# *ANNEX II + III:* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

**Contract title: SPECIALIZED INTERVENTION EQUIPMENT p 1 /36**

**Publication reference:** **RORS00005 – TD03-03**

**Columns 1-2 should be completed by the contracting authority**

**Columns 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the contractor's technical offer

The tenderers are requested to complete the template on the next pages:

* Column 2 is completed by the contracting authority shows the required specifications (not to be modified by the tenderer),
* Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words ‘compliant’ or ‘yes’ are not sufficient)
* Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.

**General Requirements**

* All requirements stated and outlined in this document must be regarded as mandatory and the minimum acceptable criteria. All requirements outlined in this document are accompanied by the phrase "or equivalent".
* **The tenderer must provide the specifications of the offered items in the technical offer (Column 3.- Specifications offered), including details such as the manufacturer, product type, model and accurate characteristics of offered equipment for requested values. Additionally, the tenderer must submit brochures and catalogue documentation indicating the requested parameters of the vehicles offered**, including light and sound signalization, the complete set of fire-rescue equipment, as well as the placement of the pump and reel within the superstructure, in accordance with the characteristics of the vehicle chassis. All documentation must be provided in English or Serbian, both in hardcopy and electronic formats.
* **If, in the document ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER -Column 3 (Specifications offered), the tenderer only provide generic confirmations such as "yes," "compliant," or text copied directly from Column 2, the offer may not be considered, unless accompanied by supporting documentation (e.g., a product catalog or similar). Tenderers must provide comprehensive information to demonstrate that the offered product meets all required specifications. If the details provided in the offered specifications or supporting documentation differ from the required specifications listed in Column 2, the offer will be deemed non-compliant.**
* **Documentary evidence must be provided for each item listed in the document ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER where compliance with the relevant standard is claimed.**
* The vehicle should comply with the standard: SRPS-EN 1846-2. The tenderer should have the system SRPS ISO 9001: 2015 implemented.
* If the offer is accepted, the tenderer is required to collaborate with an accredited laboratory to proceed in accordance with the EN1846-2 standard. This collaboration involves producing technical drawings that define the centers of gravity and alignments of the superstructure and substructure elements. These drawings must be approved by the Contracting Authority. The method for positioning, mounting, and supporting the water tank must adhere to the manufacturer's recommendations for the undercarriage (mid-chassis and others).
* Once the specialized vehicle is fully assembled, the supplier must provide a report on the testing and control of the vehicle according to the current SPRS EN 1846 standard. This testing and safety control should verify the completeness and functionality (functional compliance) of both the basic and installed equipment. The testing and control should be conducted by an accredited laboratory, and the report should receive a positive assessment. The selected tenderer may submit reports from a foreign accredited institution regarding the inspection of the vehicle and equipment, conducted in accordance with the valid SPRS EN 1846 standard. These reports must be accompanied by a certified court translation into Serbian. Subsequently, they will be reviewed and confirmed by an authorized laboratory in the Republic of Serbia.
* The selected contractor is required to provide all necessary documentation for the registration of the completed vehicle in accordance with the relevant legal regulations in the Republic of Serbia. This includes the Certificate from the Agency for Traffic Safety confirming the vehicle examination, as well as the technical inspection registration sheet, which is required for further vehicle registration.
* **The warranty period is 5 years**, regardless of the distance traveled. During the warranty period, any malfunction of the products covered by the warranty will be solved free of charge by the supplier within 30 days from the date of the notification of the fault to the service unit of the products, without additional costs to the contracting authority. The tenderer must provide a list of authorized service centers for vehicles in the territory of the Republic of Serbia. Furthermore, the tenderer is obligated to provide a list of authorized services for superstructure and equipment within the territory of the Republic of Serbia. If the tenderer does not have its own authorized service center, it is necessary to provide a contract(s) with an authorized service center (concluded at least 6 months before the announcement of this tender). Authorized service centers should provide 24/7 mobile support service.
* The tenderer is also required to supply manuals and other necessary documentation for the installation, operation, maintenance, and repair of the vehicles and equipment. These manuals should be provided in both English and Serbian languages, in both hardcopy and electronic formats.

