Annex No 3

THE TENDER FORM

**TENDER FOR PROCUREMENT OF THE DUAL COLUMN AND BOOM WELDING MANIPULATORS SYSTEM**

**2022 [\_\_\_] (month). [\_\_\_] (day)**

|  |  |
| --- | --- |
| Name of the Supplier and its business registration number or VAT number (fill in for each member when the tender is submitted by a group of entities): |  |
| Address of the Supplier: |  |
| Contact person in charge of the tender: |  |
| Telephone number: |  |
| Email: |  |

Herewith we confirm that we unconditionally accept all terms of the tender listed in the bellow presented places and documents:

1. The tender announcement on the website www.esinvesticijos.lt;
2. The tender terms and conditions publication;
3. Annexes No 1-4 of the tender terms and conditions publication.

We quote the procurement object for the price of USD, EUR (please, underline the actual currency) (without VAT \_\_\_\_\_\_\_\_\_\_\_\_\_ ( DAP ALYTUS, Incoterms 2020). This price comprises all supply expenses, among other (but not restricted to) transportation, insurance, loading, mounting, commissioning, testing and training of personnel.

We present and confirm the next parameters, supplementary installations and services to the dual column and boom welding manipulators system:

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| --- | --- | --- |
|  | **Parameter** | **Value** |
| **1** | **General layout of the system.** |  |
| 1.1 | The system is designed for an assembly of bodies of tanks in the vertical position while welding cylinder pieceparts one to another in the 2G welding position (with a rare exception of the case described in 3.9 -see further). | ☐Yes ☐No |
| 1.2 | The system features two Column & Boom (CAB) manipulators, one configured for PAW + GTAW welding (the main CAB) and one configured for GTAW welding (the supplementary CAB). The manipulator stations will be mounted around a motorized turntable with between 90° - 180° spacing between the CABs. | ☐Yes ☐No |
| **2.** | **Control modes of the dual CAB manipulators system.** |  |
| 2.1 | The main CAB and the supplementary CAB run synchronically controlled by one operator from one workplace. | ☐Yes ☐No |
| 2.2 | The main CAB can run alone independently. | ☐Yes ☐No |
| 2.3 | The supplementary CAB can run alone independently. | ☐Yes ☐No |
| 2.4 | Workplace of an operator is set up near the main CAB, it has two displays which allow to follow up two weld processes performed on different CABs simultaneously. The operator's workplace could be implemented also in the way when two separate control panels of each CAB are fastened one next to the other on the common supporting framework. | ☐Yes ☐No |
| 2.5 | The operator's console allows to view weld, to monitor weld parameters and to program the weld parameters from one location. | ☐Yes ☐No |
| 2.6 | Turntable can be paired to work with one or another CAB, switching in-between is made from the operators' console. | ☐Yes ☐No |
| 2.7 | Operator's console has a supplementary remote radio (preferred) or cable control which controls functions of the supplementary CAB described in 4.5; 4.6; 7.3; 7.5 and turntable rotation jogging. | ☐Yes ☐No |
| 2.8 | Software of the equipment allows creating and storing of at least 99 operator programs. These programs are transferable via USB and built-in Ethernet connection could get backed up to a PC. Offline programming capability allows weld program entry while equipment is still in production. The operator’s programming interface is implemented without a need to enter NC codes or learn specific programming language. Operator is enabled to create his own tasks for commonly used operations like jogging of the boom to home or some particular position and to assign the tasks to from at least 3 to 6 physical or virtual knobs for quick availability and usage. The software of the equipment allows recording parameters of recently performed weld operations and uploading a weld report about them into the PC. | ☐Yes ☐No |
| 2.9 | Magnetic oscillation function for both GTAW and PAW weld torches has at least the next programmable parameters: 1. Deviation left-right (offset), 2. Amplitude, 3. Frequency, 4. Dwell on sides of a seam programmed separately for each side. The magnetic oscillation parameters are integrated into a weld program. | ☐Yes ☐No |
