GUIDANT
POWERED BY KROHNE

OPTIMASS Series Coriolis Meters

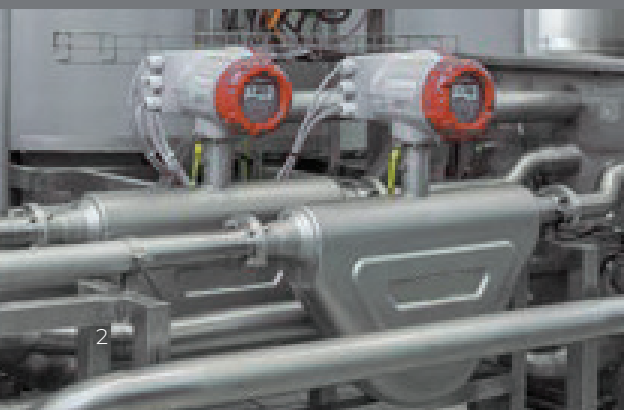
For all process and custody transfer applications

Innovative Construction for Better Results

The OPTIMASS Series Coriolis Meters are available in sizes 1 to 400 mm (1/25" to 16") and in six different materials, including 316L, duplex and super duplex stainless steels, Hastelloy, titanium, and tantalum. The OPTIMASS series conforms to the standard installation lengths according to NAMUR NE 132 “Coriolis Mass Meter (CMM)”.

Typical Applications

- Measurement of liquids, gases, and liquids with entrained gas
- Bulk loading
- Oil and gas
- Food and beverage
- Chemical
- Pharmaceutical
- Petrochemical
- Marine
- Power plants
- Pulp and paper



The OPTIMASS Series boasts superior performance, even with quick temperature and media changes. Just how accurate and reliable a mass flowmeter actually is becomes obvious when constant parameters—such as medium, temperature, or pressure—undergo sudden changes. The OPTIMASS Series sets the standard. Guidant offers superior mass flowmeters with straight- and bent-tube designs, so you can choose the best meter for your application. We offer a unique straight-tube design for minimal pressure drop, highly viscous, corrosive, and slurry applications.

The superior bent-tube design is suitable for cryogenic, high temperature, and extremely high pressure applications.

Whatever your requirements, you can be assured that your OPTIMASS meter has been made to the highest standards and that no compromises have been made on quality.

Features and Benefits

- For all process and custody transfer (CT) applications
- Mass, volume flow, density, and concentration measurement of liquids and gases
- Various designs, from twin bent to single straight tube
- Continuous flow measurement, even with entrained gas of up to 100% (EGM™)

Calibration

When you buy an OPTIMASS meter, you get a measuring device that performs accurately with low uncertainty under real process conditions. These meters can be calibrated and certified according to various standards, such as OIML, Measuring Instruments Directive (MI-002 and 005), and comply with API and AGA. The standards we use for calibration are ISO/IEC 17025 accredited and traceable to international and national standards.

