Specifications:

1. The mass flow controller should incorporate the latest in digital flow control electronics along with a well proven, thermal sensor and mechanical design.
2. Should have digital I/O
3. Should provide fast and repeatable response to the setpoint through out the device control range (Range is given below)
4. Response times should be in the order of milliseconds
5. Digital calibration should be included that should yield less than 2% setpoint accuracy on the calibration gas (typically nitrogen)
6. Device should has viton sealing
7. The usage of elastomers should be limited and all wetted surfaces should be of metal
8. The parts should be compatible to many non-resistant gases (typically like argon, neon, xenon, nitrogen, water premixed sample gases, oxygen etc.) and gaseous mixture of volatile organic compounds.
9. The user interface should provide the ability to change the range and gas
10. The list of users in India and abroad especially for matrix isolation should be provided.
11. Single channel digital display unit and setpoint controller with error indicators and appropriate connectors, power cords etc. should be quoted separately.
12. Warranty of the product and CMC charges for maintenance for a total period of five years should be separately quoted.

Mass flow controller unit:

Flow Range Full scale	5 sccm
Maximum Inlet Pressure	150 psig
Normal Operating Pressure Differential (N_2 F.S.)	10 to 5000 sccm
Proof Pressure	> 900 psig
Burst Pressure	> 1400 psig
Control Range	2% to 100% of F.S.
Typical Accuracy (with N_2 calibration gas)	± 1% of setpoint for 20 to 100% F.S. ± 0.2% of F.S. for 2 to 20% F.S.
Repeatability	± 0.3% of Reading
Resolution	< 0.2% of Full Scale
Inlet Pressure Coefficient	< 0.02% of Rdg./psi
Warm-up Time	< 30 min (to within 0.2% of F.S. of steady state performance)
Typical Controller Settling Time	< 800 msec., typical above 5% F.S.
Operating Temperature Range (Ambient)	10°C to 70°C
Storage Humidity	0 to 95% Relative Humidity, non-condensing
Storage Temperature	-20° to 80°C (-4° to 149° F)
Leak Integrity	
External (scc/sec He)	< 1×10^{-09}
Fittings	Swagelok 4 VCR male
Seals and Valve Seat	Viton
Input Power Required	+15 to +24 VDC @ (< 4 watts)
Flow Input/Output Signal	
Voltage (0 to 5 VDC)	15 pin Type "D" male,
Current (4 to 20 mA)	15 pin Type "D" male
Firmware	Should be shipped with the updated and latest one