# CARDIAC RHYTHM MANAGEMENT AND CARDIOVASCULAR DIAGNOSTICS & SERVICES

PRODUCT CATALOGUE 2021







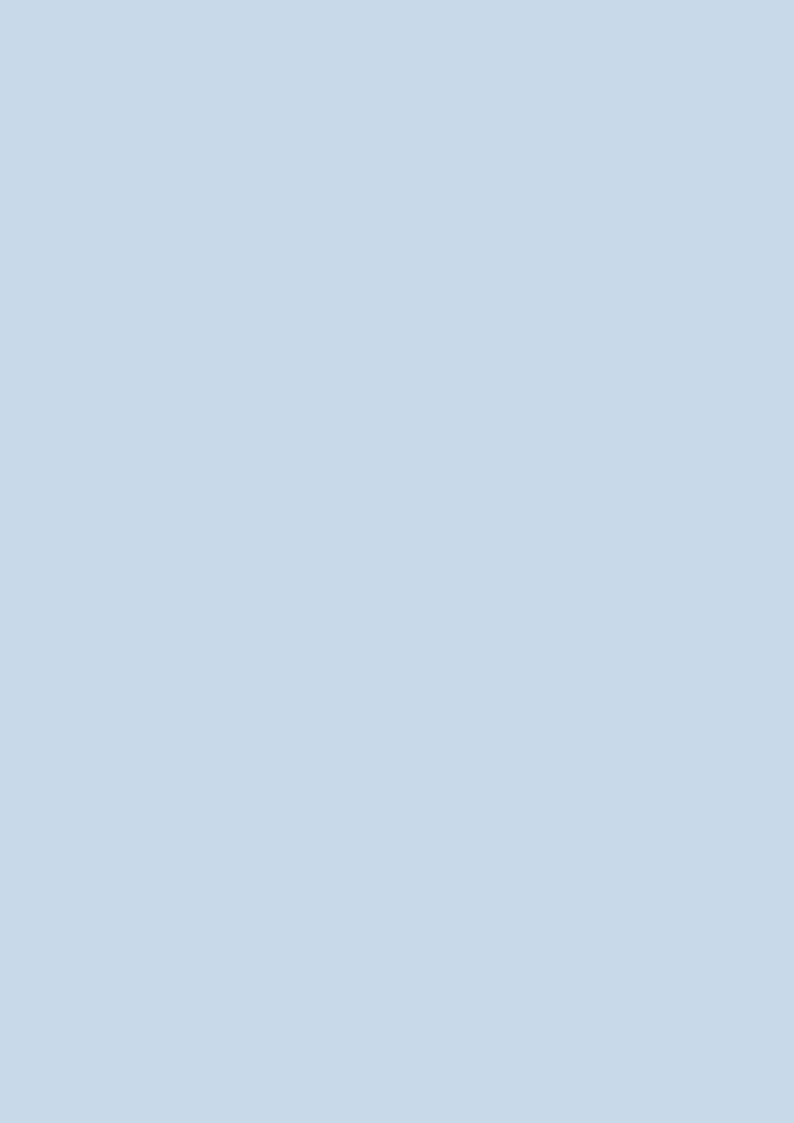






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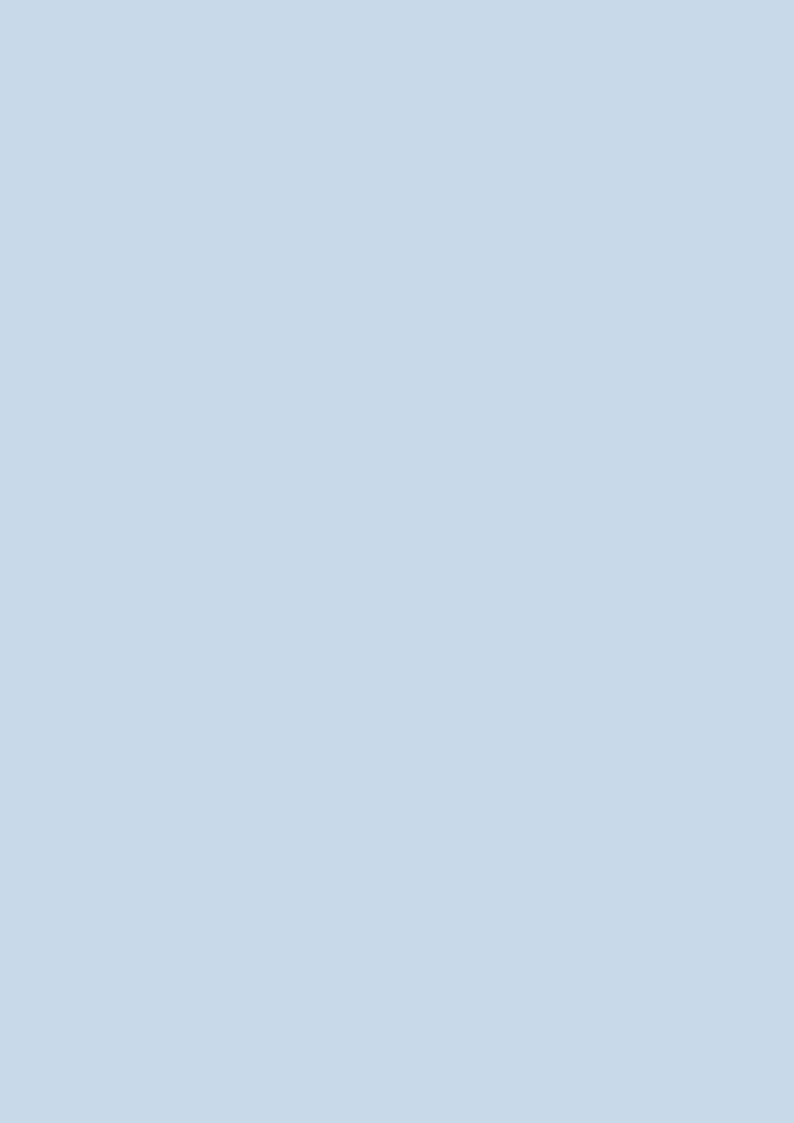
PACEMAKERS (IPG) Single Chamber, Dual Chamber, Leadless
CRT PACEMAKERS (CRT-P)
DEFIBRILLATORS (ICD) Single Chamber, Dual Chamber
CRT DEFIBRILLATORS (CRT-D)
PACING LEADS AND DELIVERY SYSTEMS
DEFIBRILLATION LEADS AND DELIVERY SYSTEMS
LEFT-HEART LEADS AND DELIVERY SYSTEMS
ACCESSORIES
INSERTABLE CARDIAC MONITORS
PATIENT MANAGEMENT SOLUTIONS
PROCEDURE INNOVATIONS Antibacterial Envelope, External Pacemakers



# PACEMAKERS (IPG)

Single Chamber (SR)





# AZURE™ XT SR MRI

### **SURESCANTM**

### 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 the rapies 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 I
- Cardiac Compass Trends
- Heart Failure Management Repor
- Histograms Reports
- Ventricular Episodes including EGMs

Model	W2SR01
M (g)	22.5
V (cc)	12.25
Size (mm) (HxWxD)	42.6 × 50.8 × 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)





# AZURETM S SR MRI

### **SURESCANTM**

### **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**

- Ouick Look I
- 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)





# ASTRATM XT SR MRI

**SURESCANTM** 

### PACEMAKERS (IPG)

### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

adapts key device parameters to ensure the therapies are optimized.

### 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

### **ADDITIONAL PACING FEATURES**

### **DIAGNOSTICS**

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

### MRI SureScan

- 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)





# ATTESTA™ SR MRI

**SURESCANTM** 

### **PACEMAKERS (IPG)**

### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

adapts key device parameters to ensure the therapies are optimized.

### **AT/AF MANAGEMENT**

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

Conducted AF Response (CAFR)

### **ADDITIONAL PACING FEATURES**

### **DIAGNOSTICS**

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

### MRI SureScan

- 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)





# SPHERA™ SR MRI

**SURESCANTM** 

### **PACEMAKERS (IPG)**

### **COMPLETELY AUTOMATIC – SIMPLE TO USE**

optimized.

