Product Data Sheet
PS-00388, Rev. A
October 2003

Model D and DT

Mass Flow and Density Sensors

Micro Motion™

EMERSON™
Process Management

Micro Motion® Model D and DT sensors

Micro Motion® Model D sensors set the standard for Coriolis flowmeters nearly a quarter century ago. Today, they continue to provide the same outstanding measurement performance that made them so popular.

Working with any of our Coriolis transmitters, Model D and DT sensors provide flow measurement for liquids, gases and slurries — simply and directly. Multivariable capability provides mass flow, volume flow, density, and temperature measurement — all in real time, without the need for additional equipment.

A wide variety of models includes standard process connections for virtually any fluid.

Sizes for every need

Model D sensors are available in sizes ranging from 1/4- to 6-inch (6 to 150 mm).

High-pressure sensors

Several sensors are available in high-pressure models, for pressure flows up to 5200 psi (358 bar). Two of these, the DH25 and DH38, are designed for measuring compressed natural gas (CNG) for legal trade.

High-temperature sensors

Three models of DT sensors measure process fluids at high temperatures up to 800 °F (426 °C), without the need for purge connections.

High-flow sensor

The D600, our largest sensor, is able to measure flows up to 25,000 lb/min (680,400 kg/h), making it ideal for ship loading and unloading, pipeline transfers, platform production, and LACT applications.

Housing options

Most Model D sensors are available with optional purge connections, and some feature purge connections and/or rupture disks.

Wetted-part materials for your fluid

All Model D and DT sensors come standard with 316L stainless steel wetted parts. Some models are also available in nickel alloy, and two models feature stainless steel flow tubes that are lined with a Tefzel® coating.

MVD™ technology PlantWeb FOUNDATION™ CE

MVD™ Technology

Micro Motion D and DT meters are now available with MVD™ Technology — a new, innovative, multivariable digital processing capability. A 9-wire connection from the junction box to a Micro Motion Series 1000, Series 2000, or Series 3000 transmitter improves ease of use, reduces downtime, and lowers your flowmetering costs(1). Meters with MVD Technology provide cleaner, noise-free digital signals. Digital signal processing means faster response times, enhanced diagnostic capabilities, higher accuracy, and better repeatability.

System integration

Micro Motion offers a variety of microprocessor-based transmitters. Depending on the transmitter model, features include milliampere and frequency/pulse outputs, transmitter and process control functions in a single device, and API outputs for crude oil and other hydrocarbon fluids.

Other options include transmitters that can be installed in instrument racks or panels, or housed in NEMA-compliant or explosion-proof enclosures. Sensors and explosion-proof transmitters can be installed in the same hazardous area.

Micro Motion is known worldwide for increasing plant efficiency, production, and profitability. More than 400,000 Micro Motion meters are installed and working in processes just like yours. Contact us, and learn more about Model D and DT sensors.

(1) Model D600 offers 4-wire connection to a Series 1000, Series 2000, or Series 3000 transmitter.

Model D and DT feature comparison

Sensor model	Typical line size	High pressure	High temperature	Purge fittings available	Rupture disk available
Standard sensors					
D150 Tefzel	1 to 1 1/2 inch (25 to 38 mm)			✓	✓
D300	1 1/2 to 3 inch (38 to 75 mm)			✓	✓
D600	3 to 6 inch (75 to 150 mm)				
High pressure sensors					
DH25	1/8 to 1/2 inch (3 to 13 mm)	✓		✓	✓
DH38	1/8 to 1/2 inch (3 to 6 mm)	✓		✓	✓
DH100	1/2 to 1 inch (13 to 25 mm)	✓			
DH150	1 to 1 1/2 inch (25 to 38 mm)	✓			
DH300	1 1/2 to 3 inch (38 to 75 mm)	✓			
High temperature sensors					
DT65	1/4 to 1/2 inch (6 to 13 mm)		✓		
DT100	1/2 to 1 inch (13 to 25 mm)		✓		
DT150	1 to 1 1/2 inch (25 to 38 mm)		✓		

Liquid flow performance

		Mass		Volume	
		lb/min	kg/hr	gal/min	l/hr
Nominal flow range[1]					
Standard sensors	D150 Tefzel	0 to 1400	0 to 38,136	0 to 168	0 to 38,136
	D300	0 to 7000	0 to 190,680	0 to 839	0 to 190,680
	D600	0 to 25,000	0 to 681,000	0 to 2998	0 to 681,000
High-pressure sensors	DH25	0 to 25	0 to 681	0 to 3	0 to 681
	DH38	0 to 25	0 to 681	0 to 3	0 to 681
	DH100	0 to 400	0 to 10,896	0 to 48	0 to 10,896
	DH150	0 to 1400	0 to 38,136	0 to 168	0 to 38,136
	DH300	0 to 7000	0 to 190,680	0 to 839	0 to 190,680
High-temperature sensors	DT65	0 to 150	0 to 4086	0 to 18	0 to 4086
	DT100	0 to 400	0 to 10,896	0 to 48	0 to 10,896
	DT150	0 to 700	0 to 19,680	0 to 84	0 to 19,680
Maximum flow rate					
Standard sensors	D150 Tefzel	2800	76,272	336	76,272
	D300	7000	190,680	839	190,680
	D600	25,000	681,000	2998	681,000
High-pressure sensors	DH25	25	681	3	681
	DH38	50	1362	6	1362
	DH100	800	21,792	96	21,792
	DH150	2800	76,272	336	76,272
	DH300	7000	190,680	839	190,680
High-temperature sensors	DT65	300	8172	36	8172
	DT100	800	21,792	96	21,792
	DT150	1400	38,136	168	38,136

(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 D and DT sensors.

Liquid flow performance *continued*

Accuracy[1]	Transmitter with MVD Technology	±0.15%[2]			
	All other transmitters	±0.15% $\pm\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right)\times 100\right]$% of rate			
Repeatability[1]	Transmitter with MVD Technology	±0.05%[2]			
	All other transmitters	±0.05% $\pm\left[½\left(\frac{\text{zero stability}}{\text{flow rate}}\right)\times 100\right]$% of rate			
Zero stability		lb/min	kg/hr	gal/min	l/hr
Standard sensors	D150 Tefzel	0.30	8.2	0.036	8.2
	D300	0.70	19.1	0.084	19.1
	D600	2.5	68.1	0.300	68.1
High-pressure sensors	DH25	0.006	0.16	0.0007	0.16
	DH38	0.025	0.62	0.003	0.62
	DH100	0.30	8.2	0.036	8.2
	DH150	1.2	32.7	0.144	32.7
	DH300	4.0	109.0	0.480	109.0
High-temperature sensors	DT65	0.03	0.82	0.004	0.82
	DT100	0.08	2.18	0.010	2.18
	DT150	0.14	3.81	0.017	3.81

(1) 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.

(2) When flow rate $< \frac{\text{zero stability}}{0.0015}$, *accuracy* $= \pm\left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right)\times 100\right]$*% of rate and*

repeatability $= \pm\left[½\left(\frac{\text{zero stability}}{\text{flow rate}}\right)\times 100\right]$*% of rate.*

Liquid flow performance *continued*

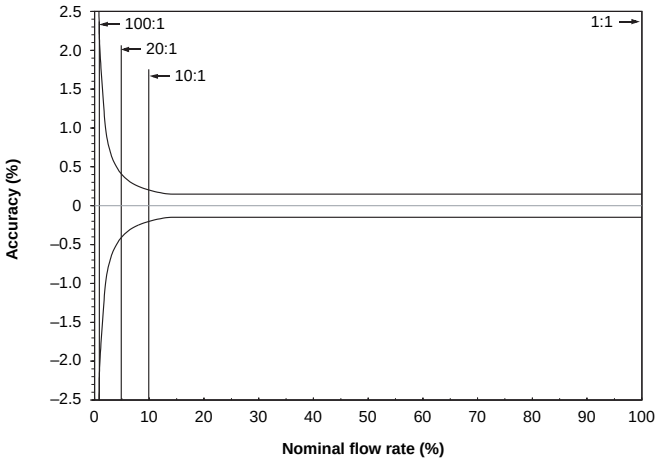
Typical accuracy, turndown, and pressure drop

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

Standard sensors with transmitter with MVD Technology

Accuracy (± %)					
Turndown		*100:1*	*20:1*	*10:1*	*1:1*
D150 Tefzel		2.14	0.43	0.21	0.15
D300		1.0	0.2	0.15	0.15
D600		1.0	0.2	0.15	0.15

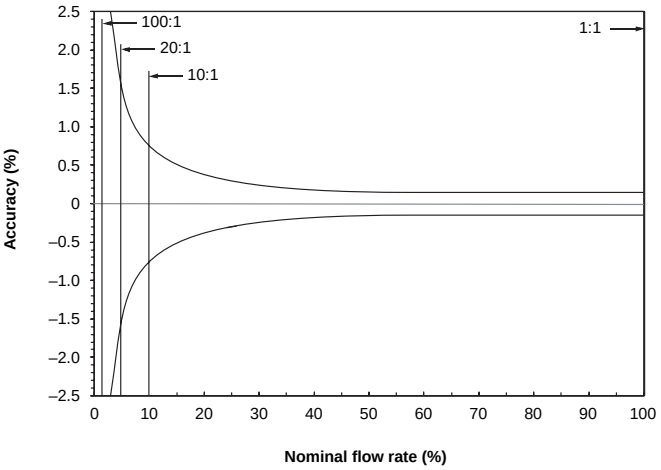
Pressure drop					
Turndown		*100:1*	*20:1*	*10:1*	*1:1*
D150 Tefzel	psi	~0	0.1	0.2	15.8
	bar	~0	0.01	0.01	1.09
D300	psi	~0	0.1	0.2	15.1
	bar	~0	0.01	0.01	1.04
D600	psi	~0	0.1	0.1	7.3
	bar	~0	0.01	0.01	0.5



