Coriolis Mass Flow Meter

TME

- Immune to vibration effects
- Immune to pipeline generated stresses
- Robust cast iron housing

Function

The TME Series Mass Flow Meter utilizes the Coriolis principle of operation to measure mass flow. Density and temperature are simultaneously monitored and volumetric flow is additionally calculated with these parameters. The TME Series is available with a direct mounted transmitter or in a remote mounted configuration.

Application

The TME Series can be used to meter nearly all liquid or gaseous media. The TME can be used in many standard applications common to chemical, petrochemical, oil and gas industries. The TME Series is also used for precise dosing as well as in loading and unloading applications. Approvals for service in custody transfer (fiscal metering) applications are also available.
The TME is easy to install due to a rugged housing (cast iron).
A superior efficient heating is optionally available.

Technical Data

Sensor

End connections:	Flanges acc. EN 1092, ASME B16.5, DIN2512
Nominal pressure:	PN40, ASME Cl150 / 300
Process temperature:	-40°C to +180°C (-40°F to +356°F)
Ambient temperature	
Integral mounted transmitter:	see UMC3 ambient temperature
Remote mounted transmitter	-40°C to +100°C (-40°F to +212°F)
Ingress protection:	IP 65 (EN60529) (NEMA 4X)

Materials

Flow tubes, splitter, flanges:	1.4404 (316 L) / 1.4571 (316 Ti)
Housing:	Cast iron

Certification

Explosion protection:	Sensor circuits: intrinsically safe DMT 01 ATEX E 149 X II 1/2G EEx ia IIC T6–T2 (Approval for Zone 0 inside flow tubes available)
CE-Marking:	Pressure Equipment Directive 97/23/EC

Ranges

	Min. measuring range	Max. measuring range	Nominal (Δp=1bar)	Zero point stability (of range)
Model	kg/h [lbs/min]	kg/h [lbs/min]	kg/h [lbs/min]	kg/h [lbs/min]
TME008	60 [2.2]	600 [22.0]	370 [13.6]	0.06 [0.00]
TME010	120 [4.4]	2,500 [91.9]	1,250 [45.9]	0.25 [0.01]
TME020	600 [22.0]	12,000 [440.9]	6,000 [220.5]	1.2 [0.0]
TME025	3,000 [110.2]	30,000 [1,102.3]	19,000 [698.1]	3 [0.1]
TME080	6,000 [220.5]	60,000 [2,204.6]	60,000 [2,204.6]*	6 [0.2]

* (Δp=0.89bar)

Reference condition: according to IEC 770:
Water at 20°C

Transmitter UMC3

Mounting:	integrated or remote mount (junction box or plug in connector)
Power supply:	19 - 36 VDC, 24 VAC +/- 20%, 90 - 265 VAC
Outputs:	Galvanically isolated
Current:	2 x 0/4-20 mA
Binary 1:	active, potential free 24 V=, max. 200 mA passive, optocoupler, U_i=30 V, I_i=200mA, P_i=3 W
Frequency:	1 KHz
Binary 2:	passive, optocoupler, U_i=30 V, I_i=200mA, P_i=3 W
Status:	passive, optocoupler, U_i=30 V, I_i=200mA, P_i=3 W
Input Binary:	Counter reset
Ambient temperature:	-20°C to +60°C (-4°F to +140°F) -20°C to +80°C (-4°F to +176°F) (as special version)
Ingress protection:	IP 68 (EN60529) (NEMA 6)
Communication:	HART® Profibus-PA Modbus RTU (RS 485)