### **ADDITIONAL PACING FEATURES**

- Rate HysteresisSleep FunctionDual Zone Rate Response Pacing with Rate Profile

### **DIAGNOSTICS**

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

### MRI SureScan

- 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)





# ADVISA SR MRI™

### **SURESCANTM**

### **PACEMAKERS (IPG)**

### COMPLETELY AUTOMATIC - SIMPLE TO USE

adapts key device parameters to ensure the therapies are optimized.

### AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.

Conducted AF Response (CAFR)

### **ADDITIONAL PACING FEATURES**

### **DIAGNOSTICS**

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

- 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)





# ENSURA SR MRI™

### **SURESCANTM**

### **PACEMAKERS (IPG)**

### **COMPLETELY AUTOMATIC – SIMPLE TO USE**

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

### ADDITIONAL PACING FEATURES

- Rate HysteresisSleep FunctionDual Zone Rate Response Pacing with Rate Profile Optimization

### **DIAGNOSTICS**

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

- 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)





# **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.

### **AT/AF MANAGEMENT**

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.Conducted AF Response (CAFR)

### **ADDITIONAL PACING FEATURES**

- Rate HysteresisSleep FunctionDual Zone Rate Response Pacing with Rate Profile

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 × 42.9 × 7.5	42.9 x 42.9 x 7.5	43.3 × 42.9 × 7.5
Connector	IS-1 BI/UNI	IS-1 BI/UNI; 3.2 mm LP BI	5 or 6 mm UNI





# 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.

### **ADDITIONAL PACING FEATURES**

- Rate HysteresisSleep FunctionDual Zone Rate Response Pacing with Rate Profile

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





# SENSIA® S

### **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
- Carel ink connectivity

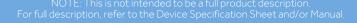
### **ADDITIONAL PACING FEATURES**

- Rate Hysteresis
- Sleep Function

- Quick Look I
- 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 × 42.9 × 7.5
Connector	IS-1 BI/UNI



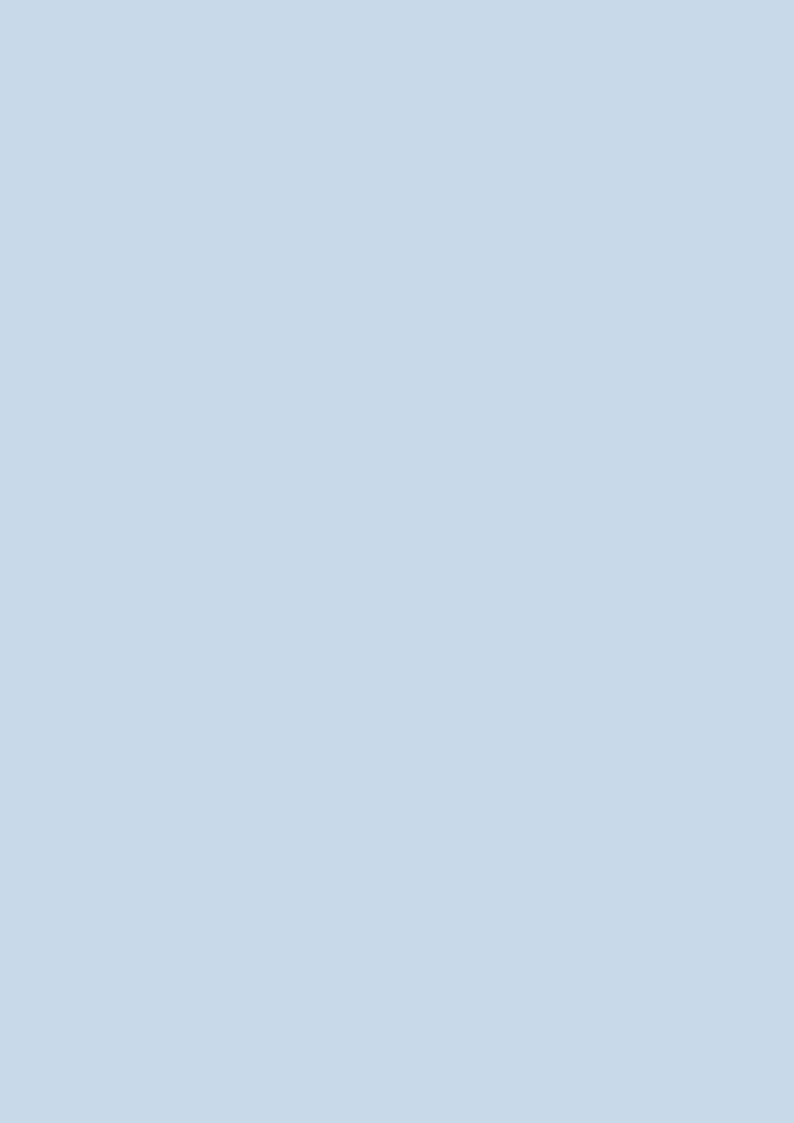




# PACEMAKERS (IPG)

Dual Chamber (DR)





# AZURE™ XT DR MRI

### **SURESCANTM**

### 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 Paciniq (VSP)
- Ventricular Rate Stabilization (VRS)
- High Upper tracking rate up to 210 min<sup>-1</sup> for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

### **DIAGNOSTICS**

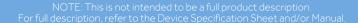
- Quick Look I
- Cardiac Compass Trends
- Heart Failure Management Report
- Histograms Reports
- Heart Failure Management Report
- Atrial and Ventricular Episodes including EGMs

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

### MRI SureScan

- 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)







# AZURE™ S DR MRI

### **SURESCANTM**

### 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 Paciniq (VSP)
- High Upper tracking rate up to 210 min<sup>-1</sup> for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

### **DIAGNOSTICS**

- Quick Look I
- Ventricular Episodes including EGMs

22.5
12.75
46.6 x 50.8 x 7.4
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)





# ASTRATM XT DR MRI

### **SURESCANTM**

### PACEMAKERS (IPG)

### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

adapts key device parameters to ensure the therapies are optimized.

### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

### **HEART FAILURE (HF) MANAGEMENT**

### AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and

- Atrial ATP with Reactive ATP
   ModeSwitch
   Post Mode Switch overdrive Pacing (PMOP)

### ADDITIONAL PACING FEATURES

### **DIAGNOSTICS**

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

### MRI SureScan

- 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)







# ATTESTA™ DR MRI

### **SURESCANTM**

### 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
- Canture Management (RA and RV)
- Sensing Assurance (RA and RV)
- Lead Monitor (RA and RV) with Auto Polarity Switch
- Carel ink 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<sup>-1</sup> for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

### **DIAGNOSTICS**

- Quick Look I
- 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 × 52.3 × 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)





# SPHERA™ DR MRI

**SURESCANTM** 

### **PACEMAKERS (IPG)**

### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

adapts key device parameters to ensure the therapies are optimized.

