



# OPERATING INSTRUCTIONS

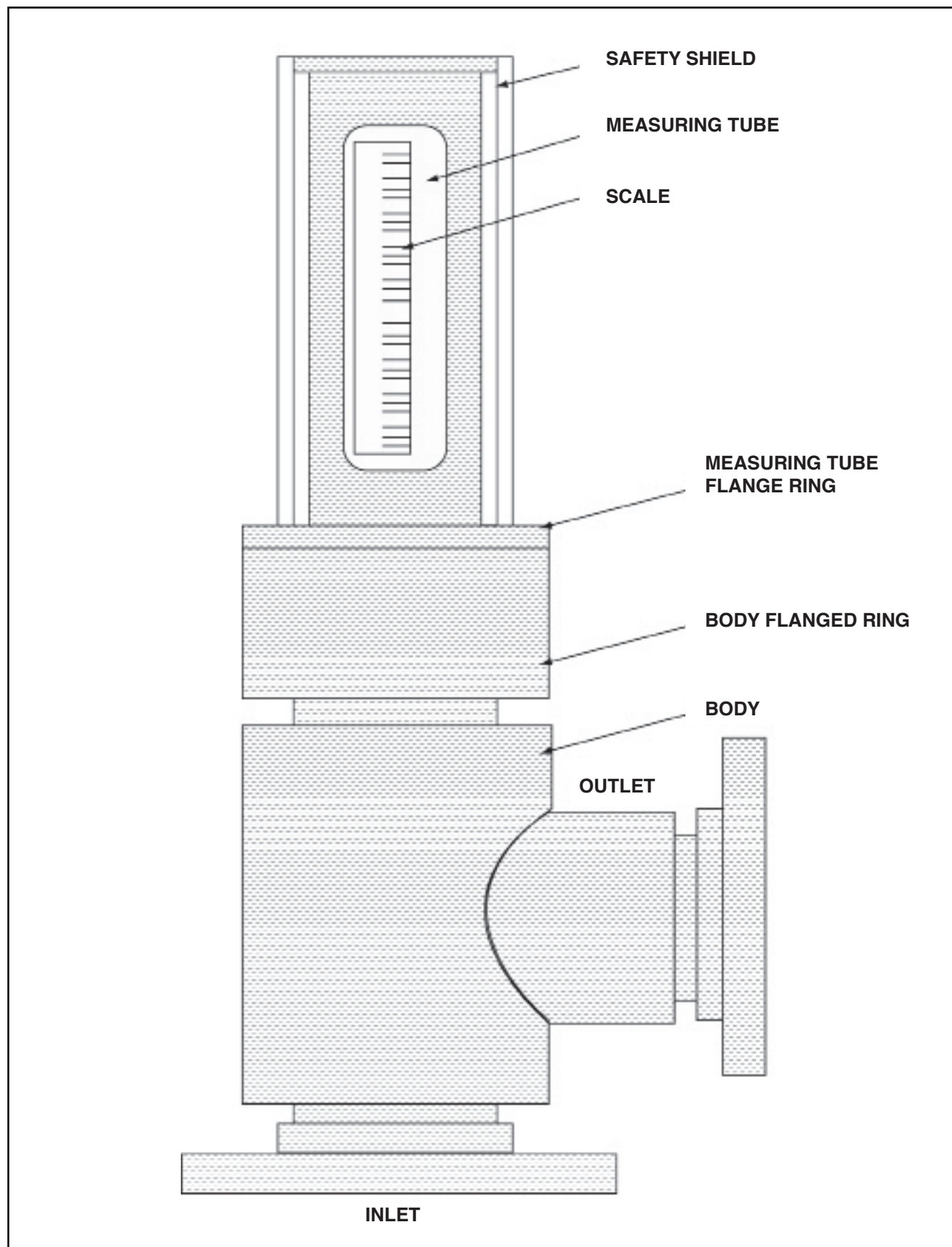
## MEMFLO™ MFVC PVC & CPVC FLOW METER



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# PVC/CPVC Components



## Introduction

*Please read carefully! No liability can be accepted for damage caused by improper use or installation of the MEMFlo SupraFlo MFVC Flow Meter.*

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.

The indicator disk should be visible in most thinner oils and light colored liquids. Visibility in black, viscous liquids is unlikely, and the magnetic indication option should be ordered for these cases.

## Safety Precautions

If you are unsure of the suitability of a MFVC Flow Meter for your installation, please consult your FLO-CORP representative for further information.

