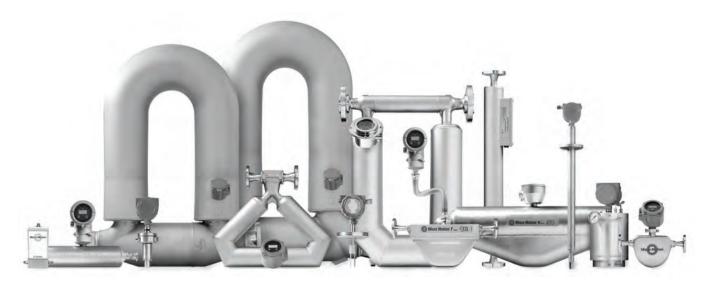
PS-00232, Rev. K April 2011

Micro Motion® Technical Overview and Specification Summary

Emerson's world-leading Micro Motion[®] Coriolis flow and density measurement devices have set the standard for superior measurement technology. Micro Motion truly offers the best measurement solutions for any process challenge.



Technology leadership

Micro Motion is committed to technology innovations that deliver the highest-performing solutions for your complex measurement challenges.

Widest breadth of products

Micro Motion has the widest range of flow and density measurement devices for virtually any process, application, or fluid. A wide variety of wetted materials, line sizes, and an extensive range of output options enable optimal system integration.

Unparalleled value

Benefit from expert field and technical application service and support made possible from more than 600,000 meters installed worldwide and over 30 years of flow and density measurement experience.





Micro Motion Coriolis flow and density meters

| | ELITE® | F-Series | H-Series | T-Series | R-Series | LF-Series | 7835 7845 7847 | 7826 7827 7828 7829 | 7812 3098 |
|--|--|---|--|---|------------------------------|---|--|--|--------------|
| Application type | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| Continuous control | • | • | • | • | • | • | • | • | • |
| Batching / loading / blending | • | • | • | • | • | • | • | • | • |
| Custody transfer | • | • | • | | | | • | • | • |
| Measurement accuracy | | | | | | | | | |
| Liquid & slurry – Flow | ±0.05% | ±0.10% | ±0.10% | ±0.15% | ±0.50% | ±0.50% | | | |
| Liquid & slurry – Density | ±0.0002 g/cm ³ (±0.2 kg/m ³) | ±0.001 g/cm ³ (±1.0 kg/m ³) | ±0.001 g/cm ³ (±1.0 kg/m ³) | ±0.002 g/cm ³ (±2.0 kg/m ³) | | ±0.005 g/cm ³ (±5.0 kg/m ³) | ±0.0001 g/cm ³ (±0.1 kg/m ³) | ±0.001 g/cm ³ (±1.0 kg/m ³) | |
| Liquid – Viscosity | (±0.2 kg/m) | (±1.0 kg/m) | (±1.0 kg/m) | (±2.0 kg/m) | | (±0.0 kg/m) | (±0.1 kg/m) | ±1% FS | |
| Gas – Flow | ±0.35% | ±0.50% | ±0.50% | ±0.50% | ±0.75% | ±0.50% | | | |
| Gas – Density | | | | | | | | | ±0.10% |
| Capabilities | _ | _ | _ | _ | _ | _ | _ | _ | - |
| Self-draining | • | • | • | • | • | | • | • | |
| Sanitary / hygienic | • | | • | • | | | • | | |
| Entrained gas | • | • | • | | | | • | | |
| Meter verification | • | • | • | | | | | | |
| Secondary containment | • | • | • | • | | | • | | |
| High temperature* | • | • | | | | | | | |
| High pressure** | • | • | | | | | | • | |
| Cryogenic* | • | | | | | | • | | |
| Wetted materials | | | | | | | | | |
| 300-series stainless steel | • | • | • | | • | • | • | • | • |
| Super Duplex | 0 | | | | | | | | |
| Alloy C-22 | • | • | | | | | | • | |
| Alloy B-3 | | | | | | | | • | |
| Ni-Span-C® | | | | | | | • | | • |
| Titanium | | | | • | | | | • | |
| Monel [®] | | | | | | | | • | |
| Zirconium | | | | | | | | • | |
| Fits nominal line sizes | | | | | | | | | |
| Inches | 1/10-12 | 1/4-4 | 1/4-4 | 1/4-2 | 1/4-3 | 1/32-1/4 | 1 | 1 or larger | 1/4 or large |
| Millimeters | 3-300 | 6-100 | 6-100 | 6-50 | 6–75 | 0.8-6 | 23 | 25 or larger | 6 or larger |
| * Standard temperature is –148 to High temperature is above +400 Cryogenic is below –148 °F (–10 | °F (+204 °C) | 204 °C) | ** Above 1494 | psi (103 bar) | | | ed on all models | | |
| Product comparison Pages 2–3 | | Product de Pages 4 | | | Performan Pages 6– | | | ne size and flow rate Page 9 | |
| | Gas flow specifications Pages 10–11 | | ra | perature tings age 12 | | Pres ration Page | ngs | | |

