

Product Data Sheet

PS-00363, Rev. B

March 2004

Micro Motion[®] R-Series Mass and Volume Flowmeter

With MVD[™] Technology



Micro Motion® R-Series Flowmeters

Welcome to a new era in measurement technology! Now you can afford to replace your old volumetric technology with Micro Motion® R-Series flowmeters. Micro Motion R-Series flowmeters are competitive in both price and accuracy specifications with positive displacement, differential pressure, magnetic, and vortex flowmeters, yet they have many advantages that other technologies do not have.

Micro Motion R-Series flowmeters offer highly accurate flow measurement for virtually any process fluid — be it clean or not. The same flowmeter can provide direct mass and volume flow for liquids, gases, and slurries without having to be recalibrated. Their immunity to flow profile means that you can install Micro Motion R-Series flowmeters anywhere in your process without having to worry about expensive straight runs or flow straightening devices. This translates to real savings in installation and engineering costs.

For general purpose flow measurement applications, Micro Motion R-Series flowmeters provide an ideal alternative to other flowmetering technologies. Micro Motion flowmeters have no moving parts — saving you money over the course of their lifetime by helping you make the best use of your time, people, and material.

Micro Motion R-Series flowmeters feature integral transmitters, making them easy to install. With the new MVD™ Technology, you can also remotely mount your transmitter up to 1000 feet away using standard 4-wire cable. You get the flexibility you need to mount the sensor anywhere in your process piping while saving installation costs.

Micro Motion R-Series flowmeters are available to support several digital communication protocols, including HART®, Modbus®, FOUNDATION™ fieldbus, and Profibus-PA. Other features include a variety of standard process connections, milliampere and pulse outputs, a standard display, and a built-in totalizer that can be reset from the display.

Micro Motion R-Series flowmeters are designed to perform in harsh operating environments, and carry hazardous area approvals for the U.S.A., Canada, Europe, Japan, and other areas around the world.

Micro Motion is well known for increasing plant efficiency, product quality, and profitability. Now, Micro Motion R-Series flowmeters offer all this and more.



Benefits of Micro Motion R-Series Flowmeters

Easy to use

Micro Motion R-Series flowmeters are easy to start up, have no moving parts, don't need periodic recalibration, are non-intrusive, and don't require regular maintenance.

Reliable and rugged

There's nothing to wear out or break down — more than 400,000 Micro Motion flowmeters are installed and working in processes just like yours. The accumulated knowledge of Micro Motion is built into each flowmeter.

Easy to install

Micro Motion R-Series flowmeters require no special mounting, no straight run requirements and no flow conditioning elements.

Direct mass or volume measurement

With direct mass measurement, Micro Motion R-Series flowmeters are immune to variations in pressure, temperature or process fluids. The same flowmeter can measure liquids, gases, or slurries.

Greater accuracy

Accuracy to 0.5% on liquids and 0.75% on gases means better product quality and less waste.

Liquid flow performance

		Mass		Volume ⁽¹⁾	
		lb/min	kg/hr	gal/min	l/hr
Nominal flow range⁽²⁾	R025S, R025P	0 to 50	0 to 1360	0 to 6	0 to 1360
	R050S	0 to 150	0 to 4080	0 to 18	0 to 4080
	R100S	0 to 600	0 to 16,325	0 to 72	0 to 16,325
	R200S	0 to 1600	0 to 43,550	0 to 192	0 to 43,550
Maximum flow rate	R025S, R025P	100	2720	12	2720
	R050S	300	8160	36	8160
	R100S	1200	32,650	144	32,650
	R200S	3200	87,100	384	87,100
Accuracy⁽³⁾	Transmitter with MVD Technology	±0.5% of rate ⁽⁴⁾			
	IFT9703 transmitter	±0.5% of rate ± $\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate			
Repeatability	Transmitter with MVD Technology	±0.25% of rate ⁽⁴⁾			
	IFT9703 transmitter	±0.25% of rate ± $\left[\frac{1}{2}\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate			
Zero stability		lb/min	kg/hr	gal/min	l/hr
	R025, R025P	0.01	0.27	0.0018	0.27
	R050S	0.03	0.82	0.0054	0.82
	R100S	0.12	3.27	0.0216	3.27
	R200S	0.32	8.71	0.0576	8.71

(1) The volumetric flow rate is based on a process-fluid density of 1 g/cc. For fluids with density other than 1 g/cc, the maximum volume flow rate equals the mass flow rate divided by the fluid's density.

(2) 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 psi (1 bar) of pressure drop for Micro Motion R-Series flowmeters.

(3) 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.

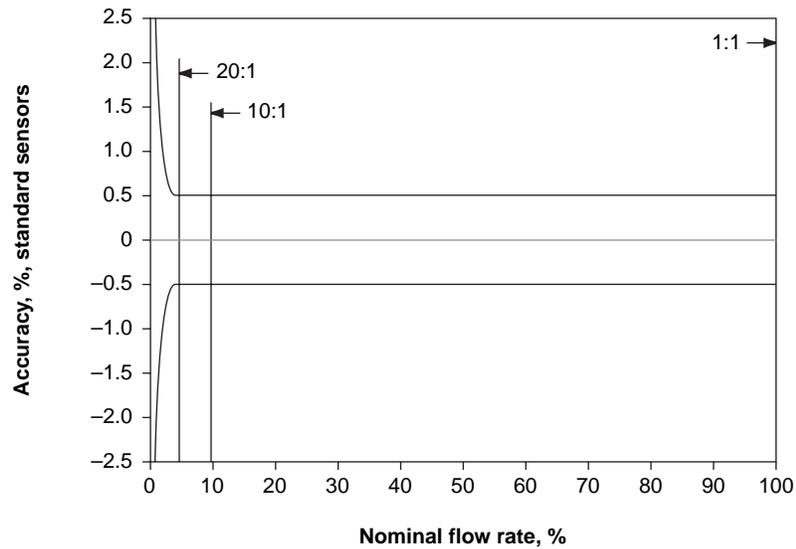
(4) When flow rate $< \frac{\text{zero stability}}{0.005}$, then accuracy = $\pm\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate and

repeatability = $\pm\left[\frac{1}{2}\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate.

