

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 600,000 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.



E60 DR
Dual Chamber

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Vitatron is further represented by dealers throughout the world. All specifications subject to change without notice.

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E60DR

Model E60A1

Specifications

Dual chamber pacemaker system

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E60DR Specifications

Model E60A1

Dual chamber pacemaker system

Mechanical

Model	E60A1
Size (HxWxD mm)	44.7x47.9x7.5
M (g)	27.1
V (cc)	12.1
Connector	IS-1 BI or UNI
Radiopaque ID	VG

Battery

Type	Lithium-iodine
Voltage	2.8 V
Average projected capacity	1.3 Ah

Longevity

with Reduced VP™+ off	11.3 years*
with Reduced VP™+ on	12.0 years**

Bradycardia Pacing

Programmable parameters

Pacing Modes	DDDR , DDD, DDIR, DDI, DVIR, DVI, DOOR, DOO, VDD, VVIR, VDIR, VVI, VDI, VVT, VOOR, VOO, AAIR, ADIR, AAI, ADI, AAT, AOOR, AOO, ODO, OVO, OAO
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Mode Switch	On , Off
Lower Rate	30, 35, 40... 60 ...170, 175 ppm (exc. 65, 85)
Upper Tracking Rate ^a	80, 90, 95... 130 ...180 ppm
Upper Sensor Rate	80, 90, 95... 130 ...180 ppm
A and RV Pulse Amplitude ^b	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	0.18, 0.25, 0.35, 0.5 , 0.7, 1, 1.4, 2, 2.8, 4 mV
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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
Paced AV (PAV)	30, 40, 50 ... 150 ...350 ms
Sensed AV (SAV)	30, 40, 50 ... 120 ...350 ms
PVARP	Auto , Varied, 150, 160, 170 ...500 ms
Minimum PVARP	150, 160, 170... 250 ...500 ms
PVAB	130, 140, 150... 180 ...350 ms
Atrial Refractory Period	180, 190, 200... 250 ...500 ms
Atrial Blanking Period	130, 140, 150... 180 ...350 ms
Ventricular Refractory Period	150, 160, 170... 230 ...500 ms
Ventricular Blanking (after atrial pace) (PAVB)	20, 28 , 36,44 ms

Therapies to promote intrinsic activation

Reduced VP™+	On , Off
Max Increase to AV	10, 20, 30... 170 ...250 ms
Sinus Preference™	On , Off
Sinus Preference Zone	3, 5, 10 , 15, 20 ppm
Search Interval	5, 10 , 20, 30 min
Sleep	On, Off
Sleep Rate	30, 35, 40... 50 ...90 ppm (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 ppm

Rate Response Pacing

ADL Rate	60, 65, 70... 95 ...175, 180 ppm
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
RAAV	On, Off
Start Rate	50, 55, 60... 80 ...175 ppm
Stop Rate	55, 60, 65... 120 ...180 ppm
Maximum Offset	-10, -20, -30... -40 ...-300 ms

Additional pacing features

PMT Intervention	On, Off
PVC Response	On , Off
Ventricular Safety Pacing	On , Off

Atrial Tachyarrhythmia Therapies and Interventions

Mode Switch	On , Off
Detected Rate	120, 125... 175 ...200 ppm
Detect Duration	No Delay , 10, 20...60 sec
Blanked Flutter Search	On , Off

Conducted AF Response^c

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

Non-Competitive Atrial Pacing On, Off

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. Reduced VP™+ is enabled 60 minutes after Implant Detection is complete.

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

Diagnostics

Cardiac Dashboard II

Highlights significant events, 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
Observations

Histogram reports

Heart rate histograms
AV Conduction histograms
Reduced VP™+ histogram
Sensor indicated rate profile

Atrial and ventricular episodes

Atrial and ventricular high rate episodes
Ventricular rate during AT/AF
AT/AF 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/RRT
Dual chamber mode	DOO 85 ppm	65
Single chamber atrial mode	AOO 85 ppm	65
Single chamber ventricular mode	VOO 85 ppm	65

ERI-RRT Initiation date

Recommended Replacement Time (RRT/ERI)

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

References

^aThe atrial and ventricular rate limit is 200 min⁻¹ (± 20 min⁻¹).

^bTolerance for amplitudes from 0.5 V through 6.0 V is ± 10% and for 7.5 V is -20/+0%. Tolerances are based on 37°C and a 500 Ω load. Amplitude is determined 200 μs after the leading edge of the pace.

^cConducted AF response is functional during Mode Switch episodes, DDIR, VVIR, and VDIR modes.

* DDDR or DDD, 60ppm, 100% pacing, ventricular 2.0 V, † atrial, 1.5 V, ‡ 0.4 ms pulse width, 1000 Ω pacing impedance

** Reduced VP™+ ON 50% pacing

† Ventricular output management minimum adapted values at out-of-box settings.

Nominal values indicated in **bold**