| 2.10 | HMI and the operator's console is organized the way allowing an operator during weld process easily, responsively, manually override weld prameters set in a weld program. The recommended (not mandatory) tools are presented in the Annex 5 to the TTC. | ☐Yes ☐No |
| 2.11 | Communication between different Dual CAB hardware elements is implemented via data bus system using widespread industrial use protocol like Profinet or similar. | ☐Yes ☐No |
| **3** | **The main CAB featuring:** |  |
| 3.1 | Fixed base with level adjusting legs. Anchoring to flooring is allowed. | ☐Yes ☐No |
| 3.2 | Lifting lugs for moving the whole CAB body with an overhead crane. | ☐Yes ☐No |
| 3.3 | At least 270-degree rotational column base manually rotated via hand crank or simply by straight hand pushing if on bearings and manageable easily by one man. | ☐Yes ☐No |
| 3.4 | Central electric cabinet which distributes power to absolutely all hardware on the main CAB, the supplementary CAB and the turntable. All circuits must be fuse protected. | ☐Yes ☐No |
| 3.5 | All hardware of the CAB is placed on a column base-mounted skid and the boom. No separately from the CAB standing equipment is allowed. | ☐Yes ☐No |
| 3.6 | Motorized column fixed speed jog motion with vertical stroke a | Value: |
| 3.7 | The vertical stroke of the column allows to perform welding not less than in 4000 mm height above the turntable | ☐Yes ☐No |
| 3.8 | Motorised boom fixed speed jog motion with horizontal stroke b | Value: |
| 3.9 | Motorised boom horizontal weld slide with variable speed ranging 50-600 mm/min, controlled from the operator's console, intended for welding in 1G position outside the turntable. | ☐Yes ☐No |
| 3.10 | PAW & GTAW weld gear packages with separate welding power sources. PAW & GTAW weld gear packages with separate welding power sources. The GTAW process should be run in the cold-wire (CW) and the hot-wire (HW) modes. | ☐Yes ☐No |
| **4** | **The supplementary CAB featuring:** |  |
| 4.1 | Fixed base with level adjusting legs | ☐Yes ☐No |
| 4.2 | Lifting lug with bearing for moving the whole CAB body with an overhead crane. | ☐Yes ☐No |
| 4.3 | At least 270-degree rotational column base manually rotated via hand crank or simply by straight hand pushing if on bearings and manageable easily by one man. | ☐Yes ☐No |
| 4.4 | All hardware of the CAB is placed on a column base-mounted skid and the boom. No separately from the CAB standing equipment is allowed. | ☐Yes ☐No |
| 4.5 | Motorized column fixed speed jog motion with vertical stroke a | Value: |
| 4.6 | The vertical stroke of the column allows to perform welding not less than in 4000 mm height above the turntable. | ☐Yes ☐No |
| 4.7 | Motorised boom fixed speed jog motion with horizontal stroke b | Value: |
| 4.8 | GTAW weld gear package with welding power supply. The GTAW process should be run in the cold-wire (CW) and the hot-wire (HW) modes. | ☐Yes ☐No |
| **5** | **The motorised turntable featuring:** |  |
| 5.1 | Maximal load capacity w | Value: |
| 5.2 | Variable rotational speed and direction controlled from an operator console | ☐Yes ☐No |
| 5.3 | Outriggers of the table allow to place a cylinder on it with maximum diameter D | Value: |
| 5.4 | Outriggers of the table are placed at least each 60° around or even more densely. | ☐Yes ☐No |
| 5.5 | The top surface of the outriggers (the main frame and the extensions as well) has a T-slot for fastening various fixtures in it and a millimetre dial starting from the centre of the turntable. | ☐Yes ☐No |
| 5.6 | Weld shield gas supply framework which allows reliably transport shield gas to an inside-cylinder root weld place. The framework should be telescopic or dismountable other way by parts, should have a supporting structure, shield gas and water hoses of appropriate length. The design of it should allow to reach the inside part of a cylinder which diameter is from 600 to 6000 mm, height from 1000 to 3000 mm above the turntable. The framework would be conducted by an operator assistant manually for weld follow-up whereas suplly of the shield gas and water would be controlled from the operators' console. | ☐Yes ☐No |
| 5.7 | Height of the table from a ground surface h | Value: |
| **6** | **PAW & GTAW weld head on the main CAB featuring:** |  |
