VOLYN OBLAST STATE ADMINISTRATION
HEALCARE DEPARTMANT
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03.01.2019 No. 21/15/2-19 for No. _____ of _____

To all potential bidders

Amendments No.1
to the Bidding Documents for
ICB-G No.6.2.2.2 "Procurement of medical equipment and consumables for healthcare facilities of the secondary and tertiary levels (phase 2)»

Dear Sirs and Madams!

According to para. 8 Section I "Instruction to Bidders" we would like to inform you that the following amendments (corrections) have been made to the Bidding Documents:

1. In order to postpone the deadline for submission of bids:

A) Sub para ITB 22.1 and ITB 25.1, Section II "Bidding Data Sheet" (BD pages (eng: 35-36; ukr: 41-42)) shall be reworded as follows:

D. Submission and Opening of Bids

ITB 22.1	For **submission of bid purposes only**, the Purchaser's address is: City: **Lutsk** Postal Code: **43000** Country: **Ukraine** Stepana **Bandery str., 5** Healthcare Department of Volyn Oblast State Administration. Attention: Head of Healthcare Department of Volyn Oblast State Administration Vashchenyuk Igor Stepanovych Floor/ Room number: **2-nd floor, room of Administrative Office** of Healthcare Department of Volyn Oblast State Administration Working time: 8.00 - 16.00, Monday to Friday.

	The deadline for bid submission is: Date: ***31 January 2019*** Time: ***10-00*** *local time.* Bidders **shall not have** the option of submitting their bids electronically.
ITB 25.1	**The bid opening** shall take place at: Healthcare Department of Volyn Oblast State Administration Address: **Stepana Bandery str., 5** Floor/Room number: **1-st floor, Assembly hall** of Healthcare Department of Volyn Oblast State Administration City: Lutsk Country: Ukraine Date: ***31 January 2019*** Time: ***10-05*** *local time.* Bidders may have sight of their Bids at all times between Bid Submission and Bid Opening.

Б) para.8 Invitation for Bids (BD pages (eng: 304; ukr.: 326)) shall be reworded as follows:

Bids must be delivered to the address below **(2)** before ***10:00*** local time ***31 January 2019.*** Electronic bidding will not be permitted. Late bids will be rejected. Bids will be publicly opened in the presence of the bidders' designated representatives and anyone who choose to attend at the address below.

2. In order to make amendments to technical requirements of sub para. 3.7 Detailed Requirements (technical specifications), para. 3 Technical Specifications, Section VII. Schedule of Requirements of Bidding Documents:

Lot No.2

The following amendments were made to technical requirements of sub para. 3.7 Detailed Requirements (technical specifications), para. 3 Technical Specifications, Section VII. Schedule of Requirements of Bidding Documents:

Item 1. Premium digital ultrasound system with the possibility of 3D reconstruction (type 1)

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
1.3	Ukrainian interface - Possibility	The requirement was deleted
2.1	Abdominal studies - Available	Adult cardiological studies- **Available**
2.3	Small organs and surface structures - Available	Transesophageal studies – **Possibility**
2.4	Musculoskeletal - Available	Abdominal vessels studies (abdominal aorta) - **Available**
2.5	Transesophageal studies – Possibility	Studies with contrasts - **Possibility**
2.6	Adult cardiological studies- Available	Intraoperative studies- **Available**

