The value of Micro Motion Coriolis... at a starting price of US$2795*

Micro Motion R-Series

General Purpose Mass and Volume Flowmeter with FOUNDATION™ fieldbus

FOUNDATION FIELDBUS CAPABILITY

- *Interoperable with other FOUNDATION™ fieldbus instruments*
- *Reduces wiring costs by 60% compared to traditional smart instruments*
- *Reduces installation, commissioning, operation, and maintenance time by 30 to 60% compared to traditional smart instruments*

THE FIRST CORIOLIS FLOWMETER FOR GENERAL PURPOSE APPLICATIONS

- *Provides mass flow indication with no peripheral devices or additional calculations*
- *Also provides volume flow, density, and temperature measurements, all in real time*
- *No special mounting, no straight run requirements, and no flow conditioning*
- *Can be installed so sensor is self-draining*

SUPERIOR PERFORMANCE AND RELIABILITY

- *Flow accuracy up to ±0.50% of flow rate for liquids and slurries, ±1.0% of rate for gases*
- *Integrated sensor and transmitter requires no special flowmeter wiring*
- *Agency approved for installation in UL, CSA, and CENELEC areas*
- *Nothing to break down — more than 250,000 Micro Motion® meters are installed and working in processes just like yours*
- *No moving parts, no need for periodic recalibration, non-intrusive, with no regular maintenance requirements*

PART OF THE PLANTWEB ARCHITECTURE

- *Fieldbus Foundation certified function blocks compatible with other PlantWeb® devices*
- *Detailed diagnostics include real-time indication of instrument status, which enables proactive instead of reactive process control*

Micro Motion

FISHER-ROSEMOUNT™ Managing The Process Better.™

PlantWeb FOUNDATION™

Why Micro Motion?

Proven Leadership in the Development of New Technologies

Micro Motion Inc. is a member of Fisher-Rosemount™, a unique family of companies committed to helping you improve business results by managing the process better.

Individually, each of these companies is a recognized leader in providing one or more of the capabilities needed for better process performance: measurement, analysis, control, and integration. Together, we offer a complete range of best-in-class products, systems, and services, and we offer the engineering expertise to make them all work together.

The Fisher-Rosemount group of companies has a long history of leading the industry with breakthrough technology. Fisher-Rosemount's long-term presence in the process measurement and control marketplace provides in-depth knowledge of the process industries. This knowledge allows each company to develop, improve, and refine emerging and mature technologies on a continual basis. The result: companies within the Fisher-Rosemount group are consistently ahead of the competition in the development of emerging technologies. FOUNDATION fieldbus is no exception; products from Fisher-Rosemount were among the first to pass the Fieldbus Foundation's interoperability test.

Advanced Implementation of FOUNDATION fieldbus Technology

Enhanced Measurement Features include industry-leading accuracy and stability to guarantee high-quality measurements, and advanced multiple-input features to enable multivariable measurement capabilities.

Advanced Diagnostics Capabilities reduce costly unscheduled process downtime by providing more detailed information about the health and status of the device and the process.

Breadth of Best-in-Class Products ensures the optimal solution for all of your measurement and control needs.

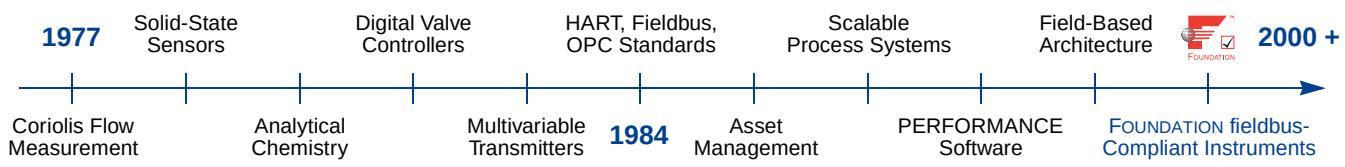
"Control Anywhere" yields consistent, uniform, and predictable control strategies regardless of whether you implement control in the transmitter, the valve, or the DeltaV Fieldbus configuration tool.

World-Class Service and Support

Doing business with Micro Motion provides you access to Fisher-Rosemount's worldwide service and support network, Foundation Support for PlantWeb Builder. This network provides the essential services for implementation and your first year of operation. Our 24-hour response center and certified customer support solutions specialists assure that your needs are handled efficiently and effectively regardless of which Fisher-Rosemount division manufactured your instrument, and where in the world you are using the instrument.

Fisher-Rosemount offers a broad range of services designed to keep your process up and running. The support network is staffed with highly trained and qualified technical and administrative professionals who will respond to your calls. Their support helps to achieve faster turnaround times on solutions, and enables your Fisher-Rosemount salesperson to dedicate more time assisting your company, before and after the installation.

The Breakthrough Technologies of FISHER-ROSEMOUNT



Why FOUNDATION fieldbus?

Designed for Process Control by Process Control Experts

FOUNDATION fieldbus is an all digital, serial, two-way communication protocol that interconnects field equipment such as transmitters, valves, and controllers. Fieldbus is a Local Area Network (LAN) for instruments used in process control with built-in capability to distribute the control application across the network.

