

**Government of India  
Bhabha Atomic Research Centre  
Physics Group  
High Pressure & Synchrotron Radiation Physics Division**

Purnima Labs  
11/05/2022


Ref: HP&SRPD/NNP/MF/2022/40257

**Sub: Minor Fabrication - invitation of quotations for the job: "Fabrication, supply and installation of various components of high pressure high temperature lab as per specifications"**

**Due Date: On or before 20/05//2022**

Dear Sir,

1. Quotations are invited for the minor fabrication job, as per the enclosed specifications.
2. Bidder shall quote for fabrication of these components with material.
3. Taxes shall be quoted separately. Form H shall be provided where necessary.
4. Bidder must **quote in a two part tendering system**, which means that **they will mention the technical specifications and financial terms in separate sealed envelopes, clearly mentioning which is which**. These two separate envelopes viz. technical and financial will be enclosed in a bigger sealed envelope super scribed with the above reference number and due date.
5. The quotations must reach HP&SRPD office **only through registered post/speed post through Indian Postal Services on or before the due date** referred above.
6. The address on the envelope should read:  
**Head, High Pressure & Synchrotron Radiation Physics Division  
Purnima Labs, Bhabha Atomic Research Centre  
Trombay, Mumbai - 400 085.  
Attn: Nishant N Patel**
7. The fabrication work shall be subject to inspection by our representative. The finished components shall not be dispatched prior to approval by our representative at the bidder's works. Necessary inspection facilities should be provided to our representatives during fabrication at bidder's premises.
8. The bidder shall deliver the finished components after approval by our representative. The finished components shall be delivered by the bidder at CFB, BARC, Mumbai.
9. Head, HP&SRPD, BARC, reserves the right to accept/reject any or all quotations without assigning any reason.
10. Payment will be made by cheque only after satisfactory completion of work on production of bill and advance stamped receipt. It may be noted that Income tax @2% & Surcharge on IT as applicable will be deducted from you bill. 3% Education cess (on IT & SC) will also be deducted on income tax as surcharge.
11. Job will be guaranteed against material and manufacturing defects for 1 year from the date of supply.

  
11/05/2022  
(Dr. Nishant N Patel)  
SO/F, HP&SRPD

Enclosure: Detail technical specifications

N.B: For any clarifications please contact at 022 25591323/1203 during 11:00 to 17:00 hours on all working days.

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**Details of Fabrication Work:**

1. Fabrication, Supply and Installation of various components for high pressure high temperature lab as per attached specifications at room no 245-S, CFB building.

List of material required are given below:

Sr. No.	Name of items	Qty
1.	Design and fabrication of resistive heater compatible with our Mao-Bell (MB) type high pressure (HP) cell. Ceramic heating element; heater with protective coating should be provided for heating of MB-type high pressure cell up to 600 °C or more. Heater must have arrangement of clamping for good thermal contact with HP cell body. Heater must be design with other specifications such as it must be easily removed and re-fixed on HP cell. It should not obstruct optical windows of cell for various <i>in-situ</i> spectroscopic measurements. Required inner diameter of heater approximately 32 mm; length of heater ~ 25 mm; input power: DC variable up to 100 W.	05 Nos.
2.	Design and fabrication of protective thermal insulation jacket for resistive heater mentioned in Sr. no. 1. Heater must withstand the highest temperature of heater body without any degradation. Insulation medium: ceramic wool with other insulating materials. It must have easy fitting arrangement with good contact with heater to minimize heat loss. Jacket should not obscure the working of heater and HP cell.	03 Nos.
3.	Supply of DC regulated power supply for resistive heater assembly (sr. 1 and 2.). Input voltage: 230 V AC, 50 Hz, single phase. Output current: 0-5 Amp DC; output voltage: 0- 30 Volt DC. Power supply must have coarse and fine adjustment modes for output DC voltage and current with integrated digital ammeter and digital voltmeter. It must have terminals for heater connection. Operation mode: constant current/constant voltage; cooling: Air cooled; operating temperature: 0-50 °C.	01 No.
4.	Barrier for dark room suitable for various high pressure high temperature spectroscopic measurements such as laser heating etc. with two openable exists with optical glass viewing window of size (~8 cm x 20 cm). The frame work of the partition to be made of aluminum sections of 50 x 35 x 16G at 600 c/c with 3 mm thick ACP of plain colour on both sides. The joints to be sealed with silicon sealant and waterproof glue. Approximate dimension of barrier is 15 ft x 10 ft ; (~150 sq. ft). Materials supplied must be fire resistant.	01 No.
5.	System mounting platform with data storage facility in powder coating finish with openable fire resistant shutters, adjustable shelves. Upto 20" deep. The cabinet to be made of 20/22 G MS sheet duly powder coated. It shall be provided with 12 pairs of openable shutters, adjustable shelves, locking arrangement. The top of the working table to be 16 mm thick black	01 No.