**NOTE: REMOVE ALL PACKING INSERTS BEFORE OPERATING FLOW METER.**

## Authorized Personnel

All operations described in this operating instructions manual must be carried out only by trained specialist personnel authorized by the plant operator. During work on and with the device the required personal protection equipment must always be worn.

## Warning about misuse

Inappropriate or incorrect use of the instrument can give rise to application-specific hazards , e.g. vessel over fill or damage to system components through incorrect mounting or adjustment.

## General Safety Instructions

The user must take note of the safety instructions in this operating instructions manual , the country specific installation standards as well as all prevailing safety regulations and accident prevention rules. The instrument must only be operated in a technically flawless and reliable condition . The operator is responsible for trouble-free operation of the instrument. During the entire duration of use, the user is obliged to determine the compliance of the required occupational safety measures with the current valid rules and regulations and also take note of new regulations.

## Disclaimer

The information contained in this document is subject to change without notice. FLO-CORP makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for a particular purpose.

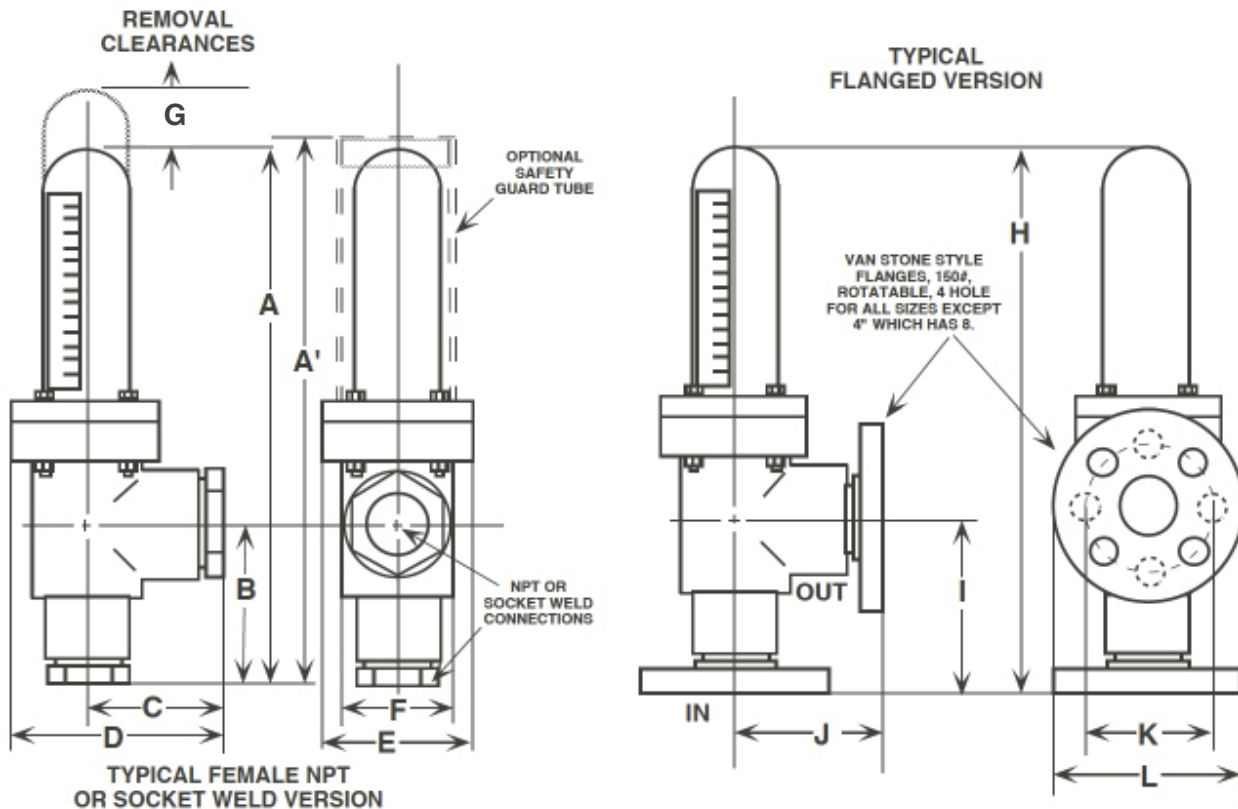
## Specifications

<b>Accuracy</b>	± 1% of 100% flow rate
<b>Repeatability</b>	± 1/2% of indicated flow rate
<b>Rangeability</b>	30 to 1 average
<b>Materials</b>	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.

