

Department of Physics, Patna University

Letter #: URS-SKG-Phy/Purchase/QC-1.1-02

Date: 30 Jan 2021

Department of Physics, Patna University desires to purchase following items as given below under the Project "UGC-BSR Research Start-Up Project to Sandeep K. Garg, Dept. of Physics, PU (URS-SKG-Phy)". For that we invite two separate quotation, for the Item S.N. 1 and rest of the items except S.N. 1 of table given below, from the reputed **Indian** firm by 14Feb 2021 to supply the following item under 25 days after issuing a purchase order or 18 March 2021 (which ever come earlier).

Quotations should be communicated at Sandeep-phy@patnauniversity.ac.in (Preferable mode of communication) or sent via speed post to Dr. Sandeep Kumar Garg, PI of UGC-BSR Project, Department of Physics, Patna University, Patna Science College campus, Ashok Rajpath, Patna-800005, India.

Firms can quote both the above-mentioned invited quotations or can opt to quote only single quotation (for item 1 or rest of the items) but the firms, who choose to quote for rest of the items only (except 1), should keep in their mind that the quoted item should be used later with the item 1, so the quoted items should be such that as to may get coupled with item 1.

S.No.	Particular	Unit
1	<p>One Tubular two zone split furnace of working temp. up to Zone 1 = 1200 ° C, Zone 2 = 800° C with PID controller for each zone with temp accuracy ~ ± 1°C With Thermocouple break protection & Cold junction compensation,</p> <p>With Alumina Tube sustainable upto temp > 1500°C of Dia. = 60±5 mm / Hot Zone 1 = 225 mm / Hot Zone 2 = 300 mm Overall length = 1000 mm (approx.) such that some part of tube come out from both side of furnace with the provision of attaching extra Pirani gauge at the outlet position of tube,</p> <p>With achievable Vacuum level of order of 10⁰ mbar through detachable pump and measuring through inbuilt Pressure Gauge,</p> <p>With One Rotameter – Acrylic body 6" to 8" long Range: 1LPM to 100LPM, Gas: Oxygen OR Nitrogen OR Argon Inlet/Outlet connector – Horse OR Ferrule OR fitting,</p> <p>With 1 Pair of SS Or Aluminium Flanges with Viton O – Ring & Vacuum Gauge for Vacuum or Gas purging application should be attached to this dimension tube,</p> <p>With Running water-cooling system to protect O-Ring and other system's component from thermal breakdown state,</p> <p>With the provision of at-least 3 gas connection with open and closed valve (manually) should get connect at inlet SS/Aluminium flange of tube.</p>	1

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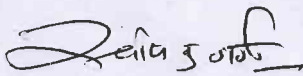
Department of Physics, Patna University

2	One Mass flow controller for Argon gas 0-500sccm	1
3	One spare tube of that furnace specification as mentioned in item 1	1
4	Rotameter specification as mentioned in item 1	1
5	Vacuum System: With Rotary vacuum pump of capacity 250lt/min, fitted with SS below and KF 25 Connector. With air admittance insulation valve. One Rotary Pump for vacuum up to 10^{-3} torr with accessories so that it can coupled with the tube in place of that existing pump as mentioned in item 1	1
6	One Pirani Gauge along with its controller to measure pressure $\leq 10^{-3}$ torr.	1
7	1 pair of ss flange with the provision (in one flange) to open for loading the sample inside the furnace tube specification as mentioned in item 1	1
8	Alumina Boat, Tray, and crucibles sustain at temp. up to 1500°C.	2 of each type
9	Agate Pastel & Mortar 4''	1
10	Gas Cylinder (47 lt.) for gas (Nitrogen / Argon) with regulator and gas gun	1

Note: Technical support would be sought from the vendor who will supply the furnace (if various vendor will be chosen for various item of above table) in order to setup the assembled parts.

Term and Conditions:

1. Price should inclusive with GST.
2. Quotation validity should be at least of 30 days after 14 Feb. 2021.
3. Warranty/AMCof at least one Years should be incorporated
4. Payments 100% Bill Basis through Account Payee Cheque/PFMS System
5. Installation will be done at customer site.



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