Liquid flow performance *continued*

Typical accuracy, turndown, and pressure drop with Series 1000 transmitter

To determine accuracy, turndown, and pressure drop with your process variables, use Micro Motion's product selector, available at www.micromotion.com.



Turndown	20:1	10:1	1:1
Accuracy, ± %	0.50	0.50	0.50
Pressure drop			
<i>psi</i>	0.1	0.3	14.2
<i>bar</i>	0.01	0.02	0.98

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 Micro Motion's product selector, available at www.micromotion.com.

	Mass		Volume ⁽¹⁾	
	lb/min	kg/hr	SCFM	Nm ³ /hr
Typical 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)				
R025S, R025P	4	116	57	90
R050S	13	357	174	276
R100S	50	1366	667	1055
R200S	Not yet rated for gas.			

Typical 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 bar)

R025S, R025P	16	445	378	598
R050S	49	1358	1154	1825
R100S	189	5162	4387	6936
R200S	Not yet rated for gas.			

Accuracy⁽²⁾	Transmitter with MVD Technology	±0.75% of rate ⁽³⁾		
	IFT9703 transmitter	±1.0% of rate ± $\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate		

Repeatability⁽²⁾	Transmitter with MVD Technology	±0.5% of rate ⁽³⁾		
	IFT9703 transmitter	±0.5% of rate ± $\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate		

		lb/min	kg/hr
Zero stability	R025S, R025P	0.01	0.27
	R050S	0.03	0.82
	R100S	0.12	3.27
	R200S	Not yet rated for gas.	

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

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

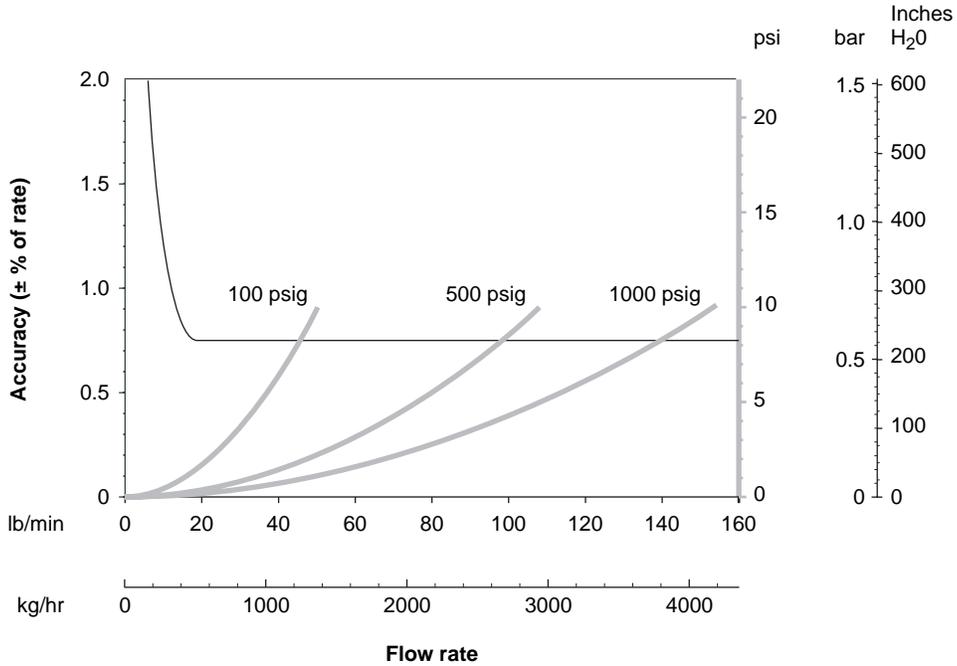
(3) When flow rate < $\frac{\text{zero stability}}{0.0075}$, then accuracy = $\pm\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$ % of rate and

$$\text{repeatability} = \pm\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]\% \text{ of rate.}$$

