

**ADDENDUM No. 6, date March 31, 2017  
of Bidding Document issued on February 3, 2017**

***IFB Title: "Medical Equipment for Regional Hospitals"***

***Ref no.: HSIP/ICB/ 01-2016***

**HEALTH SYSTEM IMPROVEMENT PROJECT (HSIP) - Loan No.: 8466 AL**

**Amendment to Technical Specification - Bidding Documents**

1. We refer to the IFB Number: **HSIP/ICB/ 01-2016**, dated February 3, 2017, titled ***"Medical Equipment for Regional Hospitals"***
2. The Ministry of Health through PCU- Project Coordination Unit hereby amends the Bidding Documents, as below:

<b>Lot 1: Intensive Care</b>	
<b>Original Technical Specification</b>	<b>Modified Technical Specification</b>
<p><b>1.1 DEFIBRILLATOR</b></p> <p>1. TECHNICAL CHARACTERISTICS</p> <p>1.1. Defibrillator with biphasic waveform for defibrillator</p> <p>1.2. Working modes: Manual and AED mode</p> <p>1.3. Voice messages in AED mode</p> <p>1.4. Possibilities for asynchronous and synchronized defibrillation</p> <p>1.5. Built in monitor and strip chart recorder</p> <p>1.1. ECG monitoring through paddles, disposable pads and separate ECG cable</p> <p>1.6. Alarms on HR limits with adjustable volume control</p> <p>1.7. Integrated monitor for 2 waveforms minimum</p> <p>1.8. Adjustable ECG size facility</p> <p>1.9. External reusable paddles for adult &amp; pediatric</p> <p>1.10. Selectable output energy delivered in manual mode according to AHA / ERC standards not less than 200 Joules</p> <p>1.11. Optional SpO2 and CO2 upgrade possible</p> <p>1.12. Built – in handle for easy transportability</p> <p>2. DUAL POWER SUPPLY:</p> <p>2.1. AC Input: 220 - 240 V AC / 50 Hz,</p> <p>2.2. 12V rechargeable battery</p> <p>2.3. High battery capacity</p> <p>2.4. Message “LOW BATTERY” when limited battery capacity remains;</p> <p>2.5. Charges from 0 to 200 joules in less than 5 seconds with a new fully charged battery</p> <p>3. ACCESSORIES AND CONSUMABLES:</p> <p>3.1. Reusable hard paddles for external defibrillation –1 pair adult and 1 pair pediatric</p> <p>3.2. ECG cable – 1 pc</p> <p>3.3. Disposable ECG electrodes – 150 pcs</p> <p>3.4. Thermal paper rolls – 10 pcs</p> <p>3.5. Electro conductive paste – 1 tubes</p>	<p><b>1.1 DEFIBRILLATOR</b></p> <p>1. TECHNICAL CHARACTERISTICS</p> <p>1.1. Defibrillator with biphasic waveform for defibrillator</p> <p>1.2. Working modes: Manual and AED mode</p> <p>1.3. Voice messages in AED mode</p> <p>1.4. Possibilities for asynchronous and synchronized defibrillation</p> <p>1.5. Built in monitor and strip chart recorder</p> <p>1.1. ECG monitoring through paddles, disposable pads and separate ECG cable</p> <p>1.6. Alarms on HR limits with adjustable volume control</p> <p>1.7. Integrated monitor for 2 waveforms minimum</p> <p>1.8. Adjustable ECG size facility</p> <p>1.9. External reusable paddles for adult &amp; pediatric</p> <p>1.10. Selectable output energy delivered in manual mode according to AHA / ERC standards not less than 200 Joules</p> <p>1.11. Optional SpO2 and CO2 upgrade possible</p> <p>1.12. Built – in handle for easy transportability</p> <p>2. DUAL POWER SUPPLY:</p> <p>2.1. AC Input: 220 - 240 V AC / 50 Hz,</p> <p>2.2. 12V rechargeable battery</p> <p>2.3. High battery capacity</p> <p>2.4. Message “LOW BATTERY” when limited battery capacity remains;</p> <p>2.5. Charges from 0 to 200 joules in less than 5 seconds with a new fully charged battery</p> <p>3. ACCESSORIES AND CONSUMABLES:</p> <p>3.1. Reusable hard paddles for external defibrillation –1 pair adult and 1 pair pediatric</p> <p>3.2. ECG cable – 1 pc</p> <p>3.3. Disposable ECG electrodes – 150 pcs</p> <p>3.4. Thermal paper rolls – 10 pcs</p> <p>3.5. Electro conductive paste – 1 tubes</p>

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<p>3.6. Single use pads for 20 applications compatible with Emergency defibrillator</p>	<p>3.6. Single use pads for 20 applications compatible with Emergency defibrillator (10 adults and 10 pediatrics)</p>
<p><b>1.8 MONITOR</b></p> <p>1. TECHNICAL CHARACTERISTICS</p> <p>1.1. Offered model shall monitor vital parameters and display, document and analyze them with a single Display and modular Design</p> <p>1.2. Modules can be inserted and removed by the user (without tools) without interrupting data acquisition of all other parameters.</p> <p>1.3. All supplied equipment must be new, unused and of the most recent and current models and of the latest technology. Refurbished equipment or spare parts/components are not accepted.</p> <p>1.4. Must be suitable for all groups of patients: newborns, children and adults</p> <p>1.5. Depending on the patient must automatically choose and apply algorithms, settings and limits</p> <p>1.6. Permit future updates (possibility of additional functions )</p> <p>1.7. Have an interface that can permit data transfer to the central nursing station</p> <p>2. MONITOR SCREEN</p> <p>2.1. Minimum: LCD or TFT, min 17”, color screen 1024 x 768 pixel</p> <p>2.2. Operating principle: command and data introduction through a touch-screen</p> <p>2.3. Supplementary conventional manual command</p> <p>2.4. Shall be able to network with other data introduction systems</p> <p>2.5. Shall display minimum 8 waveforms in real time (at least 6 non ECG waveforms) simultaneous.</p> <p>2.6. Displaying the curves in real time will be realized with an adjustable</p>	<p><b>1.8 MONITOR</b></p> <p>1. TECHNICAL CHARACTERISTICS</p> <p>1.1. Offered model shall monitor vital parameters and display, document and analyze them with a single Display and modular Design</p> <p>1.2. Modules can be inserted and removed by the user (without tools) without interrupting data acquisition of all other parameters.</p> <p>1.3. All supplied equipment must be new, unused and of the most recent and current models and of the latest technology. Refurbished equipment or spare parts/components are not accepted.</p> <p>1.4. Must be suitable for all groups of patients: newborns, children and adults</p> <p>1.5. Depending on the patient must automatically choose and apply algorithms, settings and limits</p> <p>1.6. Permit future updates (possibility of additional functions )</p> <p>1.7. Have an interface that can permit data transfer to the central nursing station</p> <p>2. MONITOR SCREEN</p> <p>2.1. <b>Minimum: LCD or TFT, min 15”</b>, color screen 1024 x 768 pixel</p> <p>2.2. Operating principle: command and data introduction through a touch-screen</p> <p>2.3. Supplementary conventional manual command</p> <p>2.4. Shall be able to network with other data introduction systems</p> <p>2.5. Shall display minimum 8 waveforms in real time (at least 6 non ECG waveforms) simultaneous.</p> <p>2.6. Displaying the curves in real time will be realized with an adjustable</p>

