

A Higher Level of Performance



Data Sheet

MEMFIo™ MFVC

PVC & CPVC Corrosive Resistant Flow Meter



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Overview

MEMFlo™ MFVC

PVC & CPVC Corrosive Resistant Flow Meter



Principle of Operation

MEMFlo™ MFVC PVC & CPVC flow meters are simple, accurate variable area meters and resistant to many acids, alkalis, salt solutions, and other corrosives. These meters have an excellent tolerance to suspended solids and measure flow to one percent accuracy. Unlike tapered tube rotameters, the MEMFlo MFVC flow meters have an indicator disk in close proximity to the edge of the sight tube for visibility even in many dirty fluids. Alternatively, magnetic indication is available for accurate reading regardless of media. These meters can be supplied with the MFT2™ 2-Wire Transmitters for flow rate and total.

Technology

MEMFlo™ MFVC PVC & CPVC flow meters are patented variable area flow meters using the volumetric principle of flow measurement. These MEMFlo™ meters consist of five main parts including the body/sight 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.

When using a polysulfone measuring tube, flow rate is visible by reading the sight disc on top of the float assembly. When using the CPVC measuring tube, flow rate is visible by reading the magnetic indicator, which corresponds with 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 PVC and CPVC flow meters measure to 1% accuracy.

Features and Benefits

- Heavy bodied meters for corrosives and high purity fluids.
- Ideal for acids & caustics, deionized water, plating solutions, water treatment & corrosive gases.
- All plastic wetted components for maximum corrosion resistance.
- Extended flow ranges averaging 30 to 1.
- Disassembles in less than a minute without removing the meter from the pipeline.4.5
- No springs, cams, or dynamic seals to wear out.
- Standard female NPT for meters, or Van Stone style flanges. All sizes available in threaded, socket, or Van Stone flanged connections.
- All models can be supplied with MFT2™ 2-Wire Transmitters or FloSentry 3™ Flow Switch.

Specifications & Dimensions

MEMFio™ MFVC

PVC & CPVC Corrosive Resistant Flow Meter

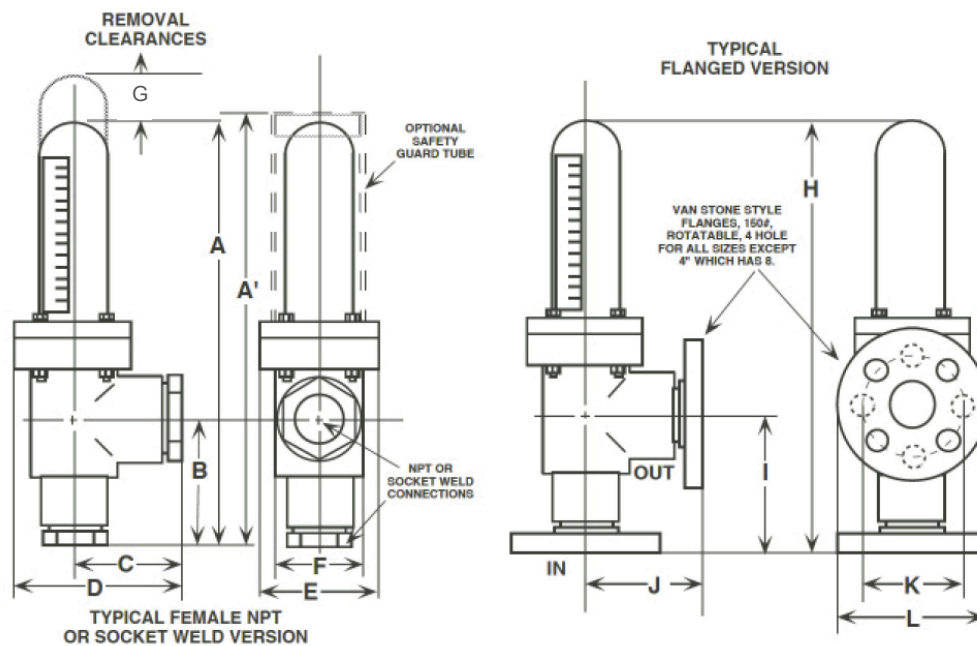


Specifications

Accuracy	± 1% of 100% flow rate
Repeatability	± 1/2% of indicated flow rate
Rangeability	30 to 1 average
Materials	All wetted parts (except static O-Ring seal) PVC on PVC models, CPVC & Polysulfone or all CPVC on CPVC units. Standard direct reading (GPM or LPM Liquid, Sp. Gr. = 1.00 or SCFM Air @ 100 psig, 70° F.) or percentage scale. Scales are special corrosion-resistant mylar. Special scales for other flow units or media conditions are available at extra cost.
Pressure Rating	Up to 150 psig for flanged models, or 300 psig, depending on meter type, temperature and service conditions.
Temperature Rating	Up to 212°F (pressure ratings decrease at higher temperatures).
O-Rings	Buna N standard; Viton, Ethylene-Propylene (EPR), Silicone, Neoprene, Kalrez and Teflon optional.

