

Tender No.: AS/CHE/2013-14/ENQ/Nov-02

Last Date: 17.12.2013

Subject : Purchase Enquiry for Tube Furnace

Sealed quotation (separate technical and commercial bid) by post/courier is invited for the supply of Tube Furnace (1 Unit) as per the following specifications along with your complete terms and conditions. Your quote should be valid for minimum 90 days. Party must attach all the related certificates like Agency certificate, Proprietary item certificate (if applicable). Any quotation that does not carry technical and commercial bid separately or not accompanied with proper certificate will not be considered.

Specifications

- Max. Temperature : 1500°C with SiC heating rods
- Tube Dimensions : The Horizontal furnace having ceramic (high purity alumina)/ INCONEL tube should have an Inner diameter of 70mm and length 830 mm with heated length of 450 mm.
- The tube and the heating coils should be able to withstand prolonged operation at 1350°C and should be able to withstand sudden power cuts
- Constant Temperature zone ($\pm 10K$) should be atleast 150mm in length.
- The furnace must be fitted with R or S Type Thermocouple to control the temperature with accuracy of $\pm 1^\circ C$ and over temperature limit controller. Control Panel consist of Mains MCB Switch, Indicator lights, Voltmeter and Ammeter.
- Microprocessor based digital thyrister controlled Temperature programmable PID controller cum indicator with atleast three programmes having 8 steps of ramp and soak control in each programme.
- Gas Supply System: Can work with non-inflammable gases at the pressure of 300mmHg. Should be equipped with Gas tight water cooled Stainless Steel flanges and Gas supply system with Non Return Valves and flow meter, mounting bracket system on furnace for the flanges for supporting tube.
- Vacuum: System can hold the vacuum of 10^{-2} mBar at 1350°C or better with Ball valve and vacuum bellows upto the vacuum pump.
- Suitable Rotary Vacuum Pump with Trap.
- Suitable Water Chillier (having tank capacity of 50 liters) with pump for cooling flanges with required tubing etc,
- Gas supply system for one nonflammable protective gas (Ar/N₂) with shutoff & Non return Valves and flow meter with control valve (volume 50-500 l/hr), gas outlet valve, piped and ready to connect.
- Power: 230V AC single phase. Voltage stabilizer should be provided with the furnace
- Those who have supplied atleast Five similar furnaces to Indian research organisations of repute in past three years are eligible.

Quote Separately as Optional Items:

1. Two heating filaments with spares for connection

2. Two sets of O-rings
3. One set of thermocouple

Must Include:

1. Warranty for Three Years
2. Applicable Taxes
3. List of users of similar furnace in India.

Kindly send technical and commercial bids in separate envelopes.

Quotation must reach at the following address on or before Dec 17, 2013.

Prof. Ashutosh Sharma
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Kanpur 208016 INDIA