

SD3 Series

Ultrasonic Pocket Doppler

Version 1.2



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: ≥ 10 hours
3 AA rechargeable NI-MH battery R6	Normal working time: ≥ 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	3.7V
Normal working time	≥ 16 hours
Charge time	≤ 6 hours
Work Temperature	Charging Temperature: $0^{\circ}\text{C} \sim +45^{\circ}\text{C}$ ($+32^{\circ}\text{F} \sim +113^{\circ}\text{F}$) Discharging Temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim +140^{\circ}\text{F}$) Within 1 Month: $0^{\circ}\text{C} \sim +45^{\circ}\text{C}$ ($+32^{\circ}\text{F} \sim +113^{\circ}\text{F}$)
Storage Temperature	1 ~ 3 Month: $0^{\circ}\text{C} \sim +35^{\circ}\text{C}$ ($+32^{\circ}\text{F} \sim +95^{\circ}\text{F}$) 3 ~ 12 Month: $0^{\circ}\text{C} \sim +25^{\circ}\text{C}$ ($+32^{\circ}\text{F} \sim +77^{\circ}\text{F}$)

Audio Output

Output Power	2 W
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FHR

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

Vascular

Operating Mode	CW
Working Frequency	(4 ± 10%) MHz / (5 ± 10%) MHz / (8 ± 10%) MHz
Nominal Frequency	4MHz / 5MHz / 8MHz
4MHz / 5MHz / 8MHz Vascular Probe	p- <1 MPa
	$I_{ob}<25 \text{ mW/cm}^2$
	$I_{spta}<100 \text{ mW/cm}^2$
Effective Radiating Area of Transducer	4 MHz / 5 MHz : (32 ±15%) mm ²
	8 MHz: (14 ±15%) mm ²

Recording and Playing

Audio Sampling Frequency	4 kHz
Recording Length	240 seconds

Auto Power-off

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

Probe replacement, auto shut down.

Coupling Gel

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

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

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