### **MINIMIZING UNNECESSARY RV PACING**

### AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.ModeSwitch with Blanked Flutter SearchNon-competitive Atrial Pacing (NCAP)

### **ADDITIONAL PACING FEATURES**

### **DIAGNOSTICS**

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

### MRI SureScan

- 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)





# ADVISA DR MRITM

### **SURESCANTM**

### PACEMAKERS (IPG)

### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

adapts key device parameters to ensure the therapies are

### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

### **HEART FAILURE (HF) MANAGEMENT**

Algorithm to help manage heart failure

### AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and

- Atrial ATP with Reactive ATP
   ModeSwitch
   Post Mode Switch overdrive Pacing (PMOP)

### ADDITIONAL PACING FEATURES

### **DIAGNOSTICS**

A3DR01
22.0
12.7
45 x 51 x 8
IS-1 BI/UNI

### MRI SureScan

- 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)





# ENSURA DR MRITM

### 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 I
- Histogram Reports
- Ventricular Episodes including EGMs

Model	EN1DR01
M (g)	22.0
V (cc)	12.7
Size (mm) (HxWxD)	45 × 51 × 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)





## 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)

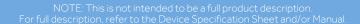
### **ADDITIONAL PACING FEATURES**

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

- 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 × 47.9 × 7.5	46.7 × 47.9 × 7.5		44.7 x 42.9 x 7.5	45.4 × 52.3 × 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







# 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<sup>-1</sup> for pediatric indications
- Rate Drop Response with 2 detection algorithms
- Dual Zone Rate Response Pacing with Rate Profile Optimization

- 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 × 47.9 × 7.5
Connector	IS-1 BI/UNI
·	







# ADAPTA® VDD

### **PACEMAKERS (IPG)**

### **COMPLETELY AUTOMATIC – SIMPLE TO USE**

adapts key device parameters to ensure the therapies are

### **MINIMIZING UNNECESSARY RV PACING**

### AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and

### ADDITIONAL PACING FEATURES

- Rate HysteresisSleep FunctionPVC Response

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







# SENSIA® DR

### **PACEMAKERS (IPG)**

### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

adapts key device parameters to ensure the therapies are

### MINIMIZING UNNECESSARY RV PACING

### AT/AF MANAGEMENT

Pacing therapies to help manage atrial tachyarrhythmias and

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

### **ADDITIONAL PACING FEATURES**

- Rate HysteresisSleep FunctionPVC Response

Model	SEDR01	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 × 52.3 × 7.5
Connector	IS-1 E	BI/UNI







# 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.

### MINIMIZING UNNECESSARY RV PACING

### AT/AF MANAGEMENT

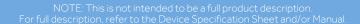
Pacing therapies to help manage atrial tachyarrhythmias and alleviate symptoms.
ModeSwitch with Blanked Flutter Search
Non-competitive Atrial Pacing (NCAP)

### **ADDITIONAL PACING FEATURES**

- Rate HysteresisSleep FunctionPVC Response

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



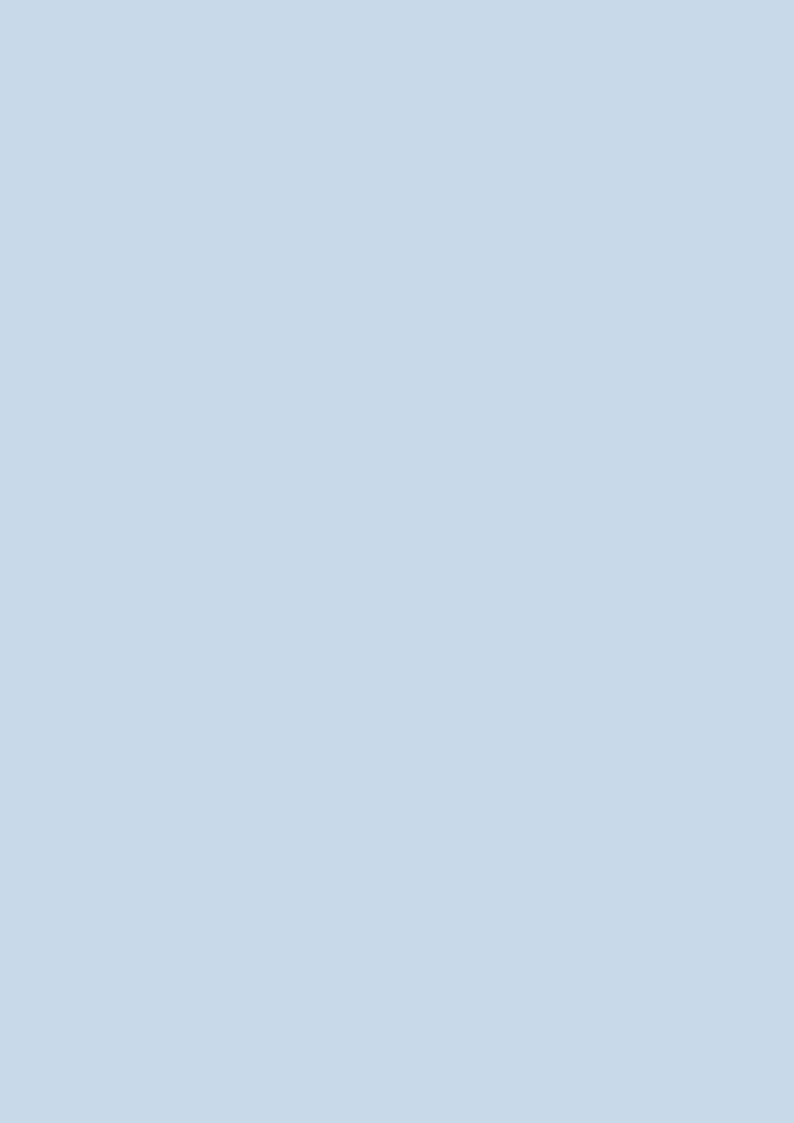




# PACEMAKERS (IPG)

Leadless





# MICRATM 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<sup>™</sup> 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 mechanica atrial contraction
- Accelerometer-based mechanical atrial sensing

### **DIAGNOSTICS**

- Quick Look II
- Histogram Reports

### **ELECTRODES**

- Surface area
- Anode: 22 mm<sup>-</sup>
- 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 Introduce
- 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)



# MICRATM 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<sup>™</sup> 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 I
- Histogram Reports

### **ELECTRODES**

- Surface area
- Anode: 22 mm<sup>2</sup>
- 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 vesse 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)





# CRT PACEMAKERS (CRT-P)





# PERCEPTA™ QUAD CRT-P MRI

**SURESCANTM** 

#### CRT PACEMAKERS (CRT-P)

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)

#### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

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

- 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

#### **SURESCANTM**

#### CRT PACEMAKERS (CRT-P)

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)

#### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# SERENATM QUAD CRT-P MRI

**SURESCANTM** 

#### CRT PACEMAKERS (CRT-P)

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)

#### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.Atrial ATP with Reactive ATPModeSwitch

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# SERENATM CRT-P MRI

#### **SURESCANTM**

#### CRT PACEMAKERS (CRT-P)

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)

#### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

Pacing the rapies and algorithms to help manage atrial tachyarrhythmias.

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# SOLARA™ QUAD CRT-P MRI

#### **SURESCANTM**

#### CRT PACEMAKERS (CRT-P)

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)

#### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

- 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)





# SOLARATM CRT-P MRI

#### **SURESCANTM**

#### CRT PACEMAKERS (CRT-P)

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)

#### MINIMIZING UNNECESSARY RV PACING

Promotes intrinsic conduction by reducing unnecessary RV

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

- CardioSync Optimization Test5 LV pacing vectors

#### **AT/AF MANAGEMENT**

Pacing therapies and algorithms to help manage atrial tachyarrhythmias.

• Atrial ATP with Reactive ATP

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# DEFIBRILLATORS (ICD)

Single Chamber (VR)





# COBALT<sup>TM</sup> XT VR MRI

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

- 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™ VR MRI

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias. ■ TruAF™ Detection Algorithm

#### **ADDITIONAL PACING FEATURES**

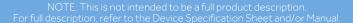
#### **DIAGNOSTICS**

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

- 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)







## CROMETM VR MRI **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)
   ATP Before and During Charging with ChargeSaver

#### AT/AF MANAGEMENT

#### **ADDITIONAL PACING FEATURES**

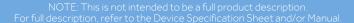
#### **DIAGNOSTICS**

DVPC3D1	DVPC3D4
79	79
33.2	32.8
66 × 51 × 13	64×51×13
IS-1/DF-1	DF-4
40 / 40	40 / 40
	79 33.2 66×51×13 IS-1/DF-1

#### MRI SureScan

- 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)







# PRIMO MRI™ VR

#### SURESCAN™

#### **DEFIBRILLATORS (ICD)**

#### AUTOMATIC - SIMPLE TO USE

the therapies are optimized.TherapyGuideAuto-adjusting sensitivity (RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)
   ATP Before and During Charging with ChargeSaver

#### AT/AF MANAGEMENT

#### ADDITIONAL PACING FEATURES

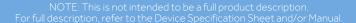
#### **DIAGNOSTICS**

MD3D4
77
33
×51×13
DF-4

#### MRI SureScan

- 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)







