

# BeneHeart R3

## Electrocardiograph

### Physical

Height:	56 mm
Width:	260 mm
Depth:	194 mm
Weight:	1.2 Kg including battery, internal AC power supply

### Processing

ECG analysis sampling rate:	500 samples/ second (sps)
Digital sampling rate:	1000 samples/ second/ channel
Acquisition mode:	Pre-acquisition or post-acquisition, provide 10 seconds of instantaneous ECG acquisition
Dynamic range:	AC Differential $\pm 10$ mV, DC offset $\pm 600$ mV
Resolution:	1 $\mu$ V/LSB @ 500 sps
Frequency response:	-3 dB @ 0.05 Hz to 150 Hz
Baseline drift filter:	0.05 Hz, Baseline Drift Removal(BDR)
High cut-off frequency:	20 Hz, 35 Hz, 150 Hz
AC filter:	50/60 Hz $\pm 0.3$ Hz
Common mode rejection:	$\geq 110$ dB (with AC filter switched off)
ADC:	24 bit
Input impedance:	$\geq 50$ M $\Omega$ @ 10 Hz, defibrillator protected
Patient leakage:	<10 $\mu$ A
Heart rate meter:	30 to 300 BPM $\pm 10\%$ or $\pm 5$ BPM, whichever is greater
Startup time:	$\leq 5$ second
Sensitivity/gain:	5, 10, 20 mm/mV, Auto

### Display

Color:	24 bit Color display
Display type:	5 inch diagonal, 16: 9 aspect ratio, TFT LCD with LED graphics backlight
Display resolution:	800 * 480
Display data:	Patient ID, gender, age, heart rate, clock, battery power indicator, waveforms, lead labels, speed, gain, filter settings, warning messages, information messages, network status and USB

### Power

Power supply:	AC input (without external power adaptor) or battery operation
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### AC Power

Input voltage:	100 to 240 VAC $\pm 10\%$
Input power:	60 VA
AC frequency:	50/60 Hz $\pm 3$ Hz

### Battery

Battery type:	rechargeable Lithium ion battery
Battery capacity:	11.1 V typical, 2500 mAh 6 hours of continuous operation without recording or 500 ECGs in 2.5 x 4 format at 25 mm/s and 10 mm/mV
Battery charge time:	3.5 hours with power off

### Writer

Writer technology:	Thermal dot array
Writer Width:	80 mm
Writer speed:	5, 12.5, 25, 50 mm/s
Number of traces:	3 leads + 1 rhythm or 3 leads; user selectable
Writer speed accuracy:	$\pm 5\%$
Writer amplitude accuracy:	$\pm 5\%$
Writer resolution:	Horizontal 32 dots/mm @ 25 mm/s, Vertical 8 dots/mm
Paper type:	Thermal roll paper (20 m) & Z- fold paper (80 mm width, 200 sheets/pack)

### Software

Measurement and interpretation:	Supports measurement and interpretation with the University of Glasgow ECG analysis algorithm
Resting ECG mode:	Records and prints 12-lead resting ECG with 10-second duration as a standard feature
Supported patient information:	Patient ID, secondary ID, age, date of birth, gender, race, medication, class and V3 electrode Placement
Internal storage:	800 ECGs in internal memory
ECG Storage format:	PDF format and Mindray storage format
Multi-language support:	Supports 13 languages

### Report Formats

Thermal printer report formats:	4 by 2.5 s (Sequential) 4 by 2.5 s Compact 4 by 2.5 s + 1 rhythm lead 4 by 2.5/5/7.5/10 s (Simultaneous) Autorhythm (60 second ECG data for 1 rhythm lead) Continuous 1 or 3 channel manual rhythm
PDF report format:	4 by 2.5 s + 1 rhythm lead
(A4/letter format)	2 by 5 s 2 by 5 s + 1 rhythm lead 1 by 10 s

### Accessories

ECG patient cable with banana plugs, Limb Clamps, Chest Bulbs (IEC/AHA)
ECG cable with Electrode clips (IEC/AHA)
Country-specific power cords
Z-fold and Roll paper