No Straight Inlet/Outlet Requirements

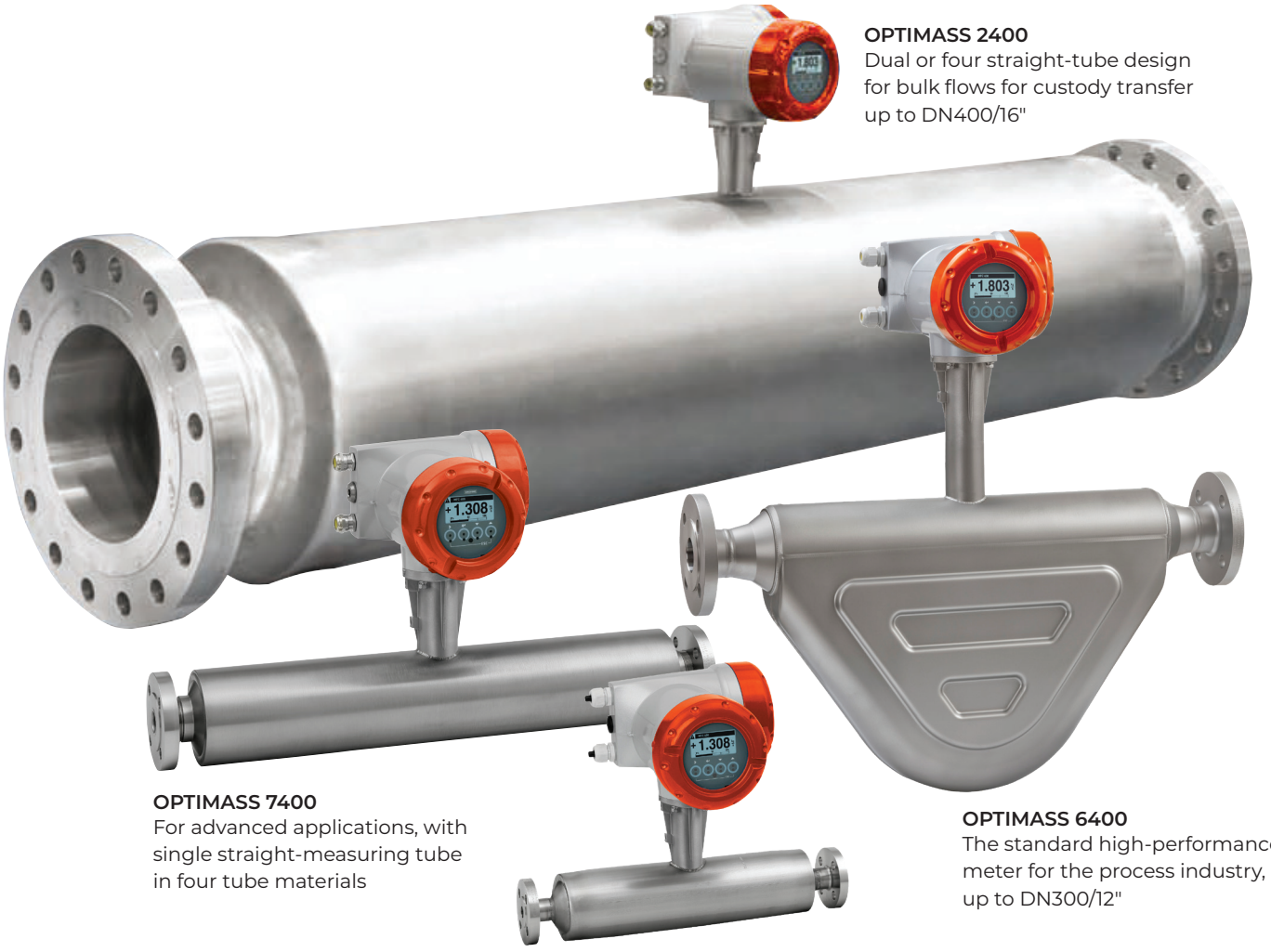
OPTIMASS meters place minimum constraints on installation, making it easy for you to select the best meter for your application.

Intelligent Modularity to Suit Your Needs and Fulfill Requirements

When it comes to selecting a flowmeter for your application, the OPTIMASS Series meets the needs of industrial users worldwide. Our engineers developed a family of meters from small to large, for high pressure, cryogenic temperatures, and high temperatures.

All meters are designed to reduce constraints on you to install—simply follow good engineering practices to obtain the desired results.

The meter's diagnostics software monitors a series of processes and auxiliary values to confirm the condition of the process medium. OPTIMASS can even generate intelligent warning messages when a certain proportion of gas bubbles or solids is exceeded, providing valuable information about the process itself.