High-pressure sensors with transmitter with MVD Technology

Accuracy (± %)					
Turndown		*100:1*	*20:1*	*10:1*	*1:1*
DH25		2.4	0.48	0.24	0.15
DH38		10.0	2.0	1.0	0.15
DH100		7.5	1.5	0.75	0.15
DH150		8.57	1.71	0.86	0.15
DH300		5.71	1.14	0.57	0.15

Pressure drop					
Turndown		*100:1*	*20:1*	*10:1*	*1:1*
DH25	psi	~0	0.1	0.4	22.3
	bar	~0	0.01	0.03	1.5
DH38	psi	~0	0.1	0.2	12.0
	bar	~0	0.01	0.01	0.83
DH100	psi	~0	0.1	0.2	12.4
	bar	~0	0.01	0.01	0.84
DH150	psi	~0	0.1	0.2	15.0
	bar	~0	0.01	0.01	1.0
DH300	psi	~0	0.1	0.3	21.0
	bar	~0	0.01	0.02	1.4



Liquid flow performance *continued*

Typical accuracy, turndown, and pressure drop

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

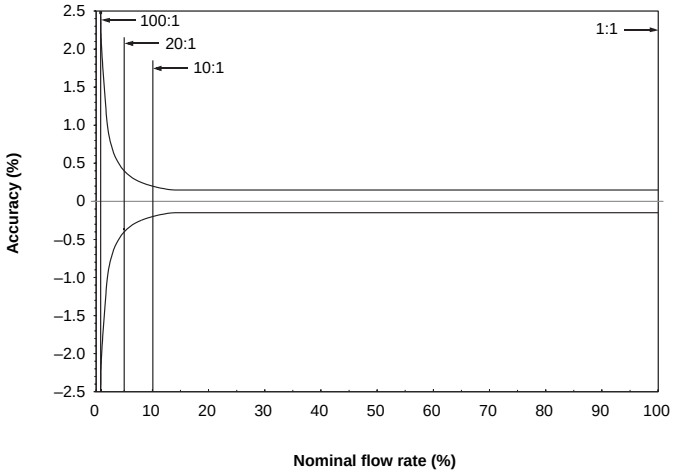
High-temperature sensors with transmitter with MVD Technology

Accuracy (± %)

Turndown		*100:1*	*20:1*	*10:1*	*1:1*
DT65		2.0	0.40	0.20	0.15
DT100		2.0	0.40	0.20	0.15
DT150		2.0	0.40	0.20	0.15

Pressure drop

Turndown		*100:1*	*20:1*	*10:1*	*1:1*
DT65	psi	~0	0.1	0.2	13.2
	bar	~0	0.01	0.01	0.91
DT100	psi	~0	0.1	0.2	16.2
	bar	~0	0.01	0.01	1.12
DT150	psi	~0	0.1	0.1	4.6
	bar	~0	0.01	0.01	0.32



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**.

		lb/min	kg/hr
Nominal flow range[1]			
Standard sensors	D150 Tefzel	0 to 1400	0 to 38,136
	D300	—	—
	D600	0 to 25,000	0 to 681,000
High-pressure sensors	DH25	0 to 25	0 to 681
	DH38	0 to 25	0 to 681
	DH100	0 to 400	0 to 10,896
	DH150	0 to 1400	0 to 38,136
	DH300	—	—
High-temperature sensors	DT65	0 to 150	0 to 4086
	DT100	0 to 400	0 to 10,896
	DT150	0 to 700	0 to 19,680
Maximum flow rate[2]			
Standard sensors	D150 Tefzel	2800	76,272
	D300	7000	190,680
	D600	25,000	681,000
High-pressure sensors	DH25	25	681
	DH38	50	1362
	DH100	800	21,792
	DH150	2800	76,272
	DH300	7000	190,680
High-temperature sensors	DT65	300	8172
	DT100	800	21,792
	DT150	1400	38,136

(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 D and DT sensors.

(2) When measuring gases, the velocity limit is 200 ft/s (61 m/sec).

Gas flow performance *continued*

Accuracy[1]

All models except D300 and DH38	Transmitter with MVD Technology	±0.65%[2]
	All other transmitters	$\pm 0.65\% \pm \left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$% of rate
Model DH38	Transmitter with MVD Technology	±0.50%[3]
	All other transmitters	$\pm 0.50\% \pm \left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$% of rate

Repeatability[1]

All models except D300 and DH38	Transmitter with MVD Technology	±0.30%[2]
	All other transmitters	$\pm 0.30\% \pm \left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$% of rate
Model DH38	Transmitter with MVD Technology	±0.25%[3]
	All other transmitters	$\pm 0.25\% \pm \left[\left(\frac{\text{zero stability}}{\text{flow rate}}\right) \times 100\right]$% of rate

Zero stability		lb/min	kg/hr
Standard sensors	D150 Tefzel	0.30	8.2
	D300	0.70	19.1
	D600	2.5	68.1
High-pressure sensors	DH25	0.006	0.16
	DH38	0.025	0.62
	DH100	0.30	8.2
	DH150	1.2	32.7
	DH300	4.0	109.0
High-temperature sensors	DT65	0.03	0.82
	DT100	0.08	2.18
	DT150	0.14	3.81

(1) 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.

(2) When flow rate $< \frac{\text{zero stability}}{0.0065}$*, 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.*

(3) When flow rate $< \frac{\text{zero stability}}{0.005}$*, 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.*

Density specifications (liquid only)

		With model 2500, 2700, 3500, 3700, or RFT9739 transmitter		With Model IFT9701 transmitter[1]	
		g/cc	kg/m^3	g/cc	kg/m^3
Accuracy	D150 Tefzel[2]	±0.002	±2.0	±0.002	±2.0
	D300	±0.0005	±0.5	±0.002	±2.0
	D300 Tefzel[2]	±0.001	±1.0	±0.002	±2.0
	D600	±0.0005	±0.5	n/a	n/a
	DH25	±0.004	±4.0	±0.004	±4.0
	DH38	±0.004	±4.0	±0.004	±4.0
	DH100	±0.002	±2.0	±0.002	±2.0
	DH150	±0.002	±2.0	±0.002	±2.0
	DH300	±0.001	±1.0	±0.002	±2.0
	DT65	±0.001	±1.0	n/a	n/a
	DT100	±0.001	±1.0	n/a	n/a
	DT150	±0.001	±1.0	n/a	n/a
Repeatability	D150 Tefzel	±0.001	±1.0	±0.001	±1.0
	D300	±0.0002	±0.2	±0.001	±1.0
	D300 Tefzel	±0.0005	±0.5	±0.001	±1.0
	D600	±0.0002	±0.2	n/a	n/a
	DH25	±0.002	±2.0	±0.002	±2.0
	DH38	±0.002	±2.0	±0.002	±2.0
	DH100	±0.001	±1.0	±0.001	±1.0
	DH150	±0.001	±1.0	±0.001	±1.0
	DH300	±0.0005	±0.5	±0.001	±1.0
	DT65	±0.0005	±0.5	n/a	n/a
	DT100	±0.0005	±0.5	n/a	n/a
	DT150	±0.0005	±0.5	n/a	n/a
Range	All models	0 to 5	0 to 5000	0 to 5	0 to 5000

(1) Model D600 and DT sensors cannot be used with IFT9701 transmitters.

(2) Flow tubes are 316L stainless steel with Tefzel lining.

Temperature specifications

Accuracy			±1 °C ± 0.5% of reading in °C	
Repeatability			±0.2 °C	
Process fluid limits			°F	°C
Standard sensors	D150 Tefzel[1]		+32 to +250	0 to +121
	D300		–400 to +400	–240 to +204
	D300 Tefzel[1]		+32 to +250	0 to +121
	D600[2]	With integral booster amplifier	–58 to +140	–50 to +60
		With remote booster amplifier[3]	–400 to +400	–240 to +204
High-pressure sensors	DH25, DH38		–400 to +350	–240 to +177
	DH100, DH150, DH300		–400 to +400	–240 to +204
High-temperature sensors	DT65, DT100, DH150		+32 to +800	0 to +426
Ambient limits			°F	°C
UL	All models except D600		+104 maximum	+40 maximum
	D600		–22 to +140	–30 to +60
CSA	All models except D600		–40 to +140	–40 to +60
	D600		–58 to +140	–50 to +60
ATEX	All models		Refer to graphs on pages 16–18.	

(1) Flow tubes are 316L stainless steel with Tefzel lining. Maximum allowable rate of sensor temperature change for Tefzel meters is 30 °F/hr (17 °C/hr).

(2) Temperature limits for approved Model D600 sensors:

		Process fluid	***Ambient***
ATEX	*integral booster amplifier*	*–4 to +140 °F (–20 to +60 °C)*	*–4 to +140 °F (–20 to +60 °C)*
	remote booster amplifier	*–4 to +189 °F (–20 to +87 °C)*	*–4 to +140 °F (–20 to +60 °C)*
CSA	*integral booster amplifier*	*–58 to +140 °F (–50 to +60 °C)*	*–58 to +140 °F (–50 to +60 °C)*
	remote booster amplifier	*–58 to +212 °F (–50 to +100 °C)*	*–58 to +140 °F (–50 to +60 °C)*
UL	*integral booster amplifier*	*–22 to +140 °F (–30 to +60 °C)*	*–22 to +140 °F (–30 to +60 °C)*
	remote booster amplifier	*–22 to +212 °F (–30 to +100 °C)*	*–22 to +140 °F (–30 to +60 °C)*

(3) The remote booster amplifier has ambient temperature limits of –40 to +140 °F (–40 to +60 °C).

Pressure ratings

		psi	bar
Flow tube rating[1]	D150 Tefzel[2]	1000	69
	D300	740	51
	D300 Tefzel[2]	740	51
	D600	625	43
	DH25	4000	276
	DH38	5200	358
	DH100	4937	340
	DH150	4615	318
	DH300	3110	214
	DT65[3]	900	62
	DT100[3]	900	62
	DT150[3]	600	41
PED compliance	Sensors comply to council directive 97/23/EC of 29 May 1997 on Pressure Equipment.		
Housing	All models	Housing is not rated for pressure containment.	

