

# CS230

## CS230 Digital Mass Flow Controller - High Flow



### FEATURES

- **High accuracy** accurate to  $\pm 1.0\%$  S.P ( $\geq 35\%$  F.S.),  $\pm 0.35\%$  F.S. ( $< 35\%$  F.S.)
- **Fast Response** less than 2 seconds
- **Excellent sensor stability** zero drift is less than 0.6% F.S./ year
- **Low Temperature Coefficient**  
Zero:  $\leq \pm 0.02\%$  F.S./ $^{\circ}\text{C}$   
Span:  $\leq \pm 0.02\%$  F.S./ $^{\circ}\text{C}$
- **High Purity** assembled in a Class 100 ultra clean room, in accordance with SEMI and ISO 9001 standards
- **Multiple communication interfaces** RS485, Profibus<sup>®</sup> and DeviceNet<sup>™</sup> communication
- **Multi gas and Multi range** User can change gas convert factor, full scale of digital interface, and can rerange from 30% to 100% F.S.

Designed for use in high-flow processes (up to 300 slm

N<sub>2</sub>), the CS230 digital mass flow controller includes an innovative control algorithm that improves response time to within 2 seconds in either digital or analog control mode. The CS230 MFC is accurate to  $\pm 1\%$  S.P.

Available with DeviceNet<sup>™</sup> or RS-485 communication interfaces.

CS230 mass flow controllers are engineered, sold, serviced and supported in the U.S. by Helios Technologies, Inc., and manufactured by Sevenstar.

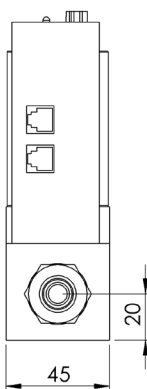
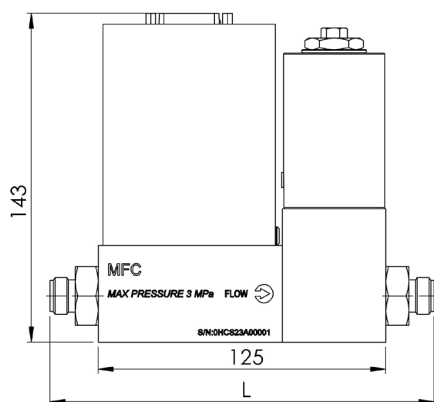
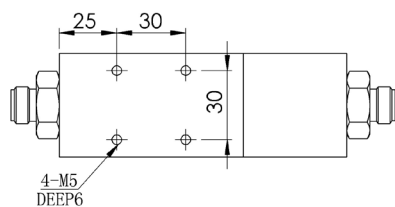


**HELIOS TECHNOLOGIES, INC.**

15032 Red Hill Ave, Suite C  
Tustin, CA 92780 (714) 258-1777  
heliostechinc.com • sales@heliostechinc.com

# CS230 Digital Mass Flow Controller - High Flow

Model	CS230A MFC	CS230A MFM
Full scale range (N <sub>2</sub> )	50, 100, 150, 200, 250, 300 slm	
Accuracy	±1.0% S.P (≥35% F.S.) ±0.35% F.S. (<35% F.S.)	
Linearity	±0.5% F.S.	
Repeatability	± 0.2% F.S.	
Response Time	< 2 sec	
Valve Rest Position	Normally Closed	—
Differential Pressure	0.15~0.35MPa 50 slm ≤Flow (N <sub>2</sub> ) < 150 slm 0.20~0.35MPa 150 slm ≤Flow (N <sub>2</sub> ) ≤250 slm 0.25~0.40MPa 250 slm < Flow (N <sub>2</sub> ) ≤300 slm	<0.02MPa 50 slm ≤Flow (N <sub>2</sub> ) ≤100 slm <0.05MPa Flow (N <sub>2</sub> ) >100 slm
Temperature Coefficient	Zero: ≤ ±0.02% F.S./°C Span: ≤ ±0.02% F.S./°C	
Maximum Pressure	3 MPa (435psig)	
Zero Drift	<0.6% F.S. per year without autozero	
Leak Integrity	<1×10 <sup>-9</sup> atm-cc/ sec He (1×10 <sup>-9</sup> Pa-m3/sec He)	
Wetted Materials	Viton®, Neoprene	
Operation Temperature	(0 ~ 50) °C	
Input Signal	Digital: RS-485/DeviceNet™ Analog: (0 ~ 5)VDC (default)/ (4 ~ 20) mA	—
Output Signal	Digital: RS-485/DeviceNet Analog: (0 ~ 5)VDC (default)/ (4 ~ 20) m	
Power Supply	±8 ~ ±16 VDC or +14 ~ +28 VDC (400 mA)	
Electronic Connector	D sub 9 pins male, D sub 15 pins male, DeviceNet male	
Fittings	Swagelok® 6mm, Swagelok 1/4", Swagelok 8mm, Swagelok 10mm, Swagelok 3/8", Swagelok 1/2", VCR® 1/2" male, VCO® 1/2" male	
Weight	2.6 kg	1.5 kg



Fitting Type	Swagelok φ 6; Swagelok φ 8 Swagelok φ 10; Swagelok 1/4; Swagelok 3/8; Swagelok 1/2;	VCR 1/2 Male
MFC Length		
L (mm)	167	182

Helios Technologies offers a full range of options to meet your standard or custom specifications. Contact Helios Technologies to discuss your application and specific requirements.

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VCR®, VCO® and Swagelok® are registered trademarks of Swagelok® Company.  
DeviceNet™ is a trademark of ODVA.  
Profibus® is a registered trademark of Profibus International.



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