

# 0~25 SLM Digital Mass Flow Meter / Controller

## HFM-D-300A MASS FLOW METER / HFC-D-302A MASS FLOW CONTROLLER



### Features (특징)

- Range 0~5 sccm to 0~25 slm (N<sub>2</sub> Equivalent)
- All-Metal Seals
- Status LEDs
- Auto-Zero (HFC-D-302 Controller Only)
- Totalizer
- Large Diameter Sensor Tube (Low dp)
- Low Wetted Surface Area
- Operating Pressures to 500 psi or higher
- NIST Traceable Calibration

Full Metal Body 의 Digital HFM 300A / HFC 302A 는 0~5 sccm 부터 0~25 slm(N<sub>2</sub>) 구간에서 높은 정확도  $\pm(0.5\% \text{ Rd} + 0.2\% \text{ F.S})$ 를 구현합니다. 아날로그 및 디지털 출력을 제공하며, 반복적으로 신뢰할 수 있는 정확한 가스 유량을 측정합니다. 센서와 밸브 및 오버 플로우에 대한 진단 및 자동 영점 기능을 가지고 있습니다. Data Logging Software 를 기본 제공해 드립니다.

### Applications and Industries (응용 분야)

- Leak Testing
- High Purity Gas Delivery
- Thin Film Deposition
- Gas Blending
- Pharmaceutical
- Fuel Cell R&D
- Environmental Monitoring
- Medical Research

### Flow Unit (유량 단위)

기준 STP : 0℃ & 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

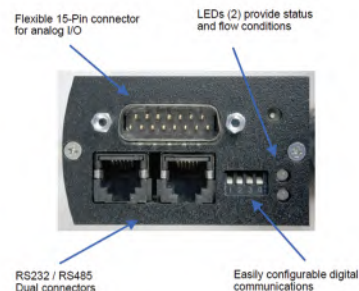
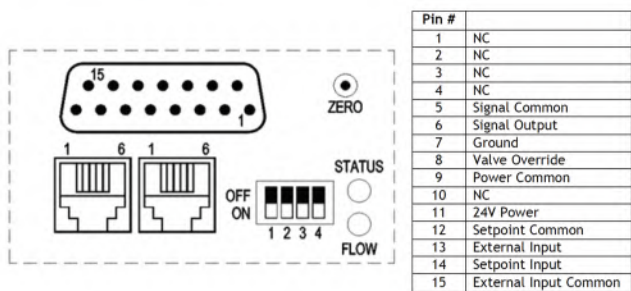
### Specifications

#### HFM-D-300A (Meter)

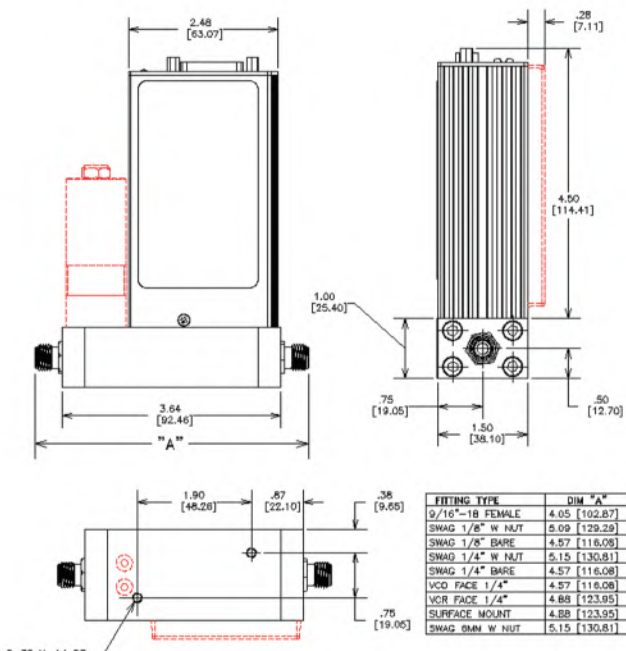
#### HFC-D-302A (Controller)

