

TCM 5500 Series

Coriolis Mass Flow Meter and Density Meter for Marine Fuel Consumption Management

- > All in one mass flow and density meter
- > Customized installation length
- > Direct mass flow measurement
- > Real time density measurement for fuel quality control
- > Maintenance free
- > No moving parts
- > Replaces all kind of volume based flow meters
- > Excellent repeatability in order to determine actions for process/engine optimization
- > Recommended 5 year meter recalibration

Accuracy¹⁾:

| | |
|-------------------------------|-----------------------|
| Basic Accuracy [Mass Flow]: | ±0.1 % of flow rate |
| Mass Flow Repeatability: | ±0.05 % of flow rate |
| Basic Accuracy [Volume Flow]: | ±0.15 % of flow rate |
| Volume Flow Repeatability: | ±0.05 % of flow rate |
| Zero Stability: | ±0.01 % of full scale |

Density:

| | |
|------------------------|---|
| Density Range: | up to 2,500 kg/m ³ , 2.5 g/cm ³ |
| Density Accuracy: | Liquids ±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: | Standard: -40 °F ... +212 °F (-40 °C ... +100 °C) |
| | Optional ²⁾ : -76 °F ... +302 °F (-60 °C ... +150 °C) -76 °F ... +392 °F (-60 °C ... +200 °C) |
| Temperature Accuracy: | ±1.8 °F ±0.5 % of reading (±1 °C ±0.5 % of reading) |
| Temperature Repeatability: | ±0.36 °F (±0.2 °C) |

Materials of Construction [wetted parts]:

| | |
|--------|------------------|
| Tubes: | 1.4404/AISI 316L |
| Case: | 1.4404/AISI 316L |

Typical Specification:

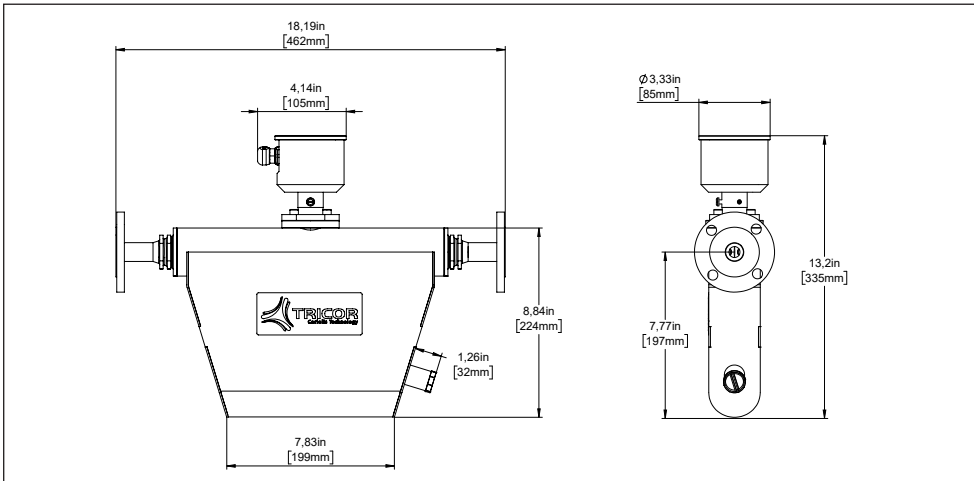
| | |
|--------------------|------------|
| Nominal Meter Size | DN15, 1/2" |
|--------------------|------------|



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

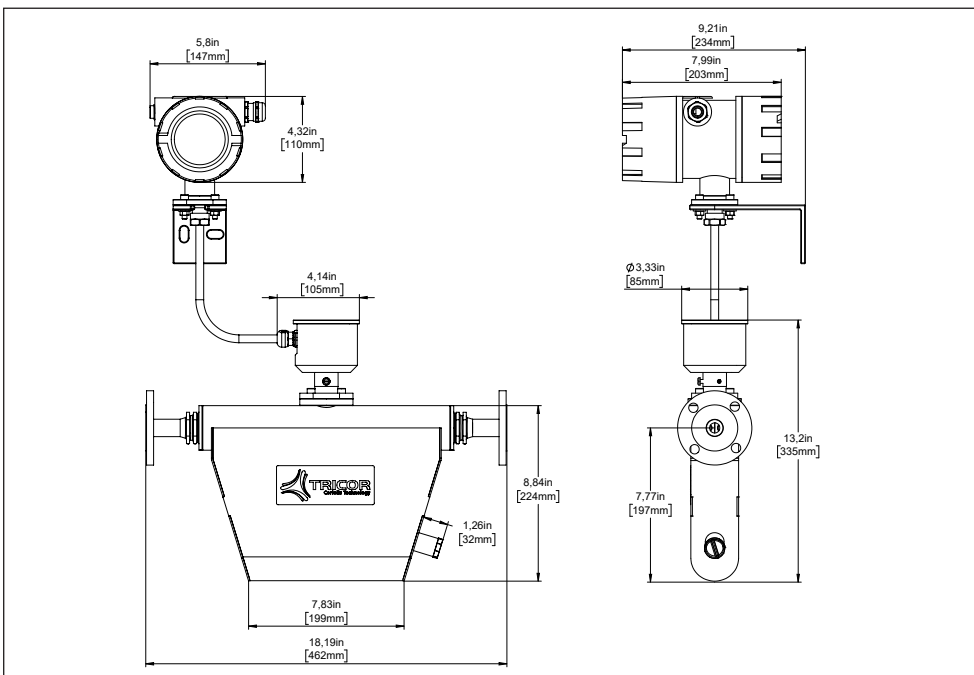
²⁾ Ex-Version compact: -40 °C ... +70 °C, -40 °F ... +158 °F.

