

**Government of India
Bhabha Atomic Research Centre
Technical Physics Division
Mumbai-400 085**

Purnima Labs
Date: 01/09/2017

Due Date: 15/09/2017

Ref: TPD/NXPS/MF/TP/127

Sub: Fabrication and supply of water cooled Faraday cup for ion beam current measurement

Dear Sir,

1. Quotations are invited for fabrication and supply water cooled Faraday cup for ion beam current measurement as per specifications attached herewith.
2. Bidder shall quote for fabrication and supply of these components with material. Taxes shall be quoted separately.
3. The quotation must reach, Head, Technical Physics Division on or before the due date and must be sent in a sealed envelope super scribed with the above reference number and due date given above through **register post/speed post of Indian Postal Services only**.
4. The address on the envelope should read:

The Head, Technical Physics Division
Bhabha Atomic Research Centre
Purnima Labs., Trombay, Mumbai 400085.

Attn: Mr. Tarun Patel

5. The bidder shall have to take an insurance policy against any material issued to him by the purchaser as free issue material.
6. 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 engineers during fabrication at bidder's premises.
7. The bidder shall deliver and install the finished components after approval by our representative, within stipulated delivery time from the date of the firm purchase order issued to the bidder. The finished components and the scrap from the free issue material shall be delivered by the bidder at Purnima Laboratory, Technical Physics Division, B.A.R.C., Trombay, Mumbai 400085.
8. Head, Technical Physics Division, BARC, reserves the right to accept/reject any or all quotations without assigning any reason.
9. Detailed drawing if required will be made available after issue of order.
10. Bidder must provide PAN, GST number in the quotation.

(Tarun Patel)
Scientific Officer /E
Technical Physics Division
For and on behalf of President of India

Specifications of water cooled Faraday cup for ion beam current measurement

1) Water cooled Faraday cup: -1 No.

1. Beam current measurement : 0-1 mA DC current of Deuteron beam
2. Cooling capacity : 300 W
3. Cup should be made of Tungsten and Copper, size: 40 mm ID, 50 mm OD and L= 30 mm
4. It should be electro-pneumatically operated between 4 to 6 kg/cm² pneumatic pressure.
5. Pneumatic stroke length = 50-60 mm
6. Pneumatic connection: ¼” Push-in connector
7. Water connection: 10 mm OD universal quick connector
8. Beam measurement connector: female BNC
9. Electron suppressor to be provided with MHV feed-through for (-) 500 V and will be connected to the power sources placed outside.
10. It should be provided with slit with 40 mm ID to suppress large size beam.
11. Both end flanges should be 6” OD Std. NEC.
12. Total length from end flange to end flange should be = 200 mm.
13. 2-way Solenoid valve should be provided for electro-pneumatic operation.
14. Input voltage for solenoid: 230± 10% VAC, 50 Hz
15. Non potential Open & Close position indicating switch should be provided.
16. All components should be made of vacuum grade Stainless steel
17. It should be compatible with ultra-high vacuum in the order of 10⁷ mbar
18. Vacuum leak rate should be less than 10⁻¹⁰ mbar-l/s.

Note:

1. Detailed drawing should be approved by indenter before fabrication.
2. Warranty: 1 year from the date of delivery
3. Delivery Place: North gate, BARC, Trombay, Mumbai-85.

General Specifications

1.0. Quality surveillance, inspection and inspection report:

1.1. All work covered by the specification shall be subject to quality surveillance by the purchaser or his authorized representative for which purpose the fabricator shall allow access at all reasonable times during manufacture to:

1.1.1 the premises in which the work is being carried out;

1.1.2 the drawings and/or tooling involved

1.1.3 gauges, inspection instruments etc. required for inspecting the work.

1.2. Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.

1.3. The fabricator shall submit three copies of inspection reports to the purchaser for approval if requires.

1.4. Components found unsatisfactory as to workmanship or material shall be removed by fabricator and replaced by components which are satisfactory.

1.5. Fabricator shall use materials as specified by the purchaser and submit to the purchaser, the material test certificate for approval.

1.6. The finished components shall not be dispatched prior to approval by our engineer at bidder's works.

2.0. Delivery

2.1 The bidder shall deliver the finished components after approval by our engineer within the delivery period mentioned in the firm purchase order issued to the bidder.

3.0 Sub contract

The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible to the purchaser for all work of the subcontractor of the fabricator, if allowed by the purchaser.

4.0 Tax

4.1 Except GST no other taxes are payable.

4.2 Income tax @ 2% will be deducted from the bill.

5.0 Delivery: All materials should be delivered to **Purnima building, BARC, Trombay, Mumbai -400 085.**