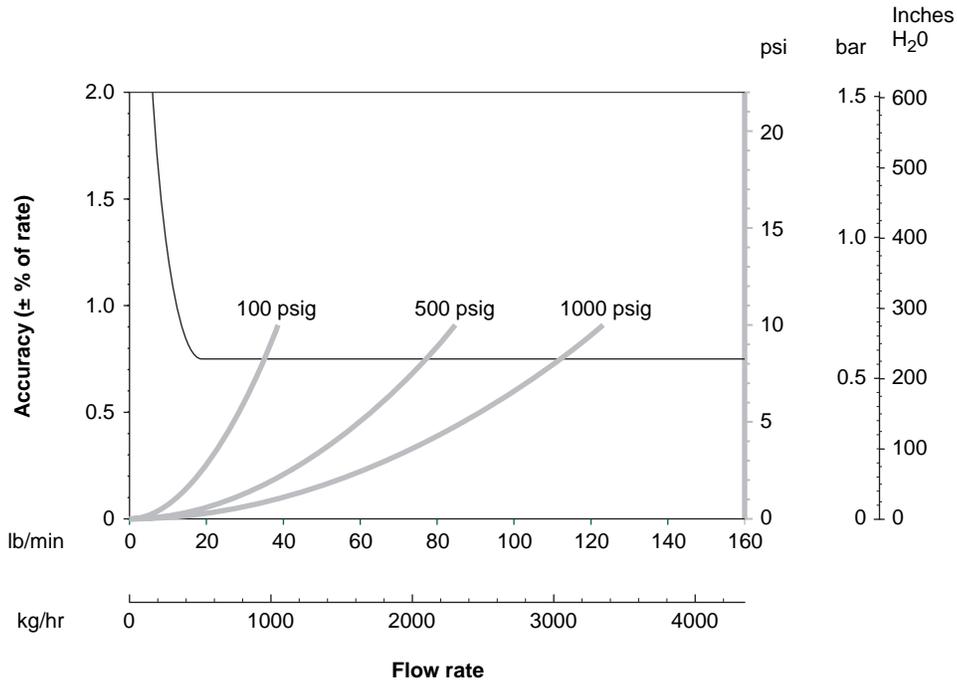
Gas flow performance *continued*

Typical accuracy and pressure drop with R100S 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 pressures as indicated on graph



Temperature limits

Process fluid	Sensor with extended core processor	-60 to +300 °F (-50 to +150 °C)		
	Sensor with integral IFT9703 transmitter	-40 to +257 °F (-40 to +125 °C)		
	All other models	-60 to +257 °F (-50 to +125 °C)		
Ambient temperature	Storage ⁽¹⁾	-40 to +185 °F (-40 to +85 °C) with IFT9703 transmitter, no display -40 to +140 °F (-40 to +60 °C) with Model 1700 transmitter		
	Operation ⁽¹⁾	-22 to +131 °F (-30 to +55 °C) with IFT9703 transmitter, no display +32 to +131 °F (0 to +55 °C) with IFT9703 transmitter and display -40 to +140 °F (-40 to +60 °C) with Model 1700 transmitter		
Approved temperature	UL	With integral IFT9703	°F	°C
		With core processor or integral Model 1700	-4 to +104	-20 to +40
	CSA	With integral IFT9703	-40 to +104	-40 to +40
		With core processor or integral Model 1700	Maximum +140	Maximum +60
ATEX		Refer to graphs on page 9	Refer to graphs on page 9	

(1) For Series 1000/2000 transmitters, display responsiveness can decrease and display may become difficult to read below -4 °F (-20 °C). Above 131 °F (55 °C) some darkening of the display may occur.

Pressure ratings

Flow tube rating⁽¹⁾	R025P	2300 psi	158 bar
	All other models	1450 psi	100 bar
PED compliance	Sensors comply with council directive 97/23/EC of 29 May 1997 on Pressure Equipment.		
Housing rating	All models	Housing is not rated for pressure containment.	

(1) Over the entire temperature range, according to ASME B31.3.

Hazardous area classifications

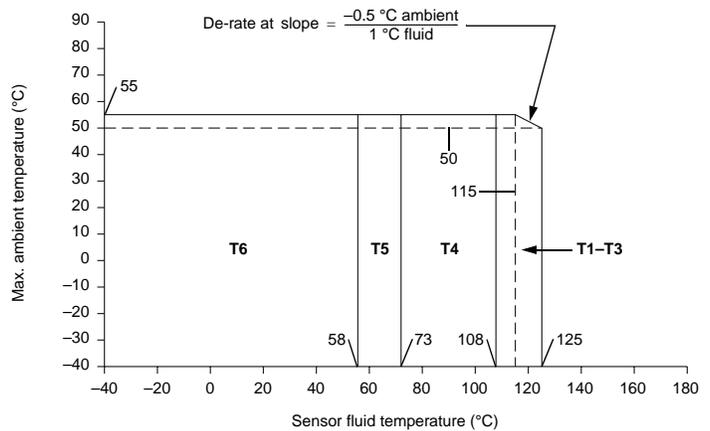
UL is a U.S.A. approvals agency. CSA is a Canadian approvals agency that provides approvals accepted both in the U.S.A. (C-US) and in Canada. ATEX is a European directive.

UL and CSA⁽¹⁾

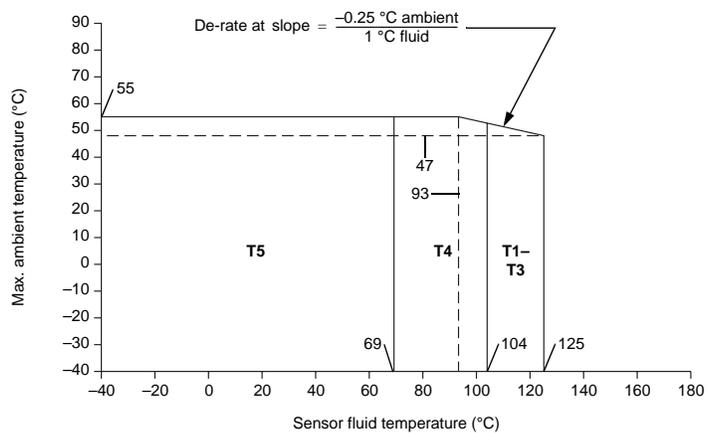
Sensor with integrally mounted IFT9703 transmitter	Class I, Div. 2, Groups A, B, C, and D Class II, Div. 2, Groups F and G
Sensor with integrally mounted Model 1700/2700 transmitter, or with core processor	Class I, Div. 1, Groups C and D Class I, Div. 2, Groups A, B, C, and D Class II, Div. 1, Groups E, F, and G

