## TCM 0650 TRICOR Coriolis Mass Flow Meter

## Common Uses

The TCM 0650 Coriolis flow meter with a Diamond-shape tube design offers the best overall performance of any tube shape, including the best signal-to-noise ratio and reduced effects from external vibration. This results in improved zero stability. These features plus the robust, no moving parts design make this meter well suited to many applications, including:

- Dosing systems
- Paint processes
- Chemical injection


## Technical Specifications



| Nominal Line Size | $1 / 8^{\prime \prime} \mid \mathrm{DN} 4 \mathrm{~mm}$ |
| :--- | :--- |
| Maximum Flow Rate | $650 \mathrm{~kg} / \mathrm{hr}\|24 \mathrm{lbs} / \mathrm{min}\| 650 \mathrm{I} / \mathrm{hr}\|2.86 \mathrm{gpm}\| 98 \mathrm{bbl} / \mathrm{d}(\mathrm{US})$ |
| Pressure Rating | $2,900 \mathrm{psi} \mid 200 \mathrm{bar}$ |
| Measuring Accuracy* | $\pm 0.1 \%$ of flow rate (Liquids) $\mid \pm 1.0 \%$ of flow rate (Gases) |
| Repeatability | $\pm 0.05 \%$ of flow rate (Liquids) $\mid \pm 0.25 \%$ of flow rate (Gases) |
| Zero Stability | $\pm 0.01 \%$ of full scale |
| Density Range | up to $2,500 \mathrm{~kg} / \mathrm{m}^{3}\left(2.5 \mathrm{~g} / \mathrm{cm}^{3}\right)$ |
| Process Temperature Range | Standard: $-40^{\circ} \mathrm{F}$ to $212^{\circ} \mathrm{F}\left(-40^{\circ} \mathrm{C}\right.$ to $\left.100^{\circ} \mathrm{C}\right) \mid$ Optional: $-76^{\circ} \mathrm{F}$ to $392^{\circ} \mathrm{F}\left(-60^{\circ} \mathrm{C}\right.$ to $\left.200^{\circ} \mathrm{C}\right)$ |
| Temperature Accuracy | $\pm 1.8^{\circ} \mathrm{F} \pm 0.5 \%$ of reading $\mid \pm 1.0^{\circ} \mathrm{C} \pm 0.5^{\circ} \%$ of reading |
| Temperature Repeatability | $\pm 0.36^{\circ} \mathrm{F} \mid \pm 0.2^{\circ} \mathrm{C}$ |
| Calibration | $5-$-point logarithmic calibration |
| Standard Process Connection | Female thread $0.5^{\prime \prime} \mathrm{NPT}$ |

*Stated flow accuracy combines the effects of repeatability, linearity and hysteresis. The specifications refer to standard conditions (for further information see TCM CLASSIC series manual).

## Materials of Construction (Wetted Parts)

| Tubes | 316L Stainless Steel (DIN 1.4404) |
| :--- | :--- |
| Case | 316L Stainless Steel (DIN 1.4404) |
| Flow Splitter | 316L Stainless Steel (DIN 1.4404) |
| Brazing Alloy | BNi-2 |



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## Meter Dimensions* \& Weights

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


## Compact Model

(with meter mount in aluminum diecast housing) Weight: $15.4 \mathrm{lb}(7 \mathrm{~kg})$


## Remote Model

(with junction box and remote field mount transmitter) Weight: $18.3 \mathrm{lb}(8.3 \mathrm{~kg})$

## Certifications

## CSA* Compact:

Cl. I, Div. 1: Groups A-D: T4 (US, Can)

Ex db ia IIC T4 Gb (Can)
Cl. I, Zone 1, AEx db ia IIC T4 Gb

## Remote:

Sensor:
CI. I, Div. 1, Groups A-D: T4...T2 (US, Can)

Ex ia IIC T4...T2 Ga (Can)
Cl. I, Zone 0, AEx ia IIC T4...T2 Ga (US)

Transmitter:
CI. I, Div. 1, Groups A-D: T4 (US, Can)

Ex db [ia Ga] IIC T4 Gb (Can)
Cl. I, Zone 1, AEx db[ia Ga] IIC T4 Gb (US)

| ATEX | Zone 1: Compact: II 2G Ex db ia IIC T4 Gb <br> Remote: Sensor: II 1G Ex ia IIC T4...T2 Ga |
| :--- | :--- |
|  | Transmitter: II 2(1)G Ex db [ia Ga] IIC T4 Gb <br> Zone 2 (AII): II 3G Ex nA IIC T4 Gc |
| IECEx | Compact: Ex db ia IIC T4 Gb <br> Remote: Sensor: Ex ia IIC T4...T2 Ga <br> Transmitter: Ex db [ia Ga] IIC T4 Gb |
| EAC (TR-CU) | Group IIC or IIB, T2...T4 |
| KGS |  |
| (Korean) | Compact: Ex d (ai) IIC T4 <br> Remote: Sensor: Ex ia IIC T4 <br> Transmitter: Ex d (ia) IIC T4 |

*CSA certification is only available in diecast aluminum housing.

## Electronics

| Power Supply | 24 V DC $\pm 20 \%$ or $90 \ldots 264 \mathrm{~V} \mathrm{AC}$ |
| :--- | :--- |
| Outputs | Analog, Frequency, Pulse, Status |
| Interfaces | RS485 RTU (Modbus), HART® |
| Cable Gland | M20 $\mid 1 / 2^{\prime \prime}$ NPT |
| 3D STEP Models are available upon request of factory. Products may be subject to change without notice. Contact factory for the most up-to-date product information. |  |

