

Appendix 1 to the Terms of Reference – “Description of the Object of Contract”

DESCRIPTION OF THE OBJECT OF CONTRACT

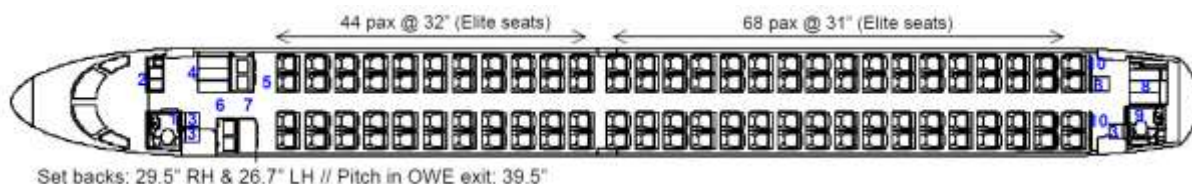
I. GENERAL INFORMATION

1. The object of the planned contract is the delivery of 6 intensive care units and 16 non-intensive care beds, along with additional equipment for conducting air medical evacuation, carried out as part of the grant project titled: ***“Development and maintenance of rescuEU transport and Logistics capacities in Poland,”*** project number: 101105145.
2. As part of the planned contract, the Contractor is required to perform two Tasks:
 - a. **Task 1** – preparation of complete documentation necessary to obtain certification for modifications to ERJ190-200 aircraft regarding the installation of multifunctional intensive care stretchers and non-intensive care stretcher units.
 - b. **Task 2** – delivery (with transfer of ownership to the Contracting Authority) of 6 intensive care units and 16 non-intensive care stretchers, along with additional equipment. The intensive care units and non-intensive care stretchers will constitute the equipment of the aircraft used for aeromedical evacuation.

II. TASK 1 – DESCRIPTION

General requirements for the submission of modification documentation:

- An EASA-approved STC or an STC issued by the FAA/ANAC with EASA validation, along with a certificate of approval for use on ERJ190-200 aircraft with serial numbers 19000415, 19000444, 19000462, 19000516
- The SB (Service Bulletin) for installation, along with additional documents:
 - Set of installation drawings
 - W&B (Weight & Balance) calculation
 - Supplement to the ELA (Electrical Load Analysis) regarding additional medical equipment
 - LOPA (Location of Passenger Accommodations) for each configuration
 - EEL (Emergency Equipment Layout) adapted to the new configuration and layout of emergency equipment
 - Supplements to the manufacturer’s documentation: AMM, AIPC, WM, MMEL, AFM, AOM
 - ICA (Instructions for Continued Airworthiness)
- The SB for removal and restoration to the aircraft’s original configuration
- Aircraft designated for modification (MSN 19000415, 19000444, 19000462, 19000516) have a single-class configuration with 112 seats



Each ordered set should have the following technical characteristics:

- Capability to install, within the Embraer ERJ190-200 aircraft under certified configurations in accordance with the Supplemental Type Certificate (STC), intensive care units, non-intensive care beds, and seating in the following configurations:
 - 16 non-intensive care reclining beds and seating (no fewer than 4)
 - 1 intensive care unit, 12 non-intensive care beds, and seating (no fewer than 6)
 - 2 intensive care units, 10 non-intensive care beds, and seated chairs (no fewer than 6)
 - 4 intensive care units, 4 non-intensive care beds, and chairs (no fewer than 8)
 - 6 intensive monitoring units and seating chairs (no fewer than 9)

The Contracting Authority does not anticipate the simultaneous installation of all intensive care units and non-intensive care beds. The number of installed units will depend on the needs arising from the planned evacuation mission and the aircraft cabin's configuration capabilities.

- No fewer than 2 seats for medical crew adjacent to each intensive care unit, positioned in a manner allowing for observation of the patient and medical equipment without the need to unfasten seatbelts.
- A device (e.g., a stretcher-type device) for moving stretchers with a patient from the unit to at least the aircraft door for the purpose of loading and unloading the patient.
- The Contracting Authority reserves the right to no fewer than two (2) design consultations until the certification process for the units begins.
- The final design must be approved by a representative of the Contracting Authority.

III. TASK 2 – DESCRIPTION:

1. Detailed description of the intensive care unit

The set of six (6) units includes the following components:

Item	Equipment	Number of devices to be purchased
1	Multifunctional intensive care stretchers.	6

2	Stretcher base with storage space.	6
3	Removable bridge that attaches to the stretchers for securing medical equipment.	6
4	Cardiac monitor/defibrillator.	6
5	Syringe infusion pump.	13
6	Transport ventilator.	7
7	5 L oxygen cylinder (not subject to these proceedings).	12
8	Oxygen concentrator.	3
9	Portable electric suction unit.	7
10	Passive oxygen therapy dispenser (subject to the condition in section 1.12 being met).	7
11	Device for loading and unloading patients on stretchers.	1

Technical and clinical parameters of the equipment set:

Number of devices to be purchased: 6 (six)