2.7	Obstetric	The requirement was deleted
2.8	Gynecology	The requirement was deleted
2.9	Urology	The requirement was deleted
2.10	General visualization in pediatrics	The requirement was deleted
2.11	Children cardiological studies	The requirement was deleted
2.12	Fetal heart echocardiography	The requirement was deleted
2.13	Intraoperative studies	The requirement was deleted
3.1	Liquid crystal matte high-resolution monitor that rotates and tilts on a bracket that moves freely	Liquid crystal or TFT/IPS matte high-resolution monitor that rotates and tilts on a bracket that moves freely
3.14	Adaptive algorithm for removing artifacts-Available	Support of the algorithm for removing artifacts **-Available**
3.19	Zooming the image in, times, not less than 15 times	Zooming in function - **Available**
4.11	Mode of time-space correlations of images for assessment of the fetal heart	The requirement was deleted
4.12	Program for the study of the fetal heart in 4D mode	The requirement was deleted
5.2	Calculations packages and summary conclusions for abdominal studies-Available	Calculations packages and summary conclusions for abdominal studies (abdominal aorta)- **Available**
5.4.	Calculations packages and summary conclusions for obstetrics and gynecology	The requirement was deleted
5.5	Quantitative analysis of myocardial deformation – Possibility	Para 5.4 Quantitative analysis of myocardial deformation - **Available**
5.7	The technology of automatic contouring of the intima-media complex and calculation of its average thickness, thickness range and standard deviation of measurements - Possibility	5.6 The technology of automatic contouring of the intima-media complex and calculation of its average thickness, thickness range and standard deviation of measurements- **Available**
5.8	Display, automatic calculations and analysis of the mechanics of the heart on the basis of the initial data of stress echocardiography - Possibility	Stress echocardiography function - **Possibility**
5.11	Calculation for color and power doppler imaging modes: flow index, vascularization index - Available	Para. 5.10 Calculation for color and power doppler imaging modes **Available**
6.5	Sector phased- Compliance	Phased - **Compliance**
6.8	Transesophageal Sector phased for pediatrics - Compliance	The requirement was deleted
6.10	Single crystal sector phased transducers- Compliance	Para. 6.9 Single crystal phased transducers - **Compliance**
6.11	Pencil type transducers -Compliance	Para. 6.10 Pencil type transducers (for cardiology studies) **-Compliance**
7.1	Matrix transducer for cardiology studies	Matrix transducer for cardiology studies - **Available**
7.1.1	Frequency range, MHz, within 1 –5	Frequency range, MHz, within 1 –5 **(+/- 1 MHz)**
7.1.2	Number of elements, not less than 3000	Number of elements, not less than **2000**
7.2	Linear transducer for visualization of	Linear transducer for visualization of deep vessels

	surface-arranged structures, small organs and vessels	of limbs, carotid vessels - **Available**
7.2.1	Frequency range, MHz, within 3 – 12	Frequency range, MHz, within **3-12** (+/- 1 MHz)
7.3.1.	Frequency range within 1 –5	Frequency range, MHz, within **1-5** (+/- 1 MHz)
8.4	The device for Reading/ writing CD/DVD or USB port for installing and transferring files from an ultrasound machine -Available	The device for Reading/ writing CD/DVD and USB port for installing and transferring files from an ultrasound machine -Available
9.2	Weight no more than 110 kg	The requirement was deleted

Item 2. Premium digital ultrasound system with the possibility of 3D reconstruction (type 2)

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
1.3	Ukrainian interface - Possibility	The requirement was deleted
2.1	Abdominal studies- Available	Abdominal vessels studies (abdominal part of aorta), renal vessels, general abdominal studies - **Available**
2.3	Small organs and surface structures - Available	Surface vessels and surface structures - - **Available**
2.4.	Musculoskeletal - Available	The requirement was deleted
2.7	Obstetric- Available	The requirement was deleted
2.8	Gynecology- Available	The requirement was deleted
2.9	Urology- Available	The requirement was deleted
2.10	General visualization in pediatrics- Available	The requirement was deleted
2.11	Children cardiological studies - Available	The requirement was deleted
2.12	Fetal heart echocardiography - Available-Possibility	Para. 2.6 Transcranial studies - **Available**
		Added requirement – Para 2.8 Studies with contrasts - **Possibility**
3.1	Liquid crystal matte high-resolution monitor that rotates and tilts on a bracket that moves freely	Liquid crystal or TFT/IPS matte high-resolution monitor that rotates and tilts on a bracket that moves freely
3.14	Adaptive algorithm for removing artifacts - Available	Support of the algorithm for removing artifacts - **Available**
3.19	Zooming the image in, times, not less than 15 times - Available	Zooming in function- **Available**
4.7	Power doppler - Available	Power doppler imaging - **Available**
4.11	Mode of time-space correlations of images for assessment of the fetal heart - Possibility	The requirement was deleted
4.12	Program for the study of the fetal heart in 4D mode - Possibility	The requirement was deleted
4.13	The program of qualitative assessment of tissue elasticity by the method of sonoelastography for the mammary gland, surface organs, research in gynecology using linear and cavity	Para.4.11 The program of qualitative assessment of tissue elasticity by the method of sonoelastography for the surface organs (without additional mechanical impact on the object of the study) - **Available**