Accuracy

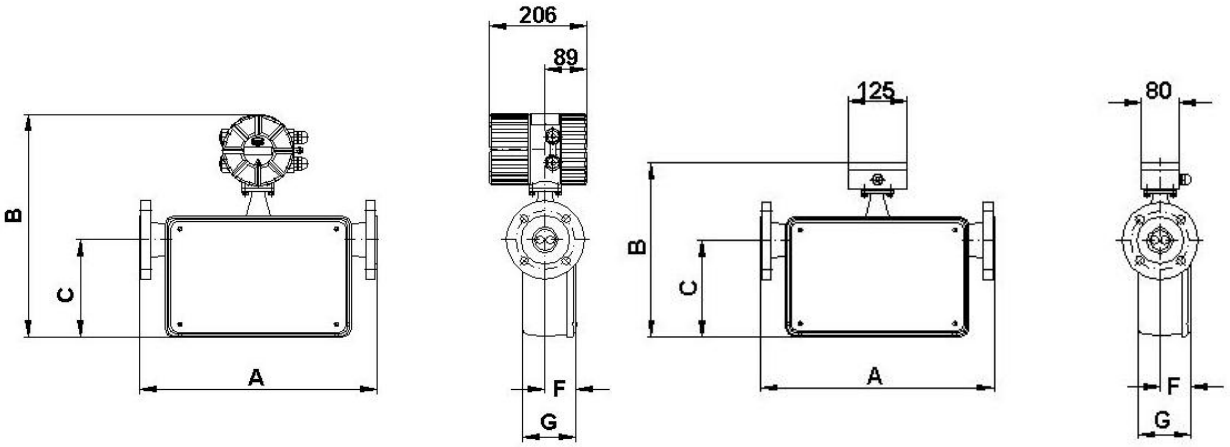
Liquid:	± 0.15% of reading ± zero point stability
Gas:	± 0.5% of reading ± zero point stability
Density (liquid):	± 0.005 g/cm³ with density calibration ± 0.003 g/cm³ with special density calibration
Volume:	± 0.2% of reading ± zero point stability

Certification

Explosion protection:	BVS 05 **ATEX** E 021 X
Increased safety EEx e (connection area):	II (1)2G EEx de [ia] IIC/IIB T6–T3
Explosion proof EEx d (connection area):	II (1)2G EEx d [ia] IIC/IIB T6–T3
Signal output/ input:	Intrinsically safe or not intrinsically safe
	FM XP-AIS / I / 1 / A B C D / T* : CD 06100 **FMC** XP-AIS / I / 1 / C D / T* : CD 06101 **NEPSI Approval** Cert No. GYJ06477
CE-Marking:	Explosion Protection Directive 94/9/EC EMC-Directive 89/336/EEC
Electromagnetic compatibility:	EN 61000-6-3:2001 (emissions residential environments) EN 61000-6-2:1999 (immunity for industrial environments) EN 55011:1998+A1: 1999 Group 1, Class B (radio interference) EN 61000-4-2 to DIN EN 61000-4-6 EN 61000-4-8 EN 61000-4-11 EN 61000-4-29 EN 61326

Dimensions

		A	B				C	F	G
			Integral Mount Transmitter		Remote Mount Transmitter				
			-40°C - 100°C (-40°F to 212°F)	-40°C - 150°C (-40°F to 302°F)	-40°C - 100°C (-40°F to 212°F)	-40°C - 180°C (-40°F to 356°F)			
Model	**Endconnection**	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]
TME008	DN10 PN40 ASME ½" Cl150/300	300 [11.8]	363 [14.3]	465 [18.3]	265 [10.4]	367 [14.4]	113 [4.4]	58 [2.3]	105 [4.1]
TME010	DN15 PN40 ASME ¾" Cl150/300	300 [11.8]	363 [14.3]	465 [18.3]	265 [10.4]	367 [14.4]	113 [4.4]	58 [2.3]	105 [4.1]
TME020	DN25 PN40 ASME 1" Cl150/300	400 [15.7]	430 [16.9]	532 [20.9]	332 [13.1]	434 [17.1]	173 [6.8]	65 [2.6]	113 [4.4]
TME025	DN50 PN40 ASME 2" Cl150/300	500 [19.7]	471 [18.5]	573 [22.6]	373 [14.7]	475 [18.7]	206 [8.1]	65 [2.6]	113 [4.4]
TME080	DN80 PN40 ASME 3" Cl150/300	600 [23.6]	557 [21.9]	659 [25.9]	459 [18.1]	561 [22.1]	290 [11.4]	77 [3.0]	137 [5.4]



For further information see device description TME_UMC3_GB_XX_en
Subjects to change without notice.

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