Intensive care unit (PTU – <i>patient transport unit</i>)		
Item	Description of the object of contract	Meets Yes/No
1.1	Stretchers with a durable, lightweight frame made of aluminum and/or carbon composite and/or titanium alloy, designed for the transport of a single patient under intensive supervision.	
1.1.1	Stretchers equipped with a mattress featuring an easily washable cover (easy to clean and disinfect, resistant to bodily fluids). The mattress must meet the requirements specified in EASA CS-25 Subpart D (CS 25.853) Part I Appendix F.	
1.1.2	Back support with a lifting and locking function within a range of angles from the flat position to 60° (+/-5°), with at least one intermediate position, during takeoff, flight, and landing.	
1.1.3	Patient harness system with length adjustment on both sides of the buckles, including at least 1 (4- or 5-point) harness and at least 2 two-point harnesses. The harnesses must have tags with airworthiness data, protected against removal or loss of the information contained therein.	
1.1.4	Stretchers that can be attached to and detached from the mounting unit ergonomically, without the use of additional tools.	
1.1.5	Attachable bridge for mounting at least 1 cardiac monitor/defibrillator, 1 ventilator, and 2 infusion pumps, certified at least for loading, unloading, and continued transport by ground ambulance.	
1.2	Mounting for the ventilator described in section 5, which is part of this procedure.	

1.3	Mounting for the defibrillator/cardiac monitor described in section 3, which is part of this procedure.	
1.4	Mounting for no fewer than 2 syringe infusion pumps described in section 4, which are part of this procedure.	
1.5	Mounting for the electric suction unit described in section 6, which is part of this procedure.	
1.6	Independent lighting of the stretcher's work area with an intensity of no less than 300 lx, and spot lighting illuminating an area with a diameter of no less than 20 cm with an intensity of no less than 400 lx – SCORED PARAMETER.	
1.7	Electrical system with 230 VAC CEE7/7 sockets (or universal sockets compliant with the 7/7 standard or Europlug type), no fewer than 2 sockets; sockets must be labeled with the voltage and maximum current rating and equipped with an LED indicating power availability.	
1.8	Electrical outlet with USB Type-C ports, providing power at a voltage of 5 to 20 volts and a power output of at least 60 watts; at least 2 sockets; the sockets must be labeled with the voltage and maximum current rating.	
1.9	Electrical system with small 12 VDC cigarette lighter sockets, no fewer than 3 sockets; sockets must be labeled with the voltage and maximum current.	
1.10	<p>Oxygen system with mounts for 2 cylinders with a water capacity of 5 L and an integrated regulator, meeting the following requirements: intended for the storage and transport of compressed medical oxygen gas, for use:</p> <ul style="list-style-type: none"> in passive oxygen therapy – oxygen cannula, mask in active oxygen therapy – respirator, self-inflating bag <p>made of materials:</p> <ul style="list-style-type: none"> approved in Poland for the storage of medical oxygen (bearing a nameplate with a valid certification date issued by the Office of Technical Inspection (UDT) or by an authorized distributor) resistant to damage (impact) during installation or replacement in confined spaces on an aircraft <p>valve features:</p> <ul style="list-style-type: none"> a pressure regulator valve permanently and securely mounted on the cylinder, i.e., integrated with the cylinder <p>equipped with:</p> <ul style="list-style-type: none"> - a pressure gauge indicating the pressure in the cylinder and marked pressure limit zones - an adjustable flow meter with a conical connector for connecting oxygen hoses or a mask 	



	<p>operating range from 0 to a minimum of 15 l/min.</p> <p>- AGA-standard quick-connect coupling designed for ventilator drive</p> <p>maximum external dimensions of the cylinder:</p> <p>cylinder height without valve – 490 mm</p> <p>cylinder height with valve – 605 mm</p> <p>cylinder height with carrying handle – 620 mm</p> <p>cylinder diameter 145 mm</p> <p>inlet pressure to the valve = cylinder pressure</p> <p>outlet pressure – 4.5 bar</p> <p>required operating pressure not less than 200 bar</p> <p>The cylinder, together with the valve, must be equipped with a permanently mounted carrying handle</p> <p>cylinder water capacity: 5.0 L</p> <p>maximum weight of an empty cylinder with valve and carrying handle: 6.3 kg</p> <p>The Contracting Authority permits the delivery of intensive care units together with cylinders meeting the above requirements.</p> <p>In the case of delivery of units without cylinders, the Contracting Authority shall provide cylinders meeting the above requirements for design purposes.</p>	
1.11	<p>No fewer than 2 AGA-type oxygen outlets located in the vicinity of the ventilator mounting; the location of the outlets must not interfere with the mounted ventilator or the oxygen dispenser. The Contracting Authority permits the non-installation of AGA outlets, provided that the method and location of oxygen cylinders in the PTU allow for the direct connection of the ventilator to the AGA outlet of the cylinder using the supplied oxygen hoses, in a manner that does not hinder medical procedures and does not interfere with other devices installed in the PTU.</p>	
1.12	<p>Passive oxygen therapy dispenser, plugged directly into the AGA outlet with an oxygen flow rate range of no less than 0 to 15 L/min. The Contracting Authority permits the omission of the regulator provided that the method and location of the oxygen cylinders allow for the connection of passive oxygen therapy for the patient directly from the cylinder flowmeter in a manner that does not hinder medical procedures and does not interfere with other devices installed in the PTU.</p>	
1.13	<p>Mounting for the oxygen concentrator described in section 7. The Contracting Authority permits the oxygen concentrator to be mounted interchangeably with a 5L oxygen cylinder.</p>	
1.14	<p>Storage space in the form of drawers and/or shelves secured against items falling out, including at least one heated drawer capable of</p>	

