cortiva™ BioActive Surface

Extracorporeal Circuit - Femoral Cannulae

CB96345-023	Adult Venous Femoral Cannula with 1/2" Non-Vented Connector, 30" (76.2 cm), 23 Fr. with Cortiva™ BioActive Surface
CB96345-025	Adult Venous Femoral Cannula with 1/2" Non-Vented Connector, 30" (76.2 cm), 25 Fr. with Cortiva™ BioActive Surface
CB96345-027	Adult Venous Femoral Cannula with 1/2" Non-Vented Connector, 30" (76.2 cm), 27 Fr. with Cortiva™ BioActive Surface
CB96345-029	Adult Venous Femoral Cannula with 1/2" Non-Vented Connector, 30" (76.2 cm), 29 Fr. with Cortiva™ BioActive Surface
CB96570-015	Femoral Arterial Cannula w/introducer 3/8" Connector with Lock-Vent, 17" (43.2 cm), 15 Fr. with Cortiva™ BioActive Surface
CB96570-017	Femoral Arterial Cannula w/introducer 3/8" Connector with Lock-Vent, 17" (43.2 cm), 17 Fr. with Cortiva™ BioActive Surface
CB96570-019	Femoral Arterial Cannula w/introducer 3/8" Connector with Lock-Vent, 17" (43.2 cm), 19 Fr. with Cortiva™ BioActive Surface
CB96570-021	Femoral Arterial Cannula w/introducer 3/8" Connector with Lock-Vent, 17" (43.2 cm), 21 Fr. with Cortiva™ BioActive Surface
CB96670-015	Femoral Venous Cannula w/introducer 3/8" Non-Vented Connector, 30" (76.2 cm), 15 Fr. with Cortiva™ BioActive Surface
CB96670-017	Femoral Venous Cannula w/introducer 3/8" Non-Vented Connector, 30" (76.2 cm), 17 Fr. with Cortiva™ BioActive Surface
CB96670-019	Femoral Venous Cannula w/introducer 3/8" Non-Vented Connector, 30" (76.2 cm), 19 Fr. with Cortiva™ BioActive Surface
CB96670-021	Femoral Venous Cannula w/introducer 3/8" Non-Vented Connector, 30" (76.2 cm), 21 Fr. with Cortiva™ BioActive Surface
CB96825-008	Pediatric Arterial Cannula with 1/4" Non-Vented Connector, 0.38mm, 7.5" (19 cm), 8 Fr. with Cortiva™ BioActive Surface
CB96825-010	Pediatric Arterial Cannula with 1/4" Non-Vented Connector, 0.38mm, 7.5" (19 cm), 10 Fr. with Cortiva™ BioActive Surface
CB96825-012	Pediatric Arterial Cannula with 1/4" Non-Vented Connector, 0.38mm, 7.5" (19 cm), 12 Fr. with Cortiva™ BioActive Surface
CB96825-014	Pediatric Arterial Cannula with 1/4" Non-Vented Connector, 0.38mm, 7.5" (19 cm), 14 Fr. with Cortiva™ BioActive Surface
CB96835-008	Pediatric Venous Cannula with 1/4" Non-Vented Connector, 0.38mm, 8 Fr. 7.5" (19 cm) with Cortiva™ BioActive Surface

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- CB96835-010 Pediatric Venous Cannula with 1/4" Non-Vented Connector, 0.38mm, 10 Fr. 7.5" (19 cm) with Cortiva™ BioActive Surface
- CB96835-012 Pediatric Venous Cannula with 1/4" Non-Vented Connector, 0.38mm, 12 Fr. 7.5" (19 cm) with Cortiva™ BioActive Surface
- CB96835-014 Pediatric Venous Cannula with 1/4" Non-Vented Connector, 0.38mm, 14 Fr. 7.5" (19 cm) with Cortiva™ BioActive Surface

