



The Digital Coriolis Measurement Difference

For well testing

- Unmatched precision of liquid/gas flow measurement without skips or stalls
- Precise calculation of oil/water density
- Unequaled assurance of net oil measurement
- Alerts for gas carryunder
- Ideal for CO₂ injection applications

For custody transfer

- Best-in-class repeatability
- Startup up to 10X faster than conventional Coriolis meters
- Faster response time — less than 2 seconds per prover pass
- Best performance even for short proving runs on small-volume provers

For all oilfield applications

- Exceptional performance and reliability compared to PD, turbine, or conventional Coriolis meters
- Highly accurate, repeatable mass, density, and temperature measurement in one meter
- No moving parts to wear, corrode, or erode
- No internals to replace
- Lowest cost of ownership
- OIML and NCWM certified



THE FOXBORO DIFFERENCE

New instrumentation ideas — applied at the point where the control system meets your process — can make all the difference. They allow you to greatly improve your operation's economic, safety, and environmental performance.

Others may imitate our successful designs of the past.

Today, Foxboro instrumentation furnishes further innovations instead. We offer a broad range of pressure transmitters, flowmeters, pH meters, and other measurement product lines ideal for your applications.



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CFT50 Digital Coriolis Mass
Flow Transmitter for Oil Production

Oil Measurement with Innovation and Accuracy



Ideal Measurement for Oilfield Applications

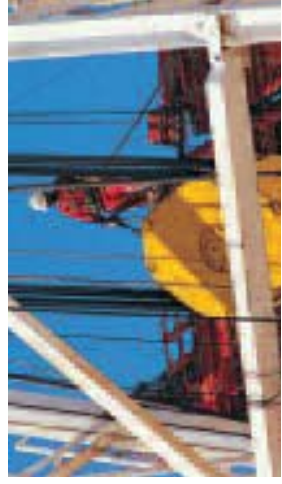
The revolutionary Foxboro CFT50 digital mass flow transmitter leads the industry in Coriolis meter performance. Its patented, award-winning design delivers results clearly superior to those of positive displacement (PD) and turbine meters, as well as conventional Coriolis meters, for a number of critical oilfield applications.

An irreplaceable asset for well testing, the CTF50 enables managers to finally determine true net oil results for their operations. Mixed flows or carryunders can't fool, stall, nor stop this instrument's uniquely accurate, reliable technology.

Without moving parts, meter factor drift is virtually eliminated — resulting in longer time between proving events. And the CFT50 is the only Coriolis meter on the market that can reliably alert operations to gas carryunder that can occur in custody transfer skids.

In LACT unit custody transfer use, this advanced instrument proves easily and consistently. Its best-in-class response time — less than 2 seconds per prover pass — delivers superb repeatability and linearity, even in single-pass runs with small-volume provers. This is achieved with no damping of the pulse output of the transmitter.

It easily handles two-phase flow, overcoming measurement challenges such as purged line airs. And with no moving parts and rugged construction, the CFT50 won't need repair or replacement, thus simplifying users' inventory requirements.



Specifications

Accuracy

- Mass flow rate, liquids: to $\pm 0.1\%$ of flow rate (plus zero stability)
- Mass flow rate, gas: to $\pm 0.5\%$ of flow rate (plus zero stability)
- Process density, liquids: $\pm 0.0005\%$ g/cc

Approvals/certifications

OIML, NCM, FM, CSA, CE, NEMA 4X and flameproof

Accuracy

Mass flow rate, liquids: to $\pm 0.1\%$ of flow rate (plus flowtube effects)

Remote mounting

To 1000 ft

Transmitter capabilities

Direct mass, volumetric, totalized, and totalized volumetric flow rates; process fluid density; temperature; bidirectional flow; percent solids/concentration; brix and Baume scales

Totalization

Nonvolatile RAM for forward, reverse, net, and grand totals

Diagnostic/help/alarms

Configured for visibility via local display/keypad, as signal output via 4-20 mA outputs, or as contact outputs

Transmitter outputs

Scalable frequency pulse; scaled pulse; analog current output alarm; analog current outputs; contact outputs

Frequency/pulse output

Optically isolated transmitter switch can be configured as a frequency or pulse output signal. Outputs must be powered externally to allow maximum flexibility without causing earth (ground) loops. Can be assigned to mass or volume flow rate, density, temperature, or percent solids measurements. Frequency can be configured up to 10 kHz.



Scaled pulse output signal

Used to drive low-speed totalizers. A pulse is sent for every user-configured mass total accumulated.

Analog current outputs

Three independent 4-20 mA analog outputs provided. Allows maximum flexibility for output earthing (grounding) without causing ground loops.

Contact output

Contact output provided as a flow direction indicator, range indicator, or alarm

Contact inputs

Contact input provided as 4-20 mA output lock, external totalizer reset, alarm reset, or zero flow calibration

HART remote communications

Available in 4-20 mA or multidrop (fixed current) mode. Digital communication provided via frequency shift key (FSK) technique, alternately superimposing one of two frequencies on uninterrupted current carried by two signal/power wires. Genuine, simultaneous (digital and analog) communication produced with approximate 500 ms response time for each device. Analog input signal transmission undisturbed.

Local interrogation/configuration

In addition to HART remote communications, local LCD indicator with four multifunction pushbuttons provided. Thus transmitter is stand-alone unit for local interrogation, full configuration. Electronics enclosure cover must be removed to access pushbuttons.

Adopt the industry's most reliable, high-performance, cost-effective oilfield measurement solutions today. Visit www.foxboro.com/instrumentation or just call 1-888-FOXBORO.