

**Government of India  
Bhabha Atomic Research Centre  
Post Irradiation Examination Division  
Radiological Laboratories, Trombay, Mumbai 400 085**

Tel: 2559 4021, Fax: 2550 5151  
Ref: PIED/NHCF/SJ/2021/825A

03.12.2021

Sub: Design, Fabrication and Supply of **High-speed Cutting System for irradiated sample.**

Dear Sir,

Please send us your lowest quotation for supply at RLG as per the scope of work given below:

**Scope of work:**

"Design, Fabrication and Supply of a High-speed Cutting System for irradiated sample" with good repeatability (in terms of cutting thickness) to be used for metallographic preparation of radioactive samples within a short duration.

**TECHNICAL SPECIFICATIONS**

**GENERAL:**

- Supply, Installation & Commissioning of tabletop, High-speed Cutting System.
- The system should be a user friendly and easy to operate tabletop model with high precision,
- Size: Approximately 450 x 650 x 800 mm,
- Parameters such as positioning and cutting shall be displayed in a graphic mode automatically for monitoring during the process.
- The motor cutting power should be below 1kW.
- Load Monitoring in LCD Display – It should be possible to monitor the load on the cutting motor through the display on the front panel.
- Automatic Cutting - The machine should automatically detect when the work-piece has been cut through and the cutting wheel should return to the start position.
- The system should have single bed cutting table of approximately 250 X 150 mm. The cutting table should have T slots for fixing clamping devices.
- It should be possible to adjust the height of cut off wheel to enable use of variety of clamping tools and cut off wheels ranging from 75 to 200 mm in diameter.
- The system should have emergency stop switch. In case of failure or problem during cutting user should be able to stop the function with the help of emergency switch.
- System should start its cutting operation only when safety cover is closed. Door locking mechanism should be part of the system.

**CUTTING TABLE:**

- The system should have a movable cutting table of approximately 250 X 150 mm, made out of corrosion resistant steel.



- Movement of cutting table should be in y-direction. The single table should have T slots for clamping flexibility.
- The back-and-forth movement of the cutting table (i.e. towards or away from the wheel) should be with the joystick control for quick positioning of the sample.
- It should be possible to pre-set the feed speed of the y- table from 0.005 to 3mm/s in the steps of 0.005mm. If this feed speed is set too high resulting in motor overload, there should be a mechanism to reduce the speed automatically to an appropriate value.

#### **ACCESSORIES & SPECIMEN HOLDERS:**

- Clamping device to hold up to 70 mm or higher dia. cylindrical specimen on right side – 01 set
- Clamping device to hold specimen from left side– 01 set
- Vertical clamping device to hold the uneven/irregularly shaped sample

#### **CUT-OFF WHEEL:**

- The machine should accommodate the cut-off wheel size from 75 to 200 mm dia.
- It should be possible to vary the cut-off wheel rotational speed from 300 rpm to 5000 rpm in the steps of 100 rpm increment.

#### **CAPACITY OF THE MACHINE:**

- It should be possible to cut a specimen up to 70 mm dia or 150 X 50 mm in size (maximum)
- It should be possible to pre-set the cutting length from 0 to 200 mm in the steps of 1 mm

#### **RE-CIRCULATION COOLING UNIT:**

- The system should have built-in re-circulation cooling unit
- It should ensure constant low temperature during cutting & efficient removal cutting debris.
- The system should have line laser for easy positioning and pre-determining the exact position of cut.
- The coolant should be applied to both sides of the cutting wheel and it should track with the wheel for long cuts.
- There should be a provision of hose to clean the chamber & area around clamping device.
- It should be possible to clean the hose and the tank very easily.
- The capacity of re-circulation cooling unit should not be more than 5 liters.



### **SAFETY FEATURES:**

The cutting process should not start until the cover is closed completely. After the start button pressed, the cover should get locked mechanically and it should not be possible to open it until the cut-off wheel is stopped. Exhaust provision should be there at the back side of the machine.

### **Terms and Conditions:**

1. The work is to be completed within 30 days of receiving the firm work order from us. Any delay which is attributable to the contractor is liable for penalty @ ½ % per week (max 5%) to be imposed.
2. **The offer shall be valid at least for a period of 45 days after due date and the quoted amount shall remain firm during the period of execution.**
3. The supply of material should be accompanied with Purity Certificate of the metal.
4. The quotations are to be sent in two parts, (Technical Specifications and Price Quotation) in two separate envelopes with the following information marked on top of the envelope: **“Design, Fabrication and Supply of High-speed Cutting System for irradiated sample”**.
5. Offers only sent by **Speed post or Registered post of Indian Postal Service will be accepted**. Offers sent by telegram, telex, fax or e-mail will **not** be considered.
6. The sealed quotations shall reach the office of the Head PIED, New Hot Cells Facility, RLG, Mumbai – 400085 on or before **17/12/2021**.
7. Please address your offer to: **Saee Jagtap, SO/C, Post Irradiation Examination Division, RLG, BARC, Trombay, Mumbai - 400 085**.
8. All taxes should be mentioned clearly.
9. **Goods & Services Tax@5%:** The goods proposed to be fabricated or supplied pertaining to this work order are meant for research purpose of Research Institution under Department of Atomic Energy, Government of India and hence are exempt from payment of GST in terms of Notification No. 47/2017 integrated tax (rate) dated 14.11.2017 issued by Ministry of Finance, Department of Revenue of Government of India. In the event of order, as per the notification a certificate will be made available by the Purchaser to claim integrated GST at concessional rate or as applicable at the time of supply duly signed by the authorized officer in the Department of Atomic Energy, Government of India.
10. Quotation should be on a printed letter head /quotation format which should consist of Goods and Sales Tax Registration Number, PAN Number of the firm, Service Registration Number, etc and shall be duly signed by the proprietor or authorized manager and affix company seal.
11. Computer generated quotation form will not be accepted.
12. In the event of order being placed Income Tax @2%, surcharge on IT as applicable and educational cess @4% (on IT & surcharge) will be deducted at source from your bill.



13. Offer should be on free delivery basis to RLG Zonal Stores, BARC, Trombay.
14. Delivery period should be mentioned with all the possible consideration.
15. Payment will be made within 30 days from the date satisfactory completion of the work.
16. Pre-dispatch inspection is required.

Yours sincerely,

*Sae*  
03/12/2021

Sae Jagtap  
SO/C, PIED  
RLG, BARC