Extracorporeal Circuit - Venous Cannulae

- CB66112 Single Stage Venous Cannula Straight Tip, 12 Fr. (4.0mm), 1/4" Conn Site with Cortiva™ BioActive Surface
- CB66114 Single Stage Venous Cannula Straight Tip, 14 Fr. (4.7mm), 1/4" Conn Site with Cortiva™ BioActive Surface
- CB66116 Single Stage Venous Cannula Straight Tip, 16 Fr. (5.3mm), 1/4" Conn Site with Cortiva™ BioActive Surface
- CB66118 Single Stage Venous Cannula Straight Tip, 18 Fr. (6.0mm), 1/4" - 3/8" Conn Site with Cortiva™ BioActive Surface
- CB66120 Single Stage Venous Cannula Straight Tip, 20 Fr. (6.7mm), 1/4" - 3/8" Conn Site with Cortiva™ BioActive Surface
- CB66124 Single Stage Venous Cannula Straight Tip, 24 Fr. (8.0mm), 1/4" - 3/8" Conn Site with Cortiva™ BioActive Surface
- CB66128 Single Stage Venous Cannula Straight Tip, 28 Fr. (9.3mm), 3/8" Conn Site with Cortiva™ BioActive Surface
- CB66132 Single Stage Venous Cannula Straight Tip, 32 Fr. (10.7mm), 3/8" Conn Site with Cortiva™ BioActive Surface
- CB66236 Single Stage Venous Cannula Straight Tip, 36 Fr. (12mm), 3/8" Conn Site with Cortiva™ BioActive Surface
- CB67312 Single Stage Venous Cannula, Right Angle, Metal Tip, Pediatric Size, 12 Fr., 1/4" conn. Site with Cortiva™ BioActive Surface
- CB67314 Single Stage Venous Cannula, Right Angle, Metal Tip, Pediatric Size, 14 Fr., 1/4" conn. Site with Cortiva™ BioActive Surface
- CB67316 Single Stage Venous Cannula, Right Angle, Metal Tip, Pediatric Size, 16 Fr., 1/4" conn. Site with Cortiva™ BioActive Surface
- CB67318 Single Stage Venous Cannula, Right Angle, Metal Tip, Pediatric Size, 18 Fr., 1/4" conn. Site with Cortiva™ BioActive Surface
- CB67320 Single Stage Venous Cannula, Right Angle, Metal Tip, Pediatric Size, 20 Fr., 1/4" conn. Site with Cortiva™ BioActive Surface
- CB67520 Single Stage Venous Cann., Angled Tip, 20 Fr. (6.7mm), 1/4" - 3/8" Conn Site with Cortiva™ BioActive Surface
- CB67524 Single Stage Venous Cann., Angled Tip, 24 Fr. (8.0mm), 1/4" - 3/8" Conn Site with Cortiva™ BioActive Surface
- CB67528 Single Stage Venous Cannula, Angled Tip, 28 Fr. (9.3mm), 3/8" Conn Site with Cortiva™ BioActive Surface
- CB67530 Single Stage Venous Cann., Angled Tip, 30 Fr. (10.0mm), 3/8" Conn Site with Cortiva™ BioActive Surface