	probes (without additional mechanical impact on the object of the study) - Available	
5.2	Calculations packages and summary conclusions for abdominal studies- Available	Calculations packages and summary conclusions for abdominal studies (abdominal aorta)- **Available**
5.4	Calculations packages and summary conclusions for obstetrics and gynecology - Available	The requirement was deleted
5.8	Display, automatic calculations and analysis of the mechanics of the heart on the basis of the initial data of stress echocardiography - Possibility	Para 5.7 Stress echocardiography function - **Possibility**
5.11	Calculation for color and power doppler imaging modes: flow index, vascularization index - Possibility	Para 5.10 Calculation for color and power doppler imaging modes - **Possibility**
6.5	Sector phased - Compliance	Phased - **Compliance**
6.8	Transesophageal Sector phased for pediatrics - Compliance	The requirement was deleted
6.10	Single crystal sector phased transducers - Compliance	Single crystal phased transducers- **Compliance**
6.12	Pencil type transducers - Compliance	Pencil type transducers (for cardiology studies) - **Compliance**
7.1	Convex single crystal transducer for adults abdominal, OB/GYN studies - Available	Convex single crystal transducer for studies of abdominal (abdominal part of aorta), renal vessels, for adult abdominal studies - **Available**
7.1.1	Frequency range, MHz, within 1 –5	Frequency range, MHz, within **1-5** (+/- 1 MHz)
7.2	Linear single crystal transducer of high resolution for visualization of surface-arranged structures, small organs, small vessels, mammary glands, superficial vessels and bone-muscular system- Available	Linear single crystal transducer of high resolution for visualization of surface vessels and surface-arranged structures- **Available**
7.2.1	Frequency range, MHz, within 4 – 18	Frequency range, MHz, within **4-18** (+/- 1 MHz)
7.3	Matrix transducer for abdominal and obstetric studies - Available	Matrix transducer for 3-D visualization of abdominal and renal vessels, adults abdominal studies - **Available**
7.3.1	Frequency range, MHz, within 1 – 6	Frequency range, MHz, within **1 – 6** (+/- 1 MHz)
7.3.2	Number of elements, not less than 9000	Number of elements, not less than **2000**
7.4	Linear transducer for visualization of surface-arranged structures, small organs and vessels	Linear transducer for visualization of deep vessels of lower limbs, carotid and vertebral arteries - **Available**
7.4.1	Frequency range, MHz, within 3 – 12	Frequency range, MHz, within **3-12** (+/- 1 MHz)
7.5	Linear transducer for 3-D reconstruction of surface-arranged structures, small organs and vessels - Available	Sector single crystal transducer for cardiology studies - **Available**
7.5.1	Frequency range within 5–13	Frequency range within **1–5** (+/- 1 MHz)
8.4	The device for Reading/ writing CD/DVD or USB port for installing and transferring files from an ultrasound machine-Available	The device for Reading/ writing CD/DVD and USB port for installing and transferring files from an ultrasound machine-Available

		Added requirement п. 7.5.2 Field of examination, degrees, not less than 90 (+/- 5)
		Added requirement п. 7.6 Volumetric linear transducer for 3-D reconstruction of the carotid arteries and automatic determination of the stenosi level - **Available**
		Added requirement п. 7.6.1 Frequency range within **5 – 13** (+/- 1 MHz)
9.2	Weight no more than 110 kg.	The requirement was deleted

Item 3. Premium digital universal ultrasound system with the transesophageal echo-cardiography possibility