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<p>speed, adjustable between 6,25 – 12,5 – 25 – 50 mm/sec.</p> <p>2.7. Brightness must be adjustable</p> <p>2.8. Number of spaces for parameters displayed simultaneously: minimum 10</p> <p>2.9. Alarm levels to be displayed together with parameter values on the main screen</p> <p>2.10. Manual setting of the alarm levels possible</p> <p>2.11. Digital clock displayed on the monitor's screen</p> <p>3. GENERAL DESCRIPTION</p> <p>3.1. Power supply 220/230V / 50 Hz</p> <p>3.2. Internal battery</p> <p>3.3. Battery autonomy of at least 70 minutes</p> <p>3.4. Low Battery charging system with protection against overcharging</p> <p>3.5. Automatic internal recharge when the monitor is plugged into an AC/DC power supply. Batteries charge time: max. 5 hours (the monitor is turned off) and 10 hours (monitor is working)</p> <p>3.6. Automatic display of battery status while operating on battery power</p> <p>3.7. Software for the user in Albanian or English</p> <p>3.8. Detailed User's Manual in Albanian or English</p> <p>3.9. Interchangeable colors independent for each parameter</p> <p>3.10. Connection for synchronization with defibrillator and IABP (Intra Aortic Balloon Pump)</p> <p>3.11. Possibility of patient data storage for minimum 48 hours including trends with a resolution of 1 minute</p> <p>3.12. The possibility to interface with other systems: monitors, ventilators, CCO monitors, exterior systems</p> <p>VALUES AND MEASURED PARAMETERS</p>	<p>speed, adjustable between 6,25 – 12,5 – 25 – 50 mm/sec.</p> <p>2.7. Brightness must be adjustable</p> <p>2.8. Number of spaces for parameters displayed simultaneously: minimum 10</p> <p>2.9. Alarm levels to be displayed together with parameter values on the main screen</p> <p>2.10. Manual setting of the alarm levels possible</p> <p>2.11. Digital clock displayed on the monitor's screen</p> <p>3. GENERAL DESCRIPTION</p> <p>3.1. Power supply 220/230V / 50 Hz</p> <p>3.2. Internal battery</p> <p>3.3. Battery autonomy of at least 70 minutes</p> <p>3.4. Low Battery charging system with protection against overcharging</p> <p>3.5. Automatic internal recharge when the monitor is plugged into an AC/DC power supply. Batteries charge time: max. 5 hours (the monitor is turned off) and 10 hours (monitor is working)</p> <p>3.6. Automatic display of battery status while operating on battery power</p> <p>3.7. Software for the user in Albanian or English</p> <p>3.8. Detailed User's Manual in Albanian or English</p> <p>3.9. Interchangeable colors independent for each parameter</p> <p>3.10. Connection for synchronization with defibrillator and IABP (Intra Aortic Balloon Pump)</p> <p>3.11. Possibility of patient data storage for minimum 48 hours including trends with a resolution of 1 minute</p> <p>3.12. The possibility to interface with other systems: monitors, ventilators, CCO monitors, exterior systems</p> <p>VALUES AND MEASURED PARAMETERS</p>
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<p>4. ELECTROCARDIOGRAPH (ECG)</p> <p>4.1. Ability to show ECG - 12 channels, 12 leads (standard limb lead + chest leads) with 12 lead analysis</p> <p>4.2. The monitor must display at request in real time one to three or 12 leads simultaneously on the main screen</p> <p>4.3. Heart Rate measurement range: 20 – 290 bpm</p> <p>4.4. Analysis/alarming of the arrhythmia and severe arrhythmia with more than 20 findings included in the monitor</p> <p>4.5. ST segment analysis for all 12 ECG leads, with diagnosis with all measurement points, and graphic representation of the ST Modifications.</p> <p>4.6. ESU (electrostatic unit) filter on ECG</p> <p>4.7. Pacemaker impulse detection</p> <p>4.8. Filter and defibrillation protection for the patient</p> <p>4.9. Identification and displaying of the broken lead</p> <p>5. HEART RATE</p> <p>5.1. Selectable from ECG, SpO2, arterial pressure</p> <p>5.2. Peripheral pulse measurement range: min 30-290 bpm</p> <p>5.3. Adjustable volume for peripheral pulse – can be stopped</p> <p>6. RESPIRATION</p> <p>6.1. Measurement method: through ECG electrodes min 2 leads</p> <p>6.2. Measurement range: min 0 – 120 resp/min for adult/ pediatric/ neonates.</p> <p>6.3. Apnea Time: 10 - 50 seconds</p> <p>6.4. Display of the respiration curve</p> <p>7. SPO2 (PULSOXYMETRY)</p> <p>7.1. Saturation measuring range: min 0 -100%</p>	<p>4. ELECTROCARDIOGRAPH (ECG)</p> <p>4.1. Ability to show ECG - 12 channels, 12 leads (standard limb lead + chest leads) with 12 lead analysis</p> <p>4.2. The monitor must display at request in real time one to three or 12 leads simultaneously on the main screen</p> <p>4.3. Heart Rate measurement range: 20 – 290 bpm</p> <p>4.4. Analysis/alarming of the arrhythmia and severe arrhythmia with more than 20 findings included in the monitor</p> <p>4.5. ST segment analysis for all 12 ECG leads, with diagnosis with all measurement points, and graphic representation of the ST Modifications.</p> <p>4.6. ESU (electrostatic unit) filter on ECG</p> <p>4.7. Pacemaker impulse detection</p> <p>4.8. Filter and defibrillation protection for the patient</p> <p>4.9. Identification and displaying of the broken lead</p> <p>5. HEART RATE</p> <p>5.1. Selectable from ECG, SpO2, arterial pressure</p> <p>5.2. Peripheral pulse measurement range: min 30-290 bpm</p> <p>5.3. Adjustable volume for peripheral pulse – can be stopped</p> <p>6. RESPIRATION</p> <p>6.1. Measurement method: through ECG electrodes min 2 leads</p> <p>6.2. Measurement range: min 0 – 120 resp/min for adult/ pediatric/ neonates.</p> <p>6.3. Apnea Time: 10 - 50 seconds</p> <p>6.4. Display of the respiration curve</p> <p>7. SPO2 (PULSOXYMETRY)</p> <p>7.1. Saturation measuring range: min 0 -100%</p>
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<p>7.2. SpO2 measurement algorithm bearing patient moves and of accurate performance even with low perfusion conditions.</p> <p>7.3. Must display pletismography curve</p> <p>7.4. Possibility of the heart rate monitoring selection</p> <p>7.5. Must provide a second SpO2 measurement on the same screen including the Delta value.</p> <p>8. NIBP (NON INVASIVE BLOOD PRESSURE)</p> <p>8.1. Oscillometric method</p> <p>8.2. Manual and automatically mode</p> <p>8.3. Adjustable time ranges in automatic mode from 1 min to 480 minutes</p> <p>8.4. The values of systolic pressure, diastolic and mean pressure displayed on the main screen, in the same time</p> <p>8.5. Systolic measuring range: min range 35-250 mmHg</p> <p>8.6. Mean measuring range: range 30-250 mm Hg</p> <p>8.7. Diastolic measuring range: min range 15-220 mmHg</p> <p>8.8. Alarm levels for systolic, diastolic and mean pressure, adjustable and simultaneous on screen</p> <p>8.9. Integrated function for safe interrupting</p> <p>8.10. Continue monitoring of about 5 min in case of emergency</p> <p>9. INVASIVE PRESSURE ( IBP )</p> <p>9.1. Measuring of at least 3 IBP independent pressures, with waveforms, in the same time</p> <p>9.2. Systolic, diastolic and mean pressure displayed, in the main screen, simultaneously</p> <p>9.3. Measurement range: min -40 to +300 mm Hg</p> <p>9.4. Resolution max 1 mm/Hg.</p>	<p>7.2. SpO2 measurement algorithm bearing patient moves and of accurate performance even with low perfusion conditions.</p> <p>7.3. Must display pletismography curve</p> <p>7.4. Possibility of the heart rate monitoring selection</p> <p>7.5. Must provide a second SpO2 measurement on the same screen including the Delta value.</p> <p>8. NIBP (NON INVASIVE BLOOD PRESSURE)</p> <p>8.1. Oscillometric method</p> <p>8.2. Manual and automatically mode</p> <p>8.3. Adjustable time ranges in automatic mode from 1 min to 480 minutes</p> <p>8.4. The values of systolic pressure, diastolic and mean pressure displayed on the main screen, in the same time</p> <p>8.5. Systolic measuring range: min range 35-250 mmHg</p> <p>8.6. Mean measuring range: range 30-250 mm Hg</p> <p>8.7. Diastolic measuring range: min range 15-220 mmHg</p> <p>8.8. Alarm levels for systolic, diastolic and mean pressure, adjustable and simultaneous on screen</p> <p>8.9. Integrated function for safe interrupting</p> <p>8.10. Continue monitoring of about 5 min in case of emergency</p> <p>9. INVASIVE PRESSURE ( IBP )</p> <p>9.1. Measuring of at least 3 IBP independent pressures, with waveforms, in the same time</p> <p>9.2. Systolic, diastolic and mean pressure displayed, in the main screen, simultaneously</p> <p>9.3. Measurement range: min -40 to +300 mm Hg</p> <p>9.4. Resolution max 1 mm/Hg.</p>
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<p>9.5. Zero balance range: +/- min 150 mm Hg</p> <p>9.6. Selectable display mode of waveforms for invasive pressure : separate or overlapped</p> <p>9.7. Alarm levels for systolic, diastolic, mean pressure, in the same time</p> <p>10. TEMPERATURE</p> <p>10.1. Two channels independent measurement, simultaneously</p> <p>10.2. Measurement range for the temperature: 15– 45 0C</p> <p>10.3. Resolution: 0,1 0C</p> <p>11. CARDIAC OUTPUT THROUGH THERMO DILUTION (2 MODULES USABLE WITH EVERY MONITOR)</p> <p>11.1. Cardiac output monitoring through conventional thermo dilution method using an arterial pulmonary catheter, the possibility to calculate the mean value of successive values</p> <p>11.2. Based on cardiac output monitoring the following values should be calculated:</p> <p>11.3. Cardiac index ( CI ) &amp; cardiac output (CO) shown on screen</p> <p>11.4. Stroke volume ( SV)</p> <p>11.5. Stroke volume index ( SVi)</p> <p>11.6. Systemic vascular resistance, Systemic vascular resistance index ( SVR, SVRi)</p> <p>11.7. Pulmonary vascular resistant, Pulmonary vascular resistant index (PVR, PVRi)</p> <p>11.8. Left ventricular stroke work, Left ventricular stroke work index ( LVSW, LVSWi)</p> <p>11.9. Right ventricular stroke work, Right ventricular stroke work index (RVSW, RVSWi)</p> <p>12. CAPNOGRAPH (2 MODULES USABLE WITH EVERY MONITOR)</p> <p>12.1. Ability to measure and display the following parameters for</p>	<p>9.5. Zero balance range: +/- min 150 mm Hg</p> <p>9.6. Selectable display mode of waveforms for invasive pressure : separate or overlapped</p> <p>9.7. Alarm levels for systolic, diastolic, mean pressure, in the same time</p> <p>10. TEMPERATURE</p> <p>10.1. Two channels independent measurement, simultaneously</p> <p>10.2. Measurement range for the temperature: 15– 45 0C</p> <p>10.3. Resolution: 0,1 0C</p> <p>11. CARDIAC OUTPUT THROUGH THERMO DILUTION (2 MODULES USABLE WITH EVERY MONITOR)</p> <p>11.1. Cardiac output monitoring through conventional thermo dilution method using an arterial pulmonary catheter, the possibility to calculate the mean value of successive values</p> <p>11.2. Based on cardiac output monitoring the following values should be calculated:</p> <p>11.3. Cardiac index ( CI ) &amp; cardiac output (CO) shown on screen</p> <p>11.4. Stroke volume ( SV)</p> <p>11.5. Stroke volume index ( SVi)</p> <p>11.6. Systemic vascular resistance, Systemic vascular resistance index ( SVR, SVRi)</p> <p>11.7. Pulmonary vascular resistant, Pulmonary vascular resistant index (PVR, PVRi)</p> <p>11.8. Left ventricular stroke work, Left ventricular stroke work index ( LVSW, LVSWi)</p> <p>11.9. Right ventricular stroke work, Right ventricular stroke work index (RVSW, RVSWi)</p> <p>12. CAPNOGRAPH (2 MODULES USABLE WITH EVERY MONITOR)</p> <p>12.1. Ability to measure and display the following parameters for</p>
