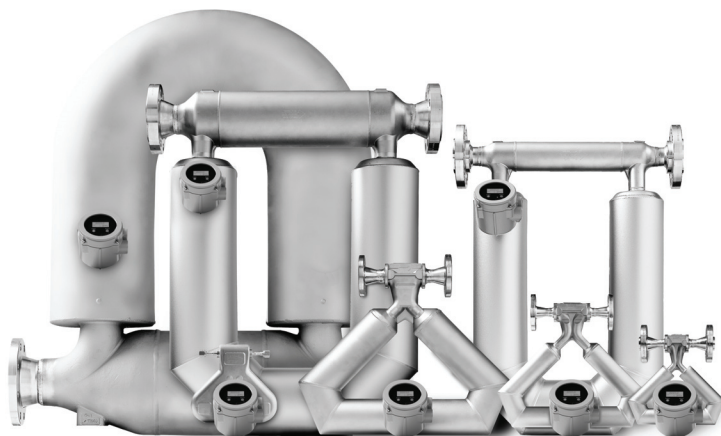


Product Data Sheet

PS-001094, Rev. B
March 2009

Micro Motion® 2-Wire Coriolis Flow and Density Meter with MVD™ Technology

The Micro Motion® Model 2200S 2-wire transmitter enables the use of reliable and accurate ELITE® Coriolis meters virtually anywhere in your plant. The 2-wire Coriolis meter delivers measurement accuracy, repeatability, and operational savings on a level not previously possible in loop-powered applications.



Reduce installation costs and increase measurement reliability

- Replace existing 2-wire flow devices with minimal effort and without incurring additional power or cabling costs
- Low energy, loop-powered design enables easy integration of Coriolis into existing processes for improved measurement and reduced maintenance for an even greater number of flow points
- Simplify the complexity and improve the performance of new process plants with loop-powered mA output and HART protocol 2-wire Coriolis
- Compact, integral 2-wire transmitter design saves electrical cost and space for use on integrated systems and skids
- Direct mass measurement improves process control while reducing number of measurement devices required
- Accurate, repeatable measurement ensures higher quality production and overall improved process profitability



Micro Motion 2-wire Coriolis flow and density meter

Utilizing Micro Motion MVD technology, the Micro Motion 2-wire Coriolis meter delivers multivariable and diagnostic information via HART® communications. Comprised of a cutting-edge Model 2200S transmitter and the proven best-in-class performance of an ELITE® Coriolis meter, the Micro Motion 2-wire meter brings reduced costs through improved process consistency and maximized uptime. Micro Motion 2-wire Coriolis is ideally suited for use in the chemical, petrochemical and refining industries, and for continuous process and mass balance applications.

MVD technology. MVD technology makes your Micro Motion flowmeter work smarter. Front-end digital processing dramatically reduces signal noise and gives you faster response time compared to analog devices.

Only MVD technology allows you to:

- Measure multiple variables for accurate process control
- Identify and resolve problems easily with built-in smart diagnostics
- Flexible architecture enables tuning for your application needs
- Upgrade transmitter functionality as needed, without impacting availability

Model 2200S transmitters. The Model 2200S transmitter is suitable for a range of process conditions, including CSA Class I Div. 1 and ATEX Zone 1 approvals. To facilitate installation in hazardous areas, Micro Motion offers an adapter-barrier. Finally, the Micro Motion Model 2200S is also available with a 316L stainless steel enclosure suited for harsh environments, such as applications in the offshore and marine industries.

ELITE Coriolis meter. Micro Motion ELITE meters offer accurate measurement for virtually any process fluid, while exhibiting exceptionally low pressure drop. Every ELITE meter features standard secondary containment, and is available with stainless steel or nickel-alloy wetted parts and a wide variety of process connections to meet your every need.

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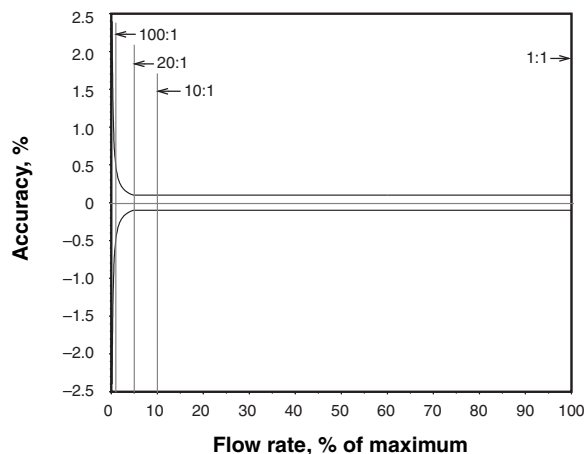
Liquid flow performance

		Mass		Volume ⁽¹⁾	
		lb/min	kg/h	gal/min	l/h
Maximum flow rate	CMF010	4	108	0.4	108
	CMF025	80	2180	10	2180
	CMF050	250	6800	30	6800
	CMF100	1000	27,200	120	27,200
	CMF200	3200	87,100	385	87,100
	CMF300	10,000	272,000	1200	272,000
	CMF400	20,000	545,000	2400	545,000
Mass and volume flow accuracy ⁽²⁾		±0.10% of rate ⁽³⁾			
Mass and volume flow repeatability		±0.05% of rate ⁽³⁾			
		lb/min	kg/h		
Zero stability	CMF010	0.000075	0.002		
	CMF010P	0.00015	0.004		
	CMF025	0.001	0.027		
	CMF050	0.006	0.163		
	CMF100	0.025	0.680		
	CMF200	0.08	2.18		
	CMF300	0.25	6.80		
	CMF400	1.50	40.91		

Typical accuracy and turndown

The graph below is an example of the relationship between accuracy and turndown on water. To determine actual accuracy and turndown with your process variables, use the Micro Motion product selector, available at www.micromotion.com.

<i>Turndown</i>	<i>500:1</i>	<i>100:1</i>	<i>20:1</i>	<i>10:1</i>	<i>1:1</i>
Accuracy (±%)	2.40	0.50	0.10	0.10	0.10



- (1) Specifications for volumetric flow rate are based on a process-fluid density of 1 g/cm³ (1000 kg/m³). For fluids with density other than 1 g/cm³ (1000 kg/m³), the volumetric flow rate equals the mass flow rate divided by the fluid's density.
- (2) Stated flow accuracy includes the combined effects of repeatability, linearity, and hysteresis. All specifications for liquids 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), unless otherwise noted.
- (3) When flow rate is less than zero stability / 0.001, accuracy = ±[(zero stability / flow rate) × 100]% of rate and repeatability = ±½[(zero stability / flow rate) × 100]% of rate.

Gas flow performance

When selecting sensors for gas applications, measurement accuracy is a function of fluid mass flow rate independent of operating temperature, pressure, or composition. However, pressure drop through the sensor is dependent upon operating temperature, pressure, and fluid composition. Therefore, when selecting a sensor for any particular gas application, it is highly recommended that each sensor be sized using the Micro Motion product selector, available at www.micromotion.com.

	Mass		Volume ⁽¹⁾	
	lb/min	kg/h	SCFM	Nm ³ /h
Flow rates that produce approximately 10 psid (0.68 bar) pressure drop on <i>air</i> at 68 °F (20 °C) and 100 psi (6.8 bar)				
CMF010M, CMF010H	0.30	8	4	6
CMF010P	0.2	6	3	5
CMF025	4	110	60	90
CMF050	10	300	145	230
CMF100	50	1300	640	1000
CMF200	150	4000	2000	3100
CMF300	490	13,300	6500	10,300
CMF400	1250	34,000	16,600	26,250

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)

CMF010M, CMF010H	1	30	30	45
CMF010P	0.9	25	20	35
CMF025	16	450	380	600
CMF050	40	1140	970	1530
CMF100	185	5000	4300	6700
CMF200	560	15,200	13,000	20,500
CMF300	1850	50,500	43,000	68,000
CMF400	4700	128,000	109,000	172,000

Mass flow accuracy⁽²⁾ ±0.35% of rate⁽³⁾

Mass flow repeatability ±0.20% of rate⁽³⁾

Zero stability Refer to liquid flow specifications on page 3.

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

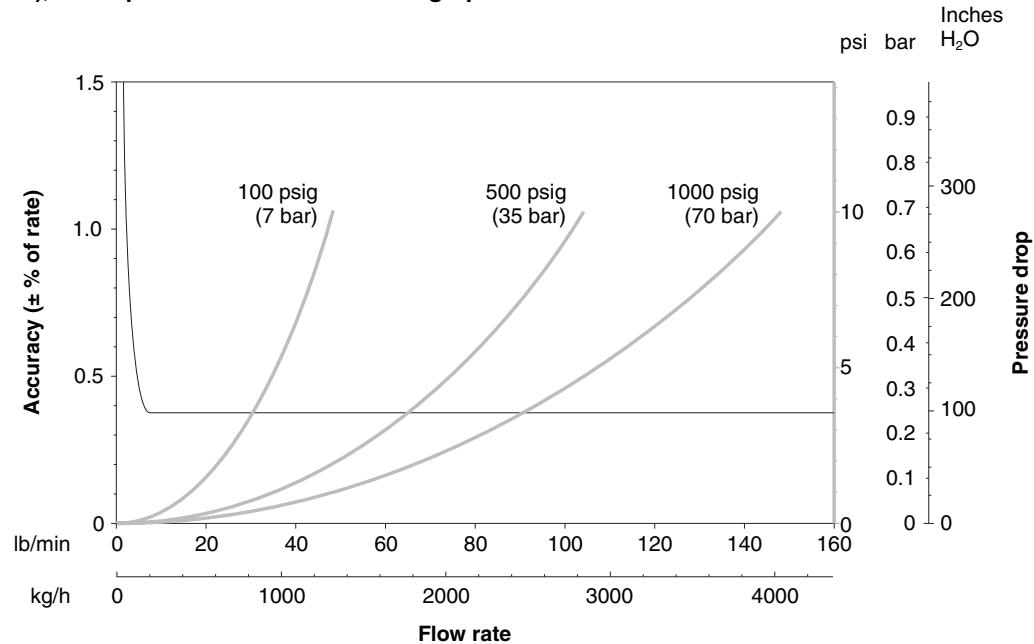
(2) Flow accuracy includes the combined effects of repeatability, linearity, and hysteresis.

(3) When flow rate is less than zero stability / 0.0035, accuracy equals ±[(zero stability / flow rate) × 100]% of rate and repeatability equals ±½(zero stability / flow rate) × 100% of rate.

