

المواصفات الفنية الصادرة من وزارة الصحة دائرة الامور الفنية-قسم ادارة الاجهزة الطبية

| الكلفة الكلية<br>(دينار عراقي) | كلفة المفرد<br>(دينار عراقي) | العدد | اسم الجهاز والمواصفات                | ت                               |
|--------------------------------|------------------------------|-------|--------------------------------------|---------------------------------|
|                                |                              | 14    | <b>Fetal Monitor , Cardiocograph</b> | <b>1</b>                        |
|                                |                              |       | Ultrasound                           |                                 |
|                                |                              |       | Type/frequency, MHz                  | Continuous wave or pulsed/1-2.5 |
|                                |                              |       | Intensity, mW/cm <sup>2</sup>        | <20                             |
|                                |                              |       | FHR range, bpm                       | ≥ (50-210)                      |
|                                |                              |       | Fetal ECG                            | Yes                             |
|                                |                              |       | FHR range, bpm                       | ≥(50-210)                       |
|                                |                              |       | Uterine activity                     | Yes                             |
|                                |                              |       | External/internal                    | Yes/yes                         |
|                                |                              |       | Reference/zero controls              | Push button                     |
|                                |                              |       | MHR/FHR coincidence detection        | Yes                             |
|                                |                              |       | Multiple FHR                         | Yes                             |
|                                |                              |       | Computer interface                   | Yes                             |
|                                |                              |       | DISPLAY FEATURES                     |                                 |
|                                |                              |       | Digital FHR                          | Yes                             |
|                                |                              |       | Number of displays                   | 3 (LEDs) or better              |

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|  |  |           |   |  |          |
|--|--|-----------|---|--|----------|
|  |  |           | Digital UA                              | Yes  |          |
|  |  |           | ALARMS                                  |  |          |
|  |  |           | Audible/visual                          | Yes/yes  |          |
|  |  |           | High/low FHR                            | Yes/yes  |          |
|  |  |           | RECORDER                                | Thermal printer  |          |
|  |  |           | Paper speed, cm/min                     | Selectable $\geq$ 3speed   |          |
|  |  |           | Event marker                            | YES  |          |
|  |  |           | Record storage                          | YES  |          |
|  |  |           | Number of hr                            | $\geq$ 2   |          |
|  |  |           | Power & Environmental Requirements      | Power input to be 220-240VAC, 50Hz.<br>The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |          |
|  |  | <b>38</b> | <b>Fetal heart detector, ultrasonic</b> |  | <b>2</b> |
|  |  |           | TYPE/CONFIGURATION                      | Handheld   |          |
|  |  |           | APPLICATIONS                            | Detect fetal heartbeat   |          |

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|  |  |                            |  |
|--|--|----------------------------|--|
|  |  |                            | measure FHR                                    |
|  |  | FHR DISPLAY RANGE, bpm     | $\leq 60$ - $\geq 199$                         |
|  |  | PROBE                      | $\geq 1$                                       |
|  |  | Frequency, MHz             | 2 to 3   |
|  |  | Output, mW/cm <sup>2</sup> | <20  |
|  |  | OUTPUTS                    |  |
|  |  | Speaker                    | YES  |
|  |  | Headphones                 | Optional                                       |
|  |  | Display                    | LCD , LED or better                            |
|  |  | Display variables          | FHR  |
|  |  | CONTROLS                   | Volume, power on/off                           |
|  |  | POWER REQUIREMENTS         |  |
|  |  | Battery, type              | Rechargeable preferred or Alkaline or dry cell |
|  |  |                            | $\geq 4$                                       |
|  |  | Operating time, hr         | YES  |
|  |  | Low-battery indicator      |  |
|  |  | Accessories                | Ac adapter for rechargeable battery            |

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|  |  |          |                                   |   |          |
|--|--|----------|-----------------------------------|---|----------|
|  |  |          | soft case<br>gel (start up qty.)  |   |          |
|  |  |          | Environmental requirements:       | The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |          |
|  |  | <b>3</b> | <b>Delivery Bed(Birthing Bed)</b> |   | <b>3</b> |
|  |  |          | Type                              | Electric  |          |
|  |  |          | Functions                         | Patient positioning   |          |

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|  |  |  |                                   |   |
|--|--|--|-----------------------------------|---|
|  |  |  |                                   | Electric backrest<br>height adjustmen<br>high/low<br>nurse call   |
|  |  |  | CAREGIVER CONTROLS                | Trendelenburg , CPR, manual leg segment control   |
|  |  |  | <b><u>MAXIMUM ANGLE</u></b>       | Backrest $\geq 63^{\circ}$<br>Seat $\geq 4^{\circ}$<br>CPR - YES<br>Trendelenburg $\geq 10^{\circ}$<br>Reverse Trendelenburg $\geq 0^{\circ}$ |
|  |  |  | CONSTRUCTION<br>MATERIAL<br>Frame | Steel<br>Foam with waterproof, fire retarded cover  |

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|  |  |  |   |                                |
|--|--|--|---|--------------------------------|
|  |  |  | Mattress                                    |                                |
|  |  |  | IV POLE                                     | Yes                            |
|  |  |  | DRAIN PAN                                   | Yes                            |
|  |  |  | Removable                                   | Yes                            |
|  |  |  | LEG SUPPORTS                                | Yes                            |
|  |  |  | REMOVABLE<br>HEADBOARD                      | Yes                            |
|  |  |  | REMOVABLE OR<br>RETRACTABLE FOOT<br>SECTION | Yes or<br>sliding foot section |
|  |  |  | OVERALL DIMENSIONS                          |                                |
|  |  |  | L x W, cm                                   | $\geq 200 \times 90$           |
|  |  |  | Height, cm(from the floor to                | $\geq 40$                      |

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|  |  |   |  |   |   |
|--|--|---|--|---|---|
|  |  |   | top)                                       |   |   |
|  |  |   | CASTERS                                    |   |   |
|  |  |   | Diameter, cm (in)                          | $\geq 12.7$ (5)   |   |
|  |  |   | Swivel locks                               | Yes   |   |
|  |  |   | Brakes                                     | Yes $\geq 2$  |   |
|  |  |   | MAX PATIENT WEIGHT, kg                     | $\geq 170$  |   |
|  |  |   | BUMPERS                                    | Yes   |   |
|  |  |   | Power Requirement                          | Power input to be 220-240VAC, 50Hz.<br>Ac Adapter   |   |
|  |  |   | Environmental requirements:                | The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |   |
|  |  | 2 | <b>Gynecological operative laparoscope</b> |   | 4 |
|  |  |   | <b>Application</b>                         | Diagnostic & operative  |   |
|  |  |   | <b>Type</b>                                | Carrying cart   |   |

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|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  | <p><b>System components</b></p> <ol style="list-style-type: none"> <li>1. Laparoscope and hand instruments.</li> <li>2. Electronic CO2 insufflators.</li> <li>3. Endo vision camera systems with video recording facility.</li> <li>4. Display monitor.</li> <li>5. Suction and irrigation system.</li> <li>6. Light source.</li> </ol>  |  |
|  |  |  | <p><b>Power supply</b></p> <ol style="list-style-type: none"> <li>1. 220/240 VAC, 50/60 Hz.</li> <li>2. Over current &amp; over heated protection circuit.</li> <li>3. Three pin G type plug.</li> <li>4. Voltage corrector/stabilizer circuit of (input 160-260 V and output 220-240 V and 50 Hz).</li> <li>5. UPS of suitable rating with voltage regulation &amp; spike protection for <math>\geq 60</math> minutes back up.</li> </ol> |  |
|  |  |  | <p><b>Laparoscope &amp; hand instruments</b></p> <ol style="list-style-type: none"> <li>1. Telescope 0 and 30 degree , rod lens 10 mm diameter 31 cm length autoclavable.</li> <li>2. Hand instruments: last generation modular instruments. Can be</li> </ol>   |  |



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|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  |  | <p>disassembled into separate components. Finger operated jaws &amp; locking mechanism. Compatible with H.F. cable. Set of laparoscope instruments:</p> <ul style="list-style-type: none"> <li>• Forceps (toothed &amp; atraumatic) &amp; scissors (<math>\geq 5</math> no.) (curved with and without cautery &amp; straight with and without cautery).</li> <li>• Trocars &amp; cannulae (<math>\geq 2</math> no.) 10 mm &amp; (<math>\geq 5</math> no.) 5 mm).</li> <li>• Uterine manipulator for laproscopichysterectomy .</li> <li>• HF electrode.</li> <li>• Needle holder.</li> <li>• Morcellator</li> <li>• Dissectors forceps.</li> <li>• Biopsy forceps (punch biopsy forceps).</li> <li>• Crocodile forceps.</li> </ul> <p style="text-align: right;">Suction Irrigation Handle</p> |
|  |  |  | <p><b>Electronic CO2 insufflators With thermal gas heat.</b></p> | <p>Electronic CO2 insufflators with pin connectors, silicone tubing set, high pressure hose, CO2 bottle empty, with pin connection, universals wrench,</p>  |

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|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  | <p>Display: digital/analogue display of patient pressure &amp; gas flow, clear adjacent bar diagram for set values &amp; actual values allow easy monitoring of insufflations procedure, optical &amp; acoustical warning signals in case of patient over pressured electronically controlled gas refill (i.e. caused by loss of gas while changing instruments).<br/>Preferable co2 heating mode to avoid hypothermia.</p> <p><b>INSUFFLATION PRESSURE RANGE, mm Hg</b></p> <p><b>OVERPRESSURE PROTECTION</b></p> <p><b>Alarm type</b></p> <p><b>PEDIATRIC PRESSURE SETTING</b></p> <p><b>INSUFFLATION VOLUME GAUGE/DISPLAY</b></p> | <p>≤ (0-30) OR Better.</p> <p>YES</p> <p>Audible and visual</p> <p>YES</p> <p>YES</p> |
|  |  |  | <b>Endovision camera system</b>  | Full HD 3 chip camera CCD chip with zoom  |

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|  |  |  |  |   |
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|  |  |  |  | <p>or Better, minimum sensitivity 3 Lux.<br/>                 Camera cable length 300 cm, with appropriate coupling device rigid &amp; flexible endoscopes with standard eye piece including following Functions</p> <ol style="list-style-type: none"> <li>1- Homogeneous Illumination</li> <li>2- Contrast enhancement</li> <li>3- Spectral color shift and switch</li> <li>4- Image and video data are recorded using an integrated documentation function. This data is transferred to external storage media via USB interfaces</li> </ol> |
|  |  |  | <b>Display monitor</b>                 | <p>≥24" FULL HD Monitor, OR Better color systems PAL/NTSC, max. screen resolution ≥1920 x 1080, image format ≥16:9, video inputs: DVI, 3G-SDI, VGA, SVideo, Composite, video outputs: DVI, 3G-SDI, Composite, power supply 100 – 240 VAC, 50/60 Hz.</p>   |
|  |  |  | <b>Suction &amp; irrigation system</b> | <p>irrigation&amp; suction pump Automatically pressure-controlled and it can by Used diagnostic and operative Laparoscopy.</p>  |
|  |  |  | <b>LIGHT SOURCE</b>                    | <p>1. Cold light fountain xenon or LED &gt; 175</p>   |

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|--|--|-----------|--|---|----------|
|  |  |           | <b>LAMP TYPE</b>                                 | Watt OR Better .<br>2. Light outlets: continuously adjustable light intensity from 0 to 100% either manually or automatically by the camera video output signal.  |          |
|  |  |           | <b>Specialties</b>                               | Laparoscopic, General Surgery, Gynecological, other.  |          |
|  |  |           | <b>Other specification</b>                       | 1. High frequency electrosurgical unit (unipolar & bipolar).  |          |
|  |  |           | <b>Cart and Monitor Holder</b>                   | Equipment Cart, With and not limited to wide, high, rides on 4 antistatic castors equipped with locking brakes, mains switch on cover, grounding plug.<br>Caster diameter: $\geq 12.5$ cm<br>Drawer Unit with Lock,<br>Equipment Rail,<br>Camera Holder<br>Monitor Holding Arm, |          |
|  |  |           | <b>Environmental requirements</b>                | Laparoscopic, General Surgery, Gynecological, other.  |          |
|  |  | <b>35</b> | <b>Electronic scale for weighing the neonate</b> |   | <b>5</b> |
|  |  |           | <b>Material &amp; Design</b>                     | 1)Ergonomic tray provides secure support  |          |