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<p>intubated or non-intubated patients</p> <p>12.2. End Tidal CO2 (ETCO2 )</p> <p>12.3. Respiration Rate</p> <p>12.4. Apnea Alarm</p> <p>12.5. Display gas monitoring data and waveform on the same screen as ECG, blood pressure and other vital signs parameters.</p> <p>12.6. Display the CO2 waveform in real time.</p> <p>12.7. Separate alarm limit settings for the following parameters:</p> <p>12.8. End Tidal CO2 (ETCO2 )</p> <p>12.9. Respiration Rate</p> <p>12.10. Apnea Alarm</p> <p>12.11. Alarm on occurrence of detected apnea with user-selected limits of at least 5 to 40 seconds, adjusted in increments of 5 seconds</p> <p>12.12. Integrated calibration menu</p> <p>12.13. No more than 20 seconds for warm up time and calibration to full accuracy</p> <p>13. EEG MONITORING (1 MODULE, USABLE ON EVERY MONITOR)</p> <p>13.1. Minimum 4 channels/with surface electrodes exclusively</p> <p>13.2. Will be in compliance with IEC 60601-1, IEC 60601-2-26 standards</p> <p>13.3. Referential or bipolar measurement</p> <p>13.4. Minimum 4 EEG waveforms displaying in real time</p> <p>13.5. Spectral parameters trend graph</p> <p>13.6. Display for SEF (Spectral Edge Frequency) for each EEG channel</p> <p>13.7. Display for DSA (Density Spectral Array) for each EEG channel</p> <p>13.8. Display for CSA (Compressed Spectral Array) for each EEG channel</p>	<p>intubated or non-intubated patients</p> <p>12.2. End Tidal CO2 (ETCO2 )</p> <p>12.3. Respiration Rate</p> <p>12.4. Apnea Alarm</p> <p>12.5. Display gas monitoring data and waveform on the same screen as ECG, blood pressure and other vital signs parameters.</p> <p>12.6. Display the CO2 waveform in real time.</p> <p>12.7. Separate alarm limit settings for the following parameters:</p> <p>12.8. End Tidal CO2 (ETCO2 )</p> <p>12.9. Respiration Rate</p> <p>12.10. Apnea Alarm</p> <p>12.11. Alarm on occurrence of detected apnea with user-selected limits of at least 5 to 40 seconds, adjusted in increments of 5 seconds</p> <p>12.12. Integrated calibration menu</p> <p>12.13. No more than 20 seconds for warm up time and calibration to full accuracy</p> <p>13. EEG MONITORING (1 MODULE, USABLE ON EVERY MONITOR)</p> <p>13.1. Minimum 4 channels/with surface electrodes exclusively</p> <p>13.2. Will be in compliance with IEC 60601-1, IEC 60601-2-26 standards</p> <p>13.3. Referential or bipolar measurement</p> <p>13.4. Minimum 4 EEG waveforms displaying in real time</p> <p>13.5. Spectral parameters trend graph</p> <p>13.6. Display for SEF (Spectral Edge Frequency) for each EEG channel</p> <p>13.7. Display for DSA (Density Spectral Array) for each EEG channel</p> <p>13.8. Display for CSA (Compressed Spectral Array) for each EEG channel</p>
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<p>13.9. Artifacts detection</p> <p>13.10. continuous measurement</p> <p>13.11. Input impedance &gt; 10MΩ</p> <p>13.12. Trend display 48 hours for each EEG channel for monitored parameters</p> <p>13.13. Filters- ON/OFF</p> <p>13.14. Continuous impedance measurements for each electrode and contact loss detection or hardware problem detected. User selectable to turn off</p> <p>13.15. EEG individual module with power supply integrated in the monitor.</p> <p>13.16. Reusable connection electrodes set</p> <p>13.17. Graphic representation on the monitor screen of the electrodes position</p> <p>14. ALARMS</p> <p>14.1. Alarm system on minimum of 3 levels with acoustic and dual visual alarms depending on the gravity of the event</p> <p>14.2. The basic settings of the alarm limits selectable for each parameter</p> <p>14.3. The alarm should be possible to be stopped for a limited time interval</p> <p>14.4. Alarm levels shall be displayed on the main screen nearby the parameters values</p> <p>14.5. Displaying an icon on the main screen if the alarm for that parameter is selected off.</p> <p>15. INFORMATION MANAGEMENT</p> <p>15.1. Trend (tabular and graphical) for minimum 48 hours for all the measured parameters in 1 minutes resolution</p> <p>15.2. Storing the alarm events with curves, visible on the monitor screen</p>	<p>13.9. Artifacts detection</p> <p>13.10. continuous measurement</p> <p>13.11. Input impedance &gt; 10MΩ</p> <p>13.12. Trend display 48 hours for each EEG channel for monitored parameters</p> <p>13.13. Filters- ON/OFF</p> <p>13.14. Continuous impedance measurements for each electrode and contact loss detection or hardware problem detected. User selectable to turn off</p> <p>13.15. EEG individual module with power supply integrated in the monitor.</p> <p>13.16. Reusable connection electrodes set</p> <p>13.17. Graphic representation on the monitor screen of the electrodes position</p> <p>14. ALARMS</p> <p>14.1. Alarm system on minimum of 3 levels with acoustic and dual visual alarms depending on the gravity of the event</p> <p>14.2. The basic settings of the alarm limits selectable for each parameter</p> <p>14.3. The alarm should be possible to be stopped for a limited time interval</p> <p>14.4. Alarm levels shall be displayed on the main screen nearby the parameters values</p> <p>14.5. Displaying an icon on the main screen if the alarm for that parameter is selected off.</p> <p>15. INFORMATION MANAGEMENT</p> <p>15.1. Trend (tabular and graphical) for minimum 48 hours for all the measured parameters in 1 minutes resolution</p> <p>15.2. Storing the alarm events with curves, visible on the monitor screen</p>
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<p>15.3. Alarm events triggered by all the measured parameters</p> <p>15.4. the possibility of oxygenation and ventilation calculations</p> <p>16. ACCESSORIES AND CONSUMABLES per monitor</p> <p>16.1. 1 ECG cables with 3 endings for electrodes</p> <p>16.2. 1 ECG cables with 5 endings for electrodes</p> <p>16.3. 1 ECG cables with 10 endings for electrodes</p> <p>16.4. 150 disposable ECG electrodes</p> <p>16.5. adult reusable SpO2 sensors</p> <p>16.6. NIBP (non invasive blood pressure) connection hose for adult and pediatric</p> <p>16.7. 4 different reusable NIBP (non invasive blood pressure) cuffs for adult</p> <p>16.8. 2 different reusable NIBP (non invasive blood pressure) cuffs for pediatric</p> <p>16.9. 1 reusable temperature sensors (rectal /esophageal)</p> <p>16.10. 1 reusable temperature skin sensor</p> <p>16.11. 3 reusable cables and 10 disposable kits for invasive blood pressure measurement</p> <p>16.12. Kit's for cardiac output measurement through thermo dilution method for 10 patients per module</p> <p>16.13. 1 reusable EEG electrodes set ( 1 cable with 9 endings, 9 reusable electrodes, 1 Tube paste conductor) for every module.</p> <p><b>Quantity of the module CARDIAC OUTPUT THROUGH THERMO DILUTION - 2 pcs able to be used with any of 17 monitors</b></p> <p><b>Quantity of the module CAPNOGRAPH - 2 pcs able to be used with any of 17 monitors</b></p> <p><b>Quantity of the module EEG MONITORING - 2 pcs able to be used with</b></p>	<p>15.3. Alarm events triggered by all the measured parameters</p> <p>15.4. the possibility of oxygenation and ventilation calculations</p> <p>16. ACCESSORIES AND CONSUMABLES per monitor</p> <p>16.1. 1 ECG cables with 3 endings for electrodes</p> <p>16.2. 1 ECG cables with 5 endings for electrodes</p> <p>16.3. 1 ECG cables with 10 endings for electrodes</p> <p>16.4. 150 disposable ECG electrodes</p> <p>16.5. adult reusable SpO2 sensors</p> <p>16.6. NIBP (non invasive blood pressure) connection hose for adult and pediatric</p> <p>16.7. 4 different reusable NIBP (non invasive blood pressure) cuffs for adult</p> <p>16.8. 2 different reusable NIBP (non invasive blood pressure) cuffs for pediatric</p> <p>16.9. 1 reusable temperature sensors (rectal /esophageal)</p> <p>16.10. 1 reusable temperature skin sensor</p> <p>16.11. 3 reusable cables and 10 disposable kits for invasive blood pressure measurement</p> <p>16.12. Kit's for cardiac output measurement through thermo dilution method for 10 patients per module</p> <p>16.13. 1 reusable EEG electrodes set ( 1 cable with 9 endings, 9 reusable electrodes, 1 Tube paste conductor) for every module.</p> <p><b>Quantity of the module CARDIAC OUTPUT THROUGH THERMO DILUTION - 2 pcs able to be used with any of 17 monitors</b></p> <p><b>Quantity of the module CAPNOGRAPH - 2 pcs able to be used with any of 17 monitors</b></p> <p><b>Quantity of the module EEG MONITORING - 2 pcs able to be used with</b></p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<i>any of 17 monitors</i>	<i>any of 17 monitors</i>
<p><b>1.9 ANESTHESIA MACHINE</b></p> <p>3-Gas (O2, N2O, Air) anesthesia machine, suitable for low and minimal flow anesthesia</p> <p>Compact mobile inhalation anesthesia machine with integrated ventilator and monitoring for pressure, volume and oxygen, suitable for minimal, low or high flow anesthesia with re-breathing or non-re-breathing systems optimized for infant to adult ventilation Anesthetic ventilator for infants to adults,</p> <p>Precise vaporizing system for one or two vaporizers with interlock system</p> <p>Gas supply either from central piping system or cylinders</p> <p>Pipeline pressure gauges are integrated in the flow meter panel</p> <p>Basic machine with vapor plug-in system for one or two vaporizers</p> <p>Integrated screen, min 6 inch, displays FiO2, minute and tidal volume, airway pressures (PAW, Plateau, P max, P mean, PEEP) and frequency</p> <p>Monitoring will be available during manual ventilation and spontaneous breathing.</p> <p>Monitoring must provide airway pressure waveform etc</p> <p>Leakage control with message</p> <p>O2 Range: 0.0 - 10.0 L/min, minimum</p> <p>Air range 0- 10.0 L/min, minimum</p> <p>Emergency oxygen flush 25 - 75 L/min bypassing the vaporizers</p> <p>Mechanical flow tubes for each gas</p> <p><b>Electronically controlled, gas driven ventilator - No consumption of driving gas</b> - Pressure controlled - Tidal volumes 20 - 1400 mL - PEEP 4 - 20 mbar (cmH2O) - Frequency 4 - 60 bpm - I:E ratio 3 : 1 to 1 : 8</p>	<p><b>1.9 ANESTHESIA MACHINE</b></p> <p>3-Gas (O2, N2O, Air) anesthesia machine, suitable for low and minimal flow anesthesia</p> <p>Compact mobile inhalation anesthesia machine with integrated ventilator and monitoring for pressure, volume and oxygen, suitable for minimal, low or high flow anesthesia with re-breathing or non-re-breathing systems optimized for infant to adult ventilation Anesthetic ventilator for infants to adults,</p> <p>Precise vaporizing system for one or two vaporizers with interlock system</p> <p>Gas supply either from central piping system or cylinders</p> <p>Pipeline pressure gauges are integrated in the flow meter panel</p> <p>Basic machine with vapor plug-in system for one or two vaporizers</p> <p>Integrated screen, min 6 inch, displays FiO2, minute and tidal volume, airway pressures (PAW, Plateau, P max, P mean, PEEP) and frequency</p> <p>Monitoring will be available during manual ventilation and spontaneous breathing.</p> <p>Monitoring must provide airway pressure waveform etc</p> <p>Leakage control with message</p> <p>O2 Range: 0.0 - 10.0 L/min, minimum</p> <p>Air range 0- 10.0 L/min, minimum</p> <p>Emergency oxygen flush 25 - 75 L/min bypassing the vaporizers</p> <p>Mechanical flow tubes for each gas</p> <p><b>Electronically controlled, gas driven ventilator</b> - Pressure controlled - Tidal volumes 20 - 1400 mL - PEEP 4 - 20 mbar (cmH2O) - Frequency 4 - 60 bpm - I:E ratio 3 : 1 to 1 : 8</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Trolley with drawers Battery min 45 minutes 220v, 50Hz</p>	<p>Trolley with drawers Battery min 45 minutes 220v, 50Hz</p>