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
2.1	Obstetric- Available	Cardiological studies- **Available**
2.2	Gynecology- Available	Vessels studies - **Available**
2.3	Abdominal studies - Available	Studies of abdominal and renal vessels - Available
2.4	Vessels studies- Available	para 2.2
2.5	Small organs and surface structures - Available	The requirement was deleted
2.6	Musculoskeletal system- Available	The requirement was deleted
2.7	Cardiological studies - Available	para 2.1
2.8	Transcranial studies - Available	Para. 2.4. Transcranial studies - **Available**
2.9	Transesophageal studies- Available	Para. 2.5 Transesophageal studies- **Available**
		Added requirement п. 2.6 Studies with contrasts - **Possibility**
3.1	Liquid crystal matte high-resolution monitor	Liquid crystal or TFT/IPS matte high-resolution monitor
3.21	Zooming the image in, times, not less than 8 times	The requirement was deleted
3.22	Tissue aberration correction: automatic correction of the velocity of ultrasonic waves	The requirement was deleted
3.23	Automated step-by-step scenario for the study conducting: automatic activation of the required mode and parameters of the visualization, passing to the next step of the study, comments to the images, start of measurements and sending to the report	The requirement was deleted
4.8	Maximum measured speed, not less than 10 m/sec.	Maximum measured speed, not less than 8 m/sec.
4.23	Function of time-space correlations of images that shows of the fetal heart contractions to detect anomalies of development	The requirement was deleted
4.27	The program of qualitative assessment of tissue elasticity by the method of sonoelastography for the mammary gland using linear	The requirement was deleted

	transducer without additional mechanical impact on the object of the study- Possibility	
4.28	The program of the quantative assessment of tissue elasticity by the method of sonoelastography	The requirement was deleted
5.3	The technology of automatic contouring of the intima-media complex - Available	The technology of automatic contouring of the intima-media complex of carotid arteries - **Available**
5.5	Calculations packages and summary conclusions for gynecology and obstetrics - Available	Calculations packages and summary conclusions for abdominal studies (abdominal aorta) - Available
6.7	Sector phased - Available	Phased - **Available**
7.1	Broadband sector transducer for research in cardiology of adults and adolescents - Available	Broadband sector transducer for research in cardiology - **Available**
	Sub-para. Frequency range, not worse than 2-4 MHz (+/- 1)	Frequency range, not worse than **1-5** MHz (+/- 1)
7.2	Linear transducer for vascular, interventional, musculoskeletal and superficial studies - Available	Linear transducer for vascular studies - **Available**
	Sub-para. Frequency range, not worse than 4-12 MHz	Sub-para. Frequency range, not worse than 3-12 MHz (+/- 1)
7.3	Single crystal convex transducer for general abdominal studies - Available Frequency range 1-5 MHz (+/- 0,5) Radius of curvature, not less than, mm, 45 Scanning angle, not less than 110 degrees	Single crystal convex transducer for general abdominal studies (abdominal part of aorta) and rena vessels. **Available** Frequency range **1-5** MHz **(+/- 1)** Radius of curvature, not less than, mm, 45 Scanning angle, not less than **110 (+/- 5)** degrees
7.4	Elastography function	The requirement was deleted
7.5	Frequency range within 2-7	Frequency range within **2-7** MHz (+/- 1)
8.9	Weight no more than 90 kg.	The requirement was deleted

4. Expert digital ultrasound system

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
2.1	Obstetric- Available	Cardiological studies- **Available**
2.2	Gynecology- Available	The requirement was deleted
2.3	Abdominal studies - Available	The requirement was deleted
2.4	Vessels studies- Available	Para.2.2 Vessels studies- **Available**
2.5	Small organs and surface structures - Available	Para.2.3 Studies of abdominal (abdominal part of aorta) and renal vessels, Abdominal studies for adults **-Available**
2.6	Musculoskeletal system	The requirement was deleted
2.7	Cardiological studies	The requirement was deleted
2.8	Transcranial studies - Available	П. 2.4 Transcranial studies - **Available**
3.1	Liquid crystal matte high-resolution monitor	Liquid crystal or TFT/IPS matte high-resolution monitor

