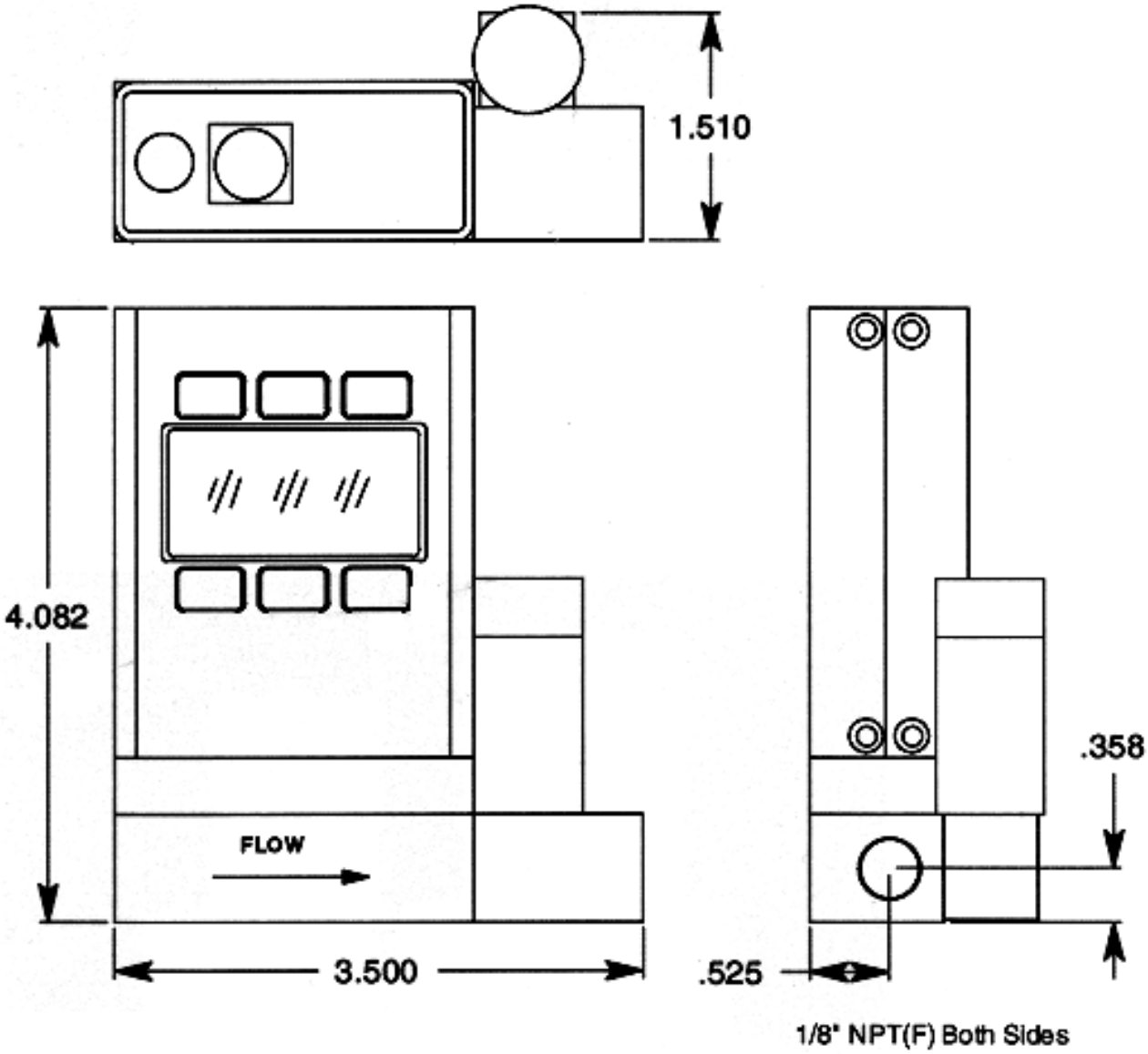
Mass & Volumetric Gas Flow Controllers

The MC and VC line of **Laminar Flow Controllers** utilize a proportional valve coupled to a flowmeter body. Measurements are taken within the laminar region of the flowmeter and the **integral PID controller** positions the valve according ot the user programmed set points. These robust, closed-loop devices can accept a 0-5Vdc control set point from either external devices or via direct entry on display equipped units. The controllers can also accept an RS-232, 0-10Vdc or 4-20mA control input signal, depending on what is preferred by the customer. Independent of the set point voltages, the controllers can be configured for single or dual output signals of the same or different voltages and/or different parameters such as mass flow and temperature or flow and pressure. Our mass flow controllers incorporate solid-state Differential, Absolute Pressure and Temperature sensors to determine flow. **The result is an easy to use, fast responding meter that is inherently linear and can display or transmit multiple process parameters.** With the RS232 digital link, all the process data is available simultaneously as well as remote set point capability. In a parallel connection, up to 26 units can be individually addressed. Gas units are available from 500 micro-liters per minutes full scale to 100o liters per minute full scale. *(Volumetric controllers do not require absolute pressure sensors or discrete temperature sensors and are therefore less expensive. They are commonly used in applications where input pressure are low and units vent to atmosphere.)*

Specification	MC	VC	Units	Sample FS Ranges
Accuracy	±1%	±1%	Full Scale	0.5 (S)CCM
Repeatability	±0.5%	±0.5%	Full Scale	1 (S)CCM