## MIRRO MRI™ VR **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### AUTOMATIC - SIMPLE TO USE

the therapies are optimized.TherapyGuideAuto-adjusting sensitivity (RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)
   ATP Before and During Charging with ChargeSaver

- Programmable RV sensing polarity
   Programmable HV shocking vectors
   3 detection zones allowing VF and FVT zone overlap
   SVT Discriminators Wavelet, Stability, Onset

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

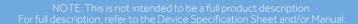
- Quick Look IICardiac Compass Trends

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			
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.     7     35/36	Model	DVME3D1	DVME3D4
Size (mm) (HxWxD) 66 x 51 x 13 64 x 51 x 13  Connector IS-1/DF-1 DF-4  Max Program. / 35/36	M (g)	77	77
(HxWxD) 66 x 51 x 13 64 x 51 x 13  Connector IS-1/DF-1 DF-4  Max Program. / 35/36	V (cc)	33	33
Max Program. / 35 / 36		66 × 51 × 13	64×51×13
/ 35/36	Connector	IS-1/DF-1	DF-4
Delivered Energy (J)	Max Program. / Delivered Energy (J)	35	/ 36

#### MRI SureScan

- 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)







# VISIA AF MRITM XT VR

#### SURESCAN™

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.

TherapyGuide
Capture Management (RV)

#### VT/VF MANAGEMENT

#### **HEART FAILURE (HF) MANAGEMENT**

#### **AT/AF MANAGEMENT**

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

DVFB2D1	DVFB2D4
	5110204
77	77
33	33
66 x 51 x 13	66 x 51 x 13
IS-1/DF-1	IS-1/DF-4
35,	/ 36
	33 66×51×13 IS-1/DF-1

#### MRI SureScan

- 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)





# VISIA AFTM XT VR

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

- TherapyGuideCapture Management (RV)

#### VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

#### **AT/AF MANAGEMENT**

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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







# VISIA AF MRI™ S VR

**SURESCANTM** 

#### **DEFIBRILLATORS (ICD)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide
Capture Management (RV)

#### VT/VF MANAGEMENT

#### **AT/AF MANAGEMENT**

#### **ADDITIONAL PACING FEATURES**

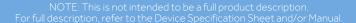
#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)







# VISIA AFTM S VR

#### **DEFIBRILLATORS (ICD)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide
Capture Management (RV)

#### VT/VF MANAGEMENT

#### **AT/AF MANAGEMENT**

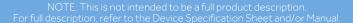
#### **ADDITIONAL PACING FEATURES**

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

#### **DIAGNOSTICS**

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







# EVERA MRI® XT VR

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide
Capture Management (RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)

#### **HEART FAILURE (HF) MANAGEMENT**

Algorithm to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

	DVMB2D4
	77
	33
1	64 × 51 × 13
	DF-4
35 / 36	
_	35/36

#### MRI SureScan

- 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)







# **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

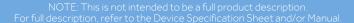
#### **DIAGNOSTICS**

- Quick Look I
- 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 × 51 × 13	64×51×13
Connector	IS-1/DF-1	DF-4
Max Program. / Delivered Energy (J)	35	5/36







# EVERA MRI® S VR

**SURESCANTM** 

#### **DEFIBRILLATORS (ICD)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide
Capture Management (RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

DVMC3D1	DVMC3D4
77	77
33	33
66 × 51 × 13	64 × 51 × 13
IS-1/DF-1	DF-4
35	/ 36
	77 33 66×51×13 IS-1/DF-1

#### MRI SureScan

- 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)





# EVERA® S VR

#### **DEFIBRILLATORS (ICD)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide
Capture Management (RV)

#### **VT/VF MANAGEMENT**

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)

#### AT/AF MANAGEMENT

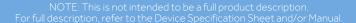
Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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









# DEFIBRILLATORS (ICD)

Dual Chamber (DR)





# COBALT™ XT DR MRI

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.

TherapyGuide
Capture Management (RA and RV)

#### VT/VF MANAGEMENT

#### **HEART FAILURE (HF) MANAGEMENT**

#### AT/AF MANAGEMENT

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

- 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™ DR MRI

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.

TherapyGuide
Capture Management (RA and RV)

#### VT/VF MANAGEMENT

#### AT/AF MANAGEMENT

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# CROME™ DR MRI

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA and RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# PRIMO MRI™ DR

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### AUTOMATIC - SIMPLE TO USE

the therapies are optimized.TherapyGuideAuto-adjusting sensitivity (RA and RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### AT/AF MANAGEMENT

#### **ADDITIONAL PACING FEATURES**

- Managed Ventricular Pacing Mode (MVP): AAI(R)<->DDD(R)
   PVC Response
   Ventricular Safety Pacing (VSP)

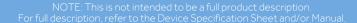
#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)







# MIRRO MRITM DR

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### AUTOMATIC - SIMPLE TO USE

the therapies are optimized.TherapyGuideAuto-adjusting sensitivity (RA and RV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)
   ATP Before and During Charging with ChargeSaver

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial

#### ADDITIONAL PACING FEATURES

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

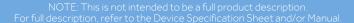
#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)







# EVERA MRI™ XT DR

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.TherapyGuideCapture Management (RA and RV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

#### **AT/AF MANAGEMENT**

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

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

#### **DIAGNOSTICS**

DDMB2D1	DDBB2D4
77	78
33	34
66 x 51 x 14	68 × 51 × 13
IS-1/DF-1	IS-1/DF-4
35/36	
	77 33 66×51×14 IS-1/DF-1

#### MRI SureScan

- 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)





## EVERA® XT DR

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC – SIMPLE TO USE**

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

#### **AT/AF MANAGEMENT**

Therapies and algorithms to help manage atrial

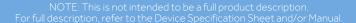
#### **ADDITIONAL PACING FEATURES**

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

#### **DIAGNOSTICS**

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	







# EVERA MRITM S DR

#### **SURESCANTM**

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.TherapyGuideCapture Management (RA and RV)

#### **VT/VF MANAGEMENT**

#### **AT/AF MANAGEMENT**

Therapies and algorithms to help manage atrial

#### **ADDITIONAL PACING FEATURES**

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

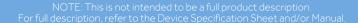
#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)







# EVERA® S DR

#### **DEFIBRILLATORS (ICD)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

#### **VT/VF MANAGEMENT**

#### **AT/AF MANAGEMENT**

Therapies and algorithms to help manage atrial

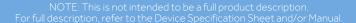
#### **ADDITIONAL PACING FEATURES**

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

#### **DIAGNOSTICS**

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









# CRT DEFIBRILLATORS (CRT-D)





# COBALT<sup>TM</sup> XT HF Quad CRT-D MRI

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA, RV and LV)

#### **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

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

Model	DTPA2Q1 (Quad)	DTPA2QQ (Quad)
M (g)	82	83
V (cc)	36.3	35.5
Size (mm) (HxWxD)	74×51×13	74 × 51 × 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

- 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

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA, RV and LV)

#### VT/VF MANAGEMENT

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

- EffectivCRT Diagnostic and EffectivCRT During AF
   AdaptivCRT

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
   Atrial ATP with Reactive ATP

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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™ HF Quad CRT-D MRI

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

MRI SureScan

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

- 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™ HF CRT-D MRI

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# CROME™ HF Quad CRT-D MRI

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

Model	DTPC2Q1 (Quad)	DTPC2QQ (Quad)
M (g)	83	83
V (cc)	36.3	35.5
Size (mm) (HxWxD)	74×51×13	74 × 51 × 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

- 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)





# CROME™ HF CRT-D MRI

#### **SURESCANTM**

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

therapies are optimized.
■ Bluetooth® Wireless Telemetry (BlueSync™ Technology)
■ Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

Model	DTPC2D1	DTPC2D4
M (g)	82	82.1
V (cc)	35	35
Size (mm) (HxWxD)	71×51×13	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

- 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™ QUAD CRT-D

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

- EffectivCRT Diagnostic and EffectivCRT During AF
   AdaptivCRT

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### ADDITIONAL PACING FEATURES

#### **DIAGNOSTICS**

- Quick Look II Cardiac Compass Trends Heart Failure Management Report

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

#### MRI SureScan

- 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 MRITM CRT-D

#### **SURESCANTM**

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
   Atrial ATP with Reactive ATP

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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

#### **SURESCANTM**

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

- Automatic and Patient-activated atrial cardioversion (CV)
   Atrial ATP with Reactive ATP

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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 MRITM QUAD CRT-D

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

Therapies and algorithms to help manage ventricular

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

#### ADDITIONAL PACING FEATURES

#### DIAGNOSTICS Quick Look II

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

#### MRI SureScan

- 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 MRITM CRT-D

**SURESCANTM** 

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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

#### MRI SureScan

- 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)





# VIVA™ QUAD XT CRT-D

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

Therapies and algorithms to help manage atrial tachyarrhythmias.