ATEX

Sensor with integrally mounted IFT9703 transmitter	CE 0575 Ex II 2G EEx ib IIC T1-T6
--	---



Sensor with integrally mounted Model 1700/2700 transmitter, or with core processor	CE 0575 Ex II 2G EEx ib IIC T1-T5
--	---



(1) For temperature limits, see page 8.

Materials of construction

Wetted parts⁽¹⁾		316L stainless steel
Housing	Sensor	304L stainless steel
	Core processor	CF-3M stainless steel or epoxy-painted aluminum; NEMA 4X (IP65)
	Integrally mounted transmitter	Epoxy-painted aluminum; NEMA 4X (IP65)

(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. Please refer to Micro Motion's corrosion guide for material compatibility information.

Weight

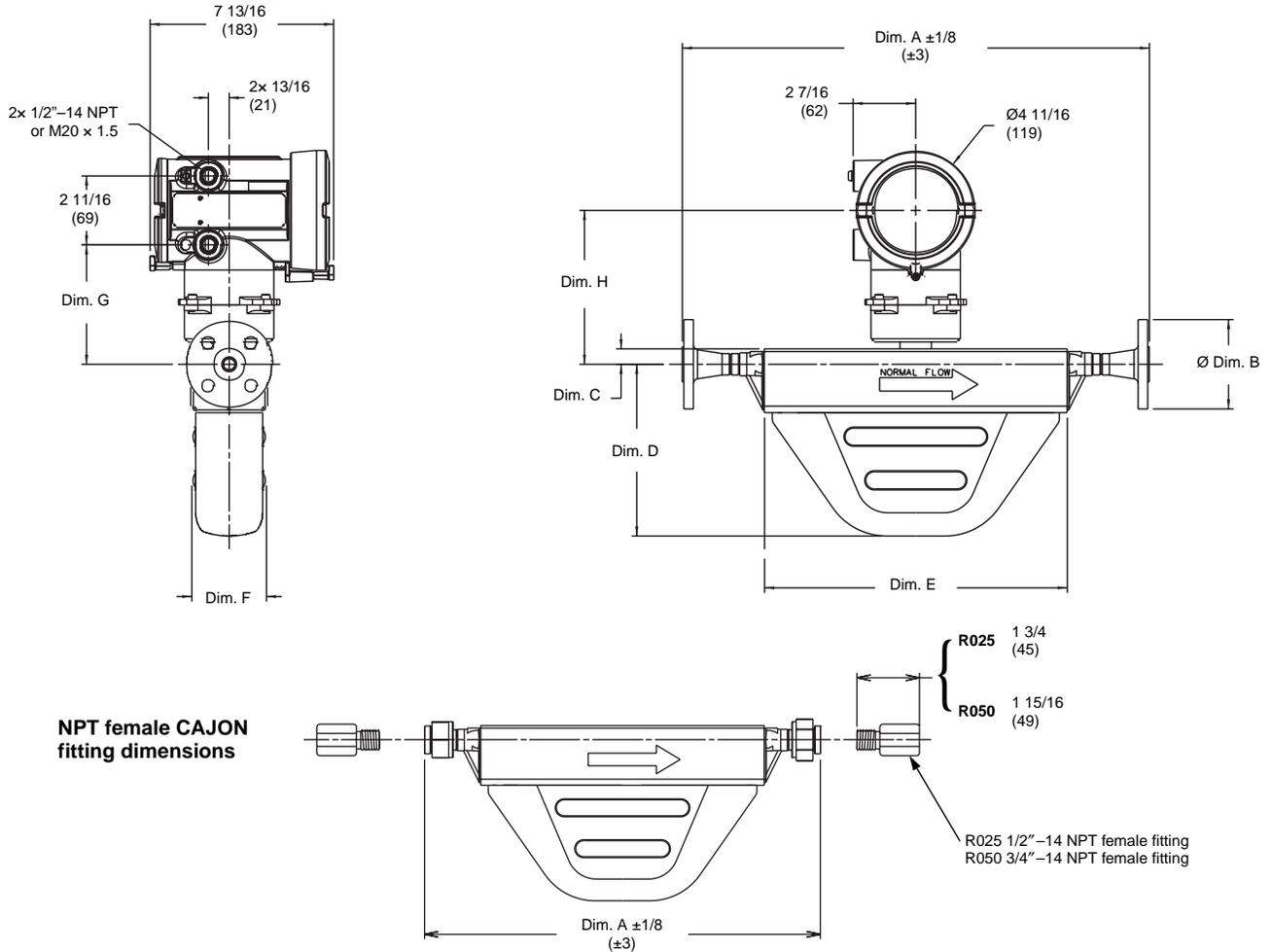
Weights provided are the weight of the flowmeter with ANSI 150 lb weld neck raised face flanges.