<b>Pressure Rating</b>	Up to 150 psig for flanged models, or 300 psig, depending on meter type, temperature and service conditions.
<b>Temperature Rating</b>	Up to 212°F (pressure ratings decrease at higher temperatures).
<b>O-Rings</b>	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"

## Installation and Setup

**RECOMMENDED PIPING:** FLO-CORP's flow meters generally have no special straight run or other piping requirements. Restrictive valves, reducer bushings, elbows, and other devices that might cause contraction of the fluid stream or severe turbulence should not be mounted at inlet. A slight effect on meter accuracy may occur at high flow velocities (over 5 fps liquid, 20 fps gas) if inlet piping guidelines are violated.

**PREPARATION:** FLO-CORP's flow meters are ready to install as-is, although the measuring tube may need to be reoriented so the the scale is visible after installation.

**PLUMBING-IN:** While the flow meters should be vertical, exact plumbness is not necessary. A general rule is that if the meter appears plumb, it is close enough (even if off by 10°, the predictable reading error is usually less than 1%). Pipe should be cut to proper lengths to avoid stress on the meter used. Avoid over-tightening of the flange bolts.

**MEASURING TUBE ROTATION:** The All PVC meter and the PVC or CPVC with polysulfone tube meter scale can be rotated 360° without disassembly. Simply turn the measuring tube until the scale is at the desired location

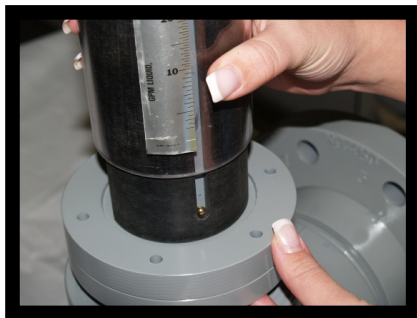
The All CPVC meter must be partially disassembled to change the scale/transducer position. Follow the instructions below.

**1)** Start by removing the measuring tube flange bolts.



**CAUTION: BE SURE PRESSURE IS FULLY VENTED, FLUIDS COMPLETELY DRAINED BEFORE DISASSEMBLING THE FLOW METER. THE USE OF SAFETY GLASSES, SAFETY SHIELDS AND PROTECTIVE CLOTHING IS STRONGLY RECOMMENDED.**

**2)** Remove the clear scale tube and the raceway by lifting straight up and out. Make sure to notice the gold ball indicator at the bottom of the raceway and keep it in a safe place for assembly.



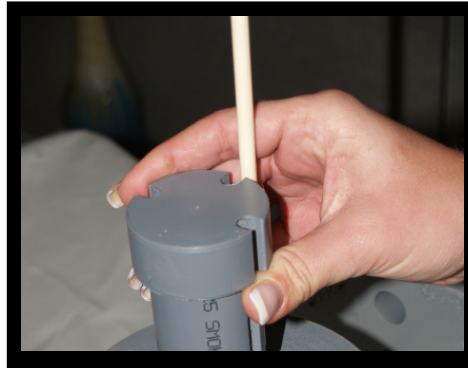
**3)** Using hands only, pull the measuring tube straight up and out of the body with a slight twisting motion, lifting clear of the body and snorkel or guide rod.



**4)** The float assembly includes 3 guide rod positions so the float assembly can be turned in the direction of the magnet that is encapsulated in the float assembly. The magnet position is indicated at the top of the float assembly with two indents at the top. The magnet should be aligned in the direction you want to read the scale. The notches are designed to give you a full 180° rotation. The guide rod and float assembly can be reassembled into the core tube.



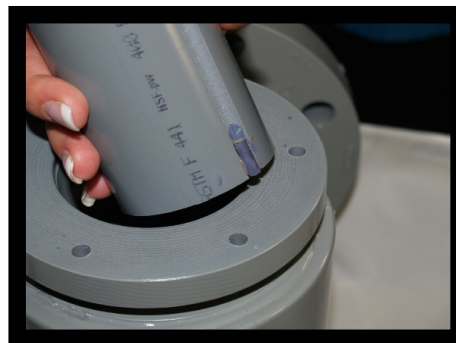
The float top will have 3 notches and the appropriate notch should be aligned with the snorkel guide rod.



Reassemble the meter measuring tube by seating the O-Ring on the measuring tube first. Use a little lubricant on the O-Ring to facilitate reassembly. Using hands only, press the measuring tube firmly down into the meter body with a slight twisting motion. Replace the raceway, ball and clear scale tube. Replace the flange bolts but do not over-tighten.

