



PRO Series | TCMP 0650 Coriolis Mass Flow Meter

FEATURES

- Robust, no moving parts
- Customized installation length
- Excellent repeatability (better than $\pm 0.05\%$), 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 oil 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):	better than $\pm 0.05\%$ of flow rate
Basic Accuracy (Volume Flow):	$\pm 0.15\%$ of flow rate
Repeatability (Volume Flow):	better than $\pm 0.05\%$ 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

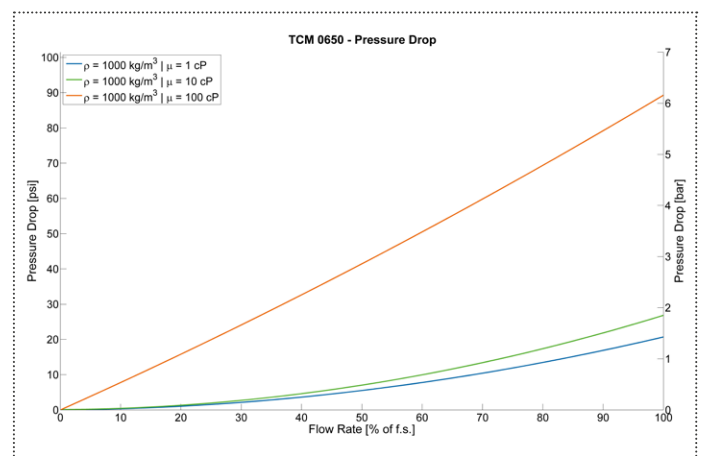
Density Range:	up to $2,500 \text{ kg/m}^3$ [2.5 g/cm^3]
Density Accuracy ²⁾ :	$\pm 1.0 \text{ kg/m}^3$ [$\pm 0.001 \text{ g/cm}^3$]
Density Repeatability:	$\pm 0.5 \text{ kg/m}^3$ [$\pm 0.0005 \text{ g/cm}^3$]

TEMPERATURE

Process Temperature Range:	$-60 \text{ }^\circ\text{C} \dots +200 \text{ }^\circ\text{C}$ [$-76 \text{ }^\circ\text{F} \dots +392 \text{ }^\circ\text{F}$]
Temperature Accuracy:	$\pm 1 \text{ }^\circ\text{C} \pm 0.5\%$ of reading [$\pm 1.8 \text{ }^\circ\text{F} \pm 0.5\%$ of reading]
Temperature Repeatability:	$\pm 0.2 \text{ }^\circ\text{C}$ [$\pm 0.36 \text{ }^\circ\text{F}$]

MATERIALS (WETTED PARTS)

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

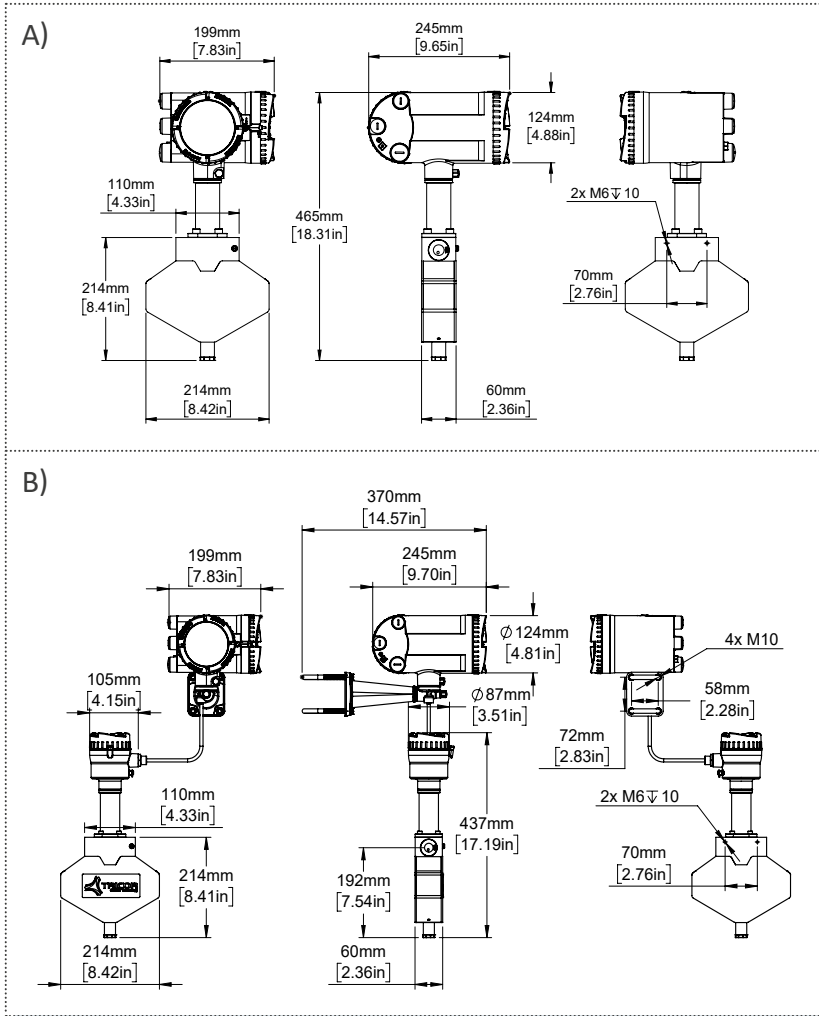


¹⁾ Stated flow accuracy combines the effects of repeatability, linearity and hysteresis.

²⁾ The specifications refer to standard conditions (for further information see TCMP PRO series manual).



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METER DIMENSIONS³⁾ 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-CERTIFICATIONS⁴⁾

ATEX	Zone 1: II (2)1 Ex db ia [ia Ga] IIC T* Gb ⁵⁾
	Zone 2: 3G Ex nR nA IIC T4
IECEX	Ex db ia [ia Ga] IIC T* Gb ⁵⁾
cCSAus	Class 1, Div. 1: Group A - D, T* ⁵⁾

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 RTU

Enclosure Material: Aluminum

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

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

⁴⁾ Version dependent.

⁵⁾ T* refer to Ex-certificate.

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

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