Micro Motion transmitters and controllers

| | | | | | | | | | | | | 7950 |
|---|------|------|-------|-------|------|------|-----|------|------|---------------|------|---------------|
| | 1500 | 1700 | 2200S | 2400S | 2500 | 2700 | FMT | 3300 | 3350 | 3500 | 3700 | 7951 |
| Output variables | | | | | | | | | | | | |
| Mass / volume flow | • | • | • | • | • | • | • | • | • | • | • | |
| Net product content / flow [‡] | | | | • | • | • | | | | • | • | |
| Temperature | | | • | • | • | • | • | | | • | • | • |
| Density | | | • | • | • | • | • | | | • | • | • |
| Concentration | | | | • | • | • | | | | • | • | • |
| Viscosity / referred viscosity | | | | | | | | | | | | • |
| Local display | | | | | | | | | | | | |
| 2-line | | • | • | • | | • | | | | | | |
| Multi-line | | | | | | | | • | • | • | • | • |
| Power | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| AC | | • | | • | | • | | • | • | • | • | • |
| DC | • | • | | • | • | • | • | • | • | • | • | • |
| Loop powered | | | • | | _ | | _ | | | _ | | |
| Outputs | | | | | | | | | | | | |
| 4–20 mA | • | • | • | • | _ | • | • | | | $\overline{}$ | • | $\overline{}$ |
| 10 kHz pulse | | - | | • | • | • | - | | | - | • | _ |
| Discrete | | | | | | _ | | | | | | |
| HART® / WirelessHART® | _ | • | • | • | | • | _ | • | • | _ | _ | _ |
| Modbus [®] | • | • | | | • | • | | | • | • | • | |
| FOUNDATION [™] fieldbus | • | • | | | • | • | • | • | • | • | • | • |
| | | | | | | • | | | | | | |
| PROFIBUS-PA | | | | _ | | • | | | | | | |
| PROFIBUS-DP | | | | • | | | • | | | | | |
| DeviceNet [™] | | | | • | | | | | | | | |
| Inputs | | | | | | | | | | | | |
| 10 kHz pulse | | | | | | | | • | • | | | |
| Discrete | | | | • | • | • | • | • | • | • | • | |
| 4–20 mA | | | | | | | | | | | | • |
| HART | | | | | | | | | | • | • | |
| 2-wire density sensor | | | | | | | | | | | | • |
| 3-wire density sensor | | | | | | | | | | | | • |
| 4-wire Coriolis sensor | • | • | | | • | • | | | | • | • | |
| 9-wire Coriolis sensor | • | • | | | • | • | | | | • | • | |
| Mounting | | | | | | | | | | | | |
| Integral – Field | | • | • | • | | • | • | | | | | |
| Remote – Field | | • | | | | • | | | • | | • | • |
| Remote – Control room | • | | | | • | | | • | | • | | • |
| Remote – Rack/panel mount | | | | | | | | • | | • | | |
| Special application types | | | | | | | | | | | | |
| Batch controller | | | | | | | | | | | | |
| Custody transfer | | | | | | | | | | | | |
| Two-phase flow / entrained gas | _ | _ | | | | | | | | | | |
| Filling & dosing | | | | | - | | | | | _ | | |
| Meter verification | | | | | | | | | | | | |
| INICIOI VEIIIICALIOII | • | • | | • | • | • | | | | • | • | |
| CIC Cortified | | | | | | | | | | | | |
| SIS Certified | | | | | | | | | | | | |
| Hazardous approvals | _ | | _ | | | | _ | _ | _ | _ | _ | |
| Hazardous approvals C1D1 | | • | • | | | • | | | | | | |
| Hazardous approvals C1D1 C1D2 | | • | • | • | = | • | • | Ξ | • | Ξ | • | |
| Hazardous approvals C1D1 | | • | • | • | | • | • | | • | | • | |

[‡] Flow rate of product based on concentration. For example, in a dissolved sugar solution, the measurement is the flow rate of the sugar alone.

