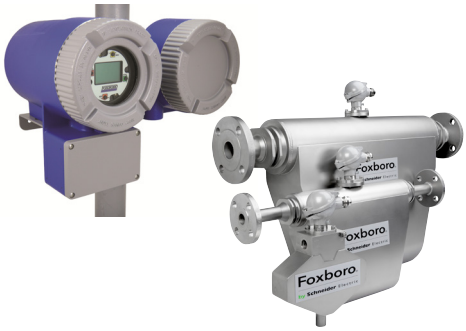
Foxboro® Coriolis Solution

models CFT51 and CFS25

The Foxboro Mass Flow and Density Meter includes the CFT51 mass flow transmitter combined with mass flowtubes CFS10 and CFS20 - and the addition of our new CFS25 mass flowtube - provides direct measurements of both mass flow and density. The direct measurement of mass eliminates the inaccuracies of multiple process measurements associated with volumetric flow devices. The flowmeter is an advanced generation of mass flow devices using Coriolis principles. It incorporates significant improvements in transmitter and flowtube design, including digital signal processing (DSP), computer modeling, remote communications, automated manufacturing processes, construction and testing that all add up to an ideal product for tomorrow's 'real world' process fluid flow applications.



OFFERING AT A GLANCE

- High accuracy at realistic nominal velocities means reduced erosion
- Immunity to external pipe vibrations
- Low pressure loss
- High accuracy over a wide range of fluid densities
- Immune to entrained air
  - Continues to operate during two-phase flow
  - No zero drifting with CFT51 DSP transmitter

Flowtube reliability

- Advanced finite element analysis (FEA) technology for flowtube design
- Annealed process-wetted welds
- Hydrostatically tested at 1.5 times the rated maximum pressure

The CFS25 flowtube is used with the model CFT51 digital Coriolis mass transmitter to form a mass flow and density meter. The transmitter uses DSP technique to improve flowmeter performance and to minimize the shortcomings experienced by existing Coriolis flowmeters, such as operation during two-phase flow, partial empty tube conditions, and batching from empty.

This Coriolis flowmeter is insensitive to varying process conditions. In addition to accurately measuring liquid it can also be used in applications with entrained air, non-Newtonian fluids, viscous and abrasive fluids, slurries, and liquefied gases.

Features:

The Foxboro Coriolis solution provides:

- Precision system achieved using digital signal processing (DSP) transmitter
- High system accuracy of +/-0.10% of flow rate plus flowtube zero instability for liquids; and +/-0.50% of flowrate plus flowtube zero instability for gases
- Density accuracy of +/-0.0005g/cc (with in situ calibration) or better
- Wide rangeability in excess of 100:1 without sacrificing performance
- All flowtubes are available with a dual-path design (parallel loops). Smaller flowtubes are also available with a single-path design (serial loop) ideal for shear-sensitive fluids and applications requiring positive cleaning
- Welded 304 stainless steel enclosure
- Nickel alloy (equivalent to Hastelloy® C-22) construction available on some flowtube sizes
- Designed for CSA, CSAus, ATEX, and IECEX hazardous area locations. Applicable agency plate also includes the CE mark

Foxboro®
by Schneider Electric

Foxboro Coriolis Solution

models CFT51 and CFS25

Specifications

Accuracy

Mass Flow Rate for Liquids (includes linearity, hysteresis, and repeatability):
+/-0.10% + zero instability
Accuracy in % of rate is, therefore:
Accuracy = +/-0.10% +[(Zero Instability)/(Mass Flow Rate) x 100]%
Mass Flow Rate for Gases (includes linearity, hysteresis, and repeatability):
+/-0.50% + zero instability
Accuracy in % of rate is therefore
Accuracy = +/-0.50% + [(Zero Instability)/Mass Flow Rate) x 100]%

Model CFS25	Nominal Size	Zero Instability	
		kg/hr	lb/min
-0325	1/8" (3 mm)	0.033	0.0012
-0650	1/8" (3 mm)	0.065	0.0024
-1550	1/4" (6 mm)	0.155	0.0057
-3100	1/2" (13 mm)	0.310	0.0114
-5500	1/2" (13 mm)	0.550	0.0202
-7900	3/4" (20 mm)	0.790	0.0291
-028K	1" (25 mm)	2.800	0.1029
-065K	2" (50 mm)	6.500	0.2388

Process Temperature

- +/- 1°C (+/-1.8°F), +/-0.5% of reading

Process Liquid Density

- +/-0.0005 g/cc (with in situ calibration)

For liquids, process fluid density ranges from 200 to 3000 kb/m^3 (12.5 to 187 lb/ft^3); or a specific gravity range of 0.2 to 3.0. Note that a specific gravity of 1 corresponds to a fluid density of 1000 kg/m^3 (62.4 lb/ft^3)

Pressure Loss - FlowExpertPro.com

To determine process loss or sizing for your application, merely have your process information available and visit the FlowExpertPro.com website.

Model CFS25	Minimum		Maximum		Nominal	
	kg/h	lb/min	kg/h	lb/min	kg/h	lb/min
-0325	3	0.11	300	11	150	5.5
-0650	6	0.22	600	22	300	11
-1550	15	0.55	1,500	55	750	27.5
-3100	30	1.1	3,000	110	1,500	55
-5500	55	2.0	5,500	203	2,750	101.5
-7900	79	2.9	7,900	291	3,950	145.5
-028K	280	10	28,000	1,030	14,000	515
-065K	650	24	65,000	2,390	32,500	1,195

Model CFS25	Maximum Working Pressure (MWP)	
	bar	psi
-0325	200	2,900
-0650	200	2,900
-1550	200	2,900
-3100	200	2,900
-5500	345	5,000
-7900	100	1,450
-028K	100	1,450
-065K	100	1,450

Maximum Working Pressure (MWP) will depend on end connecions selected.

See also the other Foxboro Coriolis Solutions at www.fielddevices.foxboro.com

Foxboro
by Schneider Electric

PN FD-DS-F-001 Rel 03/15