FOUNDATION fieldbus was designed from the ground up, specifically for the process control industry, by a group of process control experts. The technology is owned and maintained by the Fieldbus Foundation, a not-for-profit organization that consists of more than 100 of the world's leading control and instrumentation suppliers and end users.

Cost Savings

The savings begin with installation and wiring...

Fewer hardware components, a simplified wiring architecture, reduced need for I/O equipment, and the reduced central control requirements of a Fieldbus installation yield sizable labor and material savings compared to traditional (non-fieldbus) control strategies.

For a new installation you can connect up to 16 fieldbus transmitters to a single pair of wires. In an established installation you can *use existing wiring* to connect up to 16 transmitters per measurement loop. With a Fieldbus loop you can easily save 60% in installation costs alone.

...continue with easy commissioning...

To commission the instrument, simply enter the configuration parameters and download the data to all of the applicable devices. Instrument technicians will spend 30 to 60% less time commissioning Fieldbus instruments compared to traditional smart instruments.

...and end with simplified operation and maintenance.

FOUNDATION fieldbus enables greater access to the powerful diagnostics capabilities of the transmitters. These capabilities will help prevent costly unscheduled process downtime by enabling maintenance personnel to identify and solve problems quickly.

Advanced Functionality

Location-Independent Control

FOUNDATION fieldbus allows the implementation of PID control in the field device. Moving control closer to the process improves loop performance, reduces plant variability, and greatly reduces the necessary size of control rooms.

High Speed Communication

Loop execution speed is increased significantly through the regular scheduling of data transmission. Peer-to-peer communication improves the efficiency and reliability of the control system.

Flexible Topology

FOUNDATION fieldbus enables an extremely flexible topology, which is designed and optimized for process control. You can install FOUNDATION fieldbus devices using a tree configuration, a multidrop configuration, or a combination of both.

Truly Interoperable

FOUNDATION fieldbus-compliant instruments from different vendors are interoperable, which allows you to select the best-in-class instruments for each application without having to consider compatibility issues.

True interoperability is achieved through the implementation of standardized function blocks and Device Description Language (DDL) technology. The implementation of standardized function blocks (such as Analog Input, Analog Output, and PID) enables integrated, real-time, deterministic control strategies. DDL technology ensures access to all available device features, and provides a mechanism to support upgrades to future digital enhancements. FOUNDATION fieldbus is the only all-digital communication protocol that uses both of these technologies.

Now you can apply Micro Motion technology in more applications than ever before

Due to innovative design techniques and state-of-the-art manufacturing processes, Micro Motion R-Series flowmeters are less expensive than typical Coriolis meters, which means you can choose this highly accurate and reliable technology for almost any application.

Like all our flowmeters, Micro Motion R-Series meters offer highly accurate flow measurement for virtually any process fluid, and provide direct mass and volume flow measurement of liquids, gases, and slurries, without the need for additional equipment.

A General Purpose Coriolis Meter

For general purpose applications, Micro Motion R-Series meters provide an ideal alternative to orifice plates and other flowmetering technologies. Micro Motion meters have no moving parts, and no special mounting or flow conditioning requirements. And, they require no maintenance — saving you money over the course of their lifetime by helping you make the best of your time, people, and material. No other general purpose meter can compete with the performance and affordability of Micro Motion R-Series meters.

Micro Motion R-Series meters feature integral sensors and transmitters, making them easy to install. Other features include a variety of standard process connections and multivariable capability.

Micro Motion R-Series meters are designed to perform in even the most harsh operating environments, and carry hazardous area approvals for the U.S.A. and Canada, Europe, Japan, and other areas in the Asia-Pacific region.

Accessing process and diagnostic information is simple and easy, because the Micro Motion R-Series transmitter is based on FOUNDATION™ fieldbus communications. It also features Fisher-Rosemount PlantWeb® field-based architecture, a scalable way to use open and interoperable devices and systems to build process solutions.

Four analog input function blocks provide mass flow, volume flow, density, and temperature indication, in units of measure selected by the user. And a view block allows access to all diagnostics and other relevant flowmeter information — on-line.

The Model 5300 transmitter is FOUNDATION fieldbus certified for interoperability with other fieldbus devices.

Micro Motion Excellence

Micro Motion is known worldwide for increasing plant efficiency, production, and profitability. Now, our latest developments in precision flow measurement solutions offer all this and more:

Easy to use

No moving parts, no need for periodic recalibration, non-intrusive, no regular maintenance requirements.

Versatility

Measures mass and volume of liquids, gases, and slurries.

Long life

Nothing to wear out or break down — more than 250,000 Micro Motion meters are installed and working in processes just like yours.

Greater accuracy and reliability

Accuracy to 0.5% of rate, which means better product quality and less waste.

Easy to install

No special mounting, no straight run requirements, and no flow conditioning.

Self-draining

Can be installed so sensor is self-draining.

Integrate the Micro Motion R-Series Flowmeter into the PlantWeb® Architecture for Superior Performance

PlantWeb is the architecture that uses the power of intelligent field devices to improve plant performance. Integrating the Micro Motion R-Series flowmeter with FOUNDATION fieldbus into the PlantWeb architecture yields the following advantages:

Coriolis Measurement

Micro Motion R-Series Flowmeters provide precision fluid measurement in a wide variety of fluid applications. Outputs include mass flow, density, temperature, and volumetric measurements, in units that can be selected by the user. The flowmeter delivers real-time flow rate indication and on-line fluid density without the need for additional devices.