| **1.**  **Item number** | **2.**  **Specifications required** | | **3.**  **Specifications offered** | **4.**  **Notes, remarks,  ref to documentation** | **5.**  **Evaluation committee’s notes** |
| --- | --- | --- | --- | --- | --- |
| **1. FIRE AND RESCUE TRUCK**  All tenders submitted must comply with the requirements in the tender dossier and comprise: | | | | | |
|  | **Fire and rescue truck** | **Quantity : 2** |  |  |  |
|  | **Manufacturer’s name** | |  |  |  |
|  | **Product/type, model:** | |  |  |  |
| **1.** | First responding firefighting – rescue vehicle for structural fires, technical rescues, traffic accidents (vehicle extrication) and HAZMAT incidents.  New, unused vehicle, the year of production 2024. or younger. | |  |  |  |
| **2.** | **Engine power, drive, suspension and barking system**   1. Diesel, 4 stroke, with direct fuel injection, turbo charged 2. Euro 6 standard 3. Power min 210 kW 4. Engine torque min. 1050 Nm. 5. Drive 4 x 2 6. Transmission manual or automatic minimum 8 + 1 7. Power output for cardan shaft for the pump 8. Rear axle drive with differential lock and leaf suspension 9. Front axle with leaf suspension 10. Air brakes with EBS and ABS and enhanced engine brake   Additional brake possibility: blocking/braking all wheels (while standing still) | |  |  |  |
| **3.** | **Dimensions**   1. Wheel base: min 3800mm 2. Length: min 7300mm 3. Height of the vehicle   (top of the superstructure): max 3300mm   1. Permitted vehicle weight: max. 11,500 kg for rear (power) axle and max. 10.000 kg for front axle | |  |  |  |
| **4.** | **Steering system**   1. Steering: Servo | |  |  |  |
| **5.** | **Cabin**   1. Double cab no. of seats: 2+4 2. Driver seat: Adjustable with pneumatic suspension 3. No. of doors: 4 (four) 4. Pump power switching from cabin 5. Mobile TETRA radio station in cabin (1 piece) 6. Additional lights: Lights for driving in reverse 7. Cab flooring: non slip material 8. Crew seats with enhanced protection from wear and tear and usable with SCBA units 1+4 9. Electrical wiring for portable radio chargers 10. Audio signal for driving in reverse | |  |  |  |
| **6.** | 1. Additional equipment:   - hauling connection on the front and back bumper  - air conditioning  - front fog lights  - electrically adjustable rear view mirrors with a heater  - rear-view mirror for curbs on the passenger side  - electric windows  - central lock, remote unlocking,  - voltage converter in the cabin 24V to 12V  -lifting jack  -tool set  -parking wedges  -connector for maintaining air pressure in the system  -spare wheel  -mandatory equipment set (according to current regulations in RS) | |  |  |  |
| **7.** | **Electric installation**   1. Voltage 24 V 2. Batteries: according to EN 1846 | |  |  |  |
| **8.** | **Fuel tank**   1. Metal tank with min volume of 150 l | |  |  |  |
| **9.** | **Superstructure**   1. Material and construction: made of aluminium profiles connected by welding, gluing or screwed in angle and diagonal reinforcements 2. Water tank placement:   Water tank with volume of 3.000l with factory recommended support, built on the chassis   1. Material: aluminium profile construction, covered with aluminium sheets, additionally, solutions without aluminium sheets will be accepted provided that proposed technical solutions does not compromise vehicle’s visual characteristics (curves, contours, welding marks etc.) 2. Storages: minimum 4 on the sides and 1 in the back, with roll doors for total protection from the outside influences and outside locking according to EN 1846-2 3. Internal spaces: Lined with corrugated aluminium sheets 4. Equipment access: according to EN 1846-2 5. Top of the superstructure: Lined with no-slip material and border with protective railing 6. Emergency lighting system: protected on the upper part of the vehicle, blinking blue lights console with multiple modules. Modules should be visible in front and the rear of the vehicle (front grill module and rear part of the vehicle) as well as on the both sides of the vehicle 7. Audio signalization: Audio signalization with sweeping horn, PA system and loudspeaker (100 W horn), dashboard in the cabin with built-in microphone 24V 8. Superstructure roof holders: Ladder holders, other equipment grapple holders and/or metal equipment box 9. Ladder for climbing to the roof of the superstructure: according to EN 1846-2 10. Outer and inner superstructure lighting: Outer in EN 1846-2, inner in all storages with automatic/manual switching | |  |  |  |