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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





### VIVA™ XT CRT-D

#### **CRT DEFIBRILLATORS (CRT-D)**

#### **COMPLETELY AUTOMATIC - SIMPLE TO USE**

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

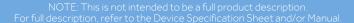
Therapies and algorithms to help manage atrial tachyarrhythmias.

- Automatic and Patient-activated atrial cardioversion (CV)
   Atrial ATP with Reactive ATP
   ModeSwitch with Post Mode Switch overdrive Pacing (PMOP)

#### ADDITIONAL PACING FEATURES

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







# VIVA™ QUAD S CRT-D

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

- Automatic and Patient-activated atrial cardioversion (CV)
   Atrial ATP with Reactive ATP

#### **ADDITIONAL PACING FEATURES**

#### **DIAGNOSTICS**

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







# VIVA™ S CRT-D

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

the therapies are optimized.

TherapyGuide

Capture Management (RA, RV and LV)

#### **VT/VF MANAGEMENT**

#### **HEART FAILURE (HF) MANAGEMENT**

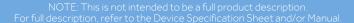
Pacing therapies and algorithms to help manage heart failure.

#### AT/AF MANAGEMENT

#### ADDITIONAL PACING FEATURES

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







# 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 Tes
- 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 atria 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

- Quick Look I
- Cardiac Compass Trends
- Leadless ECG

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







# BRAVATM CRT-D

#### **CRT DEFIBRILLATORS (CRT-D)**

#### COMPLETELY AUTOMATIC - SIMPLE TO USE

#### **VT/VF MANAGEMENT**

- Ventricular cardioversion/defibrillation
   Ventricular antitachycardia pacing (ATP)
   ChargeSaver with ATP Before and During Charging

#### **HEART FAILURE (HF) MANAGEMENT**

Pacing therapies and algorithms to help manage heart failure.

#### **AT/AF MANAGEMENT**

#### ADDITIONAL PACING FEATURES

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







# IPG LEADS AND SYSTEMS





# CAPSURE SENSE MRI™

#### **SURESCANTM**

#### PACING LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CONNECTOR**

#### **DIAMETER**

#### **ELECTRODES**

#### **MATERIAL**

- Insulator: Polyurethane (outer 55D), Silicone (inner)Conductor: MP35N Nickel Alloy

#### **STYLETS WITH 4574**

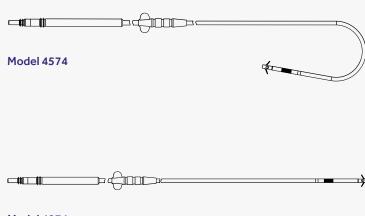
#### **STYLETS WITH 4074**

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)







# **CAPSUREFIX NOVUS MRI®**

#### **SURESCANTM**

#### PACING LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

- Steroid elutina
- Standard Lengths: 45. 52. 58. 65. 85 (cm)

#### **CONNECTOR**

IS1 Bipolar

#### **DIAMETER**

Body: 1.9 mm (5.7 Fr)

#### **ELECTRODES**

- Extendable/Retractable Helix Screv
- Helix Length: 1.8 mm
- Flectrode Surface Area
  - Helix: 4.2 mm<sup>2</sup>
  - Ring: 22.0 mm²
- Tip-to-Ring Spacing: 10.0 mm

#### MATERIAL

- Insulator: Polyurethane (outer 55D), Silicone with Siloxane<sup>6</sup> 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 stee

#### **STYLETS**

- Inserted
  - 1 gray straight
- Packagec
  - 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)





# **CAPSUREFIX NOVUS MRI®**

#### **SURESCANTM**

#### PACING LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CONNECTOR**

#### **DIAMETER**

#### **ELECTRODES**

#### MATERIAL

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

#### **STYLETS**

- \* Not available for leads 65 or 85 cm

5076
Active/ Screw-in
Straigh
RA and RV
Bipolar
Silicone
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)



# **SELECTSECURE® MRI**

#### **SURESCANTM**

#### PACING LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

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

#### CONNECTOR

IS1 Bipolar

#### DIAMETER

Body: 1.4 mm (4.1 Fr)

#### **ELECTRODES**

- Fixed Corou
- Helix Length: 1.8 mm
- Flectrode Surface Area
  - Helix: 3.56 mm<sup>2</sup>
  - Ring: 16.9 mm<sup>2</sup>
- 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	Straigh		
Chambers	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)



# SELECTSITE® DEFLECTABLE CATHETER

#### **PACING LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

Deflectable guide catheters for SelectSecure<sup>®</sup> Model 3830 leads

#### **DEFLECTABLE CATHETER**

Material Polyether block amide

#### **CATHETER DILATOR**

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

#### **GUIDE WIRE**

- Material: Stainless stee
- 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)

**1**2 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)			



# **CATHETER**

#### PACING LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CATHETER DILATOR**

- Material: Polyether block amide
  Integrated valve
  In-line hub
  Hydrophilic coating

#### **DILATOR**

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 c	m or longer 38	30 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)		







# **CAPSURE® EPI**

#### **PACING LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

#### **CONNECTOR**

#### DIAMETER

#### **ELECTRODES**

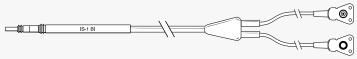
- Hemispherical, Platinized, Porous
   Electrode Surface Area for 4965
   Cathode: 14 mm²
   Electrode Surface Area for 4968

#### MATERIAL

Model	4965	4968
Fixation	Sutured /	<sup>'</sup> Epicardial
Shape / Chambers	RA and RV	
Polarity	Unipolar	Bipolar
Insulation	Silid	cone



**Model 4965** 



Model 4968





# **SCREW-IN**

#### PACING LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### CONNECTOR

#### **DIAMETER**

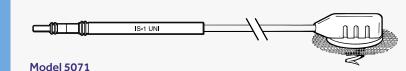
#### **ELECTRODES**

- Helical Screw
   Helix Length: 1.8 mm²

#### **MATERIAL**

#### **EPICARDIAL IMPLANT TOOL 10626** -SOLD SEPARATELY

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





# DEFIBRILLATION LEADS AND DELIVERY SYSTEMS





## SPRINT QUATTRO® MRI **SURESCANTM**

#### **DEFIBRILLATION LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

#### **DIAMETER**

#### **ELECTRODES**

- Electrode Surface Area
   Tip: 2.5 mm²
   Ring: 25.2 mm²

#### **MATERIAL**

#### STYLETS

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

# **SPRINT QUATTRO®**

#### **DEFIBRILLATION LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

#### **DIAMETER**

#### **ELECTRODES**

- Electrode Surface Area
   Tip: 2.5 mm²
   Ring: 25.2 mm²

#### **MATERIAL**

#### **STYLETS**

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

# SPRINT QUATTRO SECURE S MRI™

**SURESCANTM** 

#### **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 mm
  - RV Coil: 614 mm
- 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

# 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 mm
  - RV Coil: 614mm
- Electrode Lengths
- RV Coil: 57 mm
- Tip-to-Ring Spacing: 8 mm
- Tip-to-RVCoil Spacing: 12 mm