Meter Dimensions³⁾:



Compact Version

weight: 8.4 kg/22.2 lb
with meter mount ex-electronics
meter connection:
DIN15 PN40 / 1/2" ANSI CL 300



Remote Version

weight: 9.7 kg/25 lb
with junction box & remote field mount
meter connection:
standard meter connection according table

| Model Code | ANSI B16.5 or DIN EN 1092-1 Form B | Face-to-Face [mm] ⁴⁾ | Flange - Ø [mm] | Screws QTY | Hole - Ø (for screws) [mm] or screw dim. |
|------------|------------------------------------|---------------------------------|-----------------|------------|--|
| AA | 0.5" CL 150 ANSI | 460 | 90 | 4 | 16 |
| AB | 0.5" CL 300 ANSI | 460 | 95 | 4 | 16 |
| AC | 0.5" CL 600 ANSI | 460 | 95 | 4 | 16 |
| AD | 0.5" CL 900 ANSI | 460 | 120 | 4 | 22 |
| AE | 1.0" CL 150 ANSI | 460 | 110 | 4 | 16 |
| AF | 1.0" CL 300 ANSI | 460 | 95 | 4 | 19 |
| AG | 1.0" CL 600 ANSI | 460 | 125 | 4 | 19 |
| DA | DN15 PN40 EN 1092-1 Form B1 | 460 | 95 | 4 | M12 |
| DB | DN15 PN100 EN 1092-1 Form B1 | 460 | 105 | 4 | M12 |
| DC | DN25 PN40 EN 1092-1 Form B1 | 460 | 115 | 4 | M12 |
| DD | DN25 PN100 EN 1092-1 Form B1 | 460 | 140 | 4 | M16 |
| DE | DN40 PN40 EN 1092-1 Form B1 | 460 | 150 | 4 | M16 |

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

⁴⁾ Customized face-to face length available.



www.tricorflow.com

N & S AMERICA:

AW-Lake Company
2440 W. Corporate Preserve Dr. #600, Oak Creek WI 53154, USA, Tel.: +1 414 574 4300

SINGAPORE:

TASI Flow Souteast Asia, Representative Office (RO) Singapore
1003 Bukit Merah Central #06-32, Singapore 159836, UEN: T15RF0080G, P: +65 6274 1130

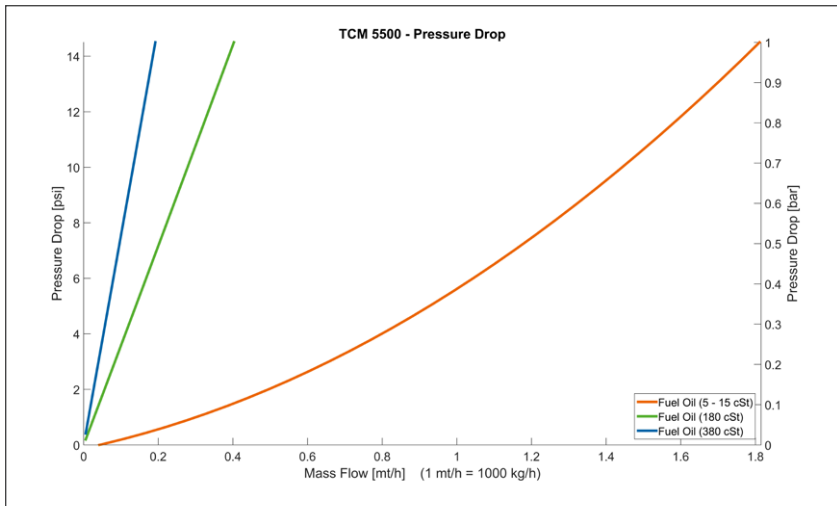
CHINA:

TASI Flow China
Rm. 2429, JinYuan Office Building, No. 36, CN- BeiYuan Road, Beijing 100012, P.R. CHINA, Tel.:+86 10 520 037 38

Rest of the World:

KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.:+49 8131 59391-0

Pressure Drop:



| Range | Fuel Oil | | |
|------------------------------|----------|------|------|
| Viscosity [cSt] | 5-15 | 180 | 380 |
| Density [kg/m ³] | 900 | 900 | 900 |
| Flow Rate [mt/h] | 1.9 | 0.41 | 0.20 |
| Pressure Drop [bar/psi] | 1/14.5 | | |

Electronics:

The TCE 8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Panel Mount



Weight: 0.4 kg/0.88 lb

Remote Field Mount



Weight: 3.8 kg/8.3 lb with 3 m cable

Power Supply: 24 V DC \pm 20 % or 90 ... 264 V AC
 Outputs: Analog, Frequency, Pulse, Status
 Interface: RS485 RTU (Modbus), HART[®]

More options on request

Ex Certifications:

| | |
|--|---|
| ATEX (Ex) | Zone 1: Group IIC or IIB, T2...T4 |
| ATEX (Exn) | Zone 2: II 3G Ex nA IIC T2...T4 Gc |
| IECEX (Ex) | Zone 1: Group IIC or IIB, T2...T4 |
| cCSAus (Ex1) ⁵⁾ | Class 1, Division 1: Group A, B, C, D or C, D, T2... T4 |
| ATEX + IECEX + cCSAus triple approval (Ex3) ^{5) 6)} | Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2... T4 |
| EAC (TR-CU) ⁵⁾ | Group IIC or IIB, T2 ... T4 |

Product Type Approval:

| | |
|-----------------------------|---|
| American Bureau of Shipping | Certificate Number: 14-HS1223473-PDA-DUP |
| RMRS | Russian Maritime Register of Shipping |

Other Type Approvals in process.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.



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