



PRO Plus Series | TCMQ 070K Coriolis Mass Flow Meter

FEATURES

- Fast dosing, short response time (max. 10 ms)
- 100 Hz refresh rate for all outputs
- Extremely short installation length
- High zero stability drift-free
- Empty pipe detection

BENEFITS

- ▶ High dosing accuracy
- ▶ Suitable for pump monitoring, fast control circuits
- ▶ Best fit in most system configurations
- ▶ Accuracy combined with long-term stability
- ▶ Extensive diagnostics and self-monitoring

FLOW RATE

Mass Flow Rate (max.):	70,700 kg/h [2,600 lb/min]
Volumetric Flow Rate (max.):	70,700 l/h [311 gpm, 10,700 oil bbl/d (US)]
Nominal Meter Size:	DN50 [2"]

PRESSURE RATING 100 bar [1,450 psi]

ACCURACY (LIQUIDS)¹⁾

Basic Accuracy (Mass Flow):	±0.1 % of flow rate
Repeatability (Mass Flow):	±0.05 % of flow rate
Basic Accuracy (Volume Flow):	±0.5 % (option: up to ±0.1 %) of flow rate
Repeatability (Volume Flow):	±0.05 % of flow rate
Zero Stability:	±0.01 % of full scale

ACCURACY (GASES)

Basic Accuracy (Mass Flow):	±0.35 % of flow rate
Repeatability (Mass Flow):	±0.05 % of flow rate

DENSITY

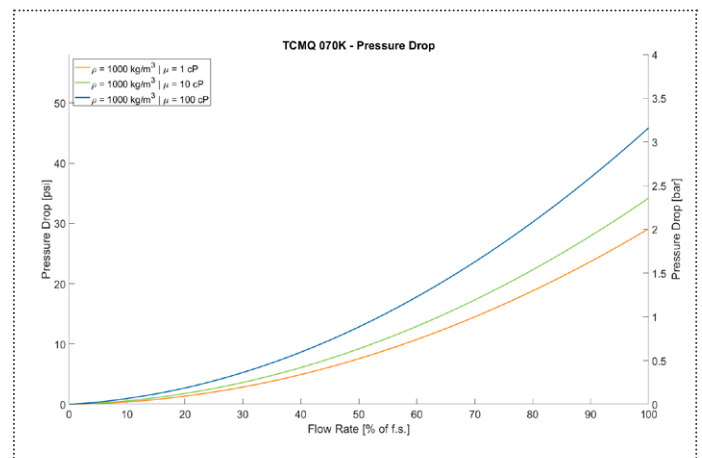
Density Range:	up to 5,000 kg/m ³ [5.0 g/cm ³]
Density Accuracy:	±5.0 kg/m ³ (option: ±0.5 kg/m ³) [±0.005 g/cm ³ (option: ±0.0005 g/cm ³)]
Density Repeatability:	±0.25 kg/m ³ [±0.00025 g/cm ³]
Brix:	0.1 °Brix (1,000/m ³)

TEMPERATURE

Process Temperature Range:	-60 °C ... +200 °C [-76 °F ... +392 °F]
Temperature Accuracy:	±0.5 °C ±0.25 % of reading [±0.9 °F ±0.25 % of reading]

MATERIALS (WETTED PARTS)

Case:	1.4301 [AISI 304]
Tubes:	1.4435 [AISI 316L] ²⁾
Flow Splitter:	1.4404 [AISI 316L]