	HFM-D-300A (Meter)	HFC-D-302A (Controller)
Range	0~5 sccm to 0~25 slm (N <sub>2</sub> )	0~5 sccm to 0~25 slm (N <sub>2</sub> )
Accuracy	$\pm(0.5\% \text{ of reading} + 0.2\% \text{ of full scale})$	$\pm(0.5\% \text{ of reading} + 0.2\% \text{ of full scale})$
Repeatability	$\pm 0.15\% \text{ of F.S}$	$\pm 0.15\% \text{ of F.S}$
Maximum Working Pressure	500 psig (optional 1000 psig)	500 psig (optional 1000 psig)
Operating Temperature	-20~70℃	-20~70℃
Warm up time	30 min for optimum accuracy (typical)	30 min for optimum accuracy (typical)
	6min within rated accuracy (typical)	6min within rated accuracy (typical)
Settling Time	Typically $\leq 1$ seconds	Typically < 1~2 seconds
Temperature Coefficient of Zero	$< \pm 0.2\% / ^\circ\text{C}$ of full scale max (-20~70℃)	N/A for controller with auto-zero enabled
Temperature Coefficient of Span	$< \pm 0.1\% / ^\circ\text{C}$ of full scale max (-20~70℃)	$< \pm 0.1\% / ^\circ\text{C}$ of full scale max (-20~70℃)
Attitude Sensitivity of Zero	$< 1.4\% \text{ of full scale (N}_2 \text{ @ 50 psig)}$	$< 1.4\% \text{ of full scale before autozero}$
Analog I/O (standard)	0~5 VDC	0~5 VDC
Analog I/O (optional)	0~10 VDC, 0~20 mA, 4~20 mA	0~10 VDC, 0~20 mA, 4~20 mA
Wetted Materials	316L SS, Nickel 200, 304 SS, 302 SS	316L SS, Nickel 200, 304 SS, 302 SS, Kalrez® (valve seat)
Weight (approx.)	2.2 lb. (1.0kg)	2.7 lb. (1.2kg)
Analog Connector	15 Pin D-sub	15 Pin D-sub
Digital Connector	Dual RJ-12, 6P6C modular jack	Dual RJ-12, 6P6C modular jack
Power Requirements	11~36 VDC @ 3.1 Watt (max)	11~36 VDC @ 6.7 Watt (max)
	Unipolar or Bipolar (e.g. $\pm 15$ VDC, $\pm 12$ VDC)	Unipolar or Bipolar (e.g. $\pm 15$ VDC, $\pm 12$ VDC)

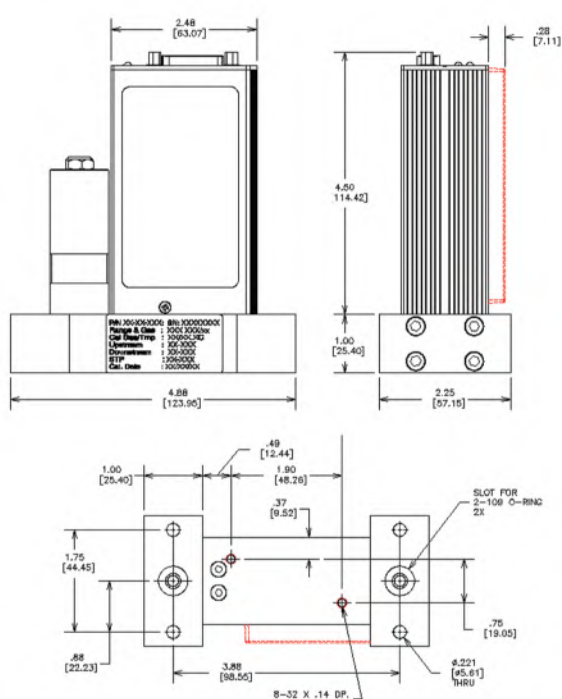
## Pin Map



## Outline Drawings



## Outline Drawings (Surface Mount)



## Selection chart

