



Tylan[®] FC260/FM360 Mass Flow Controllers and Flowmeters

Low cost mass flow controllers with long-term repeatability and performance



Process Values

Designed to meet the exacting requirements of semiconductor processes and equipment, the Tylan FC260 and Tylan FM360 models are premium quality elastomer-sealed mass flow controllers and meter. These MFCs combine proven components and techniques with innovative concepts in both mechanical and electrical design.

Excellent Performance

Tylan FC260 and FM360 mass flow controllers and flowmeters accurately and reliably measure and control flow rates of gases up to 200 standard liters per minute without the need for pressure or temperature corrections.

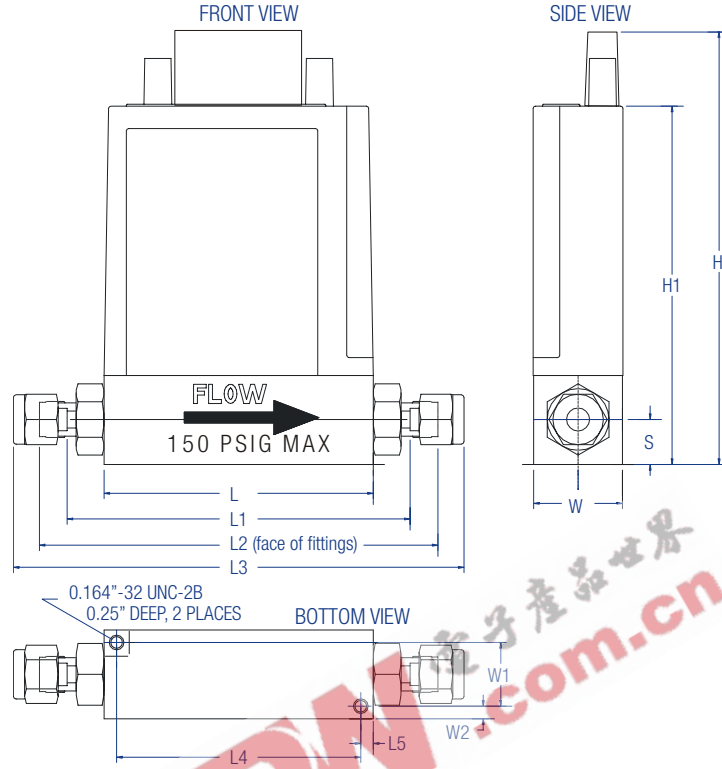
Product Features

- Attitude Insensitive Flow Sensor
- Superior Bypass Design to Operate under Laminar Flow Conditions
- Solid State Valve Assembly Constructed of Type 316 Stainless Steel
- Laminar Flow

Product Benefits

- Eliminates air convection currents inside its case without sacrificing response speed.
- Can be mounted in any position without requiring zero adjustment.
- Assures accuracy over the entire range of mass flow controller.
- Easily removed for range changes.
- Completely compatible with reactive and corrosive materials.
- Design eliminates internal dead volumes.
- Eliminates the need for complex, interactive multi-point linearization during calibration

Tylan FC260/FM360 MFCs and Flowmeters - Ordering Information



FC-260/FM-360

Fittings		H	H1	W	W1	W2	L	L1	L2	L3	L4	L5	S
2S	in mm	5.38 136.7	4.00 101.6	1.00 25.4	0.72 18.3	0.14 3.56	3.00 76.2	3.82 97.0	4.38 111.3	4.94 125.5	2.72	0.14 3.56	0.50 12.7
4S	in mm							3.82 97.0	4.44 112.7	5.03 127.8			
4VCO	in mm							-	4.55 115.6	-			
4V	in mm							-	4.88 123.9	-			

FC-261/FM-361

Fittings		H	H1	W	W1	W2	L	L1	L2	L3	L4	L5	S
4S	in mm	5.63 143.0	4.25 108.0	1.25 31.8	0.97 24.6	0.14 3.56	4.25 108.0	5.16 131.0	5.78 146.8	6.36 161.5	3.55 90.1	0.35 8.9	0.575 14.6
4V	in mm							-	6.19 157.2	-			
4VCO	in mm							-	5.86 148.8	-			
6S	in mm							5.17 131.3	5.90 149.8	6.48 164.5			
6V	in mm							-	6.50 165.1	-			

