

# SD3 Series

## Ultrasonic Pocket Doppler

Version 1.3



## Technical Specifications

### Physical Specifications

#### Main Unit

Dimensions(D x W x H): 168 mm x 31 mm x 67 mm

Weight: 350 g approx.(including the battery)

#### Probe

Dimensions(obstetrical probe): 39 mm x 140 mm

Dimensions(vascular probe): 25 mm x 115 mm

Weight: < 100 g

Cable Length: 2 m

#### Charge Stand

Dimensions(D x W x H): 96 mm x 93 mm x 100 mm

Weight: < 200 g

#### Display

0.96 inch OLED Double Color Screen

### Power Supply (SD3 Vascular/SD3 Lite)

#### 3 AA alkaline battery LR6

Normal working time:  $\geq 10$  hours

#### 3 AA rechargeable NI-MH battery R6

Normal working time:  $\geq 10$  hours

Charge mode: rechargeable NI-MH battery charger

Charge time: about 5 hours

### Power Supply (SD3 Plus/SD3 Pro)

#### Nominal Capacity

2600 mAh

#### Nominal Voltage

3.7 V

#### Normal working time

16 hours

#### Charge time

6 hours

#### Work Temperature

Charging Temperature: 0 °C ~ +45 °C ( +32 °F ~ +113 °F)

Discharging Temperature: -20 °C ~ +60 °C (-4 °F ~ +140 °F)

Within 1 Month: 0 °C ~ +45 °C ( +32 °F ~ +113 °F)

#### Storage Temperature

1 ~ 3 Month: 0 °C ~ +35 °C ( +32 °F ~ +95 °F)

3 ~ 12 Month: 0 °C ~ +25 °C ( +32 °F ~ +77 °F)

### Audio Output

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<b>Output Power</b>	<b>2 W</b>
<b>FHR</b>	
<b>Operating Mode</b>	<b>CW</b>
<b>Working Frequency</b>	<b>(2 ±10%) MHz / (3 ±10%) MHz</b>
<b>Nominal Frequency</b>	<b>2 MHz / 3 MHz</b>
<b>2MHz /3MHz Obstetrical Probe</b>	<p>p- &lt;1 MPa  <math>I_{ob}&lt;20 \text{ mW/cm}^2</math>  <math>I_{spta} &lt;100 \text{ mW/cm}^2</math></p> <p><b>2 MHz:</b>  Max <math>I_{sata}</math>: 12.77 mW/cm<sup>2</sup>  Min <math>I_{sata}</math>: 5.27 mW/cm<sup>2</sup></p> <p><b>3 MHz:</b>  Max <math>I_{sata}</math>: 19.91 mW/cm<sup>2</sup>  Min <math>I_{sata}</math>: 15.38 mW/cm<sup>2</sup></p>
<b>Effective Radiating Area of Transducer</b>	<b>(245±15%) mm<sup>2</sup></b>
<b>FHR Measurement Range</b>	<b>50 bpm ~ 240 bpm</b>
<b>Resolution</b>	<b>1 bpm</b>
<b>Accuracy</b>	<b>±2 bpm</b>
<b>Sensitivity</b>	<b>9 Weeks Gestation (3 MHz)</b>

## Vascular

<b>Operating Mode</b>	<b>CW</b>
<b>Working Frequency</b>	<b>(4 ± 10%) MHz / (5 ± 10%) MHz / (8 ± 10%) MHz</b>
<b>Nominal Frequency</b>	<b>4MHz / 5MHz / 8MHz</b>
<b>4MHz / 5MHz / 8MHz Vascular Probe</b>	<p>p- &lt;1 MPa  <math>I_{ob}&lt;30 \text{ mW/cm}^2</math>  <math>I_{spta} &lt;100 \text{ mW/cm}^2</math></p>
<b>Effective Radiating Area of Transducer</b>	<p><b>4 MHz / 5 MHz : (32 ±15%) mm<sup>2</sup></b>  <b>8 MHz: (14 ±15%) mm<sup>2</sup></b></p>

## Recording and Playing

<b>Audio Sampling Frequency</b>	<b>4 kHz</b>
<b>Recording Length</b>	<b>240 seconds</b>

## Auto Power-off

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1 minute after no signal or operation, auto shut down.

Probe replacement, auto shut down.

## Coupling Gel

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pH	5.5 ~ 8.0
Acoustic Impedance	$1.5 \times 10^6 \text{ Pa}\cdot\text{s/m} \sim 1.7 \times 10^6 \text{ Pa}\cdot\text{s/m}$ (35 °C /95 °F)

## Safety Specifications

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Standards Compliance	IEC 60601-1:2005, EN 60601-1:2006, IEC 60601-1-2:2014, EN 60601-1-2:2015, IEC/EN 61266:1994, EN 60601-2-37:2008, IEC 60601-2-37:2007
Anti-electric Shock Type	Internally powered equipment
Anti-electric Shock Degree	Type B equipment
Degree of Protection against Harmful Ingress of Water	Main Unit Ordinary Equipment (Sealed equipment without liquid proof) Probes IPX8
Degree of Safety in Presence of Flammable Gases	Equipment not suitable for use in presence of flammable gases
EMC	CISPR11 Group 1 Class B
Working System	Continuous running equipment

## Environmental Specifications

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Temperature	Working: +5 °C ~ + 40 °C ( +41 °F ~ +104 °F) Transport and Storage: -20 °C ~ + 55 °C ( -4 °F ~ +131 °F)
Relative Humidity	Working: 25 % ~ 80 % (non-condensing) Transport and Storage: 25 % ~ 93 %(non-condensing)
Atmospheric Pressure	Working: 86 kPa ~ 106 kPa Transport and Storage: 70 kPa ~ 106 kPa