E60 DR
Dual Chamber

E60 DR
Specifications

Model E60A1
Dual chamber pacemaker system

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.

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Specifications

Model E60A1
Dual chamber pacemaker system

Mechanical

- Model: E60A1
- Size (WxHxD mm): 44.7x47.9x7.5
- M (g): 27.1
- V (cc): 12.1
- Radiopaque ID: IS-1 Br or UNI
- Battery Type: Lithium-iodine
- Voltage: 2.8 V
- Average projected capacity: 1.3 Ah
- Longevity:
  - with Reduced VP™+: 11.3 years
  - with Reduced VP™+: 12.0 years

Bradycardia Pacing

- Programmed parameters
- Pacings Modes: DDOR, DDD, DDR, DVI, DDI, DOOR, DOD, VVI, VDD, VDR, VDDR, VDDIR, AAI, AAD, ADO, AOO, DDD, DDI, DDR
- Mode Switch: On, Off
- Lower Rate: 30, 35, 40…170, 175 ppm
- Upper Tracking Rate: 80, 90, 95…130…180 ppm
- A and RV Pulse Amplitude: 5.0, 5.5, 6.0…1.0, 1.5, 2…3.5…4, 4.5, 5, 5.5, 6, 6.5, 7, 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, 0.7, 1.4, 2, 2.8, 4…12 mV
- Ventricular Sensitivity: 1, 1.4, 2, 2.4, 4, 5, 6, 8, 12, 16 mV
- Pacing Polarity (A and V): Unipolar, Bipolar, Unipolar, Unipolar
- Sensed AV (SAV) Rate: 30, 40, 50…120, 130…180…250…350 ms
- Sensing Polarity (A and V): Bipolar, Unipolar, Configure
- Ventricular Blanking (after atrial pace): 20, 28, 36, 44 ms

Therapies to promote intrinsic activation

- Reduced VP™+: On, Off
- Max Increase to 60: 10, 20, 30…170…250 ms
- Sinus Preference™: On, Off
- Sinus Preference Zone Search Interval: 3, 5, 10, 15, 20, 30 s
- Sleep Rate: 30, 35, 40…50…90 ppm
- Sleep Mode: On, Off
- Sleep Ramp: 0.00, 0.01, 0.02, 0.03…20, 22, 24…28, 30…40, 45…60 s
- One Chamber Hypertension: Off, 40, 50, 60 ppm

Rate Response Pacing

- Rate Response Optimization: 1, 2, 3, 4, 5
- Ejection Response: Low, Medium Low, Medium High, High
- Acceleration: 15, 30, 60…180 ppm
- Deceleration: 2.5, 5, 10 min, Exercise
- RAAV: On, Off
- Start Rate: 50, 55, 60…130…180 ppm
- Stop Rate: 55, 60, 65, 120…180 ppm
- Maximum Offset: -10, -20…-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, 130…200 ppm
- Detect Duration: No Delay, 10, 20…60 sec
- Blanked Flutter Search: On, Off
- Conducted AF Response:
  - Regular: 80, 85…100…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, Off
    - Lead Monitor (A and V):
      - Atrial: On/Restart, Off/Complete
      - Ventricular: Configures, Monitor Only, Adaptive
    - Enable AF Pacing:
      - Off
    - Atrial Refractory Period: 180, 190, 200, 250…500 ms
    - Atrial Blanking Period: 130, 140, 150, 180…350 ms
    - Atrial Refractory Period: 150, 160, 170…250…300 ms
    - Ventricular Blanking (after atrial pace): 20, 28, 36, 44 ms

Ventricular Output Management

- Management:
  - Off, Monitor Only, Adaptive
- Amplitude Margin: 1.5x, 2x, 2.5x, 3x (4 times)
- Minimum Amplitude: Configures, Monitor Only, Adaptive (Auto Polarity Switch)
- Capture Test Frequency: 5, 30 minute, 1.24, 8, 12 hours
- Capture Test Time: 0.00, 1.00…15…30…45…60…90…120…180…240…300 sec
- Acute Phase Days: 7 days
- Remaining: On, Off
- V Sensing During Search: Unipolar, Bipolar

Diagnostics

Cardiac Dashboard II

- Highlights significant events, pacing summary, threshold and impedance trends
- Ventricular pacing threshold trends
- Battery longevity
- Pacings 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
- Ventricular rate during AT/AF
- 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:
  - Transcutaneous 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: 608 ppm
- ERIR: 603 ppm

- Follow-up and troubleshooting

Recommended Replacement Time (RTR/EIR)

- Replacement message on programmer (Cardiac Dashboard II)
- Battery information on programmer

RTR/EIR initiation date

- Displayed on programmer

References

*The atrial and ventricular rate limit is 200 min⁻¹ (± 20 min⁻¹).
*Threshold for amplitudes from 0.5 V through 6.0 V is ±10% and for 7.5 V to 20.0 V is ±20%. Amplitudes are based on 5°C and a 500 Ω load.
*Amplitude is determined 200 μs after the leading edge of the pace.
*Conducted AF response is functional during Mode Switch episodes, DDOR, DDR, VVR, and VDR modes.
*DDR or DDD, 60ppm, 100% pacing, ventricular 2.0 V, 1 atrial, 1.5 V, 10.4 ms pulse width, 1000 Hz pacing impedance
*Reduced VP™: ON 50% pacing
*Ventricular output management minimum adapted values at out-of-box settings.
*Nominal values indicated in bold.