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Data Sheet

August 15, 2026

BROOKS INSTRUMENT / CELERITY / UNIT INSTRUMENTS

Brooks Instrument / Celerity / Unit Instruments UFC-8100 High Flow Mass Flow Controller

Brooks Instrument / Celerity / Unit Instruments Industrial Controllers & PLCs.

**MODEL****Brooks Instrument
/ Celerity / Unit
Instruments UFC-
8100****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****UFC-8100****LISTING**<https://aumictechlabs.com/products/ufc-8100-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Brooks Instrument / Celerity / Unit Instruments UFC-8100 High Flow Mass Flow Controller delivers precision gas flow regulation using thermal sensing technology and electromagnetic valve control. Engineered for industrial process applications, it combines the patented IsoSensor with minimal dead space to achieve rapid response and exceptional stability across pressure and temperature variations. The controller supports both analog and digital configurations, with DeviceNet communication available and MultiFlo™ technology enabling gas-type changes without system removal. Technical Specifications Flow Control Method: Thermal mass flow sensing with electromagnetic valve actuation Accuracy (Nitrogen calibration): $\pm 1\%$ of setpoint (digital models 8101, 8105); $\pm 1\%$ of full scale (analog model 8100) Repeatability: Better than 0.15% of full scale Fast Start Response: ≤ 1.0 sec to within 2% of setpoint (per SEMI E17-91) Soft Start Ramp Options:

5-second linear ramp with selectable intervals (4–6, 6–10, 10–15, 20–30, or 40–60 seconds) for analog MFCs; 0–20 seconds for digital MFCs via MultiFlo Virtual Interface Valve Cycle Life: Over 8 million cycles with no performance degradation Sensor Drift: Ultra-low via IsoSensor technology Attitude Insensitivity: IsoSensor eliminates thermal siphoning effects Surface Finish: 32 μ inch Ra for relevant applications Footprint: 1.5 inches Key Features IsoSensor orientation-insensitive design reduces recalibration intervals Minimized dead space for enhanced accuracy and faster transient response Auto shut-off option: valve closure below 2% setpoint (0.1 VDC); digital models allow adjustment up to 10% of full scale via MultiFlo Virtual Interface Card edge connector standard with detailed pinout configurations available Model 8105 offers full ODVA/SEMI compliance for DeviceNet integration Electrical & Interfaces Analog and digital configurations available DeviceNet communication (SEMI Std. Doc. #2602) MultiFlo™ Technology for dynamic gas-type and range adjustment without removal Materials & Process Compatibility Controller body: 316 Stainless Steel, Brass, or Aluminum (FC 8744) Diaphragm options: Buna-N, Teflon®, or Viton® fluoroelastomers O-ring materials: Viton® fluor and additional elastomer options Process gases: Non-corrosive, non-ultraclean applications

UFC8100 Characteristics / Specifications

PARAMETER	VALUE
Model	UFC-8100
Instrument Type	High-flow gas mass-flow controller
Sensor	thermal mass-flow
Flow Class	high-flow UFC-8100 body
Seal Class	metal-seal process body class
Setpoint Class	analog set-point
Feedback Class	analog feedback
Family	Unit Instruments UFC / Brooks / Celerity
Manufacturer	Brooks Instrument / Celerity / Unit Instruments
Literature	UFC-8100 high-flow MFC listings
Form Factor	in-line high-flow MFC
Application Class	semiconductor and industrial gas
System Role	closed-loop high-flow control
Use Case	high-flow process gas
Documentation Type	OEM UFC-8100 listing
Media Class	clean process gases
Control Class	on-board MFC electronics
Brand Lineage	Unit Instruments Celerity Brooks
Year Class	UFC-8100 high-flow family
Electrical Class	plus or minus 15 V analog MFC class
Connector Class	card-edge or D-sub analog plus VCR/VCO process
Range Class	full-scale on the gas/range code
Accuracy Class	thermal MFC certificate
Mounting Class	in-line process
Sibling	UFC-1100/1200 standard-flow class

UFC8100 Specifications

PARAMETER	VALUE
Applications	High-flow process-gas mass-flow control in semiconductor and industrial gas panels.
Key Features	High-flow thermal MFC
Technical Specifications	Model: UFC-8100

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Notes

From Brooks/Celerity/Unit Instruments UFC-8100 high-flow MFC listings (thermal high-flow body, analog I/O, metal-seal class). Full-scale slpm, gas code, and +/-15 V pinout are on the UFC-8100 calibration sheet; do not invent them.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.