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|  |  |  |                            |   |  |
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|  |  |  |                            | <p>with a robust plastic tray for easy and hygienic cleaning</p> <p>2)Secure and non-slip positioning with rubber feet</p>  |  |
|  |  |  | <b>Power supply</b>        | <ul style="list-style-type: none"> <li>- 220/240 VAC, 50/60 Hz</li> <li>- Over current protection circuit</li> <li>- Three Pin UK type Plug</li> <li>- Voltage corrector/stabilizer circuit of (Input 160-260 V and output 220-240 V and 50 Hz)</li> <li>- Can work using ( alkaline or chargeable) battery(s)</li> <li>- Battery Life &gt; 200 hours for not chargeable type of Batteries</li> </ul> |  |
|  |  |  | <b>Other specification</b> | <p>1) simple and convenient 1-key operation</p> <p>2) Automatic Data Hold Function Batteries included</p>   |  |

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|  |  |           |                                 |  |
|  |  |           | <b>Weighing range</b>           | >10Kg  |
|  |  |           | <b>Weighing accuracy</b>        | 0.01 Kg  |
|  |  |           | <b>Display</b>                  | Digital  |
|  |  |           | <b>dimensions(W x D x H) mm</b> | > 550 x >350 x > 80  |
|  |  |           | <b>Material &amp; Design</b>    | 1)Ergonomic tray provides secure support with a robust plastic tray for easy and hygienic cleaning<br>2)Secure and non-slip positioning with rubber feet |
|  |  | <b>69</b> | <b>Infant Incubator</b>         |  |
|  |  |           |                                 | <b>6</b>   |

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|--|--|--|--|---|--|
|  |  |  | Application  | Used for providing a closed controlled environmental that warms an infant by circulating heated air over the infant skin.           |  |
|  |  |  | Operating modes  | <ul style="list-style-type: none"> <li>• Air temperature control.</li> <li>• Skin temperature control (servo controlled)</li> </ul> |  |
|  |  |  | MOBILE   | Yes, castors( size $\geq$ 10 cm) with breaks  |  |
|  |  |  | <u>TEMPERATURE CONTROL RANGE, °C:</u><br>Air (Increment: 0.1°)<br>Skin (Increment: 0.1°) | Min: (20-25)°    Max: (37- 39)°<br>Min:(33-35)°    Max:(37-38)°   |  |
|  |  |  | TEMPERATURE DISPLAY (air & skin)   | Digital or LCD(LED)   |  |
|  |  |  | ALARMS   | <ul style="list-style-type: none"> <li>• High air temp</li> <li>• Low air temp</li> </ul>   |  |

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|  |  |                         | <ul style="list-style-type: none"> <li>• High skin temp</li> <li>• Low skin temp</li> <li>• Fan failure</li> <li>• Sensor failure</li> <li>• Power failure</li> </ul> |  |
|  |  | BACKUP THERMOSTAT       | YES   |  |
|  |  | HEATER POWER INDICATOR  | YES   |  |
|  |  | HAND PORTS              | $\geq 5$  |  |
|  |  | TUBING PORTS            | $\geq 6$  |  |
|  |  | <b><u>O2 SOURCE</u></b> |   |  |
|  |  | Inlet Ports             | $\geq 1$  |  |
|  |  | Controllers             | YES(servo controller), preferred ( 21%-65%)   |  |
|  |  | Alarm                   | YES   |  |
|  |  | Supplemental Humidity   | YES   |  |
|  |  | Adjustable              | YES (Digital controller)  |  |
|  |  | Internal Noise, dB      | $\leq 60$   |  |



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|  |  |  | Double Wall                | YES  |
|  |  |  | Mattress                   | Water proof  |
|  |  |  | Accessories                | <ul style="list-style-type: none"> <li>• IV pole.</li> <li>• Drawers</li> <li>• in-bed scale</li> <li>• integrated x-ray tray</li> </ul> |
|  |  |  | Options:                   | <ul style="list-style-type: none"> <li>• Battery up for alarms &amp; Trends to 1 hr.</li> <li>• Variable-height stand.</li> </ul>        |
|  |  |  | Environmental requirements | The equipment suitable for work in the climate conditions in Iraq in terms of temperature & humidity.                                    |
|  |  |  | Disinfection:              | <ul style="list-style-type: none"> <li>• According to manufacturer</li> <li>• the manufacturer should specify</li> </ul>                 |

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|  |  |    |                     | <p>the types of disinfectant suitable to the incubator .</p> <ul style="list-style-type: none"> <li>• Should be not affect the incubator coating &amp; environment.</li> </ul> |   |
|  |  |    | Application         | Used for providing a closed controlled environmental that warms an infant by circulating heated air over the infant skin.  |   |
|  |  | 23 | <b>Resuscitator</b> |  | 7 |

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|--|--|--|---|--|
|  |  |  | <ul style="list-style-type: none"> <li>❖ Application: are commonly used as open care incubator in the delivery rooms, Intensive care units &amp; operation theaters.</li> <li>❖ Heavy duty &amp; compatible design.</li> <li>❖ The controller is based on micro computerized system.</li> <li>❖ Digital display (touch keys provided for easy operation).</li> <li>❖ Bar graph LED system provided to indicate the heater output.</li> <li>❖ Manual control system provided.</li> <li>❖ Baby probe: The probe is made up of silicon sheathed cable, Comprised of a highly sensitive sensor.</li> <li>❖ Patient bed: The large patient bed is adjustable to trendelenburg and fowler position. The Acrylic sidewalls can be positioned upward or downward.</li> <li>❖ X-ray cassette tray: under the bassinet.</li> <li>❖ Observation lamp: A Halogen based observation light.</li> <li>❖ APGAR timer: The Digital APGAR timer.</li> <li>❖ Castors: 4 (2 with brake) central braking &amp; linear direction.</li> <li>❖ Mattress: fire retarded, water proof &amp; washable (optional disposable).</li> <li>❖ Maximum baby tray: made of stainless steel frame with three side acrylic collapsible walls, tilt on both sides continuously variable (+/-8°).</li> <li>❖ Optional UPS enough for heater &amp; UV.</li> <li>❖ RESUSCITATOR : <ul style="list-style-type: none"> <li>• Airway ventilation outlet.</li> <li>• Oxygen flow rate control: 0 to 6 liter/min.</li> <li>• Breathing rate control: Manual.</li> <li>• Maximum airway pressure: 40 cm water column.</li> <li>• Adjustable airway pressure: 10 - 35 mm water column.</li> <li>• Air pressure airway gauge: 0-60 cm water column.</li> </ul> </li> <li>❖ Heater: <b>output controllable from (0~100 %) in manual mode</b></li> </ul> |  |
|--|--|--|---|--|

|  |  |    |   |   |
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|  |  |    | <p><b>(continuously variable).</b></p> <ul style="list-style-type: none"> <li>❖ Suction control: <ul style="list-style-type: none"> <li>• Maximum suction: 200 mm of Hg.</li> <li>• Vacuum gauge range: (0 - 760 mm of Hg).</li> </ul> </li> <li>❖ Auxiliary oxygen outlet: <ul style="list-style-type: none"> <li>• Oxygen flow control: 1 - 15 liter/minute.</li> <li>• Maximum airway pressure: 55 cm water column.</li> <li>• Oxygen indicator.</li> </ul> </li> <li>❖ Input power: 220/240 VAC, 50/60 Hz single phase.</li> <li>❖ Provided with audio/visual alarms when: <ul style="list-style-type: none"> <li>• Baby probe failure.</li> <li>• High temperature.</li> <li>• Low temperature.</li> <li>• High temperature cut off.</li> <li>• Heater failure.</li> <li>• Power failure.</li> </ul> </li> </ul> |   |
|  |  | 16 | <b>Intensive phototherapy (hyperbillirubinemia)</b>   | 8 |

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|--|--|---|---|
|  |  |   |   |
|  |  | TYPE  | Intensive therapy , cylindrical   |
|  |  | ANGLE ADJUST, °   | 360 or Multidirectional Light Distribution  |
|  |  | IRRADIANCE @ 420 to 480 nm, $\mu\text{W}/\text{cm}^2/\text{nm}$ | To be specified by the manufacturer   |
|  |  | FAULT PROTECTION  | Fuse or breaker or safety thermostat  |
|  |  | <b><u>LIGHT SOURCES</u></b>                                     |   |
|  |  | Type  | LED   |
|  |  | Number needed   | To be specified by manufacturer   |
|  |  | Expected life, hr   | $\geq 20,000$   |
|  |  | HOUR METER  | Yes   |
|  |  | PROCEDURE TIMER   | PROCEDURE TIMER   |
|  |  | Height adjust   | Yes   |
|  |  | Radiometer  | Optional  |
|  |  | Others  | <input type="checkbox"/> The unit should be mobile with swivel castors<br><input type="checkbox"/> Accessories: glasses for eye protection & UV filter cover. |
|  |  | Power & Environmental   | Input power: 220/240 VAC, 50 Hz single  |

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|--|--|--|--------------|--|--|
|  |  |  | Requirements | phase,<br>minimum length of the wire (3m). Three Pin<br>G type Plug,<br>Voltage stabilizing and over current<br>protection circuit.<br>The supplier should be confirmed that: The<br>Equipment is suitable for work in climate |  |
|--|--|--|--------------|--|--|

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|  |  |    |  |   |
|--|--|----|--|---|
|  |  | 30 | <b>Photo therapy , Free stand</b>                                  | 9                                       |
|  |  |    | TYPE   | Freestanding                            |
|  |  |    | ANGLE ADJUST, °  | Adjustable                              |
|  |  |    | IRRADIANCE @ 420<br>to 480 nm, $\mu\text{W}/\text{cm}^2/\text{nm}$ | 4-50 (any value between)                |
|  |  |    | FAULT PROTECTION   | Fuse or breaker                         |
|  |  |    | <b><u>LIGHT SOURCES</u></b>  |   |
|  |  |    | Type   | LED                                     |
|  |  |    | Number needed  | To be specified by manufacturer         |
|  |  |    | Expected life, hr  | $\geq 8,000$                            |
|  |  |    | HOUR METER   | Yes                                     |
|  |  |    | PROCEDURE TIMER  | PROCEDURE TIMER                         |
|  |  |    | Height adjust  | Yes<br>$\geq (107- 150)$ or wider range |
|  |  |    | Radiometer   | Optional                                |

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|  |  |  |                                    |   |  |
|--|--|--|------------------------------------|---|--|
|  |  |  | Others                             | <input type="checkbox"/> The unit should be mobile with swivel castors fixed to a base to be accommodated beneath incubator /cot.<br><input type="checkbox"/> Accessories: glasses for eye protection & UV filter cover.  |  |
|  |  |  | Power & Environmental Requirements | <ul style="list-style-type: none"><li>- Input power: 220/240 VAC, 50 Hz single phase, minimum length of the wire (3m). Three Pin G type Plug, Voltage stabilizing and over current protection circuit.</li><li>- The supplier should be confirmed that: The Equipment is suitable for work in climate</li></ul> |  |



|  |  |   |   |    |
|--|--|---|---|----|
|  |  | 3 | <p style="text-align: center;"><b>Portable (Transport) infant incubator</b></p> <ul style="list-style-type: none"> <li>❖ Application:provides a closed, controlled environment that warms an infant by circulating heated air over the skin.</li> <li>❖ Heavy duty &amp; <b>foldable cart</b></li> <li>❖ Temperature control: microprocessor servo control.</li> <li>❖ Temperature control range (°C): <ul style="list-style-type: none"> <li>• Air: (17~39).</li> <li>• Skin: (34~39).</li> </ul> </li> <li>❖ Temperature display: <ul style="list-style-type: none"> <li>• Air: <ul style="list-style-type: none"> <li>❖ Display type: digital or LED.</li> <li>❖ Range (°C): (0~50).</li> </ul> </li> <li>• Skin: <ul style="list-style-type: none"> <li>❖ Display type: digital or LED.</li> <li>❖ Range (°C): (0~50).</li> </ul> </li> </ul> </li> <li>❖ Alarms: high air temperature, low air temperature, high skin</li> </ul> | 10 |
|--|--|---|---|----|