Micro Motion Coriolis flow and density meters



ELITE

Peak performance Coriolis meter

- Best precision flow and density measurement
- Superior performance in the most challenging applications



7835

Peak performance density meter

- Best precision density measurement
- Industry standard for fiscal hydrocarbon measurement
- Superior reliability



F-Series

High performance compact drainable Coriolis meter

- Best flow and density measurement in a compact, drainable flow meter
- · Broadest range of application coverage
- · Superior reliability and safety



7845 / 7847

High performance density meter

- Superior precision density measurement
- Broadest range of density measurement
- Superior reliability



H-Series

Hygienic compact drainable Coriolis meter

- Best flow and density measurement in a compact hygienic flow meter
- Comprehensive hygienic application coverage
- · Superior reliability



7812

Fiscal gas density meter

- · Best precision gas density measurement
- Industry standard for fiscal hydrocarbon measurement
- · Superior reliability and safety



T-Series

Straight tube full-bore Coriolis meter

- Superior flow measurement in a single straight tube flow meter
- Comprehensive hygienic application coverage
- Superior reliability



7826 / 7828

Direct insertion density meter

- · High accuracy density measurement
- · Greatest installation flexibility
- Superior reliability and safety



R-Series

General purpose flow-only Coriolis meter

- Simple to install and easy to use Coriolis flow measurement
- Broadest range of application coverage
- Superior reliability



7827 / 7829

Direct insertion viscosity meter

- Multivariable measurement of viscosity, density, and temperature
- Unique direct insertion design
- · Superior reliability and safety



LF-Series

Extreme low-flow Coriolis meter

- · Highest precision miniaturized flow meter
- Scalable platform for the most demanding low-flow applications
- Superior reliability



3098

Gas specific gravity meter

- Direct measurement of gas specific gravity
- · Continuous online measurement
- Fast speed of response

Micro Motion transmitters and controllers

Micro Motion transmitters and controllers from Emerson Process Management utilize MVD[™] technology to deliver accurate, high-speed multivariable signals. Micro Motion transmitters are available with a wide selection of communication protocols, including HART[®], Foundation[™] fieldbus, PROFIBUS, DeviceNet[™], Modbus[®], and more. Micro Motion transmitters also carry advanced diagnostic tools, allowing you to rest easy knowing your process is being monitored correctly.

Only MVD technology allows you to:

- Dramatically reduce signal noise and obtain faster response times compared to analog devices
- Measure multiple variables for accurate process control
- Identify and resolve problems easily with built-in smart diagnostics
- Check performance with true in-situ meter verification



1500/2500

Compact control-room transmitter

- DIN rail mount with flexible installation options
- Wide variety of I/O and application capabilities to fit your needs



2200S

2-wire transmitter

- Loop powered for simple installation
- Compact design integrally mounted to sensor



1700/2700

Versatile field-mount transmitter

- Integral and remote mount options
- Wide variety of I/O and application capabilities to fit your needs



2400S

Compact integral transmitter

· Simple I/O options



FMT

Compact filling and dosing transmitter

- Easy-to-clean, hygienic design that enables SIP/CIP
- · Highest accuracy and fast response time

The Series 3000 product line offers basic PLC-type functionality such as easy one-stage and two-stage batch control with ticket printing output. In addition, the Model 3500 and Model 3700 offer MVD transmitter functionality, combining transmitter and controller in a single package.