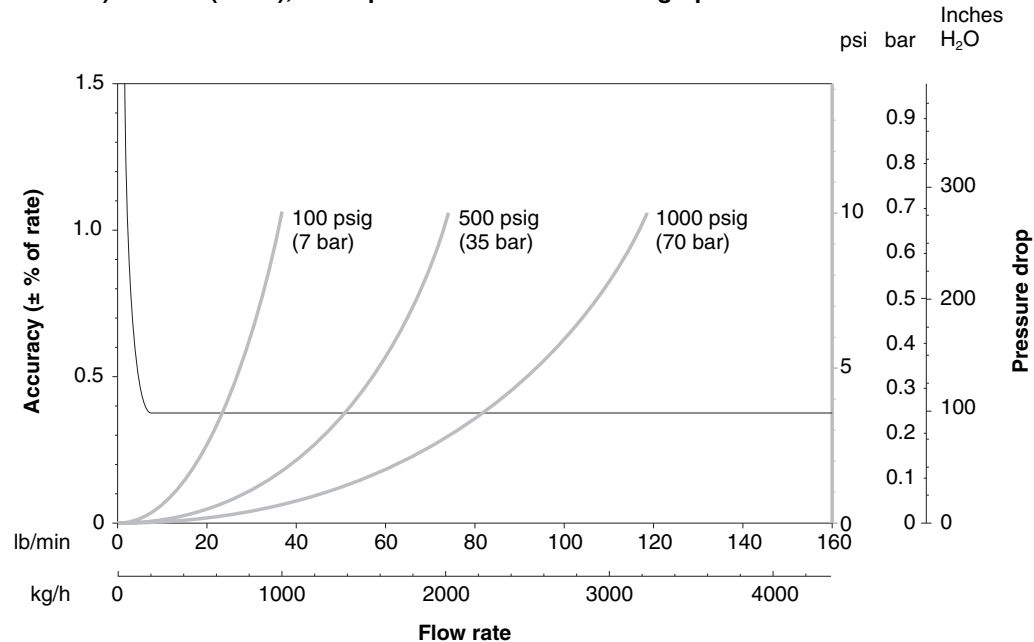
Gas flow performance *continued*

Typical mass flow accuracy and pressure drop with CMF100 and transmitter with MVD technology

Air at 68 °F (20 °C), static pressures as indicated on graph



Natural gas (MW 16.675) at 68 °F (20 °C), static pressure as indicated on graph



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.

Density performance (liquid only)

	g/cm ³	kg/m ³
Accuracy⁽¹⁾	±0.0005	±0.5
Repeatability	±0.0002	±0.2
Range	up to 5	up to 5000

(1) Accuracy includes the combined effects of repeatability, linearity, and hysteresis. Accuracy 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), unless otherwise noted.

Pressure ratings

Sensor rating ⁽¹⁾	316L and 304L stainless steel		Hastelloy C-22		High pressure	
	psi	bar	psi	bar	psi	bar
CMF010	1813	125	3263	225	6000	413
CMF025	1500	103	2755	190	—	—
CMF050	1500	103	2683	185	—	—
CMF100	1450	100	2465	170	—	—
CMF200	1580	108	2755	190	—	—
CMF300	1730	119	2683	185	—	—
CMF400	1500	103	2855	197	2973	205

PED compliance Sensors comply with council directive 97/23/EC of 29 May 1997 on Pressure Equipment

Dual seal compliance CSA sensors comply with ANSI/ISA 12.27.01-2003 requirements for process sealing between electrical systems and flammable or combustible process fluids

Housing rating	ASME B31.3 secondary containment rating ⁽²⁾		Burst pressure	
	psi	bar	psi	bar
CMF010 ⁽³⁾	425	29	3042	209
CMF025	850	58	5480	377
CMF050	850	58	5286	364
CMF100	625	43	3299	227
CMF200	550	37	2786	192
CMF300	275	18	1568	108
CMF400	250	17	1556	107

(1) Process connection rating may differ from sensor rating. Please choose process connections accordingly.

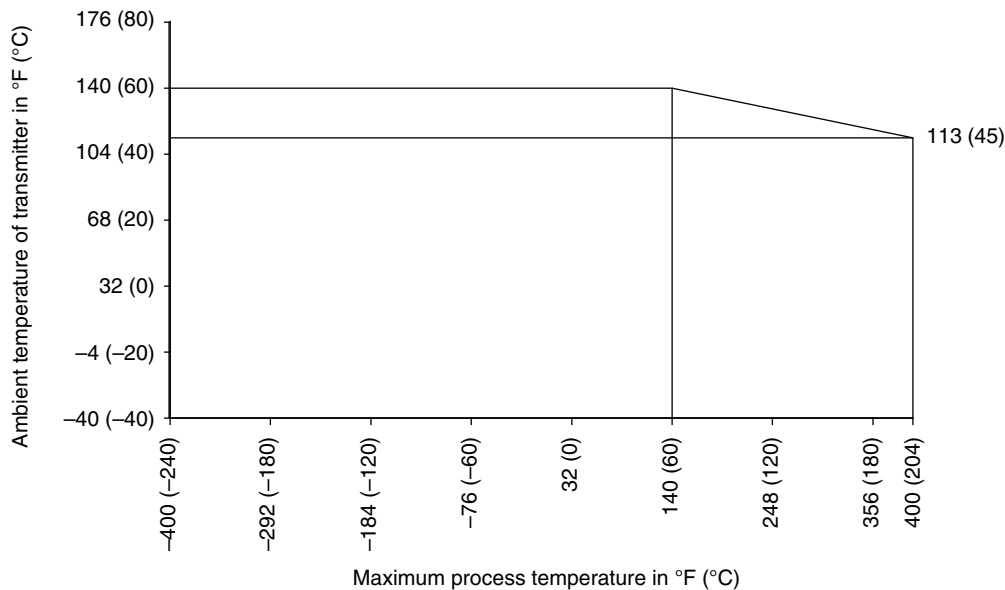
(2) For operating temperatures above 300 °F (148 °C), pressure needs to be derated as follows. Linear interpolation may be used between values. Process connection derating may differ from sensor rating.

	Flow tube material			Housing
	316L	304L	Hastelloy C-22	All sensors
up to 300 °F (up to 148 °C)	None	None	None	None
at 400 °F (at 204 °C)	7.2% derating	5.4% derating	None	5.4% derating

(3) Optional rupture disks for high-pressure CMF010P will burst if pressure inside sensor housing reaches 400 psi (27 bar).

Temperature and humidity specifications

Accuracy	All models	$\pm 1\text{ }^{\circ}\text{C} \pm 0.5\%$ of reading in $^{\circ}\text{C}$
Repeatability	All models	$\pm 0.2\text{ }^{\circ}\text{C}$
Temperature limits ⁽¹⁾	For transmitter, adapter-barrier, and all sensor models ⁽²⁾	



- * When ambient temperature is below $-40\text{ }^{\circ}\text{F}$ ($-40\text{ }^{\circ}\text{C}$), the transmitter must be heated to bring its local ambient temperature to between $-40\text{ }^{\circ}\text{F}$ ($-40\text{ }^{\circ}\text{C}$) and $+140\text{ }^{\circ}\text{F}$ ($+60\text{ }^{\circ}\text{C}$). Long-term storage of electronics at ambient temperatures below $-40\text{ }^{\circ}\text{F}$ ($-40\text{ }^{\circ}\text{C}$) is not recommended.
- * Below $-4\text{ }^{\circ}\text{F}$ ($-20\text{ }^{\circ}\text{C}$), LCD responsiveness decreases and LCD may become difficult to read. Above $131\text{ }^{\circ}\text{F}$ ($55\text{ }^{\circ}\text{C}$), some darkening of the LCD panel may occur.

Humidity limits	5 to 95% relative humidity, non-condensing at $140\text{ }^{\circ}\text{F}$ ($60\text{ }^{\circ}\text{C}$)
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(1) Temperature limits may be further restricted by hazardous area approvals. See page 9.

(2) The temperature limits shown apply when the electronics are not covered (for example, by insulation). If the sensor case must be insulated, use extended mount electronics.

Environmental effects

Process temperature effect

Process temperature effect is defined as:

- For mass flow measurement, the worst-case zero offset due to process fluid temperature change away from the zeroing temperature.
- For density measurement, the maximum measurement offset due to process fluid temperature change away from the density calibration temperature.

Process temperature effect

	% of maximum flow rate per °C	density accuracy per °C ⁽¹⁾	
		g/cm ³	kg/m ³
CMF010	±0.0001875	±0.000015	±0.015
CMF025	±0.0001250	±0.000015	±0.015
CMF050	±0.0001250	±0.000015	±0.015
CMF100	±0.0001250	±0.000015	±0.015
CMF200	±0.0005000	±0.000015	±0.015
CMF300	±0.0005000	±0.000015	±0.015
CMF400	±0.0007500	±0.000015	±0.015

Ambient temperature effect

On mA output: ±0.005% of span per °C

Pressure effect

Pressure effect is defined as the change in sensor flow and density sensitivity due to process pressure change away from the calibration pressure. Pressure effect can be corrected.

Pressure effect on flow accuracy

	% of rate per psi		% of rate per bar	
	<i>liquid</i>	<i>gas</i>	<i>liquid</i>	<i>gas</i>
CMF010	None	None	None	None
CMF025	None	None	None	None
CMF050	None	None	None	None
CMF100	−0.0002	None	−0.003	None
CMF200	−0.0008	−0.0004	−0.012	−0.006
CMF300	−0.0006	−0.0003	−0.009	−0.0045
CMF400	−0.001	−0.0005	−0.015	−0.0075

Pressure effect on density accuracy

	g/cm ³ per psi	kg/m ³ per bar
CMF010	None	None
CMF025	0.000004	0.058
CMF050	−0.000002	−0.029
CMF100	−0.000006	−0.087
CMF200	0.000001	0.0145
CMF300	0.0000002	0.0029
CMF400	−0.00001	−0.145

EMI effects

Complies with EMC directive 2004/108/EC per EN 61326 Industrial
Conforms to NAMUR NE21 Version: 08.22.2007

Vibration limits

Meets IEC 68.2.6, endurance sweep, 5 to 2000 Hz, 50 sweep cycles at 1.0 g

(1) For −100 °C and above.