| **10.** | **Water tank**   1. Capacity: 3.000 l 2. Material: Material: water-resistant stainless steel, INOX, aluminium alloy, plasticized constructional steel or material of similar characteristics that is standardly used for making water tanks on fire truck. The tank must have baffles to prevent water sloshing. The tank must have a guarantee of min. 10 years in exploitation. 3. Tank is connected with elastic supports, and it is equipped with baffles to prevent water sloshing. 4. Tank opening: hatch on top of the tank, with possibility of opening from the upper part of the superstructure 5. Filing inlet connector Ø 75mm on the side or back of the vehicle and pump connector (suction inlet) Ø 110 mm 6. Drainage outlet: Ø 52mm on the lowest part of the tank with ball valve and coupling 7. Tank should be equipped with an air vent | |  |  |  |
| **11.** | **Foam tank**   1. Tank capacity; min 150 l 2. Material: corrosion resistant 3. Shape: Adjusted to the superstructure, preferably square 4. Opening on the top of the tank with access from the upper part of the superstructure, with draining outlet and foam level gauge. 5. Outlet connection of the pump mixer: Ø25 mm 6. Outlet of the foam discharge: Ø 25mm | |  |  |  |
| **12.** | **Pumps**   1. Fire pump is fixed in the rear compartment of the superstructure and it complies with EN 1028. Medium pressure min. 10bar/2000 lpm and high pressure min. 40bar/250 lpm. Cardan shaft power. Possibility of simultaneously operating with high and medium pressure. 2. Min. two outlets from the rear part of the vehicle Ø 75 mm, one on the left and one the right side of the pump. 3. One outlet for medium pressure hose reel Ø 32, 5 mm 4. One outlet for high pressure hose reel Ø 25 mm 5. Vacuum priming system 6. Premixer: with adjustable ratio from 1% to 6%. Possibility of foam suction from an outside vessel 7. Control panel: Waterproof IP 65 with manual power switch and control functions for the medium pressure hose reel, high pressure hose reel, vacuum primer, return line, water from the tank, premixer, vacuum meter, medium pressure gauge, high pressure gauge, operating hours’ counter, water and foam level indicator. All labels should be in Serbian language | |  |  |  |
| **13.** | **Water installation**   1. Intake line: Ø 110mm for water suction from outside source 2. Outlets: 2 outlets with Ø 75mm connections: 1 outlet for medium pressure hose reel; 1 outlet for high pressure hose reel; return line for relief of the outlet line; premixer line; circular pump line; self-protection system protection line 3. Medium pressure hose reel: Reinforced rubber hose according to DIN 853 or EN 1947, min length 40m Ø 32,5mm with turbine type nozzle and heavy foam add-on, with manual and electric hose reeling, with safety brake. 4. High pressure hose reel: reinforced rubber hose according to DIN 853 or EN 1947, minimum length 50m Ø 25mm with pistol type nozzle and foam add-on, with manual and electric hose reeling, with safety brake. | |  |  |  |
| **14.1.** | **Other equipment stored in the cabin and the superstructure**   1. Self- contained breathing apparatus with composite compressed air bottles. Volume 6-7 lit, 300 bars, with "T" or "Y" quick lock connectors for connecting another air user, in accordance with EN 137 type 2. (6 pieces)   SCBA’s are delivered with rescue hoods   1. Spare composite compressed air bottle, volume 6-7 lit. 300 bar in accordance with EN 12245. (6 pieces) 2. Universal water nozzle Ø 52 mm with ergonomic hand grip, ball valve handle and turbine. Min. Flow rate 100 - 400 lit/min at 8 bars in accordance with EN 15182 (2 pieces) 3. Delivery hoses Ø 75 mm, length 15 m, with holders. In accordance with the **DIN 14811standard**, with forged couplings type STORZ. (8 pieces) 4. Delivery hoses Ø 52 mm, length 15 m, with holders. In accordance with the **DIN 14811standard,** with forged couplings type STORZ (10 pieces) 5. Blank couplings: Ø 110mm (1 piece), Ø 75mm (2 piece), Ø 52mm (1 piece) 6. Water curtain nozzle Ø 52mm (1 piece) 7. Adapter couplings: B/C; A/B; (2 piece each) 8. Medium foam nozzle 200lpm Ø 52mm (1 piece) 9. Heavy foam nozzle 200lpm Ø 52mm (1 piece) 10. Line foam inductor 200 lit./min. With a flexible hose and a connector for the foam suction extract min. 1.5 m. According to std. EN16712-1 (1 piece) 11. Plastic foam container 25 lit. (1 piece) 12. Hydrant standpipe B/CC (1 piece) | |  |  |  |
| **14.2.** | **Other equipment stored in the cabin and the superstructure**   1. Universal wrench for ABC Storz coupling (3 pieces) 2. “T” wrench for underground hydrant with replaceable nut (1 piece) 3. Universal wrench for pillar type hydrant (1 piece) 4. Dividing breaching B/CBC with ball valve according to EN17407 (1 piece) 5. Collecting breaching A/2B (1 piece) 6. Axe (1 piece) 7. Crowbar (1 piece) 8. Pickaxe (1 piece) 9. Shovel (1 piece) 10. Spinal board in accordance to DIN EN 1865, in high visibility colour, minimum weight 150 kg, with immobilisation straps and head immobilizer (1 piece) | |  |  |  |