The Series 3000 also offers:

- A single operator interface for easy startup, control, and operation
- Full configuration capabilities that eliminate the need for external tools
- Effective security capabilities suitable for custody transfer applications



3300

Rack/panel mount discrete controller

3500

Rack/panel mount transmitter with discrete controller



3350

Field mount discrete controller

3700

Field mount transmitter with discrete controller

Accuracy – Liquids and slurries

| | Flow ac | curacy ⁽¹⁾ | | Density, values in g/cm ³ | |
|-----------|-----------------------|-----------------------|-------------|--------------------------------------|--|
| | Mass | Volume | Temperature | (kg/m³) ⁽¹⁾ | |
| ELITE | ±0.05% ⁽²⁾ | ±0.05% ⁽²⁾ | ±1 °C | ±0.0002 (±0.2) ⁽²⁾ | |
| F-Series | ±0.10% | ±0.15% | ±1 °C | ±0.001 (±1.0) | |
| H-Series | ±0.10% | ±0.15% | ±1 °C | ±0.001 (±1.0) | |
| T-Series | ±0.15% | ±0.25% | ±1 °C | ±0.002 (±2.0) | |
| R-Series | ±0.50% | ±0.50% | ±1 °C | | |
| LF-Series | ±0.50% | ±0.50% | ±1 °C | ±0.005 (±5.0) | |
| 7835 | _ | _ | Class A RTD | ±0.0001 (±0.1) | |
| 7845/7847 | _ | _ | Class A RTD | ±0.0001 (±0.1) | |
| 7826/7828 | _ | _ | Class B RTD | ±0.001 (±1.0) | |

⁽¹⁾ Flow rate accuracies are base percentages. For total accuracy see the box on page 7. Stated accuracy includes the combined effects of repeatability, linearity, and hysteresis. Specifications for ELITE ±0.0002 g/cm³ (±0.2 kg/m³) density accuracy are based on reference conditions of water at 68 to 140 °F (20 to 60 °C) and 15 to 30 psig (1 to 2 bar). All other specifications are based on reference conditions of water at 68 to 77 °F (20 to 25 °C) and 15 to 30 psig (1 to 2 bar).

Repeatability - Liquids and slurries

| | | Densi | ty |
|-----------|---------|----------|-------|
| | Flow | g/cm³ | kg/m³ |
| ELITE | ±0.025% | ±0.0001 | ±0.1 |
| F-Series | ±0.05% | ±0.0005 | ±0.5 |
| H-Series | ±0.05% | ±0.0005 | ±0.5 |
| T-Series | ±0.05% | ±0.0005 | ±0.5 |
| R-Series | ±0.25% | _ | _ |
| LF-Series | ±0.05% | ±0.002 | ±2.0 |
| 7835 | _ | ±0.00002 | ±0.02 |
| 7845/7847 | _ | ±0.00005 | ±0.05 |
| 7826/7828 | _ | ±0.0001 | ±0.1 |

⁽²⁾ The accuracy for some ELITE sensor models may differ. Consult the ELITE Product Data Sheet for details.

Performance – Gases

| | Mass flow accuracy ⁽¹⁾ | Temperature | Density | |
|-----------|-----------------------------------|-------------|---------|--|
| ELITE | ±0.35% | ±1 °C | _ | |
| F-Series | ±0.50% | ±1 °C | _ | |
| H-Series | ±0.50% | ±1 °C | _ | |
| T-Series | ±0.50% | ±1 °C | _ | |
| R-Series | ±0.75% | ±1 °C | _ | |
| LF-Series | ±0.50% | ±1 °C | _ | |
| 7812 | _ | Class A RTD | ±0.10% | |
| 3098 | _ | _ | ±0.10% | |

⁽¹⁾ Flow accuracies are base percentages. For total accuracy, see the box on this page. Stated accuracy includes the combined effects of repeatability, linearity, and hysteresis.

Total accuracy with transmitter with MVD technology

If flow rate $\geq \frac{\text{zero stability}}{(\text{base accuracy \%}) \div 100}$ then total accuracy = \pm base accuracy % of rate

If flow rate $<\frac{\text{zero stability}}{(\text{base accuracy }\%) \div 100}$ then total accuracy $=\pm \Big[\Big(\frac{\text{zero stability}}{\text{flow rate}}\Big) \times 100\Big]\%$ of rate

NOTE: For zero stabilities, see page 8.

Product Selector/Configurator

Micro Motion offers an on-line program for finding the best products to fit your application. The Product Selector/Configurator allows you to specify the parameters that matter to you, such as accuracy, flow capacity, pressure drop, or turndown. To use the Product Selector/Configurator, visit our web site at www.micromotion.com.