(1) Flow tube pressure rating at 77 °F (25 °C), according to ASME B31.3. For higher operating temperatures, tube pressure needs to be derated as follows:

Stainless steel sensors	*7.2% derating from 301 to 400 °F (149 to 204 °C)*
Nickel alloy sensors	*2% derating from 201 to 300 °F (94 to 148 °C)*
	9.2% derating from 301 to 400 °F (149 to 204 °C)

(2) Flow tubes are 316L stainless steel with Tefzel lining.

(3) Pressure rating at 800 °F (426 °C).

Power supply

	A power supply is required for the D600 booster amplifier.	
	Integral or remote mount booster amplifier	85–250 VAC, 50/60 Hz

Environmental effects

Process temperature effect

Process temperature effect is defined as the worst-case zero offset due to process fluid temperature change away from the zeroing temperature.

		% of nominal flow rate per °C[1]
Standard sensors	D150 Tefzel[2]	±0.002
	D300, D300 Tefzel[2], D600	±0.004
High-pressure sensors	DH25, DH38, DH100, DH150, DH300	±0.01
High-temperature sensors	DT65, DT100, DT150	±0.002

Temperature offset

The long-term temperature offset causes a shift in sensor calibration, which is attributed to a long-term change in the elasticity modulus as a result of sensor operation at elevated temperatures. The calibration shift is always negative and causes the flowmeter to read lower than the actual flow rate. The effects of this shift can be minimized with periodic calibration. Only Model DT sensors are affected.

	Offset
DT65, DT100, DT150	Above 600 °F (315 °C), –0.092% of rate per °C in addition to process temperature effect (above)

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. Only the sensors listed below are affected.

	Pressure effect on flow accuracy	
	% of rate per psi	% of rate per bar
D300	–0.009	–0.131
D300 Tefzel[2]	–0.009	–0.131
D600	–0.005	–0.073

	Pressure effect on density accuracy	
	g/cc per psi	kg/m^3 per bar
D300	–0.00001	–0.0175
D300 Tefzel[2]	–0.00001	–0.0175
D600	–0.0000031	–0.045

(1) Nominal flow rate is the upper limit of the nominal flow range.

(2) Flow tubes are 316L stainless steel with Tefzel lining.

Hazardous area classifications

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

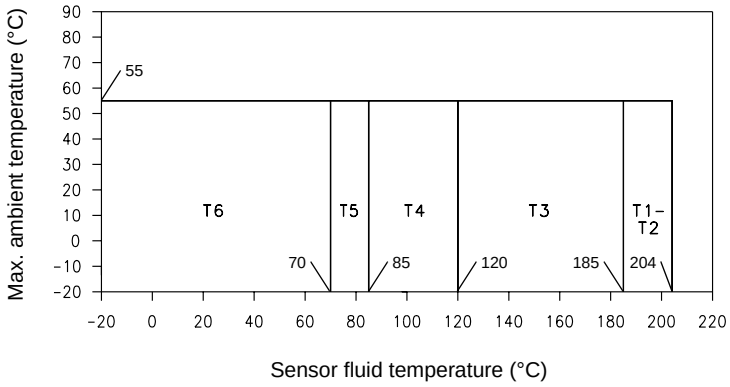
UL	D sensors, DH sensors	Class I, Div. 1, Groups C and D Class I, Div. 2, Groups A, B, C, and D Class II, Div. 1, Groups E, F, and G
	DT sensors	Class I, Div. 1, Groups C and D Class I, Div. 2, Groups A, B, C, and D
CSA	D sensors, DH sensors	Class I, Div. 1, Groups C and D Class I, Div. 2, Groups A, B, C, and D Class II, Div. 1, Groups E, F, and G
	DT sensors	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
SAA	D150 Tefzel, DH150, DT65, DT100, DT150	Ex ib IIB T6
	D300, D300 Tefzel, DH25, DH38, DH100, DH300	Ex ib IIB T4

Hazardous area classifications *continued*

ATEX[1]

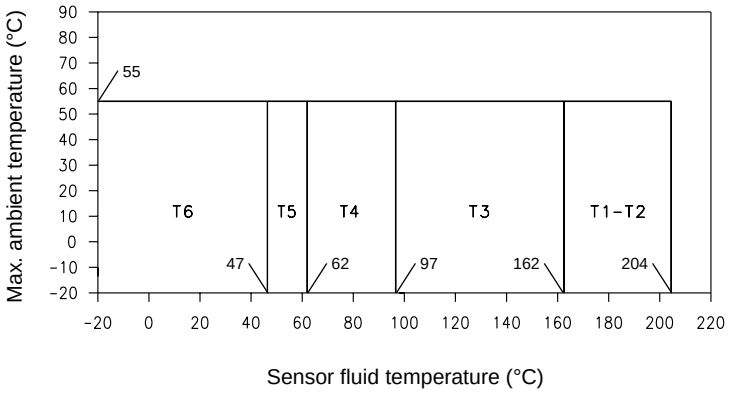
D150
DH100, DH150

EEx ib IIB T1–T6



D300
DH300

EEx ib IIB T1–T6



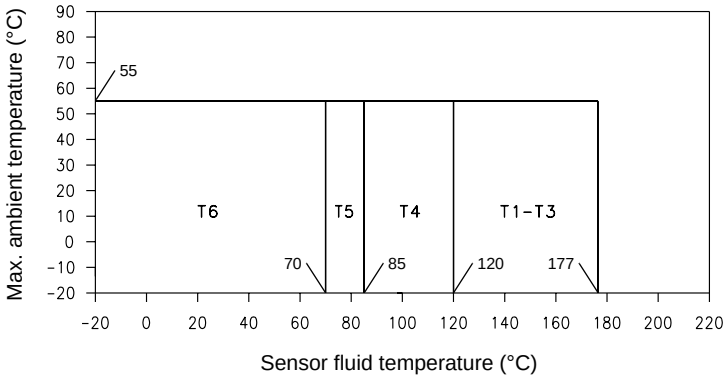
(1) ATEX "T" rating depends on the maximum temperature shown in the graphs above.

Hazardous area classifications *continued*

ATEX[1]

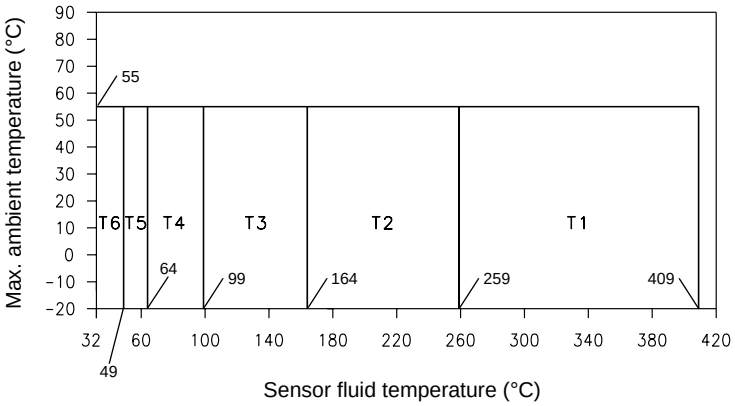
DH25, DH38

EEx ib IIC T1–T6



DT65, DT100, DT150

EEx ib IIB T1–T6



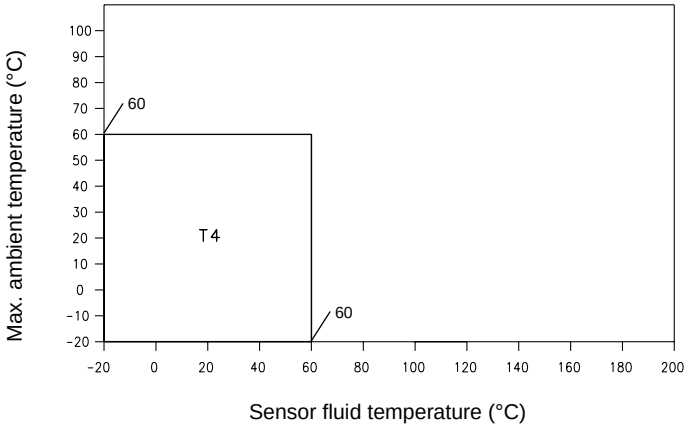
(1) ATEX "T" rating depends on the maximum temperature shown in the graphs above.

Hazardous area classifications *continued*

ATEX[1]

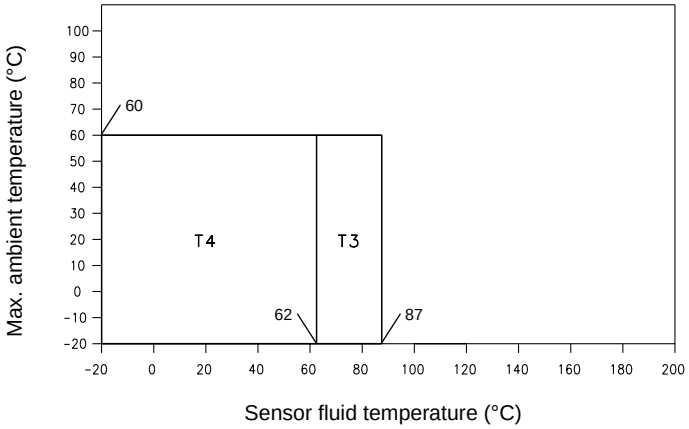
D600 with integrally mounted booster amplifier

EEx de [ib] IIB T4



D600 with remote booster amplifier

EEx de [ib] IIB T3–T4



(1) ATEX "T" rating depends on the maximum temperature shown in the graphs above.