OPTIMASS 2400
Dual or four straight-tube design for bulk flows for custody transfer up to DN400/16"

OPTIMASS 7400
For advanced applications, with single straight-measuring tube in four tube materials

OPTIMASS 6400
The standard high-performance meter for the process industry, up to DN300/12"

OPTIMASS 1400
The standard device with an excellent price-performance ratio

Technical Data	OPTIMASS 1400	OPTIMASS 2400
Measuring Accuracy	· Liquid: ±0.15% · Gas: 0.35% · Density: ±2 kg/m³ (±0.002 g/cc)	· Liquid: ≤0.1% (optional: ±0.05%) · Gas: ≤0.35% · Density: ±1 kg/m³, optional ±0.2 kg/m³ · (±0.001 g/cc, optional ±0.002 g/cc)
Outputs	· Current · Pulse/frequency · Status	· Current · Pulse/frequency · Status
Inputs	Binary	Binary
Communication	· HART · FF · PA · DP · Modbus · PROFINET	· HART · FF · PA · DP · Modbus · PROFINET
Power Supply	· 85 to 250 VAC · 11 to 31 VDC · 20.5 to 26 VAC/DC	· 85 to 250 VAC · 11 to 31 VDC · 20.5 to 26 VAC/DC
Protection Category: Compact (C) Field (F) Wall (W) Rack (R)	· IP66, 67; NEMA4, 4X, 6 · IP66, 67; NEMA4, 4X, 6 · IP65; NEMA4, 4X · IP20; NEMA1	· IP66, 67; NEMA4, 4X, 6 · IP66, 67; NEMA4, 4X, 6 · IP65; NEMA4, 4X · IP20; NEMA1
Device, EN 1092-1	DN15 to 50	DN100 to 400
Connection EN 1092-1	DN15 to 100	DN100 to 400
Device, ASME B16.5	1/2 to 2"	4 to 16"
Connection ASME B16.5	1/2 to 4"	4 to 16"
Screw-on Connector NPT	–	–
Pressure Rating EN 1092-1	· PN40 · PN63 · PN100	· PN16 · PN40 · PN63 · PN100 · PN160
Pressure Rating ASME B16.5	· CL150 · CL300 · CL600	· CL150 · CL300 · CL600 · CL900 · CL1500
Secondary Pressure Containment	100 bar/1,450 psi	40 bar/580 psi (optional 150 bar/2,175 psi)
Measuring Ranges	48 to 170,000 kg/h (1.8 to 6,250 lb/min)	1,560 to 4,600,000 kg/h (57 to 169,000 lb/min)
Process Temperature	-40 to 130 °C (-40 to 266 °F)	-40 to 130 °C (-40 to 266 °F)
Ambient Temperature	-40 to 65 °C (-40 to 149 °F)	-40 to 65 °C (-40 to 149 °F)
Sensor Materials	Stainless steel	· Stainless steel · Duplex stainless steel · Super duplex stainless steel
Protection Category Sensor	IP67; NEMA4X	IP67; NEMA4X
Ex-Approvals	· ATEX · FM · CSA · NEPSI · IECEx	· ATEX · FM · CSA · NEPSI · IECEx
Sanitary and Material Approvals	· 3A · EHEDG	NACE
Custody Transfer	· NTEP · MC	· OIML R117 · INMETRO · NTEP · MI 005 · MI 002