Hazardous area classifications

ELITE sensor with Model 2200S transmitter

CSA C-US

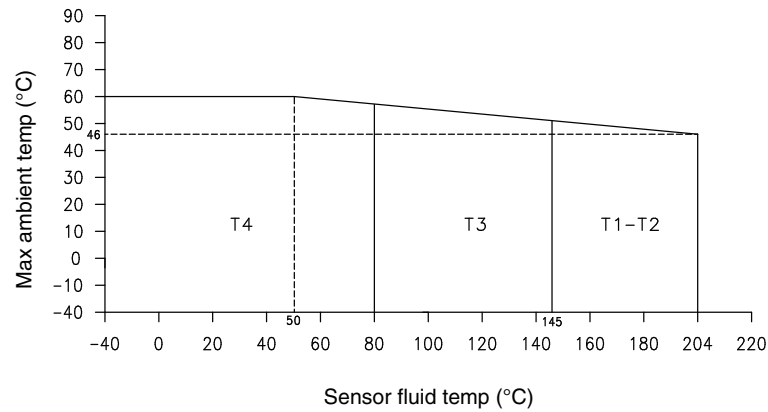
All models	Ambient temperature -40 to +140 °F (-40 to +60 °C) Class I, Div. 1, Groups C and D Class I, Div. 2, Groups A, B, C, and D Class II, Div. 1, Groups E, F, and G
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IECEX

Models CMF010, CMF025, CMF050, and CMF100	Ex ib IIC T1-T4 Ex nA II T1-T4
Model CMF200, CMF300, and CMF400	Ex ib IIB T1-T4 Ex nA II T1-T4

ATEX

Models CMF010, CMF025, CMF050, and CMF100	CE 0575 Ex II 2G Ex ib IIC T1-T4 II 2D Ex ibD 21 T70 °C CE Ex II 3G Ex nA II T1-T4 II 3D Ex tD A22 IP65 T70 °C
Model CMF200 and CMF300	CE 0575 Ex II 2G Ex ib IIB T1-T4 II 2D Ex ibD 21 T70 °C CE Ex II 3G Ex nA II T1-T4 II 3D Ex tD A22 IP65 T70 °C



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature for dust is as follows: T4:T 130°C, T3:T 195°C, T2 to T1:T 254°C.

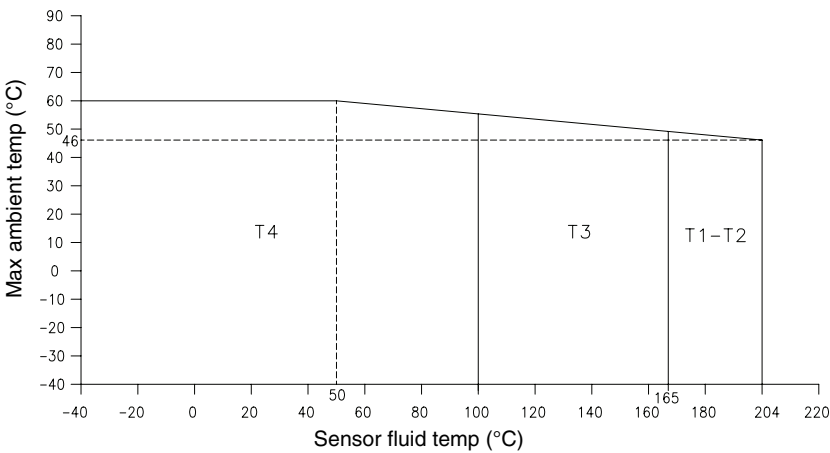
Ambient temperature range Ta -40 °C to +60 °C

Hazardous area classifications *continued*

ATEX

Model CMF400

CE 0575 Ex II 2G Ex ib IIB T1–T4
II 2D Ex ibD 21 T70 °C
CE Ex II 3G Ex nA II T1–T4
II 3D Ex tD A22 IP65 T70 °C



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature for dust is as follows: T4:T 130°C, T3:T 195°C, T2 to T1:T 234°C

Ambient temperature range Ta –40 to +60 °C

Adapter-barrier

CSA C-US

Class I, Div. 1, Groups C and D⁽¹⁾
Class I, Div. 2, Groups A, B, C, and D
Class II, Div. 2, Groups F and G

IECEX

[Ex ib] IIB/IIC

ATEX

CE 0575 Ex II (2) G [Ex ib] IIB/IIC
II (2) D [Ex ibD]

⁽¹⁾ When installed in a suitable enclosure.

Physical specifications

Wetted parts⁽¹⁾	316L or 304L stainless steel, or Hastelloy C-22
Sensor housing	304L stainless steel ⁽²⁾
Transmitter housing	<p>Integral mount or extended mount</p> <p>NEMA 4X (IP66/67) polyurethane-painted cast aluminum or 316L stainless steel Available with 1/2"–NPT or M20 × 1.5 conduit connections</p> <p>The transmitter can be rotated on the mounting in 45° increments, for eight different orientations.</p>
Adapter-barrier	<p>IP20 housing</p> <p>DIN rail mounting type: DIN 46277</p> <p>Can be stacked side-to-side</p>

(1) *General corrosion guides do not account for cyclical stress, and therefore should not be relied upon when choosing a wetted material for your Micro Motion sensor. Please refer to the Micro Motion corrosion guide for proper material compatibility information.*

(2) *316L stainless steel is available.*

Weight

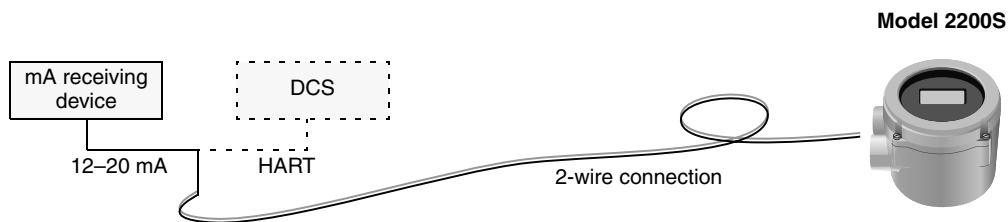
		lb	kg
Sensor and transmitter ⁽¹⁾	CMF010	19	9
	CMF025	13	6
	CMF050	17	8
	CMF100	34	16
	CMF200	68	31
	CMF300	170	77
	CMF400	446	202
Adapter-barrier		0.33	0.15

(1) *Weight of sensor and polyurethane-painted aluminum transmitter with ANSI CL150 welded flanges. For stainless steel transmitter, add 4 lb (2 kg).*

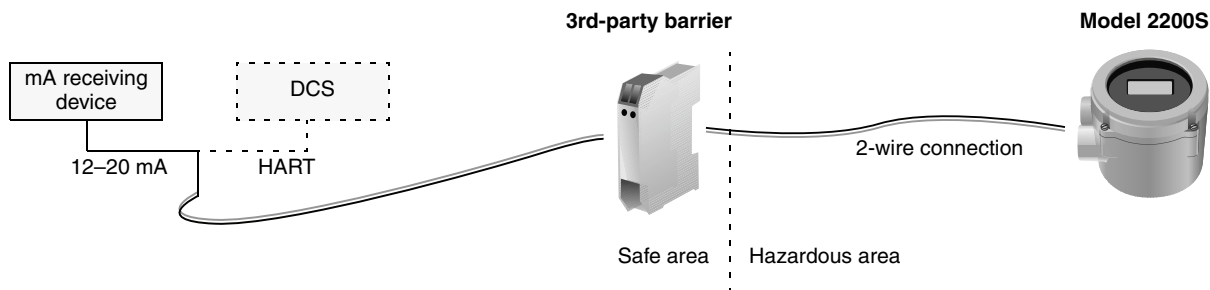
Micro Motion adapter-barrier

The Micro Motion adapter-barrier provides Class I, Div. 1 and Zone 1 intrinsic safety protection, and re-spans the I/O signal from 12–20 mA to 4–20 mA.

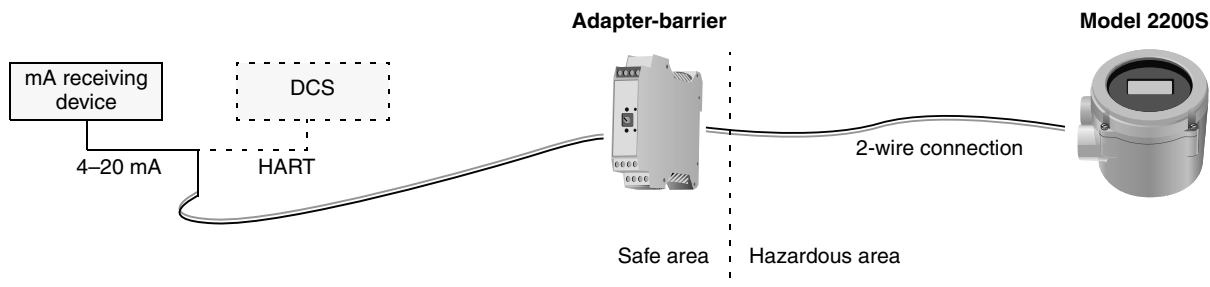
Transmitter to host with no barrier



Transmitter to host with third-party barrier



Transmitter to host with Micro Motion adapter-barrier



Input/output signals and power supply

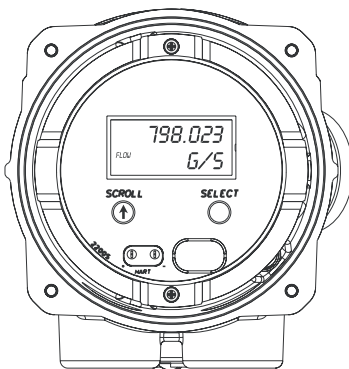
Transmitter

- One passive 12–20 mA output
 - Isolated to ± 50 VDC from earth ground
 - Maximum load limit: $600\ \Omega$
 - External power: 17–36 VDC
 - 0.8 W maximum
 - Can report mass flow, liquid volume flow, gas standard volume flow, density, temperature, or drive gain
 - Output is linear with process from 11.9 to 20.25 mA

Adapter-barrier

- Isolation voltage
 - Power to field side: > 1500 VAC
 - Power to host side: > 500 VAC
 - Field to host side: > 1500 VAC
- Power supply
 - 18–42 VDC
 - Maximum supply current: 170 mA
 - Maximum power: 3 W
- Field side
 - One passive 12–20 mA input
 - Over/under range: 11–21 mA
 - HART pass-through
 - Loop supply: > 25 V
 - HART-compliant impedance: $> 250\ \Omega$
 - Compliant with ATEX, CSA, and IECEx intrinsic safety requirements
- Host side
 - One active or passive 4–20 mA output
 - Over/under range: 2–22 mA
 - Maximum load limit (active output): $< 1\ \text{k}\Omega$
 - Maximum loop voltage (passive input): < 36 V
 - Linearity: $< 0.05\%$ span
 - Conforms to NAMUR NE43 (February 2003) (depending on transmitter configuration)
- EMI effects:
Conforms to NAMUR NE21 Version 08.22.2007

