



CLASSIC Series | TCM 3100 Coriolis Mass Flow Meter

CORIOLIS MASS FLOW AND DENSITY METER FOR MARINE FUEL CONSUMPTION MANAGEMENT

- 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) ²⁾ :	±0.3 % (option: up to ±0.1 %) of flow rate
Repeatability (Mass Flow):	±0.05 % of flow rate
Basic Accuracy (Volume Flow) ²⁾ :	±0.3 % (option: up to ±0.15 %) of flow rate
Repeatability (Volume Flow):	±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 ²⁾ :	±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 ³⁾ : -60 °C ... +150 °C [-76 °F ... +302 °F] -60 °C ... +200 °C [-76 °F ... +392 °F]
Temperature Accuracy:	±1 °C ±0.5 % of reading [±1.8 °F ±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

TYPICAL SPECIFICATION:

Nominal Meter Size:	G½" thread
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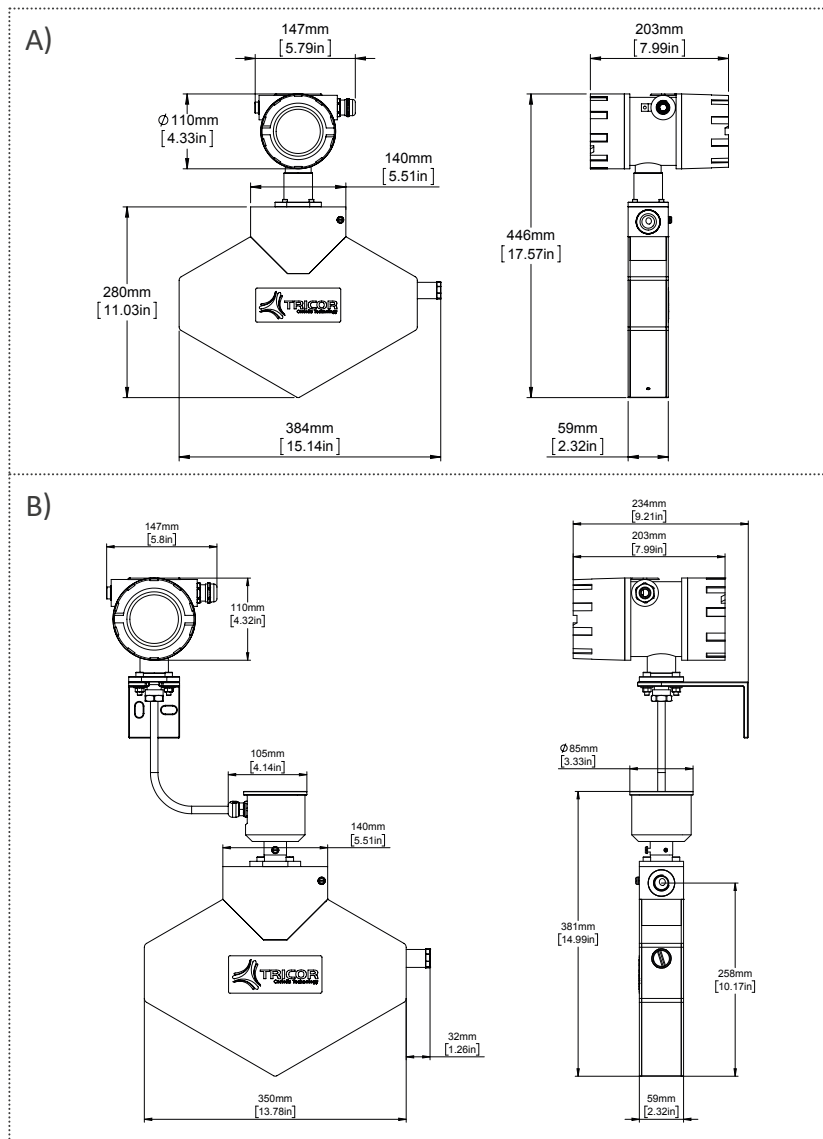
¹⁾ Stated flow accuracy combines the effects of repeatability, linearity and hysteresis.