*[Handwritten Signature]*

	granite with machine polished edges. Approximate dimension (15 ft x 7 ft~ 105 sq. ft) must be adjusted to the available space in laboratory.	
6.	System mounting platform with data storage facility in powder coating finish with 10 pairs of openable shutters, adjustable shelves. Upto 20" deep. The cabinet to be made of 20/22 G MS sheet duly powder coated. It shall be provided with openable shutters, adjustable shelves, locking arrangement. The top of the working table to be 16 mm thick black granite with machine polished edges. Approximate dimension (14 ft x 7 ft~ 98 sq. ft) must be adjusted to the available space in laboratory.	01 No.
7.	Barrier for dark room suitable for various spectroscopic measurements such as photo laminations, diffused reflectance spectroscopy etc. with openable exists with optical glass viewing window of size (~8 cm x 20 cm). The frame work of the partition to be made of aluminum sections of 50 x 35 x 16G at 600 c/c with 3 mm thick ACP of plain color on both sides. The joints to be sealed with silicon sealent and waterproof glue. Approximate dimension of barrier is 15.5 ft x 7.5 ft ; (~116 sq. ft). Materials supplied must be fire resistant.	01 No.
8.	System mounting platform with data storage facility in powder coating finish with 12 pairs of openable fire resistant shutters, adjustable shelves. Upto 20" deep. The cabinet to be made of 20/22 G MS sheet duly powder coated. It shall be provided with openable shutters, adjustable shelves, locking arrangement. The top of the working table to be 16 mm thick black granite with machine polished edges. Approximate dimension (16 ft x 7 ft~ 112 sq. ft) must be adjusted to the available space in laboratory.	01 No.
9.	Three drawer mobile storage unit. The component storage cabinet to be made of 20/22 G MS sheet duly powder coated. It shall be provided with 3 compartments mounted on telescopic glides, central locking arrangement, solid fibre ball type gliders.	01 No.

**Note: 1) Other essential terms and condition as per Annexure -X**

*(Signature)*

## Annexure-X

### 1. Scope:

This specification outlines the Fabrication, Supply and Installation of various components for high pressure high temperature lab as per attached specifications at room no 245-S, CFB building.

### 2. Layout:

The furniture shall be modular in configuration. The supplier can suggest modifications / alternatives to the proposed layout meeting aesthetics and ergonomics. However user has the right to reject or accept changes suggested by supplier.

### 3. Information along with Technical offer:

- a. The Bidder shall workout a detailed design to meet general requirements as mentioned and specific Technical requirement of main construction material as mentioned. It is mandatory to submit dimensional drawing giving all the salient features and construction details of individual workstation and architectural view of the proposed arrangement along with the offer.
- b. Bidder shall submit the list of their clients and catalogues or literature to support their quotation.
- c. The bidder shall indicate in detail the standards adopted for the materials and processes and the quality control procedure followed by them.
- d. Time required for manufacture, delivery and installation in the event of order placement.
- e. Without above detailed information offer will be considered incomplete and will be liable to get rejected.
- f. Supplier must quote for all the items. Offer with partial quotation of items will be liable to get rejected.
- g. For any further technical clarifications supplier may contact Dr. Nishant N Patel, Ph. 022-25591323 during all working days between 11:00 to 17:00 hours.

### 4. Supplier Qualification:

The dimensions mentioned are tentative. For exact dimensions the supplier should take the actual measurements at site. Supplier can suggest the colour, aesthetics, and layout as suitable for the site conditions. Supplier must offer best quality / IS certified products for the manufacture of furniture. However, supplier will be responsible for supply, installation and post services if any. Supplier should have similar work experience along with the offer. The supplier should submit the details of past experience.

*(Signature)*

### **Terms and conditions with General Specifications:**

- 1) All Corners should be rounded with PVC edging/bidding. All metal structures should have provision for proper electrical grounding. Good Quality make hardware should be used. All steel components should be followed by electrostatic painting process confirming to IS: 101-1964-CL 15 or better and same should be backed with certification. The Process should preferably confirm to IS: 2074-1962 or better and same should be backed with certification. All steel components should be made of cold rolled close annealed tested SAIL steel.
- 2) Before taking up fabrication work, the Supplier should depute one technician/carpenter to see the location and fixing of overhead storage unit, cubicle, etc.
- 3) Sample Unit may be required for confirming the quality of material, workmanship and for approval before the final order.
- 4) All the items should be made as per specifications provided with tender enquiry.
- 5) All available color schemes are to be submitted for approval by the purchaser/user.
- 6) For all the locks, minimum two set of keys should be provided.
- 7) The supplier at his own cost will suitably install the above items within the period of 90 days from the receipt of purchase order.
- 9) The supplier should inform us about 15 days in advance before planning the installations.
- 10) The supplier should have working staff holding police verification certificate, for the supply and installations at user site.
- 11) The vendor must list the addresses of BARC Clients for whom they have supplied similar kind of items with the name and contact number of the purchasers. No further correspondence or communication (written or telephonic) will be carried out with the suppliers regarding any clarifications and documentation on list of the BARC clients if copy of the same is not attached while submitting their quotations.
- 12) Free on-site Guarantee for 12 months must be provided by the suppliers.
- 13) The product should have tested as per BIFMA standards.
- 14) Pre-dispatch Inspection will be done at supplier site before packing the products.

The company should adhere strictly to the specification of all items such as pretreatment and powder coating processes.

All Products shall have a minimum of one year warranty against any manufacturing / assembling defects.

