

TELEDYNE HASTINGS

HIGH CAPACITY MASS FLOWMETERS

INSTRUMENTS

Model HFM-200 with LFE

FEATURES

- Inherently Linear Response
- Excellent Rangeability
- Modular Construction
- $\pm 1\%$ Full-Scale Accuracy¹
- Range — 25 to 15,000 slm (Air Equivalent)
- NIST Traceable Calibration

APPLICATIONS

Model HFM-200 with LFE

For All High-Capacity Gas Flow Measuring Needs:

- Bulk Gas Handling
- Furnace Fuel Measurement
- Gas Blending
- Medical Research
- R&D and Process Flows
- Pollution Monitoring



HFM-200 with LFE



Various LFE Configurations

DESIGN FEATURES

The Teledyne Hastings Instruments (THI) Model HFM Mass Flowmeter represents a culmination of over 55 years of experience in designing and manufacturing reliable, high quality mass flow instruments.

The HFM Series of flow instruments is based on a modular design. At the heart of each instrument is an insulated thermal transfer sensor which provides enhanced zero stability. This sensor is designed to be removable/replaceable in the field to virtually eliminate long down time due to clogging. Additionally, the HFM design features an integral filter and an easily replaceable closed loop electronics card.*

All of these standard features, when coupled with the instrument's inherent linear response to flow changes and THIs' long-proven reputation for quality, result in the finest flowmeters and flow controllers available today.

Model HFM-200 with LFE

THI Model HFM-200 Flowmeters with an LFE offer the user fast, accurate measurement of high-capacity gas flows, in ranges from 25 slm up to 15,000 slm.

Our laminar flow elements (smoothed, flanged, or threaded) are available in various sizes from 3/8" up to 8". Used in conjunction with the standard HFM Flowmeter, these units can be combined to measure full-scale flows up to 15,000 slm and feature a typical pressure drop of 4.5" of water at full-scale flow.

*Note: After changing components, instruments require recalibration to meet accuracy specifications.

MODEL HFM-200 WITH LFE

SPECIFICATIONS

HFM-200 with LFE Accuracy¹ and Linearity	±1% F.S.
Repeatability (typ.)	±0.05% F.S.
Leak Integrity	< 1x10 ⁻⁷ sccs
Temperature Coefficient	Zero ±0.1% FS/°C (0-50°C) Span ±0.15% RDG/°C (0-50°C)
Power	±15 VDC at ±30 mA
Flow Signal	(inherently linear) 0-5 VDC or 4-20 mA
Wetted Material	316SS, Viton®, 87/13 Au/Ni Braze
Connector	15-pin subminiature D
Fittings	See Selection Chart Below
Standard Working Pressure	150 psig for flanged LFEs 500 psig for threaded or smooth LFEs
Working Pressure (transducer)	500 psig

¹See Product Manual for critical information on instrument accuracy and the use of GCFs (gas conversion factors). Stated accuracy is for nitrogen or other gas specific calibration and use with this gas only.

