



## FEATURES

- Robust, no moving parts for long life
- Custom flow connectors & installation lengths
- Excellent repeatability ( $\pm 0.05$  % of flow rate)
- High pressure option: 345 bar [5,000 psi]<sup>1)</sup>

## BENEFITS

- ▶ Increased productivity, lower maintenance
- ▶ Lower installation cost
- ▶ Increased product quality
- ▶ Broad applications: dosing, paint, chemical injection

## 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: up to 345 bar [5,000 psi])<sup>1)</sup>

## ACCURACY (LIQUIDS)<sup>2)</sup>

Basic Accuracy (Mass Flow)<sup>3)</sup>:  $\pm 0.3$  % (option: up to  $\pm 0.1$  %) of flow rate  
 Repeatability (Mass Flow):  $\pm 0.05$  % of flow rate  
 Basic Accuracy (Volume Flow)<sup>3)</sup>:  $\pm 0.3$  % (option: up to  $\pm 0.15$  %) 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)<sup>3)</sup>:  $\pm 1$  % (option: up to  $\pm 0.5$  %) of flow rate  
 Repeatability (Mass Flow):  $\pm 0.25$  % of flow rate

## DENSITY

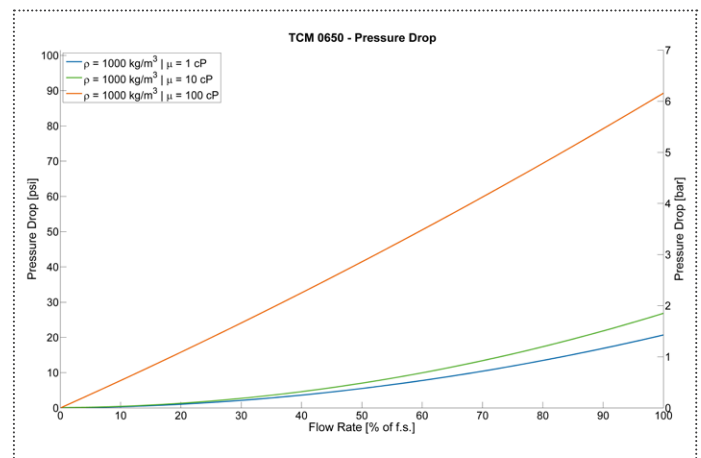
Density Range: up to 2,500 kg/m<sup>3</sup> [2.5 g/cm<sup>3</sup>]  
 Density Accuracy<sup>3)</sup>:  $\pm 1.0$  kg/m<sup>3</sup> [ $\pm 0.001$  g/cm<sup>3</sup>]  
 Density Repeatability:  $\pm 0.5$  kg/m<sup>3</sup> [ $\pm 0.0005$  g/cm<sup>3</sup>]