### Environmental Specification

#### Temperature

Operating:	0 °C to 40 °C
Transport/storage:	-20 °C to 60 °C

#### Humidity

Operating:	15% to 95% RH non-condensing
Transport/storage:	10% to 95% RH non-condensing

#### Pressure

Operating:	57.0 kPa to 107.4 kPa
Transport/storage:	16.0 kPa to 107.4 kPa



EN1789

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Your Faithful Consultant for Resting ECG Diagnosis

Mindray Building, Keji 12th Road South,  
High-tech Industrial Park, Nanshan, Shenzhen 518057, P.R. China  
Tel: +86 755 8188 8998 Fax: +86 755 26582680  
E-mail: intl-market@mindray.com www.mindray.com

Mindray is listed on the NYSE under the symbol "MR"

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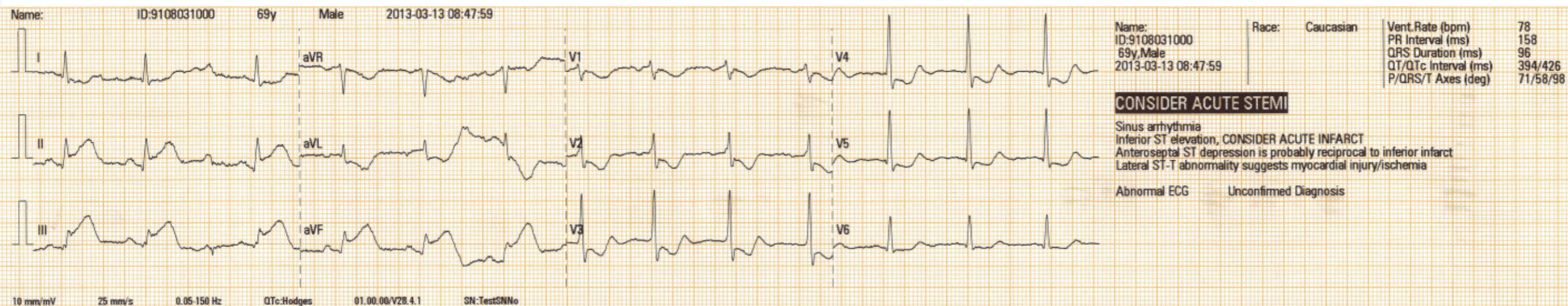
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**The Glasgow algorithm** is the first to be based on specific variables, including age, gender, race, medication, and class in order to maximize the accuracy of the ECG interpretation.

On the report, a headline may highlight one of several “critical value warnings” to alert medical attendants of findings that need immediate attention.

For neonates and children, lead V4R is used instead of V3 to improve the diagnostic accuracy.

### Reliable Analysis

BeneHeart R3 utilizes the University of Glasgow ECG analysis algorithm, one of the world-leading resting ECG interpretations with 50 years of history.