| **14.3.** | **Other equipment stored in the cabin and the superstructure**   1. Steel cable 10m Ø 16mm (1 piece) 2. Steel cable 2m Ø 16mm with loops on both ends (1 piece) 3. Battery powered chainsaw 18 V with guide bar 30cm-35cm and chain speed min 12m/s, autonomy provides at least 150 cuts in wood dimensions 100 x 100mm. Chain saw is delivered with spare chain, battery charger and 2 x 8Ah original batteries. Maximum weight 5kg with battery (1 piece) 4. Battery powered circular saw with brushless 72V engine with 350mm diamond blade, with min cut depth of min. 125mm. For cutting of concrete, reinforced concrete, metal tubes and profiles. Min. 5000 rev/min, total weight max 17 kg. Tool is deliver with 2 6Ah original batteries and adequate quick charger. 5. Battery floodlight with at least 3 adjustable light units (heads) with min 6000 lumens. Possibility of rotating the heads min. 180° vertically and min. 240° horizontally. Different illumination modes, at least IP34, possibility of supplying with up to 2 batteries 8Ah Li ION and AC 220V/50Hz connection. Autonomy min. 7,5h . Possibility of adjusting the light heads height from min 1 m up to min 2m. Battery floodlight is delivered with 2 8Ah original batteries and adequate battery charger. 6. Portable flash light with chargers   -Ex certificate  -min 500 lumens  -autonomy min 4 h  -IPX4  (2 pieces)   1. Fire extinguisher S 9 (2 pieces) | |  |  |  |
| **14.4.** | **Other equipment stored in the cabin and the superstructure**   1. Aluminium multipurpose fire leaders 3 part, total length min 5 m, according to EN 1147 (1 piece) 2. Telescopic fire leaders, total length min 4 meters, closed height maximum 1,5 m, according to EN 1147 (1 piece) 3. Universal nozzle Ø 75mmwith ball valve. The possibility of varying the jet from full to spray, as well as the possibility of interrupting the flow of water. According to std. DIN14365 (1 piece) 4. Water jet reaction compensator Ø 75mm (1 piece) | |  |  |  |
| **14.5.** | **Other equipment stored in the cabin and the superstructure**   1. Reusable hazmat suit class 1a, gas tight suit which can be used alongside with SCBA and protective helmet, equipped with anti-fog visor, gas tight safety gloves and integrated safety boots. Suit should be equipped with regulator valve for connecting to external breathing air source. Suit should be manufactured in highly visible colour (orange, yellow or similar) and should be delivered with adequate cotton gloves. Suits are manufactured in accordance with EN 943-2, EN 1073-1, EN 14126 and EN 14593-1.   Sizes of the suit should be approximately 180-200 cm and boot size 45. Suits are deliver with protective transport bag (2 pieces)   1. Hand held multi gas detector: detection of 7 gases (specific sensors TBD), maximum weight 600 g, temperature range -20⁰ C to +50⁰ C, protection IP 68, color display, visual, vibration and sound alarm. In accordance to: ATEX / IECEx - I M1, II 1G   Ex da ia I Ma, Ex da ia IIC T4 Ga   1. Reusable hazmat suit class 1b, with outside SCBA and protective helmet wearing, gas tight safety gloves and integrated safety boots. Suit should be manufactured in highly visible colour (orange, yellow or similar). Suits are manufactured in accordance with EN 943-2, EN 1073-1, EN 14126 and EN 14593-1.   Sizes of the suit should be approximately 180-200 cm and boot size 45. Suits are deliver with protective transport bag (2 pieces) | |  |  |  |
| **14.6.** | **Other equipment stored in the cabin and the superstructure**   1. Battery rescue tool consists of battery rescue cutters and battery rescue spreaders.   1. Cutters should have cutting force of minimum 720 kN and blade opening of minimum 170mm, ability to cut solid round bar with 32mm diameter.  Maximum weight of the cutters is 19 kg  2. Spreaders should have spreading force of minimal 650 kN, spreading distance of minimal 720 mm and squeezing force of minimal 115 kN with maximal weight of 20 kg.  Batteries should provide same performance of the tool regardless the levels of how much they are charged.  Tools are delivered with total of 3 batteries, 1 for each tool and 1 spare, and with adequate battery charger.  All tools should be manufactured in accordance with EN 13204   1. Hand held thermal camera for search & rescue and firefighting operations in thick smoke and low visibility environment   IP 67  IR Camera:  -microbolometer, uncooled  -resolution 240x180  -temperature sensitivity ≤0.03 C  -dynamic range min up to 600 C  -field of view min 40⁰ x 30⁰  -operating autonomy: min 5 hours  -operating temp. range min: 250° C for 5 min and 150° C for 15 min  Wight max. 1,3 kg  IR camera display  - min 3″ LCD/LED display   1. Fire-fighting battery fan for positive pressure ventilation   -mini IP 66  -operating time min 45 minutes at full speed, min 3h 30 min at half speed  -PPV air flow min 15 000m3/h  -weight max 30 kg  -noise level max 80dB  -operating angle +65° to -90° | |  |  |  |