Zero stabilities

| Family | Model | lb/min | gal/min ⁽¹⁾ | kg/h | l/h ⁽¹⁾ |
|-----------|-------------|----------|------------------------|---------|--------------------|
| ELITE | CMFS010M | 0.000075 | 0.00009 | 0.002 | 0.002 |
| | CMFS010H, P | 0.00015 | 0.000018 | 0.004 | 0.004 |
| | CMFS015M | 0.00037 | 0.000044 | 0.01 | 0.01 |
| | CMFS015H, P | 0.00073 | 0.000088 | 0.02 | 0.02 |
| | CMF010M, H | 0.000075 | 0.000009 | 0.002 | 0.002 |
| | CMF010P | 0.00015 | 0.000018 | 0.004 | 0.004 |
| | CMF025 | 0.001 | 0.00012 | 0.027 | 0.027 |
| | CMF050 | 0.006 | 0.00072 | 0.163 | 0.163 |
| | CMF100 | 0.025 | 0.00300 | 0.680 | 0.680 |
| | CMF200 | 0.08 | 0.00959 | 2.18 | 2.18 |
| | CMF300 | 0.25 | 0.02998 | 6.80 | 6.80 |
| | CMF400 | 1.50 | 0.17985 | 40.91 | 40.91 |
| | CMFHC2 | 2.5 | 0.29939 | 68 | 68 |
| | CMFHC3 | 5.0 | 0.60 | 136 | 136 |
| | CMFHC4 | 7.5 | 0.90 | 204 | 204 |
| F-Series | F025 | 0.0065 | 0.0008 | 0.1765 | 0.1765 |
| | F050 | 0.020 | 0.002 | 0.544 | 0.544 |
| | F100 | 0.080 | 0.010 | 2.177 | 2.177 |
| | F200 | 0.256 | 0.031 | 6.965 | 6.965 |
| | F300 | 0.80 | 0.096 | 21.76 | 21.76 |
| H-Series | H025 | 0.0065 | 0.0008 | 0.1765 | 0.1765 |
| | H050 | 0.020 | 0.002 | 0.544 | 0.544 |
| | H100 | 0.080 | 0.010 | 2.177 | 2.177 |
| | H200 | 0.256 | 0.031 | 6.965 | 6.965 |
| | H300 | 0.80 | 0.096 | 21.76 | 21.76 |
| T-Series | T025 | 0.004 | 0.00048 | 0.11 | 0.11 |
| | T050 | 0.022 | 0.00264 | 0.61 | 0.61 |
| | T075 | 0.080 | 0.00960 | 2.24 | 2.24 |
| | T100 | 0.176 | 0.00211 | 4.80 | 4.80 |
| | T150 | 0.512 | 0.06146 | 13.92 | 13.92 |
| R-Series | R025 | 0.01 | 0.0012 | 0.27 | 0.27 |
| | R050 | 0.03 | 0.0036 | 0.82 | 0.82 |
| | R100 | 0.12 | 0.0144 | 3.27 | 3.27 |
| | R200 | 0.32 | 0.0384 | 8.71 | 8.71 |
| LF-Series | LF2M | 0.000005 | 0.000006 | 0.00013 | 0.00013 |
| | LF3M | 0.000037 | 0.000004 | 0.00100 | 0.00100 |
| | LF4M | 0.00015 | 0.00002 | 0.00400 | 0.00400 |

⁽¹⁾ Based on standard temperature and pressure conditions of water at 68 to 77 °F (20 to 25 °C) and 15 to 30 psig (1 to 2 bar).

