



# MEMFlo™ MFTV

METAL BODIED FLOW METER WITH CLEAR TOP



## DESCRIPTION

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.

## 600 PSIG OPTION



## FEATURES & 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.

## 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.

## SPECIFICATIONS

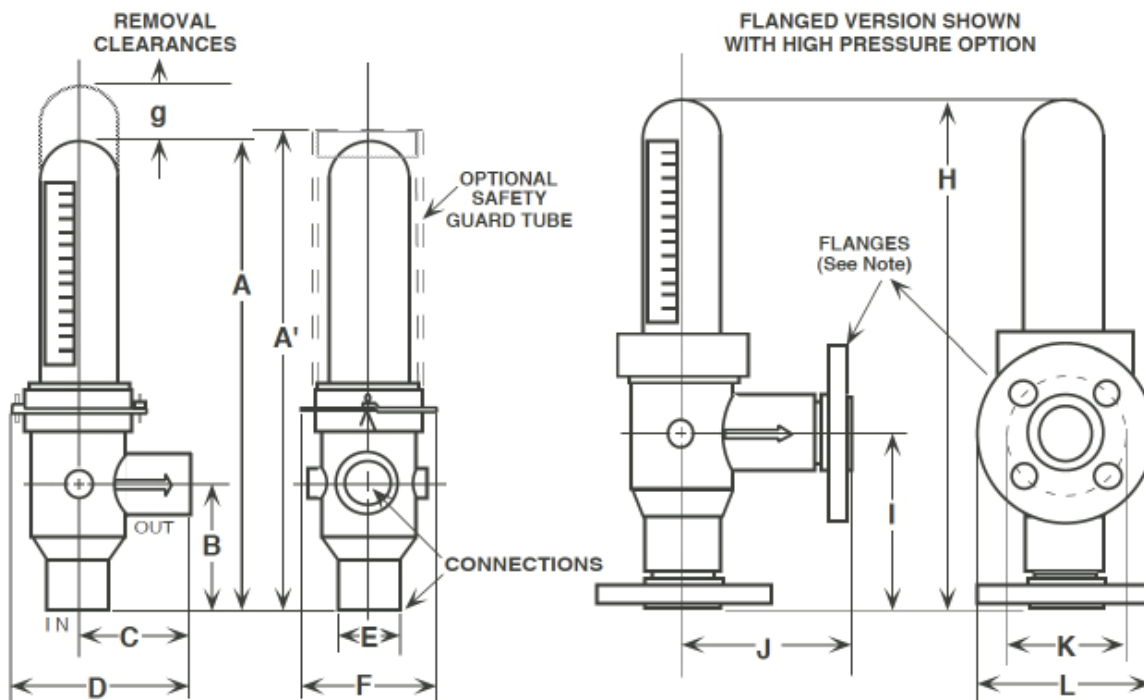
<b>Accuracy</b>	± 1% of 100% flow rate
<b>Repeatability</b>	1/2" to 1½": +/- 1/4% of indicated flow rate 2" to 4": +/- 1/2% of indicated flow rate
<b>Rangeability</b>	30 to 1 average
<b>Materials</b>	1/2" to 2" Small Body: T-316 Stainless Steel 2" to 4" Large Body: Zinc Phosphate, Xylan 1052 coated steel with all stainless internals
<b>Pressure Rating</b>	Up to 300 PSIG *Optional 600 PSIG

<b>Temperature Rating</b>	Up to 300°F (pressure ratings decrease at higher temperatures).
<b>O-Rings</b>	Buna N standard; Viton, Ethylene-Propylene (EPR), Silicone, Neoprene, Kalrez and Teflon optional.
<b>Scales</b>	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

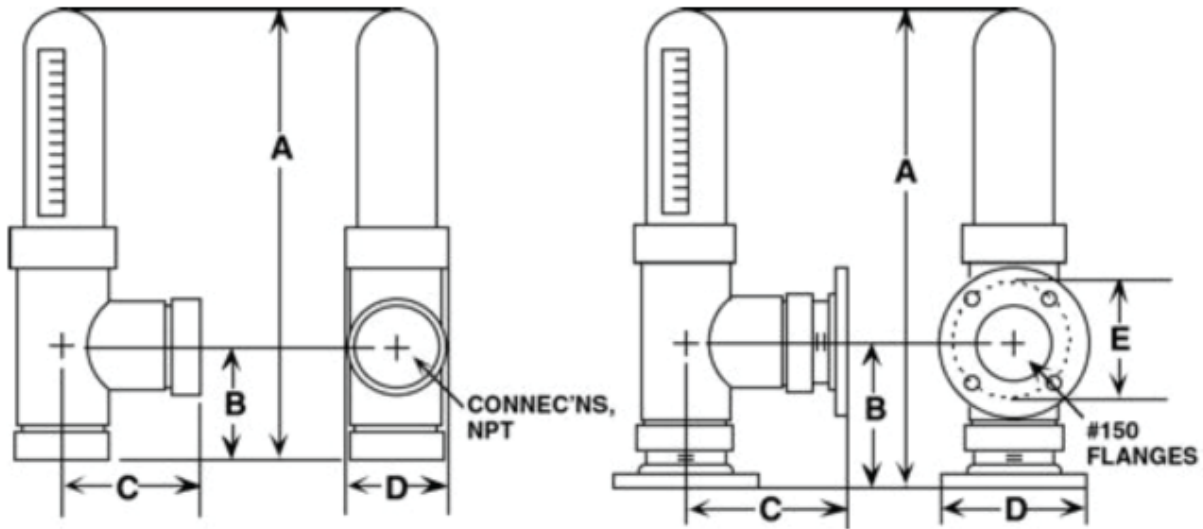


BODY & MEASURING TUBE DESCRIPTION	A	A'	B	C	D	E	F	G	Female NPT
Stainless & Polysulfone	9.36	9.66	2.81	2.68	4.00	1.35	2.72	3.00	Up to 3/4"
Stainless & Polysulfone	15.22	15.36	4.53	3.71	5.70	2.48	3.95	5.00	Up to 2"

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.