	warming and maintaining the temperature of infusion fluids between 37 and 41 degrees Celsius, integrated with the intensive care unit.	
1.15	Rack for no fewer than two (2) IV drips.	
1.16	The unit must be capable of being mounted on board an Embraer 190 aircraft in “quick-change” mode and must be included in the Supplemental Type Certificate (STC).	
1.17	Mounts for medical devices, including a defibrillator/cardiac monitor, ventilator, infusion pumps, and an electric suction unit. The mounting must comply with EASA Part 21 requirements. Mounts for the cardiac monitor/defibrillator, ventilator, and infusion pumps must be capable of being attached to the patient unit and to the attachable stretcher bridge.	
1.18	AGA-DIN and DIN-AGA oxygen system adapters, 1 piece per unit (6 AGA-DIN and 6 DIN-AGA).	
Service		
1.19	Manufacturer-authorized warranty service.	
1.20	Warranty inspections in accordance with the manufacturer’s requirements and recommendations, the user manual, and the service manual.	
1.20.1	Free inspections.	
1.20.2	Inspections that include travel to or shipping of the device to the service center, labor, and replacement parts and consumables.	
1.21	Warranty period: no shorter than until August 31, 2026.	
1.22	Post-warranty service (inspections and troubleshooting).	
Documents (to be provided to the Contracting Authority)		
1.23	PTU user manual in Polish.	
1.24	Certification in accordance with the Supplemental Type Certificate (STC).	
Training		
1.25	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

2. Detailed description of the non-intensive care bed

The set of 16 units includes the following components:

Item	Equipment	Quantity
1	Multifunctional stretchers.	16
2	Single/double stretcher base.	16/8
3	Cardiac monitor/defibrillator.	11

4	Cabinet for storing medical equipment, including a suction unit and disposable supplies (syringes, needles, gauze, gloves, etc.).	4
5	Transport suction unit.	4
6	Oxygen cylinder with a water capacity of 5 L (not subject to these proceedings).	16

Technical and clinical parameters of the kit:

Number of devices to be purchased: 16 (sixteen)

Non-intensive care bed		
Item	Description of the object of contract	Meets Requirements Yes/No
2.1	Stretchers with a durable, lightweight frame made of aluminum and/or carbon composite and/or titanium alloy, designed for transporting a single patient.	
2.1.1	Stretchers equipped with a mattress featuring an easily washable cover (easy to clean and disinfect, resistant to bodily fluids). The mattress must meet the requirements specified in EASA CS-25 Subpart D (CS 25.853) Part I Appendix F.	
2.1.2	Back support with a lifting and locking function within a range of angles from flat to 60° (+/-5°), with at least one intermediate position.	
2.1.3	Patient restraint system with length adjustment on both sides of the buckles, including at least 1 (4- or 5-point) harness and at least 2 two-point belts. The belts must have tags with airworthiness data, protected against removal or loss of the information contained therein.	
2.1.4	Stretchers that can be attached to and detached from the mounting unit ergonomically, without the use of additional tools.	
2.1.5	Stretchers installed in the aircraft in sets of two, placed one above the other, i.e., two stretcher units (stretcher sets) are mounted on a single frame. SCORED PARAMETER	
2.2	Mounting for the defibrillator/cardiac monitor described in section 3 , which is part of this procedure.	
2.3	Hanger for no fewer than two (2) IV drips.	
2.4	Bracket for mounting a 5 L oxygen cylinder	
2.5	The unit must be capable of being mounted on board an Embraer 190 aircraft in “quick-change” mode and must be included in the Supplemental Type Certificate (STC).	
Service		
2.6	Manufacturer-authorized warranty service.	



2.7	Warranty inspections in accordance with the manufacturer's requirements and recommendations, the user manual, and the service manual.	
2.7.1	Free inspections.	
2.7.2	Inspections covering travel to or shipping of the device to the service center, labor, and spare parts and consumables.	
2.8	Warranty period: no shorter than until August 31, 2026.	
2.9	Post-warranty service (inspections and fault repair).	
Documents (to be provided to the Contracting Authority)		
2.10	PTU user manual in Polish.	
2.11	Certification in accordance with the Supplemental Type Certificate (STC).	
Training		
2.12	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

3. Detailed description of the cardiac monitor/defibrillator:

The cardiac monitor/defibrillator must be capable of being mounted on an intensive care unit (PTU) or on a non-intensive care bed.

Number of devices to be purchased: 17 (seventeen)

Cardiac monitor/defibrillator		
Item	Description of the object of contract	Meets Requirements Yes/No
3.1	Device capable of: monitoring vital signs, defibrillation, cardioversion, and external cardiac pacing of the patient.	
3.1.1	Intended for use with all age groups (adults, children, newborns).	
3.2	Medical devices must be brand new, manufactured no earlier than the fourth quarter of 2024 or the first quarter of 2025.	
3.3	The Contracting Authority does not accept refurbished, ex-display, demonstration-only, or used devices.	
3.4	Portable devices designed for transport with the patient:	
3.4.1	Built-in carrying handle.	
3.4.2	Includes straps for attaching the patient to stretchers.	
3.5	Degree of protection against external factors: minimum IP 55.	
3.6	Device communication with the user in Polish.	
3.7	Device functionality test:	
3.7.1	Automatic daily.	
3.7.2	Manual.	