- CB67532 Single Stage Venous Cannula, Angled Tip, 32 Fr. (10.7mm), 3/8" Conn Site with Cortiva™ BioActive Surface
- CB67534 Single Stage Venous Cann., Angled Tip, 34 Fr. (11.3mm), 3/8" Conn Site with Cortiva™ BioActive Surface
- CB67636 Single Stage Venous Cannula, Angled Tip, 36 Fr. (12mm), 3/8" conn. Site with Cortiva™ BioActive Surface
- CB68112 Malleable Single Stage Venous Cannula, 12 Fr. with Cortiva™ BioActive Surface
- CB68114 Malleable Single Stage Venous Cannula, 14 Fr. with Cortiva™ BioActive Surface
- CB68116 Malleable Single Stage Venous Cannula, 16 Fr. with Cortiva™ BioActive Surface
- CB68118 Malleable Single Stage Venous Cannula, 18 Fr. with Cortiva™ BioActive Surface
- CB68120 Malleable Single Stage Venous Cannula, 20 Fr. with Cortiva™ BioActive Surface
- CB68124 Malleable Single Stage Venous Cannula, 24 Fr. with Cortiva™ BioActive Surface
- CB68128 Malleable Single Stage Venous Cannula, 28 Fr. with Cortiva™ BioActive Surface
- CB68132 Malleable Single Stage Venous Cannula, 32 Fr. with Cortiva™ BioActive Surface
- CB68136 Malleable Single Stage Venous Cannula, 36Fr. with Cortiva™ BioActive Surface
- CB69320 Single Stage Venous Cannula, Right Angle, Metal Tip, High Flow, 3/8" conn site, 20 Fr. with Cortiva™ BioActive Surface
- CB69324 Single Stage Venous Cannula, Right Angle, Metal Tip, High Flow, 3/8" conn site, 24 Fr. with Cortiva™ BioActive Surface
- CB69328 Single Stage Venous Cannula, Right Angle, Metal Tip, High Flow, 3/8" conn site, 28 Fr. with Cortiva™ BioActive Surface
- CB91228 MC2 Two Stage Venous Cannula 28/36 Fr. with 3/8" conn. Site with Cortiva™ BioActive Surface
- CB91228C MC2 Two Stage Venous Cannula 28/36 Fr. with 1/2" Connector with Cortiva™ BioActive Surface
- CB91236C MC2 Two Stage Venous Cannula 36/46 Fr. with 1/2" Connector with Cortiva™ BioActive Surface
- CB91240 MC2 Two Stage Venous Cannula 32/40 Fr. with 1/2" conn. Site with Cortiva™ BioActive Surface
- CB91240C MC2 Two Stage Venous Cannula 32/40 Fr. with 1/2" Connector with Cortiva™ BioActive Surface
- CB91246 MC2 Two Stage Venous Cannula 34/46 Fr. with 1/2" conn. Site with Cortiva™ BioActive Surface
- CB91246C MC2 Two Stage Venous Cannula 34/46 Fr. with 1/2" Connector with Cortiva™ BioActive Surface
- CB91263 Oval MC2 Venous Cannula 32/40 Fr. with 1/2" conn. Site with Cortiva™ BioActive Surface
- CB91263C Oval MC2 Venous Cannula 32/40 Fr. with 1/2" Connector with Cortiva™ BioActive Surface
- CB91265 Oval MC2 Venous Cannula 36/46 Fr. with 1/2" conn. Site with Cortiva™ BioActive Surface
- CB91265C Oval MC2 Venous Cannula 36/46 Fr. with 1/2" Connector with Cortiva™ BioActive Surface

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CB91329	Two Stage Venous Cannula 29/29 Fr. with 3/8" conn. Site with Cortiva™ BioActive Surface
CB91329C	Two Stage Venous Cannula 29/29 Fr. with 3/8" Connector with Cortiva™ BioActive Surface
CB91429	Three Stage Venous Cannula 29/ 29/ 29 Fr. with 3/8" conn. Site with Cortiva™ BioActive Surface
CB91429C	Three Stage Venous Cannula 29/ 29/ 29 Fr. with 3/8" barbed Connector with Cortiva™ BioActive Surface
CB93438C	VC2 JR Atrial Caval, 34 Fr./38 Fr. (11.3mm/12mm) Wirewound 1/2" Connector with Cortiva™ BioActive Surface

Cardioplegia Circuit - Antegrade Perfusion Cannulae

CB10012	Standard Aortic Root Cannula, 12ga (9 Fr.) with Cortiva™ BioActive Surface
CB20012	Standard Aortic Root Cannula with Vent Line, 12ga (9 Fr.) with Cortiva™ BioActive Surface

Suction Circuit and Surgical Accessories - Suction Circuit Products

CB12008	Left Heart Vent Catheter, PVC - Pediatric 10 Fr. (3.3mm), preformed 1/5" tip, vented slip conn., 13" (33.0cm) with Cortiva™ BioActive Surface
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For applicable products, consult instructions for use on www.medtronic.com/manuals. Manuals can be viewed using a current version of any major internet browser. For best results, use Adobe Acrobat® Reader with the browser.

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