

A Higher Level of Performance



Data Sheet

MEMFIo™ MFTV

Metal Bodied Flow Meter With Clear Top



For more information, please visit >
www.hawkmeasurement.com

Overview

MEMFlo™ MFTV

Metal Bodied Flow Meter With Clear Top



Principle of Operation

The MEMFlo™ MFTV Metal Bodied Flow Meters with Clear Top are simple, accurate, meters for use in a wide range of industrial liquid and gas applications. These meters have an excellent tolerance to suspended solids and measure flow to one percent accuracy. Unlike tapered tube rotameters, MFTV flow meters have an indicator disk in close proximity to the edge of the sight tube for visibility even in many dirty fluids. These meters can be supplied with the MFT2™ 2-Wire Flow Transmitters for flow rate and total.

Technology

MEMFlo™ MFTV Metal Bodied flow meters are patented variable area flow meters using the volumetric principle of flow measurement. These meters consist of five main parts including the body/measuring tube, core tube, float assembly, scale, and pitot tube. The meter is not a glass tapered tube, rather the media enters the meter vertically at the bottom inlet port and flows upward into the core tube. Then the media flows horizontally through the core tube slot and exits the meter through the side outlet port. During this process the media lifts the float assembly in the core tube in direct proportion to the rate of flow. The slotted core tube design gives the meter an excellent tolerance to suspended solids and there are no springs, cams, or dynamic seals to wear out.

The polysulfone measuring tube displays flow rate by reading the sight disc on top of the float assembly. The optional MFT2™ Flow Transmitter has an analog 4-20mA or 0-5, 0-10 VDC output to a remote display, PLC, Recorder, or other customer-supplied receiver.

Using a simple and rugged design, the MEMFlo Metal Bodied Flow Meters with Clear Top measure to 1% accuracy.

600 PSIG OPTION



Features and Benefits

- Tough, simple, & accurate meters for water, oils, coolants, compressed gases, lubricants, mild slurries & other general industrial applications.
- Excellent tolerance to suspended solids.
- Extended flow ranges averaging 30 to 1.
- Disassembles in less than a minute without removing the meter from the pipeline.
- Good readability even in dirty fluids.
- T-316 stainless bodies & internals, with polysulfone measuring tube.
- No springs, cams, or seals to wear out.
- Standard 1/2" to 4" female NPT connections or optional flanges. Pipe adapters may be used for other sizes without affecting accuracy.
- Flows to 500 GPM liquids or 5750 SCFM gases.
- 360° rotation of scale. Special scales for other units or fluids & multiple scaling offered.
- Options include MFT2 2-Wire Flow Transmitter, alarms, pressure gauge oxygen cleaning, and panel mounts.
- Optional 600 PSIG
- Economically priced.