<p><b>1.10 VENTILATORS</b> Modes of Ventilation: PPV (CMV), SIMV, SIMVASB (SIMV/PS) CPAP, CPAPASB (CPAP/PS), IPPV Assist (CMV Assist), BIPAP/PCV+ Automatic and manual in slope/ rise Use of the ventilator without additional proximal or distal filters possible Automatic leakage compensation Volume constant ventilation with free patient breathing during both inspiratory and expiratory phase Tidal volume 10 - 2000 ml Frequency 0 to 100 b/min With inspiratory trigger Oxygen sensor calibration Pressure limit 0-30 cmH<sub>2</sub>O/mbar Delivery 100% oxygen Audible and visual alarms adjustable Alarm system for out-of-range pressures; (expiratory minute volume, breathing rate, Inspiratory tidal volume, etc) power failure, tubing disconnection, ventilation failure, Inspiratory O<sub>2</sub> concentration Integrated O<sub>2</sub> monitoring (21 - 100 Vol. %) O<sub>2</sub> measurement with maintenance-free electrochemical</p>	<p><b>1.10 VENTILATORS</b> Modes of Ventilation: PPV (CMV), SIMV, SIMVASB (SIMV/PS) CPAP, CPAPASB (CPAP/PS), IPPV Assist (CMV Assist), BIPAP/PCV+ Automatic and manual in slope/ rise Use of the ventilator without additional proximal or distal filters possible Automatic leakage compensation Synchronized ventilation with minimal tidal volume target Tidal volume 10 - 2000 ml Frequency 0 to 100 b/min Flow and/or Pressure inspiratory triggering Oxygen sensor calibration Pressure limit 0-30 cmH<sub>2</sub>O/mbar Delivery 100% oxygen Audible and visual alarms adjustable Alarm system for out-of-range pressures; (expiratory minute volume, breathing rate, Inspiratory tidal volume, etc) power failure, tubing disconnection, ventilation failure, Inspiratory O<sub>2</sub> concentration Integrated O<sub>2</sub> monitoring (21 - 100 Vol. %) O<sub>2</sub> measurements with maintenance-free cell</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p><b>dual probe fuel cell</b></p> <p>Built-in trolley</p> <p>Internal battery for min 45 min</p> <p>Power supply 220V, 50 Hz</p>	<p><b>Touch Screen 12" monitor with four waveforms, loops, alarm records, patient trends, patient support arm and patient circuit, brakes for the trolley</b></p> <p>Built-in trolley</p> <p>Internal battery for min 45 min</p> <p>Power supply 220V, 50 Hz</p>
<p><b>Lot 2: Ultrasonography and Endoscopy</b></p>	
<p><b>Original Technical Specification</b></p>	<p><b>Modified Technical Specification</b></p>
<p><b>2.1 CARDIAC ULTRASOUND</b></p> <p>Microprocessor controlled, digital technology, cardiac ultrasound scanner with digital beamformer, providing high resolution images. Computerized electronic system facilitating control of all system functions.</p> <p>Digital Beam former</p> <p>Applications</p> <p>Transthoracic cardiac</p> <p>Transesophageal cardiac</p> <p>Angiology</p> <p>Vascular applications</p> <p>Modes of Operation</p> <p>B-mode (2D)</p> <p>M-Mode / Color M-Mode</p> <p>M-Mode / Color M-Mode</p> <p>Color Flow Doppler (CFM),</p> <p>Spectral pulsed wave Doppler (PW)</p> <p>PW and high repetition frequency pulsed wave Doppler (HPRF)</p> <p>Spectral Continuous Doppler (CW)</p> <p>Steerable CW</p> <p>Power Doppler / Energy Doppler / Colour Angio</p>	<p><b>2.1 CARDIAC ULTRASOUND</b></p> <p>Microprocessor controlled, digital technology, cardiac ultrasound scanner with digital beamformer, providing high resolution images. Computerized electronic system facilitating control of all system functions.</p> <p>Digital Beam former</p> <p>Applications</p> <p>Transthoracic cardiac</p> <p>Transesophageal cardiac</p> <p>Angiology</p> <p>Vascular applications</p> <p>Modes of Operation</p> <p>B-mode (2D)</p> <p>M-Mode / Color M-Mode</p> <p>M-Mode / Color M-Mode</p> <p>Color Flow Doppler (CFM),</p> <p>Spectral pulsed wave Doppler (PW)</p> <p>PW and high repetition frequency pulsed wave Doppler (HPRF)</p> <p>Spectral Continuous Doppler (CW)</p> <p>Steerable CW</p> <p>Power Doppler / Energy Doppler / Colour Angio</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Tissue Doppler (TDI)  Anatomical M-Mode  Real time (Included in basic configuration)  Real time triplex  B-Mode / PW Doppler / Color Doppler and DTI Doppler (in all Phased array transducers)  Real time dual imaging  B-Mode/B-Mode + CFM  Imaging Modes:  Built-in Tissue Harmonic imaging mode to all cardiac imaging transducers  Pulse/Phase Inversion technique for optimal signal  Built-in Real Time Compound Imaging technique  Built-in technique for image processing in pixel level for noise reduction, improve image definition and tissue textural differentiation for increase of image resolution  On all transducers and all imaging modes Controlled by the keyboard  Zoom  Real Time and Freeze  Factory installed software analysis programs for all imaging techniques  <b>Contrast Imaging</b>  Maximum Frame Rate 700 fr/sec  Imaging Depth (max) 30 cm  Monitor LCD/TFT not less than 19"</p> <p>·  User Interface / Keyboard  <b>Alphanumeric keyboard up-down mobility of console</b>  Image optimization  Cine loop with for B/W and Color images and scrolling memory (M-Mode and Doppler) 2000 frames  Software Analysis  Complete Measurements, Analysis and Calculations software packages for all imaging modes for cardiac and vascular applications.  Automatic Real Time Doppler Calculations  Digital Archiving  Built-in Hard Disk storage capacity</p>	<p>Tissue Doppler (TDI)  Anatomical M-Mode  Real time (Included in basic configuration)  Real time triplex  B-Mode / PW Doppler / Color Doppler and DTI Doppler (in all Phased array transducers)  Real time dual imaging  B-Mode/B-Mode + CFM  Imaging Modes:  Built-in Tissue Harmonic imaging mode to all cardiac imaging transducers  Pulse/Phase Inversion technique for optimal signal  Built-in Real Time Compound Imaging technique  Built-in technique for image processing in pixel level for noise reduction, improve image definition and tissue textural differentiation for increase of image resolution  On all transducers and all imaging modes Controlled by the keyboard  Zoom  Real Time and Freeze  Factory installed software analysis programs for all imaging techniques  <b>Contrast imaging for cardiology</b>  Maximum Frame Rate 700 fr/sec  Imaging Depth (max) 30 cm  Monitor LCD/TFT not less than 19"</p> <p>·  User Interface / Keyboard  <b>Alphanumeric keyboard</b>  Image optimization  Cine loop with for B/W and Color images and scrolling memory (M-Mode and Doppler) 2000 frames  Software Analysis  Complete Measurements, Analysis and Calculations software packages for all imaging modes for cardiac and vascular applications.  Automatic Real Time Doppler Calculations  Digital Archiving  Built-in Hard Disk storage capacity</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Peripheral storage media HDD, DVD/CD-RW, USB Interface - Printing DICOM compatible Transducer ports: 3 imaging transducers simultaneously Transducers Sector phased array transducer 1.5 to 4.0 MHz Multifrequency TEE phased array sector transducer 3.0 to 7.0 MHz Basic digital echocardiography scanner DTI/TVI/TDI Digital Patient Archive In basic configuration Built-in DVD-R, CD-R In basic configuration A4 Color Laser printer In basic configuration B/W video printer</p>	<p>Peripheral storage media HDD, DVD/CD-RW, USB Interface - Printing DICOM compatible Transducer ports: 3 imaging transducers simultaneously Transducers Sector phased array transducer 2.0 - 4.0 MHz, Multifrequency TEE phased array sector transducer 3.0 to 7.0 MHz Basic digital echocardiography scanner DTI/TVI/TDI Digital Patient Archive In basic configuration Built-in DVD-R, CD-R In basic configuration A4 Color Laser printer In basic configuration B/W video printer</p>
<p><b>2.2 ABDOMINAL ULTRASOUND</b> STANDARD CONFIGURATION High-end, clinical, digital, ultrasound Premium class system with Color Doppler Unit with modern design and ergonomics, comfortable operation, with an integrated workstation and a storage system, as well as keyboard-controlled documentation devices TECHNICAL SPECIFICATIONS / FEATURES Technically advanced digital beam former Number of active imaging probe connectors: min. 4 System dynamics min. 260 dB Flat-panel high-resolution non-interlaced monitor. Screen diameter of at least 19" TFT LCD Possibility of tilt and swivel adjustments.. Steering panel adjustable in a vertical direction Programmable tactile control LCD panel</p>	<p><b>2.2 ABDOMINAL ULTRASOUND</b> STANDARD CONFIGURATION High-end, clinical, digital, ultrasound Premium class system with Color Doppler Unit with modern design and ergonomics, comfortable operation, with an integrated workstation and a storage system, as well as keyboard-controlled documentation devices TECHNICAL SPECIFICATIONS / FEATURES Technically advanced digital beam former Number of active imaging probe connectors: min. 4 System dynamics min. 260 dB Flat-panel high-resolution non-interlaced monitor. Screen diameter of at least 19" TFT LCD Possibility of tilt and swivel adjustments.. Steering panel adjustable in a vertical direction Programmable tactile control LCD panel</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Illuminated physical alphanumeric keyboard for entering data Number of dynamic memory images (so-called Cineloop): min. 2 000 frames. Provide. Possibility of acquiring dynamic images after freezing with playback speed changeable (so-called Cineloop) <b>M-mode or D-mode dynamic memory min. 60 