3.22	Automated step-by-step scenario for the study conducting: automatic activation of the required mode and parameters of the visualization, passing to the next step of the study, comments to the images, start of measurements and sending to the report - Desirable feature	The requirement was deleted
3.23	Tissue aberration correction: automatic correction of the velocity of ultrasonic waves - Desirable feature	The requirement was deleted
4.12	Trackball-controlled area of research on a color image - Available	The requirement was deleted
4.14	Number of color maps, not less than 8	The requirement was deleted
4.23	Function of time-space correlations of images that shows of the fetal heart contractions to detect anomalies of development - Possibility	The requirement was deleted
4.25	The program of qualitative assessment of tissue elasticity by the method of sonoelastography for the mammary gland without additional mechanical impact on the object of the study - Possibility	The requirement was deleted
4.26	The program of quantative assessment of tissue elasticity by the method of sonoelastography - Possibility	The requirement was deleted
5.6	Calculations packages and summary conclusions for gynecology and obstetrics- Available	The requirement was deleted
5.7	Calculations packages and summary conclusions for abdominal studies - Available	Para. 5.6. Calculations packages and summary conclusions for abdominal studies (abdominal aorta) - **Available**
6.7	Sector phased- Available	Phased - **Available**
7.1	Broadband sector transducer for research in cardiology of adults and adolescents - Available	Broadband sector transducer for research in cardiology - **Available**
	Sub-para. Frequency range, not worse than 2-4 MHz (+/- 1)	Sub-para. Frequency range, not worse than 1-5 MHz (+/- 1)
7.2	Linear transducer for vascular, interventional, musculoskeletal and superficial studies- Available	Linear transducer for vascular studies – **Available**
	Sub-para. Frequency range, not worse than 4-12 MHz (+/- 1)	Sub-para. Frequency range, not worse than 3-12 MHz (+/- 1)
	Sub-para. Scanning aperture, not less than 34 mm	The requirement was deleted
7.3	Single crystal convex transducer for general abdominal, obstetric, gynecological examinations - Available	Single crystal convex transducer for studies of abdominal (abdominal aorta) and renal vessels -- **Available**
	Sub-para. Frequency range, not worse than 2-5 MHz (+/- 1)	Sub-para. Frequency range, not worse than 1-5 MHz (+/- 1)
	Sub-para. Scanning angle, not less	Scanning angle, not less than110 (+/-5)

	than 110 degrees	degrees
7.4	Support of elastography function	The requirement was deleted
8.6	Foot switch - Possibility	The requirement was deleted
8.7	Accumulator battery - Possibility	The requirement was deleted
8.10	Weight no more than 90 kg.	The requirement was deleted

5. Portable ultrasound device for cardiological examinations

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
1.1	Vessels studies- Available	Cardiological studies- **Available**
1.2	Abdominal studies - Possibility	Vessels studies of abdominal cavity and renal vessels - **Available**
1.3	Obstetrics and gynecology studies - Possibility	Transcranial studies - **Available**
1.4	Studies in pediatrics - Possibility	Vessels studies - **Available**
1.5	Transcranial studies- Available	Para 1.3
1.6	Superficial organs studies;	The requirement was deleted
1.7	Adults and children cardiological studies;	Para 1.1
1.8	Transesophageal cardiological studies;	Para 1.5
1.9	Contrast studies	Para 1.6
1.10	Musculoskeletal system studies - Available	The requirement was deleted
5.4	Linear transducer for surface organs and structures, vessels, musculoskeletal system, regional anesthesia: • Frequency range, MHz, not less than 3-12	Linear transducer for vessels studies, regional anesthesia: • Frequency range, MHz, not less than 3-12 (+/- 1 MHz)
5.5	Sector single crystal phase transducer for cardiological, transcranial, abdominal studies: • Frequency range, MHz, not less than 1-5 Scan angle, degrees, not less than - 90	Sector single crystal phase transducer for cardiological, transcranial studies, abdominal vessels studies: • Frequency range, MHz, not less than 1-5 (+/- 1 MHz) Scan angle, degrees, not less than - 90
5.6	Transesophageal single crystal sector phased transducer for cardiological studies of adults: • Frequency range, MHz, not worse than 2-7 • Scan angle, degrees, not less than 90 • Electronic rotation of the scan plane, degrees, not less than 180	Transesophageal single crystal sector phased transducer for cardiological studies of adults: • Frequency range, MHz, not worse than 2-7 (+/- 1 MHz) • Scan angle, degrees, not less than 90 • Electronic rotation of the scan plane, degrees, not less than 180