3.7.3	Report printout.	
3.8	Operating conditions:	
3.8.1	Temperature: minimum range from -10 °C to +50 °C.	
3.8.2	Relative humidity, non-condensing: minimum range from 15% to 95%.	
3.8.3	Altitude above sea level: minimum range from sea level to 2,500 m (non-pressurized rooms).	
3.9	Weight of the device with a battery or a set of batteries (all battery slots filled), built-in carrying handle, printer with paper (1 roll) – maximum 7.5 kg.	
3.10	Defibrillation/cardioversion.	
3.10.1	Defibrillation modes:	
3.10.1.1	Manual: synchronized and asynchronous.	
3.10.1.2	Semi-automatic with advisory mode (voice prompts) in Polish.	
3.10.2	Biphasic defibrillation waveform.	
3.10.3	Defibrillation energy delivered: minimum range from 2 to 200 J.	
3.10.4	Defibrillation energy: minimum of 10 levels.	
3.10.5	Transcutaneous pacing:	
3.10.5.1	Pediatric and adult pacing in asynchronous and on-demand modes.	
3.10.5.2	Adjustable stimulation frequency: range from 40 to 170 pulses/min.	
3.10.5.3	Adjustable current intensity: range from a minimum of 10 to 140 mA.	
3.11	ECG monitoring.	
3.11.1	ECG monitoring: basic or 12-lead.	
3.11.2	Analysis and interpretation of the recording.	
3.11.3	Adjustable ECG recording gain.	
3.11.4	Detection and display of pacemaker pulses.	
3.11.5	Heart rate: minimum range from 30 to 240 beats/min.	
3.12	Oxygen saturation (SpO2) monitoring.	
3.12.1	Measurement using Masimo technology, resistant to interference.	
3.13.2	Measurement: range from 50% to 99%.	
3.13	Monitoring of carboxyhemoglobin (SpCO) and methemoglobin (SpMet).	
3.14	Capnography monitoring (etCO2).	
3.14.1	In the sidestream:	
3.14.2	etCO2 measurement in the range of 1 to 95 mmHg.	
3.15	Respiratory rate: minimum range from 2 to 100.	
3.16	Monitoring of non-invasive blood pressure (NIBP).	



3.16.1	Measurement mode:	
3.16.1.1	Manual.	
3.16.1.2	Automatic.	
3.16.2	Time interval: minimum of 5 intervals.	
3.16.3	Oscillometric measurement.	
3.16.4	Systolic pressure: range of at least 40 to 230 mmHg.	
3.16.5	Diastolic pressure: minimum range from 20 to 130 mmHg.	
3.16.6	Mean pressure: minimum range from 30 to 180 mmHg.	
3.17	Invasive blood pressure (IBP) monitoring.	
3.17.1	Measurement: minimum range from -30 to 300 mmHg.	
3.17.2	Manual zeroing.	
3.18	Temperature monitoring.	
3.18.1	Direct measurement method, minimum:	
3.18.1.1	Skins.	
3.18.1.2	Esophagus.	
3.18.1.3	Rectum.	
3.18.2	Measurement: range from 24 to 45°C.	
3.19	Display.	
3.19.1	Touchscreen.	
3.19.2	Color LCD.	
3.19.3	Resolution: minimum 640 x 480 pixels.	
3.19.4	Diagonal: minimum 6.5 inches.	
3.20	Display of dynamic curves on screen: a minimum of 1 to 3 curves.	
3.20.1	Data presentation.	
3.21	Printer as a standalone device:	
3.21.1	Own power source (battery).	
3.21.2	External power supply:	
3.21.2.1	Power supply in the range of 12–24 V.	
3.21.2.2	Power supply in the range of 110–240 V.	
3.21.3	Paper width: not less than 80 mm, not more than 110 mm.	
3.21.4	Number of channels printed simultaneously: at least 3 channels.	
3.21.5	The Contracting Authority accepts a printer built into the device.	
Power supply		
3.22	Own power source (battery/batteries).	
3.22.1	Lithium-ion battery or equivalent, without memory effect.	
3.22.2	Battery charge level accessible from the device.	
3.22.3	Operating time on battery power:	
3.22.3.1	Minimum of 240 minutes of ECG monitoring.	
3.22.3.2	Minimum of 100 shocks with 200 J of energy.	
3.23	External power supply:	

3.23.1	Power supply in the range of 12–24 V.	
3.23.1.1	Power supply integrated into the cardiac monitor stand. SCORED PARAMETER	
3.23.2	Power supply in the range of 110–240 V.	
Reusable (consumable) accessories		
3.24	Battery – 3 pcs.	
3.25	etCO ₂ analyzer – 3 pcs. (if sold as a separate accessory)	
3.26	Basic ECG cable (main cable with limb leads) – 3 pcs.	
3.27	Additional ECG lead connected to the basic lead (precordial leads) – 3 pcs.	
3.28	Masimo finger clip-type SpO ₂ sensor for adults – 3 pcs.	
3.29	Masimo finger clip SpO ₂ sensor for children – 3 pcs.	
3.30	Extension cable for Masimo reusable and disposable sensors – 3 pcs.	
3.31	Set of NIBP cuffs for adults and children – 3 sets (full set available).	
3.32	NIBP tubing – 3 pcs.	
3.33	Edwards-type IBP tubing for Truwave transducer – 3 pcs.	
3.34	Surface/skin temperature sensor for adults (no extension cable required) – 3 pcs.	
3.35	Core temperature sensor for adults (no extension cable required) – 3 pcs.	
3.36	Extension cable for disposable temperature sensor – 3 pcs.	
3.37	12 V power cable with universal cigarette lighter plug – 3 pcs.	
3.38	AC power adapter with 230 V power cord – 1 pc.	
3.39	Carrying case for the device and accessories – 1 pc.	
3.40	Battery charging and maintenance device (minimum 2 compartments) – 1 pc.	
3.41	Universal wall mount with charging function from section 3.23.1.1 – 1 pc. (if applicable)	
3.42	Other components necessary for the operation of the device not listed above.	
3.43	Printer accessories in accordance with section 3.21 (if applicable):	
3.43.1	Battery – 1 pc.	
3.43.2	12 V power cord with universal cigarette lighter plug – 1 pc.	
3.43.3	AC adapter with 230 V power cord – 1 pc.	
3.43.4	Shoulder bag – 1 pc.	
Disposable accessories		
3.44	Defibrillation electrodes for adults – 20 pcs.	
3.45	Defibrillation electrodes for children – 10 pcs.	
3.46	ECG electrodes for adults – minimum 50 pcs.	

