

# 0~25 SLM Mass Flow Meter / Controller

HFM-200 MASS FLOW METER / HFC-202 MASS FLOW CONTROLLER

LOW FLOW



HFM 200 / HFC 202 는 일반적인 목적에 맞는 기체용 질량 유량계 및 제어기입니다. 신뢰성 및 안정성을 바탕으로 변화하는 주변환경에도 매우 안정적인 퍼포먼스를 보여줍니다. 스테인레스강 재질로 다양한 부식성 기체에도 적합합니다. 최대 허용 압력은 1,000 psig(옵션)이며, 아날로그 출력을 지원합니다. 0~10 sccm 에서 25 slm(N<sub>2</sub>) 까지의 측정범위에 적합한 제품입니다.

## Features (특징)

- Range 0~10 sccm to 0~25 slm (N<sub>2</sub> Equivalent)
- ±1% of Full-Scale Accuracy
- Input Power ±15 VDC or +24 VDC
- Operating Pressures to 500 psi or higher
- Excellent Stability
- Proven Reliability
- NIST Traceable Calibration

## Applications and Industries (응용 분야)

- Gas Blending
- Environmental Monitoring
- Thin Film Deposition
- Leak Testing
- Medical Research
- Chromatography
- R&D

## Flow Unit (유량 단위)

기준 STP : 0°C & 760 Torr / N<sub>2</sub>

- SLM 0.005 ~ 25
- SCCM 5 ~ 25,000
- SCFH 0.01 ~ 52.97
- Kg/Hr ~ 1.87
- SM3/H ~ 1.5
- Mole/Hr 0.01 ~ 66.92

## Specifications

### HFM-200 (Meter)

### HFC-202 (Controller)

	HFM-200 (Meter)	HFC-202 (Controller)
Range	0~10 sccm to 0~25 slm (N <sub>2</sub> )	0~10 sccm to 0~25 slm (N <sub>2</sub> )
Accuracy	±1% of full scale	±1% of full scale
Repeatability	±0.05% of full scale	±0.05% of full scale
Standard Operating Pressure	500 psig (optional 1000 psig)	500 psig (optional 1000 psig)
Pressure Coefficient	.0067% / psi	.0067% / psi
Leak Integrity	< 1x10 <sup>-9</sup> sccs He	< 1x10 <sup>-9</sup> sccs He
Temperature Coefficients	Zero : ±0.035%°C of F.S (0~60°C) Span : ±0.05%°C of Rdg (0~60°C)	Zero : ±0.035%°C of F.S (0~60°C) Span : ±0.05%°C of Rdg (0~60°C)
Standard Output	0~5 VDC	0~5 VDC
Optional Outputs	4~20 mA	4~20 mA
Connector (±15 VDC)	15 Pin D-sub	15 Pin D-sub
Connector (+24 VDC)	9 Pin D-sub	9 Pin D-sub
Fittings	VCR®, VCO®, Swagelok®	VCR®, VCO®, Swagelok®
Seals	Kalrez, Neoprene, Buna-N	Kalrez, Neoprene, Buna-N
Power Requirements (±15 V)	±(14~16) VDC @ ±30 mA (< 1 Watt)	±(14~16) VDC @ +60 mA / -185 mA (< 3 Watt)
Power Requirements (+24 V)	(14~32) VDC (< 1.9 Watt)	(14~32) VDC (< 4.2 Watt)
Wetted Materials	316 SS, Viton®, 82/18 Au/ni Braze, Trace Ag solder	302 SS, 316 SS, Nickel, Viton®, 82/18 Au/ni Braze, Trace Ag solder, Kalrez (Valve Seat)
Setpoint Input		0~5 VDC (Std) / 4~20 mA (optional)
Weight (approx.)	1.45 lb (0.66 kg)	1.65 lb (0.75 kg)

