

The Mindray BeneHeart D30 ([VM-CODE]) is a compact, multi-function defibrillator/monitor combining manual defibrillation (up to 360J), AED mode (2020 AHA/2021 ERC guidelines), noninvasive pacing, and full patient monitoring — including 3/5-lead ECG, SpO2, NIBP, sidestream CO2, respiration, and CPR feedback — in a 4.2kg unit. Biphasic truncated exponential waveform with impedance compensation. Charge to 200J in under 3 seconds; to 360J in under 7 seconds. Power-on in under 2 seconds. 8-inch 1024×768 LCD colour capacitive touch display with gesture control and tempered glass protection. 4500 mAh lithium-ion battery: 6.5-hour monitoring, 220 shocks at 360J, or 4.5-hour pacing per charge. 50mm thermal recorder. 4GB internal storage; 120 hours consecutive ECG waveform storage. Wired, Wi-Fi, and 4G connectivity for real-time data transmission to CMS or

HL7 systems. IPX5 water resistance; EN/IEC 60601-1 and IEC60601-1-2 compliant. Dimensions: 285×170×265mm. Available in South Africa from Vital Medical.

8-Inch Touch Display, Biphasic Defibrillation to 360J, and Sub-3-Second Charge Time

The Mindray BeneHeart D30 VM-D30 is a full-function portable defibrillator/monitor designed for emergency departments, intensive care units, general wards, pre-hospital EMS, and any clinical environment requiring immediate defibrillation capability combined with continuous multi-parameter patient monitoring. The unit delivers biphasic truncated exponential (BTE) waveform defibrillation with automatic impedance compensation across a patient impedance range of 25–300Ω, ensuring consistent effective energy delivery regardless of transthoracic resistance — the clinical variable that most commonly causes energy shortfall with fixed-waveform devices. Manual mode energy selection covers 1J through 360J across 23 configurable levels. Charge time to 200J is under 3 seconds and to 360J under 7 seconds with a new, fully charged battery, meeting the response-time requirements for time-critical shockable rhythms including ventricular fibrillation and pulseless ventricular tachycardia. The unit powers on in under 2 seconds and achieves ECG signal recovery within 2.5 seconds of shock delivery — minimising the post-shock pulse check delay that is clinically significant in resuscitation protocols. Synchronous cardioversion delivers energy within 60ms of the QRS peak. The 8-inch LCD colour capacitive touch display — protected by tempered glass — displays up to 5 simultaneous waveform channels at 1024×768 resolution, with gesture control, auto-brightness, high contrast mode, trace freeze, and screenshot capability. Sweep speeds are selectable from 6.25 to 50mm/s for ECG and SpO2, and 3 to 50mm/s for respiration and CO2.

Multi-Parameter Monitoring: ECG, SpO2, NIBP, CO2, Respiration, and CPR Feedback

The D30 integrates a comprehensive monitoring suite alongside its defibrillation and pacing functions. ECG monitoring supports 3-lead (I, II, III) and 5-lead (I, II, III, aVR, aVL, aVF, V) configurations, with heart rate display across adult (15–300bpm), paediatric, and neonatal (15–350bpm) ranges, arrhythmia detection, and ST/QT monitoring with real-time and trend reporting. SpO2 is compatible with Mindray, Nellcor, and Masimo probe protocols — giving the clinical team flexibility to use existing probe inventory — with 0–100% range and 1% resolution across all three. NIBP operates in manual, auto, STAT, and sequence modes, displaying systolic, diastolic, and mean pressures across adult, paediatric, and neonatal cuff inflation pressure defaults. Sidestream CO2 measurement covers 0–150mmHg with 1mmHg resolution and airway respiratory

rate measurement to 150rpm. Respiration monitoring uses trans-thoracic impedance, 0–200rpm range, 1rpm resolution. The integrated CPR feedback system monitors compression rate and depth from the optional CPR sensor (40–160cpm rate; 0–8cm depth, ±5mm accuracy), and compression quality via Mindray SpO2 — displaying compression fraction (CCF) and Compression Quality Index (CQI) in real time. A CPR metronome, CPR countdown, and CPR filter complete the resuscitation support suite. Noninvasive pacing operates in demand or fixed mode, 30–210ppm, with monophasic square wave pulse output of 0–200mA at 20ms or 40ms pulse width. AED mode meets 2020 AHA and 2021 ERC guidelines by default, with energy configurable for adult (100–360J) and paediatric (10–200J) protocols and 1, 2, or 3 shock series.