### Disassembly (SEE SIGHT TUBE ROTATION STEPS 1 THROUGH 4)

After step 4, the core tube assembly should be the only part that is still in the meter body. To take the core tube out for inspection, cleaning or replacement, with hands only rock the core tube slightly off of its seat in the meter body. The core tube has a small key affixed on the bottom of the tube which fits into a keyway at the bottom of the meter facing the meters outlet. Once the core tube as been loosened from the bottom of the meter body, pull straight up and out of the meter body.



**1)** Replace the core tube by seating the key into the keyway facing the outlet of the meter.

**2)** Replace the float assembly and spacer ring.



Reassemble the meter measuring tube by seating the O-Ring on the measuring tube first. Then use a little lubricant on the O-Ring to facilitate reassembly. Using hands only, press the measuring tube firmly down into the meter body with a slight twisting motion. Replace the raceway, ball and clear scale tube. Replace the flange bolts but do not over-tighten.



System flow should be started with the by-pass valve open and meter inlet and outlet valves closed. After system is operating, open meter inlet valve gradually to equalize internal pressure. Then slowly crack meter outlet valve and wait for float to stabilize. Finally, slowly open the meter outlet and/or flow regulating valve all the way and close the system by-pass valve. **AVOID SUDDEN SURGES THAT CAUSE THE METER FLOAT TO SLAM INTO THE TOP OF THE MEASURING TUBE.** Although not essential, the meter measuring tube should be filled to a level above the float on liquid systems. The snorkel tube allows escape of entrapped gases except for a small pocket in the upper end which helps cushion hydraulic shock. To assure complete filling and to flush any foreign particles from the meter, operate the system at full flow for a brief period at start-up.

## Reading Flow

Read flow directly from the scale as the number nearest the top edge of the float indicator disk.

## Maintenance

Occasional cleaning of the measuring tube and internal sensing elements to assure float visibility and continued accuracy is the only maintenance necessary for MEMFlo flow meters. Frequency will depend on the application – in most cases, an annual cleaning is adequate. It is not necessary to remove the MEMFlo flow meter from the pipeline for cleaning or replacing parts. The body remains plumbed into the pipe, allowing easy service and even installation of different sensing elements to accommodate new flow rates or fluids.

## Inspection and Cleaning

Inspect parts for nicks, scratches, chips, wear and contaminant build-up. The edges of the core tube slot, ID of the core tube, and OD of the piston (largest section at the float assembly bottom) are precision machined. Damage to these areas can destroy the meter's accuracy. Also, inspect the O-Ring, the bottom section of the measuring tube and the inside of the upper body section. Damage to these areas may result in leaking. Clean, rinse, and dry all parts carefully, including the O-Ring, preferably with a mild detergent, water, and a soft cloth or soft tube brush. If solvents are used, make sure they are compatible with meter parts.



## Assembly Instructions

In general, replace all parts in reverse order of disassembly.

Place the slotted meter tube into the body, aligning the “key” at the bottom of the tube with the keyslot in the bottom of the body.

Place the spider over the meter tube with the “notched” leg over the snorkel tube or guide rod. Slide the spider down to the meter tube’s shoulder.

Place the meter float in the meter tube, aligning the notch in the indicator disk with the snorkel.

Seat the O-Ring on the measuring tube, lubricating it with a small amount of service-compatible silicone grease or petroleum jelly to facilitate replacement.

Using hands only, press the measuring tube firmly down into the meter body with a twisting motion. Be careful not to rock the measuring tube side to side and bend the snorkel tube/guide inward where it might interfere with float movement. Rotate measuring tube as necessary for scale visibility and/or alignment of the raceway screw.

Slide the inner flange ring over the measuring tube. When properly seated, the top of the flange ring should be flush with the bottom edge of the snap ring groove.

Separate the coils of the spiral retaining ring, and insert one end into the body groove. Wind the ring into the groove, making sure the ring is properly seated. Then replace the ball indicator (the tip of a screwdriver can be used to help locate the magnet, and replace the raceway and raceway cover).

## Replacement Parts

Because MEMFlo flow meters are custom meters, it is best to stock several complete units as spares to assure availability of replacement parts. Under proper care, there should be no need to stock additional replacement components. If the service or environment is quite harsh, or frequent meter disassembly dictated, spare O-Rings and measuring tubes should be considered.