sec</b> Imaging area depth range min. 30 cm Number of user programmable settings (so-called Presets) available for each probe Four-castor mobile base with possibility of locking the castor Combinations of simultaneously displayed images B, B + B B + M D B + D B + D + M (simultaneously) B + C (Color Doppler) B + PD (Power Doppler) 4 B (Color Doppler) 4 B (Power Doppler) B + Color + M B-mode FRAME RATE: min. 1500 images/sec. Imaging with second harmonic <b>Min. 4 second harmonic bands</b> Spectral Pulsed Wave Doppler (PWD), HPRF PWD imaging for all probes Spectral Continuous Wave Doppler (CWD) imaging with a cardiologic probe <b>Continuous Wave Doppler (CWD) velocity range min.: +/- 16 m/sec (at 0 degree sample volume angle correction)</b> Color Doppler (CD) imaging for all probes Power Doppler (PD) imaging for all probes. Color Tissue Doppler and Spectral Tissue Doppler imaging <b>Real-time anatomical M-mode imaging with at least 3 straight line cursors</b> Anatomical M-mode imaging from Cineloop memory</p>	<p>Illuminated physical alphanumeric keyboard for entering data Number of dynamic memory images (so-called Cineloop): min. 2 000 frames. Provide. Possibility of acquiring dynamic images after freezing with playback speed changeable (so-called Cineloop) <b>M-mode or D-mode dynamic memory min 45 sec</b> Imaging area depth range min. 30 cm Number of user programmable settings (so-called Presets) available for each probe Four-castor mobile base with possibility of locking the castor Combinations of simultaneously displayed images B, B + B B + M D B + D B + D + M (simultaneously) B + C (Color Doppler) B + PD (Power Doppler) 4 B (Color Doppler) 4 B (Power Doppler) B + Color + M B-mode FRAME RATE: min. 1500 images/sec. Imaging with second harmonic <b>Min. 4 second harmonic bands or frequencies</b> Spectral Pulsed Wave Doppler (PWD), HPRF PWD imaging for all probes Spectral Continuous Wave Doppler (CWD) imaging with a cardiologic probe <b>Continuous Wave Doppler (CWD)</b> Color Doppler (CD) imaging for all probes Power Doppler (PD) imaging for all probes. Color Tissue Doppler and Spectral Tissue Doppler imaging <b>Real-time anatomical M-mode imaging</b> Anatomical M-mode imaging from Cineloop memory Simultaneous real-time B + B/CD (Color/Power Doppler) imaging Doppler sample volume size range: min. from 0,5 mm to 20 mm</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Simultaneous real-time B + B/CD (Color/Power Doppler) imaging  Doppler sample volume size range: min. from 0,5 mm to 20 mm  Possibility of the Doppler beam deflection  Doppler sample volume angle correction max. 80 degrees  Time-variable gain control (TGC, STC)  Possibility of color map shifts in Color Doppler,  The system shall provide real-time spatial compounding on all probes  Spatial Compound Scanning, or adequate  Extended Field of View (EFV) with OB measurements - displaying image of extensive range of the body by moving the probe so the area wider than the scanning width can be displayed, or adequate  <b>Real Time 3D</b>  Anatomical M-Mode  <b>Automatic Volume Measurement</b>  <b>Moveable Probe hangers</b>  <b>Multi slice</b>  Speckle Reduction Technology  Integrated image storage system with a hard disk image memory and a patient data base, describe  System equipped with image storage in DICOM format and output connectability to a DICOM network as a standard (version 3.0)  Image storage in DICOM, JPG, TIF and image loops (AVI) formats  Black-and-white video-printer.  Integrated DVD-R/RW recorder and specialist software for data storage  integrated USB connector for USB memory  Integrated Ethernet network card and wireless connection capabilities  Possibility of connecting the unit to any PC computer in order to transfer data (images, reports)  Real-time image magnification (zoom)  Number of measurements displayed simultaneously on the screen:  <b>Minimum 10</b>  Measurements of distance, circumference, area, volume  Probe switching with the keyboard.  Automatic Doppler spectrum outline in real time  Examination reports with possibility of storing reports in the system  TDI/Strain Analysis</p>	<p>Possibility of the Doppler beam deflection  Doppler sample volume angle correction max. 80 degrees  Time-variable gain control (TGC, STC)  Possibility of color map shifts in Color Doppler,  The system shall provide real-time spatial compounding on all probes  Spatial Compound Scanning, or adequate  Extended Field of View (EFV) with OB measurements - displaying image of extensive range of the body by moving the probe so the area wider than the scanning width can be displayed, or adequate  <b>Real Time 3D (optional)</b>  Anatomical M-Mode   Speckle Reduction Technology  Integrated image storage system with a hard disk image memory and a patient data base, describe  System equipped with image storage in DICOM format and output connectability to a DICOM network as a standard (version 3.0)  Image storage in DICOM, JPG, TIF and image loops (AVI) formats  Black-and-white video-printer.  Integrated DVD-R/RW recorder and specialist software for data storage  integrated USB connector for USB memory  Integrated Ethernet network card and wireless connection capabilities  Possibility of connecting the unit to any PC computer in order to transfer data (images, reports)  Real-time image magnification (zoom)  Number of measurements displayed simultaneously on the screen:  <b>Minimum 9</b>  Measurements of distance, circumference, area, volume  Probe switching with the keyboard.  Automatic Doppler spectrum outline in real time  Examination reports with possibility of storing reports in the system  TDI/Strain Analysis  Advanced Cardiac Calculation Package with kinetic imaging, wall thickness or adequate, Optional  Complete software for the following examinations:  Abdominal</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Advanced Cardiac Calculation Package with kinetic imaging, wall thickness or adequate, Optional          Complete software for the following examinations:          Abdominal          Obstetrical          Gynecological          3D/4D in obstetrics and gynecology (optional)          3D/4D in Cardiology (optional)          Small parts          Fetal Echocardiography          Transducers          Broadband Convex Probe 2- 5Mhz, Harmonic Echo Imaging          Linear probe 4 - 11 Mhz          Video Printer B/W</p>	<p>Obstetrical          Gynecological          3D/4D in obstetrics and gynecology (optional)          3D/4D in Cardiology (optional)          Small parts          Fetal Echocardiography          Transducers          Broadband Convex Probe 2- 5Mhz, Harmonic Echo Imaging          Linear probe 4 - 11 Mhz          Video Printer B/W</p>
<p><b>2.3 OBSTETRICS AND GYNECOLOGY ULTRASOUND</b>          Mobile wheeled model with support on the floor.          The microprocessor controlled digital technology and digital channels          Package for testing calculations Gynecology, Obstetrics, Abdominal, Urology, Small Parts, Vascular, Pediatric examinations of cervical cancer and breast.          Have at least 3 gate for active probes.          Modes of operation: 2D, 3D, 4D, included and installed in the camera permanently.          Plain image Monitor (LCD / LED) color.          The size of the screen on the 19" high resolution.  <b>The control panel with height adjustable, equipped with display LCD touch, for command</b>          Monitor rotatable with variable height and angle.          Displaying image: single / dual / quad, 256 shades grind.          Dynamic range 240 dB maximum          Depth of field scanning: 0-30cm          Cine functions includes memorization of many cycles.          Maximum speed of the change of image over 1000 frames / sec          Mode that includes image:</p>	<p><b>2.3 OBSTETRICS AND GYNECOLOGY ULTRASOUND</b>          Mobile wheeled model with support on the floor.          The microprocessor controlled digital technology and digital channels          Package for testing calculations Gynecology, Obstetrics, Abdominal, Urology, Small Parts, Vascular, Pediatric examinations of cervical cancer and breast.          Have at least 3 gate for active probes.          Modes of operation: 2D, 3D, 4D, included and installed in the camera permanently.          Plain image Monitor (LCD / LED) color.          The size of the screen on the 19" high resolution.  <b>Control panel, equipped with soft key LCD display, for command</b>          Monitor rotatable with variable height and angle.          Displaying image: single / dual / quad, 256 shades grind.          Dynamic range 240 dB maximum          Depth of field scanning: 0-30cm          Cine functions includes memorization of many cycles.          Maximum speed of the change of image over 1000 frames / sec          Mode that includes image:</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>B-Mode, M-Mode, Color M Mode, Color Doppler / Color Flow Mode, Power Doppler (PD), Pulse Wave Doppler (PWD), 3D, 4D, Beam Steering, Harmonic Imaging. Probes comprising: 4D Convex broadband multifrequency 2-6 MHz. <b>The minimum number of elements: 192.</b> Advanced technology for maximum penetration and resolution. 2D multifrequency Endovaginal probe 4-9 MHz. The minimum number of elements 128. Internal memory HDD more than 300 GB CD / DVD-RW incorporated At least 3 USB 2.0 ports. DICOM 3.0 with active permanent license Porte network (Ethernet) Video Out ports for digital Black and White Video Printer</p>	<p>B-Mode, M-Mode, Color M Mode, Color Doppler / Color Flow Mode, Power Doppler (PD), Pulse Wave Doppler (PWD), 3D, 4D, Beam Steering, Harmonic Imaging. Probes comprising: 4D Convex broadband multifrequency 2-6 MHz. <b>The minimum number of elements: 128 or higher</b> Advanced technology for maximum penetration and resolution. 2D multifrequency Endovaginal probe 4-9 MHz. The minimum number of elements 128. Internal memory HDD more than 300 GB CD / DVD-RW incorporated At least 3 USB 2.0 ports. DICOM 3.0 with active permanent license Porte network (Ethernet) Video Out ports for digital Black and White Video Printer</p>
<p><b>2.4 GENERAL ENDOSCOPIC SURGERY</b> Rigid Laparoscope TELESCOPE, HD, 10 mm, HD technology-compatible with HDTV system Working length: min 310 mm Direction of view: 0° Full screen, distortion-free Sterilization tray for 2 optics, autoclavable Flexible Choledochoscope Pc 1 Field of view min 75 degrees Direction of view 0 degrees</p>	<p><b>2.4 GENERAL ENDOSCOPIC SURGERY</b> Rigid Laparoscope TELESCOPE, HD, 10 mm, HD technology-compatible with HDTV system Working length: min 310 mm Direction of view: 0° Full screen, distortion-free Sterilization tray for 2 optics, autoclavable Flexible Choledochoscope Pc 1 Field of view min 75 degrees Direction of view 0 degrees</p>

