

# NATIONAL CENTER FOR COMBUSTION RESEARCH AND DEVELOPMENT (NCCRD) INDIAN INSTITUTE OF TECHNOLOGY MADRAS CHENNAI – 600036, INDIA

#### Ref. No. ICS/11-12/013/DSTX/TSUN

Date: 9 October 2013

Due date: 28 October 2013

#### Item name: Integrated Stabinger Viscometer cum Densitymeter

- 1. Quotations are invited in duplicate for the various items shown overleaf (in Annexure I). The quotations duly sealed and superscribed on the envelope with reference no. and due date, should be addressed to the undersigned so as to reach on or before the due date mentioned above.
- 2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
- 3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
- 4. Terms of warranty and guarantee should be explicitly mentioned.
- 5. Packing and delivery charges, customs and clearance duty should be clearly stated.
- 6. Goods shall not be supplied without an official supply order.
- 7. Local firms: Quotations should be for free delivery to this institute. If quotations for ex-godown delivery charges should be indicated separately.
- 8. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If ex-godown, packing, forwarding and freight charges must be indicated.
- 9. The rate of sales / general taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for sales / general taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax (CST) applicable to non-government educational institutions run with no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.
- 10. Payment: Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
- 11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.
- 12. In case of any queries/clarifications, please contact Dr. R. Vinu, Chemical Engineering, IIT Madras, Chennai, at +91-44-22574187 (office), +91-9500158723 (mobile no.) and/or <a href="mailto:vinu@iitm.ac.in">vinu@iitm.ac.in</a> (e-mail).
- 13. The sealed quotation may be sent to

Dr. R. Vinu (Assistant Professor)

**Department of Chemical Engineering, IIT Madras** 

Chennai - 600036

Phone: +91-44-22422525 Mobile: +91 9500158723 E-mail: vinu@iitm.ac.in



# NATIONAL CENTER FOR COMBUSTION RESEARCH AND DEVELOPMENT (NCCRD) INDIAN INSTITUTE OF TECHNOLOGY MADRAS CHENNAI – 600036, INDIA

### **Annexure I**

Ref. No. ICS/11-12/013/DSTX/TSUN

Date: 9 October 2013

Due date: 28 October 2013

Item name: Integrated Stabinger Viscometer cum Densitymeter

Dynamic viscosity: 0.2 to 20 000 mPa.s Kinematic viscosity: 0.2 to 20 000 mm<sup>2</sup>/s Density: 0.65 to 3 g/cm<sup>3</sup>

Repeatability: typical  $0.10\% / 0.0002 \text{ g/cm}^3 / 0.005 \text{ °C}$  Reproducibility: typical  $0.35\% / 0.0005 \text{ g/cm}^3 / 0.02 \text{ °C}$ 

Temperature range: 15 to 105 °C

Minimum sample volume: 2.5 mL

Viscometer – should work on Stabinger's principle with Peltier-based temperature control

Necessary feature – able to analyze viscosity and density of fuels, lubricating oils and liquids contaminated with trace metal elements

Complies with ASTM D7042 and ASTM D2270/ISO 2909 for viscosity and viscosity index measurements.

### Accessories required:

Autosampler, drying cartridge, magnetic particle trap to prevent metal deposition in case of engine oil samples, viscosity standards, hot filling attachment, tools for assembly, luer extensions, connection tubes, seal caps, disposable syringes, case