Otherwise, parts only need to be replaced if damaged. Any visible damage to the entire surface of the O-Ring or measuring tube (particularly from the bottom edge) indicates need for replacement. To insure accuracy, the inside surface of the meter core tube, the slot edges, and the OD of the float piston should be free of nicks, chips, with no visible erosion of any surfaces. If abrasive particles are suspended in the metered fluid, it may be desirable to keep replacement core tube/float assemblies on hand.

FLO-CORP can inspect any suspect parts or recheck calibration. Parts returned should include information regarding the flow application, suspected problem, and who to contact for an authorization on corrective measures. Again, unless the meter is misused, or service is extremely hard, there should be no need for factory recalibration.

To order parts, include the model and serial numbers of the units involved along with a description of the part ordered. If converting the meter to a new application, in addition to the model and serial numbers, SEND FLO-CORP COMPLETE APPLICATION DATA INCLUDING FLUID, MAXIMUM FLOW RATE, MAXIMUM AND OPERATING PRESSURES AND TEMPERATURES AND ANY OTHER APPLICATION PARTICULARS OR FLUID CHARACTERISTIC. This information is essential for FLO-CORP to provide proper items and verify that the new application is within the operating limits of the flow meter.

The only storage or handling requirements for MEMFlo flow meters or parts is to keep them in a reasonably clean location away from excessive heat (over 120°F), chemical or solvent fumes and vapors not compatible with the materials of construction.

Each MEMFlo flow meter is individually calibrated on test facilities designed and operated according to applicable ASME, ISA, and NIST standards and practices. Individual measuring components of these facilities are certified traceable to NIST, and tandem meter arrangements are employed to continually verify flow data. FLO-CORP's calibrations meet both static and dynamic traceability criteria. For an additional charge, calibrations for  $\pm 1\%$  full scale accuracy can be certified per MIL-STD-45662.

## Flow Rate Selection

It is common practice to select a flow meter placing normal flow at about 75% of full scale. However, the unique “over-read” feature of MEMFlo flow meters allows sizing meters to normal flows in the 85% — 100% range. This provides more precise flow measurement, as meter accuracy is generally a percentage of the 100% scale rating.

## MEMFlo Sizing Calculators

Please visit our website for Sizing Calculators

<http://www.flowlineoptions.com/tech/calculators/sizing-calculator/>

MEMFlo Online Calculator Sets are offered for either meter capacity selection, or for correcting an existing MEMFlo Flow Meter for a different fluid and/or operating conditions.

## Interchangeability

A wide variety of capacities and different fluids can be accommodated in one meter body by insertion of different metering core tube and float combinations. Disassembly is quickly and easily accomplished while leaving the meter body in the pipeline (this facilitates cleaning). Scales must also be changed.

GPM @ 100%, SIZE 6	GPM @ 100%, SIZE 12
0.54 — 1.64	11.0 — 15.0
2.60 — 3.80	21.0 — 120.
5.40 — 23.0	

**Table 1:** 100% liquid flow capacities that are interchangeable within the same flowmeter body without removing the outlet restriction

In gas flowmeters, any capacity range offered in a given body size can be interchanged in this fashion. However, some low flow capacity liquid flowmeters incorporate a restriction in the outlet of the meter to facilitate filling of the measuring tube. This restriction creates significant pressure drop if higher flows are used, and must be removed for higher flows. Table 1 shows the liquid flow capacity ranges which can be interchanged without removing the restriction.

## Viscosity Considerations

Each MEMFlo flow meter for liquid service has a so-called “Viscosity Immunity Ceiling” (V.I.C.). In most cases, as long as the viscosity of the metered liquid is less than the V.I.C. of the particular flowmeter, accuracy will not be influenced by changes in viscosity. When the viscosity is greater the V.I.C., accuracy is influenced significantly, and the flow meter must be calibrated for the particular fluid. In general, the higher the capacity of the flow meter, the greater (higher V.I.C.) the range of immunity to viscosity variations.

However, the effects of viscosity on a given flow meter are not always predictable. Two apparently similar liquids with comparable densities and viscosities may affect meter calibrations quite differently.

Table 2 below provides general guidelines for the typical maximum viscosity for meter models without affecting accuracy. If your viscosity exceeds the levels indicated, please consult FLO-CORP to determine if special modifications or calibrations are required. (NOTE: V.I.C.'s are applicable to liquid flows only.)