Lot No.1 Cardiac intensive care equipment

The following amendments were made to technical requirements of sub para. 3.7 Detailed Requirements (technical specifications), para. 3 Technical Specifications, Section VII. Schedule of Requirements of Bidding Documents

1. Anesthesia and ventilation station

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
3.7	The built-in gas analyzer of the machine should provide monitoring of the oxygen concentration with paramagnetic nondisposable detector	The built-in gas analyzer should provide monitoring of the oxygen concentration
3.9	The machine must have an emergency oxygen supply with flow control. When controlling the oxygen flow in the range of 0-12 l/min., the use of an emergency supply with regulation should not lead to a change in the anesthetic concentration in the respiratory circuit, or to an interruption of the anesthetic supply	The machine must have an emergency oxygen supply with flow control. The range of the oxygen flow control within 0-10 l/min
4.7	Ventilation modes: spontaneous breathing (spont); manual ventilation (man) controlled ventilation and synchronized ventilation with volume control; controlled ventilation and synchronized ventilation with pressure control, assisted Artificial ventilation with the support by pressure	Ventilation modes: manual ventilation (man), controlled ventilation and synchronized ventilation with volume control, controlled ventilation and synchronized ventilation with pressure control, assisted ventilation with pressure support
4.10	Inspiration pause (VCV, SIMV) within 0-50%	Inspiration pause (VCV, SIMV) within 0, 5-60%
4.11	PEEP (all modes) within 0-20	PEEP range (all modes) 3-20
4.19	Automatic control of inspiratory flow available	The requirement was deleted
4.20	When switching ventilation modes, the parameters and alarm limits must be saved, and the previous settings must be determined based on the measured ventilation parameters	Para 4.19 When switching ventilation modes, the parameters and alarm limits must be saved
5.1	Comparison, processing and display of all ventilation and gas parameters on a color flat screen. Adjusting the brightness of the screen and coding of ventilator's basic settings	Display of all ventilation and gas parameters on a color flat screen
5.4	The return flow of the gas taken for the sample must be removed from the patient circuit	The requirement was deleted
6.1	Hierarchical alarm system, setting alarm limits according to the user's needs. The user must be able to automatically set alarm limits in accordance with the current monitoring parameters	Hierarchical alarm system. Setting alarm limits according to the user's needs
6.2	Priority of audible and visual alarm levels (alarm, warning, advice). Acoustic and visual alarm system for all parameters of monitoring: respiratory, gas, technological	Priority of audible and visual alarm levels (alarm, warning). Acoustic and visual alarm system for all parameters of monitoring, respiratory, gas, technological

2. Monitor defibrillator

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
9	At setting dose of 200 J in the range of the interelectrode resistance of 25-200 Ohm, the duration of the phases should remain constant, and the average current strength should not	At setting dose of 200 J in the range of the interelectrode resistance of 20-200 Ohm the discharge must meet the