Battery Endurance, 4G Connectivity, Data Storage, and Deployment in South Africa

The D30’s 4500mAh rechargeable lithium-ion battery provides 6.5 hours of continuous monitoring, 220 defibrillation shocks at 360J (at 1-minute intervals), or 4.5 hours of pacing per charge. The battery charges to 90% in under 3 hours and to 100% in under 4 hours with the unit off, and is monitored by a 5-segment LED indicator for rapid capacity assessment. This battery endurance is relevant to the South African pre-hospital environment — where EMS transport times and load-shedding-related facility power interruptions both create extended periods of battery-dependent operation. The D30 offers wired, Wi-Fi, and 4G data connectivity: in-hospital it transmits real-time patient data to a central monitoring station (CMS) or HL7 service over Wi-Fi or wired network; pre-hospital it transmits real-time data to a CMS over 4G, enabling receiving hospital notification and preparation before patient arrival. Internal storage is 4GB, holding up to 1000 events per patient, 120 hours of consecutive ECG waveform, 200 hours of tabular trends at 1-minute resolution, and at least 8 hours of voice recording. Data exports to PC via USB. The 50mm high-resolution thermal recorder prints real-time waveforms, ST and QT reports, rescue records, event summaries, and full disclosure review at 6.25–50mm/s. The D30 meets IPX5 water resistance and IP5X dust ingress ratings, and is certified to EN/IEC 60601-1 electrical safety and IEC60601-1-2 EMC standards. Available in South Africa from Vital Medical, the [VM-CODE] is suited to emergency departments, ICUs, general wards, coronary care units, and EMS services requiring a compact, full-specification defibrillator/monitor with hospital-grade monitoring and connectivity.

TECHNICAL SPECIFICATIONS TABLE

Specification	Detail
Brand	Mindray
Model	BeneHeart D30
SKU	VM-D30
Type	Defibrillator / Monitor
Dimensions	285 × 170 × 265mm (without external paddles)
Weight	4.2kg (with battery)
Display	8-inch LCD colour capacitive touch, tempered glass, 1024×768px
Display Channels	Up to 5 simultaneous waveforms
Gesture Control	Yes
Defibrillation Waveform	Biphasic truncated exponential — with impedance compensation
Energy Range (Manual)	1–360J (23 levels)
Charge Time	<3s to 200J; <7s to 360J
Power-On Time	<2 seconds
ECG Recovery Post-Shock	<2.5 seconds
Patient Impedance Range	25–300Ω
Synchronous Cardioversion	Within 60ms of QRS peak
AED Mode	Yes — 2020 AHA / 2021 ERC guidelines; adult 100–360J; paediatric 10–200J
Noninvasive Pacing	Demand / fixed; 30–210ppm; 0–200mA; 20ms or 40ms pulse
ECG Leads	3-lead (I, II, III) and 5-lead (I, II, III, aVR, aVL, aVF, V)
Heart Rate Range	Adult: 15–300bpm; Paediatric/Neonate: 15–350bpm
ST/QT Monitoring	Yes
Arrhythmia Detection	Yes
SpO2	Mindray (0–100%), Nellcor (0–100%), Masimo (1–100%)
NIBP	Manual, Auto, STAT, Sequence; Systolic/Diastolic/Mean
CO2	Sidestream; 0–150mmHg; awRR 0–150rpm
Respiration	Trans-thoracic impedance; 0–200rpm
CPR Feedback	Rate, depth, recoil, CCF, CQI; metronome, countdown, filter
Battery	4500mAh lithium-ion
Battery Life	6.5h monitoring / 220 shocks at 360J / 4.5h pacing
Charge Time (Battery)	<3h to 90%; <4h to 100%
Recorder	50mm thermal; max 3 channels; 6.25–50mm/s
Internal Storage	4GB
ECG Waveform Storage	120 hours consecutive
Event Storage	Up to 1000 events per patient
Tabular Trends	200 hours (1-min resolution)
Voice Recording	≥8 hours per patient
Data Export	USB flash memory

Specification	Detail
Connectivity	Wired, Wi-Fi, 4G
Water Resistance	IPX5
Dust Resistance	IP5X
Operating Temperature	-20°C to +55°C
Operating Altitude	-382m to +4575m
Certifications	EN/IEC 60601-1; IEC60601-1-2 (EMC); IEC 60601-2-4

SKU: VM-D30