

High Performance

Coriolis Mass Flow Meter

COR 2400S

SIZE: 1/8" TO 10"

4-20MA, HART, PULSE, MODBUS RTU (RS485)

TEMPERATURE RANGE(-200~300)°C

MASS FLOW, DENSITY, TEMPERATURE, VOLUME,
WATER-CUT OIL

CLASS I DIV. 1 GROUPS B, C, AND D (UL/CSA)

HIGH ACCURACY: $\pm 0.1\%$, $\pm 0.2\%$ OR $\pm 0.5\%$



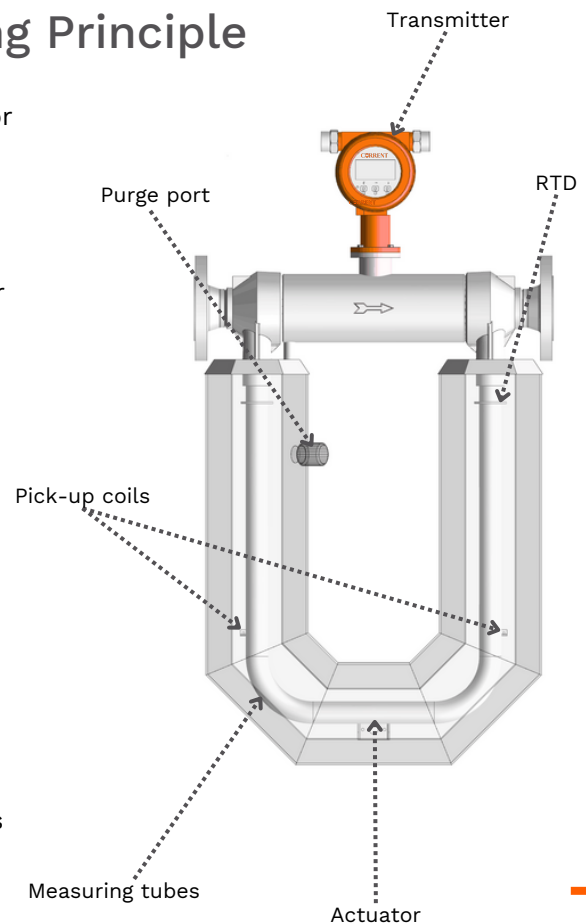
UL
LISTED
UL/CSA

- ⦿ **Maintenance-free**
No moving parts, and robust design makes this meter last forever
- ⦿ **Excellent repeatability**
($\pm 0.05\%$ of flow rate)
- ⦿ **Variety of process fluids & gases**
Ideal for any type of fluids: conductive or non-conductive, slurry, sludge and gases
- ⦿ **Direct measurement**
Mass flow, density, temperature, volume, water-cut oil
- ⦿ **High accuracy**
Up to .1% of reading

Coriolis Mass Flow Meter Working Principle

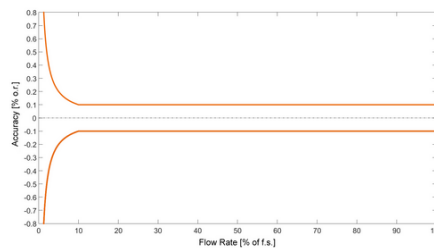
Cor 2400S Coriolis flow device is designed with an actuator that enables a small tube to vibrate continuously at its natural frequency. Two sensors placed along this tube measure the deflection of the tube over time. When no fluid flows through the tube, both sensors measure the same deflection simultaneously. However, when a liquid or gas flows through the tube, the mass of the fluid causes an additional twist to the tube due to the fluid's inertia. The difference between the deflection measurements of the two sensors, known as the 'phase shift,' directly measures the mass flow through the tube.

The phase shift is proportional to the mass flow rate, indicating that a higher mass flow rate results in a larger phase shift. The Coriolis effect-based mass flow devices have an additional function- they measure fluid density! While phase shift measures mass flow rate, the vibration frequency of the tube determines fluid density. The vibration frequency of the tube is affected by the density of the fluid. Denser fluids vibrate with a lower frequency than less dense ones. Therefore, the vibration frequency is a direct measure of the density of the liquid or gas. The same device measures mass flow rate and density independently, demonstrating Coriolis flow meters' versatility.

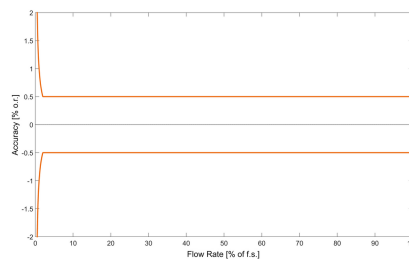


- Batch control
- Oils and fats
- Polymers & chemicals
- Beverages
- Liquid foods
- Sludge & slurries
- Gases
- Custody transfer

Accuracy For Liquids: (Five-Point Calibration, Basic Accuracy: $\pm 0.1\%$)



Accuracy For Gases: (Five-Point Calibration, Basic Accuracy: $\pm 0.5\%$)



Mass flow measuring range	2.65.....3,307,000lb/h (1.2.....1,500,000 kg/h)
Volumetric flow range	0.005.....6,604GPM (1.2.....1,500,000 liter/h)
Line size	1/8" to 10" (3.....254 mm)
Pressure	3770 PSI (26 MPa), 5800PSIG (40MPa) available
Accuracy (Liquids)	
Mass flow	±0.1%, ±0.2% or ±0.5%
Repeatability (Mass Flow)	±0.05% (0.1% accuracy), ±0.1% (0.2% accuracy), ±0.25% (0.5% accuracy)
Volume flow	±0.4 % (option: up to ±0.15 %) of flow rate
Repeatability (Volume Flow)	±0.05 % of flow rate
Zero Stability	±0.01 % of full-scale
Accuracy (Gases)	
Mass flow	±1% (option: up to ±0.5 %) of flow rate
Repeatability (Mass Flow)	±0.25 % of flow rate
Density	
Density range	up to 2500 kg/m ³ , 2.5 g/cm ³
Accuracy	±1.0 kg/m ³ , ±0.001 g/cm ³
Repeatability	±0.5 kg/m ³ , ±0.0005 g/cm ³
Temperature	
Process temperature range	-200 °C ... +250 °C (-328 °F ... +418 °F)
Temperature accuracy	±1 °C ±0.5 % of reading (±1.8 °F ± 0.5% of reading)
Repeatability	±0.2 °C (±0.36 °F)
Ambient Temperature	-40 °C ... +55 °C (-40 °F ... +131 °F)
Signal output	4-20 mA and Pulse/Frequency, Optional: HART or Modbus RS485
Electronics	Direct & remote mount
Display	OLED
Power supply	AC: 85-265V DC: 18-36 VDC
Protection class	Standard IP65, IP67 for options
Material	
Tubes:	SS316L (Hastalloy C for options)
Flow Splitter:	SS304 (SS316L and Hastalloy C for options)
Flanges:	SS304((SS316L and Hastalloy C for options)
Housing (NON-WETTED)	SS304(SS316L for options)
Area classification	General Purpose & Explosion Proof: Class 1 Div 1 (UL/CSA)



For more info and application review,
contact us



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