### Clear Display

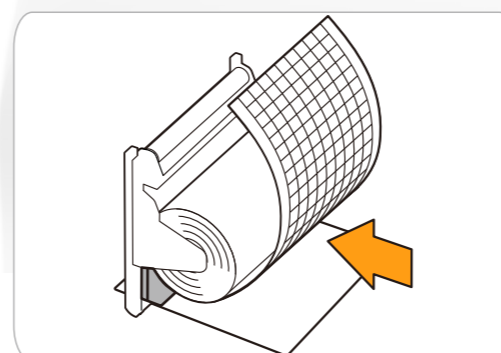
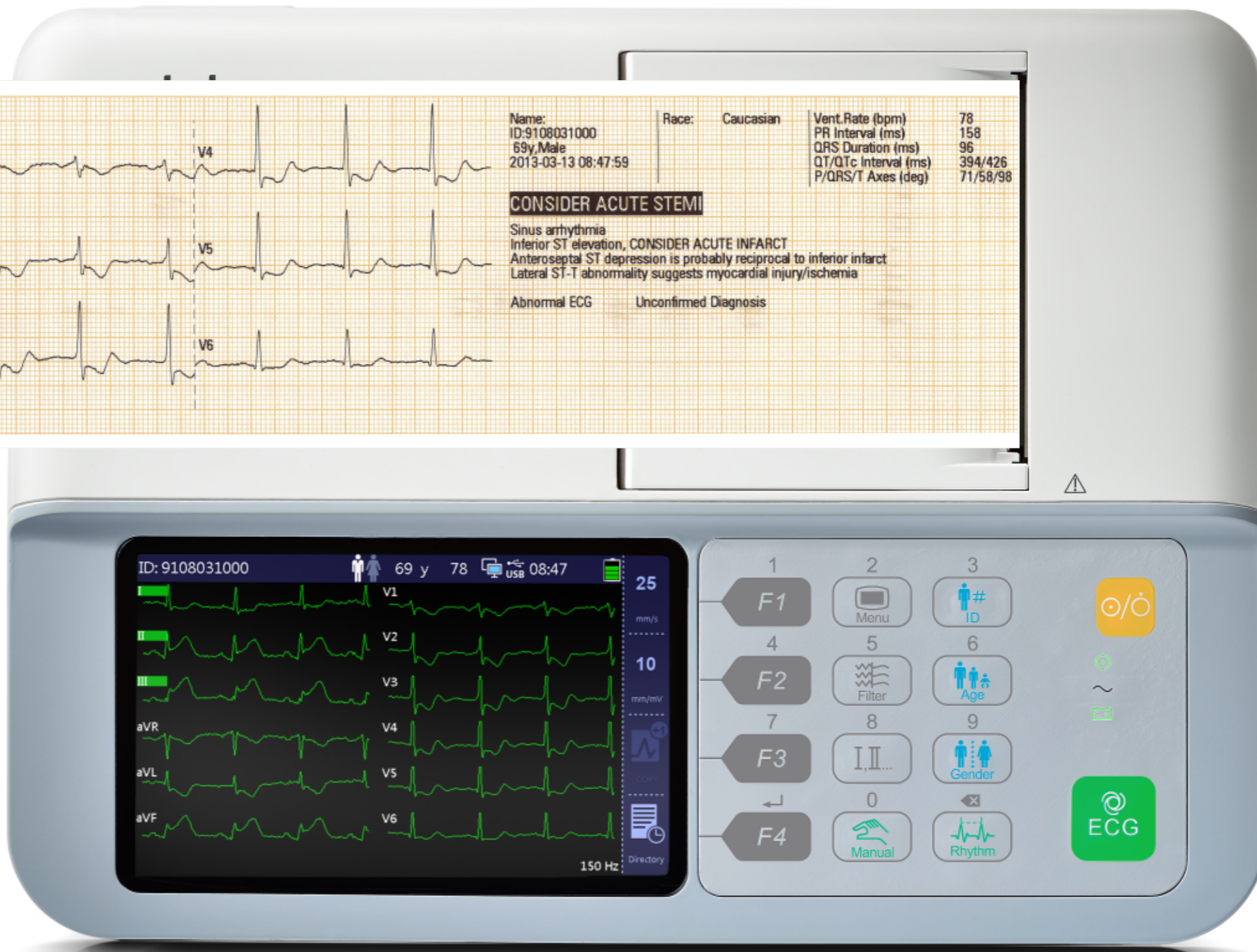
5-inch color screen offers the highest resolution in industry, enabling clinicians to observe real-time waveforms accurately.

### Great Portability

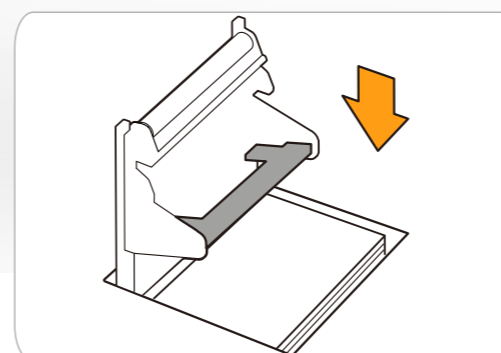
The BeneHeart R3 weighs only 1.2kg with battery, easy to carry.

### Convenient Operation

ECG recording is automatically unfolded on the writing pad on top of the machine for notes or signature.



With rolling paper



With Z-fold paper

### Unique Recorder

Compatible with both rolling paper and Z-fold paper, you can easily switch between these two styles of papers without dismantling the pressure lever.