***Addendum No.6- "Medical Equipment for Regional Hospitals."***

<p>Insertion tube diameter maximum 3.1 mm</p> <p>Working channel minimum 1,2 mm</p> <p>Deflection Up minimum 90 degrees, Down minimum 90 degrees</p> <p>Working channel minimum 450 mm</p> <p>Laparoscopic instruments, trocars, monopolar, bipolar Set 2</p> <p>Trocar tube, 5.5-6x80-105 mm, thread, pcs 4</p> <p>Trocar tube, 11 mm, insulated pcs4</p> <p>Reduction tube, 10-5 mm, pcs 2</p> <p>Trocar spike, 5.5 mm, triangular pcs 4</p> <p>Trocar spike, 11mm pcs 4</p> <p>Needle, acc. to Veress, 80 mm pcs 2</p> <p>Bipolar instrument for precise fixation and manipulation of fragile tissue in laparoscopy (Manhes forceps or similar) Ø5 x 320 - 340 mm length with ergonomic handle</p> <p>Scissors, Metzenbaum scissors monopolar Ø5 x 320 - 340 mm length with ergonomic handle pcs 2</p> <p>Dissection forceps, Maryland, cross tooth pattern or similar, Ø5 x 320 - 340 mm length with ergonomic handle</p> <p>Grasping forceps, Ø10 x 320 - 340 mm length with ergonomic handle</p> <p>Handle, for suction/irrigation pcs 2</p> <p>Suction/irrigation tube, 10 mm pcs 2</p> <p>Suction/irrigation tube, 5 mm, pcs 2</p> <p>HF-electrode, hook, with suction pcs 2</p> <p>HF-cable, unipolar, 3,5 m, pcs 2</p> <p>HF-cable, bipolar, 3,5 m pcs 2</p> <p>Rectoscope, Proctoscope set1</p>	<p>Insertion tube diameter maximum 3.1 mm</p> <p>Working channel minimum 1,2 mm</p> <p>Deflection Up minimum 90 degrees, Down minimum 90 degrees</p> <p>Working channel minimum 450 mm</p> <p>Laparoscopic instruments, trocars, monopolar, bipolar Set 2</p> <p>Trocar tube, 5.5-6x80-105 mm, thread, pcs 4</p> <p>Trocar tube, 11 mm, insulated pcs4</p> <p>Reduction tube, 10-5 mm, pcs 2</p> <p>Trocar spike, 5.5 mm, triangular pcs 4</p> <p>Trocar spike, 11mm pcs 4</p> <p>Needle, acc. to Veress, 80 mm pcs 2</p> <p>Bipolar instrument for precise fixation and manipulation of fragile tissue in laparoscopy (Manhes forceps or similar) Ø5 x 320 - 340 mm length with ergonomic handle</p> <p>Scissors, Metzenbaum scissors monopolar Ø5 x 320 - 340 mm length with ergonomic handle pcs 2</p> <p>Dissection forceps, Maryland, cross tooth pattern or similar, Ø5 x 320 - 340 mm length with ergonomic handle</p> <p>Grasping forceps, Ø10 x 320 - 340 mm length with ergonomic handle</p> <p>Handle, for suction/irrigation pcs 2</p> <p>Suction/irrigation tube, 10 mm pcs 2</p> <p>Suction/irrigation tube, 5 mm, pcs 2</p> <p>HF-electrode, hook, with suction pcs 2</p> <p>HF-cable, unipolar, 3,5 m, pcs 2</p> <p>HF-cable, bipolar, 3,5 m pcs 2</p> <p>Rectoscope, Proctoscope set1</p>
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***Addendum No.6- "Medical Equipment for Regional Hospitals."***

<p>Rectoscope tube, size 19-21 x280-320mm</p> <p>Rectoscope tube, size 19-21 x230-260mm</p> <p>Rectoscope tube, size 15-17 x200-300mm</p> <p>Telescope, magnifying lens, cover and pressure ball</p> <p>Handle and light source cable</p> <p>Biopsy forceps</p> <p>Suction tube</p> <p>Grasping forceps</p> <p>Anoscope tube 15 x70 mm</p> <p>Anoscope tube 20 x70 mm</p> <p>High Frequency generator- monopolar and bipolar set 1</p> <p>HF unit for laparoscopic/endoscopic</p> <p>1. monopolar, 2. bipolar</p> <p>1. Monopolar:</p> <p>Cut: 3 modes, max output 300 W</p> <p>Coagulation: 3 modes, max output 100W</p> <p>2. Bipolar:</p> <p>Cut: 1 mode, max output 100W or more</p> <p>Coagulation: 3 modes, max output 100W or more</p> <p>Output control by footswitch, hand switches or hand piece</p> <p>Display with constant control of working mode, output power, attached instruments</p> <p>With light and audio warranty alarm in case of not appropriate usage</p> <p>Footswitch</p>	<p>Rectoscope tube, size 19-21 x280-320mm</p> <p>Rectoscope tube, size 19-21 x230-260mm</p> <p>Rectoscope tube, size 15-17 x200-300mm</p> <p>Telescope, magnifying lens, cover and pressure ball</p> <p>Handle and light source cable</p> <p>Biopsy forceps</p> <p>Suction tube</p> <p>Grasping forceps</p> <p>Anoscope tube 15 x70 mm</p> <p>Anoscope tube 20 x70 mm</p> <p>High Frequency generator- monopolar and bipolar set 1</p> <p>HF unit for laparoscopic/endoscopic</p> <p>1. monopolar, 2. bipolar</p> <p>1. Monopolar:</p> <p>Cut: 3 modes, max output 300 W</p> <p>Coagulation: 3 modes, max output 100W</p> <p>2. Bipolar:</p> <p>Cut: 1 mode, max output 100W or more</p> <p>Coagulation: 3 modes, max output 100W or more</p> <p>Output control by footswitch, hand switches or hand piece</p> <p>Display with constant control of working mode, output power, attached instruments</p> <p>With light and audio warranty alarm in case of not appropriate usage</p> <p>Footswitch</p>
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***Addendum No.6- "Medical Equipment for Regional Hospitals."***

<p>Neutral electrode, patient plate, reusable Cable for patient plate, 5 m, reusable</p> <p>Insuflator set 1 Flow rate: 30-35L/min 3 levels of flow (or free selectable): 0-1 l/min, 1.5-19 l/min, 20-35 l/min Automatic response to abdominal gas leaks by quickly returning to the preset level Digital display (displaying pressure, flow, volume, CO2 bottle capacity with light and audio alarm tones (warning for excessive pressure or tube obstruction) Delivery should include: reusable autoclavable insufflation tube, reusable autoclavable suction tube Tubing, high pressure, for DIN gas cylinders CO2 CO2 bottle</p> <p>Suction Irrigation pump Set 1 Irrigation: Max. capacity (0 m height of irrigation bag): 1000-1600 ml/min Max. pumping pressure: 1200 mbar or 53.2kPA Suction: Max. pumping pressure: 660 mbar or -0.8 bar Suction-irrigation lpsc. tube, 5x330-360 mm, autoclavable Hand controller for suction-irrigation activation Suction and irrigation tubing, reusable Video processor including camera head</p>	<p>Neutral electrode, patient plate, reusable Cable for patient plate, 5 m, reusable</p> <p>Insuflator set 1 Flow rate: 30-35L/min 3 levels of flow (or free selectable): 0-1 l/min, 1.5-19 l/min, 20-35 l/min Automatic response to abdominal gas leaks by quickly returning to the preset level Digital display (displaying pressure, flow, volume, CO2 bottle capacity with light and audio alarm tones (warning for excessive pressure or tube obstruction) Delivery should include: reusable autoclavable insufflation tube, reusable autoclavable suction tube Tubing, high pressure, for DIN gas cylinders CO2 CO2 bottle</p> <p>Suction Irrigation pump Set 1 Irrigation: Max. capacity (0 m height of irrigation bag): 1000-1600 ml/min Max. pumping pressure: 1200 mbar or 53.2kPA Suction: Max. pumping pressure: 660 mbar or -0.8 bar Suction-irrigation lpsc. tube, 5x330-360 mm, autoclavable Hand controller for suction-irrigation activation Suction and irrigation tubing, reusable Video processor including camera head</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

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<p>Set 1</p> <p>HDTV compatible - min. 1,080 effective scanning lines (1080/50i) or better (1080/50p)</p> <p>'Interlaced' or better 'progressive scan' technology</p> <p>Horizontal resolution: 1920 x 1080 picture elements</p> <p>Vertical resolution: 1080 lines</p> <p>Compatible with HDTV videoscopes; videolaparoscopes, videocolonoscopes, videogastrosopes etc..</p> <p>Compatible with 1CCD and 3CCD camera heads</p> <p>Synchronization with light source</p> <p>Functions:</p> <p>Enhancement contrasts: min 4 modes</p> <p>2) Digital outputs: DV and SDI (Firewire IEEE 1394, SD/HD-SDI). Delivery should include cable.</p> <p>3) Picture in Picture function in monitor</p> <p>4) Digital still image capturing system</p> <p>Delivery should include: memory card, min. 1 GB, PC Card adapter, USB stick</p> <p>5) Electronic magnification up to 2 times</p> <p>6) Camera control via processor - via keyboard - via remote control switches on camera heads/videoscopes</p> <p>7) Patient/procedure/surgeon data function – and visualization on monitor</p> <p>Delivery should include keyboard</p> <p>Delivery should include video cables</p>	<p>Set 1</p> <p>HDTV compatible - min. 1,080 effective scanning lines (1080/50i) or better (1080/50p)</p> <p>'Interlaced' or better 'progressive scan' technology</p> <p>Horizontal resolution: 1920 x 1080 picture elements</p> <p>Vertical resolution: 1080 lines</p> <p>Compatible with HDTV videoscopes; videolaparoscopes, videocolonoscopes, videogastrosopes etc..</p> <p>Compatible with 1CCD and 3CCD camera heads</p> <p>Synchronization with light source</p> <p>Functions:</p> <p>Enhancement contrasts: min 4 modes</p> <p>2) Digital outputs: DV and SDI (Firewire IEEE 1394, SD/HD-SDI). Delivery should include cable.</p> <p>3) Picture in Picture function in monitor</p> <p>4) Digital still image capturing system</p> <p>Delivery should include: memory card, min. 1 GB, PC Card adapter, USB stick</p> <p>5) Electronic magnification up to 2 times</p> <p>6) Camera control via processor - via keyboard - via remote control switches on camera heads/videoscopes</p> <p>7) Patient/procedure/surgeon data function – and visualization on monitor</p> <p>Delivery should include keyboard</p> <p>Delivery should include video cables</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>camera head, with integrated video adapter, 1.2x  Min. 2 programmable, remote control switches  2-year warranty</p> <p>Led or Xenon Light source Pc 1  Light source, same generation like camera processor, 175W  Automatic light intensity control through synchronization cable with camera processor  Manual intensity control, optional  Lamp life indicator  Automatic stand-by after longer inaction or after disconnection of light guide cable/videoscope  <b>Compatible with fiberscopes, surgical endoscopes/laparoscopes, cable for light control light source and camera processor</b></p> <p>LCD Monitor Pc 1  SDTV signal and 'progressive scan' technology  Display size 21", resolution min. 1280 x 1024 dots (SXGA)  TFT active matrix  Input: Composite video (BNC), Y/C (S-Video) (4-pin mini-DIN), Analog (RGB) (4 BNC), Remote1 (D-Sub 9-pin), RS-232C (D-Sub 9-pin), Computer (HD D-Sub 15-pin).  Output: Composite video (BNC), Y/C (S-Video) (4-pin mini-DIN), Analog (RGB) (4 BNC),</p> <p>Endoscopic Trolley</p>	<p>camera head, with integrated video adapter, 1.2x  Min. 2 programmable, remote control switches  2-year warranty</p> <p>Led or Xenon Light source Pc 1  Light source, same generation like camera processor, 175W  Automatic light intensity control through synchronization cable with camera processor  Manual intensity control, optional  Lamp life indicator  Automatic stand-by after longer inaction or after disconnection of light guide cable/videoscope</p> <p>LCD Monitor Pc 1  SDTV signal and 'progressive scan' technology  Display size 21", resolution min. 1280 x 1024 dots (SXGA)  TFT active matrix  Input: Composite video (BNC), Y/C (S-Video) (4-pin mini-DIN), Analog (RGB) (4 BNC), Remote1 (D-Sub 9-pin), RS-232C (D-Sub 9-pin), Computer (HD D-Sub 15-pin).  Output: Composite video (BNC), Y/C (S-Video) (4-pin mini-DIN), Analog (RGB) (4 BNC),</p> <p>Endoscopic Trolley  Set 1</p>
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***Addendum No.6- "Medical Equipment for Regional Hospitals."***