Line sizes and maximum flow rates

| | | Line | Line size | | Maximum flow rate | | | | |
|---------------|---------|--|------------------|------------------|-------------------|--------------------|-------------|--|--|
| Family | Model | inches | mm | lb/min | gal/min | kg/h | l/h | | |
| ELITE | CMFS010 | ¹ / ₁₀ — ¹ / ₆ | 2–4 | 4 | 0.5 | 108 | 108 | | |
| | CMFS015 | 1/6—1/4 | 4–6 | 12 | 1.5 | 330 | 330 | | |
| | CMF010 | 1/10—1/6 | 2–4 | 4 | 0.5 | 108 | 108 | | |
| | CMF025 | 1/4-1/2 | 6–12 | 80 | 10 | 2180 | 2180 | | |
| | CMF050 | ¹ /2 –1 | 12–25 | 250 | 30 | 6800 | 6800 | | |
| | CMF100 | 1–2 | 25-50 | 1000 | 120 | 27,200 | 27,200 | | |
| | CMF200 | 2–3 | 50-75 | 3200 | 385 | 87,100 | 87,100 | | |
| | CMF300 | 3–4 | 75–100 | 10,000 | 1200 | 272,000 | 272,000 | | |
| | CMF400 | 4–6 | 100-150 | 20,000 | 2400 | 545,000 | 545,000 | | |
| | CMFHC2 | 6–8 | 150-200 | 54,000 | 6,471 | 1,470,000 | 1,470,000 | | |
| | CMFHC3 | 8–10 | 200-250 | 94,000 | 11,227 | 2,550,000 | 2,550,000 | | |
| | CMFHC4 | 10–12 | 250-300 | 120,000 | 14,379 | 3,265,870 | 3,265,870 | | |
| -Series | F025 | 1/4-1/2 | 6–12 | 100 | 12 | 2720 | 2720 | | |
| | F050 | ¹ /2 –1 | 12–25 | 300 | 36 | 8160 | 8160 | | |
| | F100 | 1–2 | 25–50 | 1200 | 144 | 32,650 | 32,650 | | |
| | F200 | 2–3 | 50–75 | 3200 | 384 | 87,100 | 87,100 | | |
| | F300 | 3–4 | 75–100 | 10,000 | 1200 | 272,000 | 272,000 | | |
| H-Series | H025 | 1/4-1/2 | 6–12 | 76 | 9 | 2068 | 2068 | | |
| | H050 | ¹ / ₂ –1 | 12–25 | 180 | 22 | 4900 | 4900 | | |
| | H100 | 1–2 | 25-50 | 820 | 98 | 22,320 | 22,320 | | |
| | H200 | 2–3 | 50–75 | 2350 | 282 | 63,960 | 63,960 | | |
| | H300 | 3–4 | 75–100 | 10,000 | 1200 | 272,000 | 272,000 | | |
| Series | T025 | 1/4—1/2 | 6–12 | 25 | 3 | 680 | 680 | | |
| | T050 | 1/2-3/4 | 12–20 | 140 | 17 | 3800 | 3800 | | |
| | T075 | ³ /4 –1 | 20–25 | 500 | 60 | 14,000 | 14,000 | | |
| | T100 | 1-11/2 | 25–40 | 1100 | 132 | 30,000 | 30,000 | | |
| | T150 | 11/2-2 | 40–50 | 3200 | 384 | 87,000 | 87,000 | | |
| -Series | R025 | 1/4—1/2 | 6–12 | 100 | 12 | 2720 | 2720 | | |
| | R050 | ¹ /2 –1 | 12–25 | 300 | 36 | 8160 | 8160 | | |
| | R100 | 1–2 | 25–50 | 1200 | 144 | 32,650 | 32,650 | | |
| | R200 | 2–3 | 50–75 | 3200 | 384 | 87,100 | 87,100 | | |
| F-Series | LF2M | 1/32—1/8 | 0.8–3 | 0.014 | 0.0017 | 0.38 | 0.38 | | |
| | LF3M | 1/16—1/4 | 1.5–6 | 0.037 | 0.0043 | 1.00 | 1.00 | | |
| | LF4M | ¹ / ₈ — ¹ / ₄ | 3–6 | 0.992 | 0.119 | 27.00 | 27.00 | | |
| 835 | | 1 | 25 | 551 | 66 | 15,000 | 15,000 | | |
| 845/7847 | | 1 | 25 | 551 | 66 | 15,000 | 15,000 | | |
| 812, 7826, 78 | 200 | Line oize | o and flow rates | are installation | danandant Cant | act your sales rep | rocontotivo | | |

Typical gas flow rates (air)

Flow rates that produce approximately 10 psid (0.68 bar) pressure drop on air at 68 °F (20 °C) and 100 psi (6.8 bar)

