

**Indian Institute of Technology, Kanpur**  
**Department of Materials Science and Engineering**

**Sub: High Energy Planetary Ball mill Capable of Consistent Milling**

**Enq. No.: IITK/MSE/SSS/17-18/01**

**Enquiry Dated: 10/04/2017**

**Closing Date: 17/04/2017**

We would like to purchase a high energy planetary ball mill. Offered product should comply with or better than all specifications mentioned in Appendix A. The closing date for the above item is 5 PM, April 17, 2017.

The prospective suppliers are required to send quotation in two parts in sealed envelopes, as “*Technical Bid*” and “*Financial Bid*”. The two separate and sealed envelopes must be clearly marked appropriately as “*Technical Bid*” and “*Financial Bid*”. (i) The Technical Bid will contain detailed technical specification of the product being offered and must not mention any price. Please also provide ‘performance report’ from the places where this equipment is provided. (ii) The Financial Bid will include the detailed price quotation clearly including the cost of the equipment, taxes, service charges if any, shipping and handling charges.

***Terms and Condition:***

- *Quote must be valid at least for 60 days*
- *Prices must be on FOB and CIP (Delhi) both*
- *Maximum educational discount must be offered*
- *Installation and demonstration (training) to be free of cost*
- *Any other charges from your side must be specified*
- *Normal payment terms for the Institute will be applicable (90% on delivery of the items and the remaining 10% after satisfactory installation/ inspection)*
- *Warranty should be minimum two years from the date of installation*
- *An undertaking that the vendor will supply all the spares and services for the equipment for at least 5 years from the date of installation*
- *Quotation should carry proper certifications like agency certificate, proprietary certificate etc.*
- *Delivery period should not be very long (preferably to be done in 2 month from the receipt of order)*
- *Manufacturer to have at least 30 installations of Planetary Mill in India of same or different model*
- *Instrument should have CE certificate*

Kindly submit the Technical and Financial bids in sealed envelopes latest by 5 PM on 17-4-2017 to:

Dr. Sudhanshu Shekhar Singh

FB412

Department of Materials Science and Engineering

Indian Institute of Technology – Kanpur 208016

Email: sudhanss@iitk.ac.in

Phone No: 0512-259-6908 (office), 0512-259-6480 (Lab)

## Appendix A

### Technical Specifications for high-energy planetary ball-mill

#### TECHNICAL SPECIFICATIONS PLANETARY MILL

- 1) The instrument has to be usable for both dry and wet grinding
- 2) Mill must come with at least 2 grinding stations
- 3) *Material Feed Size* < 10 mm
- 4) *Final fineness:* < 100 nm
- 5) *Size of each grinding bowl:* 250 ml or higher (for 2 grinding stations), 125 or higher (for 4 grinding station)
- 6) *Bowls requirement:* High quality Zirconia, hardmetal tungsten carbide and hardened stainless steel
- 7) *Balls requirement:* suitable quantity of zirconia and hardened stainless steel (starting from 5 mm to lower sizes, say till 0.5 mm diameter). Please provide the list of grinding balls with suitable diameter.
- 8) Rotational Speed of Main disk to be 100 - 800 rpm or better
- 9) Maximum speed of grinding bowls to be 1600 rpm or better
- 10) High energy milling up to 60 g or better
- 11) The mill should have facility of continually monitoring and recording the data of gas pressure and temperature
- 12) Grinding chamber must be cooled by built-in mechanism to permit longer grinding times
- 13) Programmable setting for speed, grinding time, break times and rotation direction (clock & anti clock wise)
- 14) Simple cleaning of grinding elements
- 15) Power requirement of the equipment must be mentioned
- 16) Any other accessory needed for carrying out the measurements may be listed as optional items.
- 17) *Accessories for grinding in inert gas and for mechanical alloying:*

Bowls: Hardened stainless steel and Zirconia

#### **18) Documentation:**

- (a) Two sets of operating manuals for the equipment and control system should be provided in hard copies
- (b) A soft copy of the above manuals should also be provided in a CD/DVD

**19) Safety Norms:** The instrument should be compliant with international norms for safety and environment. The instrument should include safety devices for protection against water, power etc.

**20) Installation, demonstration and Training:** Free of charge at the site of use.

- (a) The delivery should be considered complete only after successful commissioning of the instrument
- (b) The pre-installation requirements should be communicated to IIT Kanpur well in advance of the installation
- (c) The supplier should provide training to at least two candidates at the installation site to make them familiar with smooth operation of the instrument.

#### **21) After-sales Service:**

- (a) The supplier should provide a prompt after-sales service such as regular instrument maintenance, troubleshooting and fixing
- (b) The list of service centers in India should be included.

**We prefer an itemized quote for all the major components.**