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|--|--|--|---|--|
|  |  |  | <p>temperature, low skin temperature, fan failure, sensor failure, power failure.</p> <ul style="list-style-type: none"><li>❖ Backup thermostat: yes.</li><li>❖ Heater power indicator: yes.</li><li>❖ Hand port: (<math>\geq 2</math>).</li><li>❖ Tubing port: <math>\geq 4</math> preferred.</li><li>❖ O2 source:<ul style="list-style-type: none"><li>• Inlet port: (2).</li><li>• Oxygen concentration control range: (21~100%).</li></ul></li><li>❖ Internal noise (dB): (&lt;60)</li><li>❖ Cooling requirement: Air.</li><li>❖ Battery type: 12VDC rechargeable.</li><li>❖ Double wall: yes.</li><li>❖ Standard accessories: IV pole, trolley stand pucker able, skin sensor, air filter, mattress, safe keep belt, iris port cover.</li><li>❖ Optional accessories ** O2 cylinder (5 L )size.(2 cylinders) .</li><li>❖ Other specification: power on/standby mode, battery status.</li></ul> |  |
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|--|--|--|---|--|
|  |  |  | <p>❖ Input power: 220/240 VAC, 50/60 Hz single phase. Three Pin G type Plug, Voltage stabilizing and over current protection circuit.</p> <p>❖ <b><u>Environmental requirements:</u></b></p> <ul style="list-style-type: none"><li>•The unit shall be capable of being stored continuously in ambient temperature of (0 to60) deg C and relative humidity of (5-95) % non-condensing.</li></ul> <p>The unit shall be capable of operating in ambient temperature of (5-40) deg C.</p> |  |
|--|--|--|---|--|

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|  |  | 13 | <b>Neonatal ECG, Portable</b>  | 11   |
|  |  |    | <b>MEDICAL APPLICATION</b><br>Detect the electrical signals associated with cardiac activity and produce an ECG, a graphic record of the voltage versus time to diagnose and assist in treating some types of heart disease and arrhythmias. |  |
|  |  |    | <b>PATIENT TYPE</b><br>Neonate   |  |
|  |  |    | <b>CONFIGURATION</b><br>Cart<br>Portable<br>Optional   |  |
|  |  |    | <b>LEADS</b><br>Switching<br>Sensitivity, mm/mV<br>Calibration signal<br>Frequency range, Hz<br>Diagnostic<br>Filtered<br>CMRR @ 60 Hz, dB<br>Leads-off indicator  | Automatic, manual<br>Range $\geq (5 \sim 10)$<br>Automatic<br>Range $\geq (0.05-140)$ Hz<br>Yes<br>$\geq 100$<br>Yes |
|  |  |    | <b>RECORDER</b><br>No. of channels<br>Recording method<br>Printer<br>Paper size<br>Lead marker<br>Timing marker<br>Event marker  | $\geq 12$ leads<br>Thermal array<br>Integrated<br>According to manufacturer<br>Yes<br>Yes<br>Yes                     |

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|--|--|--|---|--|
|  |  |  | <b>Chart speed, mm/sec</b>                            | 5, 10, 25, 50 or equivalent                              |
|  |  |  | <b>Channels acquired simultaneously</b>               | $\geq 12$  |
|  |  |  | <b>Channels printed simultaneously</b>                | $\geq 12$  |
|  |  |  | <b>NO. WAVEFORMS STORED</b>                           | Specified by the manufacturer                            |
|  |  |  | <b>ECG TRANSMISSION TO ECG DATA MANAGEMENT SYSTEM</b> | Yes  |
|  |  |  | <b>PROGRAMS</b>                                       | Neonate resting ECG, other specified by the manufacturer |
|  |  |  | <b>USER INTERFACE</b>                                 | Keyboard or Touchscreen                                  |
|  |  |  | <b>STORAGE</b>  |  |
|  |  |  | <b>Normal, no. ECGs</b>                               | $\geq 50$  |
|  |  |  | <b>PATIENT DATA</b>                                   | Name, sex, age, others (specified by the manufacturer)   |
|  |  |  | <b>MEASUREMENTS</b>                                   | HR, PR, QT, QTC  |
|  |  |  | <b>INTERPRETATION</b>                                 | Yes  |
|  |  |  | <b>Analyzed waveform</b>                              | YES  |
|  |  |  | <b>PREVIEW SCREEN</b>                                 | Yes  |
|  |  |  | <b>DISPLAY</b>  | Yes, LCD, or TFT   |

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|--|--|--|--|---|--|
|  |  |  | <b>VISUAL INDICATORS</b>                 | Lead off, low battery   |  |
|  |  |  | <b>DEFIBRILLATOR OVERLOAD PROTECTION</b> | Yes   |  |
|  |  |  | <b>BATTERY OPERATION</b>                 | According to manufacturer (device should be able to work on direct AC line) |  |
|  |  |  | <b>Battery type</b>                      | Rechargeable $\geq$ 1 hr.   |  |
|  |  |  | <b>*Power supply</b>                     | 220/240 VAC , 50Hz single phase, Three pin G type plug                      |  |
|  |  |  | <b>Line voltage</b>                      |   |  |

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|  |  | <b>19</b> | <b>Ophthalmoscope, direct</b> | <b>12</b>   |
|  |  |           | Application                   | Diagnosis of eye  |
|  |  |           | Component                     | Interchangeable handle<br>Ophthalmoscope head<br>Battery (dry cell or rechargeable )  |
|  |  |           | Power requirement             | Battery , or<br>Ac Adapter be 220-240VAC, 50Hz.   |
|  |  |           | Corrective power range        | From- 20 to +20 or wider range  |
|  |  |           | Aperture                      | 5 apertures or more   |
|  |  |           | Filter                        | red-free , others to be specified   |
|  |  |           | Light source                  | LED<br>color rendering index > 95   |
|  |  |           | Number of Lenses              | ≥ 18  |
|  |  |           | Environmental requirements:   | The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |

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|  |  |  |                             |   |
|--|--|--|-----------------------------|---|
|  |  |  | Application                 | Diagnosis of eye  |
|  |  |  | Component                   | Interchangeable handle<br>Ophthalmoscope head<br>Battery (dry cell or rechargeable )  |
|  |  |  | Power requirement           | Battery , or<br>Ac Adapter be 220-240VAC, 50Hz.   |
|  |  |  | Corrective power range      | From- 20 to +20 or wider range  |
|  |  |  | Aperture                    | 5 apertures or more   |
|  |  |  | Filter                      | red-free , others to be specified   |
|  |  |  | Light source                | LED<br>color rendering index > 95   |
|  |  |  | Number of Lenses            | ≥ 18  |
|  |  |  | Environmental requirements: | The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |



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|  |  | 1 | <p style="text-align: center;"><b>Audiometer</b></p> <ul style="list-style-type: none"> <li>❖ Application: used to measure&amp; diagnosis of hearing loss.</li> <li>❖ Heavy duty&amp;compatible design.</li> <li>❖ Talk over: built in &amp; external microphone.</li> <li>❖ Stimulus type: pure tone, single pulse, continuous, pulsing.</li> <li>❖ Two channels.</li> <li>❖ Air conduction (120 dB), frequency (HZ) (125~20000).</li> <li>❖ Bone conduction (80 dB), frequency(HZ)(250~8000).</li> <li>❖ Masking NB, contra/ipsi.</li> <li>❖ Speech input: tape, CD.</li> <li>❖ Special tests (SISI, Stenger,Fowler).</li> <li>❖ Accessories: head phone, bone vibrator, response.</li> <li>❖ Input power: 220/240 VAC, 50/60 Hz single phase.Three Pin G type Plug, Voltage stabilizing and over current protection circuit.</li> <li>❖ <b><u>Environmental requirements:</u></b>the equipment suitable for work in the climat conditions in Iraq in terms of temperature &amp; humidity.</li> </ul> | 13 |
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|--|--|-----------|--|---|
|  |  | <b>17</b> | <b>Otoscope</b>  | <b>14</b>   |
|  |  |           | Application: examination of ear.   |   |
|  |  |           | Orientation  | Portable  |
|  |  |           | Handle   | Low weight , non-corrosive material .   |
|  |  |           | light transmission   | Fiber optic   |
|  |  |           | Magnification  | $\geq 2.5x$   |
|  |  |           | Bulb   | $\geq 3.5$ V halogen<br><br>Or LED preferred  |
|  |  |           | Batteries  | NiMH or Li-ion rechargeable battery, others to be specified.  |
|  |  |           | Accessories  | <ul style="list-style-type: none"> <li>• Reusable Ear Specula different size.</li> <li>• Reusable tips.(Autoclavable , etc..)</li> <li>• Additional Halogen Lamp if halogen type.</li> <li>• Battery Charger</li> <li>• Soft pouch or hard Plastic case.</li> </ul> |
|  |  |           | Power& Environmental<br>Power input Requirement<br>to be 220-240VAC, 50Hz. | The supplier should be confirmed that:<br>The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.  |

|  |  |   |   |    |
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|  |  | 1 | <p style="text-align: center;"><b>Water caloric stimulator</b></p> <p>Application: used to<br/>deliversa precisely controlled temperature and flow rate of cool or warm water<br/>to evaluate the horizontal semicircular canal during caloric testing.</p> <ul style="list-style-type: none"> <li>❖ Heavy duty &amp; compatible design.</li> <li>❖ Table top.</li> <li>❖ Readout: digital.</li> <li>❖ Flow activation: Switch on delivery head or footswitch.</li> <li>❖ Temperature range (°c): (12~50).</li> <li>❖ Stand-alone or PC USB Interface.</li> <li>❖ Flow rate (adjustable) range: 0 - 600 cc/minute.</li> <li>❖ External water tank (≥3liters) with water hose length: (≥ 3m).</li> <li>❖ Input power: 220/240 VAC, 50/60 Hz single phase. Three Pin G type Plug, Voltage stabilizing and over current protection circuit.</li> <li>❖ <b>Environmental requirements:</b>the equipment suitable for work in the climat conditions in Iraq in terms of temperature &amp; humidity.</li> </ul> | 15 |
|--|--|---|---|----|

|             |  |   |                                     |  |    |
|-------------|--|---|-------------------------------------|--|----|
|             |  | 3 | <b>Laser Therapy</b>                |  | 16 |
|             |  |   | Laser Wave length                   | 640 nm – 980 nm  |    |
|             |  |   | Modes                               | Continuous & pulse   |    |
|             |  |   | Impulse frequency                   | (10- 2000)Hz or wider range  |    |
|             |  |   | Power (MAX) mW                      | (400 - 1100 )  |    |
|             |  |   | No. of channels                     | 2  |    |
|             |  |   | Laser probes (included in warranty) | $\geq 2$   |    |
|             |  |   | Cluster probe                       | Optional   |    |
|             |  |   | Preset therapy protocols            | Yes $\geq 20$  |    |
|             |  |   | Therapy positions map               | Yes  |    |
|             |  |   | Display                             | Yes LCD touch screen or the compatible   |    |
|             |  |   | Power & Environmental Requirements  | <ul style="list-style-type: none"> <li>• Power input to be 220-240VAC, 50Hz.</li> <li>• The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li> </ul> |    |
| Accessories | Safety eyewear( goggles), protection level L3 or higher Qty 2<br>trolley Qty1<br>IR radiation sensor forexternallaserprobe |   |                                     |  |    |