| | | | flow | Volume | e flow ⁽¹⁾ |
|-----------|---------|--------|---------|--------|-----------------------|
| Family | Model | lb/min | kg/h | SCFM | Nm³/h |
| ELITE | CMFS010 | 0.3 | 8 | 4 | 6 |
| | CMFS015 | 1 | 24 | 12 | 18 |
| | CMF010 | 0.3 | 8 | 4 | 6 |
| | CMF025 | 5 | 130 | 60 | 100 |
| | CMF050 | 15 | 400 | 190 | 310 |
| | CMF100 | 50 | 1300 | 660 | 1000 |
| | CMF200 | 140 | 3800 | 1900 | 2900 |
| | CMF300 | 380 | 10,000 | 5000 | 8000 |
| | CMF400 | 1000 | 27,000 | 13,000 | 21,000 |
| | CMFHC2 | 1500 | 41,000 | 20,000 | 31,000 |
| | CMFHC3 | 2500 | 68,000 | 33,000 | 52,000 |
| | CMFHC4 | 4000 | 110,000 | 53,000 | 84,000 |
| F-Series | F025 | 5 | 130 | 60 | 100 |
| | F050 | 15 | 400 | 190 | 310 |
| | F100 | 50 | 1300 | 660 | 1000 |
| | F200 | 140 | 3800 | 1900 | 2900 |
| | F300 | 310 | 8400 | 4100 | 6500 |
| H-Series | H025 | 5 | 130 | 60 | 100 |
| | H050 | 15 | 400 | 190 | 310 |
| | H100 | 50 | 1300 | 660 | 1000 |
| | H200 | 80 | 2400 | 1200 | 1800 |
| | H300 | 310 | 8400 | 4100 | 6500 |
| T-Series | T025 | 2 | 45 | 20 | 40 |
| | T050 | 12 | 320 | 160 | 270 |
| | T075 | 45 | 1190 | 580 | 990 |
| | T100 | 100 | 2620 | 1280 | 2170 |
| | T150 | 275 | 7430 | 3630 | 6170 |
| R-Series | R025 | 5 | 130 | 60 | 100 |
| | R050 | 15 | 400 | 190 | 310 |
| | R100 | 50 | 1300 | 660 | 1000 |
| | R200 | 140 | 3800 | 1900 | 2900 |
| LF-Series | LF2M | 0.004 | 0.1 | 0.05 | 0.09 |
| | LF3M | 0.008 | 0.4 | 0.2 | 0.36 |
| | LF4M | 0.08 | 3.6 | 1.8 | 3 |
| 7812 | | n/a | n/a | 0.006 | 0.01 |
| 3098 | | n/a | n/a | 0.127 | 0.216 |

⁽¹⁾ Standard (SCFM) reference conditions are 14.7 psia and 68 °F. Normal (Nm³/hr) reference conditions are 1.013 bar and 0 °C.

Typical gas flow rates (natural gas)

Flow rates that produce approximately 50 psid (3.4 bar) pressure drop on natural gas (MW 16.675) at 68 °F (20 °C) and 500 psi (34.0 bar)

| | | Mass | s flow | Volume flow ⁽¹⁾ | | |
|----------|---------|--------|---------|----------------------------|---------|--|
| Family | Model | lb/min | kg/h | SCFM | Nm³/h | |
| ELITE | CMFS010 | 1 | 30 | 30 | 45 | |
| | CMFS015 | 3 | 90 | 90 | 130 | |
| | CMF010 | 1 | 30 | 30 | 45 | |
| | CMF025 | 15 | 410 | 350 | 580 | |
| | CMF050 | 42 | 1100 | 970 | 1600 | |
| | CMF100 | 150 | 4000 | 3400 | 5900 | |
| | CMF200 | 420 | 11,000 | 9700 | 16,000 | |
| | CMF300 | 1100 | 30,000 | 25,000 | 43,000 | |
| | CMF400 | 3000 | 82,000 | 69,000 | 120,000 | |
| | CMFHC2 | 4400 | 120,000 | 100,000 | 160,000 | |
| | CMFHC3 | 7300 | 200,000 | 170,000 | 270,000 | |
| | CMFHC4 | 11,000 | 300,000 | 250,000 | 400,000 | |
| F-Series | F025 | 15 | 410 | 350 | 580 | |
| | F050 | 42 | 1100 | 970 | 1600 | |
| | F100 | 150 | 4000 | 3400 | 5900 | |
| | F200 | 420 | 11,000 | 9700 | 16,000 | |
| | F300 | 900 | 24,000 | 20,000 | 35,000 | |
| H-Series | H025 | 15 | 410 | 350 | 580 | |
| | H050 | 42 | 1100 | 970 | 1600 | |
| | H100 | 150 | 4000 | 3400 | 5900 | |
| | H200 | 330 | 9000 | 7600 | 12,700 | |
| | H300 | 900 | 24,000 | 20,000 | 35,000 | |
| Γ-Series | T025 | 6 | 170 | 140 | 240 | |
| | T050 | 45 | 1250 | 1050 | 1800 | |
| | T075 | 170 | 4600 | 3800 | 6500 | |
| | T100 | 370 | 10,000 | 8400 | 14,300 | |
| | T150 | 1050 | 28,400 | 23,800 | 40,400 | |
| R-Series | R025 | 15 | 410 | 350 | 580 | |
| | R050 | 42 | 1100 | 970 | 1600 | |
| | R100 | 150 | 4000 | 3400 | 5900 | |
| | R200 | 420 | 11,000 | 9700 | 16,000 | |
| 7812 | | n/a | n/a | 0.006 | 0.01 | |
| 3098 | | n/a | n/a | 0.127 | 0.216 | |