		lb	kg
Sensor with integrally mounted IFT9703 transmitter	R025	15	7
	R050	17	8
	R100	26	12
	R200	48	22
Sensor with integrally mounted Model 1700/2700 transmitter	R025	16	8
	R050	17	8
	R100	27	12
	R200	48	22
Sensor with core processor	R025	16	8
	R050	17	8
	R100	27	12
	R200	48	22
Sensor with extended core processor	R025	17	6
	R050	18	7
	R100	28	11
	R200	49	21

Dimensions

Sensor with integrally mounted Model 1700 transmitter

Dimensions in inches
(mm)



Dimensions⁽¹⁾

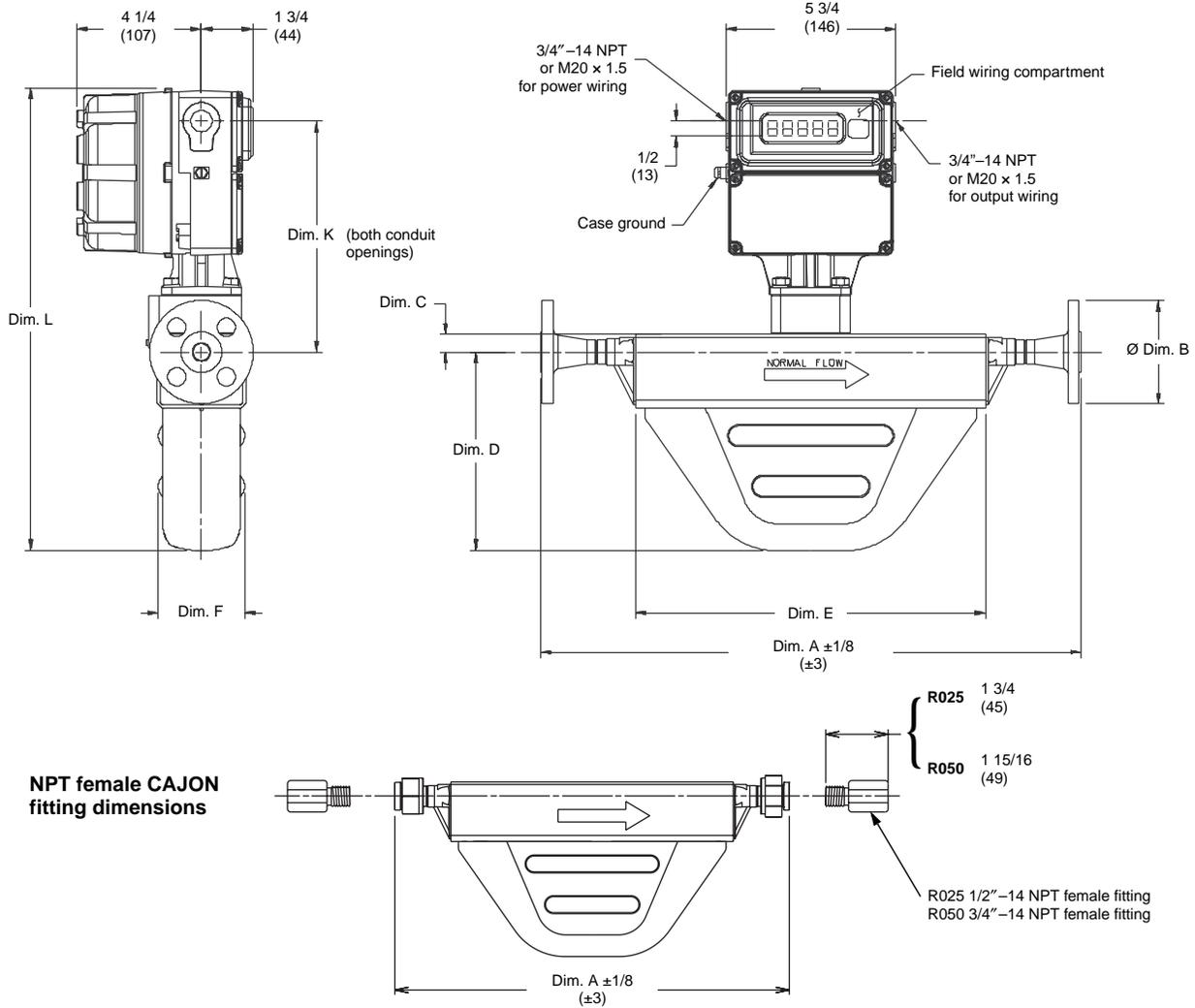
Model		C	D	E	F	G	H
R025	inches (mm)	5/8 (15)	5 1/8 (130)	9 3/4 (247)	2 13/16 (72)	4 11/16 (119)	6 (153)
R050	inches (mm)	5/8 (15)	6 3/4 (171)	11 7/8 (301)	2 15/16 (74)	4 11/16 (119)	6 (153)
R100	inches (mm)	7/8 (22)	9 1/8 (232)	14 7/8 (378)	4 1/8 (104)	4 15/16 (126)	6 1/4 (159)
R200	inches (mm)	1 3/4 (44)	12 9/16 (319)	17 7/8 (454)	5 5/8 (144)	5 13/16 (148)	7 3/16 (182)

(1) For dimensions A and B, see fittings tables on pages 14–15.

