

Tylan FC-2900/FM-3900 Mass Flow Controllers and Flowmeters

Low-cost, premium quality elastomer-sealed mass flow controllers and meters



Process Values

Designed to meet the exacting requirements of semiconductor processes and equipment, the Tylan FC2900 and FM3900 models are premium quality elastomer-sealed mass flow controllers and meters. These MFCs combine proven components and techniques with innovative concepts in both mechanical and electrical design.

Product Features

Autozero Digital Circuitry

User-Selectable Response Time Option

Temperature Coefficients

Balanced Power Load

Power Operation

Standard Design

Product Benefits

Automatically resets outputs to zero under no flow conditions, and shifts the entire calibration curve to cancel many effects of temperature coefficients and calibration drift.

Offers a quick (0.5 second) step response time in short-cycle processes along with offering a controlled response for long processes.

Maintains tight control in varying temperatures

Low lead current eliminates signal differing from its controlling device

Insensitive to power supply variations, and will operate within ± 12 volts to ± 18 volts

Industry standard pinouts and dimensions make the Tylan FC2900 easy to install in many systems

Tylan FC-2900/FM-3900 MFCs and Flowmeters - Ordering Information

Performance

Full Scale (N2 equivalent)	FC2900: 10 sccm – 10 slpm FC2910: 100 sccm – 50 slpm (FC2910 used below 10 slm for low vapor pressure material delivery)
Step Response Time	1 sec (dependent on step request and conditions)
Accuracy	± 1.0% full scale
Linearity	± 0.5% full scale
Repeatability	± 0.2% full scale
Pressure Coefficient	0.00001% per bar, 0.007% per psi (typical)
Temperature Coefficient	0.05% per °C (zero and span)
Attitude Sensitivity	< 0.25% @ 90° C without autozero

Mechanical

Valve	Normally-open or normally-closed solenoid
Materials	316L stainless steel, 446 stainless steel, PFA Teflon®
Elastomers Available	Viton®, Kalrez®, Neoprene
Leak Integrity	1 x 10 ⁻⁹ atm-cc per sec (He) inboard <2% full scale with Teflon poppet (normally-closed) <5% full scale with Teflon poppet (normally-open)
Weight	0.98 Kg (2 lb)

Electrical

Supply Voltage	± 12 VDC to ± 18 VDC
Supply Current	9110 mA nominal (125 mA max @ ± 18 VDC)
Power Consumption	3.3 watts @ ± 15 volts
Input/Output Signal	0-5 VDC

Environmental

Operating Temperature	5 – 50° C (ambient and gas)
Humidity	0 – 90% RH, non-condensing
Maximum Inlet Pressure	11.5 bar (150 psig)
Differential Pressure	Nominal, 0.7 – 2.8 bar (10-40 psid)

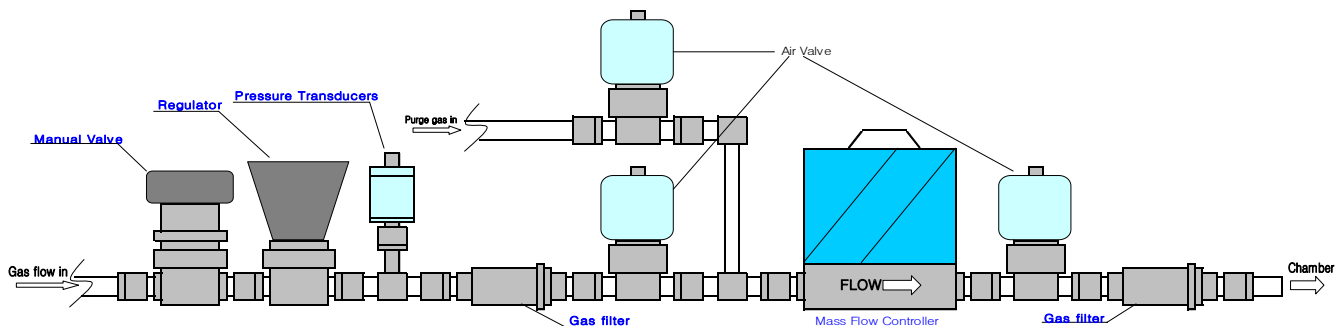
Note: In accordance with SEMI Standard E12-91, Standard Temperature is 0° C and Standard Pressure is 760 mm Hg (14.7 psia).

Electrical Connection

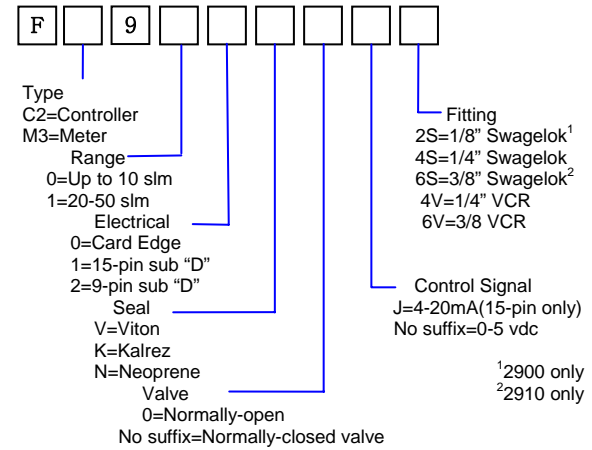
	Card Edge	15-Pin "D"	9-Pin "D"		Card Edge	15-Pin "D"	9-Pin "D"
+ 15 VDC	4	5	3	Az INHIBIT	J	3	
COMMON	C	10	4	VALVE TEST (± 15 VDC)	D	12	8*
-15 VDC	F	6	5	VALVE OFF	L	15	
0-5 V Out	3	2	2	OVERRIDE			1
COMMON	2	1	7	4-20 mA IN		7	6*
0-5 V IN	A	8	6	4-20mA OUT		4	2*
COMMON	8	9	8	CASE GND	1	14	9*
V REF	6	11		VALVE VOLTAGE (0-7 VDC)			8*
PRESS. IN	5	3	9*				
Az STORE	K						

Consult our applications specialists with any questions. * Optional Kalrez and Viton are trademarks of DuPont Dow Elastomers, L.L.C. Swagelok is a trademark of Crawford Fitting Company. Teflon is a trademark of E. I. du Pont de Nemours and Company VCO and VCR are trademarks of Cajon Company

Gas Panel Drawing



FC-2900/FM-3900 Ordering Information



FC-2900/FM-3900 Dimensions