| 6.1 | Water-Cooled PAW Torch. The shape of the torch nozzle should be conical or other type allowing to reach for weld a root pass of up to 15 mm thickness sheet (see Annex 2 Testing program). | ☐Yes ☐No |
| 6.2 | Automatic voltage control (AVC) slide for the PAW torch. The slide is driven by a servo motor with encoder feedback or a stepper motor, gear reduction, and an electric brake (in case of servo motor only), to ensure accurate positioning. The length of the AVC slide equals to the vertical adjustment slide y (see 6.10). | ☐Yes ☐No |
| 6.3 | Water-cooled GTAW torch. | ☐Yes ☐No |
| 6.4 | Automatic voltage control (AVC) slide for the GTAW torch. The slide is driven by a servo motor with encoder feedback or a stepper motor, gear reduction, and an electric brake (in case of servo motor only), to ensure accurate positioning. The length of the AVC slide equals to the vertical adjustment slide y (see 6.10). | ☐Yes ☐No |
| 6.5 | PAW & GTAW weld torches on the same side of the boom. | ☐Yes ☐No |
| 6.6 | Manual torch-to-torch alignment adjustment. | ☐Yes ☐No |
| 6.7 | Cross seam adjustment, X axis, motorised slide driven by a servo motor with encoder feedback to ensure precise positioning. The slide is programmed and controlled from an operator's console. | ☐Yes ☐No |
| 6.8 | Cross seam adjustment slide length x. | Value: |
| 6.9 | Y axis motorised vertical adjustment slide manually jogged from the operator's console. | ☐Yes ☐No |
| 6.10 | Vertical adjustment slide length y. | Value: |
| 6.11 | Weld head mounting bracket to enable the weld head to be oriented in at least seven different positions representing 0°, 15°, 30°, 45°, 60°, 75°, 90° angles to horizon. If the mechanical type of the PAW oscillator (8.4) is chosen to install, then the angle fixing device must be motorised servo driven gear allowing smooth setting of this angle between 0-90°. | ☐Yes ☐No |
| 6.12 | Weld head mounting bracket to enable the weld head to be positioned in at least two 0° and 90° positions (direction left-right). | ☐Yes ☐No |
| **7** | **GTAW weld head on the supplementary CAB featuring:** | ☐Yes ☐No |
| 7.1 | Water-Cooled GTAW Torch | ☐Yes ☐No |
| 7.2 | Automatic voltage control slide for the GTAW torch. The slide is driven by a servo motor with encoder feedback, gear reduction, and an electric brake to ensure accurate positioning. | ☐Yes ☐No |
| 7.3 | Cross seam adjustment X axis motorised slide driven by a servo motor with encoder feedback to ensure precise positioning. The slide is programmed from an operator's console and controlled by the CAB controller. | ☐Yes ☐No |
| 7.4 | Cross seam adjustment slide length x. | Value: |
| 7.5 | Y axis motorised vertical adjustment slide manually jogged from the operator's console. | ☐Yes ☐No |
| 7.6 | Vertical adjustment slide length y. | Value: |
| 7.7 | Motorised jogged gear allowing smooth tilting of the weld head at angles to horizon between 0-90°. | ☐Yes ☐No |
| 7.8 | Motorised jogged gear allowing smooth tilting of the weld head to side positions at angles 0-180° (direction left-right). | ☐Yes ☐No |
| **8** | **Key components/parameters supplied with the Plasma arc welding (PAW) process:** | ☐Yes ☐No |
| 8.1 | PAW process conducted either in keyhole plasma mode or with wire mode. | ☐Yes ☐No |
| 8.2 | Wire feeder allowing the programming and control of feed rate, retract, delay, and pulsation (synchronized to current pulsation). Precise wire positioning device allowing operator to fine-tune the wire position in 2-axis directions in relation to weld torch and weld puddle, controlled from the operator's console is included. Wire feed rolls for at least 1.0, 1.2 mm wire are included. Wire spool while in operation is covered with a dust-protective case. Wire straightening, rolling gear is included. | ☐Yes ☐No |
| 8.3 | Separate high resolution color weld camera for the PAW torch with mounting brackets, water-cooled or gas-cooled body is included. Auxiliary lighting to aid in viewing the weld joint prior to welding is included. | ☐Yes ☐No |
| 8.4 | Magnetic oscillation module is included. The module allows to program the next oscillation parameters: frequency, left and right deviation, oscillation centerline, dwell and an amplitude of an arc motion not less than 9,5 mm. | ☐Yes ☐No |
| 8.5 | Welding power source rated output at 38 VDC, 100% duty cycle | Value: |
