Enquiry No: ME-MSP/KKK/15/2013 **Dated: December 23, 2013**

Sealed Quotation (Technical & Commercial, separately) must reach to us till 05.01.2014 before 5.00PM and should be sent to Kamal K. Kar, Department of Mechanical Engineering, Room # ACMS 204, IIT-Kanpur, 208016 against the enquiry letter numbered **ME-MSP/KKK/15/2013 Dated: December 23, 2013**.

Dear Sir/Madam:

Quotations (Technical & Commercial, separately) are invited for purchase of **"High Temperature Muffle Furnace:1400^{o}C"** having following specifications:

Specifications :

S. NO.	PARAMETER	SPECIFICATIONS
1	Construction	Should be constructed on heavy angle iron frame of not less than 1.5mm thick and outer body is made of thick gauge M.S. sheet, which is reinforced with thick front steel plate of not less than 10mm thick. Outer body should be welded and bolted nicely with angle iron frame and strong enough to take the thrust of heat arc. The furnace should be mounted on a Heavy angle iron stand duly painted of suitable height for easy operation.
2	Door :-	Well insulated door made of thick Gauge M.S. Sheet having centre hole with sliding window for viewing the furnace chamber while in operation and to pass air/gas whenever necessary. Automatic cut-off system of limit-switch is to be provided for power cut-off to system when door is opened.
3	Chamber base and insulation :-	Should be made from high purity special refractory material of proper thickness so that it can withstand the working load at maximum temperature. Adequate Low Thermal Mass insulation of Asbestos free, light weight, effective , Ceramic fibre board & blanket is to be provided from all sides of furnace which provide rapid heating rate inside the chamber. Proper insulation should be provided for minimum outer skin temperature, which prevent thermal radiation losses, thus utilising low power significantly and making the furnace cost-effective.
4	Inner chamber size:-	150 mm(W) x 150mm(H) x 300mm(D)
5	Continuous working temperature :-	ambient to 1400°C
6	Gas ventilation:-	yes
7	Heating elements:-	Twelve (550x150x18mm), Silicon Carbide heating elements with sufficient load rating, should be placed on left and right side inside the chamber in vertical direction for working temperature upto 1400°C.
8	Temperature control & programming:-	Fully automatic Microprocessor based auto tuned digital PID Profile Programmer with dual display , one for set temperature value and other Process Temperature display

9	Programme	Minimum 15 steps
10	Heating rate	Minimum: 0.5 ^{o}C. Maximum: 8 ^{o}C
11	Thermocouple	Platinum based
12	Control panel:-	consists of mains MCB switch, Digital PID Programmer, voltmeter & Ampere meter, indicator lights, connecting power cord, suitable for 230 V AC Single Phase Operation.

Other Terms & Conditions:

1. Prices should be FOB (your international airport), CIP New Delhi, and IIT-Kanpur including Packing and Forwarding, Insurance and fright.
2. Prices should include the installation cost.
3. Warranty should at least be for three years after installation.
4. Validity of quotation should be at least for 90 days.
5. Maximum educational discount
7. Any other charges from your side.
8. User list of this equipment in India (preferably IIT) (MUST)
9. Proprietary certificate, if any
10. Authorization letter from your principal
11. Agency commission, if any

You can separately quote for higher specification (temperature/heating rate, if it is available with you.

You will be informed accordingly by appropriate authorities if your bid is accepted. Please do not make unnecessary and unsolicited phone calls and emails (except to seek a clarification for the tender), you will be contacted as per need.

Kindly mention **""High Temperature Muffle Furnace:1400^{o}C""(ME-MSP/KKK/15/2013 Dated: December 23, 2013)**" on sealed envelope carrying quotation and printed literature and send your best offer (Technical & Commercial, separately) so as to reach us on or before 05-01-2014 to the following address-

Prof. Kamal K. Kar,
Department of Mechanical Engineering
Room # 204 ACMS
IIT Kanpur – 208016 India, Email: kamalkk@iitk.ac.in