



जवाहरलाल नेहरु उन्नत वैज्ञानिक अनुसंधान केन्द्र

(मान्यता प्राप्त विश्वविद्यालय)

JAWAHARLAL NEHRU CENTRE FOR ADVANCED SCIENTIFIC RESEARCH

(A Deemed University)

जक्कूर, बेंगलूर - 560 064, भारत / Jakkur, Bengaluru - 560 064. INDIA

विज्ञान और प्रौद्योगिकी विभाग, भारत सरकार / Department of Science & Technology, Government of India

JNC/CNR/DRDO/6002/2016-2017/FE

16 /01/2017

Request for Quotation

Sub: Procurement of Glove box workstation.

JNCASR is interested to procure one number of Glovebox workstation as per broad specifications shown in Annexure – I. You may send the Technical specifications of the system you would be proposing and the commercial aspects of the same in two separate sealed covers on or before **4.00.P.M. on 25.01.2017**. A Technical committee of the Centre will evaluate the technical configurations and shortlist the Vendors for further considerations. If required a Techno-Commercial Meeting will be arranged with the shortlisted Vendors. For short listing the Vendor both technical features and commercial advantages will be considered.

You may send the technical and commercial bids in two separately sealed covers addressed to the **Senior Stores & Purchase Officer, JNCASR, Bangalore 560 064** with a superscription of the RFQ # JNC/CNR/DRDO/6002/2016-2017/FE and date. Please indicate taxes and duties, delivery schedules, after sales support and any other technical information in support of your offer. Earnest Money Deposit of Rs. 1,00,000/- (Rupees One Lakh Only) either in the form of DD or Bank Guarantee in favor of "President, JNCASR" must be placed in the Technical bid only.

Other Terms & Conditions:-

1. Irrevocable Letter of Credit. 90% against supply, balance 10% against installation/acceptance and submission of Performance Bank Guarantee of 10% of Purchase value valid for one year from date of installation.
2. Warranty minimum two years from the date of supply/installation/acceptance.
3. Installation and training must be carried out free of cost. Pre-requirements for installation (if any) should be submitted along with your offer.
4. Delivery within six weeks from the date of Purchase Order. Liquidated damages will be levied for the delayed supplies as per Rules.
5. Mode of shipment FCA basis under INCO Terms 2010.
6. Bids submitted by vendors with very poor after sales service record at JNCASR will not be considered. To establish this JNCASR may review the services with reference to the service rendered by various suppliers at this Centre and at similar institutions.
7. Technical cover should have all the technical details in the form of brochures, catalogues/published data for the tendered specifications. Further a compliance sheet for the specifications should be provided. All the commercial terms and conditions also should be part of this cover. A copy of the bill of materials without the price information also to be part of technical bid. A compliance statement must be enclosed along with your offer.
8. Please note that JNCASR is exempted from Central Excise Duty under Government Notification No. 10/97 and Customs Duty under Government Notification No. 51/96.


के. भास्करा राव / K. BHASKARA RAO
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Annexure I

Specification for Glove Box Workstation


S. No.	Specifications	Descriptions
1	Glove box chamber	Dimensions [Lx H x D]: 1950 mm x 920 mm x 780 mm (\pm 10%) Thickness: 3-4 mm Material: Stainless steel Performance : O ₂ & H ₂ O level < 1 ppm at complete pressure range Box window: polycarbonate (8-10 mm thickness) with chemical & scratch resistance Glove Box should be integrated with heat exchanger
2	Working gas	Operation: Ar or He Regeneration : Mixture of H ₂ (5%) and Operating gas
3	Working pressure	+15 mbar to -15 mbar; Pressure adjustments should be done by PLC (automatic) and foot pedal or any appropriate mechanism (instant)
4	Shelves	Minimum 3 Nos. of height adjustable shelves, Dimensions (Lx D): 1000 mm x 220mm
5	Feed through	Should be leak proof one electrical feed-through (with minimum one power outlet strip) , one BNC/ Banana Feed through 4pin Double sided DN 40 Flange and two blank
6	Main antechamber	Cylindrical; made of stainless steel; 1 No. Dimensions: diameter - 390 (\pm 5%) mm and length - 600 mm (\pm 5%) Must include slide tray and door lock spindle type. Vacuum better than 0.4-0.6 mbar or flow volume 10-15 m ³ /h
7	Mini Antechamber	Cylindrical; stainless steel; 1 No. Dimensions: diameter - 150 (\pm 5%) mm x length – 400 (\pm 5%) mm, hinged type door Upgradeable heated mini antechamber (optional)
8	Glove port /Gloves	Nos. : 4 Dimension: 200 mm diameter 4 Nos. of butyl or other type of gloves (0.4-0.6 mm thickness) suitable for handling chemicals/solvents. O-ring sealing for all ports should be provided One glove port cover (220 mm diameter) should be included
9	Stand	Should contain a stand with locking and levelling casters
10	Electrical	Built-in fluorescent lamp; automatic switch off Operation: 230 V (\pm 10), 50 Hz
11	O ₂ sensor/analyzer	Solid-state sensor measuring range of 0-1000 ppm with 1ppm accuracy and


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		0.1% resolution Procedures for in-house calibration to be provided
12	Moisture sensor/analyzer	Solid-state sensor measuring range of 0-500 ppm with 2ppm accuracy and 0.1% resolution
13	Control system	<ul style="list-style-type: none"> • PLC controlled of all basic functions & monitoring of box parameters with 7 inch or bigger monochrome/color panel. Details of PLC and functioning should be provided. • Option for remote monitoring of parameters with alerts. • Option for auto purging if O₂/moisture level increases <p><u>Power saving operation</u> Vacuum pump should be switched off when the antechamber is no longer used; positive pressure regulation without vacuum pump; optimized blower speed with reduced power consumption; semiautomatic system for inert gas purging.</p>
14	Purifier unit	<ul style="list-style-type: none"> • Oxygen and moisture removal capacities should be 35 L and 1.2 kg or better respectively • should be fitted with filters and columns to clean inert gas and absorb O₂ and H₂O • 0.1-0.5 micron HEPA inlet/outlet filters (class H13 or better) • Solvent adsorption chamber with 5kg Molecular Sieves • Solvent trap with 1 kg or more charcoal with inline and by-pass valves for easy replacement of the charcoal; options to increase the capacity • Heat exchanger and chiller (Cooling capacity: 1000 W @ 30°C) should be provided to cool the blower and maintain O₂ and moisture level below 1 ppm
15	Blower	<ul style="list-style-type: none"> • Blower: Flow Rate of 85m³/h or better • Should consist of fixed speed/ single stage or appropriate blower. Blower type and its capacity to be provided • Automatic Blower speed reduction / increase back to 100%, based on O₂ and H₂O level
16	Vacuum pump	Rotary vane type dual stage vacuum pump (17 m ³ /h or better) fitted with oil mist filter, oil re-circulation and automatic gas ballast control. Vacuum rate: 7.8 cfm and Lowest pressure: 0.4pa
17	Flow piping and fittings	Should be made of stainless steel


 16/1/17
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18	Valves	Main Purifier & control valve: Electro-pneumatic, or any suitable Manual valves: Swagelok Ball valves or any suitable
19	Regeneration	Automatic regeneration of purifier through PLC control
20	Heated antechamber (optional) mini	Upgradeable in future.


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