|                                   |   |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
|-----------------------------------|---|---|--|---------------|---|-----------------|---------------------|-------------------|------------------------------|----------------|------------------------------|----------------|---|------------------|------------|-----------------------------------|-----|--|
|                                   |   | 4 | <p style="text-align: center;"><b>TRACTION THERAPY</b><br/><b>Cervical &amp; Lumbar</b></p>  | 17            |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
|                                   |   |   | <p><b><u>Application:</u></b>Decrease of disc protrusion ,decompression of pinched nerves , strain of lumbar, osteophyte, bone joint displacement syndrome etc.</p>  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
|                                   |   |   | <p><b><u>Traction Device :</u></b></p>   |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
|                                   |   |   | <table border="1"> <tr> <td>Therapy modes</td> <td>continuous, intermittent, progressive (or the compatible)</td> </tr> <tr> <td>control</td> <td>YES , Microcomputer</td> </tr> <tr> <td>Display</td> <td>digital / LCD / touch screen</td> </tr> <tr> <td>Traction force</td> <td>(1.5 – 60) kg or wider range</td> </tr> <tr> <td>Treatment time</td> <td>According to treatment programs</td> </tr> <tr> <td>Parameter memory</td> <td>≥ 20 cases</td> </tr> <tr> <td>Safety control for traction force</td> <td>YES</td> </tr> </table> | Therapy modes | continuous, intermittent, progressive (or the compatible) | control         | YES , Microcomputer | Display           | digital / LCD / touch screen | Traction force | (1.5 – 60) kg or wider range | Treatment time | According to treatment programs                         | Parameter memory | ≥ 20 cases | Safety control for traction force | YES |  |
| Therapy modes                     | continuous, intermittent, progressive (or the compatible) |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| control                           | YES , Microcomputer                                       |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Display                           | digital / LCD / touch screen                              |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Traction force                    | (1.5 – 60) kg or wider range                              |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Treatment time                    | According to treatment programs                           |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Parameter memory                  | ≥ 20 cases  |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Safety control for traction force | YES   |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
|                                   |   |   | <p><b><u>Traction Table:</u></b></p>   |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
|                                   |   |   | <table border="1"> <tr> <td>Type</td> <td>Electric Or Hydraulic</td> </tr> <tr> <td>Table's section</td> <td>≥ 2</td> </tr> <tr> <td>Adjustable height</td> <td>45-95 cm or wider range</td> </tr> <tr> <td>Head section</td> <td>Adjustable</td> </tr> <tr> <td>Mattress</td> <td>flame retardant , water proof FOAM covered with leather</td> </tr> </table>   | Type          | Electric Or Hydraulic                                     | Table's section | ≥ 2                 | Adjustable height | 45-95 cm or wider range      | Head section   | Adjustable                   | Mattress       | flame retardant , water proof FOAM covered with leather |                  |            |                                   |     |  |
| Type                              | Electric Or Hydraulic                                     |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Table's section                   | ≥ 2   |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Adjustable height                 | 45-95 cm or wider range                                   |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Head section                      | Adjustable  |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |
| Mattress                          | flame retardant , water proof FOAM covered with leather   |   |  |               |   |                 |                     |                   |                              |                |                              |                |   |                  |            |                                   |     |  |

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|  |  |  | Lifting capacity   | ≥ 200 kg  |
|  |  |  | nose-hole  | YES   |
|  |  |  | Footswitch height adjustment   | YES   |
|  |  |  | Table Dimensions (L x W)cm   | ≥( 200 x 60)  |
|  |  |  | Castors  | 4 ( with brake)   |
|  |  |  | Accessories  | <ul style="list-style-type: none"> <li>• Paper roll stand</li> <li>• Paper roll (different sizes )</li> <li>• Belts (Thoracic, Pelvic)</li> </ul> |
|  |  |  | <p><b><u>Mobile STOOL for Traction:</u></b><br/>                     Height adjustment .<br/>                     ≥ 4 soft castors .</p> <p><b><u>Traction Accessories</u></b></p> |   |
|  |  |  | Separated foot Stool with height adjustment  | Qt 1  |
|  |  |  | Padded <b>neck harness</b> for cervical traction   | Qt 1  |
|  |  |  | Wall bracket, for mounting the traction unit   | Qt 1  |
|  |  |  | Pulley for traction frame  | Qt 2  |
|  |  |  | Fixation strap with Velcro fastener  | Qt≥ 2 different sizes   |

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|  |  |  |                               |                                 |
|--|--|--|-------------------------------|---------------------------------|
|  |  |  | Spreader bar                  | Qt1                             |
|  |  |  | Clamp for fitting straps      | Qt 2                            |
|  |  |  | Supporting ROLLS AND CUSHIONS | Qt≥ 10 different sizes & shapes |

|  |  |          |   |                            |
|--|--|----------|---|----------------------------|
|  |  | <b>4</b> | <b>Ultrasound for physiotherapy</b>   | <b>18</b>                  |
|  |  |          | <p>Application: use for pain relief and facilitate tissue healing. Increased local metabolic rate, muscle relaxation, and heightened pain threshold of nerves. Conditions involving scar-tissue tensions, ulcerations, bursitis, or muscle, tendon, ligament, or joint pain</p> <p>CONFIGURATION: Tabletop, cart.</p> |                            |
|  |  |          | Frequency, MHz  | 1, 3                       |
|  |  |          | Continuous beam   | Yes                        |
|  |  |          | Pulsed beam   | Yes                        |
|  |  |          | Duty cycle, %   | 5, 10, 20, 50, 80.         |
|  |  |          | Pulse rate, pps   | 50-150                     |
|  |  |          | LCD display   | YES touch screen or better |
|  |  |          | Maximum output, W   | ≥10                        |



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|--|--|--|--|---------------|
|  |  |  | TIMER RANGE, min   | 0 -≥30 (MAX.) |
|  |  |  | Number of Transducers<br>(included in warranty)  | ≥ 2           |
|  |  |  | Multifrequency capability  | YES           |
|  |  |  | NEUROMUSCULAR<br>STIMULATOR  | Optional      |
|  |  |  | Treatment protocols  | YES           |
|  |  |  | Body part navigation   | YES           |
|  |  |  | Input power: 220/240 VAC, 50/60 Hz single phase. Three Pin type Plug,<br>Voltage stabilizing and over current protection circuit.                |               |
|  |  |  | Power input to be 220-240VAC, 50Hz.  |               |
|  |  |  | The supplier should be confirmed that: The Equipment is suitable for work in<br>climate conditions of Iraq in terms of temperature and humidity. |               |
|  |  |  | <b>Accessories: Gel 1000ml and operating manual/ 2pcs</b>  |               |

|  |  |   |  |   |
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|  |  | 5 | <b>Infra-Red Therapy</b>   | 19  |
|  |  |   | Application:physiotherapy/massage ,vasodilation, improvement of blood flow /acupuncture/orthopedics. |   |
|  |  |   | Power  | 250w or more  |
|  |  |   | Configuration  | on casters  |
|  |  |   | Light source   | Infraredlamp protected with shiny polishedaluminum  |
|  |  |   | Cable length   | ≥ 3 m   |
|  |  |   | treatment timer  | 1 – 30 minutes or wider range   |
|  |  |   | STANDARD ACCESSORIES   | protective goggles for patient<br>protective goggles for therapist<br>radiator 250w or more   |
|  |  |   | Power & Environmental Requirements   | <ul style="list-style-type: none"> <li>• Power input to be 220-240VAC, 50Hz.</li> <li>• The supplier should be confirmed that:<br/>The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity</li> </ul> |

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|  |  | <b>4</b> | <b>Microwave</b>   | <b>20</b> |
|  |  |          | <p><b><u>Application:</u></b>used in rehabilitation centers,muscle relaxation, and pain relief.</p> <ul style="list-style-type: none"><li>• Sport system: parenchyma wound and wrench ,fracture, osteomyelitis, slipped disc, rheumatoid arthritis, periartthritis of shoulder ,</li><li>• Urology system :urology system infection and evocable kinds of inflammation</li><li>•Shallow tissureinflammation:infection of surgical cut , folliculitis, furuncle, carbuncle, psoriasis,herpes zoster, bedsore, hemorrhoids, scald, chilblain, faucitis, tonsillitis, bronchitis etc.</li><li>• Nerve system : end neuritis, neurodermatitis, neurodocitis,neuralgia etc.</li></ul> <p><b><u>MAIN FEATURES</u></b></p> <p>Preset treatment protocols.</p> <p>color graphics library of anatomical images.</p> |           |

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| <b>TECHNICAL SPECIFICATIONS:</b>                     |  |
|--|--|
| frequency  | 2450 MHz $\pm$ (up to50)   |
| Operating modes                                      | Continuous & pulse   |
| Output power   | Continuous $\geq$ 200 W<br>Pulsed $\geq$ 100W  |
| Display  | LCD or the equivalent  |
| Standard accessories (per unit) included in warranty | Circular applicator with cable qty(1)<br>Mains cableqty(1)<br>Protective gogglesqty(2)<br>Neon checklightqty(1)  |
| Optional Accessories                                 | Rectangular applicator with cable qty(1)   |
| Timer  | Adjustable , 0- 30 Min   |
| alarm  | End of treatment   |
| Power & Environmental Requirements                   | <ul style="list-style-type: none"> <li>• Power input to be 220-240VAC, 50Hz.</li> <li>• The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li> </ul> |

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|  |  | 2 | <b>Mobile wax bath</b>   | 21   |
|  |  |   | Application: used for storing and melting of wax at desired temperature level for physiotherapy application. |  |
|  |  |   | TankMaterial   | stainless steel  |
|  |  |   | Range of thermostat  | 30 – 90° C or wider range  |
|  |  |   | Tank capacity  | ≥ 17 Liter   |
|  |  |   | Alert indicator  | End of run, over/under temperature.  |
|  |  |   | Hot packs tank   | Optional   |
|  |  |   | Time control   | Yes  |
|  |  |   | Safety   | Automatic switch-off when overheated, door safety.   |
|  |  |   | Trolley  | Yes  |
|  |  |   | Accessories  | ≥10 Kg. Paraffin Wax, brush for wax application  |
|  |  |   | Power&<br>EnvironmentalRequirements  | Power input to be 220-240VAC, 50Hz.<br><br>The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |

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|  |  | <b>1</b> | <b>Short wave</b>  | <b>22</b> |
| <p><b>Application:</b> used in rehabilitation centers, electrical energy is converted into thermal energy directly in the tissue.</p> <p style="margin-left: 40px;">❖ Hyperemia, Pain Relief, Increased Blood Flow , Muscle relaxation, Decreasing Joint Stiffness, Chronic Inflammatory, achillodynia , migraine.</p> <p><b><u>MAIN FEATURES</u></b></p> <p>Preset therapy protocols</p> <ul style="list-style-type: none"> <li>• Patient database in the unit</li> <li>• Library with applicator placement images.</li> </ul> <p><b><u>TECHNICAL SPECIFICATIONS:</u></b></p> |  |          |  |           |
| Generator frequency  |  |          | ≥27 MHz  |           |
| Orientation  |  |          | Trolley with castors                                     |           |
| Operating modes  |  |          | Pulsed & Continues                                       |           |
| Output power   |  |          | continuous HF max. ≥ 100 W, pulsed HF max. ≥200 W (peak) |           |
| Pulse duration   |  |          | 50 - 200µs or wider range                                |           |

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|  |  |  | Pulse repetition frequency         | 10-200 Hz adjustable or wider range  |
|  |  |  | Display                            | LCD or better  |
|  |  |  | Standard accessories (per unit)    | Neon check light qty2<br>Disc electrode Ø 130 mm or the compatible qty 2<br>Disc electrode Ø 80mm or the compatible qty2<br>Flexible rubber electrode qty2<br>Cable clamp qty2<br>Electrode cable qty2<br>Electrode arm qty2                     |
|  |  |  | Optional Accessories               | Diploed ( circupode )  |
|  |  |  | <b>Timer</b>                       | <b>0-30 Min</b>  |
|  |  |  | <b>Alarm</b>                       | <b>End of treatment</b>  |
|  |  |  | Power & Environmental Requirements | <ul style="list-style-type: none"> <li>• Power input to be 220-240VAC, 50Hz.</li> <li>• The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li> </ul> |

