

Tender document

Department of Chemical Engineering
Indian Institute of Technology Kanpur
Kanpur (UP) 208016 India

Enquiry no: IITK/CHE/HS/2022/VSF

Date- 31-05-2022

Sub. Tender Enquiry for Vertical Split Furnace as per Specifications (1 no.)

Tender closing date: June 10th, 2022

We are interested in purchasing a Vertical Split Furnace (1 no.) having following specifications.

Working Temp (°C)	1050
Hot Zone Size (mm)	ID: 27, L: 200
Uniform Hot Zone Length	50 mm
Power Rating	2 kW, Single Phase
Configuration	Vertical
Control Zone	Single
Construction in Steel with Anti Corrosion Coating	Dual Body Fan Cooling
Work Tube	Replaceable
Work Tube Type	Quartz, OD: 30 mm, ID: 27 mm, L: 800 mm
Sample Holder in Quartz Tube	Quartz sample holder for placing the sample
Insulation	Non carcinogenic crystal fiber insulation at hot face. Multi-layer insulation with backing up insulation having thermal conductivity of 0.03 watt/mK at 600 °C. Insulation made of 99% silica.
Heater Type	Free radiating
Heater	A-1 supported on alumina tube embedded in fiber board
SS Flange for Gas Purging	SS flange with 6 mm swagelok port for gas inlet and gas outlet. Quick clamp connection for easy sample removal and loading.
Average Rate of Heating	10 °C/Min
Thermocouple Type	K
TC Protection Sheath	Inconel sheath

Control Panel	Programmable controller with self-diagnostic feature IoT compatible / enabled Inbuilt removable SDHC memory card based data logger Alphanumeric four line backlit LCDscreen Robust feather-touch keypad PC visualization and control software RS485 communications port, ethernet communications port Three (3) limit switches configuration Inbuilt thyristor triggering, phase angle fired Soft start/soft stop, power tuned, solid state relay
Self Diagnostic features	Thermocouple fault detection Under voltage detection/protection Over voltage detection/protection Over current detection/protection Thyristor fault detection Heater filament fault detection Power Transformer fault detection
Spares	One quartz tube
Safety Features	TC break Over current
Minimum Temperature for Control	200 °C

Additional requirements:

1. In technical evaluation, institute reserves the right to verify the technical specifications through various sources including the submitted brochure, company website, etc. Inconsistency or ambiguity in information may lead to disqualification. Recommendations from previous buyers can also be taken into consideration. In case of any negative feedback from any existing user, institute reserves the right to summarily reject the bid without any further clarification.
2. Suppliers must have at least 10 installations of split furnaces having exact or very similar specifications to premier institutes in India such as IITs, IISERs, IISc, and CSIR labs in last 5 years. Contact details of the respective buyers must be provided.
3. If needed, institute may invite the bidders for demonstration as the second step of technical screening.
4. The product should come with at least one year of warranty against manufacturing defects including on the controller(s), heating element(s), etc.
5. Terms and conditions, and deviations should be clearly stated with the signature of the responsible person.

6. Testing of the product onsite is mandatory.
7. The Institute reserves the right of accepting or rejecting any quotations without assigning any reason thereof.

To,
Dr. Himanshu Sharma
Department of Chemical Engineering
IIT Kanpur, U.P. India
Email: sharmah@iitk.ac.in
Ph. 0512 2592073