3.47	ECG electrodes for children – minimum 50 pcs.	
3.48	etCO ₂ sensor for intubated adults/children – 25 pcs.	
3.49	etCO ₂ sensor for non-intubated adults/children – 25 pcs.	
3.50	Masimo SpO ₂ /SpCO/SpMet sensor for adults, self-adhesive – 10 pcs.	
3.51	Masimo SpO ₂ /SpCO/SpMet sensor for children, self-adhesive – 10 pcs.	
3.52	IBP pressure transducer (Truwave transducer for Edwards-type tubing) – 5 pcs.	
3.53	Surface/skin temperature sensor for adults/children – 10 pcs.	
3.54	Esophageal/rectal core temperature sensor for adults/children – 10 pcs.	
3.55	Printer accessories:	
3.55.1	Printer paper – 10 rolls	
Service		
3.58	Manufacturer-authorized warranty service in Poland	
3.59	Warranty inspections in accordance with the manufacturer's requirements and recommendations, user manual, and service manual	
3.59.1	Free inspections	
3.59.2	Inspections including travel or shipping of the device to the service center, labor, and spare parts, consumables	
3.60	Warranty period: no shorter than until August 31, 2026	
3.61	Post-warranty service (inspections and fault repair) within Poland	
Documents (to be provided to the Contracting Authority)		
3.62	User manual for the medical device in Polish.	
3.63	Declaration of Conformity (a statement by the manufacturer or its authorized representative, declaring on its sole responsibility that the product complies with the essential requirements).	
3.64	Certificate of Conformity (issued by a notified body for the purpose of affixing the CE marking).	
3.65	Technical passport for each device separately.	
3.66	Warranty card attached to each device separately, containing in particular:	
3.66.1	Warranty terms and conditions, including procedures for reporting malfunctions.	
3.67	List of authorized service centers providing warranty services (company name, address, phone number, email address, contact person).	
Training		
3.68	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

4. Detailed description of the syringe infusion pump:

The infusion pump must be capable of being mounted on an intensive care unit (PTU) bed and on a stretcher-mounted bracket.

Number of devices to be purchased: 13 (thirteen)

Syringe infusion pump		
Item	Description of the object of contract	Meets Requirements Yes/No
4.1	Electronically controlled device used for the controlled administration of medications, either intermittent or continuous	
4.2	Intended for use in all age groups	
4.3	Portable device, designed to be transported with the patient	
4.3.1	Handle for securing and carrying (detachable and/or integrated with the pump, provided that points 4.16.7 and 4.16.8 are met)	
4.4	Degree of protection against external factors: minimum IP 22	
4.5	User interface in Polish	
4.6	Automatic test of device functionality upon startup	
4.7	Operating conditions:	
4.7.1	Temperature: range from +10 °C to +40 °C	
4.7.2	Relative humidity, non-condensing: minimum range from 30% to 90%	
4.7.3	Altitude above sea level: minimum range from sea level to 2500 m	
4.8	The device should have a minimum resistance to defibrillation	
4.9	Weight of the device with a battery or a set of batteries (all battery slots filled), and a carrying handle – maximum 2.5 kg.	
4.10	Dimensions not exceeding +/- 2%:	
4.10.1	Length with the arm fully extended: 400 mm.	
4.10.2	Height 120 mm.	
4.10.3	Width 210 mm.	
4.11	Compatible with syringes from various manufacturers with a minimum volume of 5 to 50 ml.	
4.12	Automatic syringe volume recognition.	
4.13	Dosing accuracy: +/- 2%.	
4.14	Manual and automatic bolus.	
4.15	Infusion rate/volume setting adjustable with an accuracy of 0.01 ml/h.	
4.16	Functions:	
4.16.1	Flow calculation based on the patient's concentration, volume, and/or weight.	
4.16.2	Determination of the administered volume limit.	
4.16.3	Determination of the administration time limit.	
4.16.4	Delivery of a bolus with volume measurement.	