⁽¹⁾ Standard (SCFM) reference conditions are 14.7 psia and 68 °F. Normal (Nm³/hr) reference conditions are 1.013 bar and 0 °C.

Standard or Normal Volumetric Capability

Standard and normal volumes are "quasi mass" flow units for any fixed composition fluid. Standard and normal volumes do not vary with operating pressure, temperature, or density. With knowledge of density at standard or normal conditions (available from reference sources), a Micro Motion meter can be configured to output in standard or normal volume units without the need for pressure, temperature, or density compensation. Contact your local sales representative for more information.

Temperature ratings

| Family | Model | °F ⁽¹⁾ | °C ⁽¹⁾ |
|-----------|-------------------------|---------------------------|----------------------------|
| ELITE | Standard models | -400 to +400 | -240 to +204 |
| | High-temperature models | -58 to +662 | -50 to +350 |
| F-Series | Standard models | -150 to +400 | -100 to +204 |
| | High-temperature models | -40 to +662 | -40 to +350 |
| H-Series | All models | -150 to +400 | -100 to +204 |
| T-Series | All models | -60 to +300 | −50 to +150 |
| R-Series | All models | -58 to +257 | -50 to +125 |
| LF-Series | All models | +32 to +149 | 0 to +65 |
| 7835 | | -58 to +230 | -50 to +110 |
| 7845/7847 | | -58 to +320 | -50 to +160 |
| 7826/7828 | | -58 to +392 | -50 to +200 |
| 7812 | | -4 to +257 ⁽²⁾ | -20 to +125 ⁽²⁾ |
| 3098 | | -22 to +122 | -30 to +50 |

⁽¹⁾ Temperature rating may be affected by electronics, hazardous area classification, and/or ambient temperature.

⁽²⁾ High-temperature option shown. Standard temperature range is -4 to +185 °F (-20 to +85 °C)

Pressure ratings

| Family | Model | Material | psi | bar |
|-----------|---|----------------------------------|-----------|---------|
| | Otom doud module | Stainless steel | 1450–1813 | 100–125 |
| | Standard models | Nickel alloy | 2465-3263 | 170–225 |
| ELITE | CMFS010P CMFS010H CMFS015P CMFS015H CMF010P | Nickel alloy ⁽¹⁾ | 6000 | 413 |
| | CMF400P | Nickel alloy | 2973 | 205 |
| | Standard models | Stainless steel | 1450 | 100 |
| F-Series | Standard models | Nickel alloy | 2160 | 148 |
| r-Series | F025P | Stainless steel | 2300 | 158 |
| | F050P | Stainless steel | 5000 | 345 |
| H-Series | All models | Stainless steel | 1450 | 100 |
| T-Series | All models | Titanium | 1450 | 100 |
| R-Series | All models | Stainless steel | 1450 | 100 |
| LF-Series | All models | Stainless steel | 1450 | 100 |
| 7835 | | Ni-Span-C and stainless steel | 2175 | 150 |
| 7845 | | Stainless steel | 1450 | 100 |
| 7847 | | Stainless steel and nickel alloy | 290 | 20 |
| 7826/7828 | | Stainless steel and nickel alloy | 3000 | 207 |
| 7812 | | Ni-Span-C | 3625 | 250 |
| 3098 | | Ni-Span-C | 145 | 10 |

⁽¹⁾ Models CMF010P, CMFS010P, CMFS015P, and CMF400P have nickel alloy tubes and stainless steel fittings.

Micro Motion—The undisputed leader in flow and density measurement



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