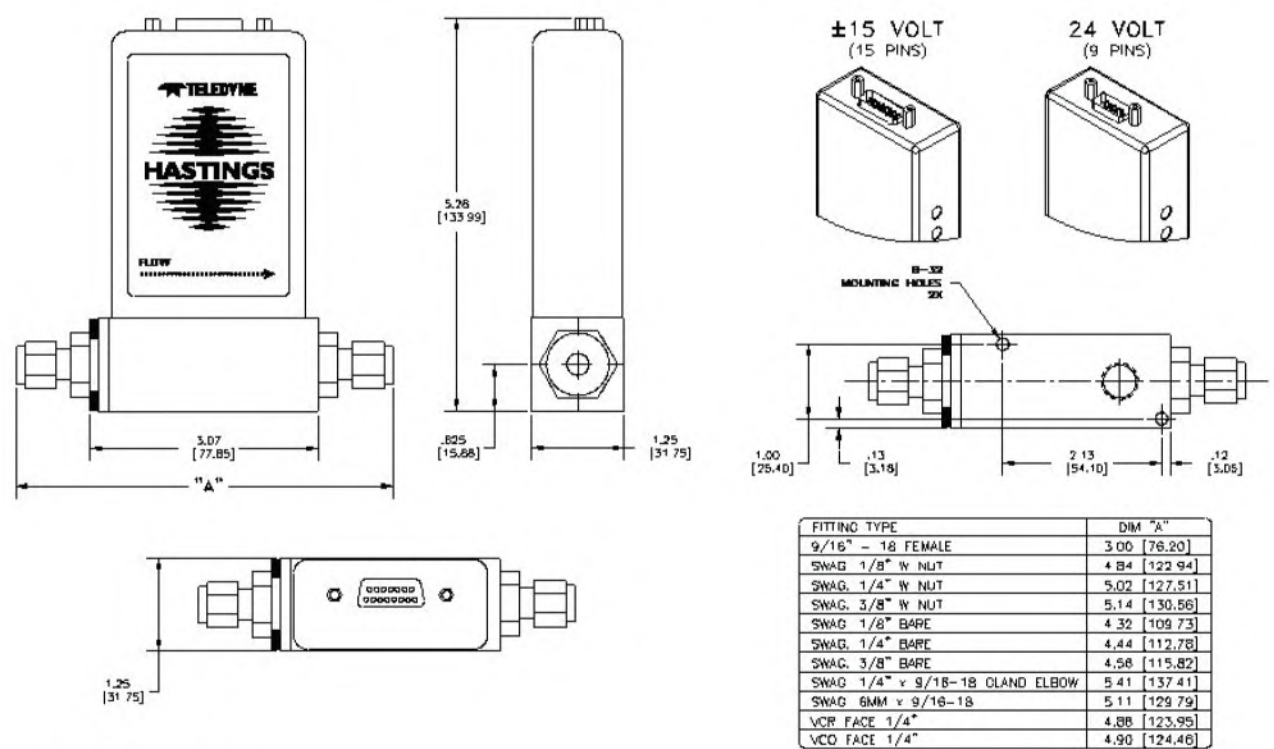
### ±15 VDC Pinout Diagram

PINOUTS	
PIN #	
1	Do Not Use
2	Do Not Use
3	Do Not Use
4	Do Not Use
5	Signal Common
6	Signal Output 0-5 VDC (4-20mA)
7	Case Ground
8	Control Valve Over-ride
9	-15 VDC
10	Do Not Use
11	+15 VDC
12	Valve Return
13	External Input
14	Set Point 0-5 VDC (4-20mA)
15	Do Not Use

### +24 VDC Pinout Diagram

PINOUTS	
PIN #	
1	+5VDC Ref/Ext In
2	Signal Output (0-5V/4-20mA)
3	Set Point In (0-5V/4-20mA)
4	Power Common
5	Valve Voltage
6	Control Over-Ride
7	Power Input (15-30VDC)
8	Signal Common
9	Case Ground

### Outline Drawings



### Selection chart