Technical Data	OPTIMASS 6400	OPTIMASS 7400
Measuring Accuracy	· Liquid: ±0.1% (optional: ±0.05%) · Gas: 0.35% · Density: ±1 kg/m³, optional ±0.2 kg/m³ (±.0.001 g/cc, optional ±0.0002 g/cc)	· Liquid: ±0.1% · Gas: 0.35% · Density: ±2 kg/m³, optional ±0.5 kg/m³ (±.0.002 g/cc, optional ±0.0005 g/cc)
Outputs	· Current · Pulse/frequency · Status	· Current · Pulse/frequency · Status
Inputs	Binary	Binary
Communication	· HART · FF · PA · DP · Modbus · PROFINET	· HART · FF · PA · DP · Modbus · PROFINET
Power Supply	· 85 to 250 VAC · 11 to 31 VDC · 20.5 to 26 VAC/DC	· 85 to 250 VAC · 11 to 31 VDC · 20.5 to 26 VAC/DC
Protection Category: Compact (C) Field (F) Wall (W) Rack (R)	· IP66, 67; NEMA4, 4X, 6 · IP66, 67; NEMA4, 4X, 6 · IP65; NEMA4, 4X · IP20; NEMA1	· IP66, 67; NEMA4, 4X, 6 · IP66, 67; NEMA4, 4X, 6 · IP65; NEMA4, 4X · IP20; NEMA1
Device, EN 1092-1	DN8 to 250	DN6 to 80
Connection EN 1092-1	DN10 to 250	DN10 to 100
Device, ASME B16.5	1/2 to 10"	1/4 to 3"
Connection ASME B16.5	1/2 to 10"	1/2 to 4"
Screw-on Connector NPT	–	–
Pressure Rating EN 1092-1	· PN16 · PN40 · PN63 · PN100 · PN160	· PN40 · PN63 · PN100
Pressure Rating ASME B16.5	· CL 150 · CL300 · CL600 · CL900 · CL1500	· CL 150 · CL300 · CL600
Secondary Pressure Containment	–	100 bar/1,450 psi
Measuring Ranges	5 to 1,500,000 kg/h (0.2 to 55,115 lb/min)	9.5 to 560,000 kg/h (0.35 to 20,576 lb/min)
Process Temperature	-200 to 400 °C (-328 to 752 °F)	-40 to 150 °C (-40 to 302 °F)
Ambient Temperature	-40 to 65 °C (-40 to 149 °F)	-40 to 65 °C (-40 to 149 °F)
Sensor Materials	· Stainless steel · Hastelloy C22 · Duplex steel	· Duplex steel · Hastelloy C22 · Titanium · Tantalum
Protection Category Sensor	IP67; NEMA4X	IP67; NEMA4X
Ex-Approvals	· ATEX · cFMus · IECEx · NEPSI	· ATEX · FM · CSA · NEPSI · IECEx
Sanitary and Material Approvals	· 3A · EHEDG · NACE	· EHEDG · 3A · ASME bioprocessing
Custody Transfer	· OIML R117 · OIML R137 · INMETRO · NTEP · MI 005 · MI 002	· OIML R117 · INMETRO · NTEP · MI 005

Entrained Gas Management (EGM)

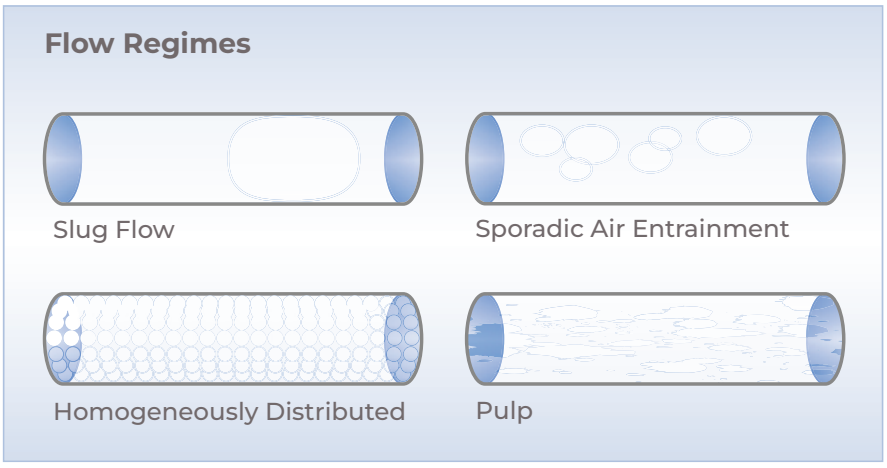
OPTIMASS Series Coriolis Meters with EGM functionality is the only range of meters to offer a solution for all flow conditions at a gas volume fraction (GVF) from 0 to 100% as a standard feature (not a cost-adder option).