Note: Please Consult Factory for Special Requirements

Dimensions



BODY & MEASURING TUBE DESCRIPTION	A	A'	B	C	D	E	F	G	Female NPT
All PVC or CPVC	11.02	11.52	3.38	2.82	4.66	3.60	2.54	3.00	1/2" - 1"
	16.93	17.08	4.25	4.00	6.45	5.03	3.45	5.00	1 1/2" - 2"
	23.10	23.25	7.90	7.90	11.60	5.03	4.30	5.00	3"
	27.42	27.57	9.79	9.79	14.29	5.44	5.44	5.00	4"

BODY & MEASURING TUBE DESCRIPTION	H	I	J	K	L	150lb Flange
All PVC or CPVC	12.27	4.63	4.07	2.75	3.88	1/2" - 1"
	18.63	5.95	5.70	3.88	5.00	1 1/2"
	18.75	6.07	5.82	4.75	6.00	2"
	21.30	6.10	6.10	6.00	7.50	3"
	25.13	7.50	7.50	7.50	9.00	4"

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

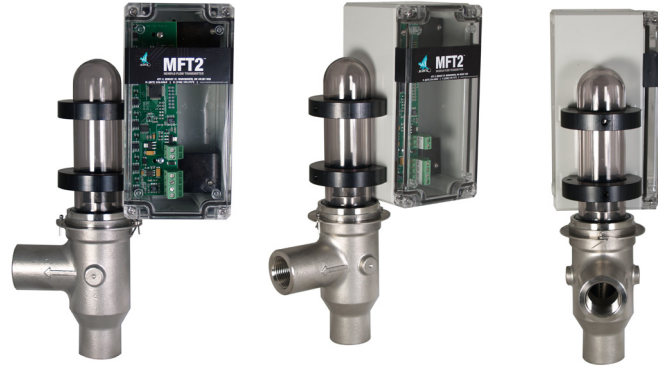
Complete Flow Systems & Accessories

MEMFlo™ MFVC

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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™ MFVC

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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: MFVC-LCC-0306-TCN MEMFlo MFVC Flow Meter for liquids, CPVC Body Material & Sight Tube, 0.08-1.64 GPM Liquid, 3/4" Connection Size, Female NPT Threaded Connection Type with Corrosion Resistant Scale and Neoprene O-Ring with no MFT2™ Flow Transmitter Option

MFVC — — — —

MFVC —

Service ⁽¹⁾ —

L) Liquid
G) Gas

Body Material —

P) PVC
C) CPVC

Sight Tube Material —

C) CPVC
U) Polysulfone

Capacity Designator ⁽²⁾ —

	GPM Liquid	SCFM Gas*
00)	0.025 - 0.54	0.3 - 7.4
01)	0.04 - 0.8	0.5 - 10.2
02)	0.06 - 1.2	0.7 - 14
03)	0.08 - 1.64	1 - 20
04)	0.1 - 2.6	1 - 26
05)	0.15 - 3.8	1 - 35
06)	0.5 - 5.4	2 - 50
07)	0.2 - 7	3 - 70
08)	0.2 - 10	4 - 85
09)	0.6 - 15	6 - 125
10)	0.5 - 20	6 - 160
11)	0.5 - 11	4 - 260
12)	0.7 - 15	2 - 40
13)	1 - 25	3 - 70
14)	0.5 - 35	4 - 100
15)	1 - 50	5 - 140
16)	2 - 70	5 - 175
17)	4 - 120	6 - 250
18)	2 - 50	2 - 310
19)	4 - 100	7.5 - 390
20)	7 - 150	10 - 510
21)	10 - 200	35 - 750
22)	15 - 300	20 - 1000
23)	4 - 100	30 - 600
24)	7 - 150	40 - 1000
25)	10 - 200	70 - 1750
26)	15 - 300	100 - 2300
27)	15 - 400	150 - 3500
28)	20 - 500	40 - 1000
29)	N/C	70 - 1750
30)	N/C	100 - 2300
31)	N/C	150 - 3500
32)	N/C	150 - 4000
33)	N/C	200 - 5000

Connection Size ⁽³⁾

04)	1/2"
06)	3/4"
08)	1"
12)	1 1/2"
16)	2"
24)	3"
32)	4"

Connection Type ⁽⁴⁾

T) Female NPT Threaded
F) ANSI 150lb Flange
W) Socket Weld
X) Special Connection

Scaling Options ⁽⁵⁾

C) Vinyl
P) Percent of Flow
M) Multiple Scales
X) Other

O-Ring Material

B) Buna-N
E) EPR (Ethylene Propylene)
N) Neoprene
S) Silicone
V) Viton
T) Teflon
K) Kalrez

Additional Options ⁽⁶⁾

AG1) Armored Glass Sight Tube (1/2" - 1")
AG2) Armored Glass Sight Tube (1 1/2" - 4")

Ordering Notes:

- (1) Select the best configuration based on your requirements.
- (2) This device is not intended for AIR service. Consult factory for specialty gas sizing.
- (3) Connection Size is based on Capacity - Colors must match to ensure compatibility.
- (4) If you require a Special Connection (X), please consult factory with your requirements.
- (5) For digital or custom scaling, select Other (X) and note the following requirements: Contact factory for best option
- (6) To package the MFT2 flow transmitter see MFT2 data sheet model number builder

Note: Match color with connection size.

Contact

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Additional product warranty and application guarantees upon request.

Technical data subject to change without notice.

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