



Coriolis Mass Flowmeter

TME / UMC4

- Immune to vibration effects
- Immune to pipeline generated stresses
- Robust cast iron housing
- Sensor housing can be opened

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 / UMC4 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.

Due to a very rugged and long term stable cast iron housing the TME sensor is very easy to install. A superior efficient heating is optionally available.

A special feature of all TME sensors is that the body housing can be opened for service. This enables the user to do service repairs if necessary. Thus a heating system can be retrofitted to the meter.



Technical Data

Sensor

Process connection: EN 1092, ASME B16.5, DIN2512
Nominal pressure: PN40, ASME CI 150 / 300
Process temperature: -40°C up to +180°C
Ambient temperature: -40°C up to +100°C

Protection: IP 65 (EN60529)

Explosion protection - Sensor
DMT 01 ATEX E 149 X
II 1/2G Ex ia IIC T6-T2
(Zone 0 inside the measuring pipe)
FM, IS / CL I / DIV 1 / GPS ABCD / T*: CD 06100
CSA, IS / CL I / DIV 1 / GPS ABCD / T*: CD 06101
NEPSI Approval Cert. N° GYJ06476X

Materials

Flow tubes, Splitter/ Flange: 1.4404 (316 L) / 1.4571 (316 Ti)
Housing: GGG 40.3

Transmitter

Power supply: 19 - 36 VDC,
90 - 265 VA 50/60 Hz

Signal outputs: potential-free

Current outputs: 2 x 4-20 mA, passive
(in hazardous applications intrinsically safe or non IS)

Communication HART®

Current output 1 adjustable as mass flow, volume flow, density, temperature
Current output 2 adjustable as mass flow, volume flow, density, temperature

Binary output 1: Adjustable as pulse or frequency output
-set as pulse output: Pulse duration: standard 50 ms
adjustable from 0.1...2000 ms
Mark to space ratio 1:1 if the adjusted pulse duration
is not reached.

Pulse value 1 pulse / unit
adjustable from 0,001-100,0 (in decades increments)

-set as frequency output: max. 1 KHz
passive, via opto coupler,
U_{max}=30 V,
I_{max}=60mA,

Binary output 2
-set as status output: Adjustable as forward flow, reverse flow, MIN/MAX flow,
MIN/MAX Density, MIN/MAX temp, alarm
2nd pulse output (90° phase shifted)

passive, via opto coupler,
U_{max}=30 V,
I_{max}=60mA,

**Meas. Accuracy**

Liquid: $\pm 0,15$ % of actual \pm ZP-stability
 Gas: $\pm 0,5$ % of actual \pm ZP-stability
 Density (liquid): $\pm 0,005$ g/cm³ c/w density calibration
 $\pm 0,002(1)$ g/cm³ c/w special density calibration

Volume: $\pm 0,2$ % of actual \pm ZP-stability

Ambient temperature: -20 °C up to +60 °C

Protection: IP 68 (EN60529)

CE-marking: EMV-guide line 2004/108/EG
 EN 61000-6-3:2001 emissions
 EN 61000-6-2:1999 immunity
 Explosion Protection Directive 94/9/EC

Approvals

Explosion protection: BVS 10 ATEX E 110 X
 II (1)2 G Ex d [ja Ga] IIC T4-T3 Gb
 Ta -20°C up to 60°C

