

MCF-21B (12.1 inches) Series Fetal Monitor (CTG) (version 3.5)

| Model | Fetal Parameter | | | | | Maternal Parameter | | Printer | | | | | Battery |
|--|---|----------|------|-----------|----------------------|--------------------|-----------------|--------------|--------------|--------------|--------------|-------------------------|-----------------|
| | Single FHR | Dual FHR | TOCO | AFM & MFM | Signal Overlap Alarm | NIBP, SpO2, PR | ECG, TEMP, RESP | 112mm A type | 112mm B type | 150mm A type | 150mm B type | Laser Printer Interface | Lithium battery |
| Config. A | √ | × | √ | √ | × | × | × | √ | Option | Option | Option | Option | √ |
| Config. B | √ | √ | √ | √ | √ | × | × | √ | Option | Option | Option | Option | √ |
| Config. C | √ | × | √ | √ | √ | √ | √ | √ | Option | Option | Option | Option | √ |
| Config. D | √ | √ | √ | √ | √ | √ | √ | √ | Option | Option | Option | Option | √ |
| Option: | 1) HDMI 2) Touch Screen 3) Fetal Stimulator 4) Wall-mount 5) Trolley 6) Central Monitoring Station 7) Waterproof FHR Probe & TOCO Probe 8) USB Keyboard & Mouse control function 9) Auto CTG analysis(4 types) 10) Exporting CTG data & analysis in PDF format for EMR connectivity by USB memory 11) Laser Printer Interface 12) HL7 interface 13) Large capacity battery | | | | | | | | | | | | |
| Remark: User can NOT choose USB mouse function and WIFI at the same time | | | | | | | | | | | | | |

Feature

Core

- Newly advanced A10 main board with Linux OS
- Support **storage** of 25000 groups of medical record and 8640 hours trend review

Body

- **12.1-inch** color Folded high-brightness TFT **LED**
- Humanized **probe frame** design
- Build-in **handle**

Sensor

- **I2-Crystal** ultrasound transducer
- **Event Marker**
- **Signal strength indicator**

Printer

- Built-in high-speed thermal printer, **112mm /150mm**
- Support **fast printing** of stored trend
- Support external laser printer(option)

Central System

- Wired or wireless connection
- Optional Support HL7 (Health Level Seven)

Alarm

- Three-level acousto-optic alarm on abnormal FHR
- FHR signal strength prompt
- **Cross-Channel Verification (CCV)**
- Sensor-off alarm
- Paper out alarm
- Support alarm review

Linux OS

- Support operation with **mouse** and computer keyboard (option)
- **Multi-display mode**
- **NIBP self-test mode**
- **Medical history search**
- **NST Timer**
- **Fetal Movement Profile (FMP)**
- **Heart rate offset mode**
- **Multi-language**
- **Auto CTG analysis report:** Advanced Fischer / Fischer / NST / KREBS
- **Online software upgrading** by net/USB
- Exporting CTG data & analysis in PDF format for EMR connectivity by USB memory (option)

Auto CTG Analysis / FHR Interpretation (Option)

| NST Result | | | | | |
|---|-------------|-----------------------|--------------|-------------|------------|
| NST Report | | | | | |
| Name: | | FHR1 | FHR2 | | |
| Age: | | FHR Baseline | 144 bpm | 144 bpm | |
| Weeks: | | Amplitude Variation | 7 bpm | 7 bpm | |
| ID: | | PV | 10 cpm | 10 cpm | |
| Bed ID: | | STV | 8,6 ms | 8,6 ms | |
| Date: 2021-09-13 | | Acceleration | 15 Count | 15 Count | |
| Start Time: 15:53:14 | | Small Accel | 0 Count | 0 Count | |
| Test Time: 20 min | | Deceleration | 0 Count | 0 Count | |
| | | Total score: | 10 Score | 10 Score | |
| Automatic scoring results based on Improved Fischer scoring method (NST): | | | | | |
| Item | 0 Score | 1 Score | 2 Score | FHR1 Score | FHR2 Score |
| FHR Baseline | <100,>180 | 100~119,161~180 | 120~160 | 2 | 2 |
| Amplitude Variation | <3 | 3~5,>25 | 6~25 | 2 | 2 |
| PV | <3 | 3~4 | ≥5 | 2 | 2 |
| Acceleration | No | Accel 1 or Sm Accel≥3 | ≥2 | 2 | 2 |
| Deceleration | LD, PD, SVD | MVD≥2 or ED≥3 | No | 2 | 2 |
| Please confirm the report. | | | | | |
| | | | Print | Exit | |

The fetal monitors can be equipped with Auto CTG Analysis Report function (option) to give a score of fetal wellbeing after 20 minutes continuous monitoring, thus helping the doctors make judgment about fetal health condition.

- Four-types: (monitoring time ≥ 20 Min)

- 1) Advanced Fischer analysis report
- 2) Fischer analysis report
- 3) NST analysis report
- 4) KREBS analysis report

- **FHR Baseline**

- **Tachycardia and Bradycardia**

- **Amplitude Variation**

- **Number of PV (period variation)**

- **Short-term variation (STV)**

- **Number of Acceleration:**

Small acceleration/ Periodic acceleration/ Non-periodic acceleration

- **Number of Deceleration**

Early deceleration (ED) / Late deceleration (LD)

Prolonged deceleration (PD) / Mild variable deceleration (MVD)

Severe variable deceleration (SVD)

- **Fetal heart rate rise time during fetal movement**

- **Number of Fetal Movement**

Performance Specifications

• Dimension and Weight

- Dimension: 360mm*310mm*120mm
- Weight: 5.3 kg (excluding accessories)

