



Mass Flow Controller MC-4000 series

MC-4000 Series



Features

- High performance 1"1/8 digital MFC.
- New generation piezoelectric valve.
- Full potential of digital technology and optimized digital PID control.
- Compatible to analog MFCs.
- LINTEC Co., Ltd. patent pending ambient temperature compensated flow sensor (US and Japan).

Piezoelectric Valve Advantages

- The New Generation Piezoelectric Valve MFC's springless metal design offers :
- very fast response time,
 - extremely low dead volume,
 - great stability (to pressure variation),
 - particle prevention.

Metal Design Advantages

Combined with the new generation piezoelectric valve, metal seals and superior surface finishing within the MFC contribute to ultra clean performances.

Digital Advantages

- Dynamic control in the gas line.
- Optimized digital control.
- Analog, RS232 or RS485 communication mode capability with on-board jumper selection.
- Software compatible with MC-2000/3000 Series.
- Digisoft free diagnostics software.

Options

- Compatible with liquefied gases.
- Small flow range from 1 to 5 sccm (N.O. valve).
- Wide range of control (0.5 to 100% F.S).
- Various calibration pressure.

Specifications

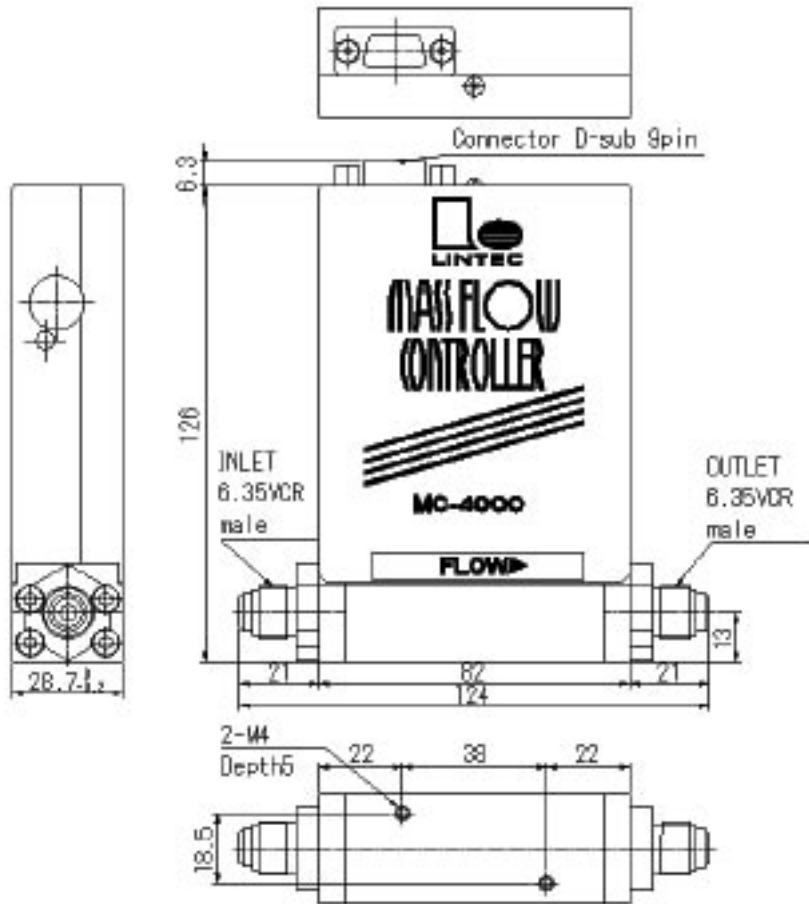
Flow Range (N ₂ equivalent).....	5 sccm ~ 5 slm (NO valve)
.....	5 ~ 20 slm
.....	20 ~ 50 slm (NO valve)
Control Range.....	2 ~ 100% F.S.
Valve Actuator.....	Piezoelectric
Valve Seat.....	PCTFE
Valve Rest Position.....	Normally Open or Closed
Accuracy.....	< 5 slm : ±0.5% F.S.
.....	< 20 slm : ±0.75% F.S.
.....	< 50 slm : ±1% F.S.
Linearity.....	±0.5% F.S.
Repeatability.....	±0.2% F.S.
Response Time (SEMI E17-91).....	≤ 1 sec (typical)
Operating Temperature.....	0 ~ 50°C (32 ~ 122°C)
Temperature Coefficient (zero).....	±0.02% F.S./°C
Temperature Coefficient (span).....	< 5 slm : ±0.02% F.S./°C
.....	< 20 slm : ±0.04% F.S./°C
.....	< 50 slm : ±0.08% F.S./°C
Calibration Pressure.....	standard 1.5 bar (21 psi)
Operating Pressure.....	< 5 slm : 0.5 ~ 3 bar (7 ~ 43 psi)
.....	< 10 slm : 1 ~ 3 bar (14 ~ 43 psi)
.....	< 20 slm : 1.5 ~ 3 bar (21 ~ 43 psi)
.....	< 50 slm : 1 ~ 3 bar (14 ~ 43 psi)
Maximum Inlet Pressure.....	10 ⁶ Pa (10 bar, 145 psi)
Wetted Materials.....	316L stainless steel, PCTFE, Au
Surface finish.....	LEP: 0.5 µm Ra max
Leak Integrity.....	< 1.10 ⁻¹⁰ atm.scc/sec (He)
Standard Seals.....	Metal (Gold), Pt (option)
Fittings.....	1/4" VCR, W-Seal, C-Seal

Power Requirements

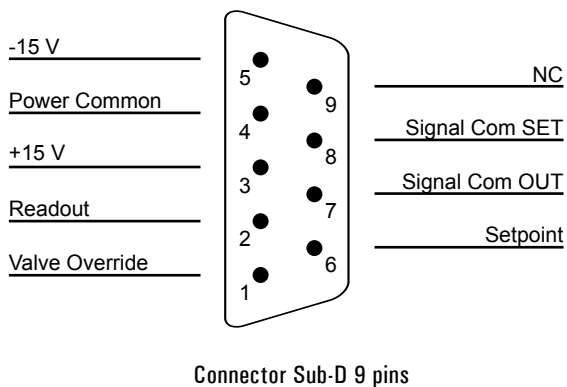
Mass Flow Controller.....	+ 15 VDC, 120 mA / -15 V, 100 mA
Analog Setpoint Signal.....	from 0 to 5 VDC
Analog Flow Output Signal.....	from 0 to 5 VDC
Digital control.....	RS232, RS485
Electrical Connector.....	Sub-D 9 pins male



Dimensions



Pinout configuration



Schematic diagram