User interface

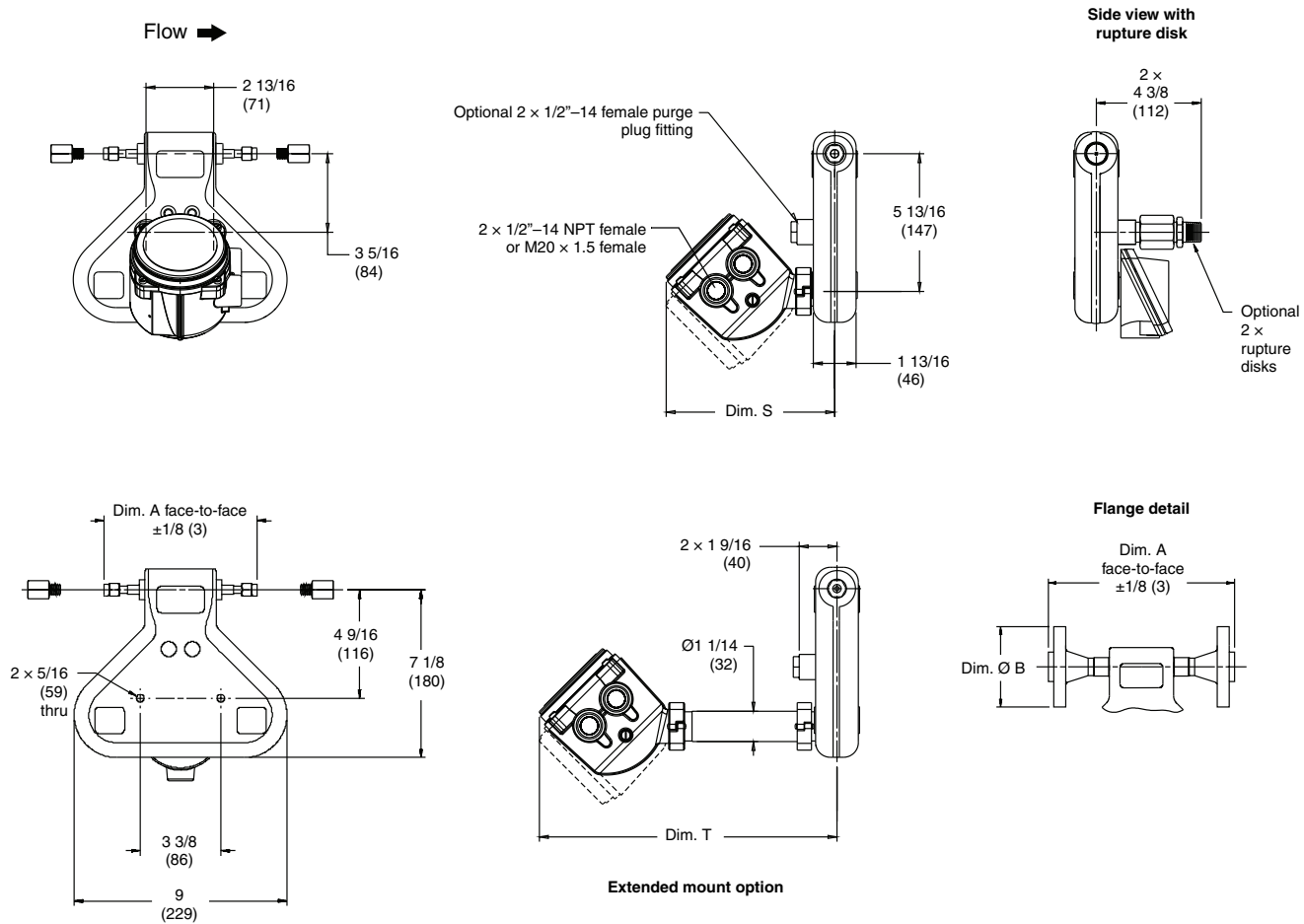


- Standard user interface with LCD panel
 - Suitable for hazardous area installation.
 - User interface module can rotate 360° on the transmitter in 90° increments.
 - Two clips for HART/Bell 202 connections (requires removing transmitter housing cover).
 - Two membrane pushbuttons for local operation (requires removing transmitter housing cover).
 - Depending on purchase option, transmitter housing cover has glass or plastic lens.
 - User interface module includes LCD panel. LCD line 1 displays process variable; line 2 displays engineering unit of measure, with optional alarm indication.
 - LCD panel can be configured to scroll through display list at user-specified scroll rate. Display list includes user-selected process variables and, optionally, all active alarms.
 - Display update rate is user-configurable: 100 to 10,000 milliseconds.

Dimensions

Model CMF010

Dimensions in inches
(mm)



Model	Dimensions ⁽¹⁾	
	S ⁽²⁾	T ⁽²⁾
CMF010	7 1/8–7 9/16 (180–192)	12 1/2–12 13/16 (318–325)

(1) For dimensions A and B, see fittings tables on page 19.

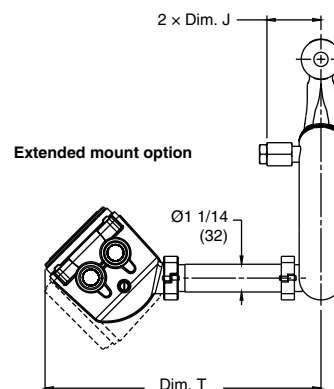
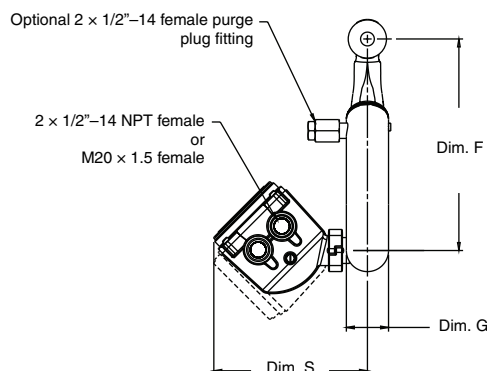
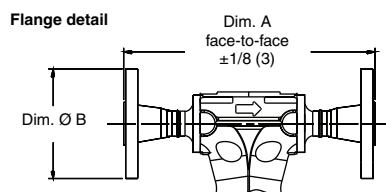
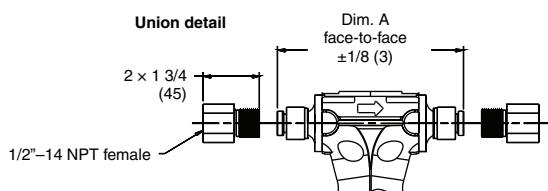
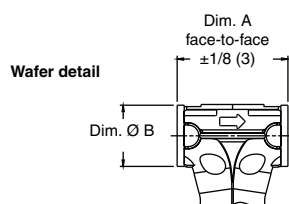
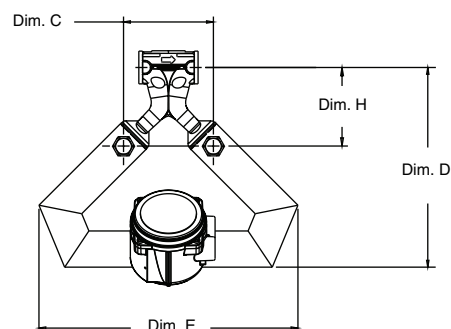
(2) Dimensions S and T will vary based on transmitter housing material option.

Dimensions *continued*

Models CMF025, CMF050, and CMF100

Dimensions in *inches*
(*mm*)

Flow →



Model	Dimensions ⁽¹⁾								
	C	D	E	F	G	H	J	S ⁽²⁾	T ⁽²⁾
CMF025	2 13/16 (72)	8 1/4 (209)	10 (255)	7 7/16 (188)	1 5/8 (41)	3 5/16 (85)	2 1/4 (58)	7 1/16 – 7 9/16 (179 – 192)	12 1/2 – 12 13/16 (318 – 325)
CMF050	5 (126)	11 11/16 (280)	14 5/16 (364)	10 1/16 (255)	2 (51)	4 3/8 (111)	2 1/2 (63)	7 5/16 – 7 9/16 (185 – 192)	12 11/16 – 12 3/4 (322 – 324)
CMF100	5 15/16 (150)	15 15/16 (405)	21 1/2 (546)	14 1/8 (360)	3 9/16 (91)	5 3/8 (136)	3 5/16 (83)	8 – 8 3/8 (204 – 213)	13 3/8 – 13 5/8 (340 – 346)

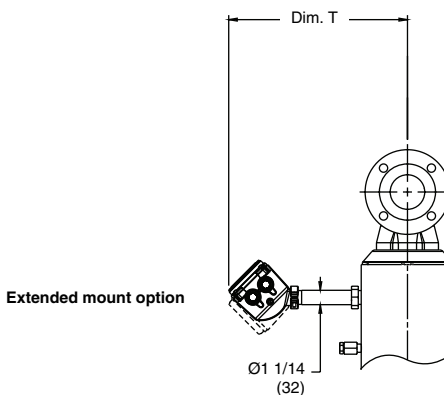
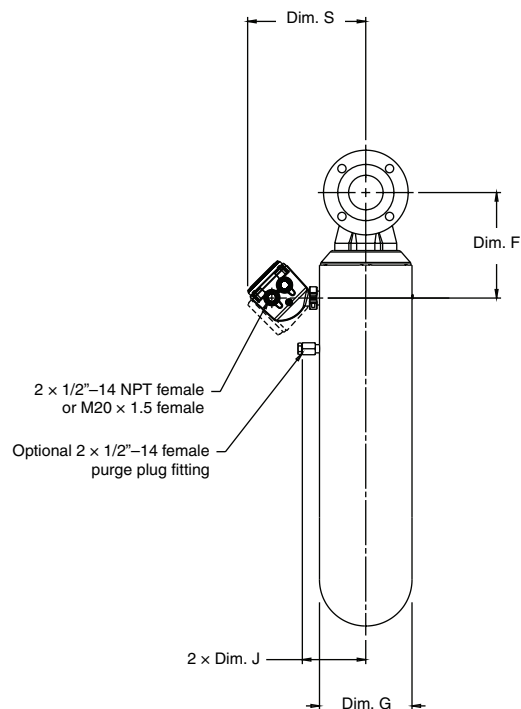
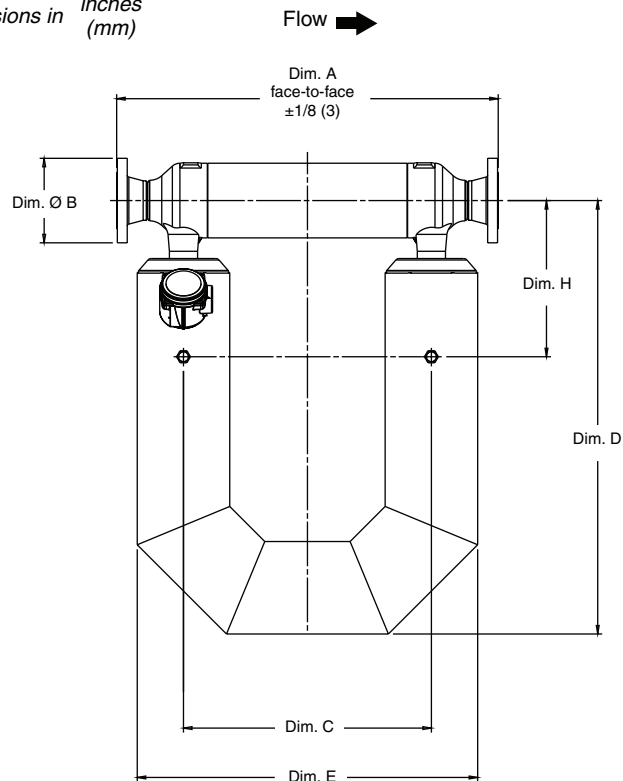
(1) For dimensions A and B, see fittings tables on pages 20–22.