Diagnostics

Real-time indication of instrument status allows the user to monitor the process and operation of the flowmeter. In many cases, diagnostic messages can be used to troubleshoot the system from the control room.

The DeltaV™ Scalable Process System Does More So You Can Do More!

Micro Motion R-Series meters with FOUNDATION fieldbus permits remote testing and configuration using the Fisher-Rosemount DeltaV™ Fieldbus Configuration Tool, or other FOUNDATION fieldbus compliant hosts.

The DeltaV system is built from the ground up with the latest enabling technologies. Scalable in both size and functionality, DeltaV offers a single architecture with full functionality from small to large. DeltaV delivers a host of industry firsts, including simple plug-and-play OPC integration and FOUNDATION fieldbus standards. The result is superior ease: plug-and-play for process control.

Real-time indication of instrument status allows the user to monitor the process and operation of the transmitter and sensor. In many cases, diagnostic messages can be used to troubleshoot the system from the control room.

With over 100 years of plant-operating experience on the DeltaV system, new reliability benchmarks for the automation industry have been established. DeltaV has shattered the mold, eliminating the difficult product introductions other users have experienced with their automation vendors.

Fieldbus Foundation Registration Ensures Compatibility with FOUNDATION fieldbus Communication Protocol

The Fieldbus Foundation logo and the accompanying registration checkmark indicate that an instrument is registered with the Fieldbus Foundation, and is fully compatible with FOUNDATION fieldbus communication protocol. Instruments from Fisher-Rosemount were among the world's first to pass the Fieldbus Foundation's interoperability tests.

Instruments with the Fieldbus Foundation logo and the accompanying checkmark have passed a series of tests conducted by the Fieldbus Foundation at its independent laboratory, and are interoperable with other registered instruments regardless of manufacturer. The Fieldbus Foundation's comprehensive interoperability test system, unlike tests of other control network protocols, assures end users of the ability to choose the best-in-class device for each measurement or control application without having to consider compatibility issues.

Fisher-Rosemount has the widest offering of best-in-class FOUNDATION fieldbus-compatible instruments in the world.

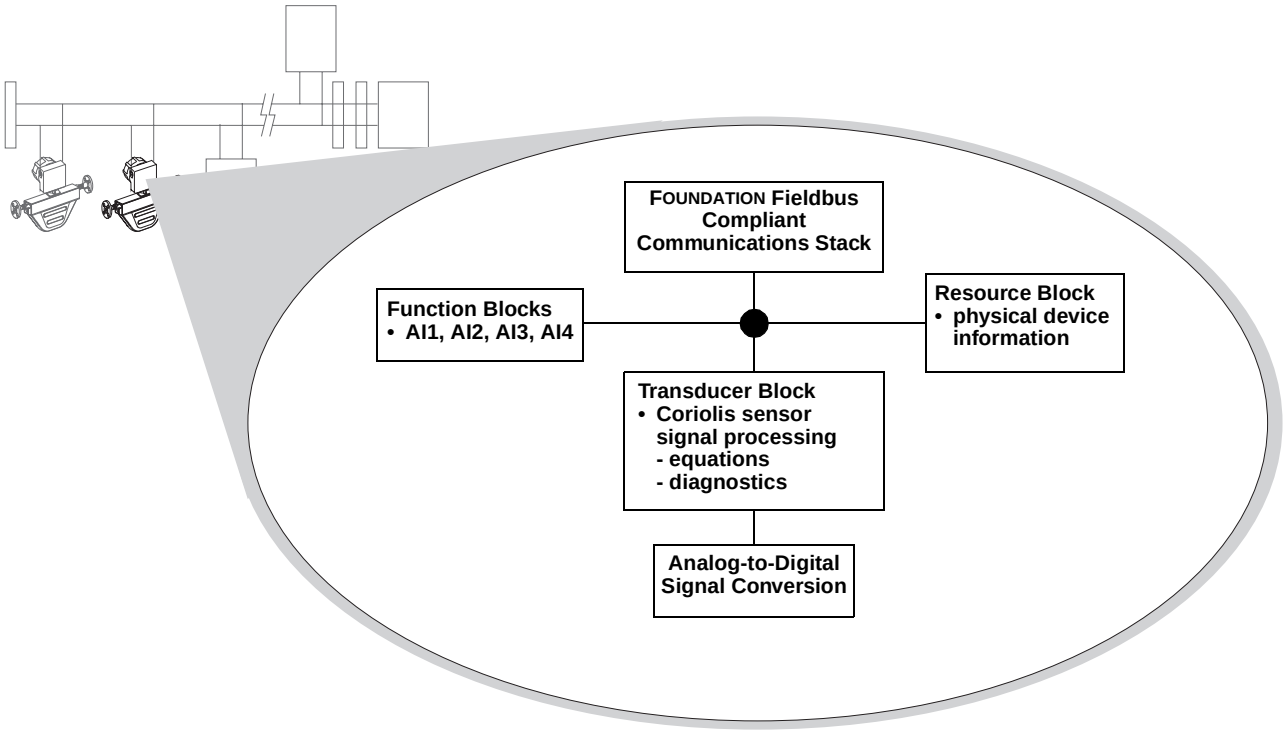


FIGURE 1. Block Diagram for the Micro Motion R-Series Flowmeter with FOUNDATION fieldbus.