- Applications with entrained gas can easily be resolved using OPTIMASS with EGM
- Enhanced diagnostics with two-phase signal
- Diagnostics in accordance with NAMUR NE 107 requirements
- Continuous measurement with 0 to 100% gas entrainment
- Works across the full OPTIMASS temperature range from -200 to +400 °C (-328 to +752 °F)

The difficulty of measuring a liquid with entrained gas increases with the fraction of gas. A number of other process factors—such as temperature, increased viscosity, pressure, and the relative velocity between liquid and gas—also affect the resulting flow regime.

Today, OPTIMASS Coriolis flowmeters with Entrained Gas Management can provide repeatable measurement in situations like:

- Liquids mixed with gas
- Slurries with gases
- Highly viscous fluids with gas entrainments



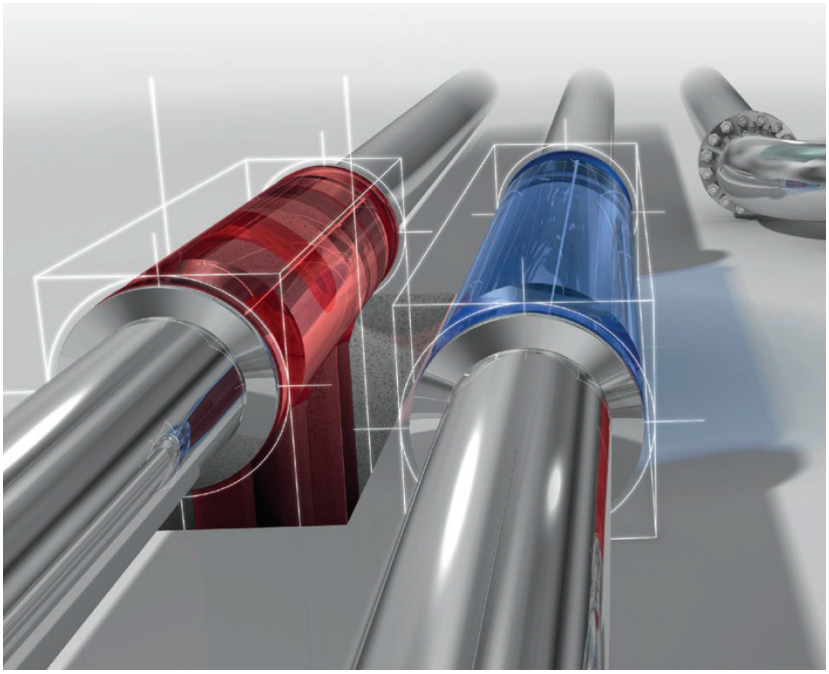
Easy to Install

One of the biggest challenges when it comes to installing Coriolis flowmeters—especially high-capacity models—is installation space. Obstructions to the linear pipeline or other architectural features can limit locations and increase the number of connections. Until recently, the rule was that the bigger the flowmeter, the greater the space required. Traditional high-capacity mass flowmeters have bent tubes and large installation envelopes that require additional engineering or complex pipe layouts. The latest OPTIMASS 2400 straight tube flowmeters, shown in blue in the middle of the image, have a compact installation envelope that fits perfectly with the pipeline and does not require any additional engineering or pipeline adaptions, saving valuable space.

By reducing the number of pipeline elevations, bends, and supports required for installation, OPTIMASS 2400 straight tube flowmeters offer considerable savings in both material and labor costs compared to traditional meters. Pressure drop is also reduced, which further contributes to cost savings. System designers also benefit from the possibility to install straight tube meters in tight spaces—such as below walkways, overhead, or in existing pipelines—where bent tube meters would not fit. For maximum installation flexibility, converters can be remote mounted.

No other large Coriolis meters can be installed with such a compact and small footprint without any heavy and solid foundations. No need for holes in the basement or costly structures to elevate the pipelines.

No other large Coriolis meters can build such compact, easy-to-install metering skids.



About Guidant

As the undisputed leader in liquid and gas custody transfer solutions with the largest global install base, Guidant's legacy is built on more than 90 years of expertise, accuracy, reliability, and best-in-class technologies. We are a private company focused on the measurement solutions business, serving emerging and established energy markets across the globe.

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