100% GPM, SIZE 6	CTS	100% GPM, SIZE 12	CTS
0.54 – 0.80	3	11.0 – 15.0	50
1.20 – 2.60	7	21.0 – 35.0	100
3.80 – 7.00	15	50.0 – 70.0	250
10.0 – 23.0	25	90.0 – 120.	500

Table 2: Average V.I.C., Centistokes, for standard PVC & CPVC flow meters

Table 3: Flow Meter Capacities, GPM Liquid, Sp. Gr. = 1.00

CAPACITY DESIGNATOR	FLOW RANGE (GPM LIQUID)	CONNECTION SIZE	OVER-READ FLOW	SCALE INCREMENTS	ΔP, INCHES H2O
00	0.025-0.54	04 (1/2")	0.58	0.005	5.5
01	0.04-0.80		0.87	0.01	6.5
02	0.06-1.20		1.25	0.01	7.5
03	0.08-1.64		1.78	0.02	7.5
04	0.10-2.60	06 (3/4")	2.82	0.02	14.2
05	0.15-3.80		4.40	0.05	17.2
06	0.20-5.40		6.10	0.05	17.2
07	0.20-7.0		7.90	0.10	22.0
08	0.20-10.0	08 (1")	12.0	0.10	22.0
09	0.60-15.0		16.0	0.20	40.0
10	0.50-20.0		30.0	0.50	75.0
11	0.50-11.0		13.0	0.10	13.8
12	0.70-15.0	12 (1 1/2")	16.4	0.10	14.8
13	1.00-25.0		28.0	0.20	17.5
14	0.50-35.0		40.0	0.25	18.5
15	1.00-50.0		60.0	0.50	26.0
16	2.00-70.0	16 (2")	75.0	0.50	80.0
17	4.00-120		130.0	1.00	130.0
18	2.00-50.0		60.0	0.50	15.0
19	4.00-100		120.0	1.00	30.0
20	7.00-150	24 (3")	175.0	1.00	40.0
21	10.0-200		240.0	2.00	54.0
22	15.0-300		330.0	2.50	150.0
23	4.00-100		120.0	1.00	27.0
24	7.00-150	32 (4")	175.0	1.00	36.0
25	10.0-200		240.0	2.00	49.0
26	15.0-300		330.0	2.50	53.0
27	15.0-400		450.0	5.00	78.0
28	20.0-500	600.0	5.00	145.0	

**Table 4: Flow Meter Capacities, SCFM Gas, @ 100 PSIG, 70°F.**

CAPACITY DESIGNATOR	FLOW RANGE (SCFM GAS)	CONNECTION SIZE	OVER-READ FLOW	SCALE INCREMENTS	ΔP, INCHES H2O
00	0.30-7.40	04 (1/2")	8.90	0.10	1.5
01	0.50-10.2		10.90	0.10	2.5
02	0.70-14.0		15.20	0.20	3.1
03	1.00-20.0		23.0	0.25	3.3
04	1.00-26.0		28.0	0.50	3.4
05	1.00-35.0		39.0	0.50	4.0
06	2.00-50.0		55.0	0.50	4.5
07	3.00-70.0		75.0	1.00	11.8
08	4.00-85.0		110.0	1.00	18.0
09	6.00-125		140.0	1.00	22.0
10	6.00-160	06 (3/4")	180.0	2.00	45.0
11	4.00-260		290.0	2.00	93.0
12	2.00-40.0		43.0	0.50	1.4
13	3.00-70.0		75.0	0.50	4.2
14	4.00-100		110.0	1.00	7.6
15	5.00-140		168.0	1.00	7.8
16	5.00-175		210.0	1.00	7.6
17	6.00-250		320.0	2.00	7.5
18	2.0-310		350.0	2.00	12.0
19	7.50-390		470.0	2.50	22.0
20	10.0-510	08 (1")	610.0	5.00	40.0
21	35.0-750		900.0	5.00	70.0
22	20.0-1000		1200.0	5.00	90.0
23	30.0-600		630.0	5.00	15.0
24	40.0-1000		1200.0	10.0	30.0
25	70.0-1750		2000.0	10.0	40.0
26	100.0-2300		3500.0	20.0	54.0
27	150.0-3500		3700.0	25.0	150.0
28	40.0-1000		1200.0	10.0	27.0
29	70.0-1750		2000.0	10.0	36.0
30	100.0-2300	12 (1½")	2500.0	20.0	49.0
31	150.0-3500		3700.0	25.0	53.0
32	150.0-4000		4500.0	50.0	78.0
33	200.0-5000		6000.0	50.0	145.0
		16 (2")			
		24 (3")			
		32 (4")			