FLOWMETER DESCRIPTION

Figure 1 illustrates how the Coriolis signal is channelled through the flowmeter. The meter features an integrally mounted sensor and transmitter to simplify and reduce the cost of flowmeter installation.

The Micro Motion R-Series transmitter with FOUNDATION fieldbus is a microprocessor-based transmitter that provides precise mass and volumetric flow measurement in a wide variety of fluid applications.

Inputs

The transmitter accepts input from the Coriolis sensor directly, using factory-installed connections. The Coriolis signal provides mass flow, volume flow, density, and temperature measurements.

FOUNDATION fieldbus Communication

The transmitter is registered with the Fieldbus Foundation, and conforms to the FOUNDATION fieldbus H1 protocol specification. FOUNDATION fieldbus wiring is intrinsically safe.

Electronics

The transmitter features all-digital ASIC and surface-mount technology. The electronics digitize the input signal from the Coriolis sensor and apply correction coefficients selected from nonvolatile memory.

Housing

The transmitter housing is a NEMA 4X (IP65) weathertight enclosure. The housing has an increased safety field-wiring compartment for intrinsically safe output and non-intrinsically safe power-supply wiring. A separate explosion-proof compartment contains the transmitter electronics.

The sensor housing is sealed to protect the interior of the sensor from the elements.

SOFTWARE FUNCTIONALITY

The Micro Motion R-Series transmitter software is designed to permit remote testing and configuration of the meter using the Fisher-Rosemount DeltaV™ Fieldbus Configuration Tool, or other FOUNDATION fieldbus compliant hosts.

Transducer Block

The transducer block holds the data from the Coriolis sensor. It includes information about the sensor type, sensor configuration, engineering units, calibration, damping, and diagnostics.

Resource Block

The resource block contains physical device information, including available memory, manufacturer identification, type of device, and features.

FOUNDATION fieldbus Function Blocks

The Analog Input (AI) function block processes the measurement and makes it available to other function blocks. It also allows changes to filters, alarms, and engineering units. The four AI blocks process mass flow, volume flow, density, and temperature signals from the Coriolis sensor.

Diagnostics and Service

The meter automatically performs continuous self diagnostics. Using the transducer block, the user can perform on-line testing of the flowmeter. Diagnostics are event driven and do not require polling to access.

Detailed Setup

Detailed setup is used during the initial setup of a flowmeter. It allows the meter to be configured and, if necessary, calibrated. A FOUNDATION fieldbus host is required for setup.

SPECIFICATIONS

Functional Specifications

Input

One factory-installed, intrinsically safe Coriolis sensor signal input with ground.

Input frequency from sensor

Mass flow	20 Hz
Volume flow	20 Hz
Density	10 Hz
Temperature	1 Hz

Analog Input Function Blocks

Cycle time	host dependent
Update rate	50 milliseconds
Refresh rate	host dependent

Output

Manchester-encoded digital signal that conforms to IEC 1158-2. Can be configured to indicate mass flow, volume flow, density, and temperature.

Communication

FOUNDATION fieldbus H1

Low-Flow Cutoff

Flow rate below cutoff causes outputs to default to the level that indicates zero flow, and causes totalizer to stop counting.

Slug-Flow Inhibit

When the flowmeter senses density outside user-selected limits, outputs default to levels indicating zero flow.

Damping

User-selected time constant from pre-programmed values. Can be applied to flow, density, temperature, or any combination.

Power Supply

Micro Motion flowmeters require external power. The flowmeter fieldbus circuit is passive, and draws its power from the fieldbus segment. Current draw from fieldbus segment is 11 mA.

85–250 VAC

47 to 64 Hz; 10 watts typical, 15 watts maximum. Fused at 250 V/630 mA. Meets low-voltage directive 73/23/EEC

20–30 VDC

6 watts normal, 14 watts maximum. Protected at 60 V/0.9 amp. Minimum startup voltage is 16 V at transmitter terminals. Maximum total resistance for wiring is 13 ohms. At startup, transmitter power source must provide a minimum of 0.7 amp of short-term current

Environmental Specifications

Temperature Limits

Process Fluid Temperature

–40 to 257°F (–40 to 125°C)

Ambient Temperature

Operating	–22 to 131°F (–30 to 55°C)
Storage	–40 to 185°F (–40 to 85°C)

Process Fluid vs. Ambient Temperature

At their upper limits, process fluid temperature and ambient temperature restrict each other. The graphs below define the maximum recommended process fluid temperature based on maximum expected ambient temperature.