(2) Dimensions S and T will vary based on transmitter housing material option.

Dimensions *continued*

Models CMF200 and CMF300

Dimensions in *inches*
(mm)



Model	Dimensions ⁽¹⁾								
	C	D	E	F	G	H	J	S ⁽²⁾	T ⁽²⁾
CMF200	14 (356)	28 5/8 (727)	19 9/16 (497)	6 7/8 (175)	5 9/16 (142)	11 7/8 (302)	4 5/16 (110)	9 1/8 – 9 7/16 (232 – 239)	14 1/2 – 14 5/8 (368 – 372)
CMF300	22 (559)	38 7/16 (977)	30 3/16 (767)	9 3/8 (238)	8 3/16 (209)	13 7/8 (352)	5 5/8 (143)	10 1/2 – 10 3/4 (266 – 273)	15 7/8 – 16 (403 – 406)

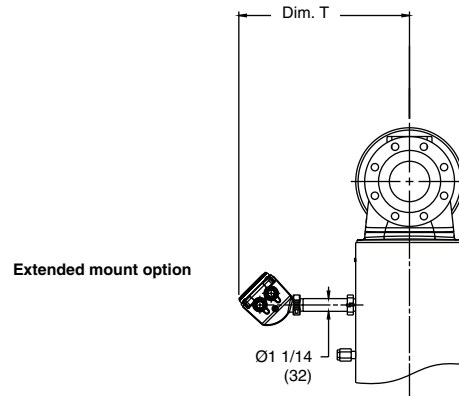
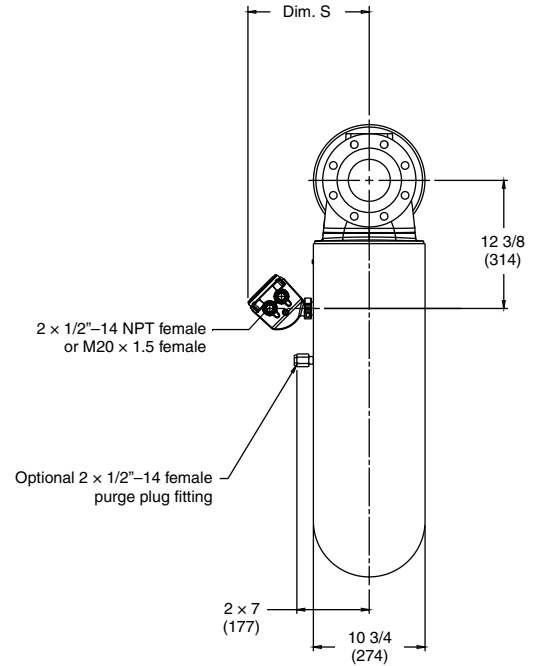
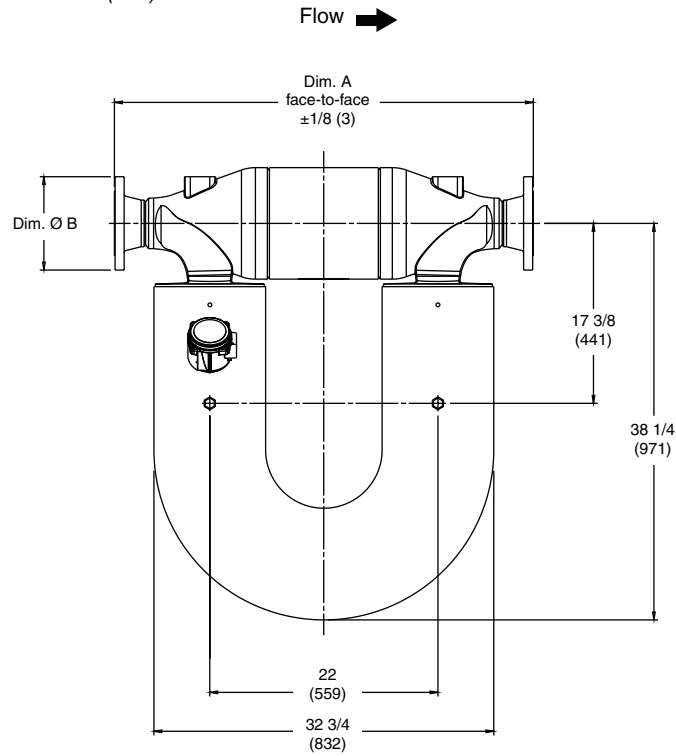
(1) For dimensions A and B, see fittings tables on pages 23–25.

(2) Dimensions S and T will vary based on transmitter housing material option.

Dimensions *continued*

Model CMF400

Dimensions in *inches*
(mm)



Model	Dimensions ⁽¹⁾	
	S ⁽²⁾	T ⁽²⁾
CMF400	11 11/16 – 12 1/16 (297 – 306)	17 1/16 – 17 1/4 (434 – 439)

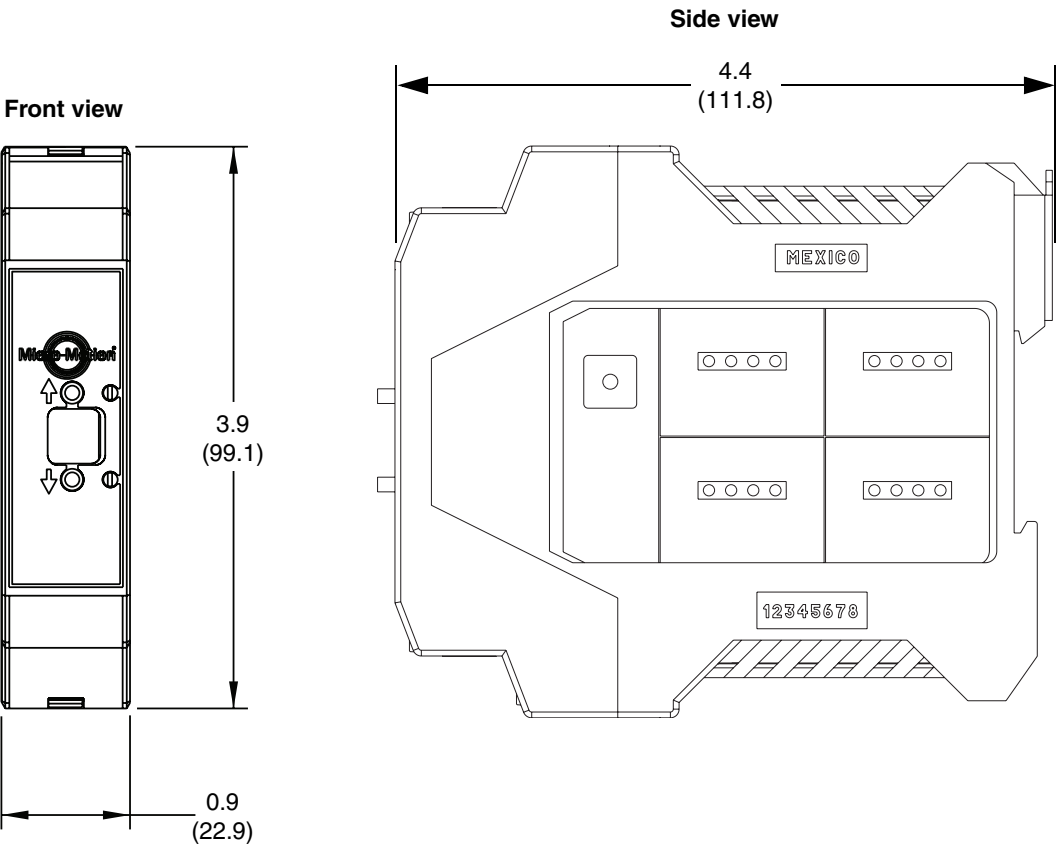
(1) For dimensions A and B, see fittings tables on pages 26–27.

(2) Dimensions S and T will vary based on transmitter housing material option.

Dimensions *continued*

Adapter-barrier

Dimensions in inches
(mm)



Fitting options

CMF010 fitting options⁽¹⁾

316L stainless steel sensors

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
1/2-inch ANSI CL150 weld neck raised face flange	313	7 7/8 (199)	3 1/2 (89)
1/2-inch ANSI CL300 weld neck raised face flange	314	8 3/16 (209)	3 3/4 (95)
1/2-inch ANSI CL600 weld neck raised face flange	315	8 11/16 (221)	3 3/4 (95)
1/2-inch sanitary fitting (Tri-Clamp compatible)	321	6 15/16 (177)	1 (25)
DN15 PN40 weld neck flange; DIN 2635 type C face	300	7 7/16 (189)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form B1	176	7 7/16 (189)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form D	310	7 7/16 (189)	3 3/4 (95)
DN15 PN100 weld neck flange; DIN 2637 type E face	302	8 (203)	4 1/8 (105)
DN15 PN100 weld neck flange; EN 1092-1 Form B2	177	8 (203)	4 1/8 (105)
DN15 PN100 weld neck flange; EN 1092-1 Form D	178	8 (203)	4 1/8 (105)
DN25 PN40 Weld Neck Flange; EN 1092-1 Form B1	172	7 9/16 (193)	4 1/2 (115)
DN25 PN40 Weld Neck Flange; EN 1092-1 Form D	183	7 9/16 (193)	4 1/2 (115)
JIS 15mm 10K weld neck raised face flange	304	7 3/16 (183)	3 3/4 (95)
JIS 15mm 20K weld neck raised face flange	305	7 3/16 (183)	3 3/4 (95)
1/4-inch NPT female Swagelok size 4 VCO fitting	323	6 7/16 (164)	—
1/4-inch tube compression fitting	324	6 7/16 (164)	—
6 mm tube compression fitting	325	6 7/16 (164)	—

304L stainless steel sensors

1/2-inch ANSI CL150 weld neck raised face flange	413	7 7/8 (199)	3 1/2 (89)
1/2-inch ANSI CL300 weld neck raised face flange	414	8 3/16 (209)	3 3/4 (95)
DN15 PN40 weld neck flange; DIN 2526 type C face	423	7 7/16 (189)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form B1	421	7 7/16 (189)	3 3/4 (95)

Nickel alloy sensors

1/2-inch ANSI CL150 lap joint flange	520	7 7/8 (199)	3 1/2 (89)
1/2-inch ANSI CL300 lap joint flange	521	8 3/16 (209)	3 3/4 (95)
DN15 PN40 lap joint flange; DIN 2656 type C face	523	9 7/16 (240)	3 3/4 (95)
DN15 PN40 lap joint flange; EN 1092-1 Form B1	524	9 7/16 (240)	3 3/4 (95)
JIS 15mm 10K lap joint flange	522	8 3/16 (208)	3 3/4 (95)
1/4-inch NPT female Swagelok size 4 VCO fitting	323	6 7/16 (164)	—

