भारतीय प्रौद्योगिकी संस्थान कानपुर

Indian Institute of Technology Kanpur

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23 August 2013

Enquiry No. **IITK/CHM/TGG/2013/001**
Last date: 05 September 2013

Sub.: Request for quotation for Ultrasonic cleaning bath, Variable gain low noise current amplifier, Lock-in amplifier

Dear Sir/Madam

Kindly send us sealed quotations for the following items. Quotations should be addressed to **Dr. Thiruvancheril G. Gopakumar, Department of Chemistry, IIT Kanpur 208016**, and must reach on or before Monday, 05 September, 2013.

Thanking you

Gopakumar

Item 1: Ultrasonic cleaning bath with heating
Specifications:

- Tank volume max: 5.75 Ltrs
- Tank internal dimensions WxDxH: 300x151x150mm
- Tank External dimensions WxDxH: 365x186x271mm
- Ultrasonic Frequency: 37/80
- Ultrasonic Peak Max: 720/600W
- Heating power: 400 W
- Power consumption total: 580/550W
- Sweep: Integrated
- Degas: Yes
- Drain duct/diameter: 3/8”
- Plastic cover
- Stainless steel Holder basket

Item 2: Ultrasonic Cleaning unit
Specifications:

- Tank capacity 4.5 Ltrs
- Effective volume: 3.5 Ltrs,
- Voltage : 230V
- Ultrasonic Power effective: 160W
- Ultrasonic Peak [W]: 320W
- Sweep: Integrated
- Pulse: Activatable
- Heating Power [W]: 400W
- Dimensions B/T/W: 360x205x300mm
- Casing: Stainless steel
- Drainage: Yes - 3/8”
- Heating: 20..80deg.C
- Timer: 0 – 15 min continuous
- Cover
- Holder Basket

Item 3: Variable Gain Low Noise Current Amplifier
Specifications:

- Transimpedance Gain from 10^3 to 10^{11} V/A
- Input Noise down to 4.3 fA/√Hz
- Bandwidth up to 500 kHz
- Rise Time down to 700 ns
- Adjustable Bias Voltage
- Manual and Remote Control

Item 4: Lock-In Amplifier
Specifications:

- 1 mHz to 102.4 kHz range
- >100 dB dynamic reserve
- 5 ppm/°C stability
- 0.01 degree phase resolution
- Time constants from 10 µs to 30 ks
  (up to 24 dB/oct rolloff)
- Auto-gain, -phase, -reserve and -offset
- Reference source
- GPIB and RS-232 interfaces
- voltage inputs single-ended or differential

- sensitivity 2nV to 1V
- Current input 10^6 or 10^8 V/A
- reference input, TTL or sine (400 mV_{pp} min.)

Terms and Conditions:

1. Price should include transportation and insurance until Kanpur
2. Warranty: 1 year or more