4.16.5	Storing at least the last 100 parameter settings in memory.	
4.16.6	Built-in drug library with dosage limits (no more than 50 drugs). The Contracting Authority will provide the data after the Contractor has been selected.	
4.16.7	Grouping pumps into modules without using a docking unit.	
4.16.8	Ability to transport up to 3 connected pumps simultaneously.	
4.17	Alarms:	
4.17.1	Visual and audible, specifically:	
4.17.1.1	No network.	
4.17.1.2	Battery nearly discharged, discharged.	
4.17.1.3	Syringe nearly empty, empty.	
4.17.1.4	Infusion nearing completion, end of infusion.	
4.17.1.5	Pressure increase, sudden drop.	
4.17.1.6	Occlusion.	
4.17.1.7	Improperly attached syringe.	
4.17.2	Alarm volume: minimum 3 levels.	
4.18	Display:	
4.18.1	Large, easy-to-read display with a minimum diagonal of 4.3 inches	
4.18.2	Battery status display.	
4.19	Touchscreen for navigating the pump menu and entering therapy data	
4.20	Power supply:	
4.20.1	Internal power source (battery or rechargeable battery).	
4.20.1.1	Lithium-ion rechargeable battery.	
4.20.1.2	Operating time on internal power supply: minimum 19 hours at a flow rate of 5 ml/h.	
4.20.1.3	Battery charging time to full charge: maximum 6 hours.	
4.20.2	External power supply:	
4.20.2.1	Power supply in the range of 12–24 V.	
4.20.2.2	Power supply in the range of 110–240 V.	
Service		
4.21	Manufacturer-authorized warranty service in Poland.	
4.21.1	Warranty inspections in accordance with the manufacturer's requirements and recommendations, the user manual, and the service manual.	
4.21.2	Free of charge—including travel to or shipping of the device to the service center, labor, and replacement parts and consumables.	
4.22	Post-warranty service (inspections and troubleshooting) within Poland.	
4.23	Warranty period: no shorter than until August 31, 2026	
Documents (to be provided to the Contracting Authority)		
4.24	User manual for the medical device in Polish.	

4.25	Declaration of Conformity (a statement by the manufacturer or its authorized representative, confirming under its sole responsibility that the product complies with the essential requirements).	
4.26	Certificate of Conformity (issued by a notified body for the purpose of affixing the CE mark).	
4.27	Technical passport.	
4.28	Warranty card attached to each device separately, containing in particular:	
4.29.1	Warranty terms and conditions, including procedures for reporting malfunctions.	
4.29.2	Warranty covering the device and accessories.	
4.30	List of authorized service centers providing warranty services (company name, address, phone number, email address, contact person).	
Training		
4.31	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

5. Detailed description of the transport ventilator.

The ventilator must be capable of being mounted on an intensive care unit (PTU) stand and on a bridge attached to stretchers.

Number of devices to be purchased: 7 (seven)

Transport ventilator		
Item	Description of the object of contract	Meets Requirements Yes/No
5.1	Ventilator for the treatment of patients with respiratory failure of various origins.	
5.1.1	Intended for use in adult patients and children weighing more than 5 kg.	
5.2	Ventilator intended for transport, including air transport.	
5.3	Portable device, suitable for transport with the patient:	
5.4	Built-in carrying handle.	
5.5	Includes straps for attaching to stretchers.	
5.6	Device communication with the user in Polish.	
5.7	Text-based guide in the event of a patient alarm.	
5.8	Device functionality test:	
5.8.1	Automatic daily test.	
5.8.2	Manual test.	

5.9	Operating conditions:	
5.9.1	Temperature: minimum range from -10 °C to +50 °C.	
5.9.2	Relative humidity, non-condensing: minimum range from 15% to 90%.	
5.9.3	Altitude above sea level: minimum range from sea level to 2,500 m (non-pressurized rooms).	
5.10	Maximum dimensions of the respirator: width 35 cm x height 35 cm x depth 30 cm.	
5.11	Weight of the device with a battery or a set of batteries (all battery slots filled), and a built-in carrying handle – maximum 7 kg.	
5.12	Operating modes, in particular:	
5.12.1	CMV controlled ventilation or equivalent.	
5.12.2	PCV ventilation or equivalent	
5.12.3	Non-invasive ventilation	
5.12.4	CPAP mode.	
5.12.5	Adaptive closed-loop ventilation mode, based on Mead's model, for patients with active and passive breathing.	
5.12.6	SIMV mode	
5.12.7	Manual ventilation.	
5.12.8	Pressure support.	
5.13	Respiratory rate: range minimum 1–80/min.	
5.14	Tidal volume: range minimum 50–2000 ml.	
5.15	PEEP/CPAP: minimum range 0–30 cmH ₂ O.	
5.16	Adjustable inspiratory-to-expiratory ratio.	
5.17	Oxygen concentration in the breathing mixture: 21–100%.	
5.18	Inhalation time: range 0.1–12.0 sec.	
5.19	Flow triggering: range minimum 0.1–20 L/min.	
5.20	Inspiratory pressure: range minimum 5–60 cmH ₂ O.	
5.21	Plateau pressure measurement (direct or in graphical form for self-reading).	
5.22	Monitoring and visualization of ventilation parameters, in particular:	
5.22.1	Pressure: minimum, peak, average, PEEP/CPAP.	
5.22.2	Total volume: inspiratory, expiratory, tidal.	
5.22.3	Minute volume: inspiratory and expiratory.	
5.22.4	Total respiratory rate.	
5.22.5	Inspiration-to-expiration ratio.	
5.23	Adjustable apnea duration.	
5.24	Protection against accidental parameter changes.	
5.25	Type of pressure drive used: compressor or turbine.	
5.26	Alarms, minimum:	