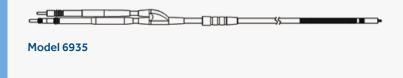
#### **MATERIAL**

- 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/ So	crew-in
Polarity	Tripo	lar
Defibrillation Coils	RV	
Connectors	1x IS1 1 x DF1	1x DF4
Insulation	Silicone	
Introducer Size without/with Guidewire (Fr)	9.0 / 11	





Model 6935M

# SPRINT QUATTRO SECURE MRI™

#### **SURESCANTM**

#### **DEFIBRILLATION LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

- Steroid eluting
- Lenaths 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 mm
  - 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 PTFF FTFF
- 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

# SPRINT QUATTRO SECURE®

#### **DEFIBRILLATION LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

- Steroid eluting
- Lenaths 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 mm<sup>2</sup>
  - Ring: 25.2 mm<sup>2</sup>
  - RV Coil: 614 mm<sup>2</sup>
- SVC Coil: 860 mm
- Flectrode Lenaths
- 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

# TRANSVENE LEAD

#### **DEFIBRILLATION LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

#### **DIAMETER**

#### **ELECTRODES**

#### **MATERIAL**

- Insulator: SiliconeConductor: Multifilar MP35N CompositeElectrode 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)





# TRANSVENE LEAD

#### **DEFIBRILLATION LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

#### **DIAMETER**

#### **ELECTRODES**

#### MATERIAL

- Insulator: SiliconeConductor: Multifilar MP35N CompositeElectrode Surface: Platinum Alloy

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

22 

**Model 6937** 



## **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 Lenght
- 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
  - Tunnelina: 338 mm
- Materia
  - Stainless Steel
- Tunneling Diameter: 3.1 mm

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



Model 6996SQ



# LEFT-HEART LEADS AND DELIVERY SYSTEMS





# ATTAIN ABILITY<sup>TM</sup> MRI

#### **SURESCANTM**

#### **LEFT-HEART LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

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

#### **CONNECTOR**

IS1 Bipola

#### **DIAMETER**

Body: 1.3 mm (4.0 Fr)

#### **ELECTRODES**

- Dual electrode 21 mm spacing
- Electrode Surface Area
  - Tin<sup>.</sup> 5.8 mm<sup>2</sup>
  - 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 Stee

#### **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**

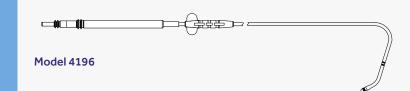
- Packaged
  - 2 gray straight
  - 2 purple straight

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)







# ATTAIN ABILITYTM PLUS MRI

#### **SURESCANTM**

#### **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 spacino
- Electrode Surface Area
  - Tip: 5.8 mm<sup>2</sup>
  - Ring: 5.8 mm²

#### MATERIAL

- Insulator: Polyurethane-outer, SI-Polyimide-inne
- 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 Stee

#### **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**

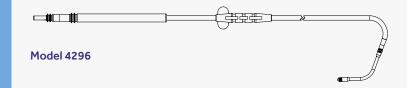
- Packaged
  - 2 gray straight
  - 2 purple straight

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)







## ATTAIN ABILITYM STRAIGHT MRI

#### **SURESCANTM**

#### **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
  - Tin<sup>.</sup> 5.8 mm<sup>2</sup>
  - Ring: 5.8 mm²

#### **MATERIAL**

- Insulator: Polyurethane-outer, SI-Polyimide-inne
- 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 Stee

#### **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



# ATTAIN PERFORMATM MRI

#### **SURESCANTM**

#### LEFT-HEART LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CONNECTOR**

#### **DIAMETER**

#### **ELECTRODES**

#### **MATERIAL**

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

#### **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,

#### **ACCESSORIES PACKAGED WITH LEAD**

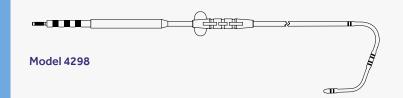
#### **STYLETS**

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)





# ATTAIN PERFORMA™ STRAIGHT MRI

**SURESCANTM** 

#### **LEFT-HEART LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

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

#### **CONNECTOR**

IS4-IIII

#### DIAMETER

Body: 1.7 mm (5.3 Fr)

#### **ELECTRODES**

- Electrodes Surface Area
  - All: 5.8 mm<sup>2</sup>
- Distance between electrodes
  - | \/1-| \/2·21 mm
  - LV2-LV3: 1.3 mm
  - | \/3-| \/*A*·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



# ATTAIN PERFORMA™ S MRI

#### **SURESCANTM**

#### LEFT-HEART LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CONNECTOR**

#### **DIAMETER**

#### **ELECTRODES**

#### **MATERIAL**

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

#### **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,

#### **ACCESSORIES PACKAGED WITH LEAD**

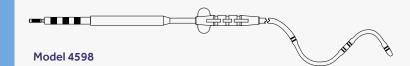
#### **STYLETS**

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)





# ATTAIN STABILITY™ QUAD MRI

#### **SURESCANTM**

#### LEFT-HEART LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CONNECTOR**

#### **DIAMETER**

#### **ELECTRODES**

#### **HELIX**

#### **MATERIAL**

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

#### RECOMMENDED GUIDE WIRE

#### **ACCESSORIES PACKAGED WITH LEAD**

#### **STYLETS**

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



# 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 slitter
- To be ordered separately

#### CATHETER

- Material: Polyether block amide polyamide 12
- Hydrophilic Coating distal ½ of the outer shaft.

#### **CATHETER DILATOR**

- Material: Polvethylene
- Inner diameter: 0.96 mm (2.8 Fr)
- Outer diameter: 2.4 mm (7.1 Fr)

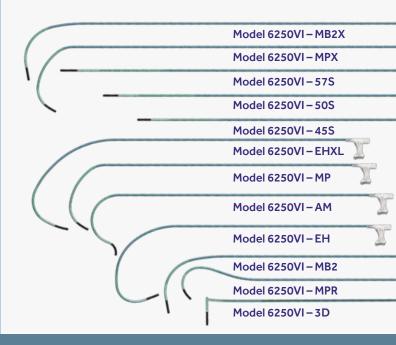
#### **SUREVALVE INTEGRATED VALVE**

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 /			3 () (9 ())	/ 2.8 (8.5)		



Distal (mm (Fr))





# ATTAIN COMMAND® SUREVALVETM 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 diamete
- 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

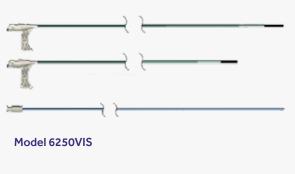
#### **MEDTRONIC UNIVERSAL II 6230UNI SLITTER**

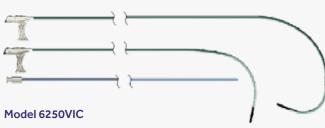
Material: Stainless steel, polycarbonate

#### **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)	







# ATTAIN SELECT™ II SUREVALVE™

#### LEFT-HEART LEADS AND DELIVERY SYSTEMS

#### **GENERAL**

#### **CATHETER**

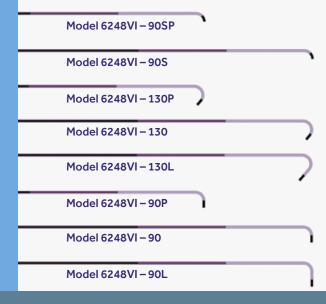
#### STRAIGHT BLUE INNER CATHETER

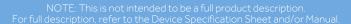
- Provides a soft distal tip and increased curve shape control
   Material: Polyether block amide
   Usable length: 80 cm

#### SUREVALVE INTEGRATED VALVE

#### **VALVE TOOL**

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)		6	5				
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			
	130° long	90° short	90° curved	130° curved			
Description	curved tip	curved tip	tip	tip			
Description  Usable Length (cm)		curved tip 57 (Petite)	tip 57 (Petite)				
Usable Length	curved tip	· · · · · ·		tip			
Usable Length (cm)  Compatible Outer Guide Catheter	curved tip	· · · · · ·	57 (Petite)	tip			
Usable Length (cm)  Compatible Outer Guide Catheter Max Length (cm)  Compatible Lead	65 57.5	57 (Petite)	57 (Petite) 50	tip			