Specifications & Dimensions

MEMFio™ MFTV

Metal Bodied Flow Meter With Clear Top



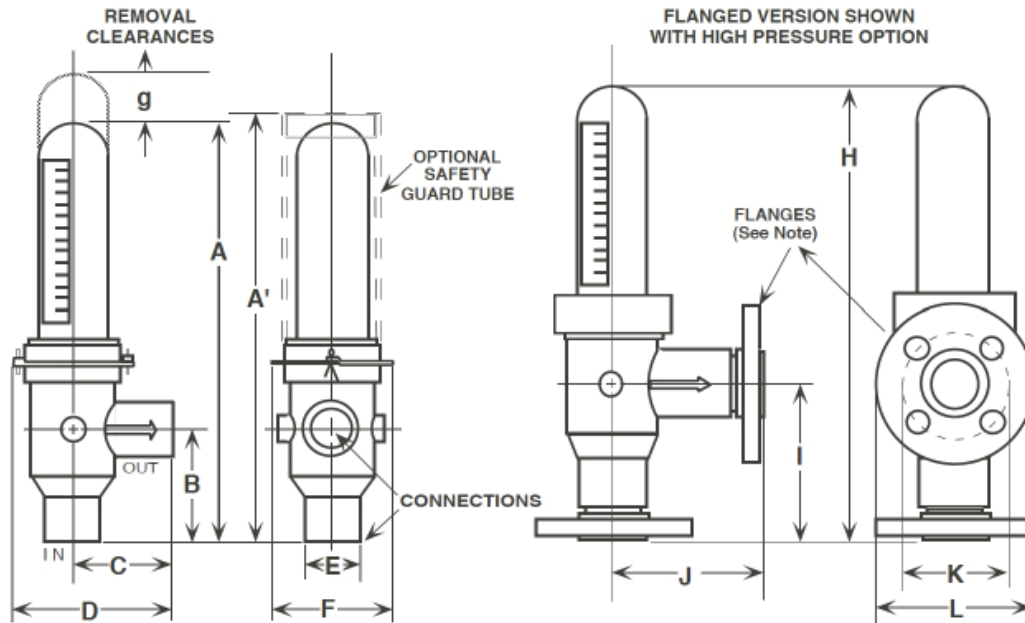
Specifications

Accuracy	± 1% of 100% flow rate
Repeatability	1/2" to 1 1/2": +/- 1/4% of indicated flow rate 2" to 4": +/- 1/2% of indicated flow rate
Rangeability	30 to 1 average
Materials	1/2" to 2" Small Body: T-316 Stainless Steel 2" to 4" Large Body: Zinc Phosphate, Xylan 1052 coated steel with all stainless internals
Pressure Rating	Up to 300 PSIG *Optional 600 PSIG
Temperature Rating	Up to 300°F (pressure ratings decrease at higher temperatures).
O-Rings	Buna N standard; Viton, Ethylene-Propylene (EPR), Silicone, Neoprene, Kalrez and Teflon optional.
Scales	Standard direct reading (GPM or LPM Liquid, Sp. Gr. = 1.00 or SCFM Dry Air @ 100 psig, 70°F.) or percentage scale. Special scales for other flow units or media conditions, or mylar scales for corrosive environments are available at extra cost.

Note: Please Consult Factory for Special Requirements

Dimensions

Small Body



BODY & MEASURING TUBE DESCRIPTION	A	A'	B	C	D	E	F	G	Female NPT
Stainless & Polysulfone	9.36	9.66	2.81	2.68	4.00	1.35	2.72	3.00	Up to 3/4"
Stainless & Polysulfone	15.22	15.36	4.53	3.71	5.70	2.48	3.95	5.00	Up to 2"

BODY & MEASURING TUBE DESCRIPTION	H	I	J	K	L	150lb Flange
Stainless & Polysulfone	10.24	3.69	3.56	2.75	3.88	Up to 3/4"
Stainless & Polysulfone	16.61	5.92	4.96	3.88	5.00	Up to 2"

Note: All dimensions are in inches, with a tolerance of ±0.03" on threaded models, ±0.20" on flanged units.