Environmental Limits on Electronics

Humidity: 5 to 95% non-condensing

Vibration: Meets IEC 68.2.6, 2 g, endurance sweep, 10 to 2000 Hz, 50 sweep cycles

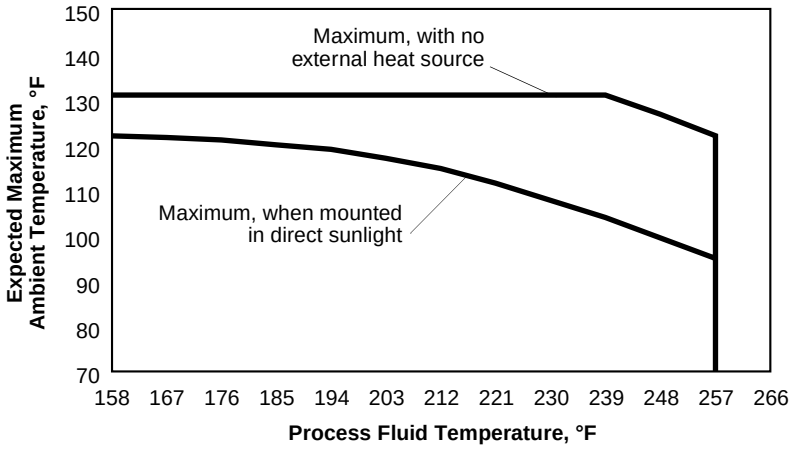
Environmental Effects

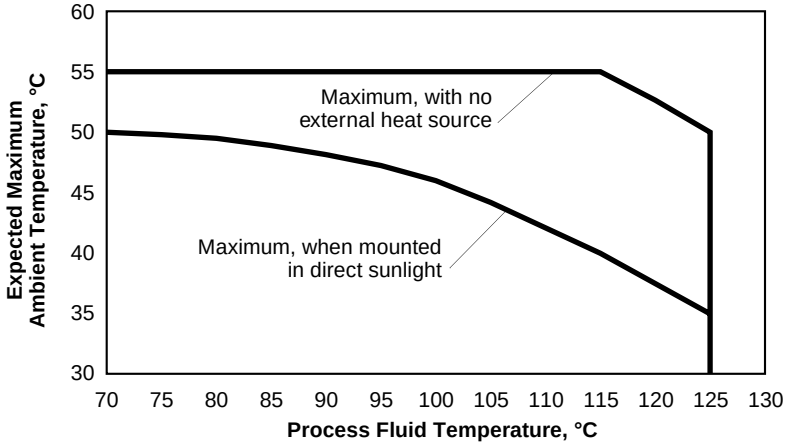
Micro Motion R-Series flowmeters with FOUNDATION fieldbus meet the requirements of the EMC directive 89/336/EEC per EN 50081-2 (January 1992) and EN 50082-2 (March 1995) when operated at nominal rated flow measurement range. For specific EMC effects within the EC, the Technical EMC file may be reviewed at Micro Motion Veenendaal.

Micro Motion R-Series flowmeters with FOUNDATION fieldbus meet the recommendations of ANSI/IEEE C62.41 (1991) for surge and EFT.

To meet the above specifications, the flowmeter must be directly connected to a low-impedance (less than 1 ohm) earth ground. Flowmeter outputs must be standard twisted-pair, shielded instrument wire.

Effect of Ambient Temperature on Maximum Process Fluid Temperature





Performance Specifications

Model	Nominal Flow Range[1]			
	lb/min	kg/h	gal/min	l/h
R025	0 to 50	0 to 1360	0 to 6	0 to 1360
R050	0 to 150	0 to 4080	0 to 18	0 to 4080
R100	0 to 600	0 to 16,325	0 to 72	0 to 16,325
R200	0 to 1600	0 to 43,550	0 to 192	0 to 43,550

Model	Maximum Flow Rate			
	lb/min	kg/h	gal/min	l/h
R025	100	2720	12	2720
R050	300	8160	36	8160
R100	1200	32,650	144	32,650
R200	3200	87,100	384	87,100

Model	Process Fluid	Flow Accuracy[2]		Flow Repeatability[2]	
		Mass	Volume	Mass	Volume
All Models	Liquid	±0.5% of rate	±0.5% of rate	±0.25% of rate	±0.25% of rate
R025 R050 R100[3]	Gas	±1.0% of rate	not applicable	±0.50% of rate	not applicable

Model	Zero Stability			
	lb/min	kg/h	gal/min	l/h
R025	0.01	0.27	0.0018	0.41
R050	0.03	0.82	0.0054	1.22
R100	0.12	3.27	0.0216	4.90
R200	0.32	8.71	0.0576	13.07

Model	Rating	Pressure Specifications	
		psi	bar
All Models	Flow Tube[4]	1450	100
All Models	Housing	Housing is not rated for pressure containment.	

(1) Micro Motion has adopted the terminology "nominal flow range." The upper limit of this range is the flow rate at which water at reference conditions causes approximately 15 psid (1 bar) of pressure drop for Micro Motion R-Series flowmeters.

(2) 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.

