



UK Flowtechnik

Specialists in flow metering, pumps, couplings
and process measurement equipment

PRODUCT DATASHEET



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Optimas Coriolis Flowmeter

Optimas is one of the Worlds leading designs of single tube Coriolis flowmeters. A wide range materials and connection styles (including hygienic fittings) make them suitable for just about any industry from water and waste, mining, petro-chem, pharmaceutical and food/beverage.

Features & Benefits

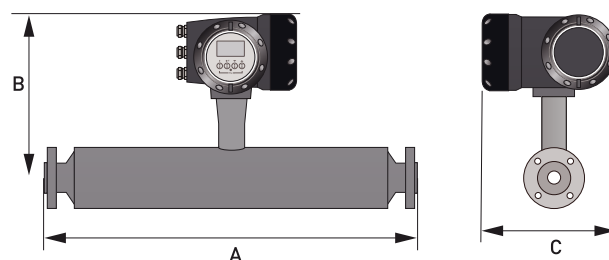
- High accuracy, zero point stability and repeatability
- Direct measurement of Mass flow, Density and Temperature
- Especially suited to viscous and shear sensitive media
- High Pressure, rated up to 100 Bar
- DIN or ANSI flanges, Tri-Clamp, DIN11851, SMS, IDF, ISS & RJT for hygienic applications
- Communication via HART[®] Modbus, FOUNDATION[™] Fieldbus, PROFIBUS[®], PROFINET IO and EtherNet/IP[®]

Technical Data

	06	10	15	25	40	50	80
Max Flow KG/Hr	1,230	3,500	14,600	44,800	120,000	234,000	560,000
Flange Size	DN10 (3/8")	DN10 (3/8")	DN15 (1/2")	DN25 (1")	DN40 (1.1/2")	DN50 (2")	DN80 (3")
Connections	As standard: DIN or ANSI flanges, alternative Tri-Clamp, DIN11851, SMS, IDF, ISS & RJT for hygienic applications						
Styles							
Materials: Tube	Titanium or 316 Stainless Steel (options for Hastelloy or Tantalum)						
Materials: body	304 Stainless Steel (option for 316 Stainless Steel)						
Materials: Housing	316 Stainless Steel (compact version)						
Density Range	400-2,500 KG/M3						
Flow Accuracy	+/- 0.1% Of Reading + Zero Point Stability						
Zero Point Stability	+/- 0.004% FSD (Titanium version), +/- 0.015% FSD (Stainless Steel version)						
Density Accuracy	+/- 2 KG/M3						
Max Temperature	150°C (Titanium version), 100°C (Stainless Steel flanged version), 130°C (version with Hygienic connections)						
Power Supply	100-230 Vac or 24 Vdc						
Outputs	Choice of 2/3 wire 4-20 mA (with HART) for flow, density and temperature, frequency						
Communications	HART Modbus, FOUNDATION Fieldbus, PROFIBUS, PROFINET IO and EtherNet/IP						
Protection	IP67						

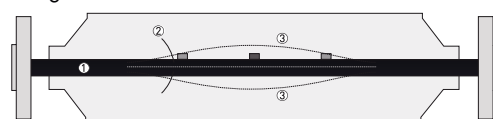
Dimensional Data

DN	A (mm)	B (mm)	C (mm)	Weight KG
06	420	311	261	19
10	510			23
15	548			26
25	700	318		37
40	925	345		83
50	1101	370		147
80	1466	397		265



Principle of Operation

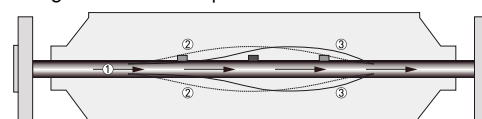
Energised meter



- 1 Measuring tubes
- 2 Direction of oscillation
- 3 Sine wave

When the meter is energised, the drive coil vibrates the measuring tube causing it to oscillate and produce a sine wave 3. The sine wave is monitored by the two sensors.

Energised meter with process flow

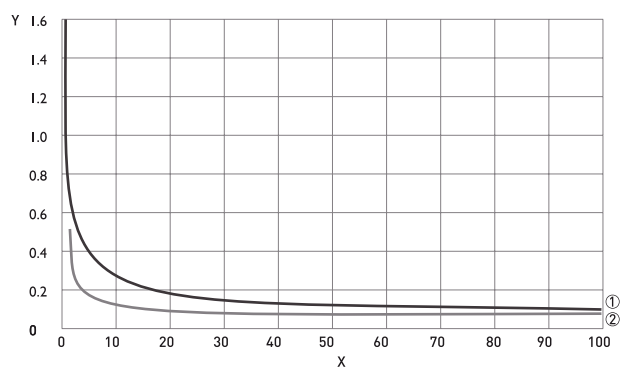


- 1 Process flow
- 2 Sine wave
- 3 Phase shift

When a fluid or gas passes through the tube, the coriolis effect causes a phase shift in the sine wave that is detected by the two sensors. This phase shift is directly proportional to the mass flow.

Density measurement is made by evaluation of the frequency of vibration and temperature measurement is made using a Pt500 sensor.

Measurement Accuracy



X flow rate [%]

Y measuring error [%]

1 Stainless Steel, Hastelloy and Tantalum

2 Titanium

Measuring error

The measuring error is obtained from the combined effects of accuracy and zero stability.

Reference conditions

Product
Temperature
Operating pressure

Water
+20°C / +68°F



EtherNet/IP