Dimensions *continued*

Sensor with integrally mounted IFT9703 transmitter

Dimensions in *inches*
(*mm*)



Dimensions⁽¹⁾

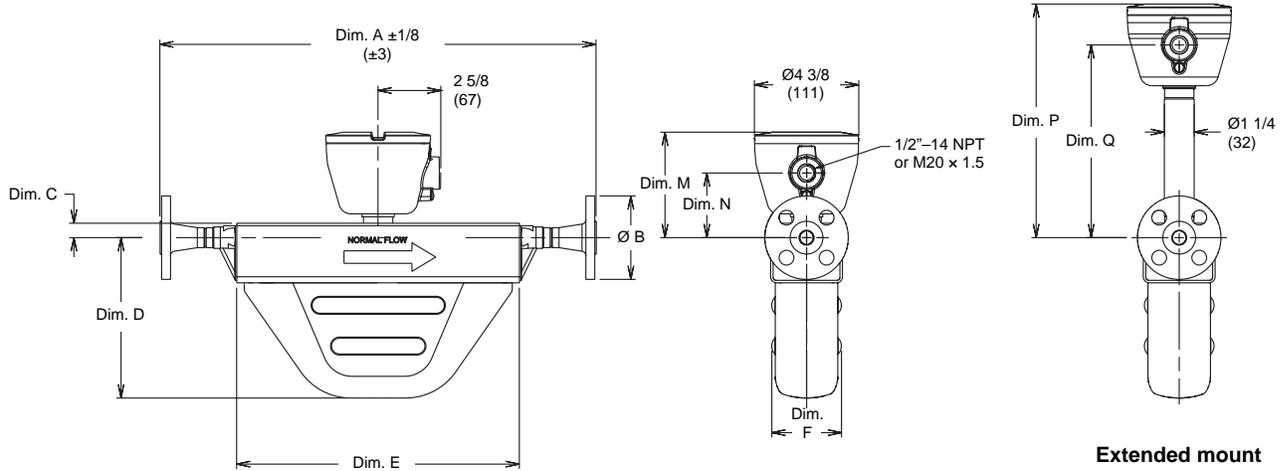
Model		C	D	E	F	K	L
R025	inches (mm)	5/8 (15)	5 1/8 (130)	9 3/4 (247)	2 13/16 (72)	7 13/16 (199)	14 1/16 (358)
R050	inches (mm)	5/8 (15)	6 3/4 (171)	11 7/8 (301)	2 15/16 (74)	7 13/16 (199)	15 11/16 (398)
R100	inches (mm)	7/8 (22)	9 1/8 (232)	14 7/8 (378)	4 1/8 (104)	8 1/16 (205)	18 5/16 (466)
R200	inches (mm)	1 3/4 (44)	12 9/16 (319)	17 7/8 (454)	5 5/8 (144)	8 15/16 (228)	22 5/8 (575)

(1) For dimensions A and B, see fittings tables on pages 14–15.

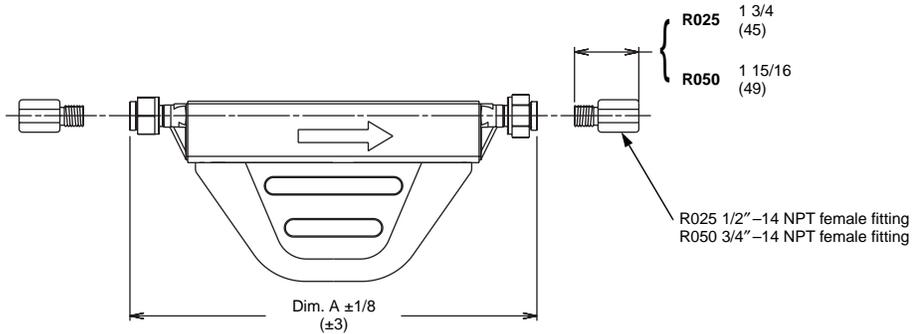
Dimensions *continued*

Sensor with core processor

Dimensions in *inches*
(*mm*)



NPT female CAJON fitting dimensions



Dimensions⁽¹⁾

Model		C	D	E	F	M	N	P	Q
R025	inches (mm)	5/8 (15)	5 1/8 (130)	9 3/4 (247)	2 13/16 (72)	4 7/16 (112)	2 11/16 (69)	9 13/16 (249)	8 1/16 (205)
R050	inches (mm)	5/8 (15)	6 3/4 (171)	11 7/8 (301)	2 15/16 (74)	4 7/16 (112)	2 11/16 (69)	9 13/16 (249)	8 1/16 (205)
R100	inches (mm)	7/8 (22)	9 1/8 (232)	14 7/8 (378)	4 1/8 (104)	4 11/16 (119)	2 15/16 (75)	10 1/16 (255)	8 5/16 (212)
R200	inches (mm)	1 3/4 (44)	12 9/16 (319)	17 7/8 (454)	5 5/8 (144)	5 9/16 (141)	3 7/8 (98)	10 15/16 (278)	9 1/4 (234)

(1) For dimensions A and B, see fittings tables on pages 14–15.