Total accuracy and repeatability allowances:

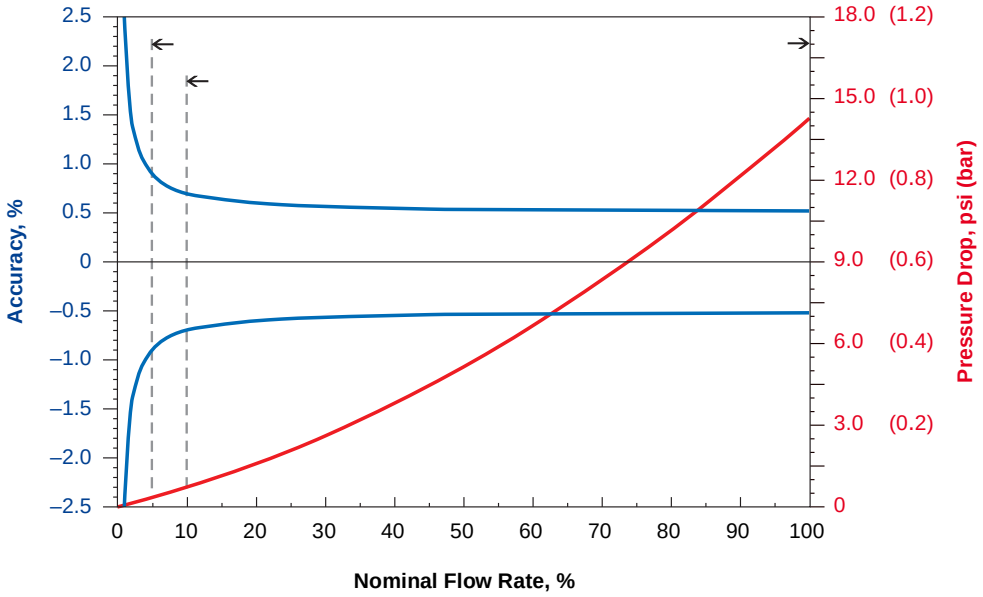
Accuracy = Accuracy ± [(zero stability / flow rate) x 100]% of rate
Repeatability for liquid = Repeatability ± [½(zero stability / flow rate) x 100]% of rate
Repeatability for gas = Repeatability ± [(zero stability / flow rate) x 100]% of rate

(3) At time of printing, the R200 is not released for gas applications.

(4) Pressure rating at 77°F (25°C), according to ASME B31.3.

Typical Accuracy, Turndown, and Pressure Drop

To determine accuracy, turndown, and pressure drop using your process variables, use the Micro Motion flowmeter selection guide. Download a free copy from our Web site at **www.micromotion.com**, or contact your local Micro Motion representative.



Turndown	Accuracy	Pressure Drop	
	%	psi	bar
20:1	±0.90	0.3	~0
10:1	±0.70	0.7	0.05
1:1	±0.52	14.2	1.0

Hazardous Area Approvals

UL and CSA

Class I, Division 2, Groups A, B, C, and D
Class II, Division 2, Groups F and G

UL Non-Incendive Parameters for Flowmeter Outputs

V_{max}	30 V
I_{max}	300 mA
C	3.3 pF
L	10 µH

CENELEC

Sensors

EEx de [ia/ib] IIC T1...T6

CENELEC "T" rating depends on the maximum temperature of the process fluid flowing through the meter. Maximum temperature for each T rating is listed below:

Model	Maximum Temperature, °C					
	T1	T2	T3	T4	T5	T6
R025	150	150	150	130	95	80
R050	150	150	150	129	94	79
R100	150	150	150	124	89	74
R200	150	150	150	108	73	58

Model 5300 Transmitter

EEx de [ib] IIB/C T6 for Hazardous Locations
[EEx ib] IIB/C for Safe Locations

Physical Specifications

Materials of Construction

Wetted Parts[1]