Materials of construction

Sensors are available with the materials shown in the table below. For specific sensor material options, refer to the ordering information on pages 33–35. For wetted parts, material codes are:

SS	316L stainless steel flow tubes and flanges, CF-3M SS manifolds
Ni	Hastelloy® C-22 nickel alloy flow tubes and glands with Hastelloy CW-2M nickel alloy manifolds
Ni/SS	Hastelloy C-22 nickel alloy flow tubes with 316L SS manifolds and flanges
Lined	316L stainless steel flow tubes with Tefzel lining, CF-3M SS manifolds

Wetted parts[1]		**SS**	**Ni**	**Ni/SS**	**Lined**
Standard sensors	D150 Tefzel				✓
	D300	✓	✓		✓
	D600	✓			
High-pressure sensors	DH25	✓			
	DH38	✓			
	DH100	✓			
	DH150	✓			
	DH300	✓			
High-pressure sensors	DT65			✓	
	DT100			✓	
	DT150			✓	

Housing	304 stainless steel
Core processor	Epoxy-painted aluminum or 316L stainless steel
Junction box	Epoxy-coated aluminum
Booster amplifier	Epoxy-coated aluminum

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

Weight

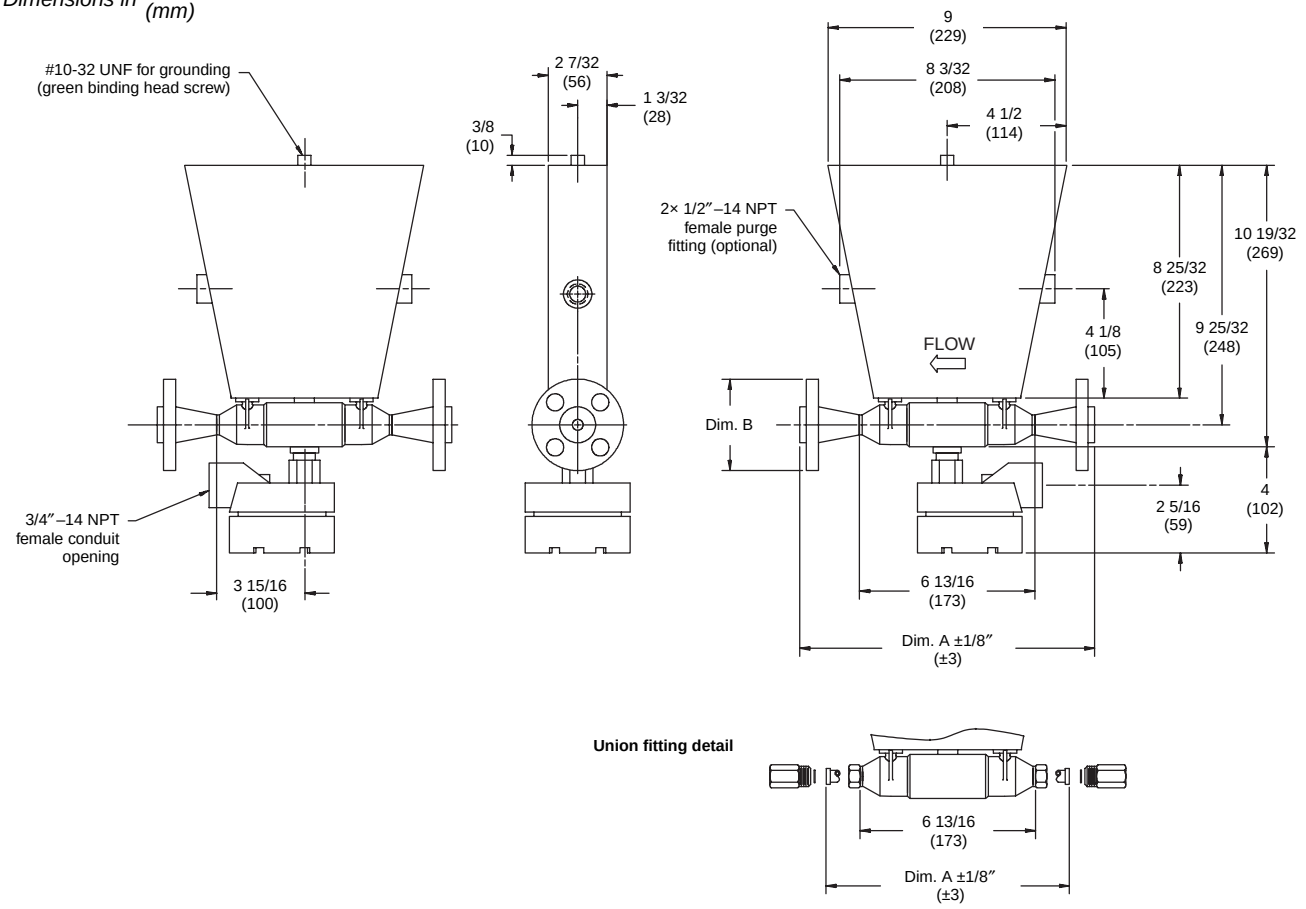
Approximate weight of sensors with noted process fittings.

			Process connection	lb	kg
Standard sensors	D150 Tefzel		1 1/2″ ANSI 150 lb WNRF flanges	46	20.9
	D300		3″ ANSI 150 lb WNRF flanges	113	60.4
	D600	With integrally mounted booster amplifier	6″ ANSI 150 lb WNRF flanges	884	401
		With remote booster amplifier	6″ ANSI 150 lb WNRF flanges	889	403
High-pressure sensors	DH25		3/8″ NPT union fittings	8	3.6
	DH38		3/8″ NPT union fittings	8	3.6
	DH100		1 1/2″ high-pressure, clamp-type flanges	80	36.4
	DH150		1 1/2″ high-pressure, clamp-type flanges	80	36.4
	DH300		4″ high-pressure, clamp-type flanges	218	99.1
High-temperature sensors	DT65		1/2″ ANSI 300 lb WNRF flanges	52	24
	DT100		1″ ANSI 300 lb WNRF flanges	105	48
	DT150		1 1/2″ ANSI 300 lb WNRF flanges	155	70

Dimensions

Model DH25

Dimensions in inches (mm)

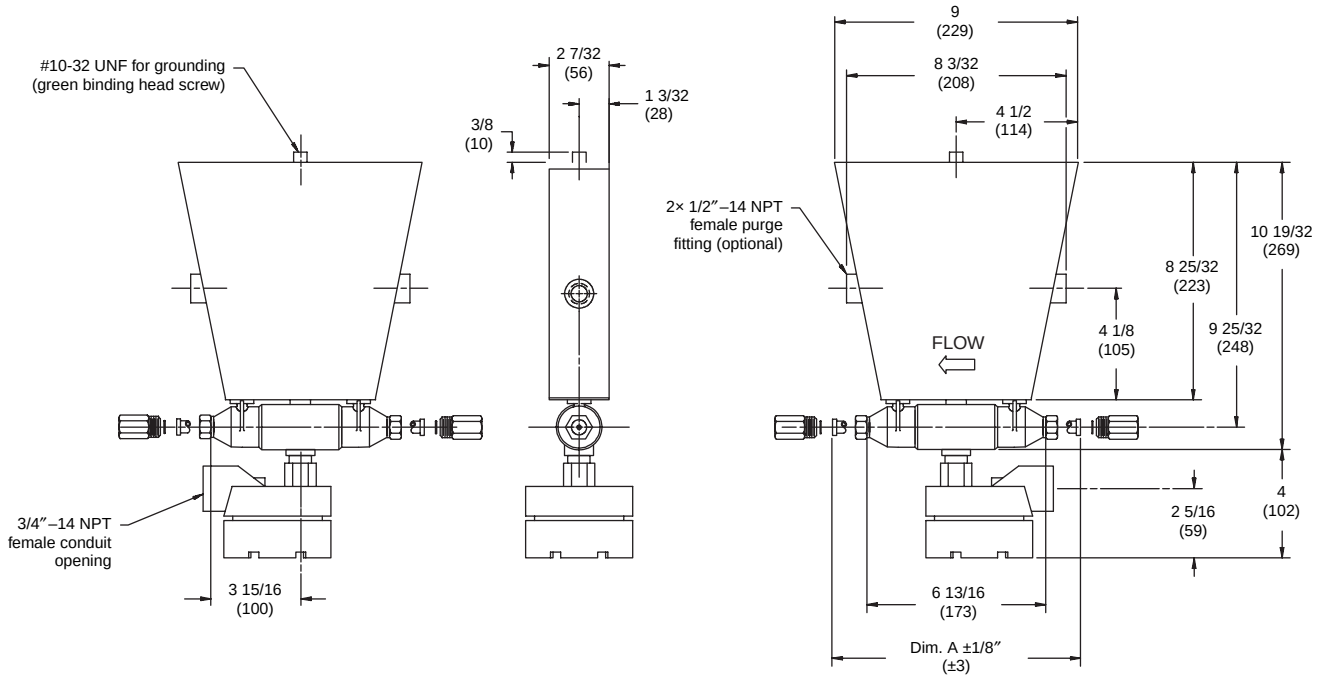


For dimensions A and B, see process fitting options on pages 30–32.

Dimensions *continued*

Model DH38

Dimensions in inches (mm)

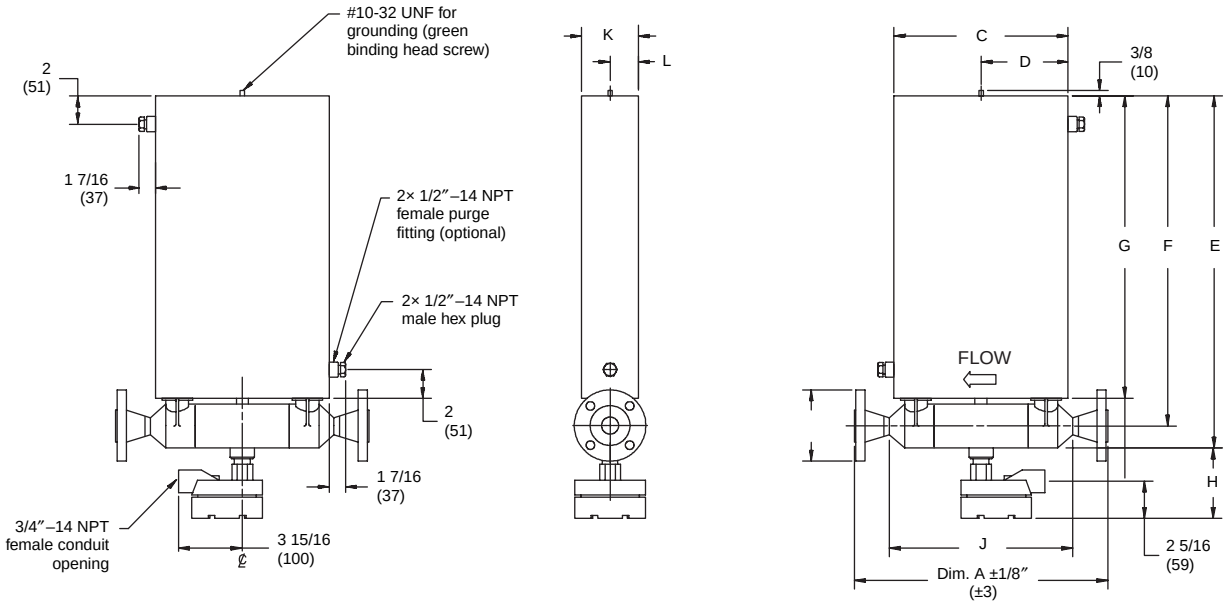


For dimensions A and B, see process fitting options on pages 30–32.

