



MRI™ SureScan® pacemaker system



G20SR

Specifications

Model G20A2

Single chamber MRI™ SureScan®
pacemaker system

vitatron • The Pace Makers

G2OSR Specifications

Model G20A2

Single chamber pacemaker system

Mechanical

Model	G20A2
Size (HxWxD mm)	40.2x42.9x7.5
M (g)	21.5
V (cc)	9.7
Connector	IS-1 BI or UNI
Radiopaque ID	V5

Battery

Type	Lithium-iodine
Voltage	2.8 V
Average projected capacity	.91 Ah

Longevity	10.4 years*
	9.6 years†

Bradycardia Pacing

Programmable parameters

Pacing Modes	VVIR , VVI, VVT, VOOR, VOO, AAIR, AAI, AAT, AORR, AOO, OVO, OAO
Lower Rate	30, 35, 40... 60 ...170 min ⁻¹ (exc. 65, 85)
Upper Sensor Rate	80, 90, 95... 130 ...180 min ⁻¹
A and RV Pulse Amplitude ^a	0.5, 0.75, 1.0... 3.5 ...4, 4.5, 5, 5.5, 6, 7.5 V
A and RV Pulse Width	0.12, 0.15, 0.21, 0.27, 0.34, 0.4 , 0.46, 0.52, 0.64, 0.76, 1, 1.25, 1.5 ms
Atrial Sensitivity	0.25, 0.35, 0.5 , 0.7, 1, 1.4, 2, 2.8, 4 mV
Ventricular Sensitivity	1, 1.4, 2, 2.8 , 4, 5.6, 8, 11.2 mV
Pacing Polarity (A and V)	Bipolar, Unipolar, Configure
Sensing Polarity (A and V)	Bipolar, Unipolar, Configure
Atrial Refractory Period	180, 190, 200... 250 ...500 ms
Atrial Blanking Period	130, 140, 150... 180 ...350 ms
Ventricular Refractory Period	150, 160, 170... 330 ...500 ms

Therapies to promote intrinsic activation

Sleep	On, Off
Sleep Rate	30, 35, 40... 50 ...90 min ⁻¹ (exc. 65, 85)
Bed Time	00:00, 00:15, 00:30... 22:00 ...23:45
Wake Time	00:00, 00:15, 00:30... 8:00 ...23:45
Single Chamber Hysteresis	Off , 40, 50, 60 min ⁻¹

Rate Response Pacing

ADL Rate	60, 65, 70... 95 ...175, 180 min ⁻¹
Rate Profile Optimization	On , Off
ADL Response	1, 2, 3 , 4, 5
Exertion Response	1, 2, 3 , 4, 5
Activity Threshold	Low, Medium Low , Medium High, High
Acceleration	15 s, 30 s , 60 s
Deceleration	2.5 min, 5 min, 10 min, Exercise

MRI Pacing Parameters

SureScan® Pacing Mode	A00, V00, OAO, OVO
SureScan Lower Rate Interval	60, 70, 75, 80 ... 115, 120 ^b min ⁻¹
SureScan Atrial Amplitude	5.0, 5.5, 6.0, 7.5 V
SureScan Atrial Pulse Width	1.0, 1.25, 1.5 ms
SureScan Atrial Sensitivity	0.18, 0.25, 0.35, 0.5, 0.7, 1.0, 1.4, 2.0, 2.8, 4.0 mV
SureScan Ventricular Amplitude	5.0, 5.5, 6.0, 7.5 V
SureScan Ventricular Sensitivity	1.0, 1.4, 2.0, 2.8, 4.0, 5.6, 8.0, 11.2 mV
SureScan Ventricular Pulse Width	1.0, 1.25, 1.5 ms
SureScan Timeout Duration	24 hr
SureScanMRI Compatibility	1.5 and 3 Tesla, full body scan

Atrial Tachyarrhythmia Therapies and Interventions

Conducted AF Response^b

Regularize V-V during AT/AF	On, Off
Maximum Rate (min ⁻¹)	80, 85, 90... 110 ...130

Automatic Pacing, Sensing, and Lead Monitor

Implant Detection and Initialization

At the completion of the 30-minute Implant Detection period, Rate Profile Optimization is enabled; the appropriate pacing and sensing polarities are automatically selected by the device; Ventricular Output Management is enabled and Amplitude and Pulse Width become adaptive. Sensing Assurance™ is enabled and Sensitivity becomes adaptive.