| **15.** | **LABELLING OF THE VEHICLES**  Marking on the sides and on the back of the vehicle is done with a white reflective strip, 15 cm wide. The strip is placed along the entire length of the sides of the vehicle, in the lower part of the door, over the superstructure to the rear of the vehicle.  Fluorescent strip shall not be placed over the roll-up door of the equipment compartment. A reflective strip shall be placed on the rear of the vehicle in line with the side reflective strip.  On the front sides of the vehicle cabin (front door, left and right side) in addition to the white reflective tape, the emblem of the Sector for Emergency Management, 30 cm high and 30 cm wide, shall be placed, as well as the emergency service number "193", which is placed just below the emblem of the Sector for Emergency Management. The height of a number is 15 cm, and the width is 2.5 cm. In case the vehicle body does not allow such marking, it is allowed to place the call number centred on the rear side door of the vehicle body. If these recommendations can’t be followed, the dimensions of the emblem and the numbers must be proportional to the dimensions of the vehicle on which they are installed and approved by Contracting authority.  On the front part of the cabin, under the front windshield, there will be the Cyrillic name „ВАТРОГАСЦИ - СПАСИОЦИ" in reflective white or yellow. The inscription is positioned in a rectangular space in proportion to the body, with the inscription beginning and ending in relation to 4 cm indent both from the left and the right edge of the vehicle. The label is placed in reverse form (readable in the rear-view mirror of the vehicle moving in front).  The roof of fire trucks is marked with a mark of four letters and numerals. The first two letters indicate the affiliation of the fire-rescue unit, and the second two numerical signs indicate the number of the vehicle. The height of one marking is 50 cm, and the width is 15 cm. The orientation of the installation of this marking depends on the light and sound group console on top of the vehicle and the equipment attached to the roof of the vehicle. The dimensions of the markings are in proportion to the size of the marked vehicle.  Vehicle shall also be visibly labelled as per **EC visibility requirements** (according to the latest Communication and Visibility Requirements for EU-funded external action, laid down and published by the European Commission website).  Each vehicle must be marked with durable/UV resistant plastic stickers with above mentioned content. The selected bidder shall produce a draft layout for written approval by Contracting Authority prior to production. | |  |  |  |
| **2. Firefighting water tender trucks**  All tenders submitted must comply with the requirements in the tender dossier and comprise: | | | | | |
|  | **Firefighting water tender trucks** | **Quantity : 6** |  |  |  |
|  | **Manufacturer’s name** | |  |  |  |
|  | **Product/type, model:** | |  |  |  |
| **1.** | 1. New fire truck 4x2 vehicle, unused, the year of production 2024. or younger, single cab. 2. Engine: Diesel, four-stroke, turbo 3. Exhaust gas control: in accordance with the current regulations in the Republic of Serbia 4. Engine power: min. 210 kW; Engine torque min. 1050 Nm. 5. Fuel type: Euro Diesel 6. Transmission: manual or automatic minimum 8+1 speed. | |  |  |  |
| **2.** | **Characteristics of the vehicle undercarriage**   1. Permitted vehicle weight: max. 11,500 kg for rear (power) axle and max. 10.000 kg for front axle 2. Wheel base: min. 3500 mm 3. The steering wheel on the left side, power steering. Multifunctional power steering. Adjustable. 4. Voltage of the electrical installation of the vehicle: U=24 V | |  |  |  |
| **3.** | **Drive, suspension and braking system**   1. Drive configuration: 4x2 2. Rear axle: drive with differential lock 3. Front and rear suspension: leaf springs 4. Engine brake: Yes | |  |  |  |
| **4.** | **Cabin space**   1. Min. 2 seats 2. Min. 2 doors 3. Color: red ( Rall 3000 or similar) 4. Switching on the pump from the cabin: Yes 5. Reversing lights 6. GPS with an integrated map of Europe 7. TETRA radio station on the vehicle | |  |  |  |
