

# Sevenstar CS230A Series

Digital Mass Flow Controllers and Meters – High Flow  
Semiconductor Grade, Viton sealed  
50 slm – 300 slm

**esl**   
service is solution



## FEATURES

- ▶ **High Accuracy** (  $\pm 1.0\%$  SP )
- ▶ **Fast Response** ( less than 2 sec )
- ▶ **Excellent Sensor Stability**
- ▶ **High Purity** ( assembled in a Class 100 Clean Room )
- ▶ **Multiple Communication Interfaces**  
( Analogue, RS485, Profibus® and DeviceNet™ )
- ▶ **Multi Gas & Multi Range**
- ▶ **Designed in California**



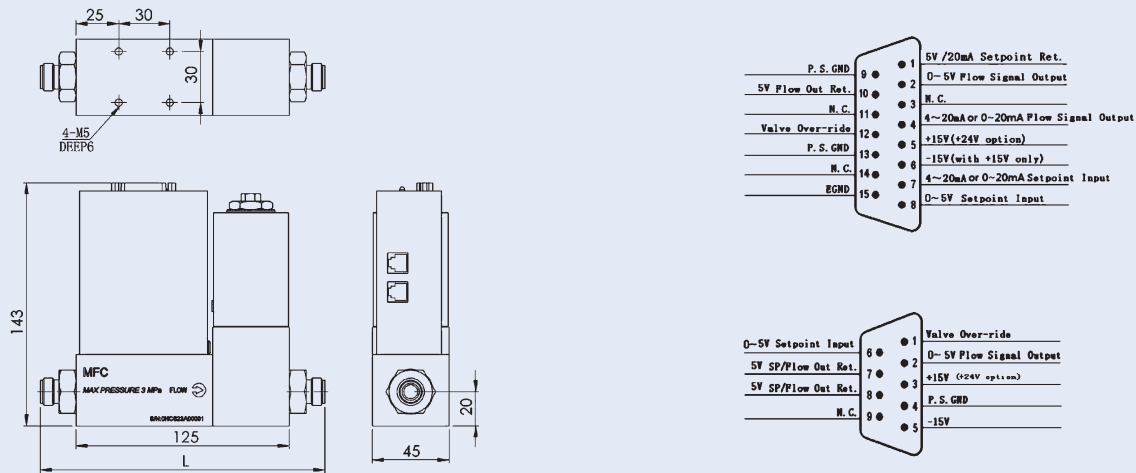
CS230 digital mass flow controllers incorporate the latest thermal technology for high accuracy, fast response time and low zero drift. Multi Gas and Multi Range, Auto Zero, Alarm, soft start and delay functions are available. The CS200 MFC offers reliable performance and long-term application flexibility.

Sevenstar is specialized in developing and manufacturing Mass Flow Controller and related flow delivery products. With over 30 years of experience in the field, used in a wide variety of industries and R&D institutions, the company enjoys a high reputation in the market. Every specifications of these series are totally in accordance with the SEMI standard. Compared with analog products, CS230 MFCs show advantages as convenience, multi-functions, easy communication, good expansion and perfect compatibility. CS230 MFCs hold 11 patent rights and have the CE approval.

- ▶ **High Accuracy**  
 $\pm 1.0\%$  SP ( $>35\%$  FS),  $\pm 0.35\%$  FS ( $<35\%$  FS)
- ▶ **Fast Response** less than 2 sec
- ▶ **Excellent Sensor Stability** zero drift  $< 0.6\%$  FS / Year
- ▶ **Low Temperature Coefficient**  
Zero:  $< \pm 0.02\%$  FS / °C  
Span:  $< \pm 0.05\%$  FS / °C
- ▶ **High Purity** assembled in a Class 100 Clean Room, in accordance with SEMI and ISO 9001 standards.
- ▶ **Multiple Communication Interfaces**  
0...5VDC, 0...10VDC, 4...20 mA, RS485, Profibus® and DeviceNet™
- ▶ **Multi Gas & Multi Range**  
User can change Gas and Full Scale to 30 – 100% FS
- ▶ **Multiple Power Supply**  
MFC accepts  $\pm 11... 16$ VDC or  $+11...28$ VDC
- ▶ **Miscellaneous Functions**  
Multi-gas and multi-range, auto-zero, alarm, soft start, delay, data logging and maintenance functions are configurable with the free customer software.
- ▶ **Power Constant Sensor**  
Sensor wire and sensor tube work under a linear environment to improve accuracy, response time and reduce the zero drift.
- ▶ **Digital Sensor Balance Technology**  
The compensating voltage to the sensor drive minimize the temperature influence on the sensor.
- ▶ **VCP Technology**  
To minimize the dead volume and improve the dynamic performance. Fast response and high performance, even at low set points.

### Perfect Replacement for obsolete MFC / MFM

- ▶ **TYLAN / MILLIPORE** FC/FM-2920 Series
- ▶ **UNIT (CELERITY)** UFC/UFM-310x, UFC/UFM-530x  
... or related Products of other Brands



## CS230A Series

Universal Flow Controller / Meter – High Flow

### Performance (Accuracy)

Standard Accuracy	
5...34%	± 0.35% Fullscale
35...100%	± 1.00% Setpoint
Linearity	± 0.50% Fullscale
Repeatability	± 0.20% Fullscale
Response Time	< 2.0 Seconds
Valve Configuration	Normally Closed
Zero Drift	< 0.60% Fullscale per Year (w/o Autozero)
Temperature Coefficient	± 0.02% Fullscale per °C (Zero) ± 0.02% Fullscale per °C (Span)
Leak Integrity	1x10 <sup>-9</sup> atm.cc/sec He

### Electrical

Connectors	SubD15, SubD9 (Analog) per Semi F36 Devicenet™, RJ45 (RS-485)
I/O Signal	0...5 VDC, 0...10 VDC, 4...20 mA Devicenet™, Profibus®, RS485
Power Supply	± 11...16 VDC or +11...28 VDC (400mA)
Certifications:	CE, ODVA

### Diagnostics

Status Lights	MFC Health, Network Status
Alarms	Eeprom Error, Temperature, Valve Coil, Sensor Drift

### Materials

Wetted Materials	Stainless Steel 316L, Viton®
Surface Finish	25 µinch Ra
Seal Material	Viton®
Weight	2.60 kg

### Operating Limits

Fullscale Range	50...300 slm
Maximum Pressure	3.00 MPa
Differential Pressure	0.15...0.35 MPa (50...150 slm) 0.20...0.35 MPa (150...250 slm) 0.25...0.40 MPa (250...300 slm)
Temperature Range	0...50°C

### Overall Length

6mm, 8mm, 10mm LOK	167 mm
1/4", 3/8", 1/2" LOK	167 mm
1/2" VCR / VCO Male	182 mm



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