<p>Set 1</p> <p>Mobile, with antistatic castors with separation transformer and antistatic castors, with min. 8 plug block, min. 8 power cables</p> <p>Shelf width 400 mm</p> <p>4 shelves, 2 fixed, 2 height adjustable</p> <p>Camera head holder</p> <p>LCD monitor arm</p> <p>Rotatable 360° around trolley base</p> <p>Mobile x-y-z axis</p> <p>Height adjustable</p> <p>CO2 bottle holder</p> <p>Keyboard arm/holder, sliding</p> <p>Video-photo documentation unit</p> <p>Set 1</p> <p>With the press on the one button must allow video capturing or picture capturing on USB exchangeable device</p> <p>Input of patient data, date, file name must be possible. Also possibility of delete data must be available.</p> <p>Color small monitor for live video or picture view must be incorporated</p> <p>Must have input signal:</p> <ul style="list-style-type: none"> <li>o composite (BNC)</li> <li>o S-video (Y/C)</li> </ul> <p>Must be possible to connect</p> <ul style="list-style-type: none"> <li>o up to two foot switch pedals for switch on in sterile field</li> <li>o up to 4pcs USB2.0 units connections (or keyboard for patient data</li> </ul>	<p>Mobile, with antistatic castors with separation transformer and antistatic castors, with min. 8 plug block, min. 8 power cables</p> <p>Shelf width 400 mm</p> <p>4 shelves, 2 fixed, 2 height adjustable</p> <p>Camera head holder</p> <p>LCD monitor arm</p> <p>Rotatable 360° around trolley base</p> <p>Mobile x-y-z axis</p> <p>Height adjustable</p> <p>CO2 bottle holder</p> <p>Keyboard arm/holder, sliding</p> <p>Video-photo documentation unit</p> <p>Set 1</p> <p>With the press on the one button must allow video capturing or picture capturing on USB exchangeable device</p> <p>Input of patient data, date, file name must be possible. Also possibility of delete data must be available.</p> <p>Color small monitor for live video or picture view must be incorporated</p> <p>Must have input signal:</p> <ul style="list-style-type: none"> <li>o composite (BNC)</li> <li>o S-video (Y/C)</li> </ul> <p>Must be possible to connect</p> <ul style="list-style-type: none"> <li>o up to two foot switch pedals for switch on in sterile field</li> <li>o up to 4pcs USB2.0 units connections (or keyboard for patient data entrance)</li> </ul>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>entrance)</p> <p>Front buttons must be (membrane) liquid protected</p> <p>Upgrade for network connection must be available (Ethernet T10/100 network connection)</p> <p>Adjustable picture size – at least 3 different sizes; largest picture size quality must be at least 1024x768 pixels</p> <p>Picture formats support must be for:</p> <ul style="list-style-type: none"> <li>o JPEG, DICOM</li> </ul> <p>Video capturing format must be at least for:</p> <ul style="list-style-type: none"> <li>o MPEG2 (DVD quality)</li> </ul> <p>Audio format must be at least for</p> <ul style="list-style-type: none"> <li>o MPEG1L2, 2 channels</li> </ul> <p>In the set must be included</p> <ul style="list-style-type: none"> <li>· recording unit,</li> <li>· USB memory key (at least 2 GB),</li> <li>· video cables</li> <li>· connection cables.</li> </ul>	<p>Front buttons must be (membrane) liquid protected</p> <p>Upgrade for network connection must be available (Ethernet T10/100 network connection)</p> <p>Adjustable picture size – at least 3 different sizes; largest picture size quality must be at least 1024x768 pixels</p> <p>Picture formats support must be for:</p> <ul style="list-style-type: none"> <li>o JPEG, DICOM</li> </ul> <p>Video capturing format must be at least for:</p> <ul style="list-style-type: none"> <li>o MPEG2 (DVD quality)</li> </ul> <p>Audio format must be at least for</p> <ul style="list-style-type: none"> <li>o MPEG1L2, 2 channels</li> </ul> <p>In the set must be included</p> <ul style="list-style-type: none"> <li>· recording unit,</li> <li>· USB memory key (at least 2 GB),</li> <li>· video cables</li> <li>· connection cables.</li> </ul>
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**Lot 3: Radiology**

Original Technical Specification	Modified Technical Specification
<p><b>3.1 X RAY MACHINE</b></p> <p>High frequency inverter type            With microprocessor            KV, mA/ mAs, time controlled            X ray tube overloading protection system            Anatomical programs available minimum 200            Districts reporting self diagnosis with error codes</p>	<p><b>3.1 X RAY MACHINE</b></p> <p>High frequency inverter type            With microprocessor            KV, mA/ mAs, time controlled            X ray tube overloading protection system            Anatomical programs available minimum 200            Districts reporting self diagnosis with error codes</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

Manual and motorized collimation	Manual or motorized collimation
<p>Automatic exposure control (AEC) Filtering not smaller than 2 mm aluminum</p>	<p>Automatic exposure control (AEC) Filtering not smaller than 2 mm aluminum</p>
<p>Consisting of X-Ray Generator X-ray Tube X-ray Tube column with telescopic tube arm Collimator Radiographic bucky table Vertical bucky High Voltage cables Accessories</p>	<p>Consisting of X-Ray Generator X-ray Tube X-ray Tube column with telescopic tube arm Collimator Radiographic bucky table Vertical bucky High Voltage cables Accessories</p>
<p>X-Ray Generator High frequency generator Power generator not less than 50kW Radiographic currents, up to 600mA at least step X-ray voltage: from 40 to 125kV, per step Bucky key election Key of the situation: ready / available beam The high voltage transformer isolated and high voltage cables</p>	<p>X-Ray Generator High frequency generator Power generator not less than 50kW Radiographic currents, up to 600mA at least step X-ray voltage: from 40 to 125kV, per step Bucky key election Key of the situation: ready / available beam The high voltage transformer isolated and high voltage cables</p>
<p>X-rays Tube Tube power not less than 50kW Dual focus: small focus 0.6mm or less, large focus 1.2mm approx. Internal filtering of at least 0.7 mm Al Heat storage capacity of the anodes 300 Khu Equipment for centering the laser beam for alignment (collimators)</p>	<p>X-rays Tube Tube power not less than 50kW Dual focus: small focus 0.6mm or less, large focus 1.2mm approx. Internal filtering of at least 0.7 mm Al Heat storage capacity of the anodes 300 Khu Equipment for centering the laser beam for alignment (collimators)</p>
<p>X-ray Tube column with telescopic tube arm The mobile column for X-ray tube Horizontal movement range of about 180 cm Carrying balance X-Ray Tube arm tube rotation around the vertical axis +/- 90 ° X-Ray Tube rotation around the telescopic arm +/- 120°</p>	<p>X-ray Tube column with telescopic tube arm The mobile column for X-ray tube Horizontal movement range of about 180 cm Carrying balance X-Ray Tube arm tube rotation around the vertical axis +/- 90 ° X-Ray Tube rotation around the telescopic arm +/- 120°</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

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<p>Radiography with bucky table Tables with removable upper uppers table size of the table: approx 210x80cm table range movement that table: 115cm longitudinal, transverse 25cm Foot control Bucky manual unit for cassettes according to international standards Standard cassettes in both directions from 18x24 cm up to 35x43 cm Oscillating grid, 36 l / cm Maximum lift weight min. 180kg</p> <p>Vertical Bucky Ground mounted for chest and other applications Vertical counterbalanced Bucky for cassettes manual unit standards from 18x24 cm up to 35x43 cm Vertical travel range approximately 36-170 cm from the center of the cassette Arm grip to allow patient quick positioning as well as lateral exposures</p> <p>Pockets for hands Accessories: Volume 1: 35x43 cm Volume 1: 35x35 cm Volume 1: 30x40 cm Volume 1: 18x24 cm Protective apron (2CP) size M and L X-Ray Viewer (1cp) approximately 80cm x 40 cm Protective glasses All cables necessary for installation and normal operation of the whole system User manual in English Training of at least 3 people (engineers and user) for at least 2 days CE Certificate "The system should contain all the above parts and accessories for operation</p>	<p>Radiography with bucky table table size of the table: approx 210x80cm Table range movement: approx. 100 longitudinal, transverse 25cm</p> <p>Foot control Bucky manual unit for cassettes according to international standards Standard cassettes in both directions from 18x24 cm up to 35x43 cm Oscillating grid, 36 l / cm Maximum lift weight min. 180kg</p> <p>Vertical Bucky Ground mounted for chest and other applications Vertical counterbalanced Bucky for cassettes manual unit standards from 18x24 cm up to 35x43 cm Vertical travel range approximately 36-170 cm from the center of the cassette Arm grip to allow patient quick positioning as well as lateral exposures</p> <p>Pockets for hands Accessories: Volume 1: 35x43 cm Volume 1: 35x35 cm Volume 1: 30x40 cm Volume 1: 18x24 cm Protective apron (2CP) size M and L X-Ray Viewer (1cp) approximately 80cm x 40 cm Protective glasses All cables necessary for installation and normal operation of the whole system User manual in English Training of at least 3 people (engineers and user) for at least 2 days CE Certificate "The system should contain all the above parts and accessories for</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>of the whole system" Installation and testing should be done on site for the normal functioning of the whole system</p>	<p>operation of the whole system" Installation and testing should be done on site for the normal functioning of the whole system</p>
<p><b>3.3 RADIOGRAPHY AND FLUOROSCOPY</b></p> <p>High frequency inverter type Microprocessor controlled 3 checkpoints KV, mA/ mAs, time Overloading protection system for the X ray tube Anatomical programs available Districts reporting self diagnosis with error codes <b>Manual and motor collimation</b> Automatic exposure control (AEC) Remote controlled table Automatic control of brightness of fluoroscopy (kV, mA control) The control motor soft start / stop inverter Filtration no less than 2.5mm aluminum</p> <p>Consisting of X-Ray generator X-ray tube X-Ray tube arm Collimator Remote controlled fluoroscopy and radiography table Imaging chain HV cables and accessories X-Ray generator The high frequency generator Generator power of no less than 50KW Radiographic mA, up to at least 550mA in step radiographic kV: from 50 to 130 kV, for step Fluoroscopic, 50kVp-125kVp Districts reporting self diagnosis with error codes</p>	<p><b>3.3 RADIOGRAPHY AND FLUOROSCOPY</b></p> <p>High frequency inverter type Microprocessor controlled 3 checkpoints KV, mA/ mAs, time Overloading protection system for the X ray tube Anatomical programs available Districts reporting self diagnosis with error codes <b>Manual or motor collimation</b> Automatic exposure control (AEC) Remote controlled table Automatic control of brightness of fluoroscopy (kV, mA control) The control motor soft start / stop inverter Filtration no less than 2.5mm aluminum</p> <p>Consisting of X-Ray generator X-ray tube X-Ray tube arm Collimator Remote controlled fluoroscopy and radiography table Imaging chain HV cables and accessories X-Ray generator The high frequency generator Generator power of no less than 50KW Radiographic mA, up to at least 550mA in step radiographic kV: from 50 to 130 kV, for step Fluoroscopic, 50kVp-125kVp Districts reporting self diagnosis with error codes</p>