| **5.** | **Other equipment on the vehicle**   1. Tools, a crane 2. A set of accompanying tools 3. Spare wheel kit 4. Parking wedges 5. Connection for maintaining air pressure in the system 6. Elements of additional equipment:   **-** hauling connection on the front bumper  - air conditioning  - pneumatic suspension of the driver's seat  - front fog lights  - sound signal when driving backwards  - electrically adjustable rear view mirrors with a heater  - rear-view mirror for curbs on the passenger side  - electric windows  - central lock, remote unlocking,  - rear view camera with display  - voltage converter in the cabin 24V to 12V | |  |  |  |
| **6.** | **Superstructure**   1. Water tank min. 7000 lit, ± 5%, supported by elastic supports 2. Place the paneling in the color of the vehicle around the tank 3. Construction of aluminium profiles and aluminium sheet, additionally, solutions without aluminium sheets will be accepted provided that proposed technical solutions does not compromise vehicle’s visual characteristics (curves, contours, welding marks etc.) 4. Construction should have minimum 4 side compartments and one at the back. Compartments are equipped with roller doors for protection from outside conditions and external locking in accordance with EN 1846-2 5. The equipment in the compartments must be fixed. Built-in movable (sliding or rotating) storage shelves, boxes or panels must have additional locking mechanism in order to prevent movement during the drive 6. Access to the equipment in accordance with EN 1846-2 7. The upper part of the super structure should be coated with anti-slip material. The equipment on the upper part of the super structure is fixed and protected. 8. Light signalization: on the roof of the vehicle, a light console with flashing blue lights with multiple modules; the modules installed on the front and rear of the vehicle, two flashing blue lights on the left and right side of the vehicle and two lights in the hood on the front of the vehicle.   Light signalization must be homologated in accordance with the regulations in the Republic of Serbia.   1. Sound signalization with a multiple tones siren of 100Wwith a loud speaker and a microphone built in the cabin. 2. Brackets for ladders, hooks and fire brooms on the upper part of the superstructure 3. Ladders in accordance with EN 1846-2 4. Lights on the superstructure should be in accordance with EN 1846-2 with **manual or automatic activation**; external and internal lighting 5. LED or halogen reflector on the front right side of the vehicle. Possibility for controlling the reflector from the cabin. Variable vertical and horizontal beam angle min. 180° Power min 70W and with 24 V voltage installation. | |  |  |  |
| **7.** | **Water tank**   1. Capacity: 7000 lit, ± 5% 2. Material: water-resistant stainless steel, INOX, aluminium alloy, plasticized constructional steel or material of similar characteristics that is standardly used for making water tanks on fire truck. The tank must have baffles to prevent water sloshing. The tank must have a guarantee of min. 10 years in exploitation. 3. Tank is connected with elastic supports, and it is equipped with baffles to prevent water sloshing 4. Tank opening: hatch on the top of the tank, with the possibility of opening from the upper part of the superstructure. 5. Filing inlet connector Ø 75 on the side or back of the vehicle and pump connector (suction inlet) Ø 110 mm 6. Drainage outlet: Ø 52 mm on the lowest part of the tank with ball valve and coupling 7. Tank should be equipped with an air vent. | |  |  |  |
| **8.** | **Foam tank**   1. Tank capacity 200 l, ± 5% . 2. Material: corrosion resistant 3. Shape: Adjusted to the superstructure, preferably square 4. Opening on the top of the tank with access from the upper part of the superstructure, with draining outlet and foam level gauge. 5. Outlet connection of the pump mixer: Ø 25 mm 6. Outlet of the foam discharge: Ø 25 mm. | |  |  |  |
| **9.** | **Pump**   1. The pump must be fixed on the rear part of the vehicle and should be capable to operate in medium and high pressure mode in accordance with EN 1028   Medium pressure: min. 10 bar/2000 lit.  High pressure: min. 40 bar/250 lit. Cardan shaft drive/flexible drive   1. Min. Two outlets from the rear part of the vehicle Ø75 mm, one on the left and one the right side of the pump. 2. One outlet for medium pressure hose reel Ø32, 5 mm. 3. One outlet for high pressure hose reel Ø25 mm 4. Vacuum priming system 5. Premixer with adjustable ratio from 1% to 6%.   Possibility of foam suction from an outside vessel.   1. Control panel: Waterproof IP 65 with manual power switch and control functions for the medium pressure hose reel, high pressure hose reel, vacuum primer, return line, water from the tank, premixer, vacuum meter, medium pressure gauge, high pressure gauge, operating hours’ counter, water and foam level indicator. All labels should be in Serbian language. 2. Monitor nozzle Ø75 mm, water + foam with flow of min. 800lit/min at 8 bar. Monitor nozzle is positioned on the roof of the superstructure and can be operated either manually or remotely. For safer driving, it must be easy to mount and dismount, with the requirement that this operation can be performed by a single person. When not in use, the monitor nozzle is securely stored on the roof of the superstructure and is delivered with a foam extension. | |  |  |  |