	exceed 30A	requirements of the IEC 60601-2-4:2010
11	The availability of a CPR quality indicator, which is shown on the display during the compression	Availability of a CPR indication
12	The availability of the ECG filter from mechanical compressions during CPR	Requirement deleted
13	The availability of voice and visual tips regarding the quality of compression carried out during the CPR	Para 12 The presence of metronome support and tips during the conducting of CPR
14	The availability of the built-in metronome, which sets the frequency of compression by means of an audio signal when the frequency decreases below 80 comp./min	Para. 13 The availability of the metronome support
17	The pacemaker pulse form to be rectilinear with a constant current and a duration of 40 ms	Para. 16 The pacemaker pulse form to be rectilinear with a constant current and a duration of within 20-40 ms
18	The frequency of cardiac pacing in the range within 30 to 180 per 1/min	Para. 17 The frequency of cardiac pacing in the range within 40-170 1/min.
21	Possibility to impose rhythm with the help of pacemaker without connecting a separate ECG cable	Requirement deleted
22	The possibility of using resuscitation electrodes with built-in 3 leads ECG and a quality control CPR sensor for carrying out defibrillation, cardiac pacing, monitoring and CPR	Requirement deleted
29	Range of heart rate measurement is within 0 - 300 bpm	Para 26 Range of heart rate measurement is within15-300 bpm
31	Presence of a two-level indicator of readiness for resuscitation	Para 28 Presence of the indicator of readiness for resuscitation
32	Test functions while performing test for readiness for resuscitation: - defibrillation; - cardiac pacing; - ECG registration; - cables performance capability; - connection and electrodes suitability (validity period, gel condition); - electrodes performance capability	Requirement deleted
33	Availability of the embedded thermal printer with a paper width of at least 90 mm.	Para. 29 Availability of the embedded printer with a paper width of at least 50mm
36	Availability of accumulator status indicators: • remaining accumulator life • residual capacity of the accumulator in % • indicator of the need for accumulator calibration • unsuitability of the indicator	Para. 32 Availability of accumulator status indicators
3. Syringe pump		
No.	Detailed requirements	Detailed requirements

	(old wording)	(new wording)
3	Automatic syringe identification from different manufacturers	Automatic identification of the syringe capacity of different manufacturers
4	The possibility of using 10,20,50 ml. syringes of different manufacturers	The possibility to use syringes with not less than 10,20,50 ml. of different manufacturers
6	The presence of at least four occlusion levels, within 20 to 90 kPa	The presence of at least 10 occlusion levels within 29- 120 mm. kPa
8	Device operating time from accumulator is not less than 8 hours».	Device operating time from accumulator is not less than 6 hours
9	Possibility to adjust the sound signals of standby mode and infusion	Possibility to adjust the volume level of sound signals
10	Programming of the flow rate from 0,1 to 150.0 ml/h	Programming of the flow rate not worse than from 0,1 to 60 ml/h.
11	Weight range, within 2-300 kg	Weight of the device is not more than 3 kg

4. Oxygen concentrator

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
4	Used sorbent - synthetic zeolite, mark MS-4	Used sorbent - synthetic zeolite
6	Sorbent service life – unlimited.	Requirement deleted
7	Device production capacity – not less than 8L/min of oxygen	Para. 6 The production capacity of oxygen is not less than 8 l/min oxygen at a pressure of not less than 3 Bar
9	Device must provide oxygen concentration in the range of: - with the oxygen flow of 5 l/min. - not less than 93%; - with the oxygen flow of 5 - 8 l/min. - not less than 90%	Para. 8 Device must provide oxygen concentration at the level of not less than 90% in the range of up to 8 l/min
10	The device must have a system for control of the oxygen concentration at the outlet	Requirement deleted
11	The device must have a warning sound and light alarm in the following cases: - Decrease of oxygen concentration more than 85% - Power outage	Para. 9 The presence of an indication of the oxygen concentration
12	On the run the device must ensure the composition of the mixture at the outlet with parameters not worse than: - oxygen 90-95%; - nitrogen not more than 3.1%; - carbonic oxide - not allowed; - the temperature of the dew point is -73°C	Requirement deleted
14	Power consumption is not more than 0,73 kW	Para 11 Power consumption is not more than 1,5 kW
15	The noise level is not more than 58 dB	Para 12 The noise level is not more than 65 dB.