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|  |  | 1 | <p style="text-align: center;"><b>Hot packs Machine (Hydrocollator)</b></p> <ul style="list-style-type: none"> <li>❖ <u>Application</u>:used in physical therapy clinic to heat and store hot packs for therapeutic use.</li> <li>❖ <u>Four castors with breaks, with detachable rank .</u></li> <li>❖ <u>Tank capacity</u>:<math>\geq</math> 15 Liter</li> <li>❖ <u>Control Panel</u>: <ul style="list-style-type: none"> <li>• Alarms: 3lamps, one indicates the main power is connected and the second one indicates the over heat and third indicates low water condition.</li> <li>• Switch: on/off.</li> <li>• Drain.</li> </ul> </li> <li>❖ <u>Thermal protector</u>: Yes to prevent overheating.</li> <li>❖ <u>Temperture range</u>: 71-74°C.</li> <li>❖ <u>Thermal cutoff temperature</u>: designed to open the power circuit between <math>88\pm 8^{\circ}\text{C}</math></li> <li>❖ <u>Accuracy</u>: +/-10%.</li> <li>❖ <u>Standard Accessories</u>: <ul style="list-style-type: none"> <li>• <math>\geq 12</math> Packs includes(Neck,standard,knee and shoulders)</li> <li>• Stainless steel hot pack tank</li> </ul> </li> <li>❖ <u>Input power</u>: 220/240 VAC, 50/60 Hz single phase. Three Pin (G type) Plug, Voltage stabilizing and over current protection circuit.</li> </ul> | 23 |
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|  |  | 2 | <b>Skin Mesher</b>           | 24  |
|  |  |   | <b>Application</b>           | skin graft meshing  |
|  |  |   | <b>Type</b>                  | Battery Power Unit Skin Graft Mesher  |
|  |  |   | <b>length of the carrier</b> | Unlimited   |
|  |  |   | <b>Plate thickness range</b> | 0.5mm to 5 mm   |
|  |  |   | <b>Plate thickness wide</b>  | ≥ 100 mm  |
|  |  |   | <b>Other specification</b>   | <ul style="list-style-type: none"> <li>- Safety Improved</li> <li>- Incision, carrier and gearing system must prevents graft sheering and rolling around the blades.</li> <li>- Setting ratios without removing or exchanging parts or carriers</li> <li>- ease of spreading the graft on the special carriers and grafts that does not roll around the blades.</li> <li>- manual and/or powered operation, giving greater flexibility</li> <li>- carrying and autoclaving container offers the option of a battery-powered unit that transforms the manual mesher into a powered system</li> <li>- Uniform, disposable extended sizes carriers</li> <li>- Smooth carrier and releasing nets</li> <li>- Heavy duty and compatible design</li> </ul> |

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|  |  |  | <p><b>Carrier size</b></p> <p>- <math>\geq 14 \times 30</math> cm</p>  |
|  |  |  | <p><b>*Power supply</b></p> <p>- Medical Approved power supply board</p> <p><b>Line voltage</b></p> <p>- 220/240VAC,50/60Hz, Three pin (G type) plug</p> <p><b>Voltage stabilizer circuit (or device)</b></p> <p>-YES (170-260VAC to 220 /240 VAC)</p> <p><b>Built in rechargeable battery(s)</b></p> <p>- Yes for <math>\geq 90</math> minutes back up(with long shelf life batteries <math>\geq 1</math> year)</p> |

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|  |  | 2 | <p style="text-align: center;"><b>Monopolar Thermal Cautery Device</b></p> <p><u>Application:</u> dermatology, ophthalmology, occupational health, ENT, plastic surgery, urology, podiatry, or any specialty that requires accurate hemostasis.</p> <ul style="list-style-type: none"> <li>• Bone.</li> <li>• Cartilage.</li> <li>• Soft tissue.</li> <li>• Patient with pacemakers.</li> <li><input checked="" type="checkbox"/> No radio frequency interference.</li> <li><input checked="" type="checkbox"/> Output Power: 0 -50 W.</li> <li><input checked="" type="checkbox"/> Over Current Protection: Thermally Reset Over-Current Protection Device.</li> <li><input checked="" type="checkbox"/> Fuse: YES.</li> </ul> <p><u>Handpiece:</u></p> <p>Wide variety of hand pieces and tips.</p> <p>Autoclavable</p> <p>Cord <math>\geq</math>1.5 m.</p> <p>heat-resistant</p> <p><math>\geq</math> 5 reusable electrodes( autoclavable)</p> <p>insulated 4¾" reusable electrodes</p> <p>disposable electrodes</p> <p>Disposable Handpiece Sheaths</p> <p><u>Mobile Stand:</u></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Casters with brakes.</li> </ul> | 25 |
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|  |  |  | <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Wall mounts.</li><li><input checked="" type="checkbox"/> Carrying Case.</li></ul> <p><u>Power requirements:</u></p> <ul style="list-style-type: none"><li>•Power input 220-240VAC, 50Hz. Three Pin G type Plug, Voltage stabilizing and over current protection circuit.</li></ul> <p>•<b>Environmental requirements:</b>the equipment suitable for work in the climat conditions in Iraq in terms of temperature &amp; humidity.</p> |  |
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|  |  | 1 | <p style="text-align: center;"><b>ND-YAG laser for plastic surgery</b></p> <p><b><u>Unit Contents:</u></b></p> <ul style="list-style-type: none"> <li>➤ Laser head.</li> <li>➤ Supply unit.</li> <li>➤ Foot switch.</li> <li>➤ Deionization cartridge.</li> <li>➤ Laser warning signs.</li> </ul> <p><b><u>Laser Specifications:</u></b></p> <ul style="list-style-type: none"> <li>➤ Continuous-wave Nd: YAG laser, 1,318 nm (infrared).</li> <li>➤ Protection class: I.</li> <li>➤ Laser class: IV.</li> <li>➤ Output power 0.5 - 40 W.</li> <li>➤ Display: Colored LCD.</li> <li>➤ Air-cooled, closed water circuit</li> <li>➤ Cooling agent: water (10 – 20) L, distilled, deionized).</li> <li>➤ Supply Voltage: 220-240 VAC, 50/60 Hz.</li> <li>➤ Focal distance: 30 mm - 50 mm.</li> </ul> <p><b><u>Standard accessories:</u></b></p> <ul style="list-style-type: none"> <li>➤ Laser protective <b>glasses</b>.</li> <li>➤ Laser protective glasses for persons wearing spectacles.</li> <li>➤ Focusing headpiece.</li> <li>➤ Gas flow controller.</li> <li>➤ OR smoke evacuator.</li> <li>➤ Gas cylinder adapter with safety valve; working and base gas flows can be set independently, for use with gas-irrigated fibers and focusing hand pieces.</li> </ul> | 26 |
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|  |  | 36 | <b>ECG</b>   | 27   |
|  |  |    | MEDICAL APPLICATION  | Detect the electrical signals associated with cardiac activity and produce an ECG, a graphic record of the voltage versus time to diagnose and assist in treating some types of heart disease and arrhythmias. |
|  |  |    | PATIENT TYPE   | Adult, pediatric   |
|  |  |    | CONFIGURATION<br>CART  | Portable<br>Yes  |
|  |  |    | LEADS<br>Switching<br>Sensitivity, mm/mV<br>Calibration signal<br>Frequency range, Hz<br>Diagnostic<br>Filtered<br>CMRR @ 60 Hz, dB<br>Leads-off indicator | Automatic, optional manual<br>≥ 3 values ex. (5, 10, 20)<br>Automatic, optional manual<br><br>Range ≥ (0.05-150)Hz<br>Yes<br>≥ 100<br>Yes  |

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|  |  |  | <p>RECORDER</p> <p>No. of channels<br/>Recording method<br/>Printer<br/>Paper size<br/>Lead marker<br/>Timing marker<br/>Event marker<br/>Chart speed, mm/sec</p> <p>Channels acquired<br/>simultaneously<br/>Channels printed<br/>simultaneously</p> | <p>12 leads<br/>Thermal array<br/>Integrated<br/>According to manufacturer<br/>Yes<br/>Yes<br/>According to manufacturer<br/>Minimum <math>\leq 25</math>, Maximum <math>\geq 50</math>(steps should specified by the manufacturer)<br/><math>\geq 12</math><br/><math>\geq 12</math></p> |  |
|  |  |  | <p>NO. WAVEFORMS DISPLAYED</p> <p>NO. WAVEFORMS STORED</p> <p>ECG TRANSMISSION TO ECG DATA MANAGEMENT SYSTEM</p> <p>PROGRAMS</p> <p>USER INTERFACE</p>  | <p><math>\geq 12</math><br/>Specified by the manufacturer<br/>Yes<br/>Adult resting ECG, other specified by the manufacturer<br/>Keyboard or Touchscreen</p>  |  |

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|  |  |  | STORAGE<br>Normal, no. ECGs                                  | ≥ 50   |  |
|  |  |  | PATIENT DATA   | Name, sex, age, others (specified by the manufacturer)   |  |
|  |  |  | MEASUREMENTS<br>Arrhythmia ID<br>Other printouts             | Yes HR, PR,QT and others<br>Yes<br>Optional (Specified by the manufacturer)                                  |  |
|  |  |  | INTERPRETATION<br>Analyzed waveform<br>Analysis window (sec) | Yes<br>Specified by the manufacturer<br>≥10  |  |
|  |  |  | PREVIEW SCREEN   | Yes  |  |
|  |  |  | DISPLAY TYPE   | LCD or TFT or better   |  |
|  |  |  | VISUAL INDICATORS  | Specified by the manufacturer  |  |
|  |  |  | DEFIBRILLATOR<br>OVERLOAD PROTECTION                         | Yes  |  |
|  |  |  | BATTERY OPERATION<br><br>Battery type (No.)                  | According to manufacturer (device should be able to work on direct AC line)<br>Specified by the manufacturer |  |
|  |  |  | *Power supply<br>Line voltage                                | - Medical Approved power supply board<br>- 220/240 VAC , 50/60 Hz single phase,<br>Three pin G typeplug      |  |



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|  |  | 42 | <b>Defibrillator (Conventional)</b>   | 28 |
|  |  |    | <ul style="list-style-type: none"> <li>❖ <b>Application:</b> Defibrillators deliver a high-voltage electrical impulse to the heart in order to restore normal rhythm and contractile function in patients who are experiencing ventricular fibrillation (VF), ventricular tachycardia (VT), or another shockable rhythm.</li> <li>❖ <b>Energy selection:</b> <ul style="list-style-type: none"> <li>- Internal: (5-50) J</li> <li>- External:                             <ul style="list-style-type: none"> <li>✓ Adult: (50-360)J for monophasic, (50-200)J for Biphasic</li> <li>✓ Pediatric / Neonatal: (2-20) J.</li> </ul> </li> </ul> </li> <li>❖ <b>Paddle controls:</b> Charge, discharge, Others.</li> <li>❖ <b>Waveform shape:</b> Biphasic, others.</li> <li>❖ <b>Synchronizer:</b> Yes.</li> <li>❖ <b>Pediatric paddles:</b> Yes.</li> <li>❖ <b>Optional paddles:</b> Yes (Reusable, Sterilizable).</li> <li>❖ <b>Disposable electrodes:</b> Adult and pediatric (for 200 patients).</li> <li>❖ <b>AED mode:</b> yes.</li> <li>❖ <b>ECG MONITOR:</b> <ul style="list-style-type: none"> <li>- Type: Color LCD or better.</li> <li>- Screen, (in): <math>\geq (5*3.9)</math>.</li> <li>- Sweep speed, mm/sec: <math>\leq 50</math> selectable.</li> <li>- Lead configuration: <math>\geq 3</math>.</li> <li>- Through-the-paddles monitoring: Yes.</li> <li>- HR display: Yes.</li> </ul> </li> </ul> |    |