| **10.** | **Water installation**   1. Intake line: Ø 110mm for water suction from outside source. 2. Outlets: 2 outlets with Ø 75mm connections: 1 outlet for medium pressure hose reel; 1 outlet for high pressure hose reel; return line for relief of the outlet line; premixer line; circular pump line; self-protection system protection line 3. Medium pressure reel. Reinforced rubber hose according to DIN EN 853 or EN 1947, length 25 m, Ø32.5 mm, with pistol nozzle. Manual and electric hose reeling with safety brake 4. High pressure reel. Reinforced rubber hose according to DIN EN 853 or EN 1947, length 60 m, Ø25 mm, with pistol nozzle and quick coupling. Manual and electric hose reeling with safety brake | |  |  |  |
| **11.1.** | **Fire rescue equipment**   1. Handheld floodlight with battery and charger and “Ex" protection (2 pieces) 2. Self- contained breathing apparatus for the protection of respiratory organs with composite compressed air bottles. Volume 6-7 lit, 300 bars, with "T" or "Y" quick lock connectors for connecting another air user. All in accordance with EN 137 type 2 (3 pieces) 3. Protective hood for rescuing an endangered person. Connecting via "Y" or "T" quick lock connectors. 4. Spare composite compressed air bottle, volume 6-7 lit. 300 bar in accordance with SRPS EN 12245. 5. First aid kit SRPS Z.B2.001 6. Manual fire extinguisher filled with ABC powder of 9 kg (S-9) (2 pieces) 7. Adapter coupling A/B forged (2 pieces) 8. Adapter coupling B/C forged (2 pieces) 9. Adapter coupling C/D forged (2 pieces) | |  |  |  |
| **11.2.** | **Fire rescue equipment**   1. Universal water nozzle Ø52 mm with ergonomic hand grip, ball valve handle and turbine. Min. Flow rate 100 - 400 lit/min at 8 bars in accordance with EN 15182 ( 3 pieces) 2. Plastic foam container 25 lit. 3. Delivery hoses Ø25 mm, length 20 m, with holders. In accordance with the DIN 14811 standard, with forged couplings type STORZ (4 pieces) 4. Delivery hoses Ø75 mm, length 15 m, with holders. In accordance with the DIN 14811 standard, with forged couplings type STORZ. (8 pieces) 5. Delivery hoses Ø52 mm, length 15 m, with holders. In accordance with the DIN 14811 standard, with forged couplings type STORZ (10 pieces) 6. Universal key ABC for Storz couplings. 7. Universal key for pillar type hydrant. | |  |  |  |
| **11.3** | **Fire rescue equipment**   1. Line foam inductor 200 lit./min. With a flexible hose and a connector for the foam suction extract min. 1.5 m. According to std. EN16712-1 2. Backpack fire pump, is made of “Cordura” or similar durable material, resistant to abrasion and cuts. Inside of the back pack there is a polyester approximately 20 l water tank with built in filler and hose connector. Hose connector is a quick release connector with 360 rotation capability. Back pack is equipped with padded belt and shoulder straps and double action nozzle which can deliver water to a distance of minimum 10 meters. Nozzle should have capability for adjustment of full water jet and spreader water jet (2 pieces) 3. Aluminium section ladders four/three-part assembly ladder, total length 6 m. 4. Medium foam nozzle, 200 lit/min. 5. Heavy foam nozzle, 200 lit/min. 6. Collecting breaching A/2B | |  |  |  |
| 11.4 | **Fire rescue equipment**   1. Dividing breaching B/CBC with ball valve according to EN17407 2. Dividing breaching C/DD with ball valve according to EN17407 3. Blank cap coupling Ø52 mm 4. Blank cap coupling Ø75 mm 5. Suction basket Ø110 mm 6. Suction hose Ø110 mm, length 1.6 m, (4 pieces) 7. Rope with a pouch, for the suction line, Ø10 mm (2 pieces) 8. Hydrant standpipe B/CC 9. Key - T for underground hydrant with replaceable nut. 10. Shovel 1.5 m long. 11. Universal water nozzle Ø75 mm with ball valve. The possibility of varying the jet from full to spray, as well as the possibility of interrupting the flow of water. According to std. DIN14365 (2 pieces) 12. Jet reaction compensator Ø75 13. Water nozzle Ø25 mm with ball valve. The possibility of varying from full jet to spray. According to EN15182 (2 pieces) | |  |  |  |