PED: Pressure Equipment Directive 97/23/EG

Measuring ranges

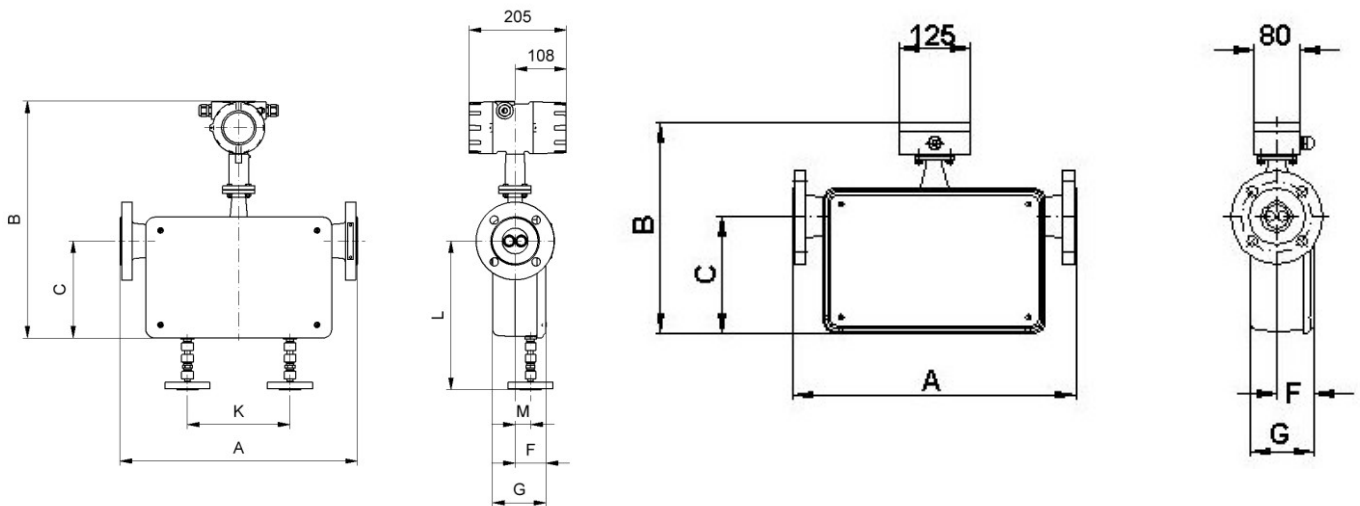
	Min. measuring range	Max. measuring range	Nominal ($\Delta p=1$ bar)	Zero point stability (of range)
Model	kg/h [lbs/min]	kg/h [lbs/min]	kg/h [lbs/min]	kg/h [lbs/min]
TME008	60 [2,2]	600 [22,0]	370 [13,6]	0,06 [0,00]
TME010	250 [9,2]	2.500 [91,9]	1.250 [45,9]	0,25 [0,01]
TME020	1.200 [44,1]	12.000 [440,9]	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]

* ($\Delta p=0,89$ bar)

Referenzbedingungen: entsprechend IEC 770:
 Wasser bei 20°C

Dimensions / weights

Model	Endconnection	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)				
mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]	mm [inch]		
TME008	DN10 PN40 ASME ½" CI150/300	300 [11,8]	394 [15,5]	496 [19,5]	265 [10,4]	367 [14,4]	113 [4,4]	58 [2,3]	105 [4,1]
TME010	DN15 PN40 ASME ¾" CI150/300	300 [11,8]	394 [15,5]	496 [19,5]	265 [10,4]	367 [14,4]	113 [4,4]	58 [2,3]	105 [4,1]
TME020	DN25 PN40 ASME 1" CI150/300	400 [15,7]	461 [18,1]	563 [22,2]	332 [13,1]	434 [17,1]	173 [6,8]	65 [2,6]	113 [4,4]
TME025	DN50 PN40 ASME 2" CI150/300	500 [19,7]	502 [19,8]	604 [23,8]	373 [14,7]	475 [18,7]	206 [8,1]	65 [2,6]	113 [4,4]
TME080	DN80 PN40 ASME 3" CI150/300	600 [23,6]	588 [23,1]	690 [27,2]	459 [18,1]	561 [22,1]	290 [11,4]	77 [3,0]	137 [5,4]



Weight:

Model	DN	Weight	
		Sensor	Transmitter
		kg [lbs]	kg [lbs]
TME008	10	13 [28,7]	4,5 [9,9]
TME010	15	13 [28,7]	
TME020	25	20 [44,1]	
TME025	50	27 [59,5]	
TME080	80	50 [110,2]	

For further information see device description TME_UMC4_GB_XX_en
Subjects to change without notice.

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