Designed for long-term reliability, Daniel T-200 Transducers are titanium encapsulated and well-suited for even harsh process environments containing oil, wet gas and corrosive chemicals. This full metal design virtually eliminates the possibility of hydrocarbon corrosion and protects all transducer components for increased longevity and stability over time. Fully serviceable without depressurization of the line and without special tools, they will maximize operational uptime. The transducer smart capsule reduces parts and is easy to replace or rewet while gas is flowing.

Robust, reliable and powerful. The core of this high-performing technology is the innovative horn array which mechanically amplifies the signal through the titanium barrier while remaining intrinsically safe, increasing overall signal strength and performance with minimal ringing or reverberation effects.

The T-200 transducers are standard on all direct path meter models up to DN900 (36” line size) and existing meters can be easily upgraded to enhance long-term performance and to extend the warranty of the meter. They are compatible with both Mark III and 3410 Electronics for 4-path or 8-path meters manufactured from 2003 with J or K style mounts.

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### Daniel T-200 Transducer Benefits

- **Non-wetted:** Full metal encapsulated smart capsule located outside the pressurized process, increasing tolerance to liquid borne dirt and corrosive fluids such as H₂S
- **Long-term reliability:** Isolated transducer design provides a barrier from corrosive hydrocarbon fluids and extends the life of transducer components
- **Extractable under pressure:** Innovative smart capsule is easily retractable without the need to depressurize the line or use of a high-pressure extraction tool
- **Higher temperature rating:** Allows for higher operating temperature and cleaning while inline
- **Retrofittable:** Easily upgrade existing meters with T-11/T12 or T-21/T-22 transducers
- **Extended warranty:** 3 year warranty standard

All new Daniel gas ultrasonic meters will be equipped with the T-200 ultrasonic transducers. Consult your Emerson Flow representative for details.

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1 Consult factory on meters greater than DN300 (12’’). Minimum operating pressures vary with line size
2 Consult factory for T-11 or T-21 transducer upgrade
Converting to the T-200 Series Transducers

- 3414 DN100-DN1050 (4”– 42”), 3417 DN200-DN1050 (8”– 42”), or 3418 DN250-DN1050 (10”– 42”) meters using T-11/T-12 or T-21/T-22 series transducers as a complete meter upgrade.1,2

- Recalibration is recommended
- Required firmware and software
  - 3410 gas firmware 1.42 and later
  - Mark III gas firmware 1.82 and later
  - MeterLink 1.60 and later

Completed Agency Approvals

Safety Classifications
Underwriters Laboratories (UL/cUL)
• Hazardous Locations – Class 1, Division 1, Groups C and D

CE Marked Directives
• Explosive Atmospheres (ATEX)

International Electrotechnical Commission (IECEx)

Metrology Approval
NMI/MID
• OIML R137 Class 0.5
• MID Class 1.0

New T-200 Design

Ordering Conversion Kits

- Transducer conversion kits are available for 4-path, 4+4 path, and 8-path meters. The Zero Flow Calibration report with all the lengths and serial numbers or meter serial number will be needed to determine the conversion kit model string below. Please consult your Emerson Flow representative for assistance in selecting a conversion kit for your meter.

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Product Description
Daniel, Gas USM Flow Meter, 4-Pat
Daniel, Gas USM Flow Meter, 4+4 Path
Daniel, Gas USM Flow Meter, 8-path

Pressure Rating
ANSI 150, 300, 600 / PN 25, 50, 100
ANSI 900, 1500 / PN 150, 250

Mount Type
J, K, Y or Z Style Mount

Transducer Type
T-200 Transducer

Stalk Assembly Lengths
Center Chords (B & C) or A1, B1, C2, D2 for 4” size
Mount 25(2.50) H2(3.25) S0(0.00) → T-200-01
Mount 00(2.25) H2(3.25) S0(0.00) → T-200-02
Mount 50(2.75) H1(2.25) S2(2.00) → T-200-03
Mount 00(2.25) H1(2.25) S2(2.00) → T-200-04
Mount 75(3.00) H2(3.25) S2(2.00) → T-200-05
Mount 50(2.75) H2(3.25) S2(2.00) → T-200-06
Mount 25(2.50) H2(3.25) S2(2.00) → T-200-07
Mount 00(2.25) H2(3.25) S2(2.00) → T-200-08
Mount 75(3.00) H1(2.25) S4(4.00) → T-200-09
Mount 50(2.75) H1(2.25) S4(4.00) → T-200-10
Mount 25(2.50) H1(2.25) S4(4.00) → T-200-11
Mount 00(2.25) H1(2.25) S4(4.00) → T-200-12
Mount 75(3.00) H2(3.25) S4(4.00) → T-200-13

Stalk Assembly Lengths - Reflective Chords
None

Stalk Assembly Material
Standard 17-4 PH
Inconel B446

O-ring Material
NBR O-ring (-50°C to +125°C)
FKM O-ring (-40°C to +125°C)

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