## TEMPERATURE

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

## MATERIALS (WETTED PARTS)

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



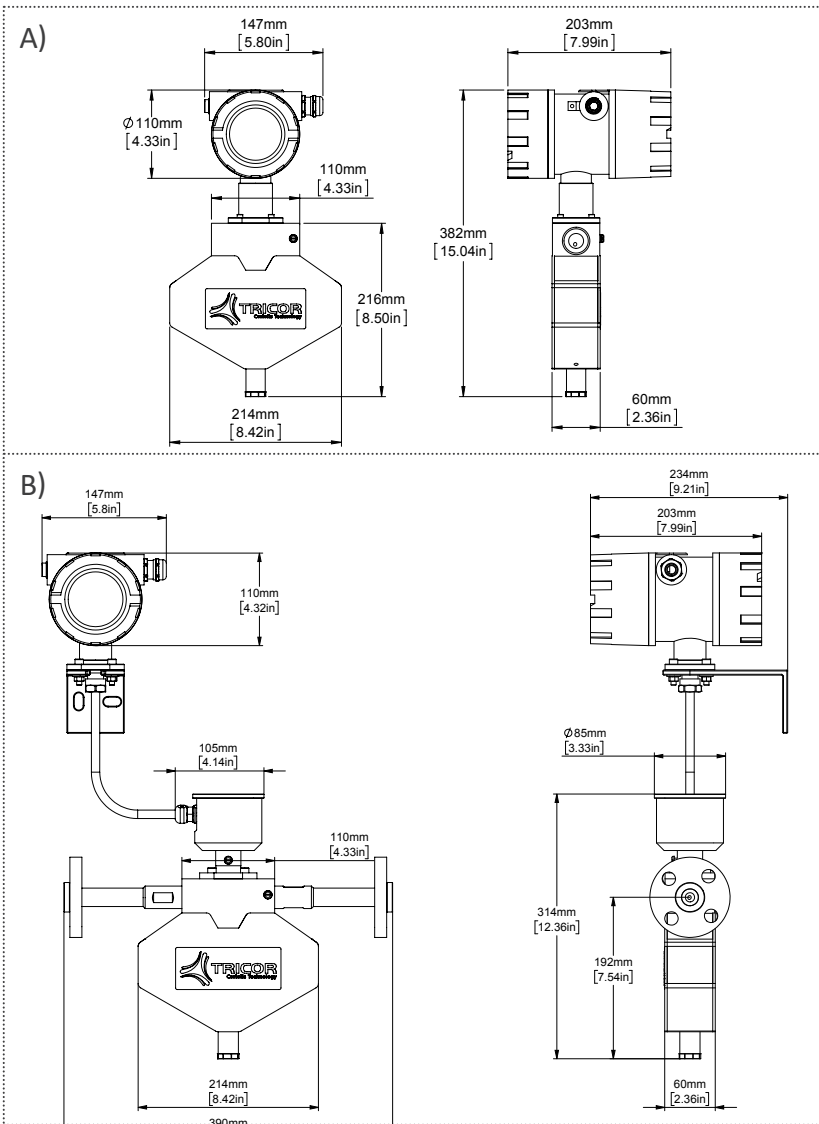
<sup>1)</sup> The 200 bar standard pressure rating is per ASME. The 345 bar option is non-ASME rated.

<sup>2)</sup> Stated flow accuracy combines the effects of repeatability, linearity and hysteresis.

<sup>3)</sup> The specifications refer to standard conditions (for further information see TCM CLASSIC series manual).



# CLASSIC Series | TCM 0650 Coriolis Mass Flow Meter



## METER DIMENSIONS<sup>4)</sup> AND WEIGHTS

### A) Compact Version

Weight: 7 kg [15.4 lb]

With meter mount in aluminum diecast housing

### B) Remote Version

Weight: 8.3 kg [18.3 lb]

With junction box and remote field mount

### Standard Process Connection

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

## EX-CERTIFICATIONS

ATEX	Zone 1:	Group IIC or IIB, T2...T4
	Zone 2:	II 3G Ex nA IIC T2...T4 Gc
IECEX	Zone 1:	Group IIC or IIB, T2...T4
cCSAus <sup>7)</sup>	Class 1, Division 1:	Group A, B, C, D or C, D, T2...T4
ATEX + IECEx + cCSAus triple approval <sup>7) 8)</sup>	Zone 1:	Group IIC or IIB, T2...T4
	Class 1, Division 1:	Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) <sup>7)</sup>		Group IIC or IIB, T2 ... T4

## PANEL MOUNT<sup>5)</sup>



## REMOTE MOUNT<sup>6)</sup>



## ELECTRONICS

Power Supply: 24 V DC  $\pm$ 20 % or 90 ... 264 V AC  
 Outputs: Analog, Frequency, Pulse, Status  
 Interfaces: RS485 RTU (Modbus), HART<sup>®</sup>  
 Cable Gland: M20 |  $\frac{1}{2}$ " NPT

<sup>4)</sup> Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

<sup>5)</sup> Weight: 0.4 kg [0.88 lb].

<sup>6)</sup> Weight with aluminum diecast housing: 3.8 kg [8.4 lb] with 3 m cable, Weight with 1.4404 [AISI 316L] housing: 6.15 kg [13.56 lb].

<sup>7)</sup> For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

<sup>8)</sup> Only with remote electronics.

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