**Table 5: Operating Limits\***

BODY SIZE & DESCRIPTION	MAXIMUM NON-SHOCK WORKING PRESSURE, PSIG @ ° F							
	70°	80°	100°	120°	140°	160°	180°	210°
All PVC, Threaded & Socket Connections	250	225	150	90	50	N.R.	N.R.	N.R.
All PVC, Flanged Connections	150	150	150	90	50	N.R.	N.R.	N.R.
PVC & Polysulfone, Threaded & Socket	300	295	205	130	70	N.R.	N.R.	N.R.
PVC & Polysulfone, Flanged	150	150	150	110	50	N.R.	N.R.	N.R.
CPVC & Polysulfone, Threaded & Socket	300	300	280	230	180	130	80	50
CPVC & Polysulfone, Flanged	150	150	150	150	150	130	80	50
All CPVC, Threaded & Socket Connections	270	270	250	200	150	130	80	50
All CPVC, Flanged Connections	150	150	150	135	110	90	70	40
All PVC, Threaded & Socket	170	150	105	65	40	N.R.	N.R.	N.R.
All PVC, Flanged Connections	150	150	105	65	40	N.R.	N.R.	N.R.
PVC & Polysulfone, Threaded Only	210	190	130	85	40	N.R.	N.R.	N.R.
PVC & Polysulfone, Socket Only	265	255	185	120	40	N.R.	N.R.	N.R.
PVC & Polysulfone, Flanged	150	150	150	110	40	N.R.	N.R.	N.R.
CPVC & Polysulfone, Threaded Only	210	200	180	145	115	85	50	30
CPVC & Polysulfone, Socket Only	265	255	250	200	160	120	75	45
CPVC & Polysulfone, Flanged	150	150	150	135	110	90	70	40
All CPVC, Threaded Only	180	180	170	145	115	85	50	30
All CPVC, Socket Only	180	180	180	170	150	110	75	45
All CPVC, Flanged Connections	150	150	150	135	110	90	70	40
PVC & Polysulfone, Threaded Only	190	170	120	75	40	N.R.	N.R.	N.R.
CPVC & Polysulfone, Threaded Only	180	180	160	135	105	75	50	30
All CPVC, Threaded Only	160	160	140	125	105	75	50	30
All PVC, Threaded & Socket	160	150	105	65	40	N.R.	N.R.	N.R.
All PVC, Flanged Connections	150	150	105	65	40	N.R.	N.R.	N.R.
PVC & Polysulfone, Socket Only	265	255	185	120	40	N.R.	N.R.	N.R.
PVC & Polysulfone, Flanged	150	150	105	65	40	N.R.	N.R.	N.R.
CPVC & Polysulfone, Socket Only	265	255	250	200	160	120	75	45
CPVC & Polysulfone, Flanged	150	150	150	135	110	90	70	40
All CPVC, Flanged Connections	150	150	150	135	110	90	70	40
PVC & Polysulfone, Threaded Only	160	145	100	65	40	N.R.	N.R.	N.R.
CPVC & Polysulfone, Threaded Only	160	155	135	110	90	65	40	25
All CPVC, Socket Only	225	215	210	160	150	120	75	45

**N.R. = NOT RECOMMENDED**

\* Operating limits given are based on water or air. For more severe service, corrosives, and other media and/or environmental factors, an additional correction factor down-rating these limits may be required.

Limits are based on testing and practical experience. Possible extreme application conditions cannot be foreseen. Thus, data is offered only as a guide. It in no way constitutes a specific recommendation or warranty expressed or implied.

The operating limits should not be exceeded under any circumstances. If there is any doubt regarding the safe operating limit for a specific application, please consult Flow Line Options prior to installation and pressurization of the flow device.