Dimensions

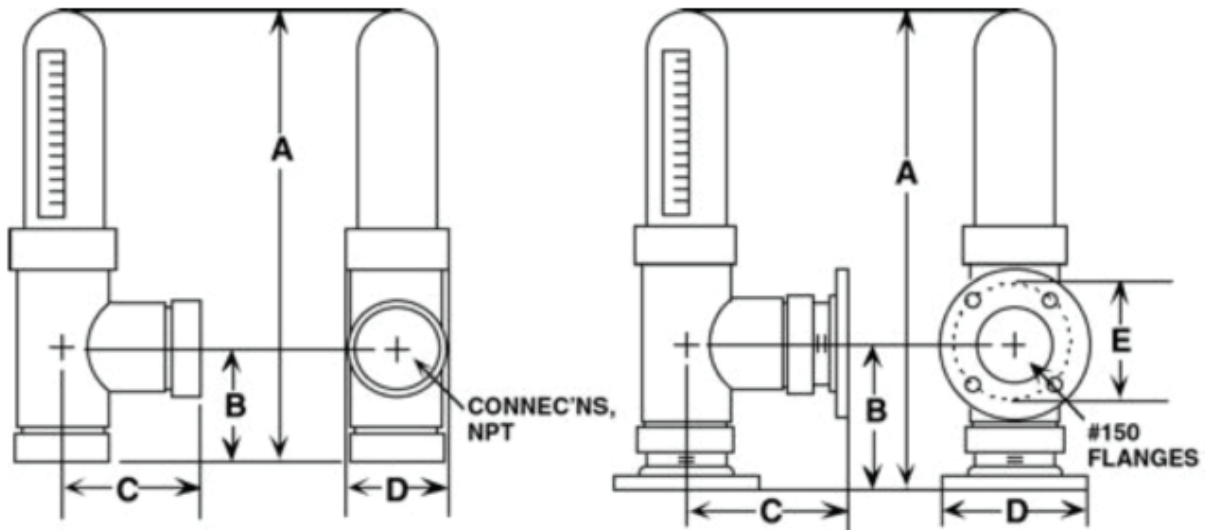
MEMFlo™ MFTV

Metal Bodied Flow Meter With Clear Top



Dimensions

Large Body



BODY & MEASURING TUBE DESCRIPTION	A	B	C	D	E	Female NPT
Stainless & Polysulfone	20.23	6.38	5.38	3.63	NA	2"
Stainless & Polysulfone	20.85	6.38	5.38	3.36	NA	2½"
Stainless & Polysulfone (150 GPM/1750 SCFM)	22.35	7.50	6.00	4.25	NA	3"
Stainless & Polysulfone (200 GPM/2300 SCFM)	26.85	8.63	7.13	5.56	NA	4"

BODY & MEASURING TUBE DESCRIPTION	A	B	C	D	E	150lb Flange
Stainless & Polysulfone	20.73	6.28	6.88	6.00	4.75	2"
Stainless & Polysulfone	21.35	6.88	6.88	7.00	5.50	2½"
Stainless & Polysulfone (150 GPM/1750 SCFM)	22.60	7.75	7.75	7.50	6.00	3"
Stainless & Polysulfone (200 GPM/2300 SCFM)	28.10	9.88	9.88	9.00	7.50	4"

Note: All dimensions are in inches, ±0.05". Subject to change without prior notice.

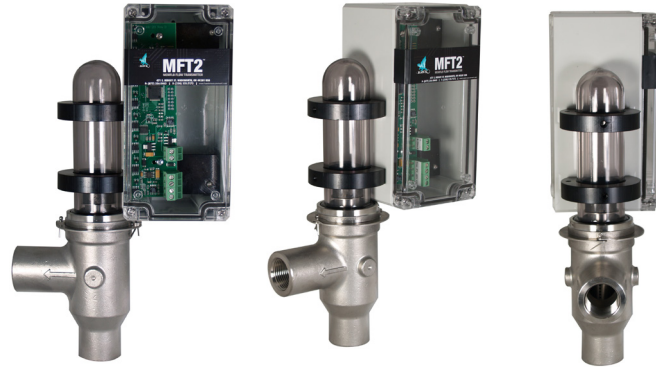
Complete Flow Systems & Accessories

MEMFlo™ MFTV

Metal Bodied Flow Meter With Clear Top



MFT2™ Two-Wire Flow Transmitter Mount to Your Volumetric Flow Meter For Output Flow Rate



Principle of Operation

The MFT2™ two-wire flow transmitter accurately calculates and outputs flow rate. Compatible with any MEMFlo variable area flow meter, MFT2™ combines HAWK's time-proven variable area technology with a high tech processor and solid state circuitry. Each device includes an analog output that can be configured for 0-5 VDC, 0-10 VDC, or 4-20 mA current loop. Typical applications include pump flow output, compressed air consumption, cooling flow monitoring, steam flow usage/optimization and combustion gas metering.

General	
Process Temperature	F: -20° to 240° / C: -29° to 116°
Ambient Temperature	F: -20° to 158° / C: -29° to 70°
Environmental	Humidity: 0-90% non-condensing
Accuracy	±1% 0.25% rate
Repeatability	±0.10% rate
Electrical	
Power Requirements	0.5 VDC Output 10-30 VDC @ 3 wire 0-10 VDC Output 12-30 VDC @ 3 wire 4-20 mA Output loop-powered, 12 VDC - 30 VDC - 2 wire
Power Consumption	25 mA maximum
Analog Outputs	0-5 VDC and 0-10 VDC into 10,000 Ohms minimum; 4-20 mA into 1000 Ohms maximum
Resolution	1:4000
Transmission Distance	4-20 mA limited by cable resistance (4000') 0-5 VDC 1000 feet (330m) maximum 0-10 VDC 1000 feet (300m) maximum
Circuit Protection	Reverse polarity and current limiting
Isolation	Inherently isolated from the piping system
Transient Over-Voltages	Category 3, in accordance with IEC 64
Temperature Drift	50 ppm/°C (Max)
Enclosure Rating	NEMA 4 (IP67) ; NEMA 7