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

³⁾ Ex-Version compact: -40 °C ... +70 °C, -40 °F ... +158 °F.



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METER DIMENSIONS⁴⁾ AND WEIGHTS

A) Compact Version

Weight: 11.6 kg [25.6 lb]

With meter mount in aluminum diecast housing

Process Connection:

G½" thread (others on request)

B) Remote Version

Weight: 12.9 kg [28.4 lb]

With junction box and remote field mount

Process Connection:

standard meter connection according table

APPROVALS & CERTIFICATIONS

Hazardous area (Ex)

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 ⁷⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEx + cCSAus triple approval ^{7) 8)}	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) ⁷⁾	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

PANEL MOUNT⁵⁾



REMOTE MOUNT⁶⁾



ELECTRONICS

Power Supply:	24 V DC ±20 % or 90 ... 264 V AC
Outputs:	Analog, Frequency, Pulse, Status
Interfaces:	RS485 RTU (Modbus), HART®
Cable Gland:	M20 ½" NPT

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

⁵⁾ Weight: 0.4 kg [0.88 lb].

⁶⁾ Weight with aluminum diecast housing: 3.8 kg [8.4 lb] with 3 m cable.

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

⁸⁾ Only with remote electronics.

www.tricorflow.com

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REST OF WORLD

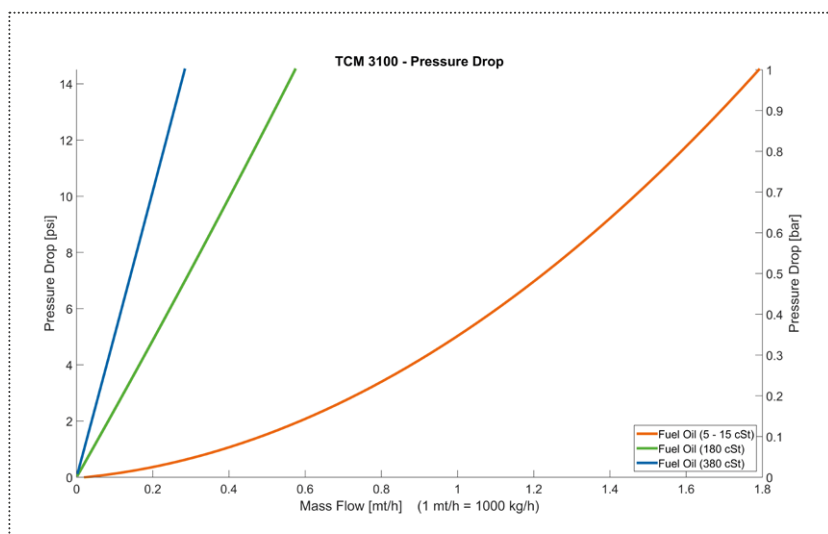
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PROCESS CONNECTION

Model Code	ANSI B16.5 or DIN EN 1092-1 Form B	Face-to-Face (mm)	Flange - Ø (mm)	Screws QTY	Hole - Ø for screws (mm) or screw dim.
AA	0.5" CL 150 ANSI	420	90	4	16
AB	0.5" CL 300 ANSI	420	95	4	16
AC	0.5" CL 600 ANSI	420	95	4	16
AD	0.5" CL 900 ANSI	420	120	4	22
AE	1.0" CL 150 ANSI	420	110	4	16
AF	1.0" CL 300 ANSI	420	95	4	19
AG	1.0" CL 600 ANSI	420	125	4	19
AH	1.0" CL 900 ANSI	420	150	4	25
DA	DN15 PN40 EN 1092-1 Form B1	420	95	4	M12
DB	DN15 PN100 EN 1092-1 Form B1	420	105	4	M12
DC	DN25 PN40 EN 1092-1 Form B1	420	115	4	M12
DD	DN25 PN100 EN 1092-1 Form B1	420	140	4	M16



PRESSURE DROP

Range	Fuel Oil		
Viscosity (cSt)	5-15	180	380
Density (kg/m ³)	900	900	900
Flow Rate (mt/h)	1.8	0.58	0.29
Pressure Drop (bar/psi)	1 [14.5]		

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