Fittings for R-Series flowmeters

	Fitting code	Dim. A face-to-face inches (mm)	Dim B. outside diam. inches (mm)
R025S fitting options⁽¹⁾			
1/2-inch ANSI 150 lb weld neck raised face flange	113	16 (406)	3 1/2 (89)
1/2-inch ANSI 300 lb weld neck raised face flange	114	16 3/8 (416)	3 3/4 (95)
1/2-inch ANSI 600 lb weld neck raised face flange	115	16 7/8 (429)	3 3/4 (95)
1/2-inch NPT female CAJON size 8 VCO fitting	319	14 (356) ⁽²⁾	not applicable
1/2-inch sanitary fitting (Tri-Clamp compatible)	121	14 (356)	1 (25)
DN15 PN40 weld neck flange; DIN 2635 type C face	116	15 1/4 (387)	3 3/4 (95)
DN15 PN100/160 weld neck flange; DIN 2638 type E face	120	15 13/16 (401)	4 1/8 (105)
JIS 15mm 10K/20K weld neck raised face flange	122	15 7/16 (393)	3 3/4 (95)
JIS 15mm 40K weld neck raised face flange	221	16 1/2 (420)	4 1/2 (115)
15mm DIN11851 aseptic coupling	222	13 15/16 (353)	Rd 34 x 1/8
R050S fitting options⁽¹⁾			
1/2-inch ANSI 150 lb weld neck raised face flange	113	18 1/8 (460)	3 1/2 (89)
1/2-inch ANSI 300 lb weld neck raised face flange	114	18 1/2 (469)	3 3/4 (95)
1/2-inch ANSI 600 lb weld neck raised face flange	115	19 (482)	3 3/4 (95)
3/4-inch NPT female CAJON size 12 VCO fitting	239	16 3/8 (415) ⁽²⁾	not applicable
3/4-inch sanitary fitting (Tri-Clamp compatible)	322	15 7/8 (403)	1 (25)
DN15 PN40 weld neck flange; DIN 2635 type C face	116	17 3/8 (441)	3 3/4 (95)
DN15 PN100/160 weld neck flange; DIN 2638 type E face	120	17 7/8 (455)	4 1/8 (105)
DN25 PN40 weld neck flange; DIN 2635 type C face	131	17 1/2 (444)	4 1/2 (115)
JIS 15mm 10K/20K weld neck raised face flange	122	17 9/16 (446)	3 3/4 (95)
JIS 15mm 40K weld neck raised face flange	221	18 5/8 (473)	4 1/2 (115)
15mm DIN11851 aseptic coupling	222	16 (407)	Rd 34 x 1/8
R100S fitting options⁽¹⁾			
1-inch ANSI 150 lb weld neck raised face flange	128	22 11/16 (576)	4 1/4 (108)
1-inch ANSI 300 lb weld neck raised face flange	129	23 3/16 (588)	4 7/8 (124)
1-inch ANSI 600 lb weld neck raised face flange	130	23 11/16 (601)	4 7/8 (124)
DN25 PN40 weld neck flange; DIN 2635 type C face	131	21 7/16 (544)	4 1/2 (115)
DN25 PN100/160 weld neck flange; DIN 2638 type E face	137	22 13/16 (580)	5 1/2 (140)
1-inch sanitary fitting (Tri-Clamp compatible)	138	21 1/4 (540)	2 (50)
JIS 25mm 10K/20K weld neck raised face flange	139	21 11/16 (550)	4 15/16 (125)
JIS 25mm 40K weld neck raised face flange	229	22 15/16 (582)	5 1/8 (130)
25mm DIN11851 aseptic coupling	230	20 9/16 (522)	Rd 52 x 1/6

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

(2) Dimension specified in table does NOT include fitting length. For installation, modify Dim. A value to include fitting. See pages 11, 12, and 13.

Fittings for R-Series flowmeters *continued*

	Fitting code	Dim. A face-to-face inches (mm)	Dim B. outside diam. inches (mm)
R200S fitting options⁽¹⁾			
1 1/2-inch ANSI 150 lb weld neck raised face flange	341	24 3/4 (629)	5 (127)
1 1/2-inch ANSI 300 lb weld neck raised face flange	342	25 1/4 (642)	6 1/8 (155)
1 1/2-inch ANSI 600 lb weld neck raised face flange	343	25 3/4 (654)	6 1/8 (155)
2-inch ANSI 150 lb weld neck raised face flange	418	24 7/8 (632)	6 (152)
2-inch ANSI 300 lb weld neck raised face flange	419	25 3/8 (645)	6 1/2 (165)
2-inch ANSI 600 lb weld neck raised face flange	420	26 1/8 (664)	6 1/2 (165)
DN40 PN40 weld neck; DIN 2635 type C face	381	23 9/16 (598)	5 15/16 (150)
DN50 PN40 weld neck; DIN 2635 type C face	382	23 5/8 (600)	6 1/2 (165)
DN50 PN100 weld neck; DIN 2637 type E face	378	25 1/4 (641)	7 11/16 (195)
DN50 PN160 weld neck; DIN 2638 type E face	376	25 13/16 (655)	7 11/16 (195)
JIS 40mm 10K weld neck raised face flange	385	23 7/16 (595)	5 1/2 (140)
JIS 40mm 20K weld neck raised face flange	387	23 7/16 (595)	5 1/2 (140)
JIS 50mm 10K weld neck raised face flange	386	23 7/16 (595)	6 1/8 (155)
JIS 50mm 20K weld neck raised face flange	388	23 5/8 (600)	6 1/8 (155)
JIS 50mm 40K weld neck raised face flange	389	25 7/16 (646)	6 1/2 (165)
1 1/2-inch sanitary fitting (Tri-Clamp compatible)	351	23 1/4 (591)	2 (50)
2-inch sanitary fitting (Tri-Clamp compatible)	352	22 7/8 (581)	2 1/2 (64)
40mm DIN11851 aseptic coupling	353	23 3/16 (589)	Rd 65 x 1/6
50mm DIN11851 aseptic coupling	354	23 1/4 (591)	Rd 78 x 1/6

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

Fittings for R-Series Model R025P high-pressure flowmeter

	Fitting code	Dim. A face-to-face inches (mm)	Dim B. outside diam. inches (mm)
15 mm DIN PN100/160 weld neck, DIN 2638, type E face	120	15 13/16 (401)	4 1/8 (105)
1/2-inch NPT female CAJON size 8 VCO fitting	319	14 (356) ⁽¹⁾	not applicable

(1) Dimension specified in table does NOT include fitting length. For installation, modify Dim. A value to include fitting. See pages 11, 12, and 13.