Implant Detection	On/Restart, Off/Complete
Lead Monitor (A and V)	Configure, Monitor Only, Adaptive (Auto Polarity Switch), Off
Notify If <	200 Ω
Notify If >	1000, 2000, 3000, 4000 Ω
Monitor Sensitivity	2, 3, 4 ... 8 ... 16

Ventricular Output Management

Ventricular Output Management	Off, Monitor Only, Adaptive
Amplitude Margin	1.5x, 2x , 2.5x, 3x, 4x (times)
Minimum Adapted Amplitude	0.5, 0.75... 2 ...3.5 V
Capture Test Frequency	15, 30 min; 1, 2, 4, 8, 12 hours; Day at rest ; Day at...; 7 days at
Capture Test Time	00:00, 1:00...23:00
Acute Phase Days Remaining	Off, 7, 14, 21... 84 , 112 , 140, 168... 252 days
V. Sensing During Search	Unipolar, Bipolar, Adaptive

Sensing Assurance

Sensing Assurance (A and V) **On**, Off

Diagnostics

Cardiac Dashboard II

Highlights significant events, AT/AF and pacing summary, threshold and impedance trends

Ventricular pacing threshold trends
Battery longevity
Pacing summary and access to rate histogram
Atrial and ventricular lead impedance trends
Number of hours/day in atrial arrhythmia, percentage of time
Access to AT/AF diagnostics
Observations
P-wave/R-wave amplitudes and access to A and V sensitivity trends

CardioTrend™

Trend data compiles up to 6 months of daily clinical information in an easy-to-interpret graphic format

Histogram reports

Heart rate histograms
Sensor indicated rate profile

Atrial and ventricular episodes

High rate episodes
Atrial arrhythmia durations
Multiple EGM episodes

Clinician selected diagnostics

Custom rate trend
Ventricular output management detail
High rate detail

Patient Data Management

Patient data stored in device

Patient identification
Leads implanted
Device implanted
Clinician's stored notes

Data management

Automatic printing of initial interrogation report
Full page printing
Save-to-Disk capacity for electronic file management

Follow-up and Troubleshooting

Telemetry features

Transtelephonic monitor	On, Off
Extended telemetry	On, Off
Extended marker	Standard, Therapy Trace

Key parameter history
Initial interrogation report
Strength duration threshold test
Ventricular threshold test
Marker Channel™
Threshold margin test
Exercise test
EP studies
Magnet test
Underlying rhythm test
Sensing test
Temporary test

Magnet mode operation

	BOS	ERI
Single chamber atrial mode	A00 85 min ⁻¹	65
Single chamber ventricular mode	V00 85 min ⁻¹	65

Recommended Replacement Time (RRT) and

Elective Replacement Indicator (ERI)

Replacement message on programmer (Cardiac Dashboard II)
Battery/lead information Replacement message and battery voltage displayed on programmer
RRT and ERI initiation date Displayed on programmer

References

*SSIR or SSI 50%, 2 V, 60 min⁻¹, 0.4 ms, 500 OHM.

[†] SSIR or SSI 100%, 2 V, 60 min⁻¹, 0.4 ms, 500 OHM.

^ª Tolerance for amplitudes from 0,5 V through 6.0 V is $\pm 10\%$, and for 7,5 V is $-20/+0\%$. Tolerances are based on 37 °C and a 500Ω load. Amplitude is determined 200 µs after the leading edge of the pace.

^º User selection will not include 65 min⁻¹ or 85 min⁻¹.

^º Conducted AF Response is functional during VVIR modes.

Nominal values indicated in **bold**



Vitatron. The Pace Makers

Vitatron - based in Europe - is the only medical device company that specializes exclusively in pacemakers. Since 1962, Vitatron pacemakers have helped restore more than 1,000,000 people in more than 60 countries to a full life. We strive to achieve perfection in everything we do. This results in unique patient-focused therapies, as well as highly cost-effective pacemakers that are easy to use.

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