**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	2 "
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	2 "
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,  $\pm 0.05"$ . Subject to change without prior notice.

## MFT2™ TWO-WIRE FLOW TRANSMITTER

MOUNT TO YOUR VOLUMETRIC FLOW METER  
FOR OUTPUT FLOW RATE

### DESCRIPTION

The MFT2™ two-wire flow transmitter accurately calculates and outputs flow rate. Compatible with any MEMFlo variable area flow meter, MFT2™ combines FLO-CORP'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.

### FEATURES & 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



### SPECIFICATIONS

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



#### DigaCom™ 2000 Universal Process Display

is a field mount display that provides bright, 6-digit LED indication, internal DC power supply for transmitter power, 4-20mA repeat output and advanced communications. DigaCom features digital push button configuration, simple programming interface and Ethernet communication. This device is well suited for a variety of process applications. Typical applications include level monitoring, analytical measurements, flow, distance monitoring, pressure monitoring, weight/volume monitoring and temperature monitoring.



#### DigaLink™ 3.0 Alarm & Monitoring Software

is FLO-CORP's unique Alarm, Configuration and Monitoring Software. This enables users to receive e-mail alerts, configure, and remotely monitor from the convenience of their PC. DigaLink is unique in its communication protocol that utilizes both TCP/IP Ethernet communication and Modbus/RS485 serial communication simultaneously. This advanced software features e-mail alerts, display configuration, datalogging and real-time monitoring from unlimited devices. With DigaLink you can easily setup, monitor and receive e-mail alerts from practically anywhere.



#### eXmod™ Relay Expansion Module

is a 4-relay output module that connects to the display via RS-485 serial communication (4-wire). It is extremely versatile and can be mounted locally or remotely to allow for a purely distributed system. Display(s) can be mounted in the plant or control panel, while the eXmod can be mounted in the motor control cabinet for reduced cost of control wiring. Additionally, the eXmod's BIG 10 AMP AC/DC rated relays bring added value to your control/alarm monitoring systems.

# Ordering Information

## FLO-CORP MODEL NUMBER BUILDER

For Assistance Call 877.356.5463

Use the diagram below, working from left to right to construct your FLO-CORP 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

**MFTV** —    —     —    —

**MFTV**

**Service (1)**

L) Liquid  
G) Gas

**Body Material (2)**

S) T-316 Stainless Steel (1/2" to 1 1/2" small body)  
Zinc Phosphate, Xylan 1052 Coated Steel  
(2" to 4" Large Body)

**Sight Tube Material**

U) Polysulfone  
G) Armored Glass

**Capacity Designator (3)**

	GPM Liquid	SCFM Gas
00)	0.025 - 0.545	0.16 - 3.2
01)	0.04 - 0.8	0.5 - 5
02)	0.6 - 1.2	0.3 - 7.4
03)	0.08 - 1.64	0.5 - 10.2
04)	0.1 - 2.6	0.6 - 14
05)	0.15 - 3.8	1 - 20
06)	0.5 - 5.4	1 - 26
07)	0.2 - 7	1 - 35
08)	0.2 - 10	2 - 50
09)	0.6 - 15	3 - 70
10)	0.5 - 20	4 - 85
11)	0.5 - 11	6 - 125
12)	0.7 - 15	6 - 160
13)	1 - 21	4 - 260
14)	0.5 - 35	1.5 - 25
15)	1 - 50	1 - 31
16)	2 - 70	2 - 40
17)	3 - 90	3 - 70
18)	4 - 120	4 - 100
19)	N/A	5 - 140
20)	N/A	5 - 175
21)	N/A	6 - 250
22)	N/A	2 - 310
23)	N/A	7.5 - 390
24)	N/A	10 - 510
25)	N/A	35 - 750
26)	N/A	20 - 1,000
27)	3 - 70	30 - 750
28)	3 - 100	40 - 1000
29)	6 - 150	50 - 1750
30)	3 - 100	40 - 1000
31)	6 - 150	50 - 1750
32)	10 - 200	100 - 2300
33)	14 - 300	150 - 3500
34)	5 - 100	50 - 1200
35)	10 - 200	100 - 2300
36)	14 - 300	150 - 3500
37)	15 - 400	200 - 4600
38)	20 - 500	230 - 5750

**Connection Size (4)**

04)	1/2"
06)	3/4"
08)	1"
12)	1 1/2"
16)	2"
16)	2"
20)	2 1/2"
24)	3"
32)	4"

**Connection Type (5)**

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

**Scaling Options (6)**

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

**O-Ring Material**

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

**Additional Options (7)**

N--) None  
GP#) Gauge Port  
GS#) T-316 Pressure Gauge  
AG1) Armored Glass Sight Tube (connection size: 1/2" - 1")  
AG2) Armored Glass Sight Tube (connection size: 1 1/2" - 4")  
HPO) 600 PSIG Option

**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.