



Department of Aerospace Engineering
Indian Institute of Technology Madras
Chennai – 600 036, India

TenderRef. No. ASE1617136MUAYSRCH014

Dated: 23.05.2018.

Due date: 08TH JUNE 2018 at 2.30.p.m.

Item name: Flow control valve with electro pneumatic actuator (as attached specification)

Qty. 2no.

1. Tenders (**single bid system**) are invited in duplicate for the 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 (refer specification for delivery)
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 (refer technical specification)
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 5% Concessional Sales Tax (GST) 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. IIT Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.
13. **The sealed quotation may be sent to**

The Manager,
Purchase and accounts section.
NCCRD Building
Behind Aerospace Engineering Dept., IIT Madras
Chennai – 600036
Ph. (O) +91-44-22579863

Main requirements and specifications for Flow control valve with Electro-Pneumatic Actuator:

1. Two flow control valves with actuator for different flow condition (refer the table below).
2. These valves will be used for controlling preheated air flow rates.
3. The actuator shall take 4 to 20mA input from the coriolis flow meter and user set point value and control the valve position.
4. Required spare parts shall be provided.
5. Accuracy $\leq 1\%$
6. Flanged connections required on both the ends.
7. Material - SS316.
8. Quantity- 1no. (each) total TWO Valves.

Flow Conditions:

Operating Condition	Temperature (C)	Upstream Pressure (bara)	Downstream Pressure (bara)	Flow control valve-1 (kg/s)	Flow Control valve-2 (kg/s)	
1	129	Will vary between 2 to 16 bar	2.16	0.02	0.05	
2	162		3.68	0.04	0.07	
3	197		1.93	0.02	0.03	
4	221		2.94	0.03	0.06	
5	223		3.04	0.03	0.06	
6	224		3.07	0.03	0.05	
7	156		2.21	0.02	0.04	
8	182		3.31	0.03	0.07	
9	222		2.96	0.03	0.06	
30% more than Maximum flow rate	300			4.00	0.04	0.09
30% less than minimum flow rate	40			1.00	0.01	0.02

Additional requirements:

1. Three -years onsite warranty should be provided after installation and commissioning of the testing facility. Technical support personnel should visit the testing facility (within a week after the complaint) to attend any break down or malfunction of the testing facility during the warranty period. Assurance in this connection should be provided by the vendor. All the expenses for installation, training and post sales technical support will be borne by the vendor. Vendors must provide free training to our technical staff for using the equipment.
2. Vendors should provide continuous technical support and maintenance of equipment.

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3. Manufacturer should be in a position to supply the compatible accessories on demand for the next 15 years after the installation of the testing.
4. Vendors will be called to visit and give presentation/demonstration on the equipment after the supply. They need to provide the approximate date for this presentation.
5. Vendors must provide detailed documentation for the equipment, including calibration certificate, design certificate.
6. Vendor should have authorised service centre in India to attend problems in the flow control valves during and after warranty period.

Contact person for technical clarification.

Mr.Hrishikesh.

Email: hrishi.space@gmail.com

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