Ordering information

Model	Product description
	Standard sensor models
R025S	R-Series sensor; 1/4-inch; 316L stainless steel
R050S	R-Series sensor; 1/2-inch; 316L stainless steel
R100S	R-Series sensor; 1-inch; 316L stainless steel
R200S	R-Series sensor; 2-inch; 316L stainless steel
	High-pressure models
R025P	R-Series sensor; 1/4-inch; 316L stainless steel; 2300 psi tube rating
Code	Process connection
###	See fittings option tables on pages 14–15
Code	Case options
N	Standard case
Code	Electronics interface
Q	4-wire epoxy-painted aluminum integral core processor for remotely mounted transmitter with MVD Technology
A	4-wire stainless steel integral core processor for remotely mounted transmitter with MVD Technology
V	4-wire epoxy-painted aluminum integral core processor with extended mount for remotely mounted transmitter with MVD Technology
B	4-wire stainless steel integral core processor with extended mount for remotely mounted transmitter with MVD Technology
C	Integrally mounted Model 1700 (all output options) or Model 2700 (FOUNDATION fieldbus or Profibus-PA) transmitter
W ⁽¹⁾	MVD Solo; epoxy-painted aluminum integral core processor for direct host communication
D ⁽¹⁾	MVD Solo; stainless steel integral core processor for direct host communication
Y ⁽¹⁾	MVD Solo; epoxy-painted aluminum integral core processor with extended mount for direct host communication
E ⁽¹⁾	MVD Solo; stainless steel integral core processor with extended mount for direct host communication
I	Integrally mounted IFT9703 transmitter
Code	Conduit connections
	Electronics interface codes Q, A, V, B, W, D, Y, and E (integral core processor)
B	1/2-inch NPT — no gland
E	M20 — no gland
F	Brass/nickel cable gland (cable diameter 8.5 to 10 mm)
G	Stainless steel cable gland (cable diameter 8.5 to 10 mm)
	Electronics interface codes C or I (integrally mounted transmitter)
A	No gland
Continued on next page	

(1) When electronics interface W, D, Y, or E is ordered with approval C, A, or Z, an MVD Direct Connect I.S. barrier is supplied. No barrier is supplied when ordered with approval codes M or N.

Ordering information *continued*

Code	Approvals
M	Micro Motion standard — no approval
N	Micro Motion standard / PED compliant
C	CSA (Canada only)
A	CSA (U.S.A. and Canada) — not available with electronics interface code I
U	UL — <i>only</i> available with electronics interface code I
Z	ATEX — Equipment category 2 (Zone 1) / PED compliant
Code	Language
A	Danish quick reference and English manual
D	Dutch quick reference and English manual
E	English quick reference and English manual
F	French quick reference and French manual
G	German quick reference and German manual
H	Finnish quick reference and English manual
I	Italian quick reference and English manual
J	Japanese quick reference and English manual
M	Chinese quick reference and English manual
N	Norwegian quick reference and English manual
O	Polish quick reference and English manual
P	Portuguese quick reference and English manual
R	Russian quick reference and English manual
S	Spanish quick reference and Spanish manual
W	Swedish quick reference and English manual
Code	Future option 1
Z	Reserved for future use
Code	Future option 2
Z	Reserved for future use
Code	Future option 3
Z	Reserved for future use
Code	Factory options
Z	Standard product
X	CEQ product
R	Restocked product (if available)
Typical model number: R025S 113 N C A U E Z Z Z Z	

©2004, Micro Motion, Inc. All rights reserved. P/N PS-00363, Rev. B

Due to Micro Motion's commitment to continuous improvement of our products, all specifications are subject to change without notice. Micro Motion is a registered trademark of Micro Motion, Inc. The Micro Motion and Emerson logos are trademarks of Emerson Electric Co. All other trademarks are property of their respective owners.

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

Micro Motion Inc. USA
Worldwide Headquarters
7070 Winchester Circle
Boulder, Colorado 80301
T (303) 530-8400
(800) 522-6277
F (303) 530-8459

Micro Motion Europe
Emerson Process Management
Wiltonstraat 30
3905 KW Veenendaal
The Netherlands
T +31 (0) 318 495 670
F +31 (0) 318 495 689

Micro Motion United Kingdom
Emerson Process Management Limited
Horsfield Way
Bredbury Industrial Estate
Stockport SK6 2SU U.K.
T 0800 966 180
F 0800 966 181

Micro Motion Asia
Emerson Process Management
1 Pandan Crescent
Singapore 128461
Republic of Singapore
T (65) 6777-8211
F (65) 6770-8003

Micro Motion Japan
Emerson Process Management
Shinagawa NF Bldg. 5F
1-2-5, Higashi Shinagawa
Shinagawa-ku
Tokyo 140-0002 Japan
T (81) 3 5769-6803
F (81) 3 5769-6843