Dimensions *continued*

Models D100, D150, and DH150

Dimensions in inches (mm)



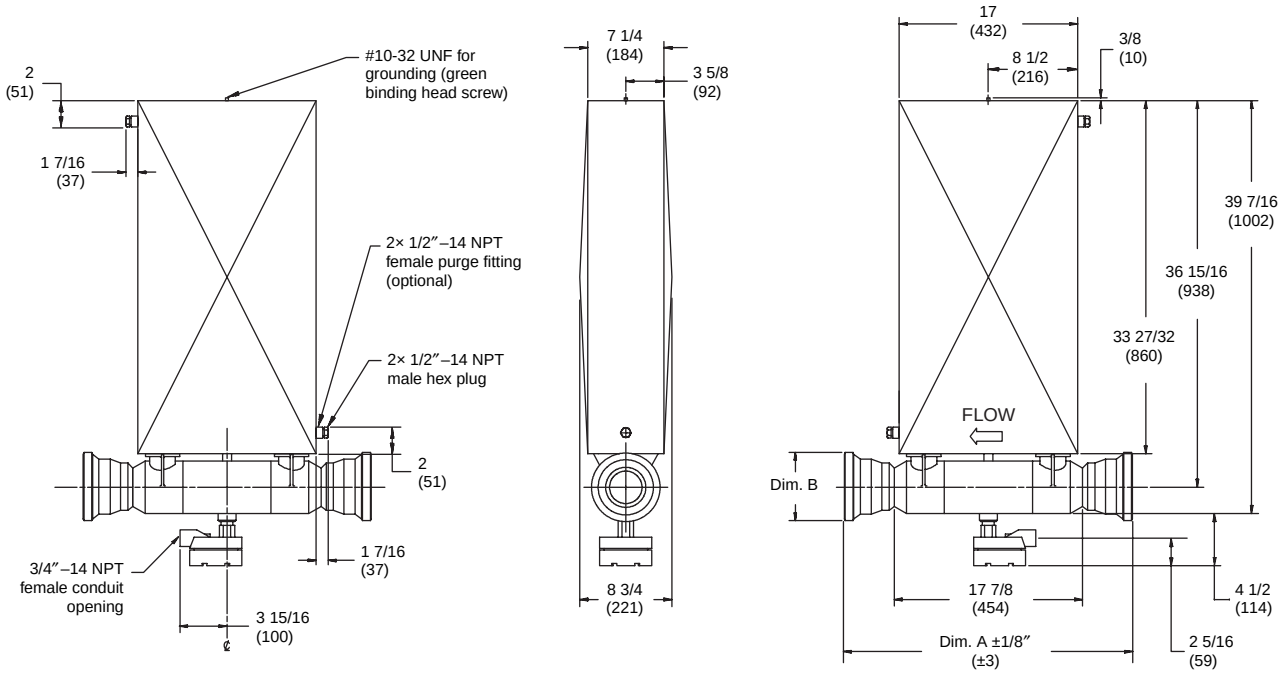
		Dimensions[1]								
		C	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**
D150 Tefzel	inches	12 1/4	6 1/8	24 3/4	23 5/16	21 9/32	4	12 7/8	4	2
	(mm)	(311)	(156)	(629)	(592)	(541)	(102)	(327)	(102)	(51)
DH100	inches	12 1/4	6 1/8	24 27/32	23 13/32	21 3/8	4	12 7/8	4	2
	(mm)	(311)	(156)	(631)	(595)	(543)	(102)	(327)	(102)	(51)
DH150	inches	12 3/4	6 3/8	28 11/32	26 29/32	24 29/32	4	12 7/8	4 1/2	2 1/4
	(mm)	(324)	(162)	(720)	(683)	(633)	(102)	(327)	(114)	(57)

(1) For dimensions A and B, see the process fitting options on pages 30–32.

Dimensions *continued*

Models D300, D300 Tefzel, D300 Hastelloy, and DH300

Dimensions in inches (mm)

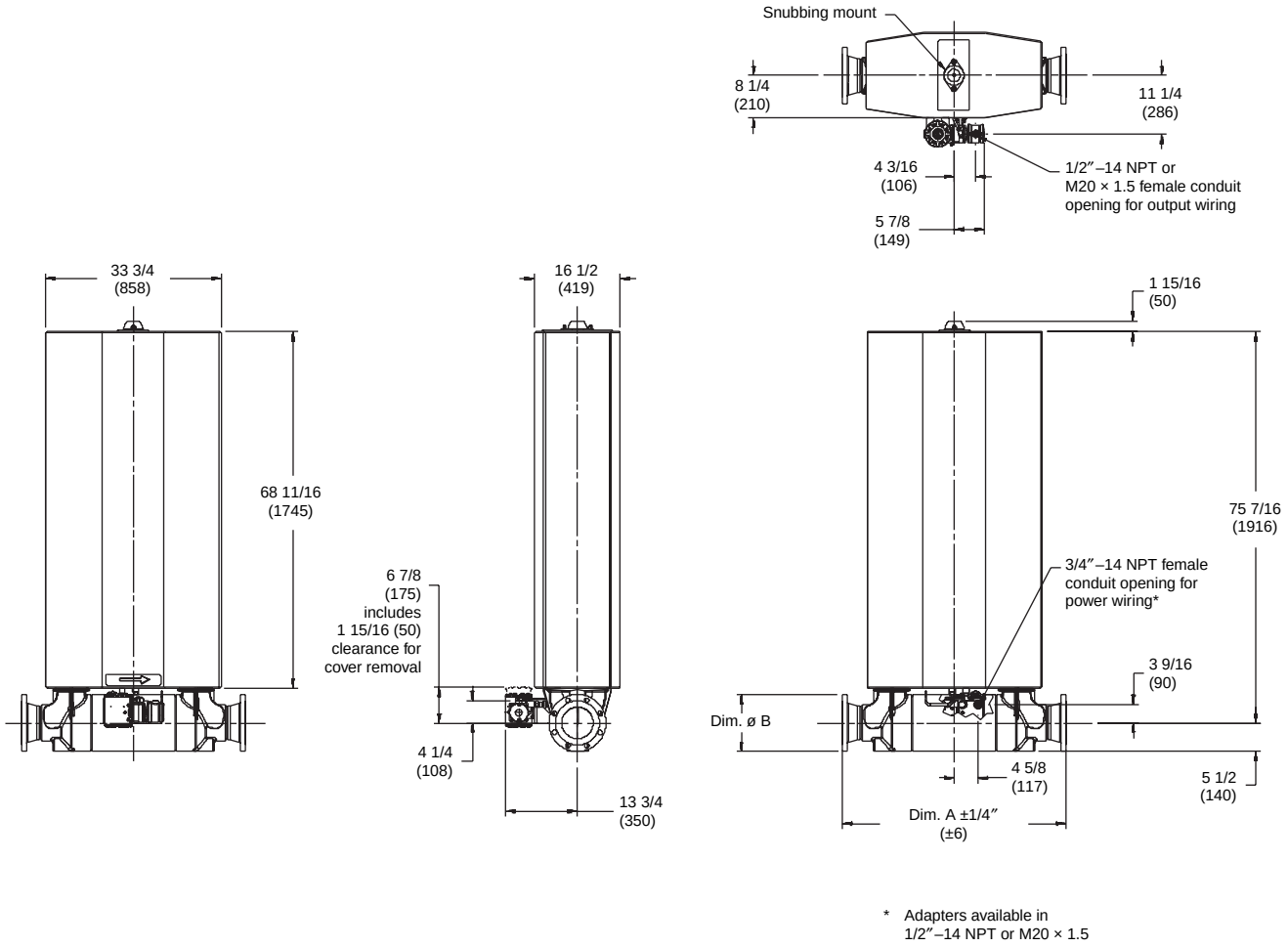


For dimensions A and B, see process fitting options on pages 30–32.