316L stainless steel

Sensor Housing

304L stainless steel

Transmitter Housing

NEMA 4X (IP65) epoxy polyester painted cast aluminum

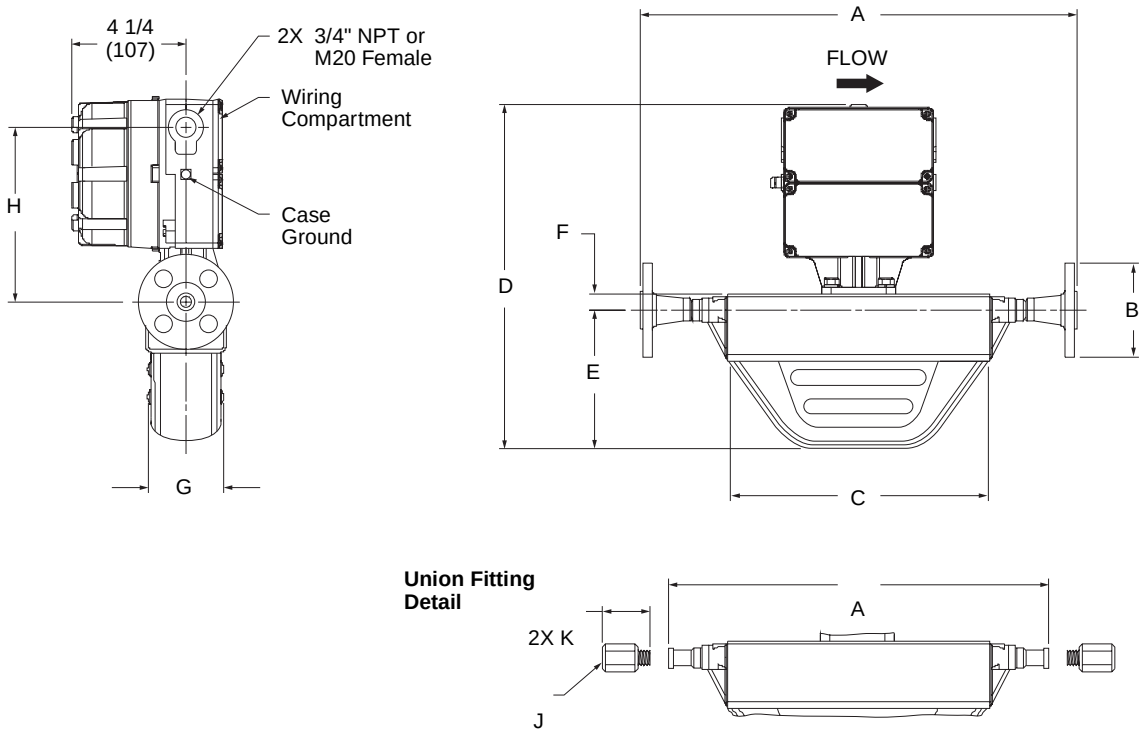
Weight

Weight of flowmeter with 150 lb weld neck raised face flanges:

R025	15.25 lb (7.0 kg)
R050	16.0 lb (7.25 kg)
R100	25.5 lb (11.5 kg)
R200	50.6 lb (22.9 kg)

Dimensions

Dimensions in inches (mm)



Model		Dimensions[2]							
		C	D	E	F	G	H	J	K
R025	inches (mm)	9 9/16 (243)	12 3/4 (324)	5 1/8 (130)	5/8 (15)	2 13/16 (71)	6 1/2 (165)	1/2" NPT Female	1 13/16 (46)
R050	inches (mm)	11 11/16 (297)	14 11/32 (364)	6 23/32 (171)	5/8 (15)	2 15/16 (75)	6 1/2 (165)	3/4" NPT Female	1 15/16 (49)
R100	inches (mm)	14 11/16 (373)	17 (432)	9 5/32 (233)	7/8 (22)	4 3/32 (104)	6 3/4 (171)	Not Applicable	Not Applicable
R200	inches (mm)	17 1/4 (438)	21 5/16 (541)	12 9/16 (319)	1 3/4 (44)	5 5/8 (144)	7 5/8 (193)	Not Applicable	Not Applicable

(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 flowmeter. Refer to Micro Motion's corrosion guide for material compatibility information.

(2) For dimensions A and B, see process fittings table, pages 12 and 13.

Process Fittings

Fittings[1]	Fitting Code	Dim. A Face-To-Face	Dim. B Outside Diameter
		inches (mm)	
R025 Flowmeter			
1/2" ANSI 150 lb Weld Neck Raised Face Flange	113	16 1/16 (408)	3 1/2 (89)
1/2" ANSI 300 lb Weld Neck Raised Face Flange	114	16 15/32 (418)	3 3/4 (95)
1/2" ANSI 600 lb Weld Neck Raised Face Flange	115	16 31/32 (418)	3 3/4 (95)
1/2" NPT Female Union Fitting	319	14 3/32 (358)	---
1/2" Sanitary Fitting	121	14 3/32 (358)	1 (25)
15 mm DIN PN40 Weld Neck, DIN 2635, Type C Facing	116	15 5/16 (389)	3 3/4 (95)
15 mm DIN PN100/160 Weld Neck, DIN 2638, Type E Facing	120	15 7/8 (403)	4 1/8 (105)
15 mm JIS 10K Weld Neck, JIS B2212, JIS Facing	216	14 27/32 (377)	3 3/4 (95)
R050 Flowmeter			
1/2" ANSI 150 lb Weld Neck Raised Face Flange	113	18 3/16 (462)	3 1/2 (89)
1/2" ANSI 300 lb Weld Neck Raised Face Flange	114	18 17/32 (471)	3 3/4 (95)
1/2" ANSI 600 lb Weld Neck Raised Face Flange	115	18 9/16 (484)	3 3/4 (95)
3/4" NPT Female Union Fitting	239	16 15/32 (418)	---
3/4" Sanitary Fitting	322	15 31/32 (405)	1 (25)
15 mm DIN PN40 Weld Neck, DIN 2635, Type C Facing	116	17 15/32 (443)	3 3/4 (95)
15 mm DIN PN100/160 Weld Neck, DIN 2638, Type E Facing	120	18 (457)	4 1/8 (105)
25 mm DIN PN40 Weld Neck, DIN 2635, Type C Facing	131	17 9/16 (446)	4 17/32 (115)
15 mm JIS 10K Weld Neck, JIS B2212, JIS Facing	216	16 31/32 (431)	3 3/4 (95)
R100 Flowmeter			
1" ANSI 150 lb Weld Neck Raised Face Flange	128	22 23/32 (577)	4 1/4 (108)
1" ANSI 300 lb Weld Neck Raised Face Flange	129	23 7/32 (590)	4 7/8 (124)
1" ANSI 600 lb Weld Neck Raised Face Flange	130	23 3/4 (603)	4 7/8 (124)
1" Sanitary Fitting	138	21 11/32 (542)	2 (50)
25 mm DIN PN40 Weld Neck, DIN 2635, Type C Facing	131	21 15/32 (545)	4 17/32 (115)
25 mm DIN PN100/160 Weld Neck, DIN 2638, Type E Facing	137	22 15/16 (583)	5 1/2 (140)
25 mm JIS 10K Weld Neck, JIS B2212, JIS Facing	212	21 3/32 (536)	4 15/16 (125)

(1) Fittings listed here are standard options. Other types of fittings are available. Contact your local Micro Motion representative.