Features and Benefits

- Non-contact sensor electronic
- Electronic signal conditioning circuit
- 3 output modes: 4-20mA, 0-5 VDC or 0-10 VDC
- Proportional analog output - two-wire, 4-20mA
- Designed to slip over any standard measuring tube
- Pre-calibrated from the factory for fast installation and start-up

Ordering Information

MEMFlo™ MFTV

Metal Bodied Flow Meter With Clear Top



Ordering Information

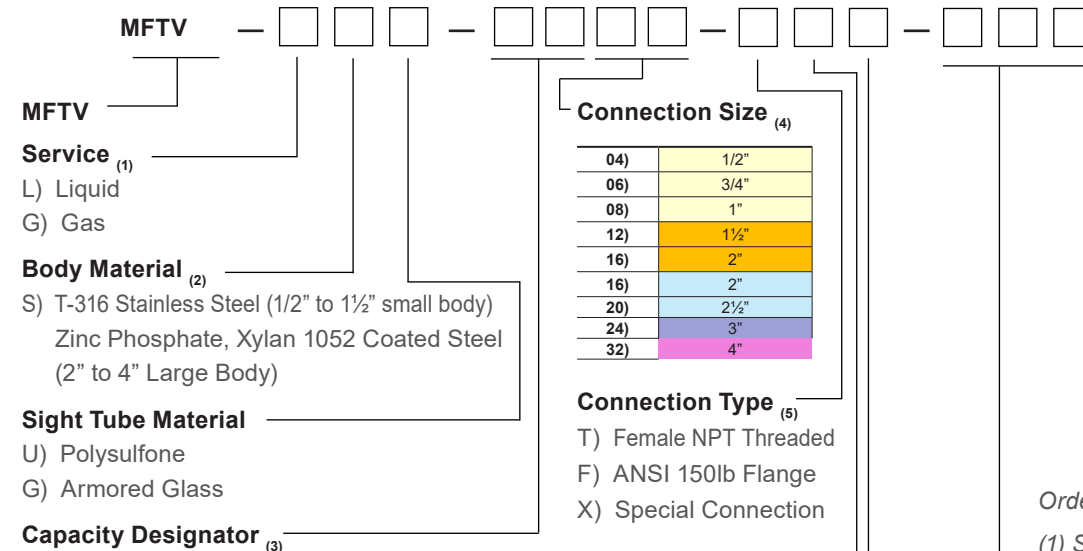
HAWK Model Number Builder

Use the diagram below, working from left to right to construct your HAWK Model Number.

Simply match the category number to the corresponding box number.

Example: **MFTV-GSU-0508-TCB**

MEMFlo MFTV Flow Meter for Gas Service, SST Body, Polysulfone sight tube, 1-20 SCFM, 1" Connection Size, Female NPT Threaded Connection, Corrosive Resistant Scale, Buna-N O-Ring, No Additional Options



Ordering Notes:

- Select the best configuration based on your requirements.
- Stainless bodies available in large body sizes. Please consult factory.
- Sizing is based on GPM Liquid, Sp. Gr. = 1.00 or SCFM Air @ 100 psig 70° F
- Connection Size is based on Capacity - Colors must match to ensure compatibility.
- If you require a Special Connection (X), please consult factory with requirements.
- For digital or custom scaling, select Other (X) and note the following requirements:
 - Digital Display: Requires Flow Monitor (Consult Factory for best option)
 - Custom Scale: Requires Flow Application (Consult Factory)
- To package the MFT2 flow transmitter see MFT2 data sheet model number builder

Note: Match color with connection size.

Contact

MEMFio™ MFTV

Metal Bodied Flow Meter With Clear Top



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Additional product warranty and application guarantees upon request.

Technical data subject to change without notice.

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