High-pressure CMF010P fitting options⁽¹⁾

316L stainless steel sensors

1/4-inch NPT female Swagelok size 4 VCO fitting	323	6 7/16 (164)	—
1/4-inch tube compression fitting	324	6 7/16 (164)	—
6 mm tube compression fitting	325	6 7/16 (164)	—

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

CMF025 fitting options⁽¹⁾

316L stainless steel sensors

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
Wafer style; 1/2-inch ANSI (150 lb; 300 lb; 600 lb bolt kit)	009	2 3/8 (60)	1 13/16 (46)
Wafer style, 15mm DIN 2526; type C face (PN40 bolt kit)	016	2 3/8 (60)	1 13/16 (46)
Wafer style; 15mm DIN 2512; type N grooved face (PN40 bolt kit)	017	2 3/8 (60)	1 13/16 (46)
Wafer style; 15mm DIN 2526; type E face (PN100 bolt kit)	018	2 3/8 (60)	1 13/16 (46)
Wafer style; 15mm DIN 2512; type N grooved face (PN100 bolt kit)	019	2 3/8 (60)	1 13/16 (46)
Wafer style; 15mm; standard JIS facing (10K; 20K bolt kit)	029	2 3/8 (60)	1 13/16 (46)
1/2-inch ANSI CL150 weld neck raised face flange	313	6 3/4 (172)	3 1/2 (89)
1/2-inch ANSI CL300 weld neck raised face flange	314	7 1/8 (181)	3 3/4 (95)
1/2-inch ANSI CL600 weld neck raised face flange	315	7 5/8 (194)	3 3/4 (95)
1/2-inch NPT female Swagelok size 8 VCO fitting	319	4 11/16 (119)	—
1/2-inch sanitary fitting (Tri-Clamp compatible)	321	4 11/16 (119)	1 (25)
DN15 PN40 weld neck flange; DIN 2635 type C face	300	6 5/16 (160)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form B1	176	6 5/16 (160)	3 3/4 (95)
DN15 PN40 weld neck flange; DIN 2635 type N grooved face	301	6 5/16 (160)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form D	310	6 5/16 (160)	3 3/4 (95)
DN15 PN100 weld neck flange; DIN 2637 type E face	302	6 15/16 (176)	4 1/8 (105)
DN15 PN100 weld neck flange; EN 1092-1 Form B2	177	6 15/16 (176)	4 1/8 (105)
DN15 PN100 weld neck flange; DIN 2637 type N grooved face	303	6 15/16 (176)	4 1/8 (105)
DN15 PN100 weld neck flange; EN 1092-1 Form D	178	6 15/16 (176)	4 1/8 (105)
DN25 PN40 weld neck flange; EN 1092-1 Form B1	172	6 7/16 (164)	4 1/2 (115)
DN25 PN40 weld neck flange; EN 1092-1 Form D	183	6 7/16 (164)	4 1/2 (115)
JIS 15mm 10K weld neck raised face flange	304	6 1/8 (156)	3 3/4 (95)
JIS 15mm 20K weld neck raised face flange	305	6 1/8 (156)	3 3/4 (95)

304L stainless steel sensors

1/2-inch ANSI CL150 weld neck raised face flange	413	6 3/4 (172)	3 1/2 (89)
1/2-inch ANSI CL300 weld neck raised face flange	414	7 1/8 (181)	3 3/4 (95)
DN15 PN40 weld neck flange; DIN 2526 type C face	423	6 5/16 (160)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form B1	421	6 5/16 (160)	3 3/4 (95)

Nickel alloy sensors

1/2-inch ANSI CL150 lap joint flange	520	6 3/4 (172)	3 1/2 (89)
1/2-inch ANSI CL300 lap joint flange	521	7 1/8 (181)	3 3/4 (95)
DN15 PN40 lap joint flange; DIN 2656 type C face	523	7 5/16 (186)	3 3/4 (95)
DN15 PN40 lap joint flange; EN 1092-1 Form B1	524	7 5/16 (186)	3 3/4 (95)
JIS 15mm 10K lap joint flange	522	7 1/8 (181)	3 3/4 (95)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

CMF050 fitting options⁽¹⁾

316L stainless steel sensors

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
Wafer style; 1/2-inch ANSI (150 lb; 300 lb; 600 lb bolt kit)	009	3 1/2 (89)	1 13/16 (46)
Wafer style; 15mm DIN 2526; type C face (PN40 bolt kit)	016	3 1/2 (89)	1 13/16 (46)
Wafer style; 15mm DIN 2512; type N grooved face (PN40 bolt kit)	017	3 1/2 (89)	1 13/16 (46)
Wafer style; 15mm DIN 2526; type E face (PN100 bolt kit)	018	3 1/2 (89)	1 13/16 (46)
Wafer style; 15mm DIN 2512; type N grooved face (PN100 bolt kit)	019	3 1/2 (89)	1 13/16 (46)
Wafer style; 15mm; standard JIS facing (10K; 20K bolt kit)	029	3 1/2 (89)	1 13/16 (46)
1/2-inch ANSI CL150 weld neck raised face flange	313	7 15/16 (202)	3 1/2 (89)
1/2-inch ANSI CL300 weld neck raised face flange	314	8 5/16 (211)	3 3/4 (95)
1/2-inch ANSI CL600 weld neck raised face flange	315	8 13/16 (224)	3 3/4 (95)
3/4-inch NPT female Swagelok size 12 VCO fitting	320	6 1/2 (165)	—
3/4-inch sanitary fitting (Tri-Clamp compatible)	322	6 1/2 (165)	1 (25)
DN15 PN40 weld neck flange; DIN 2635 type C face	300	7 1/2 (191)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form B1	176	7 1/2 (191)	3 3/4 (95)
DN15 PN40 weld neck flange; DIN 2635 type N grooved face	301	7 1/2 (191)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form D	310	7 1/2 (191)	3 3/4 (95)
DN15 PN100 weld neck flange; DIN 2637 type E face	302	8 1/16 (205)	4 1/8 (105)
DN15 PN100 weld neck flange; EN 1092-1 Form B2	177	8 1/16 (205)	4 1/8 (105)
DN15 PN100 weld neck flange; DIN 2637 type N grooved face	303	8 1/16 (205)	4 1/8 (105)
DN15 PN100 weld neck flange; EN 1092-1 Form D	178	8 1/16 (205)	4 1/8 (105)
DN25 PN40 weld neck flange; EN 1092-1 Form B1	172	7 11/16 (195)	4 1/2 (115)
DN25 PN40 weld neck flange; EN 1092-1 Form D	183	7 11/16 (195)	4 1/2 (115)
JIS 15mm 10K weld neck raised face flange	304	7 1/4 (184)	3 3/4 (95)
JIS 15mm 20K weld neck raised face flange	305	7 1/4 (184)	3 3/4 (95)

304L stainless steel sensors

1/2-inch ANSI CL150 weld neck raised face flange	413	7 15/16 (202)	3 1/2 (89)
1/2-inch ANSI CL300 weld neck raised face flange	414	8 5/16 (211)	3 3/4 (95)
DN15 PN40 weld neck flange; DIN 2526 type C face	423	7 1/2 (191)	3 3/4 (95)
DN15 PN40 weld neck flange; EN 1092-1 Form B1	421	7 1/2 (191)	3 3/4 (95)

Nickel alloy sensors

1/2-inch ANSI CL150 lap joint flange	520	7 15/16 (202)	3 1/2 (89)
1/2-inch ANSI CL300 lap joint flange	521	8 5/16 (211)	3 3/4 (95)
DN15 PN40 lap joint flange; DIN 2656 type C face	523	8 1/2 (216)	3 3/4 (95)
DN15 PN40 lap joint flange; EN 1092-1 Form B1	524	8 1/2 (216)	3 3/4 (95)
JIS 15mm 10K lap joint flange	522	8 1/4 (210)	3 3/4 (95)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

CMF100 fitting options⁽¹⁾

316L stainless steel sensors

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
Wafer style; 1-inch ANSI (150 lb bolt kit)	010	4 (102)	2 1/2 (64)
Wafer style; 1-inch ANSI (300 lb; 600 lb bolt kit)	011	4 (102)	2 1/2 (64)
Wafer style; 25mm type C face (PN40 bolt kit)	020	4 (102)	2 1/2 (64)
Wafer style; 25mm DIN 2512 type N grooved face (PN40 bolt kit)	021	4 (102)	2 1/2 (64)
Wafer style; 25mm type E face (PN100 bolt kit)	022	4 (102)	2 1/2 (64)
Wafer style; 25mm DIN 2512; type N grooved face (PN100 bolt kit)	023	4 (102)	2 1/2 (64)
Wafer style; 25mm; standard JIS face (10K; 20K; 30K bolt kit)	030	4 (102)	2 1/2 (64)
1-inch ANSI CL150 weld neck raised face flange	328	9 1/4 (235)	4 1/4 (108)
1-inch ANSI CL300 weld neck raised face flange	329	9 3/4 (248)	4 7/8 (124)
1-inch ANSI CL600 weld neck raised face flange	330	10 1/4 (260)	4 7/8 (124)
1 1/2-inch ANSI CL600 weld neck raised face flange	331	10 7/8 (276)	6 1/8 (156)
1-inch sanitary fitting (Tri-Clamp compatible)	339	8 3/8 (213)	2 (50)
DN25 PN40 weld neck flange; DIN 2635 type C face	306	8 5/16 (211)	4 1/2 (115)
DN25 PN40 weld neck flange; EN 1092-1 Form B1	179	8 5/16 (211)	4 1/2 (115)
DN25 PN40 weld neck flange; DIN 2635 type N grooved face	307	8 5/16 (211)	4 1/2 (115)
DN25 PN40 weld neck flange; EN 1092-1 Form D	311	8 5/16 (211)	4 1/2 (115)
DN25 PN100 weld neck flange; DIN 2637 type E face	308	9 11/16 (246)	5 1/2 (140)
DN25 PN100 weld neck flange; EN 1092-1 Form B2	180	9 11/16 (246)	5 1/2 (140)
DN25 PN100 weld neck flange; DIN 2637 type N grooved face	309	9 11/16 (246)	5 1/2 (140)
DN25 PN100 weld neck flange; EN 1092-1 Form D	181	9 11/16 (246)	5 1/2 (140)
JIS 25mm 10K weld neck raised face flange	317	8 5/16 (211)	4 15/16 (125)
JIS 25mm 20K weld neck raised face flange	318	8 5/16 (211)	4 15/16 (125)

304L stainless steel sensors

1-inch ANSI CL150 weld neck raised face flange	415	9 1/4 (235)	4 1/4 (108)
1-inch ANSI CL300 weld neck raised face flange	416	9 3/4 (248)	4 7/8 (124)
DN25 PN40 weld neck flange; DIN 2526 type C face	424	8 9/16 (217)	4 1/2 (115)
DN25 PN40 weld neck flange; EN 1092-1 Form B1	422	8 9/16 (217)	4 1/2 (115)