Dimensions *continued*

Model D600 with integrally mounted booster amplifier and core processor

Dimensions in inches (mm)



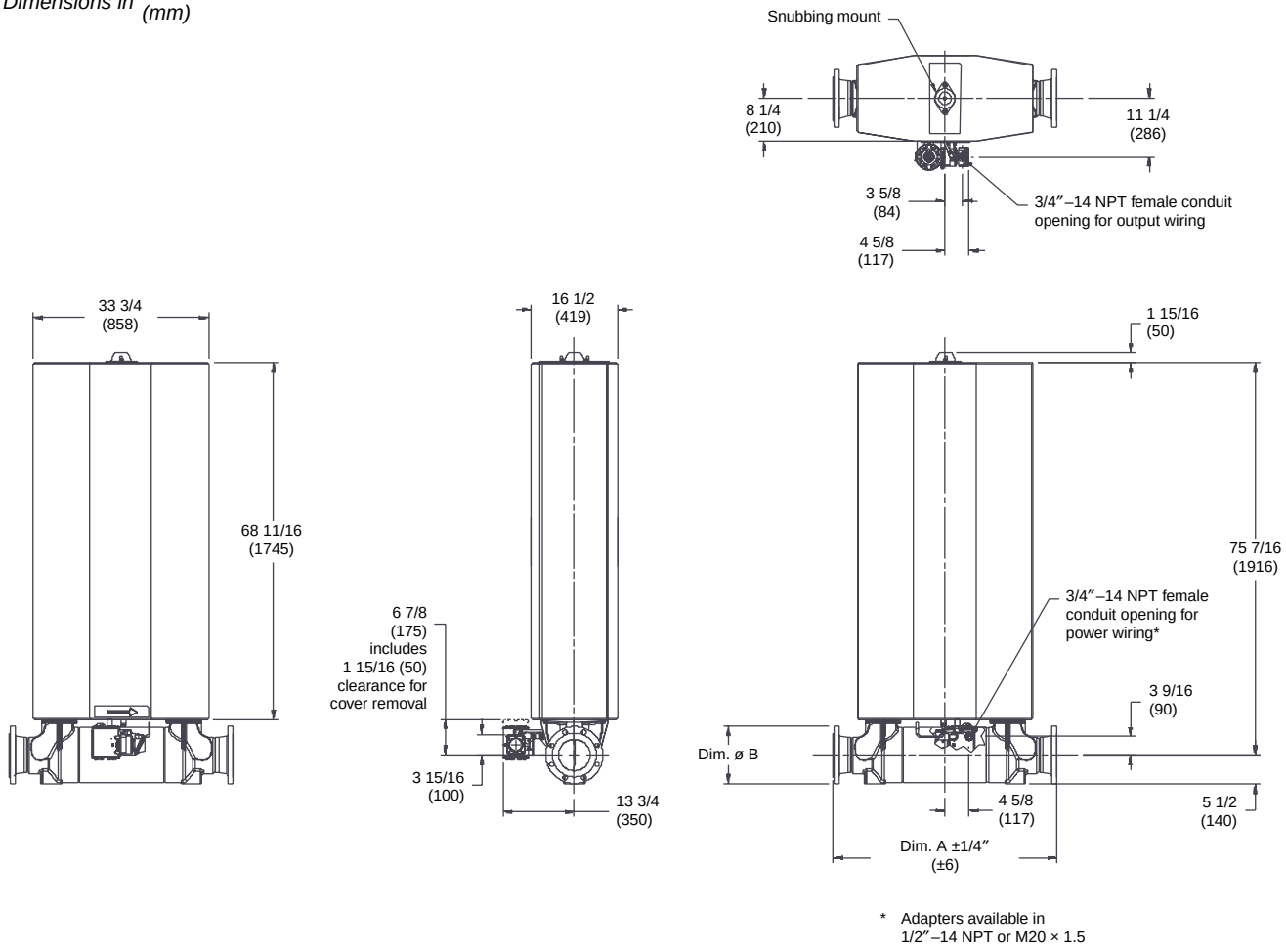
* Adapters available in 1/2″–14 NPT or M20 × 1.5

For dimensions A and B, see process fitting options on pages 30–32.

Dimensions *continued*

Model D600 with integrally mounted booster amplifier and junction box

Dimensions in inches (mm)

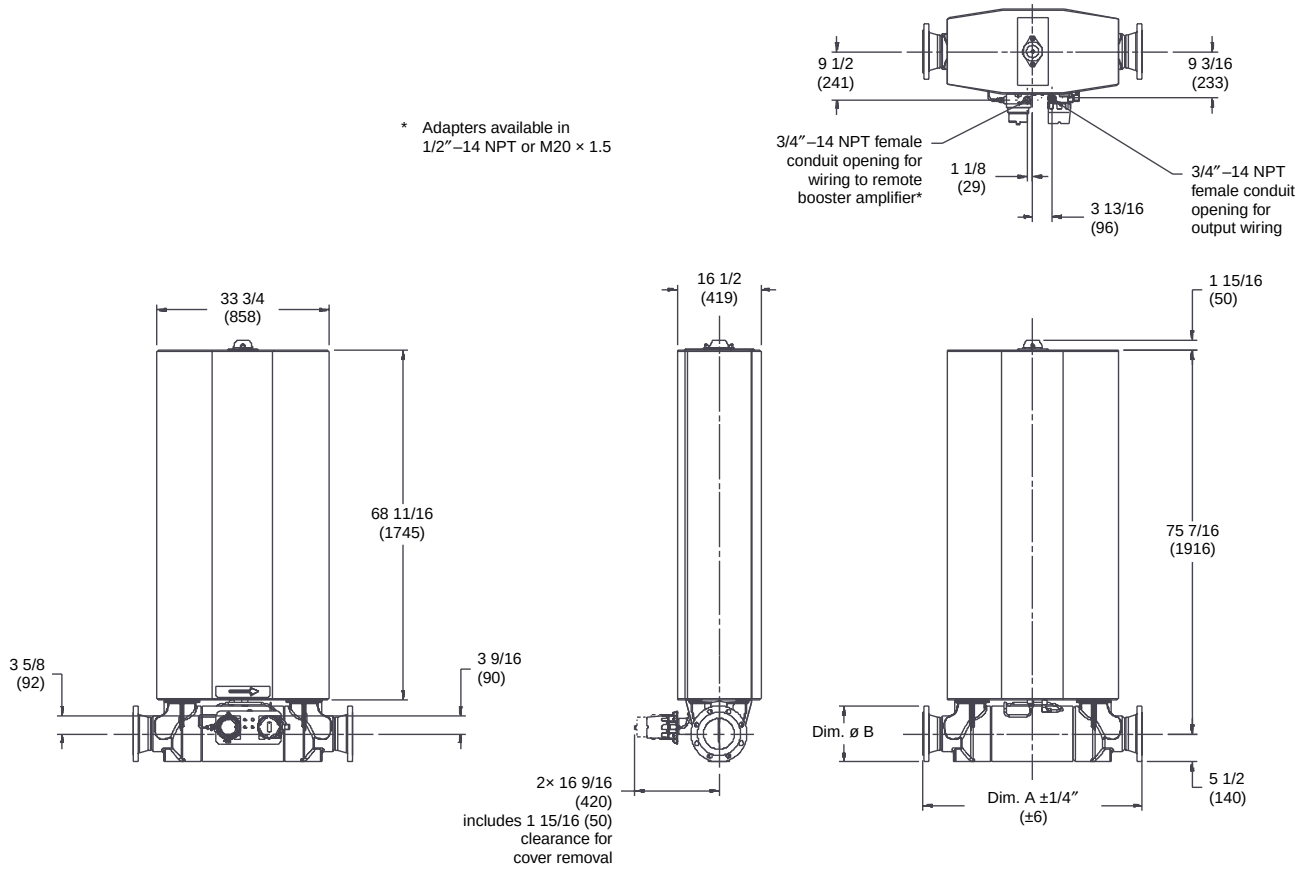


For dimensions A and B, see process fitting options on pages 30–32.

Dimensions *continued*

Model D600 with remote booster amplifier

Dimensions in inches (mm)

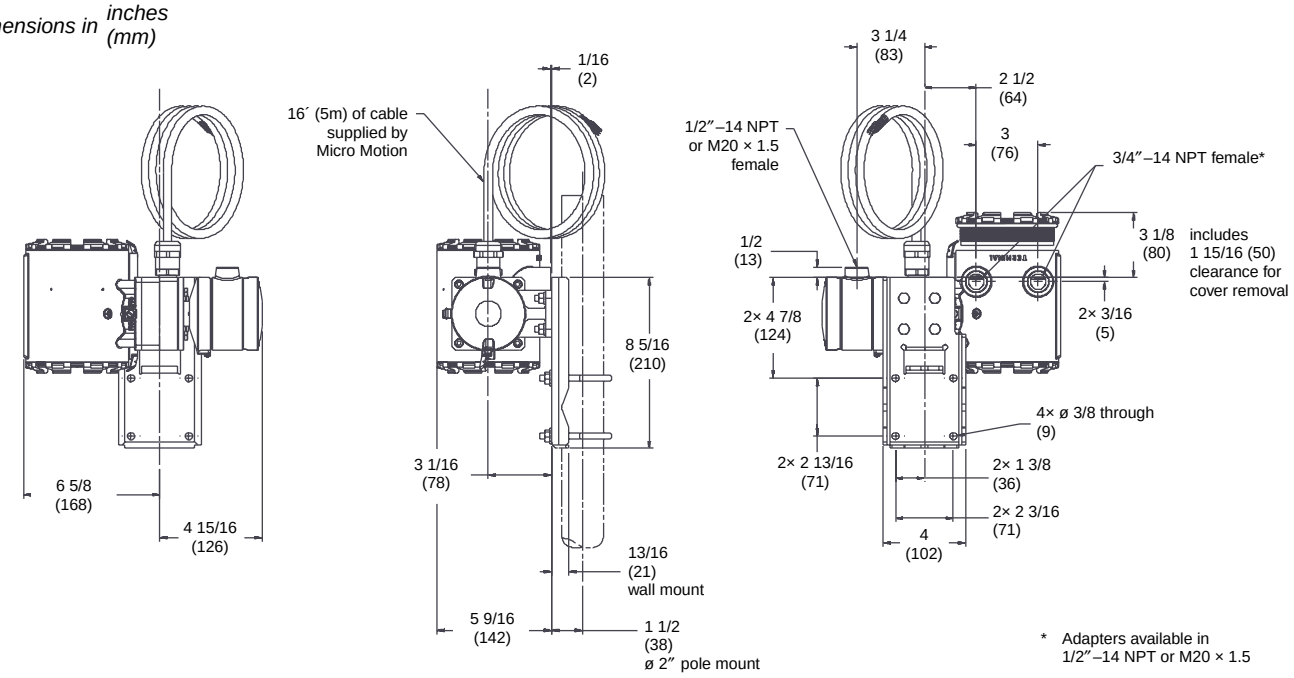


For dimensions A and B, see process fitting options on pages 30–32.