**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Fluoroscopic, 50kVp-125kVp Isolated high voltage transformer</p> <p>X-Ray Tube Lamp power not less than 50kW Dual focus: small focus 0.8 mm or less, large focus 1.3 mm approx. Tube cooling system Internal filtering of at least 0.5 mm Al Anode heat storage capacity of 300 kHU</p> <p>X-Ray Tube arm The column and arm rotation <math>\pm 90^\circ</math> SID min 150 cm blocking system Movement lamp (focal center) Ore audio-video alarm in case of high temperature anode mud Tube Movement (focal center)</p> <p>Collimator Controlled remotely collimators for both Bucky and fluoroscopy Equipment for centering the laser beam for position Time approximately 30 sec</p> <p>Remote controlled fluoroscopy and radiography table Leveling tables: approximately <math>90^\circ</math> -<math>15^\circ</math> or more Size: approximately 220x65cm Table height of approximately 110 cm Automatic recognition of the size of the cassette The area of movement of the spot: longitudinal, transverse, vertical Movement of the upper table - with motor Adjustable speed of rotation Blocking: top-down, left-right The error function code</p> <p>Imaging Chain Image intensifier with TV system</p>	<p>Fluoroscopic, 50kVp-125kVp Isolated high voltage transformer</p> <p>X-Ray Tube Lamp power not less than 50kW Dual focus: small focus 0.8 mm or less, large focus 1.3 mm approx. Tube cooling system Internal filtering of at least 0.5 mm Al Anode heat storage capacity of 300 kHU</p> <p>X-Ray Tube arm The column and arm rotation <math>\pm 90^\circ</math> SID min 150 cm blocking system Movement lamp (focal center) Ore audio-video alarm in case of high temperature anode mud Tube Movement (focal center)</p> <p>Collimator Controlled remotely collimators for both Bucky and fluoroscopy Equipment for centering the laser beam for position Time approximately 30 sec</p> <p>Remote controlled fluoroscopy and radiography table Leveling tables: approximately <math>90^\circ</math> -<math>15^\circ</math> or more Size: approximately 220x65cm Table height of approximately 110 cm Automatic recognition of the size of the cassette The area of movement of the spot: longitudinal, transverse, vertical Movement of the upper table - with motor Adjustable speed of rotation Blocking: top-down, left-right The error function code</p> <p>Imaging Chain Image intensifier with TV system</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Image intensifier diameter of not less than 23cm  Gde: 60%  TV cameras with CCD sensors  LIH  Signal / noise no more than 50dB</p> <p>Monitor  Min LCD/CRT Monitor 17 "  Power: 50/60 Hz, 220/230 V</p> <p>Vertical Bucky  Facilitating the use of a range of cassettes from 18x24 cm up to 35x43 cm  Vertical movement of the cassette seal - approximately 40-190 cm from the center of the cassette to the floor</p> <p>Accessories:  Size: 35x43 cm, 1 Piece  Size: 35x35 cm, 1 Piece  Size: 30x40 cm, 1 Piece  Size: 18x24 cm, 1 Piece</p> <p>Min 40 kVA UPS  Protective apron (2CP) size M and L  X-Ray film viewer approximately 80cm x 40 cm  All cables necessary for installation and normal operation of the whole system</p> <p>Automatic film processor  Supply: 220V / 50Hz  Film sheet parameters: min 18 cm x24 cm and 35cm x 43cm  Min 60 film / hour</p> <p>User manual in English  The winner must provide service manual in English  Training of at least 2 persons (engineers and user) for at least 2 days</p>	<p>Image intensifier diameter of not less than 23cm  Gde: 60%  TV cameras with CCD sensors  LIH  Signal / noise no more than 50dB</p> <p>Monitor  Min LCD/CRT Monitor 17 "  Power: 50/60 Hz, 220/230 V</p> <p>Vertical Bucky  Facilitating the use of a range of cassettes from 18x24 cm up to 35x43 cm  Vertical movement of the cassette seal - approximately 40-190 cm from the center of the cassette to the floor</p> <p>Accessories:  Size: 35x43 cm, 1 Piece  Size: 35x35 cm, 1 Piece  Size: 30x40 cm, 1 Piece  Size: 18x24 cm, 1 Piece</p> <p>Min 40 kVA UPS  Protective apron (2CP) size M and L  X-Ray film viewer approximately 80cm x 40 cm  All cables necessary for installation and normal operation of the whole system</p> <p>Automatic film processor  Supply: 220V / 50Hz  Film sheet parameters: min 18 cm x24 cm and 35cm x 43cm  Min 60 film / hour</p> <p>User manual in English  The winner must provide service manual in English  Training of at least 2 persons (engineers and user) for at least 2 days</p>
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**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>CE certificate from The system should contain all the above parts and accessories for normal functioning of the whole system On site installation and testing for normal functioning of the whole system</p>	<p>CE certificate from The system should contain all the above parts and accessories for normal functioning of the whole system On site installation and testing for normal functioning of the whole system</p>
<p><b>3.4 DIGITAL MAMMOGRAPHY</b> GENERAL DESCRIPTION Integrated mammography X-ray system, for digital FFDM (Full Field Digital Mammography) examinations based on Flat Panel technology for screening, diagnosis and biopsy capability. Radiation shield in compliance with standard EN60601-1-3 protection. Stand is to be included. The system must guarantee the highest image quality and reproducibility and must offer technological innovation protection stand is to be included. X-ray generator Single phase, high frequency, high power microprocessor controlled. Voltage range: approximately 22-35 KV mAs range : to be specified by manufacturers Auto radiological parameters selection based in breast density Automatic Mains compensation Minimum patient dose X-ray tube and gantry Rotating anode preferably with a Tungsten anode to reduce the dose with focuses approx. 0.1-0.3 mm and filtration in Al material and in Rh or W material Heat capacity not less than 300 kHU Gantry rotation Range approx: 0° / +90° ; 0° / -150° Motorized, Rotation of the isocentric motorized arm Magnification Stand Height adjustment motorized about 75 cm, with electromagnetic brakes Compression system Manual and motorized with various compression codes With magnification device: not less than 1,5X</p>	<p><b>3.4 DIGITAL MAMMOGRAPHY</b> GENERAL DESCRIPTION Integrated mammography X-ray system, for digital FFDM (Full Field Digital Mammography) examinations based on Flat Panel technology for screening, diagnosis and biopsy capability. Radiation shield in compliance with standard EN60601-1-3 protection. Stand is to be included. The system must guarantee the highest image quality and reproducibility and must offer technological innovation protection stand is to be included. X-ray generator Single phase, high frequency, high power microprocessor controlled. Voltage range: approximately 22-35 KV mAs range : to be specified by manufacturers Auto radiological parameters selection based in breast density Automatic Mains compensation Minimum patient dose X-ray tube and gantry Rotating anode preferably with a Tungsten anode to reduce the dose with focuses approx. 0.1-0.3 mm and filtration in Al material and in Rh or W material Heat capacity not less than 300 kHU Gantry rotation Range approx: 0° / +90° ; 0° / -150° Motorized, Rotation of the isocentric motorized arm Magnification Stand Height adjustment motorized about 75 cm, with electromagnetic brakes Compression system Manual and motorized with various compression codes With magnification device: not less than 1,5X</p>



**Addendum No.6- "Medical Equipment for Regional Hospitals."**

<p>Compression cones (various sizes and techniques)          Digital display of compression force, thickness, angle, etc          Up/Down motorized controls from the footswitch.          Hand-knob on both side of compression. Device for fine adjustment          Flat panel          Detector active size not less than 24x30 cm          Detector with at least 60% DQE measured under 10mR dose.  <b>Pixel size, maximum 90 µm</b>          Optimum image matrix acquisition for all breast full resolution display          To include, for optimum image, the use of AEC          System should acquire images preferably using the original pixel size (avoid pixel binning)          Acquisition workstation          To be installed in examination room with min 17" LCD monitor high resolution and hard disk for storage of at least 10.000 images (in largest format).          Review workstation          To be installed in diagnosis room with 2 X 5Mp diagnostic18" LCD monitors and hard disk for storage of at least 10.000 images (in largest format). A CD/DVD burner should be included.          Biopsy device          Vacuum assisted Biopsy device compatible with all major manufacturer's mammography Unit. The biopsy device offered should be <u>fully compatible</u> with main unit.  <b>Prone stereotactic table</b>  <b>Mammography prone breast biopsy table, for biopsy procedures. Height adjustment by food pedal, with antistatic revolving and lockable wheels</b></p>	<p>Compression cones (various sizes and techniques)          Digital display of compression force, thickness, angle, etc          Up/Down motorized controls from the footswitch.          Hand-knob on both side of compression. Device for fine adjustment          Flat panel          Detector active size not less than 24x30 cm          Detector with at least 60% DQE measured under 10mR dose.  <b>Pixel size, maximum 100 µm</b>          Optimum image matrix acquisition for all breast full resolution display          To include, for optimum image, the use of AEC          System should acquire images preferably using the original pixel size (avoid pixel binning)          Acquisition workstation          To be installed in examination room with min 17" LCD monitor high resolution and hard disk for storage of at least 10.000 images (in largest format).          Review workstation          To be installed in diagnosis room with 2 X 5Mp diagnostic18" LCD monitors and hard disk for storage of at least 10.000 images (in largest format). A CD/DVD burner should be included.          Biopsy device          Vacuum assisted Biopsy device compatible with all major manufacturer's mammography Unit. The biopsy device offered should be <u>fully compatible</u> with main unit.  <b>Table/Chair suitable for stereotactic biopsy procedures:</b>  <b>height adjustment by foot pedal or motorized control, with antistatic revolving and lockable wheels</b></p>
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(a) All other requirements for the above amended item and for other items, as well as other provisions in the BDs remain unchanged.