Turndown Ratio	100:1	100:1		2 (S)CCM
Control Response Time	100	100	Milliseconds	5 (S)CCM
Full Scale Pressure Drop	Consult Digiflow	Consult Digiflow	PSI	10 (S)CCM
Temperature Range (Operating)	-10 to +50	-10 to +50	°C	20 (S)CCM
Zero Shift	0.02%/ATM	0.02%	FS/°C	50 (S)CCM
Span Shift	0.02%/ATM	0.02%	FS/°C	100 (S)CCM
Humidity Range	0-100% non-condensing	0-100% non-condensing		200 (S)CCM
Excess Flow Rate	20X	20X	Full Scale	500 (S)CCM
Common Mode Pressure	125	125	PSIG	800 (S)CCM
Supply Voltage	Less Than or EQ 20 LPM 12-25	Grtr Than or EQ 50 LPM 24-30	VDC	1 (S)LPM
Supply Current	Less Than or EQ 20 LPM 0.25	Grtr Than or EQ 50 LPM 1.0	mA	2 (S)LPM
In/Out Signal - Std	0-5 or 0-10	0-5 or 0-10	VDC	3 (S)LPM
Media	Air, Argon, Nitrogen, Oxygen, Hydrogen, Helium, Carbon Dioxide, Neon, Methane, Propane, Carbon Monoxide, Ethane, Nitrous Oxide, etc.			5 (S)LPM
Connections	0.5 - 50 SCCM 10-32 ==========> 50 SCCM - 20 SLPM & under; 1/8" 50 & 100 SLPM; 1/4" 250 SLPM; 1/2" 500 - 1000 SLPM; 3/4"		==> UNF FNPT	10 (S)LPM
Wetted Materials	303 and 302 Stainless Steel, Viton®, Silicone RTV, Glass reinforced Nylon, Anodized AL, 410 & 304 Stainless Steel, Nickel, Brass, Delrin®, Loctite® Adhesives 326, 401, 609			20 (S)LPM 50 (S)LPM 100 (S)LPM 250 (S)LPM 5000 (S)LPM 1000 (S)LPM



Flow Range	Height	Length	Depth	Meter Port	Valve Port
0.5 - 50 SCCM	3.867"	3.527"	1.050"	10-32 UNF	10-32 UNF
100 SCCM - 20 SLPM	4.167"	3.588"	1.050"	1/8" FNPT	1/8" FNPT
50 - 100 SLPM	4.667"	6.935"	2.250"	1/4" FNPT	1/4" FNPT
250 SLPM	4.967"	6.935"	2.250"	1/2" FNPT	1/2" FNPT
500 - 1000 SLPM	5.607"	7.735"	2.250"	3/4" FNPT	3/4" FNPT

*Very low flow devices may have special ports to reduce dead volume.
Occasionally, particular flow/pressure conditions may dictate various port size combinations.

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