| 8.6 | Gas-cooled shield gas trailer with a separate from the torch shield gas supply nozzle intended for protection of a seam beneath the torch. | ☐Yes ☐No |
| **9** | **Key components/parameters supplied with the Gas tungsten arc welding (GTAW) process (applicable to both the main CAB and the supplementary CAB):** |  |
| 9.1 | Wire feeder allowing the programming and control of feed rate, retract, delay, and pulsation (synchronized to current pulsation). Precise wire positioning device allowing operator to fine-tune the wire position in 2-axis directions in relation to weld torch and weld puddle, controlled from the operator's console is included. Wire feed rolls for at least 1.0, 1.2 mm wire are included. Wire spool while in operation is covered with dust-protective case. Wire straightening, rolling gear is included. | ☐Yes ☐No |
| 9.2 | Separate high resolution colour weld camera for the GTAW torch with mounting brackets, water-cooled or gas-cooled body is included. Auxiliary lighting to aid in viewing the weld joint prior to welding is included. | ☐Yes ☐No |
| 9.3 | Magnetic oscillation module with water-cooled probe is included. The module allows to program the next oscillation parameters: frequency, left and right deviation, oscillation centreline, dwell and an amplitude of the magnetic field not less than 9,5 mm. | ☐Yes ☐No |
| 9.4 | High frequency arc starter for establishing GTAW arc at an outset | ☐Yes ☐No |
| 9.5 | Welding power source rated output at 38 VDC, 100% duty cycle | Value: |
| 9.6 | Welding power source can operate in programmable pulse mode | ☐Yes ☐No |
| 9.7 | Gas-cooled shield gas trailer with a separate from the torch shield gas supply nozzle intended for protection of a seam beneath the torch. | ☐Yes ☐No |
| **10** | **Miscellaneous other requirements:** |  |
| 10.1 | Price of the equipment includes crating, delivery to Ulonų g. 33, 62161 Alytus, Lithuania, assembly and commissioning. Unloading and storage of the equipment at the place of delivery are undertaken by Astra LT. | ☐Yes ☐No |
| 10.2 | Price of the equipment includes site performance acceptance testing program which aim is to check if target weld process objectives set by the Buyer are achieved. The testing program layout is presented in the Annex 2 to the Tender terms and Conditions. The successful execution of the testing program triggers the last 10% payment foreseen in the supply contract. | ☐Yes ☐No |
| 10.3 | CE declaration of conformity in English | ☐Yes ☐No |
| 10.4 | Safety requirements of usage of the equipment in English and Lithuanian. | ☐Yes ☐No |
| 10.5 | Operating manual in English both paper and electronic copy. | ☐Yes ☐No |
| 10.6 | Service manual with electrical and mechanical drawings, spare parts lists both in paper and electronic copy. | ☐Yes ☐No |
| 10.7 | Warranty period. | Value: |
| 10.8 | The equipment must be new (unused) and manufactured no earlier than 3 years before the date of purchase. | ☐Yes ☐No |

The next documents are supplemented with the tender\*:

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| --- | --- |
| **No** | **Title of the document:** |
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\*1. If some data provided in the attached commercial description, brochures of the equipment contradicts to statements filled in the tender form, then only the latter are valid and considered.

2. If some documents supplemented to the tender contain clauses or links to other documents containing clauses, them being in conflict with the Tender Terms and Conditions, such conflicting clauses are regarded void and invalid in advance.

The tender is valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ( minimum 3 months).

We, signed bellow, confirm that all information submitted in this tender is correct and valid; we have not concealed any important information needed to fulfil the above listed requirements.

We understand and agree that in the case of mismatch of the declared in the tender parameters with the actual ones, we will be expelled from the tender at any time. Such the elimination from the tender does not deprive the Buyer the right to require losses compensation as well.

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Name and surname of the authorized person Signature