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|  |  |  | <ul style="list-style-type: none"><li>- HR alarms: Yes.</li><li>- Lead-fault indicator: Yes.</li><li>❖ External pacemaker: yes.<ul style="list-style-type: none"><li>- Pacing mode: demand and/or fixed.</li><li>- Pacing rate (ppm): <math>\leq(25-210)</math></li><li>- Output current (mA): <math>\leq(0-200)</math></li><li>- Pulse width (msec): <math>&gt;20</math></li></ul></li><li>❖ ECG Recorder: Thermal printer.<ul style="list-style-type: none"><li>- Annotation: Time, date, lead, gain, heart rate, operating mode.</li></ul></li><li>❖ Other Monitored Parameters: SpO2, NIBP, IBP, Temperature and(Optional EtCO2).</li><li>❖ Modular: can be equipped with additional monitoring capabilities.</li><li>❖ Cart: Yes.</li><li>❖ Power:<ul style="list-style-type: none"><li>• Power input to be 220-240VAC, 50Hz,G type Plug.</li></ul></li><li>❖ Battery Power:<ul style="list-style-type: none"><li>- Type: Removable.</li><li>- Operating time, hr.: <math>\geq 2</math> continuous ECG monitoring or <math>\geq 20</math>discharge.</li><li>- Recharge time, hr.: <math>\leq 3</math>.</li></ul></li><li>❖ <b><u>Environmental requirements:</u></b>the equipment suitable for work in the climate conditions in Iraq in terms of temperature &amp; humidity.</li></ul> |  |
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|  |  | 96 | <p style="text-align: center;"><b>Nebulizer</b></p> <ul style="list-style-type: none"> <li>❖ Application:used to produce medicated aerosols for inhalation by pediatric &amp; adult patients with respiratory symptoms.</li> <li>❖ Heavy duty &amp; compatible design.</li> <li>❖ Type: portable.</li> <li>❖ Configuration: jet (pneumatic).</li> <li>❖ Compressor pressure range (psi): (0~40).</li> <li>❖ Compressor flow range (L/min): (0~14)</li> <li>❖ Particle size (microns): (0.5~5).</li> <li>❖ Method of nebulization: piston driven.</li> <li>❖ Nebulizer capacity (ml): <math>\geq 5</math>.</li> <li>❖ Accessories: <ul style="list-style-type: none"> <li>• 1 mouth piece.</li> <li>• 1 tube,2 tube spare (tubes should be made from flexible plastic materials and transpoarent and easy cleaning).</li> <li>• 1 T-adaptor.</li> <li>• 1 reservoir tube.</li> <li>• 1 reusable nebulizer (single patient use only).</li> <li>• 1 pediatric mask &amp; 1 adult mask.</li> <li>• 3 filter.</li> <li>• Spare funnel for medical solutions.</li> <li>• Carrying case.</li> <li>• Venturimask for adult &amp; child.</li> <li>• MC mask for adult &amp; child.</li> </ul> </li> <li>❖ Input power: 220/240 VAC, 50/60 Hz single phase.Three Pin G type Plug, Voltage stabilizing and over current</li> </ul> | 29 |
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|  |  |  | <p>protection circuit.</p> <ul style="list-style-type: none"><li>❖ The device can be operated electrically by rechargeable battery or built in charger.</li><li>❖ UPS: smart, 1600 KVA.</li></ul> <p>❖ <u>Environmental requirements:</u></p> <ol style="list-style-type: none"><li>1- The unit shall be capable of being stored continuously in ambient temperature of (0-60deg C) and relative humidity of (15-90%).</li><li>2- The unit shall be capable of operating continuously in ambient temperature of (10-40 deg C).</li></ol> |  |
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|  |  | 65 | <p style="text-align: center;"><b>Sucker</b></p> <ol style="list-style-type: none"> <li>1. Supply voltage: 220 - 240 v. 50 - 60 Hz.</li> <li>2. Suction capacity: 30 - 45 liter / minute.</li> <li>3. Vacuum range <math>\pm</math> (10 - 85) k Pa.</li> <li>4. Metal – cylinder / piston system.</li> <li>5. Casing with : <ul style="list-style-type: none"> <li>➤ Carrying handle.</li> <li>➤ Fitting rail.</li> <li>➤ Built in vacuum meter and vacuum regulator.</li> <li>➤ ON /OF switch.</li> </ul> </li> <li>6. Trolley with 4 antistatic castors, 2 with brakes including fitting rail.</li> <li>7. Hydrophobic bacterial filter (+10 spare filters)</li> <li>8. Connection tubing with 2 angled coupling connectors 0.5 m.</li> <li>9. Supply operating manual and service manual.</li> </ol> <p>Note : glass – cylinder / piston system does not preferred .</p> | 30 |
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|  |  | <p style="text-align: center;"><b>1 Treadmill ( cardiac stress test )</b></p> <p><b>Application: for cardiology (cardiac stress test)</b></p> <p>Display: LCD color monitors <math>\geq</math> 24 inch. ❖</p> <p>Patient weight capacity up to (200- 250) Kg. ❖</p> <p>At least 12 lead.(sticker + vacuum). ❖</p> <p>Patient cable: wireless &amp;with wire. ❖</p> <p>A4 Paper size printer. ❖</p> <p>Free software (installed + CD supplied). ❖</p> <p>AC filters. ❖</p> <p>Lead failure alarm. ❖</p> <p>Heavy duty motor : ❖</p> <p>Easy to maintenance. ○</p> <p>Not fully covered. ○</p> <p>Gear box belt. ○</p> <p>Patient carrier: lateral, long and at least 5 cm size. ❖</p> <p>F.D.A approved. ❖</p> <p>DISPLAY AND ANALYSIS FILTERS: Muscle artifact filter, baseline ❖<br/>wander filter, 40 Hz low pass, line frequency. All filters can be turned on</p> | 31 |
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|  |  | <p>or off by the user</p> <p>LAN (local area network) compatible. ❖</p> <p>Speed control (0 – 100%). ❖</p> <p>Patient + operator control. ❖</p> <p>Large memory. ❖</p> <p>Patient base at least 140 cm. ❖</p> <p>Supplied with : ❖</p> <p>Sphygmomanometer. ○</p> <p>Trolley. ○</p> <p><b><u>Power and environmental requirements:</u></b> ❖</p> <p>The unit shall be capable of being stored continuously in ambient temperature of (-5to70) deg C and relative humidity of 10-95%. •</p> <p>The unit shall be capable of operating in ambient temperature of (1-50) deg C and relative humidity of (10- 95) %. •</p> <p>Should meet General Requirements of Safety for Electromagnetic Compatibility. •</p> <p>Power input to be 220-240VAC, 50Hz. •</p> |  |
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|  |  | 3 | <b>Central Station With 10 (ten ) Bed Side Monitors</b>   | 32 |
|  |  |   | <b><u>Monitors:</u></b> <ul style="list-style-type: none"><li>❖ Flat panel color LCD (<math>\geq 15</math> inch).</li><li>❖ Touch screen or Navigation Knob.</li><li>❖ Battery backup for at least 3 hours.</li><li>❖ Built in recorder.</li><li>❖ Monitor parameters:<ul style="list-style-type: none"><li>▪ ECG.</li><li>▪ NIBp.</li><li>▪ IBp.</li><li>▪ Spo2.</li><li>▪ Respiration.</li><li>▪ Temp.</li><li>▪ Co2 capnography (option for anesthesia).</li></ul></li></ul> <b><u>Central Station:</u></b> <ul style="list-style-type: none"><li>❖ Flat panel color LCD (<math>\geq 21</math> Inch).</li><li>❖ Laser printer A4 paper size.</li><li>❖ External UPS for at least 60 Min.</li><li>❖ Hub switch for 16 beds.</li></ul> <p> Weir Connection preferred to avoid external noise.</p> <ul style="list-style-type: none"><li>❖ <b><u>Power and environmental requirements:</u></b></li></ul> |    |



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|  |  |  | <ul style="list-style-type: none"><li>• The unit shall be capable of being stored continuously in ambient temperature of (-5to70) deg C and relative humidity of 10-95%.</li><li>• The unit shall be capable of operating in ambient temperature of (1-50) deg C and relative humidity of (10- 95) %.</li><li>• Should meet General Requirements of Safety for Electromagnetic Compatibility.</li><li>• Power input to be 220-240VAC, 50Hz.</li></ul> |  |
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|  |  | <b>40</b> | <b>Bed side monitor For Sever patient</b>   | <b>33</b>  |
|  |  |           | Application : basic& advanced physiologic parameters .  |  |
|  |  |           | Acuity area :ICU, RCU, CCU, PICU,NICU, Cardiac post-operative care unit, Renal Transplant post-operative care unit. |  |
|  |  |           | PATIENT TYPE  | Adult, pediatric neonate (with all accessories needed) |
|  |  |           | NIBP  | YES Systolic, mean, and diastolic pressures            |
|  |  |           | ECG   | YES $\geq 5$ leads                                     |
|  |  |           | Parameters Analyzed   | ST Segment & arrhythmia monitoring facility.           |
|  |  |           | IBP   | YES $\geq 2$ Channels                                  |
|  |  |           | Labels  | CVP, Others to be specified.                           |
|  |  |           | Hemodynamics, & Cardiac Output (PICCO)  | YES with all accessories needed.<br>Optional           |
|  |  |           | SVO2  |  |
|  |  |           | SPO2 (reusable probe)   | YES Measuring range: SpO2: 1 to 100%                   |
|  |  |           | Temperature   | YES in °C  |
|  |  |           | Capnography , EtcO2   | YES  |
|  |  |           | Pulse rate  | YES  |

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|--|--|---|---|
|  |  | Respiratory   | YES   |
|  |  | ARRHYTHMIA ANALYSIS+<br>ST analysis                             | YES   |
|  |  | No. of leads analyzed   |   |
|  |  |   | ≥6  |
|  |  | TRENDING  | Graphical<br><br>Tabular  |
|  |  | Alarms<br><br>For all monitored parameters                      | <ul style="list-style-type: none"> <li>• Audible and visual.</li> <li>• Alarms: User-selectable upper and lower limits</li> <li>• arrhythmia alarm</li> </ul> |
|  |  | Display<br><br>Traces   | LCD or LED, or TFT color<br>Touchscreen<br>≥ 15 in.<br>≥ 5  |
|  |  | connectable to central station<br>monitor                       | YES   |
|  |  | Graphical and Numeric<br>monitored data should be<br>recordable | YES ≥ 24 hr.  |

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|--|--|--|-----------------------------|---|
|  |  |  | Interface                   | YES   |
|  |  |  | Auxiliary Output            | Digital   |
|  |  |  | Connection                  | Wired Or Wireless   |
|  |  |  | Recorder                    | optional  |
|  |  |  | Equipment Alarms            | Cuff leak, Cuff disconnect, Hose leak, low battery .  |
|  |  |  | Orientation                 | Wall mount , or bed side or with trolley  |
|  |  |  | Battery                     | Yes Rechargeable $\geq$ 4hr   |
|  |  |  | Lead Off Status             | YES   |
|  |  |  | Power Requirement           | Power input to be 220-240VAC, 50Hz.<br>Ac Adapter   |
|  |  |  | Environmental requirements: | The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity. |

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|  |  | 2 | <b><i>Comprehensive Cardiac Portable Ultrasonic Scanners(Echo)</i></b> | 34   |
|  |  |   | Application  | - Real-time, noninvasive imaging of heart structures and functionality<br>-Detect mitral and aortic stenosis and insufficiency, to determine the extent of damage from suspected myocardial infarction, and to diagnose congenital cardiac defects |
|  |  |   | PROBE, MHz AND TYPES   | 2-7.5 phased or tightly curved array TTE for adult and pediatric studies; 7.5 phased array TEE   |
|  |  |   | SCAN MODES   | 2-D, 2-D/M-mode, 2-D/spectral Doppler  |
|  |  |   | CINE LOOP PLAYBACK   | Yes  |
|  |  |   | DOPPLER  | CW, PW, CFM , Color  |
|  |  |   | SCAN CONVERTER<br>Matrix size<br>Grayscale levels                      | ≥ 512 x 512 x 8<br>256   |
|  |  |   | SOFTWARE FEATURES  | Digital calipers, Vascular analysis , Obstetric analysis, Cardiac analysis and other optional packages   |

