

# F9 Series Fetal & Maternal Monitor

## ■ Specification

### Physical Characteristics

Dimensions: 347mm x 330mm x 126mm  
Weight: approximate 6 kg

### Performance Specifications

Display: 12 inches color TFT-LCD  
Resolution: 800 (H) × 600 (V)  
Recorder: 1/2/3/ cm/min real-time printing speed  
Fast print speed (stored traces) up to 25mm/sec  
Paper: 150/152 mm, Z-fold, thermosensitive  
American/International standard

### Ultrasound

Technique: Ultrasound Pulse Doppler with autocorrelation  
Pulse repetition rate: 2 KHz  
Ultrasound frequency: 1.0MHz±10%  
FHR measurement range: 50bpm – 240bpm  
Resolution: 1bpm  
Accuracy: ±1 bpm

### DECG

Technique: Peak – Peak detection technique  
DFHR measurement range: 30bpm – 240bpm  
Resolution: 1 bpm  
Accuracy: ±1bpm  
Input Impedance: > 10M (Differential)  
Input Impedance: > 20M (Common Mode)

### TOCO

TOCO measurement range: 0-100 Relative (%)  
Resolution: 1%  
Zero mode: Auto/Manual  
Non-linear error: 10%

### IUP

Pressure measurement range: 0 – 100 mmHg  
Resolution: 1%  
Zero mode: Auto / Manual  
Non-linear error: ±3mmHg

### Auto Fetal Movement (AFM)

Technique: Pulsed Doppler ultrasound  
Measurement Range: 0-100 (%)  
Resolution: 1%

### Marking

Manual fetal movement mark

### ECG

ECG Waveform: Manual control ECG waveform display  
ECG falls off: Detect automatically

### HR

Measurement Range: 30-240 bpm  
Accuracy: ±2 bpm

### SpO<sub>2</sub>

Measurement Range: 50%-100%  
Resolution: 1%  
Accuracy: 90%-100%: ±2%  
70% -90%: ±4%  
<70%: unspecified

### PR

Measurement Range: 30-240 bpm  
Accuracy: ±2 bpm

### NIBP (for adult)

Systolic pressure: 40mmHg-270mmHg  
Mean pressure: 20mmHg-235mmHg  
Diastolic pressure: 10mmHg-215mmHg  
Resolution: 1mmHg

### Temperature (TEMP)

Measurement range: 0°C-50°C  
Accuracy: ±0.2°C

### Battery

14.8 V rechargeable Lithium-ion battery  
Continual working time: 2-4 hours

### Communication ports

Ethernet, RS232



## Features

Simple operation: Foldable screen, probe rack and wall mounting rack, handle for easy carrying, user-friendly GUI with 3 display modes and 4 optional color background

Powerful functions: 24 hours CTG storage, fast print for stored traces, 'Smart Notes' annotation, Signals Overlap Verification, real-time and offline data transmission to PC

Outstanding performance: 12 inches color screen, excellent algorithm, 12-crystal and 1MHz water-proof transducer for accurate detection

# F9 Series Fetal & Maternal Monitor

Configuration	F9	F9 Express
Dual-FHR	√	√
TOCO	√	√
FM	√	√
AFM	√	√
DECG/IUP	Opt	Opt
MECG	x	√
NIBP	x	√
MSPO <sub>2</sub>	x	√
TEMP	x	√
Fetal Stimulator	Opt	Opt
Lithium-ion Battery	Opt	Opt

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# F9 Series Fetal & Maternal Monitor



12 inches high-resolution color LCD, folding up, touch-screen (optional)



Probe rack



12-crystal water-proof transducer for FHR detection



As a high-tech fetal and maternal monitor, F9 offers advanced and integrated monitoring for the delivery room in hospital, private obstetrician's office and antepartum clinic. F9 is designed for the obstetrical care continuum spanning from the antepartum and intrapartum state to postpartum state.

F9 provides you with integrated monitoring of twins' fetal heart rates, uterine activity, fetal movement, intrauterine pressure and direct ECG as well as maternal NIBP, SpO<sub>2</sub>, ECG and TEMP.

Our new 12-crystal waterproof ultrasound transducer produces broad beam pulsed wave, which results in better signal of fetal heart rate. Moreover, the flat surface TOCO transducer enables the pregnant women to feel more comfortable.

With rechargeable lithium-ion battery, F9 can sustain 2~4 hours continuous work without power supply, which makes the characteristic of portable come true.

Data of F9 can be automatically transmitted to MFM-CNS or Insight software.



## Communication

F9 offers various types of communication and interfaces.

**MFM-CNS:** Via the built-in Ethernet interface and data bus, data collected by the monitor can be transmitted to the MFM-CNS central monitoring system. With the application of MFM-CNS, nurses can monitor several patients simultaneously without walking from one room to another.

**Insight software:** As a data management software, Insight software provides a solution of real-time and offline data transmission to PC.



## External Monitoring

F9 offers external fetal parameters such as non-invasive ultrasound, TOCO and automatic fetal movement.

## DECG and IUP

F9 is available for internal parameters measurement, DECG and IUP, providing accurate information of fetal ECG and maternal intrauterine pressure. Two optional ranges of DECG is provided, 30bpm~240bpm for American standard and 50bpm~210bpm for International standard.

## Vibrating stimulator

Event can be displayed and recorded on CTG trends when connected with a fetal stimulator by an audio cable.

## Monitoring

With fetal external parameters, twins' fetal heart rates and TOCO, fetal internal parameters, DECG and IUP, and maternal parameters, NIBP, ECG, TEMP and SpO<sub>2</sub>, F9 can meet the needs of antepartum, intrapartum and postpartum application.

## Storage

24 hours waveforms storage and playback plus powerful patient information storage

## SOV

Signals Overlap Verification: a smart design to reduce the risk of miscollecting fetal heart signal and will raise the alarm when more than one heart rate signal come from the same source.



## Display

There are four options for F9 screen background, green, blue, black and orange color. Details such as baseline, acceleration, deceleration, long-term variability, short-term variability of FHR can be shown vividly on any background.

F9 integrates maternal monitoring with fetal monitoring in order to meet the requirements of the obstetrical care continuum including antepartum, intrapartum and postpartum duration.

## Printer

Via built-in long life thermal array printer, the system will print a self-test baseline for ten seconds before the system enters the monitoring system. It's compatible with 152 and 150 mm paper as well as American and International standard paper. For real-time data, it provides three kinds of recording speed, 1, 2 or 3 cm/min, while the printing speed is high up to 25 mm/sec for stored traces. In addition, it supports printing of Fetal heart rate, TOCO, Maternal heart rate and Maternal SpO<sub>2</sub> waveforms. Furthermore, it provides Smart Notes annotation describing the state of patients.

Caching function: when the record paper runs out, the recorder will pause. The data from that time on will be saved in the memory, and then it will resume printing when paper is loaded.