• Power Supply

- Voltage: AC100~240V, 50/60HZ

• Display

- 12.1" color TFT LED (0-90° rotation)
- Resolution: 1024*768 pixels

• Battery (Built-in)

- Type: Rechargeable lithium battery
- Charge Cycle: ≥500 times
- Working time: 2 hours (2200mAh) / 4 hours (option, 4400mAh)

• Recorder (Built-in)

- Method: Thermal printer
- Paper: Z-fold, thermosensitive
- Paper width: 112 mm (4.41 in)/150 mm (5.91 in)
- Printing speed: 1/2/3cm/min
- Trace: Max. 4 tracks
- Recording way: Real-time Recording & Review Printing

• Alarm

- Level: Low, medium and high, message
- Indication: Auditory, Visual, Delay of FHR Alarm

• Input & Output

- Standard: Knob, Keypad
- Option: Touch screen/ Mouse/ Keyboard/ Laser printer interface
- USB port for patient data/Auto CTG analysis backup (option)

• System Output & Extensible Interface

- Ethernet Network: standard RJ45 socket *1
- USB Port * 2
- HDMI port (option) * 1

• Safety

- IEC60601-1 Approved, CE marking according to MDD93/42/EEC
- With reference to RoHS Directive 2011/65/EU recasting

• Ultrasound (FHR)

- Measure method: Wide beam pulse doppler
- FHR Measurement range:
30 to 240 bpm (US Standard)/ 50 to 210 bpm (Europe Standard)
- Accuracy: ±1 bpm
- Update: beat to beat
- Intensity: <3 mW/cm2
- Ultrasound frequency: 1MHz±3%, 2 / 2.5 / 3MHz can be customized
- Resolution: 1 bpm

• TOCO

- Measurement method: Strain gauge sensor element
- Measure range: 0 ~ 100 units
- Resolution: 1 unit
- Nonlinear deviation : ≤ ±8%
- Baseline setting: 0,5,10,15, 20 can be selected
- Auto offset correction, Auto zero adjust

• Fetal Movement Recording

- Automatic fetal movement (AFM): pulsed doppler ultrasound
- Automatic fetal movement autograph
- Manual fetal movement marker (MFM)

• Maternal SpO2 (Digital Technic)

- Measurement Range: 0 ~ 100 %
- Resolution: 1 %
- Accuracy: ±2% (70% ~ 100%); ±3 % (35% ~ 69%)

• Pulse Rate

- Range: 25~250bpm
- Accuracy: ±1% or ±1 bpm, whichever is greater
- Resolution: 1bpm

• Maternal ECG

- Lead mode: 3/5 Leads, I, II, III or I, II, III, AVR, AVL, AVF, V
- Gain: x0.25, x0.50, x1, x2, x4, Auto
- Sweep speed: 6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s
- Accuracy: ±1bpm/ ±1%, whichever is greater
- Resolution: 1 bpm

• Maternal Heart Rate

- Measure range: Adult: 0bpm; 10 ~ 300 bpm
- Resolution: 1 bpm
- Accuracy: ± 1% or ± 1bpm, whichever is greater

• Maternal Respiration

- Method: Impedance between RA-LL, RA-LA
- Respiration Rate: 0bpm, 6 ~ 150 bpm
- Resolution: 1 bpm
- Accuracy: ±2 bpm or ±2%, whichever is greater
- Apnea Alarm: 10 ~ 60 s

• Maternal NIBP

- Method: Oscillometric
- Measure mode Manual, Auto, STAT
- Measure Interval in AUTO Mode 1~480 min
- STAT mode cycle time: Keep 5 minutes, at 5 seconds interval
- Measure and Alarm Range:
Systolic: 30~270 mmHg
Diastolic: 10~220 mmHg
Mean: 20~235 mmHg
- Static pressure accuracy ±3mmHg
- Resolution: 1mmHg
- Accuracy: Maximum Mean error ±5mmHg
Maximum Standard deviation 8mmHg
- Over pressure Protection: Dual protection via software & hardware

• Maternal Temperature

- Technique: Thermistor probe (2.25K)
- Measuring and Alarm Range: 0.0 °C ~ 50 °C (32°F ~ 122°F)
- Unit: Celsius (°C), Fahrenheit (°F)
- Resolution: 0.1 °C
- Accuracy: ±0.1 °C

* Specifications subject to change without prior notice

Gallery for Optional Accessories:



• FHR Transducer



• TOCO Transducer



• Event Marker



• Reusable Transducer Belt



• NIBP Cuff and NIBP Tube



• Temperature Transducer



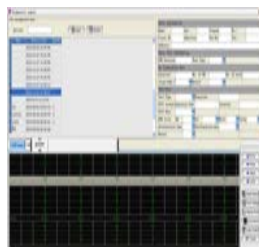
• ECG Cables



• SpO2 Transducer



• Fetal Acoustic Stimulator



• Central Monitoring Station Software



• Wall-mount with basket



• Trolley with Basket



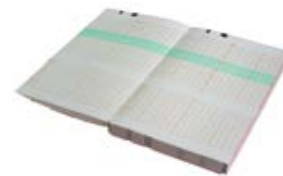
• 112(A) mm Thermal Paper
(112mm×100mm×150p,
European Standard, 30-210 bpm)



• 112(B) mm Thermal Paper
(112mm×100mm×150p, USA
Standard, 30-240 bpm)



• 150 (A) mm Thermal Paper
(150mm×100mm×150p,
European Standard,
50-210bpm)



• 150 (B) mm Thermal Paper
(150mm×100mm×150p,
USA Standard, 30-240bpm)

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