| **11.5** | **Fire rescue equipment**   1. Static rope 200m, minimum Ø10.5 mm manufactured according to std. EN 1891, with minimal strength of 26kN, strength with figure-eight knot minimum 18 kN and maximum percentage of sheath 40%. Number of falls more than 14.   Colour of the rope high visibility, red, orange, yellow or similar   1. Reusable hazmat suit class 1a, gas tight suit which can be used alongside with SCBA and protective helmet, equipped with anti-fog visor, gas tight safety gloves and integrated safety boots. Suit should be equipped with regulator valve for connecting to external breathing air source. Suit should be manufactured in highly visible colour (orange, yellow or similar) and should be delivered with adequate cotton gloves. Suits are manufactured in accordance with EN 943-2, EN 1073-1, EN 14126 and EN 14593-1   Sizes of the suit should be approximately 180-200 cm and boot size 45. Suits are deliver with protective transport bag (2 pieces).   1. Battery rescue tools kit consists of rescue cutters and spreaders. Tool kit is delivered with 3 batteries and adequate battery charger.   Rescue cutters should have at least 720 kN cutting force, blade opening of minimal 170mm. Cutters weight should be maximum 19kg.  Rescue spreaders should have minimal spreading force of 650kN, squeezing force of minimum 115 kN and spreading distance of minimum 720mm.  Spreaders weight should be maximum 20 kg.  Batteries must provide the same performance of the tool regardless the capacity (charge) level.  Equipment should be manufactured in accordance to EN 13204  Hand held thermal camera for search & rescue and firefighting operations in thick smoke and low visibility environment  IP 67  IR Camera:  -microbolometer, uncooled  -resolution 240x180  -temperature sensitivity ≤0.03 C  -dynamic range min up to 600 C  -field of view min 40⁰ x 30⁰  -operating autonomy: min 5 hours  -operating temp. range min: 250° C for 5 min and 150° C for 15 min  Wight max. 1,3 kg  IR camera display  - min 3″ LCD/LED display | |  |  |  |
| **12.** | **LABELLING OF THE VEHICLES**  Marking on the sides and on the back of the vehicle is done with a white reflective strip, 15 cm wide. The strip is placed along the entire length of the sides of the vehicle, in the lower part of the door, over the superstructure to the rear of the vehicle.  Fluorescent strip shall not be placed over the roll-up door of the equipment compartment. A reflective strip shall be placed on the rear of the vehicle in line with the side reflective strip.  On the front sides of the vehicle cabin (front door, left and right side) in addition to the white reflective tape, the emblem of the Sector for Emergency Management, 30 cm high and 30 cm wide, shall be placed, as well as the emergency service number "193", which is placed just below the emblem of the Sector for Emergency Management. The height of a number is 15 cm, and the width is 2.5 cm. In case the vehicle body does not allow such marking, it is allowed to place the call number centred on the rear side door of the vehicle body. If these recommendations can’t be followed, the dimensions of the emblem and the numbers must be proportional to the dimensions of the vehicle on which they are installed and approved by Contracting authority.  On the front part of the cabin, under the front windshield, there will be the Cyrillic name „ВАТРОГАСЦИ - СПАСИОЦИ" in reflective white or yellow. The inscription is positioned in a rectangular space in proportion to the body, with the inscription beginning and ending in relation to 4 cm indent both from the left and the right edge of the vehicle. The label is placed in reverse form (readable in the rear-view mirror of the vehicle moving in front).  The roof of fire trucks is marked with a mark of four letters and numerals. The first two letters indicate the affiliation of the fire-rescue unit, and the second two numerical signs indicate the number of the vehicle. The height of one marking is 50 cm, and the width is 15 cm. The orientation of the installation of this marking depends on the light and sound group console on top of the vehicle and the equipment attached to the roof of the vehicle. The dimensions of the markings are in proportion to the size of the marked vehicle.  Vehicle shall also be visibly labelled as per **EC visibility requirements** (according to the latest Communication and Visibility Requirements for EU-funded external action, laid down and published by the European Commission website).  Each vehicle must be marked with durable/UV resistant plastic stickers with above mentioned content. The selected bidder shall produce a draft layout for written approval by Contracting Authority prior to production. | |  |  |  |