

## TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS

| SI No.                   | Description of items   | Quantity |
|--------------------------|--|----------|
| PUR/358/NDT/RK/E/2021-22 |  |          |
| 1                        | SUPPLY AND INSTALLATION OF AIR-LESS SHOT PEENING MACHINE<br>(DETAILED SPECIFICATION AS PER ANNEXURE – I) | 1 No.    |

### 1. DELIVERY AND INSTALLATION:

The ordered goods are to be delivered and installed at CSIR-CMERI, Durgapur within 05 months of receipt of Purchase Order. Installation should be carried out only by expert engineers of Supplier / Manufacturer.

### 2. WARRANTY

- 2.1. Standard OEM warranty will be provided by the supplier from the date of satisfactory installation of ordered goods.

### 3. BID SECURITY DECLARATION

- 3.1. Bid Securing Declaration in Company's Letter Head and duly signed by the authorized personal of the Bidder shall be provided by the supplier as per our format.

### 4. Manufacturer Authorisation Form

- 4.1 MAF will be provided by the supplier

### 5. PERFORMANCE SECURITY:

- 5.1. Performance Security @3% of Invoice value is to be furnished by the supplier within 21(twenty-one) days from the date of Purchase Order and it should remain valid for a period of 60 (sixty) days beyond the contract period.

### 6. PAYMENT TERM:

- 6.1 100% payment shall be paid within 30 days after delivery and satisfactory installation of ordered goods upon submission of the Performance Security.

### 7. BID SECURING DECLARATION:

- 7.1 Bid Securing Declaration is to be submitted by the Bidder as per the format prescribed in the tender document.

### 8. CERTIFICATE FOR LOCAL CONTENT:

- 8.1 Certificate for local content to be provided by the supplier in form 14 (Format attached along with Tender Document). Percentage of value addition & Name and address of the factory where the value addition was made should be mentioned clearly in the Form 14.

## Annexure-I

### Air-less Shot Peening Machine

| <b>A. Technical Specification of Rotor</b> |   |   |
|--|---|---|
| <b>S.No.</b>                               | <b>Description</b>  | <b>Parameter/Unit</b>                                       |
| 1.   | Number of Rotor (Blast Wheel)                               | One or Two  |
| 2.   | Blast Wheel Size  | Wheel size minimum of 2.5 inch width and 19.5 inch diameter |
| 3.   | Number of Rotor Blade                                       | 6 to 8  |
| 4.   | H.P. of Rotor   | 15 H.P. or above  |
| 5.   | RPM of Rotor (min.)   | 2600 to 2800 RPM  |
| 6.   | Hardness of Control cage, Impeller and other parts of Rotor | 50 to 60 HRC  |
| 7.   | Hardness of Rotor Blade/ Blade Impeller                     | 60 to 70 HRC  |

| <b>B. Technical Specification of Shot Flow</b> |                                       |  |
|--|---------------------------------------|--|
| <b>S.No.</b>                                   | <b>Description</b>                    | <b>Parameter/Unit</b>  |
| 1.   | Shot Flow Rate (min.)                 | 5000 to 8000 Kg/Hr   |
| 2.   | Shot Velocity                         | 70 to 80 Mtr/Sec   |
| 3.   | Initial Fill Requirement of Shots     | 200 to 500 Kg  |
| 4.   | Provision to use different Shot Sizes | Diameter- 1 to 4 mm  |
| 5.   | Shot Separator                        | For separating small (1 mm) and large size shots (4 mm), dust and other ingredients. |

| <b>C. Peening Chamber Requirement</b> |  |   |
|---------------------------------------|--|---|
| <b>S.No.</b>                          | <b>Description</b>   | <b>Parameter/Unit</b>   |
| 1.                                    | Diameter of Swing Table  | Minimum 1200 mm   |
| 2.                                    | Swing Table specification  | Minimum 8 mm thickness with austenitic Manganese steel liner (Ni-Hard./Hi-Chrome/ Mn-Steel)                           |
| 3.                                    | Working height of above the Table  | Minimum 600 mm  |
| 4.                                    | Manganese steel/Ni-Hard./Hi-Chrome liner inside peening cabinet with Single Door | 8 to 12 mm thickness (it should be in hardened condition in order to resist any wear & tear during peening operation) |

*Padge*

|    |                                 |   |
|----|---------------------------------|---|
| 5. | Loading capacity of Swing Table | Upto 800 kg <i>or higher</i> <i>✓</i>                                     |
| 6. | RPM of the Swing Table          | 2 to 5 RPM  |
| 7. | Peening Chamber                 | It should be dust proof; no dust/powder should come out from the chamber. |

| <i>D.</i> Filter System |   |   |
|-------------------------|---|---|
| S.No.                   | Description   | Parameter/Unit  |
| 1.                      | Type of Dust Collector                                    | Fabric Bag/ Cotton (woven) Bag/Polyester Felt Bag/ Nylon felt Bag or any. |
| 2.                      | CFM of Dust Collector                                     | 1500 to 2000 CFM (Cubic Feet per Minute)                                  |
| 3.                      | Number of Bags  | 20 Nos. or Higher   |
| 4.                      | Bag Shaking Arrangement                                   | Auto Shaking Arrangement/Auto-mechanical/Motorized Shaker                 |
| 5.                      | Drive for Shaker Motor                                    | 1 HP or above   |
| 6.                      | Compressed Air Requirement (to control the flow of shots) | 5 to 20 CFM   |
| 7.                      | Noise Level   | ≤ 85 dB at 1 meter of distance  |
| 8.                      | Dust emission level                                       | ≤ 80Mg/m <sup>3</sup>   |

| <i>E.</i> Electric Power |   |                |
|--------------------------|---|----------------|
| S.No.                    | Description   | Parameter/Unit |
| 1.                       | Total Power Requirement with single door m/c (Includes Blast Wheel, Drive for Shaker Motor, Dust Collector Unit, Feeding arrangement) | 15 to 25 HP    |

| <i>F.</i> Additional Accessories/Safety Feature |  |
|---|--|
| S.No.   | Description  |
| 1.  | PLC Automated Controller system/Automatic Time Control with HMI. |
| 2.  | Emergency switch to turn off the machine.                        |
| 3.  | Window for monitoring the operating condition of the workpiece.  |
| 4.  | Blast wheel would start only after closing the door.             |

*✓*