#### **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**

#### **CATHETER DILATOR**

#### **GUIDE WIRE**

- Material: Stainless Steel
  Length: 120 cm
  Outer diameter: 0.09 cm (0.035 in)

#### **ADJUSTABLE HEMOSTASIS VALVE**

#### **MEDTRONIC UNIVERSAL SLITTER 6230UNI**

#### **NEEDLE**

#### **SYRINGE**

Model	6227DEF04
Usable Length	Deflectable
Inner Diameter (cm)	45
Outer Diameter (mm (Fr))	2.4 (7.2)
Insulation (mm (Fr))	3.3 (9.9)
	5.3 (9.9)



Model 6227DEF04





#### **LEFT-HEART LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

- Venogram balloon catheter for coronary sinus
   Package includes:
   Venogram balloon catheter
   1.25 cc syringe

#### DIAMETER

#### **BALLOON**

- MATERIALCatheter Body: PolyurethaneBalloon: Latex

#### **RECOMMENDED GUIDE WIRE**

Model	6215
Description	Venogram Balloon Catheter
Usable Length (cm)	80
Guide Catheter Size (Inner Diameter) (Fr)	7.0



Model 6215



# **MEDTRONIC SLITTERS**

#### **LEFT-HEART LEADS AND DELIVERY SYSTEMS**

#### **GENERAL**

- Slitter for LV guide cathetersSlit two catheters in the same procedureSingle use; Disposable

#### **DEFLECTABLE CATHETER**

Model	6232ADJ	6230UNI
Description	Medtronic Adjustable Slitter	Medtronic Universal II Slitter
Lead Stabilization	Lead mechanically se- cured in lead channel	Lead secured with thumb pressure

Model 6232ADJ



Model 6230UNI





# **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



# 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 Stee
- Sleeve: PET
- Coating: Lubricious Pro/Pel® silicone

Model	GWR419478	GWR419488	GWR419578
Knob Color	Orange	Orange	Blue
Support			l
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

88

78

88

Lead Length (cm)













# **MEDTRONIC STYLETS**

#### **ACCESSORIES**

#### **GENERAL**

- Stylets for use with transvenous leads
  Package includes:
  2 straight stylets (sterile)
  2 stylet guides (sterile)

#### MATERIAL

Model	6057	6082	6054	6093
Knob Color	Blue	Gray	Rust	Purple
Shape		<u>_</u>		<u></u>
Diameter (in)	0.014	0.014	0.016	0.016
Distal End	Ball- tipped	Extended taper, Ball- tipped	Tapered, Ball- tipped	Extend- ed-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	Extende Ball-ti	
# in kit	15	2	2	2
Lengths (cm)	75, 85	45, 53, 58	45, 53, 58, 65	45, 52, 58

<sup>\*</sup> Hemostasis valve compatible (downsized knobs)



### **PEELABLE INTRODUCERS**

#### **ACCESSORIES**

#### **GENERAL**

#### **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



# 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 dilato
- 1 needle (18 gauge)
- 1 syringe (12 co
- 1 guidewire (135 cm)
- 1 curved guiding cor
- 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







# SAFESHEATH CSG®

#### **EXTRUDED CORE INTRODUCERS**

#### **ACCESSORIES**

#### **GENERAL**

#### **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 CSGWORL19M

## 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

#### **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	SS	L9 SSL	10 SSL	.105 SS	L11
Knob Color	9	10	) 10	0.5	11
# in kit			5		
Lengths (cm)	5		23		





### **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

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	
	5				
# of kits		į	5		
# of kits  Sheath Length (cm)	13	15	15	15	
Sheath Length	13			15 21.5	



Model 10729-00x Model 10730-00x



# **PACING LEAD ADAPTORS**

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	



# **ICD LEAD ADAPTORS**

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	

# **ADDITIONAL 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	ice of the last of
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	The state of the s
9466	Patient Magnet - 4 per kit	





# INSERTABLE CARDIAC MONITORS (ICM)





# LINQ IITM

### **INSERTABLE CARDIAC MONITORS (ICM)**

### **GENERAL**

- Insertable Cardiac Monitor (ICM) with 4.5 years longevity\*
   TruRhythm™ Detection
   Pause Detection Algorithm

### ARRHYTHMIA DETECTION

### **DIAGNOSTICS**

### **COMPATIBLE DEVICES**

### **PACKAGE CONTENT**

Model	LNQ22
M (g)	3.4
V (cc)	1.4
Size (mm)	45.1 × 8.0 × 4.2

### MRI Compatibility

- MR-Conditional at 3.0 and 1.5 Tesla
- No-post insertion waiting period





# 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

### **ARRHYTHMIA DETECTION**

### **DIAGNOSTICS**

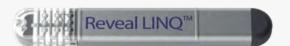
### PATIENT ASSISTANT - MODEL PA96000

### **PACKAGE CONTENT**

Model	LNQ11
M (g)	2.5 ± 0.5
V (cc)	1.2
Size (mm)	44.8 × 7.2 × 4.0

### MRI Compatibility

- MR-Conditional at 3.0 and 1.5 Tesla
- No-post insertion waiting period





# 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

### ARRHYTHMIA DETECTION

### **DIAGNOSTICS**

- Quick Look
   Cardiac Compass Trends:
   AT/AF total time per day
   Ventricular rate during AT/AF

### PATIENT ASSISTANT - MODEL PA96000

### **PACKAGE CONTENT**

- Reveal XTICMConductive patches for Vector CheckReveal PA96000

Model	9529
M (g)	15
V (cc)	9
Size (mm)	62×19×8

### MRI SureScan

- MR-Conditional at 3.0 and 1.5 Tesla
- 6-week post-insertion waiting period



# PATIENT MANAGEMENT SOLUTIONS



# CARELINK<sup>TM</sup> NETWORK

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

The CareLink $^{TM}$  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 sever

Healthcare providers can analyze the patient device diagnostic data via the CareLink $^{TM}$  Network Clinician Website through their internet browser. The site is also used to enroll clinic users, enrol patients, and perform other administrative duties.

- Compatible with 99.9% Medtronic implantable devices
- Operates on the Microsoft<sup>™</sup> Windows<sup>™</sup> 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 hospita
- 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)



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



# MYCARELINK HEART ™ MOBILE APP

### PATIENT MANAGEMENT SOLUTIONS

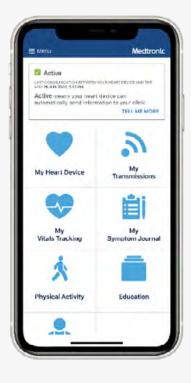
### **GENERAL**

- 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 device<sup>1</sup> 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 enc
- 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

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 Manua



<sup>&</sup>lt;sup>1</sup> Please visit www.MCLHeart.com for a list of compatible smartphones and tablets

# MYCARELINK RELAY<sup>TM</sup> 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 enc
- Optimized Bluetooth<sup>®</sup> & cellular antenna design
- Requires little to no user interaction

### **POWER SUPPLY**

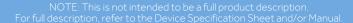
AC powered, 100-240 V, 50-60 Hz, 0.5 A Max

### **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







# 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

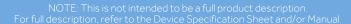
### **CONNECTIVITY AND TRANSMISSIONS**

### **POWER SUPPLY**

### **PHYSICAL CHARACTERISTICS**

Model	25000
M (g)	164 (without batteries)
Size (mm)	155 × 80 × 30







# 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

### **POWER SUPPLY**

### PHYSICAL CHARACTERISTICS

Model	24952
M (g)	N/A
Size (mm)	207 x 153 x 66







# SMARTSYNC™ DEVICE MANAGER

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

- Tablet-Based programmer for interrogating and programming compatible Medtronic cardiac implantable devices\*
- Includes the Pacing System Analyser (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<sup>™</sup> Technology (wireless
- E-strip recorder, with annotating option.
- Report Exporting options: save to network folder, USB\*\*\*
- Possibility to connect to external printer via WiF