Dimensions *continued*

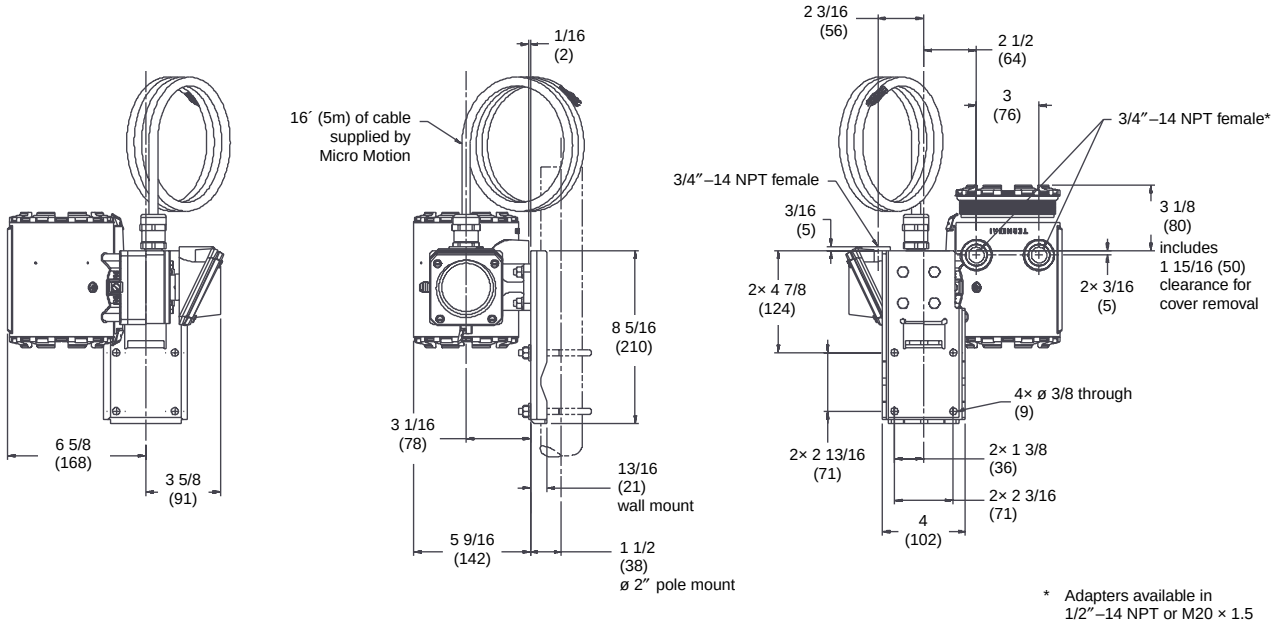
Remote booster amplifier with core processor

Dimensions in inches (mm)



Remote booster amplifier with junction box

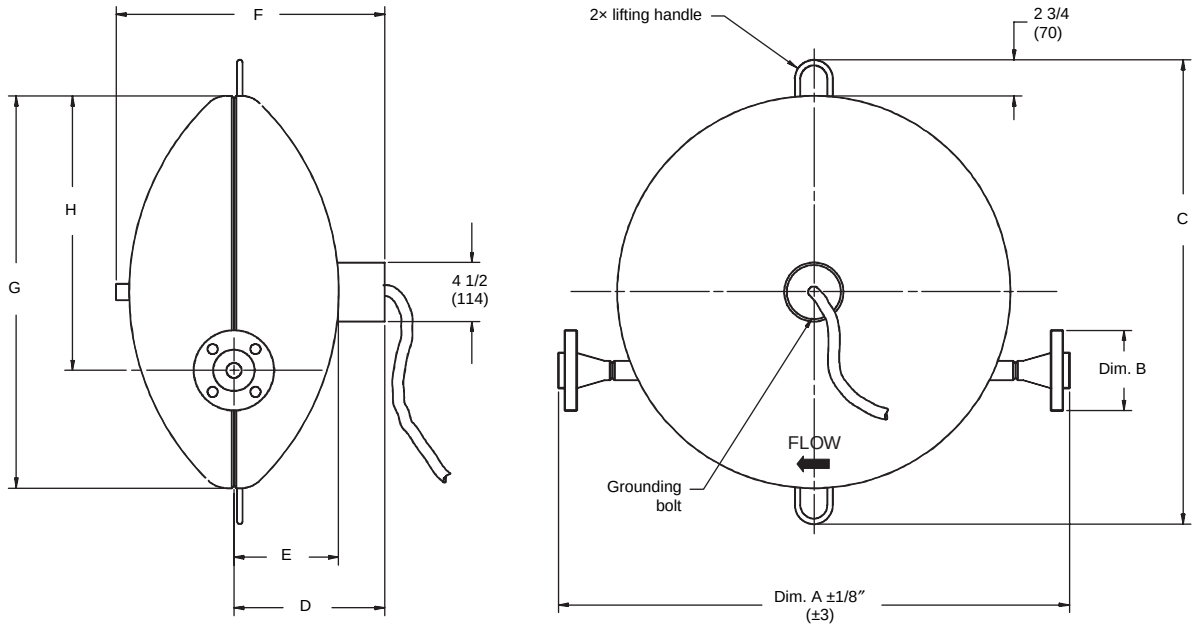
Dimensions in inches (mm)



Dimensions *continued*

Models DT65, DT100, and DT150

Dimensions in inches (mm)



		Dimensions[1]					
		C	**D**	**E**	**F**	**G**	**H**
DT65	inches	25 1/2	9	5 1/2	15 1/2	20	16
	(mm)	(648)	(229)	(140)	(394)	(508)	(406)
DT100	inches	29 1/2	10	6 1/2	17 1/2	24	18
	(mm)	(749)	(254)	(165)	(444)	(610)	(457)
DT150	inches	35 1/2	11 1/2	8	20 1/2	30	21
	(mm)	(902)	(292)	(203)	(521)	(762)	(533)

(1) For dimensions A and B, see the process fitting options on pages 30–32.

Fitting options

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
DH25 fitting options[1]			
1-inch high-pressure clamp-type flange[2]	225	10 1/4 (260)	2 (51)
1/2-inch 900/1500 lb weld neck raised face flange	903	11 31/32 (304)	5 1/4 (133)
1/2-inch 2500 lb weld neck raised face flange	905	12 31/32 (329)	4 1/4 (108)
3/8-inch NPT female union fitting	119	8 1/8 (206)	—
15mm DIN PN160 weld neck flange, DIN 2638, type E face	901	11 31/32 (304)	4 1/8 (105)
15mm DIN PN250 weld neck flange, DIN2628, type E face	902	11 31/32 (304)	5 1/8 (130)
DH38 fitting options[1]			
3/8-inch NPT female union fitting	119	8 1/8 (206)	—
DH100 fitting options[1]			
1 1/2-inch high-pressure clamp-type flange[3]	140	17 1/2 (445)	3 1/8 (79)
1-inch ANSI 900/1500 lb weld neck raised face flange	925	19 1/16 (484)	5 7/8 (149)
1-inch ANSI 2500 lb weld neck raised face flange	927	20 9/32 (515)	6 1/4 (159)
25 mm DIN PN250 weld face flange, DIN 2628, type E face	922	17 29/32 (455)	5 29/32 (150)
25 mm DIN PN320 weld face flange, DIN 2629, type E face	923	18 15/16 (481)	6 15/16 (160)
25 mm DIN PN400 weld face flange, DIN 2627, type E face	924	19 7/8 (505)	7 1/16 (179)
DH150 fitting options[1]			
1 1/2-inch high-pressure clamp-type flange[4]	154	17 1/2 (445)	3 1/8 (79)
1 1/2-inch ANSI 900/1500 lb weld neck raised face flange	936	19 25/32 (502)	7 (178)
1 1/2-inch ANSI 2500 lb weld neck raised face flange	938	22 1/32 (560)	8 (203)
40 mm DIN PN160 weld neck flange, DIN 2638, type E face	932	17 13/16 (452)	6 11/16 (170)
40 mm DIN PN250 weld neck raised face flange, DIN 2628 type E face	933	19 1/16 (484)	7 9/32 (185)
40 mm DIN PN320 weld neck raised face flange, DIN 2629, type E face	934	19 23/32 (501)	7 11/16 (195)
40 mm DIN PN400 weld neck raised face flange, DIN 2627, type E face	935	21 7/16 (545)	8 21/32 (220)

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

(2) Oteco hub size: 1 OC4. Mating connectors (not included): Grayloc hub size 1 GR4, seal ring size 4; clamp size 1, stainless steel.

(3) Oteco hub size: 1½ OC11. Mating connectors (not included): Grayloc hub size 1½ GR11, seal ring size 11; clamp size 1½, stainless steel.

(4) Oteco hub size: 1½ OC14. Mating connectors (not included): Grayloc hub size 1½ GR14, seal ring size 14; clamp size 1½, stainless steel.