## Troubleshooting

SYMPTOM	USUAL CAUSE	SUGGESTED REMEDY
<b>FLOAT HANG-UP</b>	Usually caused by particles, sludge, etc. (including failure to remove the plastic tubing used to block meter float during shipment) inside the core tube and/or measuring tube holding float. A bent float shaft or guide rod (usually caused by careless disassembly or violent surges) may also be causing float to stick.	Remedies include tapping the meter gently to temporarily dislodge the float, but if the problem reoccurs, meter should be disassembled and cleaned, and/or float shaft or guide rod straightened. If hang-up caused by sludge or pipe scale, clean lines and install a filter or other form of cleaner in supply line.
<b>APPARENT FALSE READINGS, GAS METERS</b>	MEASURING TUBE NOT FILLED TO PROPER LEVEL WITH DAMPING FLUID. (IF FLOAT BOUNCES DURING OPERATION, LACK OF DAMPING FLUID IS ALMOST CERTAINLY THE CAUSE.) Gas density not according to calibration data (different pressure, temperature, gas, etc.), high water vapor content, saturated gas going into vapor or condensation phases, partially clogged core tube slot or foreign matter interfering with float movement, and/or violation of piping recommendations at high flow velocities.	ADD DAMPING FLUID AS REQUIRED. Other remedies include checking meter pressure (FLO-CORP can install a pressure gage on the meter) & temperature, determining actual gas mixture density and correcting with appropriate formulae in this bulletin. Modifying inlet piping, relocating meter to point of higher temperature and/or lower pressure to eliminate vapor or condensation phase effects, and/or cleaning the meter (install filter or other form of cleaner if dirt repetitive problem) may also be required. If accuracy still seems off, return core tube/float assembly to FLO-CORP for calibration check.
<b>APPARENT METER READING MIGRATION (reading changes but flow appears constant)</b>	Frequently caused by use of soft disc type valves, which may need to be replaced with a valve more suited to flow control. Can also be indicative of changing fluid conditions (density, viscosity, etc.) Problems with other elements of the flow system, including leaks, clogged filters, pump/compressor wear, etc. may first appear as a change in meter reading-one of the functions of a flow meter.	Verifying the proper fluid conditions are known and applying correction formulae as needed will remedy problems associated with changing fluids. Cleaning, servicing, and replacement and/or repair of other system components may be required.
<b>LEAKAGE</b>	If at the junction of the body and measuring tube, it is indicative of either (a) damaged "O" ring (most common); (b) damaged measuring tube; or (c) damage to the gland section of the body. It may also be caused by improper reassembly of the flowmeter in the field.  If there is leakage at the pipe connections to the meter, it is probably caused from over-tightening pipes on a prior installation (or the initial installation, particularly with PVC or CPVC flow meters).	Replace any damaged parts immediately, using the proper assembly procedures indicated in this instruction and the assembly detail drawings.  Remove the body and inspect for damage-if none is visible, check pipe threads, reapply proper thread lubricant/sealant, and reinstall. If leak persists, replace meter body.

All MEMFlo Flowmeters are hydrostatically pressure tested before they are shipped. FLO-CORP encourages you to contact your FLO-CORP representative or the factory with any questions regarding the proper installation and operation of our flow meters.

# Ordering Information

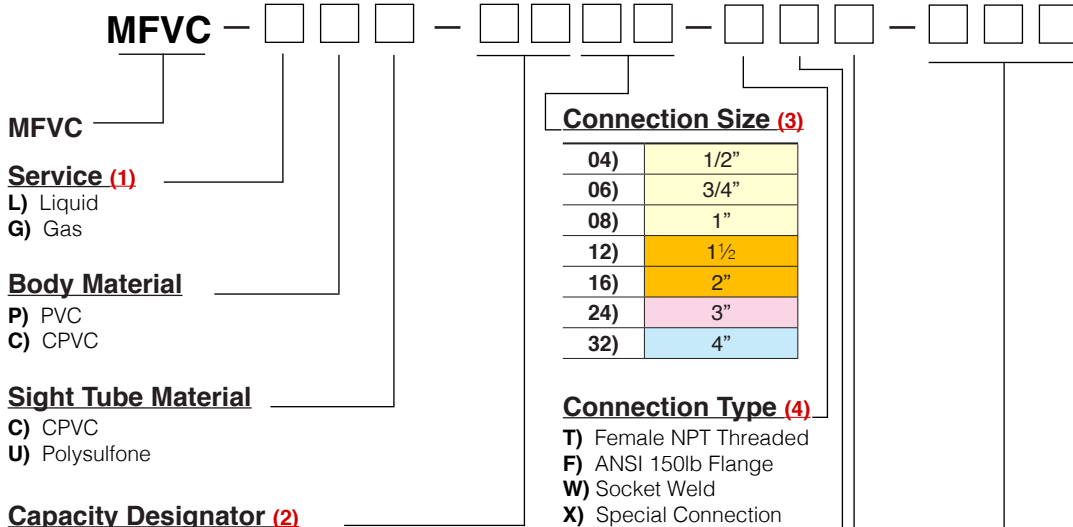
## FLO-CORP MODEL NUMBER BUILDER

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:** 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

**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)	0.6 - 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)	1½"
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) EPDM (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 (1½" - 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.