### **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 table
- 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 Carel ink Smart Sync Device Manager materials
- \*\*\* Depending on Country and tablet option

<b>Model</b> Base unit	24970A
Weight (kg)	0.91
Size (cm)	4.6 x 24 x 20.8
<b>Model</b> Patient connector	24967
Weight (kg)	0.25
Size (cm)	16.7 × 7.3 × 3.0







# REVEAL LINQTM MOBILE MANAGER

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

 The Reveal LINQ<sup>™</sup> Mobile Manager is an innovative, app-based device management system for Reveal LINQ<sup>™</sup> and LINQ II<sup>™</sup> 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<sup>™</sup> Network within minutes after device activation or follow-up device checks, while connectivity with the CareLink<sup>™</sup> 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<sup>™</sup> and tablet
- Reveal LINQ™ and LINQ II™ ICMs
- I ablet hospital-owned or Medtronic Managed Tablet (MMT)

**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



<sup>\*</sup> May vary based on geography

# CARELINK EXPRESS™ MOBILE SYSTEM

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

- The CareLink Express<sup>™</sup> Mobile System allows the interrogation of any compatible Medtronic cardiac Implantable device, with secure and rapid transfer of the data to the CareLink<sup>™</sup> Network for remote interpretation
- The CareLink Express™ System provides secure access and transfer of data, seamlessly integrating into a follow-up clinic's Carel ink system

### **MAIN FEATURES**

- Compatible with 99% of Medtronic cardiac devices supported on the Carel ink™ 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<sup>™</sup> Website
- Carrying Case for patient connector and the tablet (ordered seperately)

<b>Model</b> Patient connector	24967
<b>Model</b> Application for IOS	31302
Carrying Case	249653









<sup>&</sup>lt;sup>1</sup> Supported devices on CareLink™ Network - Data on File (Jan 2014

# 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**

### **POWER SUPPLY**

### **ACCESSORIES (IN THE PACKAGE)**

Model	29901
M (g)	4.94
Size (mm)	35.5 × 35.5 × 10.2







# **CARELINK® 2090 PROGRAMMER**

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

- System for interrogating and programming Medtronic Vitatron and NavaMed cardiac implantable devices
- Intended to support implants and follow-ups

### **MAIN FEATURES**

- Ethernet card
- Mechanical keyboard
- Display screen
- Integrated printer possibility to connect to externa 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 Analyze
- 2067/L Programmer head
- 2090TPS/XS Touch per
- 2090EC/ECL ECG cable with plug and leadwires
- 6092 Printer paper

### **PACKAGE CONTENTS**

- 2090 CareLink Programme
- 2090TPS/XS Touch pen
- 2090EC/ECL ECG cable with plug and leadwires
- 6092 Printer paper

2090
11.3
12.7 × 40.6 × 55.8



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



# CARELINK® 2290 ANALYZER

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

### **MAIN FEATURES**

- Automatic measurement of P- and R-wave amplitudes and slew rates

### **PACKAGE CONTENTS**

- 2290 Analyzer2292 Analyzer surgical cable

Model	2290
M (kg)	N/A
Size (mm)*	N/A

<sup>\*</sup> installs into the Medtronic CareLink® 2090 Programmer





# **FOCUSON**<sup>TM</sup>

### MONITORING AND TRIAGING SERVICE

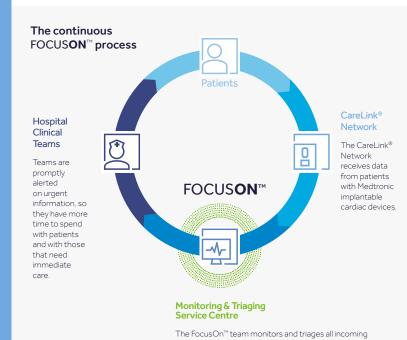
### PATIENT MANAGEMENT SOLUTIONS

### **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

### **QUALITY PROCESS**

Service Time					
Days	Days Mon-Fri (no bank holidays)				
Hours	Hours 7am – 6pm CET				
Service Level	Service Level Agreement and escalation methods				
Days	Days Phone/SMS and e-mail				
Days	Days E-mail Next worki				
Hours	Weekly e-mail	Once a week			



CareLink™ data according to hospital customisations. The hospital clinical teams are then alerted about clinically actionable events via telephone, email and the Focus  $On^{\text{TM}}$  Platform.



# **BECONNECTED SERVICE**

### PATIENT MANAGEMENT SOLUTIONS

### **GENERAL**

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

### **SCOPE**

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







# PROCEDURE INNOVATIONS





# **TYRXTM**

### 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 Rifamnin.

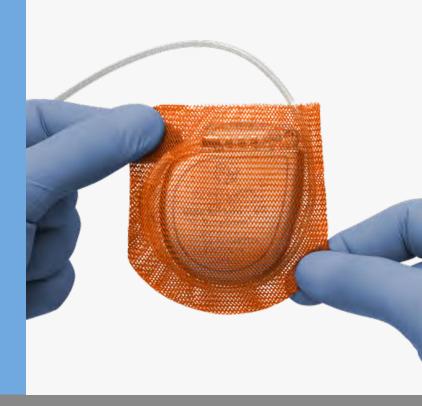
- Fully absorbs into the body in ~9 weeks
- Large pore mesh
- Knitted from absorbable filaments
   (alvolide caprolactone and trimethylene carbonate)
- Filaments coated with a bioabsorbable polymer containing antibacterial agents
- Single Use Only
- Storage: between 2 25° C

### **ANTIBIOTICS**

- Minocyline and Rifampin have been shown to reduce infectior in an in vivo model of bacterial challenge following surgical implantation of the generator or defibrillator.
- Locally delivered Minocycline and Rifampin sustained for 7 days
- Minocycline has been shown to be effective against:
  - Gram-positive bacteria such as Saureus
  - 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 Saureus (including MRSA) and Sepidermidis
  - Gram-negative bacteria such as H influenzae

<sup>1</sup> 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 × 6.9	7.4 × 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**

### **PACING FEATURES**

- Pacing Modes: AAI, AOO, VVI, VOOBasic Pacing Rate: 30 200 ppm

### ADDITIONAL PROGRAMMABLE PARAMETERS

### **PACKAGE CONTENT**

### **ACCESSORIES (NOT INCLUDED)**

Model	53401
M (g)	499
Dimension (cm)	20.2 × 6.6 × 4.1
Battery	Two IEC type LR6-sized (AA-sized) 1.5 V alkaline batteries (Duracell MN1500, Eveready E91 or equivalent)







# **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

### **PACING FEATURES**

- Pacing Modes: DDD, DOO, DDI, AAI, AOO, VVI, VOO
   Basic Pacing Rate: 30 200 ppm

### ADDITIONAL PROGRAMMABLE PARAMETERS

### **PACKAGE CONTENT**

### **ACCESSORIES (NOT INCLUDED)**

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



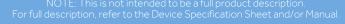




# EPG PATIENT AND SURGICAL CABLES

### **PROCEDURE INNOVATIONS**

Model	Description	Channel	Lenght (m)	
5832S	Surgical Cable, Reusable, One channel, Small Clips	AorV	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	AorV	1.83 / 3.66	
5433A / 5433AL	Patient Cable, Reusable	А	1.83 / 3.66	
5433V / 5433VL	Patient Cable, Reusable	V	1.83 / 3.66	
5846A / 5846AL	Patient Cable, Disposable	А	1.83 / 3.66	
5846V / 5846VL	Patient Cable, Disposable	V	1.83 / 3.66	









**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

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

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

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<=>DDDR and AAI<=>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.

**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.

**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

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.

**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 redetects the episode.

**VT monitoring** – programmable option that allows the device to detect fast rhythms as VT and record episode data without delivering VT therapy.

**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<sup>TM</sup> device, see the MRI SureScan<sup>TM</sup> technical manual before performing an MRI. For further information, contact your local Medtronic representative and/or consult the Medtronic website at medtronic.eu.

For applicable products, consult instructions for use on  $\frac{www.medtronic.com/manuals}{Manuals}.$  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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