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|--|--|--|--|---|
|  |  |  | IMAGE PROCESSING   | Real time   |
|  |  |  | PREPROCESSING  | Yes   |
|  |  |  | POSTPROCESSING   | Yes   |
|  |  |  | HARMONIC IMAGING   | Yes   |
|  |  |  | IMAGE STORAGE  | ≥ 120 GB HD, or better  |
|  |  |  | DICOM COMPLIANT  | Yes   |
|  |  |  | MONITOR  | ≥ 15" high resolution LCD   |
|  |  |  | ANNOTATION   | Full screen   |
|  |  |  | OUTPUTS  | Digital, TV   |
|  |  |  | OPTIONS AVAILABLE  | Video printer, strain/strain rate analysis, contrast tuned imaging, VPan, 3-D/4-D, QIMT, internal battery, cart configurations, suitcase  |
|  |  |  | OTHER SPECIFICATIONS   | ECG, stress echo  |
|  |  |  | *Power supply<br>Line voltage<br>Voltage stabilizer circuit<br>Rechargeable battery(s) (with long shelf life batteries ≥ 1 year) | - Medical Approved power supply board<br>- 220/240VAC, 50/60Hz, Three pin G type plug<br>- YES (170-260VAC to 220 /240 VAC)<br>- Yes for ≥ 90 minutes back up (the device can work with or without battery) |

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|  |  | <b>4</b> | <b>Cardiac Ultrasonic Scanning Systems (Echo)</b> | <b>35</b>   |
|  |  |          | <b>Application</b>                                | - used for Real-time, noninvasive imaging of heart structures and functionality.<br>-Cardiac (Adult, pediatric, neonatal, fetal).<br>-Vascular. |
|  |  |          | <b>DICOM 3.0 COMPLIANT</b>                        | Yes (optional Wireless capability).   |
|  |  |          | <b>CONFIGURATION</b>                              | Conventional.   |
|  |  |          | <b>PROBE TYPES</b>                                |   |
|  |  |          | <b>Linear array</b>                               | Yes.  |
|  |  |          | <b>Phased/vector array</b>                        | Yes.  |
|  |  |          | <b>Multifrequency</b>                             | Yes.  |
|  |  |          | <b>TEE Adult</b>                                  | Yes.  |
|  |  |          | <b>TEE Pediatric</b>                              | Optional.   |
|  |  |          | <b>CW</b>   | Yes.  |
|  |  |          | <b>Others</b>                                     | Specified by manufacture.   |
|  |  |          | <b>SECTOR ANGLE, °</b>                            | Adjustable.   |
|  |  |          | <b>GRAYSCALE LEVELS</b>                           | 256.  |
|  |  |          | <b>PREPROCESSING</b>                              | Yes.  |
|  |  |          | <b>POSTPROCESSING</b>                             | Yes.  |
|  |  |          | <b>IMAGING MODES</b>                              |   |
|  |  |          | <b>M-mode display</b>                             | Yes.  |
|  |  |          | <b>M-mode and 2-D</b>                             | Yes.  |
|  |  |          | <b>Harmonic imaging</b>                           | Yes.  |
|  |  |          | <b>3-D display</b>                                | Yes.  |

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|  |  |  | <b>4-D (live 3-D) display</b><br><b>DOPPLER</b><br><b>Power</b><br><b>Frequency, MHz</b><br><b>Velocity display</b><br><b>PRF, kHz</b><br><b>Duplex</b><br><b>Triplex mode</b>  | Optional.<br>Color flow mapping , Spectral (CW, PW), others.<br>Yes.<br>$\leq (1-18)$ .<br>Yes.<br>$\leq 30$ PW, $\leq 50$ CW.<br>Yes.<br>Yes.                   |  |
|  |  |  | <b>FUNCTIONALITY</b>  | Digital calipers(Distance, Area), Spectrum analyzer, Selectable dynamic range, Adjustable transmit focus, Dynamic receive focus, Measurement on video(Optional). |  |
|  |  |  | <b>DISPLAY FUNCTIONS</b><br><b>Pan/zoom</b><br><b>Real-time image</b><br><b>Frozen image</b><br><b>Cine</b><br><b>Max number frames</b><br><b>SINGLE/DUAL MONITORS</b><br><b>SPLIT SCREEN</b><br><b>IMAGE STORAGE</b><br><b>Method</b><br><b>Capacity</b><br><b>Color Printer</b> | Yes.<br>Yes.<br>$\geq 2000$ .<br>Single, $\geq 19$ " HD.<br>Yes, (preferred single, quad).<br>HD, DVD, CD, USB, others.<br>$\geq 250$ GB HD, or better.<br>Yes.  |  |



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|  |  |  | <p><b>PHYSIOLOGIC DATA</b><br/>ECG cable</p>   | ECG, Respiration.<br>Yes.  |
|  |  |  | <p><b>ANALYSIS PACKAGES</b></p>  | Cardiac scanning, Vascular scanning, Stress echo, Others.  |
|  |  |  | <p><b>Power supply</b><br/><b>Line voltage</b><br/><b>Voltage stabilizer circuit</b><br/><b>UPS</b><br/><b>Rechargeable battery(s)</b></p> | <p>- Medical Approved power supply board<br/>- 220/240VAC,50/60Hz, Three pin G type plug<br/>-YES (170-260VAC to 220 /240 VAC).<br/>-YES (smart online)<br/>- Yes for <math>\geq 10</math> minutes back up (the device can work with or without battery)</p> |
|  |  |  | <p><b>Environmental requirements</b></p>   | the equipment suitable for work in the climate conditions in Iraq in terms of temperature & humidity   |

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|  |  | 47 | <b>Pulse Oximeter</b>  | 36 |
|  |  |    | <p><b>Application:</b>non-invasively monitor SPO2, pulse rate</p> <ul style="list-style-type: none"> <li>• Patient range: Adult, pediatric, infant, and/or neonate.</li> <li>• Display: SPO2, pulse rate, pulse strength and/or signal, low battery and others</li> </ul> <p>- LCD, or better.</p> <ul style="list-style-type: none"> <li>• SPO2 range- 0-100 %.</li> <li>• Pulse rate (bpm): 25-300</li> <li>• Perfusion index and/or signal strength indicator: yes</li> <li>• Response time (sec): 1</li> <li>• Alarms: <ul style="list-style-type: none"> <li>- Audible and visual Alarms- High/low SPO2 and pulse rate, sensor off, sensor failure, low battery and others.</li> </ul> </li> <li>• Alarm override: yes <ul style="list-style-type: none"> <li>- Reactivation method: automatic, manual</li> <li>- Volume control: yes</li> </ul> </li> <li>• Probe type:</li> </ul> |    |

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|  |  |  | <ul style="list-style-type: none"><li>- Disposable: SPO2, digit, hand, foot, toe and other</li><li>- Reusable: SPO2, digit, hand, foot, ear, forehead and others</li><li>- Cable length should be minimum 1 meter.</li><li>• Data management: yes<ul style="list-style-type: none"><li>- Data stored: yes</li><li>- Data storage (hr): <math>\geq 48</math></li><li>- Interface for data communication.</li></ul></li><li>• Integrated Printer.</li><li>• Battery<ul style="list-style-type: none"><li>- Operating time at least (4) hours</li><li>- Rechargeable: yes</li><li>- Low battery notice: yes</li></ul></li><li>• Should work on 220-240V AC (50/60 Hz.)As well as batteries.</li></ul> <p>❖ <b><u>Environmental requirements:</u></b>the equipment suitable for work in the climate conditions in Iraq in terms of temperature &amp; humidity.</p> |  |
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|                     |   | 5 | <b>Endoscopic Video System</b> |  | <b>37</b> |
|                     |   |   | APPLICATIONS                   | Arthroscopy, gynecology, laparoscopy, neuroendoscopy, urology, vascular, ENT, bronchoscopy,GI endoscopy. |           |
|                     |   |   | COMPATIBLE ENDOSCOPE           |  |           |
|                     |   |   | Flexible                       | All with appropriate adapters  |           |
|                     |   |   | Rigid                          | All with appropriate adapters  |           |
|                     |   |   | <b><u>VIDEO PROCESSOR</u></b>  |  |           |
|                     |   |   | Resolution                     | HD or better   |           |
|                     |   |   | Advanced imaging techniques    | Yes, Multi- model image with digital chrome ,others .  |           |
|                     |   |   | Camera inputs                  | ≥1   |           |
|                     |   |   | Controls/features              | Yes  |           |
|                     |   |   | Illumination                   | Yes, Automatic, manual   |           |
| White balance       | Automatic or , manual                                   |   |                                |  |           |
| Video gain          | Yes   |   |                                |  |           |
| Sharpness           | Zoom , freeze   |   |                                |  |           |
| Outputs             | Y/C<br>NTSC<br>PAL<br>Digital<br>USB or VGA or Ethernet |   |                                |  |           |
| Pixel resolution    | 1920 x 1080 or more                                     |   |                                |  |           |
| <b>VIDEO CAMERA</b> |   |   |                                |  |           |
| Number of CCDs      | Full HD 3 CCD camera                                    |   |                                |  |           |

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|  |  |  | Cable length, m (ft)               | ≥ 3 (9.8)   |
|  |  |  | Camera head controls               | YES   |
|  |  |  | LIGHT SOURCE                       |   |
|  |  |  | Lamp type                          | LED   |
|  |  |  | Lamp life, hr                      | ≥30,000 for LED   |
|  |  |  | Display                            | ≥24" colored<br>LCD or LED or better  |
|  |  |  | Video printer                      | YES   |
|  |  |  | Video recorder                     | YES<br>CD / DVD Recorder  |
|  |  |  | Medical Cart                       | YES   |
|  |  |  | Power & Environmental Requirements | Power input to be 220-240VAC, 50Hz.<br><br>The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity |

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|  |  | <b>10</b> | <p style="text-align: center;"><b>Video colonoscopy( adult )</b></p> <ul style="list-style-type: none"> <li>❖ Application: allows removal of foreign bodies, excision of tumors or colorectal polyps (polypectomy).</li> <li>❖ Type: Video colonoscopy.</li> <li>❖ Video available: High definition.</li> <li>❖ Insertion Tube: <ul style="list-style-type: none"> <li>- Length, mm: &gt; 1600.</li> <li>- Working length, mm: &gt;1300.</li> <li>- Outer diameter, mm: &gt;9.5.</li> </ul> </li> <li>❖ Working Channels: 1 or 2. <ul style="list-style-type: none"> <li>- Diameter, mm: ≥ 3</li> </ul> </li> <li>❖ Optics: <ul style="list-style-type: none"> <li>- Field of view, degrees: ≥ 140°.</li> <li>- Depth of field, mm: (≥2) ~ 100.</li> </ul> </li> <li>❖ TIP Deflection Range, degrees: Up/down 180, left/right 160.</li> <li>❖ Umbilical Cord: <ul style="list-style-type: none"> <li>- Length, cm: ≥ 140.</li> </ul> </li> <li>❖ Standard accessories including biopsy forceps, cleaning brush, leakage tester etc. Fully immersible in disinfectant solution.</li> <li>❖ Compatible with Video system.</li> <li>❖ Lens Washing.</li> <li>❖ Heavy duty.</li> <li>❖ Power requirement 220-240 volts50Hz</li> <li>❖ Environmental requirements: The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li> </ul> | <b>38</b> |
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|  |  | <b>4</b> | <b>Pediatric Colonoscopy</b>   | <b>39</b>  |
|  |  |          | Type   | Video<br>Flexible  |
|  |  |          | Video available  | High definition  |
|  |  |          | INSERTION TUBE<br>Working length, mm Outer<br>Diameter, mm   | $\leq 1700$<br>$\leq 11.8$   |
|  |  |          | WORKING CHANNELS<br>Diameter, mm   | $\geq 1$<br>$\leq 3.8$   |
|  |  |          | OPTICS<br>Field of View, degrees   | $\geq 100$   |
|  |  |          | TIP DEFLECTION,<br>RANGE, degrees  | UP/down 180,<br>Right/left 160   |
|  |  |          | CONTROLS   | UP/ DOWN and RIGHT/LEFT angulation<br>dials, $\geq 3$ program switches     |
|  |  |          | COMPATIBLE EQUIPMENT   | See attached spec (endoscopy video system)                                 |
|  |  |          | IMERSIBLE  | YES  |
|  |  |          | RECOMMENDED<br>REPROCESSING  | Multiple preferred; automatic reprocessor<br>compatible strongly preferred |
|  |  |          | Full package of accessories to perform reprocessing (sterilizing) procedure:<br>water resistant cap, Cleaning Brushes, Leakage Tester, adapters and other tools<br>which are necessary to complete reprocessing cycle. |  |

