



PRO Series | TCMP 0650 Coriolis Mass Flow Meter

FEATURES

- Robust, no moving parts
- Customized installation length
- Excellent Repeatability ($\pm 0.05\%$), Accuracy ($\pm 0.1\%$)
- Advanced Transmitter Technology Upgrade/modernize in place

BENEFITS

- ▶ Increased productivity
- ▶ Considerable cost savings for installation
- ▶ Increased product quality
- ▶ Optimized lifecycle management

FLOW RATE

Mass Flow Rate (max.):	650 kg/h [24 lb/min]
Volumetric Flow Rate (max.):	650 l/h [2.86 gpm, 98 bbl/d (US)]
Nominal Meter Size:	DN4 [$\frac{1}{8}$ "

PRESSURE RATING

200 bar [2,900 psi]
Option:
345 bar [5,000 psi]

ACCURACY (LIQUIDS)¹⁾

Basic Accuracy (Mass Flow):	$\pm 0.1\%$ of flow rate
Repeatability (Mass Flow):	$\pm 0.05\%$ of flow rate
Basic Accuracy (Volume Flow):	$\pm 0.15\%$ of flow rate
Repeatability (Volume Flow):	$\pm 0.05\%$ of flow rate
Zero Stability:	$\pm 0.01\%$ of full scale

ACCURACY (GASES)

Basic Accuracy (Mass Flow):	$\pm 0.5\%$ of flow rate
Repeatability (Mass Flow):	$\pm 0.25\%$ of flow rate

DENSITY

Density Range:	up to 2,500 kg/m ³ [2.5 g/cm ³]
Density Accuracy:	± 1.0 kg/m ³ [± 0.001 g/cm ³]
Density Repeatability:	± 0.5 kg/m ³ [± 0.0005 g/cm ³]

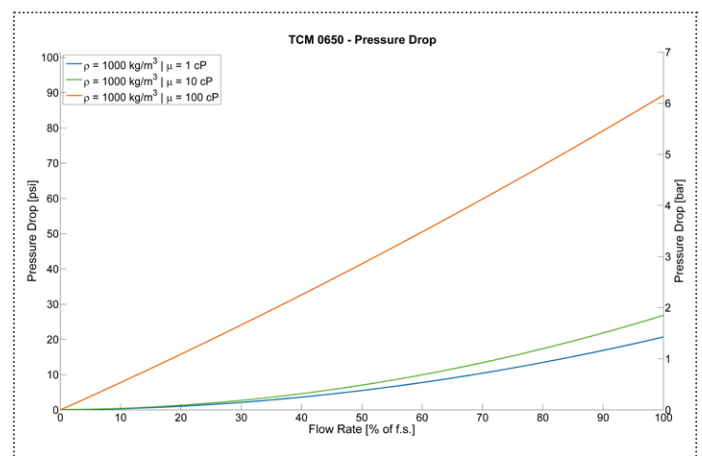
TEMPERATURE

Process Temperature Range:	-40 °C ... +100 °C [-40 °F ... +212 °F]
Option:	-60 °C ... +200 °C [-76 °F ... +392 °F]
Temperature Accuracy:	± 1 °C $\pm 0.5\%$ of reading [± 1.8 °F $\pm 0.5\%$ of reading]
Temperature Repeatability:	± 0.2 °C [± 0.36 °F]

MATERIALS (WETTED PARTS)

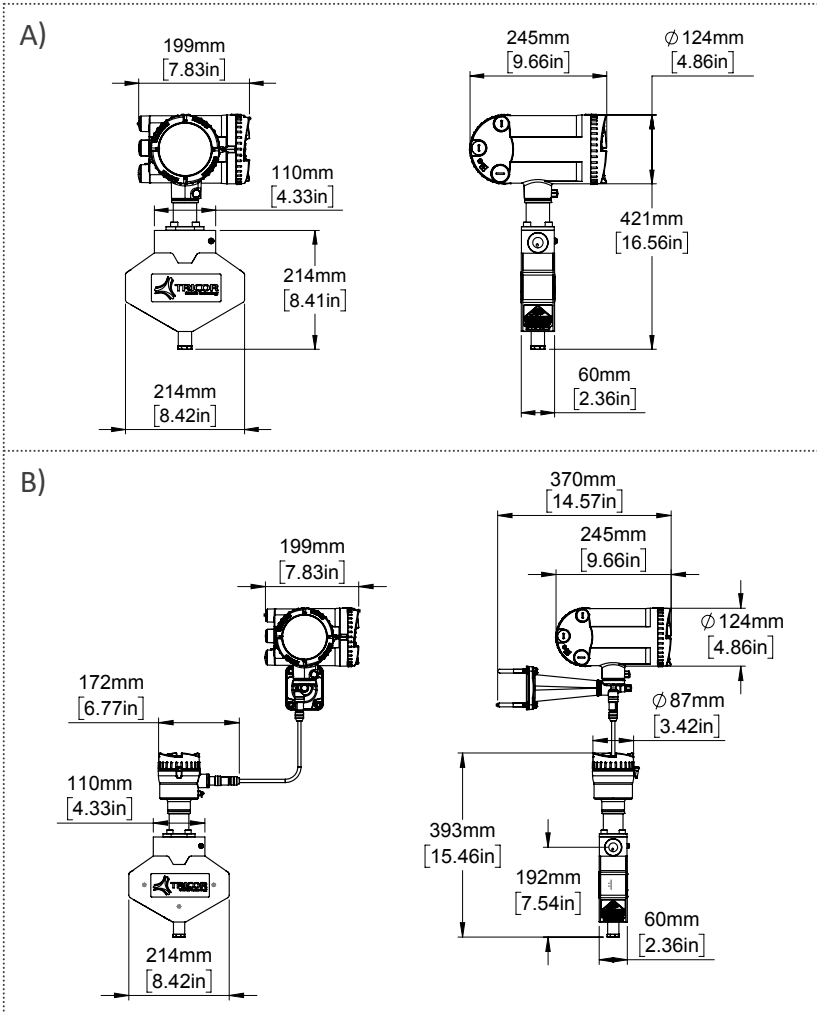
Tubes:	1.4404 [AISI 316L]
Case:	1.4404 [AISI 316L]
Flow Splitter:	1.4404 [AISI 316L]
Brazing Alloy:	BNi-2

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





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METER DIMENSIONS²⁾ AND WEIGHTS

A) Compact Version

Weight: 8.6 kg [19.0 lb]

With meter mount in aluminum diecast housing

B) Remote Version

Weight: 11.1 kg [24.5 lb]

With junction box and remote field mount

Standard Process Connection

G $\frac{1}{2}$ " thread (others on request)

EX-CERTIFICATIONS⁶⁾

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T6
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T6 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T6
cCSAus (Ex1)	Class 1, Division 1: Group A, B, C, D or C, D, T2...T6

BASIC TRANSMITTER³⁾



REMOTE MOUNT⁵⁾



COMPACT MOUNT⁴⁾



DISPLAY ELECTRONICS

Power Supply: 20 ... 27 V DC \pm 10%
100 ... 240 V AC \pm 10 %

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: $\frac{1}{2}$ " NPT

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 1.4 kg [3.1 lb].

⁴⁾ Weight: 4.5 kg [9.9 lb].

⁵⁾ Weight: 7.0 kg [15.4 lb] with 3 m cable.

⁶⁾ Release pending.

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