**ANNEX 4** OF TENDER DOCUMENTATION

TECHNICAL SPECIFICATIONS

SUBJECT OF PROCUREMENT: Procurement of machines for laser cutting of diamond tools and vacuum soldering

NOTES: Bidder shall offer the subject of procurement with this table Technical specification that will make part of the bid and later of the contract. The Bidder needs to offer every item as required in the column 1 Required specifications. The offer is valid and acceptable only if it matches all the required specifications. It is not allowed to cross out or to correct any items in the column 1.

Bidder shall complete column 3 Offered Specifications, defining in detail technical specifications of pffered supplies (note: Bidder fills the exact specifications of offered supplies, while avoiding filing the columns only with words „compliant“ and, „equivalent“ or „yes“). Offers not compying with those requirements might be discarded.

The bidder can additionally fill out the column Notes, if considered relevant. Requirements of Technical Specifications represent minimum technical requirements for the offered supplies.

|  |  |  |  |
| --- | --- | --- | --- |
| **Item number:** |  |  |  |
| **1.** | ***GROUP 1: Laser tool processing machine with software*** |  |  |
|  | **Quantity: 1 Piece** |  |  |
|  | **Brand name:** |  |  |
|  | **Model:** |  |  |
|  | **Required specifications** | **Offered specifications** | **Notes** |
| 1.1. | Processing dimensions (of tools): diameter minimum fi=100mm, length minimum l=200mm |  |  |
| 1.2. | Cutting the geometry along the perimeter by surface intrpolation, equivalent to grindind by diameter |  |  |
| 1.3. | Compact 5-axis-gantry machine with rotary table |  |  |
| 1.4. | Swivel range -10° do 130° |  |  |
| 1.5. | Integrated pulsed fiber laser with precision scanner and focus lenght minimum 80 mm |  |  |
| 1.6. | Beam quality minimum M² < 1,6 |  |  |
| 1.7. | Technology for the production of defined cutting edge roundness based on HSM 2.0 |  |  |
| 1.8. | Later automation upgrade option (robot feeder) availability |  |  |
| 1.9. | Cooling unit for electrical cabinet |  |  |
| 1.10. | Exhaust unit material (1 fine dust filter F9, 1 particle filter H14, 1 activated carbon filter) |  |  |
| 1.11. | Offset camera with ring light for workpiece setup |  |  |
| 1.12. | Laser power meter for automatic measurement and adaptation to the required target power |  |  |
| 1.13. | 3D-measuring probe for workpiece measurement |  |  |
| 1.14. | Software for machine control according to the existing situation (according to point 2.1 of tender documentation) |  |  |
| 1.15. | Multi-touch screen control |  |  |
| 1.16. | Electronic hand wheel |  |  |
| 1.17. | Training of minimum 3 operators |  |  |
| 1.18. | Operating and programming instructions in Croatian or English language |  |  |
| 1.19. | Warranty minimum 18 months from delivery |  |  |
|  | | |  |
| **2.** | ***GROUP 1: Vacuum tool soldering machine with software*** |  |  |
|  | **Quantity: 1 Piece** |  |  |
|  | **Brand name:** |  |  |
|  | **Model:** |  |  |
|  | **Required specifications** | **Offered specifications** | **Notes** |
| 2.1. | Heathing method: short-wave infrared emitters |  |  |
| 2.2. | Heathing output: minimum 18kW maximum 24kW |  |  |
| 2.3. | Electrical connection: 3x400V 35A +N+PE 50Hz |  |  |
| 2.4. | Power consumption total unit: maximum 20kVa |  |  |
| 2.5. | Minimum brazing temperature: 50 °C |  |  |
| 2.6. | Maximum brazing temperature: 900 °C |  |  |
| 2.7. | Maximum vacuum: 10¯6 mbar |  |  |
| 2.8. | Possibility to set 3 different temperatures within the process |  |  |
| 2.9. | Possibility to set the process time up to 3 hours |  |  |
| 2.10. | Possibility of vertical placement (for the best temperature distribution during soldering) |  |  |
| 2.11. | Water cooling system |  |  |
| 2.12. | Machine frame: steel frame |  |  |
| 2.13. | High power turbo molecular pump with maximum speed 670 l/s |  |  |
| 2.14. | Brazer chamber is separated by a pneumatic spacer from the turbo molecular pump |  |  |
| 2.15. | Software for machine control |  |  |
| 2.16. | Multi-touch screen control |  |  |
| 2.17. | Electronic manual control |  |  |
| 2.18. | Documentation on Croatian or English language |  |  |
| 2.19. | Video instructions for education and maintenance on Croatian or English language |  |  |
| 2.20. | Warranty minimum 12 months from delivery date |  |  |

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M.P.

ON BEHALF OF THE BIDDER:

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