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|  |  |  | INSTRUMENTS | <ul style="list-style-type: none"><li>• Hemostasis Forceps</li><li>• Ksnare</li><li>• Mucosectom</li><li>• Swan blade</li></ul> Others to be specified. |  |
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|  |  | 10 | <p style="text-align: center;"><b>Esophagogastroscope, Diagnostic</b></p> <ul style="list-style-type: none"> <li>❖ Application:used to view and administer therapy to the interior of the esophagus and the stomach for diagnosing and managing upper-GI disorders (e.g., ulcers, lesions)</li> <li>❖ Type: Diagnostic Gastroscope.</li> <li>❖ Video: yes(High definition ) .</li> <li>❖ Insertion tube: <ul style="list-style-type: none"> <li>• Length (mm): <math>\geq (1,100)</math>.</li> <li>• Working length, mm: <math>\geq (1,030)</math>.</li> <li>• Working diameter (mm): <math>\geq 5.5</math>.</li> <li>• Outer diameter, mm:7 or more.</li> <li>• Graduation marks: yes.</li> </ul> </li> <li>❖ Working channels: (1). <ul style="list-style-type: none"> <li>• Diameter (mm): (2.8) or more.</li> </ul> </li> <li>❖ Optics: <ul style="list-style-type: none"> <li>• Field of view (degrees): (140).</li> <li>• Depth of field (mm): (2~100).</li> </ul> </li> <li>❖ Tip deflection range (degrees): (<math>&gt;90</math>) in all directions.</li> <li>❖ Umbilical cord: <ul style="list-style-type: none"> <li>• Aspiration: yes.</li> <li>• Other functions.</li> </ul> </li> <li>❖ Compatible with Video system.</li> <li>❖ Fully immersible in disinfectant solution.</li> <li>❖ Standard accessories including biopsy forceps, cleaning brush, leakage</li> </ul> | 40 |
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|  |  |  | <p>tester etc.</p> <ul style="list-style-type: none"><li>❖ Lens washing.</li><li>❖ Heavy duty.</li><li>❖ Power requirement 220-240 volts50Hz</li><li>❖ Environmental requirements: The supplier should be confirmed that:<br/>The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li></ul> |  |
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|--|--|---|---|----|
|  |  | 4 | <p style="text-align: center;"><b>Deudenoscope</b></p> <ul style="list-style-type: none"> <li>• <b>Application:</b> used for visual diagnosis, treatment, and documentation of diseases of the duodenum.</li> <li>• Video: High definition.</li> <li>• Insertion Tube: <ul style="list-style-type: none"> <li>- Length, mm: 1,550 or more.</li> <li>- Working length, mm: 1.0 – 1.30 meters.</li> <li>- Outer diameter: 10.8 mm or more.</li> </ul> </li> <li>• Working Channels: 1 <ul style="list-style-type: none"> <li>- Diameter, mm: 4.2 mm or more.</li> </ul> </li> <li>• OPTICS: <ul style="list-style-type: none"> <li>- Field of view. (80-130)°</li> <li>- Depth of field, mm: 4-60.</li> <li>- Tip Deflection Range :&gt; 90 in all directions.</li> </ul> </li> <li>❖ Umbilical Cord: Aspiration, other functions.</li> <li>❖ Standard accessories including biopsy forceps, cleaning brush, leakage tester etc.</li> <li>❖ Consumables: ampulla&amp; biliary system ( startup kit for 30 patient).</li> <li>❖ Fully immersible in disinfectant solution.</li> <li>❖ Compatible with Video system.</li> <li>❖ Fully enclosed elevator.</li> <li>❖ Power requirement 220-240 volts50Hz</li> <li>❖ Environmental requirements: The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li> </ul> | 41 |
|--|--|---|---|----|

|  |  |   |   |    |
|--|--|---|---|----|
|  |  | 4 | <p style="text-align: center;"><b>Pediatric Gastroscope (Diagnostic)</b></p> <ul style="list-style-type: none"> <li>❖ Type: Flexible Video Gastroscope for Pediatric.</li> <li>❖ Application:used to view the interior of the esophagus and the stomach for diagnosing upper-GI disorders (e.g., ulcers, lesions)</li> <li>❖ Insertion tube: <ul style="list-style-type: none"> <li>• Length (mm): <math>\geq 1,400</math>.</li> <li>• Working length, cm: <math>\leq 110</math></li> <li>• Outer diameter, mm: <math>\leq 9.2</math>.</li> <li>• Graduation marks, cm: every 5 cm.</li> <li>• Working channels: 1.</li> <li>• Diameter, mm: from 0.75 to 2.8.</li> </ul> </li> <li>❖ Optics: <ul style="list-style-type: none"> <li>• Field of view : <math>\geq 120^\circ</math></li> <li>• Depth of field, mm: 3 ~100.</li> </ul> </li> <li>❖ Tip deflection, range: <ul style="list-style-type: none"> <li>- Up/ down: up (120-210), down (90-120)</li> <li>- Right/ Left: right(100-120), left (100-120)</li> </ul> </li> <li>❖ Umbilical cord: <ul style="list-style-type: none"> <li>• Aspiration: yes.</li> </ul> </li> <li>❖ Compatible with Endoscope Video system.</li> <li>❖ Full package of accessories to perform reprocessing (sterilizing) procedure: water resistant cap, Cleaning Brushes, Leakage Tester, adapters and other tools which are necessary to complete reprocessing cycle.</li> <li>❖ Reprocessing: the instrument cleaning method recommended by the manufacture I.E. (Glutaraldehyde, EtO, per acetic acid, Cidex OPA, disposable sheath, Chemical solution).</li> <li>❖ Power requirement 220-240 volts50Hz</li> <li>❖ Environmental requirements: The supplier should be confirmed that: The Equipment is suitable for work in climate conditions of Iraq in terms of temperature and humidity.</li> </ul> | 42 |
|--|--|---|---|----|

|  |  |            |   |  |
|--|--|------------|---|--|
|  |  | <b>102</b> | <b>Infusion Pumps, Large-Volume</b>   | <b>43</b>  |
|  |  |            | Application   | Accurately deliver liquids through intravenous (IV) or epidural routes for therapeutic and/or diagnostic purposes                |
|  |  |            | CONFIGURATION<br>Number of channels   | $\geq 1$   |
|  |  |            | DISPLAY<br>Data displayed   | Alarms, drug name, pumping status, volume infused, VTB   |
|  |  |            | PUMP CAPABILITIES<br>Flow range, mL/hr<br>Increments, mL<br>KVO rate, mL/hr<br>Accuracy, %<br>VTBI Selector, mL<br>Automatic piggybacking<br>Fluid resistant<br>Front-panel lockout | $\leq 1 - \geq 999$<br>0.1-100 mL/hr<br>1- $\geq 3$<br>$\pm 5$<br>Yes(1-9,999)<br>Yes( if number of channels > 1).<br>Yes<br>Yes |
|  |  |            | IV SET<br>Free-flow protection  | Yes<br>Yes   |

المواصفات الفنية الصادرة من وزارة الصحة دائرة الامور الفنية-قسم ادارة الاجهزة الطبية

|  |  |  |   |     |  |
|--|--|--|---|-----|--|
|  |  |  | Air-trapping capability<br>Needleless IV connection | Yes |  |
|  |  |  | <b>ALARMS &amp; INDICATORS</b>                      |     |  |
|  |  |  | Occlusion upstream                                  | Yes |  |
|  |  |  | Occlusion downstream                                | Yes |  |
|  |  |  | Detection mechanism                                 | ≤15 |  |
|  |  |  | Pressure, psi                                       | Yes |  |
|  |  |  | Real-time display                                   | Yes |  |
|  |  |  | Air in line   | Yes |  |
|  |  |  | System malfunction                                  | Yes |  |
|  |  |  | Set loaded improperly                               | Yes |  |
|  |  |  | Door open   | Yes |  |
|  |  |  | Infusion complete                                   |     |  |
|  |  |  | Low battery   |     |  |
|  |  |  | Depleted battery                                    |     |  |
|  |  |  | Clinical advisory messages                          |     |  |

المواصفات الفنية الصادرة من وزارة الصحة دائرة الامور الفنية-قسم ادارة الاجهزة الطبية

|  |  |  |   |   |
|--|--|--|---|---|
|  |  |  | AUDIBLE ALARM<br>Volume control<br>Momentary<br>silence   | Yes<br>Yes  |
|  |  |  | DOSE ERROR REDUCTION<br>SYSTEM (smart technology)<br>Defaults to DERS on startup<br>Library size<br>No. of care areas<br>No. of drug entities per care<br>area<br>DATA PORT | Yes<br>Yes<br>≥ 100<br>≥10<br>≥100<br>Yes   |
|  |  |  | EVENT LOG<br>Events stored  | Yes , by Interface<br>Key presses, program settings, alarms,<br>volume infused, dose limit warnings   |
|  |  |  | *Power supply<br>Line voltage<br>Battery<br>Life, hr @ flow (mL/hr)<br>Recharge time, hr  | Medical Approved power supply board<br>220/240VAC,50/60Hz, Three pin (G type)<br>plug YES<br>≥5<br><8 |

الشروط المطلوبة:-

## المواصفات الفنية الصادرة من وزارة الصحة دائرة الامور الفنية-قسم ادارة الاجهزة الطبية

1. ان يكون الجهاز حائز على احد شهادات الجودة (FDA الامريكية) او (CE الاوربية) وتقديم (declaration letter) نسخة اصلية من الشركة المصنعة للجهاز التي توضح حصول الموديل المطلوب شراعه على هذه الشهادات او ارسالها بالبريد الالكتروني الخاص بقسم ادارة الاجهزة الطبية / دائرة الامور الفنية من قبل الشركة المصنعة
2. تقديم شهادة المنشأ وبوليصة الشحن مع كتلوكات التشغيل والصيانة لكل جهاز الى دائرة الصحة لغرض مصادقتها وفق الاليات المتبعة .
3. وجود وكيل للشركة المجهزة في العراق لمتابعة خدمات ما بعد البيع (النصب, الضمان , الصيانة) وان تكون الشركة المجهزة مسجلة لدى وزارة الصحة وان لا تكون مدرجة ضمن القائمة السوداء.
- 4 . ان تكون الاجهزة مضمونة لمدة خمس سنوات تبدأ الضمان من تاريخ انجاز العمل ( نصب وتشغيل و.....الخ) والالتزام بتوفير البرامج التشغيلية وكتالوك الصيانة والعطلات للاجهزة.
5. يفضل ان يكون الجهاز من الاصناف المتوفرة في مؤسساتنا الصحية وان يكون من احدث التقنيات المنتجة خلال اخر ثلاث سنوات وان لا يكون مستعمل او معاد التاهيل.
6. تدريب الكوادر العاملة (طبيب, مهندس او تقني, مشغل) على الاجهزة في مركز تدريبي لمدة لا تقل عن اسبوع, وتدريب على كافة الاجهزة حول الاستخدام والتشغيل اثناء النصب و التركيب