



TECHNICAL SPECIFICATION
PROCUREMENT OF FETAL AND MATERNAL MONITOR
IB NO. 2022-09-30 (32)

| FETAL AND MATERNAL MONITOR | QTY | UNIT OF MEASURE | UNIT COST | TOTAL COST |
|--|------------|------------------------|------------------|-------------------|
| I. PHYSICAL SPECIFICATIONS | 5 | UNIT | ₱550,000.00 | ₱2,750,000.00 |
| 1. The operating voltage and line frequency must be 100~240 V AC 50/60 Hz | | | | |
| 2. Diagonal screen display must be 15.6" and should be touch screen and the screen resolution must be 1920 × 1080 pixels | | | | |
| 3. It must have RS232, RJ45, HDMI, Antenna interface | | | | |
| 4. The ultrasound transducer should be wireless | | | | |
| 5. TOCO transducer should be wireless | | | | |
| 6. The length of the remote event marker must be 2.5 meters or higher | | | | |
| 7. The ECG cable length must be 0.55 meters or higher | | | | |
| 8. The SpO ₂ cable length must be 2 meters or higher | | | | |
| 9. The NIBP cable length must be 3.3 meters or higher | | | | |
| 10. The temperature probe cable length must be 3 meters or higher | | | | |
| 11. The battery working time must be greater than or equal 2 hours | | | | |
| 12. It must have built-in printer recorder | | | | |
| 13. The monitor has capable of triplets monitoring | | | | |
| II. TECHNICAL SPECIFICATIONS | | | | |



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| 1. FHR Parameter | | | | |
| i. The fetal heart rate measurement range must be range from 50 bpm to 240 bpm; and the resolution must be 1 bpm or lower; and the accuracy must be ± 2 bpm | | | | |
| ii. The ultrasound output must be $I_{sppa.3} < 190 \text{ W/cm}^2$; $I_{spta.3} < 94 \text{ mW/cm}^2$; $I_{ob} < 3.5 \text{ mW/cm}^2$; $I_{sata} < 20 \text{ mW/cm}^2$; $TI < 1.0$; $MI < 1.0$ | | | | |
| iii. The temperature rises of US probe, when applied to the patient, the transducer may warm slightly less than 10 degrees Celsius above ambient temperature. | | | | |
| iv. The max output power of the transducer must be less than 15 mW | | | | |
| v. The effective radiating area of the transducer must be $942 \text{ mm}^2 \pm 15\% \text{ mm}^2$ | | | | |
| vi. The dielectric strength of US transducer must be 400 V_{rms} | | | | |
| 2. TOCO Parameter | | | | |
| i. The TOCO range must be range from 0 to 100 and the non-linear error must be $\pm 10\%$ and the resolution must be 1 | | | | |
| ii. The baseline drift due to temperature changes must be 1 unit per minute per degrees Celsius in free air and 5 units per minute per degrees Celsius in underwater | | | | |
| iii. The zero mode must be configured automatic and manual. | | | | |
| iv. The automatic must be TOCO value becomes zero or below lasting for 30 seconds | | | | |
| v. The dielectric strength of TOCO transducer must be 4000 V_{rms} | | | | |



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| 3. MFM and AFM Parameter | | | | |
| i. The display range must be range from 0 to 999 | | | | |
| ii. The fetal movement mode must be automatic and manual | | | | |
| iii. The AFM mode must be trace or black mark, the trace option must be default | | | | |
| 4. Maternal ECG Parameter | | | | |
| i. The maternal measurement range of MEEG must be range from 30 bpm to 240 bpm; and the accuracy must be ± 2 bpm; and the resolution must be 1 bpm | | | | |
| ii. The maternal heart rate alarm limits must be range from 30 bpm to 240 bpm | | | | |
| iii. The MEEG anti-electric shock type must be defibrillating-proof | | | | |
| iv. The ECG waveform must be manual control ECG waveform display | | | | |
| v. The ECG falls off must be detect automatically | | | | |
| vi. The differential input impedance must be greater than 5 megaohms | | | | |
| vii. The display sensitivity must be 2.5 mm/mV, 5 mm/mV, 10 mm/mV, 20 mm/mV, 40 mm/mV | | | | |
| viii. The electrode offset potential tolerance must be ± 500 mV | | | | |
| ix. The response time to charge in MHR | | | | |
| 1. MHR range must be 80 bpm to 120 bpm within 7 to 11 seconds | | | | |



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| 2. MHR range must be 80 bpm to 40 bpm within 7 to 12 seconds | | | | |
| x. The tall T-wave rejection ratio must be 1.5 mV T-Wave amplitude | | | | |
| 5. SpO₂ Parameter | | | | |
| i. The measuring range of SpO ₂ must be from 50% to 100%; and the resolution must be 1%; and the measuring accuracy must be range from 70% to 100%; and data update period must be 1 second | | | | |
| ii. The pulse rate measurement should be ranges from 25 bpm up to 300 bpm; and the resolution must be 1 bpm; and the accuracy must be ±2 bpm | | | | |
| iii. The SpO ₂ alarm limits must be range from 50% to 100% | | | | |
| 6. NIBP Parameter | | | | |
| i. The measurement must have systolic, diastolic and mean artery pressure | | | | |
| ii. The method use in NIBP must be oscillometric | | | | |
| iii. The measurement range must range from at least 20 mmHg to 235 mmHg; and the resolution must be 1 mmHg | | | | |
| iv. The measuring time maximum must be up to 120 seconds | | | | |
| 7. TEMP Parameter | | | | |
| i. The measurement ranges from 0 degree to 50 degrees Celsius and the resolution must be 0.1 degree Celsius | | | | |
| ii. The temperature unit must be in degrees Celsius or degrees Fahrenheit | | | | |



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| iii. The refresh time must be range from 1 to 2 seconds and the self-check test must be in 5 to 10 minutes | | | | |
| iv. The measurement mode must be direct | | | | |
| III. ACCESSORIES | | | | |
| 1. Three (3) pcs US Transducer, Wireless | | | | |
| 2. One (1) pc TOCO Transducer, Wireless | | | | |
| 3. One (1) pc Marker | | | | |
| 4. Four (4) pcs Transducer Belt | | | | |
| 5. One (1) pc ECG Cable | | | | |
| 6. One (1) pc SpO ₂ Sensor | | | | |
| 7. One (1) pc NIBP Cuff | | | | |
| 8. One (1) pc NIBP Tube | | | | |
| 9. One (1) pc Temperature Probe | | | | |
| 10. One (1) pc Trolley | | | | |
| IV. CONSUMABLES | | | | |
| 1. One (1) pc Ultrasound Gel | | | | |
| 2. Fifty (50) pcs ECG Electrodes, Disposable | | | | |



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| 3. Ten (10) pcs Recording Paper | | | | |
| V . OTHER REQUIREMENTS | | | | |
| 1. ISO as being required for Medical Equipment | | | | |
| 2. Attached User's Manual | | | | |
| 3. Attached Service Manual | | | | |
| 4. Winning Bidder shall provide Trainings to the end-user | | | | |
| 5. Warranty Period of atleast 2 years, in parts and in service. | | | | |
| | | | GRAND TOTAL | ₱2,750,000.00 |