Nickel alloy sensors

1-inch ANSI CL150 lap joint flange	530	9 1/4 (235)	4 1/4 (108)
1-inch ANSI CL300 lap joint flange	531	9 3/4 (248)	4 7/8 (124)
DN25 PN40 lap joint flange; DIN 2656 type C face	533	9 9/16 (243)	4 1/2 (115)
DN25 PN40 lap joint flange; EN 1092-1 Form B1	534	9 9/16 (243)	4 1/2 (115)
JIS 25mm 10K lap joint flange	532	9 5/16 (237)	4 15/16 (125)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

CMF200 fitting options⁽¹⁾

316L stainless steel sensors

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
1 1/2-inch ANSI CL150 weld neck raised face flange	341	22 7/8 (581)	5 (127)
1 1/2-inch ANSI CL300 weld neck raised face flange	342	23 3/8 (594)	6 1/8 (156)
1 1/2-inch ANSI CL600 weld neck raised face flange	343	23 7/8 (606)	6 1/8 (156)
2-inch ANSI CL150 weld neck raised face flange	418	22 7/8 (581)	6 (152)
2-inch ANSI CL300 weld neck raised face flange	419	23 3/8 (594)	6 1/2 (165)
2-inch ANSI CL600 weld neck raised face flange	420	23 5/8 (600)	6 1/2 (165)
1 1/2-inch sanitary fitting (Tri-Clamp compatible)	351	21 3/8 (543)	2 (51)
2-inch sanitary fitting (Tri-Clamp compatible)	352	21 3/8 (543)	2 1/2 (64)
DN40 PN40 weld neck flange; DIN 2635 type C face	381	21 11/16 (551)	5 15/16 (150)
DN40 PN40 weld neck flange; EN 1092-1 Form B1	368	21 9/16 (547)	5 15/16 (150)
DN40 PN40 weld neck flange; DIN 2635 type N grooved face	383	21 11/16 (551)	5 15/16 (150)
DN40 PN40 weld neck flange; EN 1092-1 Form D	312	21 9/16 (547)	5 15/16 (150)
DN40 PN100 weld neck flange; DIN 2637 type E face	377	23 1/8 (587)	6 11/16 (170)
DN40 PN100 weld neck flange; EN 1092-1 Form B2	363	22 7/8 (580)	6 11/16 (170)
DN40 PN100 weld neck flange; DIN 2637 type N grooved face	379	23 1/8 (587)	6 11/16 (170)
DN40 PN100 weld neck flange; EN 1092-1 Form D	366	22 7/8 (580)	6 11/16 (170)
DN50 PN40 weld neck flange; DIN 2635 type C face	382	21 15/16 (557)	6 1/2 (165)
DN50 PN40 weld neck flange; EN 1092-1 Form B1	369	21 3/4 (553)	6 1/2 (165)
DN50 PN40 weld neck flange; DIN 2635 type N grooved face	384	21 15/16 (557)	6 1/2 (165)
DN50 PN40 weld neck flange; EN 1092-1 Form D	316	21 3/4 (553)	6 1/2 (165)
DN50 PN100 weld neck flange; DIN 2637 type E face	378	23 9/16 (598)	7 11/16 (195)
DN50 PN100 weld neck flange; EN 1092-1 Form B2	365	23 5/16 (593)	7 11/16 (195)
DN50 PN100 weld neck flange; DIN 2637 type N grooved face	380	23 9/16 (598)	7 11/16 (195)
DN50 PN100 weld neck flange; EN 1092-1 Form D	367	23 5/16 (593)	7 11/16 (195)
JIS 40mm 10K weld neck raised face flange	385	21 9/16 (548)	5 1/2 (140)
JIS 40mm 20K weld neck raised face flange	387	21 9/16 (548)	5 1/2 (140)
JIS 50mm 10K weld neck raised face flange	386	21 13/16 (554)	6 1/8 (156)
JIS 50mm 20K weld neck raised face flange	388	21 13/16 (554)	6 1/8 (156)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
CMF200 fitting options⁽¹⁾			
<i>304L stainless steel sensors</i>			
1 1/2-inch ANSI CL150 weld neck raised face flange	441	22 7/8 (581)	5 (127)
1 1/2-inch ANSI CL300 weld neck raised face flange	442	23 3/8 (594)	6 1/8 (156)
2-inch ANSI CL150 weld neck raised face flange	518	22 7/8 (581)	6 (152)
2-inch ANSI CL300 weld neck raised face flange	519	23 1/2 (597)	6 1/2 (165)
DN40 PN40 weld neck flange; DIN 2526 type C face	481	21 11/16 (551)	5 15/16 (150)
DN40 PN40 weld neck flange; EN 1092-1 Form B1	457	21 9/16 (547)	5 15/16 (150)
DN50 PN40 weld neck raised face flange; DIN 2526 type C face	482	21 15/16 (557)	6 1/2 (165)
DN50 PN40 weld neck raised face flange; EN 1092-1 Form B1	458	21 3/4 (553)	6 1/2 (165)
<i>Nickel alloy sensors</i>			
1 1/2-inch ANSI CL150 lap joint flange	540	22 7/8 (581)	5 (127)
1 1/2-inch ANSI CL300 lap joint flange	541	23 3/8 (594)	6 1/8 (156)
2-inch ANSI CL150 lap joint flange	544	22 7/8 (581)	6 (152)
2-inch ANSI CL300 lap joint flange	545	23 3/8 (594)	6 1/2 (165)
DN40 PN40 lap joint flange; DIN 2656 type C face	543	21 11/16 (551)	5 15/16 (150)
DN40 PN40 lap joint flange; EN 1092-1 Form B1	548	21 11/16 (551)	5 15/16 (150)
DN50 PN40 lap joint flange; DIN 2656 type C face	547	21 15/16 (557)	6 1/2 (165)
DN50 PN40 lap joint flange; EN 1092-1 Form B1	549	21 15/16 (557)	6 1/2 (165)
JIS 40mm 10K lap joint flange	542	21 9/16 (548)	5 1/2 (140)
JIS 50mm 10K lap joint flange	546	21 13/16 (554)	6 1/8 (155)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
CMF300 fitting options⁽¹⁾			
<i>316L stainless steel sensors</i>			
3-inch ANSI CL150 weld neck raised face flange	355	33 11/16 (856)	7 1/2 (191)
3-inch ANSI CL300 weld neck raised face flange	356	34 7/16 (875)	8 1/4 (210)
3-inch ANSI CL600 weld neck raised face flange	357	35 3/16 (894)	8 1/4 (210)
4-inch ANSI CL150 weld neck raised face flange	425	34 1/16 (865)	9 (229)
4-inch ANSI CL300 weld neck raised face flange	426	35 (889)	10 (254)
4-inch ANSI CL600 weld neck raised face flange	427	36 11/16 (932)	10 3/4 (273)
3-inch sanitary fitting (Tri-Clamp compatible)	361	32 (813)	3 9/16 (90)
DN80 PN40 weld neck flange; DIN 2635 type C face	391	32 7/8 (835)	7 7/8 (200)
DN80 PN40 weld neck flange; EN 1092-1 Form B1	371	32 3/4 (832)	7 7/8 (200)
DN80 PN40 weld neck flange; DIN 2635 type N grooved face	393	32 7/8 (835)	7 7/8 (200)
DN80 PN40 weld neck flange; EN 1092-1 Form D	326	32 3/4 (832)	7 7/8 (200)
DN80 PN100 weld neck flange; DIN 2637 type E face	395	34 9/16 (878)	9 1/16 (230)
DN80 PN100 weld neck flange; EN 1092-1 Form B2	373	34 5/16 (872)	9 1/16 (230)
DN80 PN100 weld neck flange; DIN 2637 type N grooved face	397	34 9/16 (878)	9 1/16 (230)
DN80 PN100 weld neck flange; EN 1092-1 Form D	375	34 5/16 (872)	9 1/16 (230)
DN100 PN40 weld neck flange; DIN 2635 type C face	392	33 1/4 (845)	9 1/4 (235)
DN100 PN40 weld neck flange; EN 1092-1 Form B1	372	33 1/4 (845)	9 1/4 (235)
DN100 PN40 weld neck flange; DIN 2635 type N grooved face	394	33 1/4 (845)	9 1/4 (235)
DN100 PN40 weld neck flange; EN 1092-1 Form D	333	33 1/4 (845)	9 1/4 (235)
DN100 PN100 weld neck flange; DIN 2637 type E face	396	35 9/16 (903)	10 7/16 (265)
DN100 PN100 weld neck flange; EN 1092-1 Form B2	374	35 1/4 (896)	10 7/16 (265)
DN100 PN100 weld neck flange; DIN 2637 type N grooved face	398	35 9/16 (903)	10 7/16 (265)
DN100 PN100 weld neck flange; EN 1092-1 Form D	359	35 1/4 (896)	10 7/16 (265)
JIS 80mm 10K weld neck raised face flange	400	33 3/8 (848)	7 5/16 (186)
JIS 80mm 20K weld neck raised face flange	402	33 3/8 (848)	7 7/8 (200)
JIS 100mm 10K weld neck raised face flange	401	33 9/16 (853)	8 1/4 (210)
JIS 100mm 20K weld neck raised face flange	403	33 9/16 (853)	8 7/8 (225)
<i>304L stainless steel sensors</i>			
3-inch ANSI CL150 weld neck raised face flange	455	33 11/16 (856)	7 1/2 (191)
3-inch ANSI CL300 weld neck raised face flange	456	34 7/16 (875)	8 1/4 (210)
DN80 PN40 weld neck flange; DIN 2526 type C face	491	32 7/8 (835)	7 7/8 (200)
DN80 PN40 weld neck flange; EN 1092-1 Form B1	459	32 3/4 (832)	7 7/8 (200)
<i>Nickel alloy sensors</i>			
3-inch ANSI CL150 lap joint flange	550	33 11/16 (856)	7 1/2 (191)
3-inch ANSI CL300 lap joint flange	551	34 7/16 (875)	8 1/4 (210)
DN80 PN40 lap joint flange; DIN 2656 type C face	553	32 7/8 (835)	7 7/8 (200)
DN80 PN40 lap joint flange; EN 1092-1 Form B1	554	32 7/8 (835)	7 7/8 (200)
JIS 80mm 10K lap joint flange	552	33 3/8 (848)	7 5/16 (185)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