16	Dimensions not more than 570x620x920 mm; weight not more than 80 kg	Para. 13 Dimensions not more than 800*700* 1000mm, weight not more than 80 kg
6. Cardiac monitor (type 2) with invasive pressure		
No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
3.5	The operating time from the fully charged battery is not less than 180 min	The operating time from the fully charged battery is not less than 120 min
3.7	The resolution for displaying the ECG curve can be modified by the user	The possibility to choose the number of ECG curves displayed
3.10	Main line recovery time after defibrillation, not more than 5 s	Main line recovery time after defibrillation, not more than 10 s
3.20	Typical measurement time of the NIBP is not more than 45 seconds. Maximum measuring time is not more than 125 seconds - for adults/children and not more than 95 seconds - for newborns.	Maximum measuring time for adults/children is not more than 180 seconds, for newborns not more than 95 seconds
4.1	The device must have a system of hierarchical alarming on the parameters of pressure, volume, oxygen concentration, absence of power supply. The alarm setting menu must have upper, lower limits, and the current value of the parameter	The device must have a system of hierarchical alarming on the parameters of pressure, oxygen concentration, absence of power supply. The alarm setting menu must have upper, lower limits, and the current value of the parameter
7. Artificial lung ventilation device		
No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
3.5	The device should be able to provide a stable concentration of oxygen during the supply of oxygen from a low-pressure source (oxygen concentrator, oxygen dosimeter) with a flow of up to 10 liters per minute	The device should be able to provide a stable concentration of oxygen during the supply of oxygen from oxygen concentrator with a flow of up to 10 liters per minute
3.6	The device should be tested automatically after switching on the power supply of the device without the involvement of medical personnel, the testing time does not exceed 35-40 seconds. Performing both the previous and current calibration of all sensors of the device should be without circuit disconnection, power interruption and ventilation	Requirement deleted
4.2	Controlled and synchronized ventilation with pressure control, non-invasive ventilation in pressure control mode. SIPPV, S-CMV) with the possibility to restrict the pressure when breathing in (PLV – volume ventilation with pressure limitation), with the possibility to control the speed of the inspiratory flow	Controlled and synchronized ventilation with control according to pressure, non-invasive ventilation in mode with control according to pressure. Volume ventilation with control according to pressure
4.3	Pressure support ventilation (ASB, PSV) - auxiliary ventilation, with inspiration time,	Pressure support ventilation (ASB, PSV), auxiliary ventilation,

	respiratory volume that is being managed depending on the patient's inspiration request, automatic setting of the exhalation completion time, which is adapted to the outflow volume. The possibility of non-invasive mechanical ventilation in the mode with the pressure support should be provided	with inspiration time, respiratory volume that is being controlled depending on the patient's inspiration request. The possibility of non-invasive ventilation in the mode with the pressure support should be provided.
4.5	Apnea ventilation - automatic switch to controlled ventilation (with parameters that are set by the user) in the event of suspension of breathing in synchronized and auxiliary modes. When recovering spontaneous breathing, the device should automatically switch to the previously established ventilation mode	Apnea ventilation - automatic switch to controlled ventilation (with parameters that are set by the user) in the event of suspension of breathing in synchronized and auxiliary modes
7.1	The device must have a system of hierarchical alarming on the parameters of pressure, volume, oxygen concentration, absence of power supply. The alarm setting menu must have upper, lower limits, and the current value of the parameter	The device must have a system of hierarchical alarming on the parameters of pressure, volume, oxygen concentration, absence of power supply. The alarm setting menu must have upper, lower limits

Lot No.9

The following amendments were made to technical requirements of sub para. 3.7 Detailed Requirements (technical specifications), para. 3 Technical Specifications, Section VII. Schedule of Requirements of Bidding Documents:

A medical gas supply system.

No.	Detailed requirements **(old wording)**	Detailed requirements **(new wording)**
2.6	Power of each compressor with a dehumidifier not more than 7,5 kW	Power of each compressor with a dehumidifier not more than 22 kW
3.5	Nominal performance of each pump is not more than 3 kW	Requirement deleted
3.10	Availability of the built-in receiver with the capacity of not less than 500L.	Requirement deleted

Please confirm the receipt of this document **"Amendments No.1"** to e-mail volyn.wbproject@gmail.com.

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