

**TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS**

Sl No.	Description of items	Quantity
PUR/261/MPML/MP/E/2020-21		
1	SUPPLY, INSTALLATION AND COMMISSIONING OF HIGH TEMPERATURE VACUUM FURNACE.	1 No.

**1. INSTALLATION, COMMISSIONING AND TRAINING**

- 1.1. The ordered goods are to be installed within 15 days of receipt of goods at CSIR-CMERI, Durgapur. Installation should be carried out only by expert engineers of Supplier / Manufacturer at Free of Cost basis. During the course of installation, necessary training on operation and maintenance of the goods shall be imparted to Institutes Scientist / Engineers/Technicians.

**2. WARRANTY**

- 2.1. Comprehensive on-site warranty for a period of one year must be provided to be effective from the date of successful Installation, Commissioning and Training and final acceptance of the items / equipment at the user's laboratory / Institute.


**3. PERFORMANCE SECURITY**

- 3.1 3 % of the Invoice Value.

## Annexure – I

The specification for the High Temperature Vacuum Furnace is as follows:

- ❖ Temperature working range: RT to 1200 °C
- ❖ Max. temperature: 1400 °C
- ❖ Temperature accuracy:  $\pm 5$  °C
- ❖ Temperature controller: Touchscreen PID temperature control 30-segment digital controller
- ❖ Heating rate: 1–10 °C/min
- ❖ Inner Chamber Size: 450 x 450 x 650 mm
- ❖ Inner Chamber Material: Inconel-600
- ❖ Retort size: 250 x 250 x 400 mm (with the provision of a shelf or stage in between)
- ❖ Retort material: Inconel alloy
- ❖ Heating element material: High quality MoS<sub>2</sub> rod
- ❖ Atmosphere system: Vacuum/Ar/N<sub>2</sub>/Gas controlled
- ❖ Vacuum level:  $10^{-3}$  torr at retort
- ❖ Gas flow controller: Digital gas flow meter
- ❖ Gas flow range: 0–5 lpm
- ❖ Chiller: Water chilling unit
- ❖ Protection and safety: Over temperature protection, Over current protection, Over temperature protection.

 24/12/2020