5.26.1	Minute volume (high, low).	
5.26.2	Tidal volume (low, high).	
5.26.3	Respiratory rate (low, high).	
5.26.4	Airway pressure (low, high).	
5.26.5	Apnea.	
5.26.6	Disconnection of the patient circuit.	
5.26.7	Power failure.	
5.26.8	Low battery charge level.	
5.26.9	No oxygen supply.	
5.26.10	Alarm volume: minimum 60 dB(A) at a distance of 1 meter.	
5.27	Display.	
5.27.1	Screen diagonal not less than 8.4 inches.	
5.27.2	Screen with variable contrast or variable brightness.	
Power		
5.28	Own power source (battery/batteries).	
5.28.1	Operating time on internal power supply: minimum 8 hours.	
5.29	External power supply:	
5.29.1	Power supply in the range of 12–24 V.	
5.29.2	Power supply in the range of 110–240 V.	
Equipment		
5.30	Carrying handle – 1 pc.	
5.31	12 V power cord with universal cigarette lighter plug – 1 pc.	
5.32	AC adapter with 230 V power cord – 1 pc.	
5.33	3-meter oxygen pressure hose with an AGA connector (angle connector on the ventilator) – 1 pc.	
5.34	Oxygen pressure hose with an AGA connector (angle connector on the ventilator), 1m long – 1 pc.	
5.35	Respiratory system for adults and children with a breathing valve – 10 sets	
5.36	Respiratory system for newborns with an exhalation valve – 10 sets	
5.37	Test lung – 1 pc.	
5.38	Other components necessary for the device's operation not listed above.	
Service		
5.39	Manufacturer-authorized warranty service in Poland.	
5.40	Warranty inspections in accordance with the manufacturer's requirements and recommendations, the user manual, and the service manual:	
5.40.1	Free inspections.	

5.40.2	Inspections covering travel or shipping of the device to the service center, labor, and spare parts and consumables.	
5.41	Warranty period: no shorter than until August 31, 2026.	
5.42	Post-warranty service (inspections and fault repair) within Poland.	
Documents (to be provided to the Contracting Authority)		
5.43	User manual for the medical device in Polish.	
5.44	Declaration of Conformity (a statement by the manufacturer or its authorized representative, declaring under its sole responsibility that the product complies with the essential requirements).	
5.45	Certificate of Conformity (issued by a notified body for the purpose of affixing the CE mark).	
5.46	Technical passport for each device separately.	
5.47	Warranty card for each device separately, containing in particular:	
5.47.1	Warranty terms and conditions, including procedures for reporting malfunctions.	
5.48	List of authorized service centers providing warranty services (company name, address, phone number, email address, contact person).	
Training		
5.49	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

6. Detailed description of the electric suction unit:

The electric suction unit must be capable of being mounted in an intensive care unit (PTU) and stored in a non-intensive care cabinet.

Number of devices to be purchased: 7 (seven)

Transportable electric suction unit		
Item	Description of the object of contract	Meets Requirements Yes/No
6.1	Suction device for removing blood, secretions, and food from the oral, nasopharyngeal cavity and bronchi of patients during transport.	
6.2	Intended for use in adults and children.	
6.3	Degree of protection against external factors: minimum IP 33.	
6.4	Operating conditions:	
6.4.1	Temperature: range from 0 °C to +40 °C.	
6.4.2	Relative humidity, non-condensing: range from 15% to 90%.	
6.5	The electric suction unit has:	
6.5.1	Adjustment of the generated vacuum.	

6.5.2	Vacuum range: in mmHg, minimum 50 to 500 (converted to bar, minimum: 0.07 to 0.66).	
6.5.3	Indicator of actual vacuum.	
6.5.4	Battery level indicator.	
6.6	Equipped with a disposable container.	
6.6.1	Container capacity: no less than 300 ml and no more than 500 ml.	
6.6.2	Option to switch to a disposable container with a larger capacity: no more than 1000 ml.	
6.7	Power supply:	
6.7.1	Own power source (rechargeable battery/battery).	
6.7.1.1	Operating time on internal power supply: minimum 45 minutes at free flow.	
6.7.2	External power supply:	
6.7.2.1	Power supply in the range of 12–24 V.	
6.7.2.2	Power supply in the range of 110–240 V.	
6.8	Device weight not exceeding 1.5 kg.	
Equipment:		
6.9	12 V power cord with universal cigarette lighter plug – 1 pc.	
6.10	AC adapter with 230 V power cord – 1 pc.	
6.11	Container with a capacity of 300–500 ml with a patient tube (or with a larger capacity in accordance with section 6.6.2), disposable – 10 sets.	
6.12	Carrying bag – 1 pc.	
6.13	All tubing and other components necessary for the operation of the device, not listed above.	
Service		
6.14	Manufacturer-authorized warranty service in Poland.	
6.15	Warranty inspections in accordance with the manufacturer's requirements and recommendations, the user manual, and the service manual.	
6.15.1	Free inspections.	
6.15.2	Inspections covering travel or shipping of the device to the service center, labor, and spare parts and consumables.	
6.16	Warranty period: no shorter than until August 31, 2026.	
6.17	Post-warranty service (inspections and fault repair) within Poland.	
Documents (to be provided to the contracting authority)		
6.18	User manual for the medical device in Polish.	
6.19	Declaration of Conformity (a statement by the manufacturer or its authorized representative, declaring under its sole responsibility that the product complies with the essential requirements).	
6.20	Certificate of Conformity (issued by a notified body for the purpose of affixing the CE mark).	

6.21	Technical passport for each device separately.	
6.22	Warranty card for each device separately, containing in particular:	
6.22.1	Warranty terms and conditions, including procedures for reporting malfunctions.	
6.23	List of authorized service centers providing warranty services (company name, address, phone number, email address, contact person).	
Training		
6.24	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

7. Detailed description of the oxygen concentrator:

The oxygen concentrator must be capable of being mounted on an intensive care unit (PTU) to replenish oxygen supplies in the event of insufficient oxygen in the oxygen cylinders.