CMF400 fitting options⁽¹⁾

316L stainless steel sensors

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
4-inch ANSI CL150 weld neck raised face flange	435	40 3/16 (1021)	9 (229)
4-inch ANSI CL300 weld neck raised face flange	436	41 (1041)	10 (254)
4-inch ANSI CL600 weld neck raised face flange	437	42 11/16 (1084)	10 3/4 (273)
6-inch ANSI CL150 weld neck raised face flange	451	40 5/16 (1024)	11 (279)
6-inch ANSI CL300 weld neck raised face flange	452	41 5/16 (1049)	12 1/2 (318)
6-inch ANSI CL600 weld neck raised face flange	453	43 1/2 (1105)	14 (356)
DN100 PN40 weld neck flange; DIN 2635 type C face	460	39 5/16 (999)	9 1/4 (235)
DN100 PN40 weld neck flange; EN 1092-1 Form B1	443	39 5/16 (999)	9 1/4 (235)
DN100 PN40 weld neck flange; DIN 2635 type N grooved face	462	39 5/16 (999)	9 1/4 (235)
DN100 PN40 weld neck flange; EN 1092-1 Form D	480	39 5/16 (999)	9 1/4 (235)
DN100 PN100 weld neck flange; DIN 2637 type E face	464	41 5/16 (1049)	10 7/16 (265)
DN100 PN100 weld neck flange; EN 1092-1 Form B2	445	41 5/16 (1049)	10 7/16 (265)
DN100 PN100 weld neck flange; DIN 2637 type N grooved face	466	41 5/16 (1049)	10 7/16 (265)
DN100 PN100 weld neck flange; EN 1092-1 Form D	447	41 5/16 (1049)	10 7/16 (265)
DN150 PN40 weld neck flange; DIN 2635 type C face	461	39 5/8 (1006)	11 13/16 (300)
DN150 PN40 weld neck flange; EN 1092-1 Form B1	444	40 1/16 (1018)	11 13/16 (300)
DN150 PN40 weld neck flange; DIN 2635 type N grooved face	463	39 5/8 (1006)	11 13/16 (300)
DN150 PN40 weld neck flange; EN 1092-1 Form D	478	40 1/16 (1018)	11 13/16 (300)
DN150 PN100 weld neck flange; DIN 2637 type E face	465	41 15/16 (1065)	14 (355)
DN150 PN100 weld neck flange; EN 1092-1 Form B2	446	43 1/4 (1099)	14 (355)
DN150 PN100 weld neck flange; DIN 2637 type N grooved face	467	41 15/16 (1065)	14 (355)
DN150 PN100 weld neck flange; EN 1092-1 Form D	448	43 1/4 (1099)	14 (355)
JIS 100mm 10K weld neck raised face flange	470	39 5/16 (999)	8 1/4 (210)
JIS 100mm 20K weld neck raised face flange	472	39 13/16 (1011)	8 7/8 (225)
JIS 150mm 10K weld neck raised face flange	471	39 5/8 (1006)	11 (280)
JIS 150mm 20K weld neck raised face flange	473	40 1/8 (1018)	12 (305)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Fitting options *continued*

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
CMF400 fitting options⁽¹⁾			
<i>Nickel alloy sensors</i>			
4-inch ANSI CL150 lap joint	907	42 7/16 (1078)	9 (229)
DN100 PN40 weld neck flange; EN 1092-1 Form B1	906	39 5/16 (999)	9 1/4 (235)
DN100 PN100 weld neck flange; EN 1092-1 Form B2	908	41 1/4 (1048)	10 7/16 (265)
DN100 PN160 weld neck flange; EN 1092-1 Form B2	910	42 1/16 (1068)	10 7/16 (265)
4-inch ANSI CL150 weld neck raised face flange	911	40 3/16 (1021)	9 (229)
4-inch ANSI CL300 weld neck raised face flange	912	40 15/16 (1024)	10 (254)
4-inch ANSI CL600 weld neck raised face flange	913	42 11/16 (1084)	10 3/4 (273)
4-inch ANSI CL900 weld neck raised face flange	914	43 11/16 (1110)	11 1/2 (292)
High-pressure CMF400P fitting options⁽¹⁾			
<i>316L stainless steel sensors</i>			
JIS 100mm 20K weld neck raised face flange	472	39 13/16 (1011)	8 7/8 (225)
JIS 150mm 20K weld neck raised face flange	473	40 1/8 (1018)	12 (305)
4-inch ANSI CL600 weld neck raised face flange	437	42 11/16 (1084)	10 3/4 (273)
4-inch ANSI CL900 weld neck raised face flange	438	43 11/16 (1110)	11 1/2 (292)
4-inch ANSI CL1500 weld neck raised face flange	439	44 7/16 (1129)	12 1/4 (311)
6-inch ANSI CL600 weld neck raised face flange	453	43 1/2 (1105)	14 (356)
4-inch ANSI CL600 carbon steel/316L stainless steel lap joint flange	562	43 11/16 (1110)	10 3/4 (273)
4-inch ANSI CL900 carbon steel/316L stainless steel lap joint flange	563	43 11/16 (1110)	11 1/2 (292)

(1) Fittings listed here are standard options. Other types of fittings are available. The face to face dimensions for any custom fittings ordered using a 998 or 999 fitting code are not represented in this table. It is necessary to confirm face to face dimensions of these fittings at time of ordering. Contact your local Micro Motion representative.

Ordering information

ELITE Sensor

Model	Product Description
Standard models	
CMF010M	Micro Motion Coriolis ELITE sensor; 1/10 to 1/4-inch (2.5 to 6 mm); 316L stainless steel
CMF010H	Micro Motion Coriolis ELITE sensor; 1/10 to 1/4-inch (2.5 to 6 mm); Hastelloy C-22
CMF010L	Micro Motion Coriolis ELITE sensor; 1/10 to 1/4-inch (2.5 to 6 mm); 304L stainless steel
CMF025M	Micro Motion Coriolis ELITE sensor; 1/4 to 1/2-inch (6 to 13 mm); 316L stainless steel
CMF025H	Micro Motion Coriolis ELITE sensor; 1/4 to 1/2-inch (6 to 13 mm); Hastelloy C-22
CMF025L	Micro Motion Coriolis ELITE sensor; 1/4 to 1/2-inch (6 to 13 mm); 304L stainless steel
CMF050M	Micro Motion Coriolis ELITE sensor; 1/2 to 1-inch (13 to 25 mm); 316L stainless steel
CMF050H	Micro Motion Coriolis ELITE sensor; 1/2 to 1-inch (13 to 25 mm); Hastelloy C-22
CMF050L	Micro Motion Coriolis ELITE sensor; 1/2 to 1-inch (13 to 25 mm); 304L stainless steel
CMF100M	Micro Motion Coriolis ELITE sensor; 1 to 2-inch (25 to 50 mm); 316L stainless steel
CMF100H	Micro Motion Coriolis ELITE sensor; 1 to 2-inch (25 to 50 mm); Hastelloy C-22
CMF100L	Micro Motion Coriolis ELITE sensor; 1 to 2-inch (25 to 50 mm); 304L stainless steel
CMF200M	Micro Motion Coriolis ELITE sensor; 2 to 3-inch (50 to 75 mm); 316L stainless steel
CMF200H	Micro Motion Coriolis ELITE sensor; 2 to 3-inch (50 to 75 mm); Hastelloy C-22
CMF200L	Micro Motion Coriolis ELITE sensor; 2 to 3-inch (50 to 75 mm); 304L stainless steel
CMF300M	Micro Motion Coriolis ELITE sensor; 3 to 4-inch (75 to 100 mm); 316L stainless steel
CMF300H	Micro Motion Coriolis ELITE sensor; 3 to 4-inch (75 to 100 mm); Hastelloy C-22
CMF300L	Micro Motion Coriolis ELITE sensor; 3 to 4-inch (75 to 100 mm); 304L stainless steel
CMF400M	Micro Motion Coriolis ELITE sensor; 4 to 6-inch (100 to 150 mm); 316L stainless steel
CMF400H	Micro Motion Coriolis ELITE sensor; 4 to 6-inch (100 to 150 mm); Hastelloy C-22
High-pressure models	
CMF010P	Micro Motion Coriolis ELITE sensor; 1/10 to 1/4-inch (2.5 to 6 mm); high pressure; nickel alloy with stainless steel fittings
CMF400P	Micro Motion Coriolis ELITE sensor; 4 to 6-inch (100 to 150 mm); high pressure; nickel alloy with stainless steel fittings
Code	Process Connections
###	See process fitting options on pages 20–24.
Code	Case Options
N	Standard pressure containment
P	Purge fittings (two 1/2-inch NPT female)
D	Rupture disks (two 400-psi [28 bar] disks) — Model CMF010P only
Code	Electronics Interface
J	Integrally mounted Model 2200S transmitter
U	Extended mount Model 2200S transmitter
Code	Conduit Connections
A ⁽¹⁾	Not applicable
Continued on next page	

(1) Select code A here and select actual conduit connections on page 30.

Ordering information *continued*

Code	Approvals
M	Micro Motion Standard (no approval)
N	Micro Motion Standard / PED compliant
A	CSA (U.S.A. and Canada)
V	ATEX — Equipment Category 3 (Zone 2) / PED compliant
Z	ATEX — Equipment Category 2 (Zone 1) / PED compliant
I	IECEX Zone 1
3	IECEX Zone 2
Code	Language
E	English installation manual
F	French installation manual
G	German installation manual
M	Chinese installation manual
S	Spanish installation manual
Code	Calibration options
Z	0.10% mass flow and 0.0005 g/cm ³ (0.5 kg/m ³) density
Code	Measurement application software
Z	No measurement application software
Code	Factory options
Z	Standard product
X	ETO product
Typical Model Number: CMF050M 313 N J A Z E Z Z Z	

Ordering information *continued*

Model 2200S transmitter

Model	Product description
2200S	Micro Motion Coriolis 2-wire MVD transmitter
Code	Mounting/housing material
I	Integral-mount transmitter / Polyurethane-painted aluminum
J ⁽¹⁾	Integral-mount transmitter / 316L stainless steel
Code	Output options / Power supply
H	One 12–20 mA output with HART/Bell 202
K	One 4–20 mA output with HART/Bell 202, supplied with Micro Motion adapter-barrier
Code	I/O terminations
1	Compression screw terminals
Code	Display
1	Dual-line display for process variables and totalizer reset, glass lens
4 ⁽²⁾	Dual-line display for process variables and totalizer reset, non-glass lens
Code	Conduit connections
B	1/2-inch NPT — no gland
C	1/2-inch NPT with brass/nickel cable gland
D	1/2-inch NPT with stainless steel cable gland
E	M20 — no gland
F	M20 with brass/nickel cable gland
G	M20 with stainless steel cable gland
Code	Approvals
M	Micro Motion standard (no approval)
A	CSA (U.S.A. and Canada)
Z	ATEX Zone 1
L	ATEX Zone 2
I	IECEX Zone 1
3	IECEX Zone 2
Code	Language
E	English installation manual and English configuration manual
F	French installation manual and French configuration manual
G	German installation manual and German configuration manual
M	Chinese installation manual and Chinese configuration manual
S	Spanish installation manual and Spanish configuration manual
Code	Software options 1
Z	No software options 1
Code	Software options 2
Z	No software options 2
Code	Factory options
Z	Standard product
Typical model number: 2200S I H 1 1 B Z E Z Z Z	

(1) Not recommended for truck-mount.

(2) Available only with Approval Code M.

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