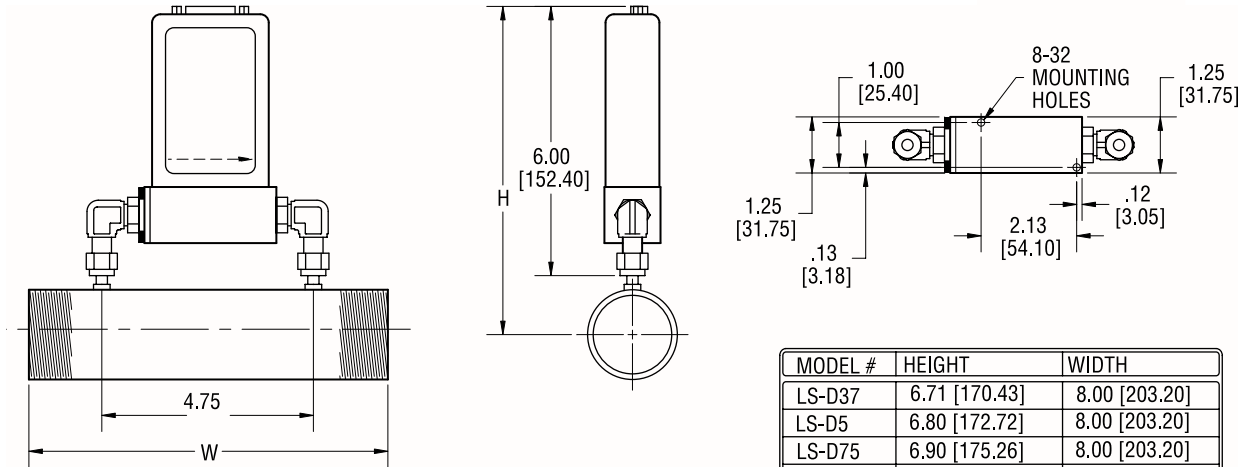
Laminar Flow Elements

¹ Stock #	Model #	Description: Connection Detail	² Flows (Air)
P-D37-SS-T	LS-D37	Laminar Flow Element: 3/8" NPT	25 slpm
P-D5-SS-T	LS-D5	Laminar Flow Element: 1/2" NPT	50 slpm
P-D75-SS-T	LS-D75	Laminar Flow Element: 3/4" NPT	100 slpm
P-1D-SS-T	LS-D1	Laminar Flow Element: 1" NPT	200 slpm
P-1D5-SS-T	LS-1D5	Laminar Flow Element: 1-1/2" NPT	400 slpm
P-2D-SS-T	LS-2	Laminar Flow Element: 2" NPT	750 slpm
P-3D-SS-T	LS-3	Laminar Flow Element: 3" NPT	1500 slpm
P-4D-SS-F	LS-4F	Laminar Flow Element: 4" Flanged	3000 slpm
P-6D-SS-F	LS-6F	Laminar Flow Element: 6" Flanged	6000 slpm
P-8D-SS-F	LS-8F	Laminar Flow Element: 8" Flanged	15,000 slpm

¹Note: -T denotes NPT, -F denotes Flanged, remove -T or -F to designate smooth ends.

²Other gases may provide different flows.

Model HFM-200 with LFE



MODEL #	HEIGHT	WIDTH
LS-D37	6.71 [170.43]	8.00 [203.20]
LS-D5	6.80 [172.72]	8.00 [203.20]
LS-D75	6.90 [175.26]	8.00 [203.20]
LS-1	7.03 [178.56]	8.00 [203.20]
LS-1D5	7.33 [186.18]	8.00 [203.20]
LS-2	7.56 [192.02]	8.00 [203.20]
LS-3	8.13 [206.50]	10.00 [254.00]
LS-4F	8.63 [219.20]	10.00 [254.00]
LS-6F	9.69 [246.13]	10.00 [254.00]
LS-8F	10.54 [267.72]	10.00 [254.00]

All dimensions shown are in inches [mm].

Selection Chart

Typical instrument ordering/options number:

Model No.	Circuit Board	Output	Fittings	O-Rings	Working Pressure	Calibration Type
HFM-200	01	01	01	01	01	01

Order No.	Options
Circuit Board	
01	Standard
02	Fast Response - No RF rejection
Output	
01	0-5 Volts (Standard)
02	4-20mA
Fittings	
01	See LFE selection chart
O-Rings	
01	Viton (Standard)
02	Kalrez
03	Neoprene

Order No.	Options
Working Pressure	
01	500 psig (Standard)
02	1000 psig
Calibration Type	
01	NIST 5 Point (Standard)
02	NIST 10 Point
03	NIST 20 Point

Range Information	
Range	_____
Flow Units	_____
Gas	_____
Standard Conditions*	_____

*Referenced to standard temperature and pressure (0°C and 760 Torr, respectively).