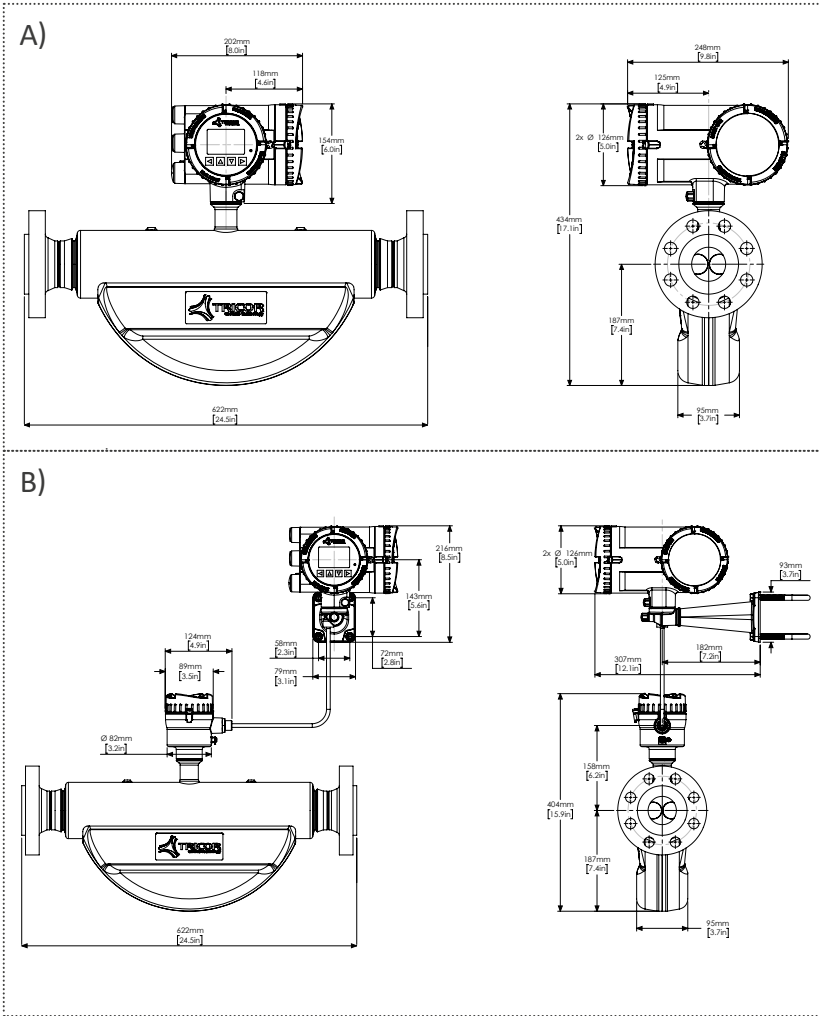


¹⁾ Stated flow accuracy combines the effects of repeatability, linearity and hysteresis.

²⁾ Special material Hastelloy C22 (W2.4602) only on request.



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METER DIMENSIONS³⁾ AND WEIGHTS

A) Compact Version

Weight: 30.5 kg [67.2 lb]

With meter mount in aluminum diecast housing

B) Remote Version

Weight: 33.0 kg [72.8 lb]

With junction box and remote field mount

Standard Process Connection (others on request)

DN50 – EN 1092-1 B1, PN16

[ASME 2" B16.5 Class 150 / 300]

EX-CERTIFICATIONS⁴⁾ 5)

ATEX	II 1/2 (1) G Ex db eb ia [ia Ga] IIC T* Ga/Gb II 2 (1) D Ex tb [ia Da] IIIC T* Db
IECEX	Ex db eb ia [ia Ga] IIC T* Ga/Gb Ex tb [ia Da] IIIC T* °C Db
cCSAus	US marking: Class I, II, III, Division 1, Group A-G Class I, Zone 1, AEx db eb ia [ia Ga] IIC T3-T6 Gb Zone 21, AEx tb [ia Da] IIC T85 °C Canadian marking: Ex db eb ia [ia Ga] IIC T3-T6 Gb Ex tb [ia Da] IIC T85 °C

BASIC TRANSMITTER⁶⁾



REMOTE MOUNT



COMPACT MOUNT



DISPLAY ELECTRONICS

Power Supply: 20 ... 27 V DC

100 ... 240 V AC

Graphical Display: 240 x 160 pixels

Configurable I/O: Analog, Digital, Frequency, Relay

Interfaces: PROFIBUS PA, PROFIBUS DP,

HART 7.5, Modbus RS485 RTU

Enclosure Material: Aluminum

Cable Gland: ½" NPT, M20x1.5

³⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

⁴⁾ Specifications apply to TCMQ with TCD 9100/9200 transmitter; Specifications for TCMQ with TCD 9010 transmitter: please see TCMQ PRO Plus series datasheet.

⁵⁾ T* refer to Ex-certificate.

⁶⁾ Specification basic transmitter: see special TCD 9010 spec sheet.

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