Process Fittings

Fittings[1]	Fitting Code	Dim. A Face-To-Face	Dim. B Outside Diameter
		inches (mm)	
R200 Flowmeter			
1 1/2" ANSI 150 lb weld neck raised face flange	341	24 25/32 (630)	5 (127)
1 1/2" ANSI 300 lb weld neck raised face flange	342	25 9/32 (642)	6 1/8 (156)
1 1/2" ANSI 600 lb weld neck raised face flange	343	25 25/32 (655)	6 1/8 (156)
2" ANSI 150 lb weld neck raised face flange	418	24 29/32 (633)	6 (152)
2" ANSI 300 lb weld neck raised face flange	419	25 13/32 (645)	6 1/2 (165)
2" ANSI 600 lb weld neck raised face flange	420	26 5/32 (664)	6 1/2 (165)
1 1/2" sanitary fitting	351	23 9/32 (592)	1 31/32 (50)
2" sanitary fitting	352	22 29/32 (582)	2 1/2 (64)
40 mm DIN PN40 weld neck, DIN 2635, type C facing	381	23 19/32 (599)	5 29/32 (150)
50 mm DIN PN40 weld neck, DIN 2635, type C facing	382	23 21/32 (601)	6 1/2 (165)
50 mm DIN PN100 weld neck, DIN 2637, type E facing	378	25 1/4 (641)	7 11/16 (195)
50 mm DIN PN160 weld neck, DIN 2638, type E facing	376	25 13/16 (656)	7 11/16 (195)
40 mm DIN 11851 dairy coupling	353	23 1/16 (586)	2 9/16 (65)
50 mm DIN 11851 dairy coupling	354	23 1/16 (586)	3 1/16 (78)
40 mm JIS 10K weld neck, JIS B2212, JIS facing	385	23 15/32 (596)	5 1/2 (140)
40 mm JIS 20K weld neck, JIS B2212, JIS facing	387	23 15/32 (596)	5 1/2 (140)
50 mm JIS 10K weld neck, JIS B2212, JIS facing	386	23 15/32 (596)	6 3/32 (155)
50 mm JIS 20K weld neck, JIS B2212, JIS facing	388	23 21/32 (601)	6 3/32 (155)
50 mm JIS 40K weld neck, JIS B2212, JIS facing	389	25 15/32 (647)	6 1/2 (165)

(1) Fittings listed here are standard options. Other types of fittings are available. Contact your local Micro Motion representative.

ORDERING INFORMATION

Two model number codes are required for purchasing a Micro Motion R-Series flowmeter: one for the sensor, and one for the transmitter.

Micro Motion R-Series Sensor

Code	Sensor Model
R025S	R-Series 1/4-inch sensor
R050S	R-Series 1/2-inch sensor
R100S	R-Series 1-inch sensor
R200S	R-Series 2-inch sensor
Code	**Transmitter Mount**
I	With integrally mounted transmitter
S	Spare sensor without transmitter
Code	**Process Connections**
###	See fittings tables on pages 12 and 13
Code	**Approvals**
M	Micro Motion standard — no approvals
U	UL — U.S.A. approvals agency
C	CSA — Canadian approvals agency
Z	CENELEC — European standards organization
Typical Model Number R100S I 128 U	

Model 5300 transmitter with FOUNDATION fieldbus

Model	Product Description
5300	R-Series Transmitter with FOUNDATION fieldbus
Code	**Mount Option**
K	With integrally mounted sensor
I	Spare transmitter without sensor
Code	**Power Supply**
6	85 to 250 VAC
3	20 to 30 VDC
Code	**Intrinsically Safe Protocols**
F	FOUNDATION fieldbus H1, with 4 Analog Input function blocks for mass, volume, density, and temperature
Code	**Conduit Ports**
1	M20 conduit connections, no glands
2	M20 conduit connections, with 2 nickel-brass EExe (increased safety) glands
3	¾-inch NPT female conduit connections, no glands
Code	**Hazardous Location Certifications**
M	Micro Motion standard — no approvals
U	UL Class 1, Div. 2, Groups A,B,C,D — U.S.A. approvals agency; available only with conduit port code 3
C	CSA Class 1, Div. 2, Groups A,B,C,D — Canadian approvals agency; available only with conduit port code 3
Z	CENELEC Zone 1 — European standards organization
Code	**Additional FOUNDATION fieldbus Function Blocks**
ZZZZ	None
Typical Model Number 5300 K 6 F 3 U ZZZZ	

For the latest Micro Motion product specifications, view the PRODUCTS section of our Web site at at www.micromotion.com

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