

TECHNICAL BID PROFORMA
Item Name: “Digital Mass Flow Controller”

Bidder Eligibility Criteria:

1.0	Bidder Eligibility Criteria-I (Public Procurement – Preference to Make in India)	Class I / Class II	Local Content value	Reference, Page No.
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16 th September 2020 and other subsequent orders issued therein.			
2.0	Bidder Eligibility Criteria-II	Compliance (Yes/No)	Reference Page No.	Remarks, If any
1	The bidder/OEM should have supplied at least 3 similar items to IITs, NITs, IISERs, CSIR Labs or other Govt. R&D organizations in the last 5 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.			

3.0 Technical Compliance:

S.No	Equipment name	Requirement	Quantity	Complied / Not Complied	Reference Page No.
1	Digital Mass Flow Controller (MFC)	Flow Range: 2000 SLPM	1		
2		Flow Range: 1000 SLPM	2		
3		Flow Range: 500 SLPM	2		
4		Flow Range: 250 SLPM	1		
5		Flow Range: 100 SLPM	2		
6		Flow Range: 50 SLPM	1		

S.No	Technical Specification	Complied / Not Complied	Reference Page No.
1	All the Mass Flow controllers should be of multi-gas selectable type. The Non-Corrosive Mass flow controllers should be calibrated for gases: H2, LPG, N2, Ar, O2, He, Air, CH4, CO, CO2, C2H2		
2	MFC should have the option for Personalized gas mixing compositions for accurate mixed gas measurement and switch between selected gases on the fly without any need for recalibration of the mass flow controller.		
3	Operating Pressure: Max 160 PSIA		
4	Temperature range of operation: -10 °C to 50 °C		

5	Wetted and Seal Material: Recommended Body material and seals suitable for the gas (preferably SS302)		
6	Accuracy: $\pm 1\%$ of actual value or (0.8% of Reading $\pm 0.2\%$ of Full Scale)		
7	Pressure sensitivity: $\pm 0.01\%$ of full scale / PSI		
8	It should have rigid metallic construction		
9	The output of the controller should be 0 – 5 V or 4 - 20 mA signals		
10	The controller should be provided with circuit protection		
11	It should be operated in the power supply of 230 V AC, 50 Hz		
12	The controller should have the connection of compression gas fittings		
13	Setting Flow Ramp up programming cycle should be possible by interfacing through the in build keypad with the display on the MFC		
14	Typical Response Time <100 ms (Adjustable)		
15	Control Range : 0.01% to 100% Full Scale		
16	Electrical Connection Options: DB9 Pin or RS 232		
17	Software: A PC based software program that should interface with the RS-232 and RS 485 communication. The graphical user interface (GUI) should provide automatic configuration, session saving for easy Configuration and experiment setup reloads, data capturing and logging (including a graphing tool), simple and advanced script building for automating meter sequences, software alarms and support for multiple devices		
18	All connecting cables/chords/interfaces ports and necessary power supply (110V to 230V converter) should be supplied along with the instrument		
19	Detailed service manual and operating manual with circuit diagram should be provided along with the instrument		
20	Necessary accessories such as Power Supply, Communication cable, software should be provided for trouble free operation of the instrument.		
21	Manufacturers should have their own Re-Calibration and Service Centre in India.		
ADDITIONAL TERMS AND CONDITIONS			
22	Warranty	1 year from the date of installation	
23	Installation and service	Installation, Commissioning, Training and Service should be done by the supplier	

Note: All the 6 Digital Mass Flow Controller(MFC) Should be from the same OEM.

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the above points with document proof as required. Failing which bidders will be technically disqualified)

**SIGNATURE OF BIDDER ALONG WITH
SEAL OF THE COMPANY WITH DATE**