Number of units to be purchased: 3 (three)

Cylindrical oxygen concentrator		
Item	Description of the object of contract	Meets Requirements Yes/No
7.1	Maximum dimensions:	
7.1.1	Length – 690 mm.	
7.1.2	Diameter – 120 mm.	
7.2	Weight of the device with battery: maximum 6 kg.	
7.3	Operating conditions:	
7.3.1	Temperature: range from 0 °C to +40 °C.	
7.3.2	Humidity, non-condensing: minimum range from 10% to 90%.	
7.4	Ambient pressure auto-compensation range in a non-hermetic chamber corresponding to operation at sea level: from (-) 381 m to 3953 m.	
7.5	Degree of protection against external factors: minimum IP 33.	
7.6	Flow settings:	
7.6.1	Continuous.	
7.6.2	Pulsed.	
Power supply:		
7.7	From its own power source (battery).	
7.7.1	Replaceable battery, no memory effect.	
7.7.2	Operating time on internal power supply: minimum 40 min at a continuous flow rate of 2 l/min.	
7.7.3	Battery charging:	
7.7.3.1	24 V DC.	

7.7.3.2	100–240 V AC, 50–60 Hz.	
7.8	Minimum audible alarms:	
7.8.1	Low oxygen concentration.	
7.8.2	Low battery charge.	
7.8.3	Malfunction.	
Equipment:		
7.9.	Battery – 2 pcs.	
7.10	Spare filters (HEPA filter and air intake filter) – 1 set	
7.11	24 V power cord with universal cigarette lighter plug – 1 pc.	
7.12	AC adapter with 230 V power cord – 1 pc.	
Service		
7.13	Warranty service authorized by the manufacturer or the manufacturer's distributor within Poland.	
7.14	Warranty inspections in accordance with the manufacturer's requirements and recommendations, the user manual, and the service manual.	
7.14.1	Free inspections.	
7.14.2	Inspections covering travel to or shipping of the device to the service center, labor, and spare parts and consumables.	
7.15	Warranty period: no shorter than until August 31, 2026.	
7.16	Post-warranty service (inspections and repair of malfunctions) throughout Poland.	
Documents (delivery to the customer)		
7.17	User manual for the medical device in Polish.	
7.18	Declaration of Conformity (a statement by the manufacturer or its authorized representative, declaring under its sole responsibility that the product complies with the essential requirements).	
7.19	Certificate of Conformity (issued by a notified body for the purpose of affixing the CE mark).	
7.20	Technical passport for each device separately.	
7.20	Warranty card for each device separately, containing in particular:	
7.20.1	Warranty terms and conditions, including procedures for reporting malfunctions.	
7.21	List of authorized service centers providing warranty services (company name, address, phone number, email address, contact person).	
Training		
7.22	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	

8. Detailed description of the device for loading and unloading a patient on stretchers.

The device for loading and unloading patients on stretchers must allow for the attachment of the stretchers described in sections 1.1 and 2.1 and the transport of the stretchers with the patient from at least the intensive care unit (PTU) or non-intensive care unit to the aircraft door for placement in an “ambulift” vehicle.

Number of devices to be purchased: 1 (one).

Patient loading and unloading device		
Item	Object of contract	Meets Requirements Yes/No
8.1	Device designed to secure the stretchers described in sections 1.1 and 2.1.	
8.2	A device allowing the transport of the stretchers with a patient from at least an intensive care unit (PTU) or a non-intensive care unit to the aircraft door without colliding with the aircraft’s existing infrastructure (passenger seats, toilets, partition walls, etc.).	
8.3	Device made of lightweight and durable corrosion-resistant material, protected against minor damage, and resistant to disinfectants	
8.4	Device with a load capacity adapted to the load capacity of the stretchers described in sections 1.1 and 1.2.	
8.5	The device must allow for secure mounting/storage on the aircraft during flight (the contracting authority permits storage in the cargo hold, provided the device can be used shortly after the aircraft has come to a stop and parked).	
8.6	Device that can be folded without tools for easier storage during flight. SCORED PARAMETER	
Service		
8.7	Manufacturer-authorized warranty service in Poland.	
8.8	Warranty inspections in accordance with the manufacturer’s requirements and recommendations, the user manual, and the service manual.	
8.8.1	Free inspections.	
8.8.2	Inspections covering travel to or shipping of the device to the service center, labor, and spare parts and consumables.	
8.9	Warranty period: no shorter than until August 31, 2026.	
8.10	Post-warranty service (inspections and fault repair) within Poland.	
Documents (to be provided to the contracting authority)		
8.11	User manual for the medical device in Polish.	



8.12	Declaration of Conformity (a statement by the manufacturer or its authorized representative, declaring under its sole responsibility that the product complies with the essential requirements).	
8.13	Certificate of Conformity (issued by a notified body for the purpose of affixing the CE mark).	
8.14	Technical passport for each device separately	
8.15	Separate warranty card for each device, containing in particular:	
8.16	Warranty terms and conditions, including procedures for reporting malfunctions.	
8.17	List of authorized service centers providing warranty services (company name, address, phone number, email address, contact person).	
Training		
8.18	Training for selected representatives of the Contracting Authority (2 to 5 people) on the use of the device on a mutually agreed date in Warsaw.	