Fitting options *continued*

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
D150 Tefzel fitting options[1]			
1 1/2-inch ANSI 150 lb weld neck raised face flange	141	17 5/8 (448)	5 (127)
1 1/2-inch ANSI 300 lb weld neck raised face flange	142	18 1/8 (460)	6 1/8 (156)
1 1/2-inch ANSI 600 lb weld neck raised face flange	143	18 3/4 (476)	6 1/8 (156)
2-inch ANSI 150 lb weld neck raised face flange	218	17 25/32 (452)	6 (152)
40 mm DIN PN40, DIN 2635, type C face	144	16 5/16 (414)	5 29/32 (150)
D300 and D300 Tefzel fitting options[1]			
3-inch ANSI 150 lb weld neck raised face flange	155	23 1/4 (591)	7 1/2 (191)
3-inch ANSI 300 lb weld neck raised face flange	156	24 (610)	8 1/4 (210)
3-inch ANSI 600 lb weld neck raised face flange[2]	157	24 3/4 (629)	8 1/4 (210)
3-inch sanitary fitting[2]	161	21 3/8 (543)	3 19/32 (91)
80 mm DIN PN40, DIN 2635, type C face	158	22 5/16 (567)	7 7/8 (200)
80 mm DIN PN64 weld neck flange, DIN 2636, type E face	941	23 17/32 (598)	8 15/32 (215)
80 mm JIS 10K weld neck raised face flange[2]	159	21 11/16 (551)	7 9/32 (185)
80 mm JIS 20K weld neck raised face flange[2]	160	22 5/16 (567)	7 7/8 (200)
D300 Hastelloy fitting options[1]			
3-inch ANSI 150 lb lap joint flange	203	25 5/8 (651)	7 1/2 (191)
3-inch ANSI 300 lb lap joint flange	204	25 5/8 (651)	8 1/4 (210)
3-inch ANSI 600 lb lap joint flange	949	25 5/8 (651)	8 1/4(210)
80 mm DIN PN40 lap joint flange, DIN 2656	211	25 5/8 (651)	7 7/8 (200)
80 mm JIS 10K lap joint flange	210	25 5/8 (651)	7 9/32 (185)
DH300 fitting options[1]			
4-inch high-pressure clamp-type flange[3]	164	25 1/16 (637)	6 (151)
3-inch ANSI 300 lb weld neck raised face flange	156	24 (610)	8 1/4 (210)
3-inch ANSI 600 lb weld neck raised face flange	157	24 3/4 (629)	8 1/4 (210)
3-inch ANSI 900 lb weld neck raised face flange	246	26 5/16 (668)	9 1/2 (241)
3-inch ANSI 1500 lb weld neck raised face flange	946	27 5/8 (702)	10 1/2 (267)
3-inch ANSI 2500 lb weld neck raised face flange	947	31 5/8 (803)	12 (305)
80 mm DIN PN100 weld neck flange, DIN 2637, type E face	942	24 1/32 (610)	9 1/16 (230)
80 mm DIN PN160 weld neck flange, DIN 2638, type E face	943	24 21/32 (626)	9 1/16 (230)
80 mm DIN PN250 weld neck raised face flange, DIN 2628, type E face	944	25 29/32 (658)	10 1/32 (255)

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

(2) Not available with Tefzel sensors.

(3) Oteco hub size: 4 OC27. Mating connectors (not included): Grayloc hub size 4 GR27, seal ring size 27; clamp size 4, stainless steel.

Fitting options *continued*

	Fitting code	Dim. A face-to-face inches (mm)	Dim. B outside diameter inches (mm)
D600 fitting options[(1)]			
6-inch ANSI 150 lb weld neck raised face flange	165	43 (1092)	11 (279)
6-inch ANSI 300 lb weld neck raised face flange	166	43 3/4 (1111)	12 1/2 (317)
150 mm DIN PN40 weld neck, DIN 2635, type C face	167	42 1/16 (1068)	11 55/64 (301)
150 mm JIS 10K weld neck raised face flange	168	40 15/32 (1028)	11 1/16 (281)
150 mm JIS 20K weld neck raised face flange	169	42 1/16 (1068)	12 1/16 (306)
DT65 fitting options[(1)]			
1/2-inch ANSI 300 lb weld neck raised face flange	114	23 7/8 (606)	3 3/4 (95)
1/2-inch ANSI 600 lb weld neck raised face flange	115	23 7/8 (606)	3 3/4 (95)
15 mm DIN PN40 weld neck, DIN 2635, type C face	116	22 1/4 (565)	3 3/4 (95)
15 mm JIS 20K weld neck raised face flange	118	22 1/4 (565)	3 3/4 (95)
DT100 fitting options[(1)]			
1-inch ANSI 300 lb weld neck raised face flange	129	29 23/32 (755)	4 7/8 (124)
1-inch ANSI 600 lb weld neck raised face flange	130	30 7/32 (768)	4 7/8 (124)
25 mm DIN PN40 weld neck, DIN 2635, type C face	131	28 (711)	4 17/32 (115)
25 mm JIS 20K weld neck raised face flange	133	28 (711)	4 59/64 (125)
DT150 fitting options[(1)]			
1 1/2-inch ANSI 300 lb weld neck raised face flange	142	39 1/32 (992)	6 1/8 (156)
1 1/2-inch ANSI 600 lb weld neck raised face flange	143	39 43/64 (1008)	6 1/8 (156)
40 mm DIN PN40 weld neck, DIN 2635, type C face	144	37 13/64 (945)	5 29/32 (150)
40 mm JIS 20K weld neck raised face flange	146	37 13/64 (945)	5 33/64 (140)

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

Ordering information — all models except D600

Model	Product description
	Standard sensors
DS150Z	Micro Motion Coriolis D-Series sensor; 1 1/2-inch; standard pressure; Tefzel lining
DS300S	Micro Motion Coriolis D-Series sensor; 3-inch; standard pressure; 316L stainless steel
DS300H	Micro Motion Coriolis D-Series sensor; 3-inch; standard pressure; Hastelloy C-22
DS300Z	Micro Motion Coriolis D-Series sensor; 3-inch; standard pressure; Tefzel lining
	High-pressure sensors
DH025S	Micro Motion Coriolis D-Series sensor; 1/4-inch; high pressure; 316L stainless steel
DH038S	Micro Motion Coriolis D-Series sensor; 3/8-inch; high pressure; 316L stainless steel
DH100S	Micro Motion Coriolis D-Series sensor; 1-inch; high pressure; 316L stainless steel
DH150S	Micro Motion Coriolis D-Series sensor; 1 1/2-inch; high pressure; 316L stainless steel
DH300S	Micro Motion Coriolis D-Series sensor; 3-inch; high pressure; 316L stainless steel
	High-temperature sensors
DT065H	Micro Motion Coriolis D-Series sensor; 0.65-inch; high temperature; Hastelloy C-22/316L stainless steel
DT100H	Micro Motion Coriolis D-Series sensor; 1-inch; high temperature; Hastelloy C-22/316L stainless steel
DT150H	Micro Motion Coriolis D-Series sensor; 1 1/2-inch; high temperature; Hastelloy C-22/316L stainless steel
Code	**Process connections**
###	See fitting options on pages 30–32.
Code	**Case options**
	Models DH025S, DH038S, DS150Z, and DS300Z
S	Standard case
P	Purge fitting (two 1/2-inch NPT female)
D	Metal rupture disk
	Models DH100S, DH150S, and DH300S
S	Standard case
	Models DS300S and DS300H
S	Standard case
P	Purge fitting (two 1/2-inch NPT female)
D	Metal rupture disk
R	Purge fittings and rupture disk
	Models DT065H, DT100H, DT150H
G	Standard high-temperature case
Code	**Approvals**
M	Micro Motion Standard (no approval)
N	Micro Motion Standard / PED compliant
U	UL
C	CSA
B	ATEX / PED compliant
S[(1)]	SAA
Typical model number: DH150S 154 S U	

(1) Not available with Models DT065H, DT100H, or DT150H.

Ordering information — Model D600

Model	Product description
DS600S	Micro Motion Coriolis D-Series sensor; 6-inch; standard pressure; 316L stainless steel
Code	**Process connections**
###	See fitting options on page 32.
Code	**Case options**
S	Standard case
Code	**Electronics interface**
K	Integral booster amplifier with core processor for connecting to a remotely mounted transmitter with MVD Technology
L[(1)]	Integral booster amplifier with core processor for direct host communication
M	Integral booster amplifier with 9-wire junction box
N	Remote booster amplifier with core processor for connecting to a remotely mounted transmitter with MVD Technology
O[(1)]	Remote booster amplifier with core processor for direct host communication
P	Remote booster amplifier with 9-wire junction box
Code	**Conduit connections**
	Electronics interface codes K, L, N, and O
B	1/2-inch NPT — no gland
E	M20 — no gland
F	Brass/nickel cable gland (cable diameter 0.335 to 0.394 inches [8.5 to 10 mm])
G	Stainless steel cable gland (cable diameter 0.335 to 0.394 inches [8.5 to 10 mm])
	Electronics interface codes M and P (9-wire junction box)
A	3/4-inch NPT — no gland
H	Brass/nickel cable gland
J	Stainless steel cable gland
Code	**Connection to booster amplifier**
A	3/4-inch NPT conduit opening
B[(2)]	M20 brass/nickel adapter
C[(2)]	M20 stainless steel adapter
D[(2)]	1/2-inch NPT brass/nickel adapter
E[(2)]	1/2-inch NPT stainless steel adapter
Code	**Approvals**
M	Micro Motion Standard (no approval)
N	Micro Motion Standard / PED compliant
U	UL
C	CSA
A	CSA C-US (U.S.A. and Canada)
Z	ATEX — Increased safety / PED compliant
F	ATEX — Flameproof / PED compliant

Continued on next page

(1) When electronics interface code L or O is ordered with approval code U, C, A, Z, or F, an MVD Direct Connect™ I.S. barrier is supplied.

(2) Not available with approval code U.

Ordering information — Model D600 *continued*

Code	Language
A	Danish Quick Reference Guide and English manual
D	Dutch Quick Reference Guide and English manual
E	English Quick Reference Guide and English manual
F	French Quick Reference Guide and English manual
G	German Quick Reference Guide and English manual
H	Finnish Quick Reference Guide and English manual
I	Italian Quick Reference Guide and English manual
J	Japanese Quick Reference Guide and English manual
M	Chinese Quick Reference Guide and English manual
N	Norwegian Quick Reference Guide and English manual
O	Polish Quick Reference Guide and English manual
P	Portuguese Quick Reference Guide and English manual
S	Spanish Quick Reference Guide and English manual
W	Swedish Quick Reference Guide and English manual
Code	**Measurement application software**
Z	No software
A(1)	Petroleum measurement
Code	**Future options**
Z	Reserved for future use
Code	**Factory options**
Z	Standard product
X	CEQ product
R	Restocked product (if available)
Typical model number: DS600S 165 S M A U E A Z Z Z	

(1) Available with electronics interface codes L and O. For electronic interface codes K, M, N, P select Petroleum measurement software option on Model 2700 transmitter.

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

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