FC-262/FM-362

Fittings		H	H1	W	W1	W2	L	L1	L2	L3	L4	L5	S
4V	in mm	7.13 181.1	5.75 146.1	1.50 38.1	1.00 25.4	0.25 6.35	5.255 133.5	6.25 158.8	6.87 174.6	7.45 189.3	4.00 101.6	0.62 15.75	0.585 14.8
6S	in mm							6.27 159.3	7.59 192.7	7.59 192.7			
6V	in mm							-	7.57 192.3	-			
6VCO	in mm							-	7.10 180.2	-			

2S = 1/8-inch Swagelok®

4S = 1/4-inch Swagelok

4V = 1/4-inch VCR®

4VCO = 1/4-inch VCO®

6S = 3/8-inch Swagelok

6V = 3/8-inch VCR

6VCO = 3/8-inch VCO

Tylan FC260/FM360 MFCs and Flowmeters - Ordering Information

Performance

Gases	Any gas with a known conversion factor
Step Response Time	6 seconds (dependent on step request and conditions)
Accuracy	± 1% of full scale ± 2% of full scale for the FC262
Linearity	0.5% of full scale
Repeatability	± 0.2% of full scale
Attitude Sensitivity	Not sensitive
Control Range	50:1 (100% - 2%) FC262 50:2 (100% - 4%)

Mechanical

Materials	Type 316 Stainless Steel, Viton [®] , Kalrez [®] , or Neoprene Seals depending on gas application
Leak Integrity	1 × 10 ⁻⁹ atm cc/sec He

Electrical

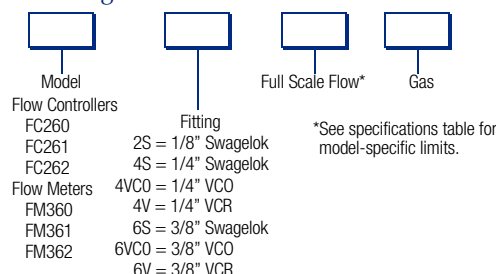
Analog Output	0 - 5 VDC (5 volts = full scale)
Input Power	Flow Controllers: + 15 VDC ± 4%, 25 mA max - 15 VDC ± 4%, 180 mA max Flow Meters: + 15 VDC ± 4%, 25 mA max - 15 VDC ± 4%, 25 mA max
Power Consumption	Flow Controllers: 4.0 watts maximum Flow Meters: 1.5 watts maximum
Command Signal	Flow Controllers: 0 - 5 VDC (2.5 k ohms max source impedance) 40-20 mA optional (contact Mykrolis)
Minimum Load Resistance	2000 ohms

Environmental

Temperature Range	5 - 43° C (40 - 110° F)
Temperature Coefficient	± 0.1%/° C
Pressure Coefficient	± 0.007%/psi

Note: In accordance with SEMI Standard E12-91, Standard Temperature is 0° C and Standard Pressure is 760 mm Hg (14.7 psia).

Ordering Information



Model	Flow Controllers			Flow Meters		
	FC260	FC261	FC262	FC360	FC361	FC362
Full Scale Range	10 sccm - 5 slm	6 - 20 slm	30 - 200 slm	10 sccm - 5 slm	6 - 20 slm	30 - 200 slm
Pressure Drop	10 - 40 psid	15 - 40 psid	20 - 40 psid	0.5 psid at full scale flow		
Gas Pressure	30 psig optimum 150 psid max		40 psig optimum 150 psid max	500 psid max		
Gas Fittings	1/8" or 1/4"	1/4"	1/4" or 3/8"	1/8" or 1/4"	1/4"	1/4" or 3/8"
Weight	500 gm (1.1 lb)	954 gm (2.1 lb)	2.77 kg (5.0 lb)	454 gm (1.0 lb)	907 gm (2.0 lb)	2.15 kg (4.75 lb)

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