



Badger Meter Europa

# Coriolis MultyMass MMC2

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## Precise Coriolis mass flow meter

The flexible and extremely precise Coriolis mass flow meter meets your requirements for various industries and applications with the most different measuring ranges – from the smallest water drop to filling ocean going tankers.

Take advantage of the versatile Coriolis MultyMass MMC2 for reliable measurement of mass and volume flow, density, concentration and temperature.

### Unique design

- The Coriolis MultyMass MMC2 stands out for its unique S-design. It can be easily installed in any position and orientation where self draining is required
- Due to its sturdy design, strong signal level and optimized electronics the Coriolis MultyMass MMC2 is insensitive to external vibrations and gas content in the fluid
- It is suitable to fluid temperatures up to 200°C (392°F)

### Modular platform concept

- Flexible connection sizes enable optimal adaption to the process
- Various accuracy classes provide both simple and highly accurate solutions with one installation length and thereby help to minimize your stock keeping cost
- Simple and consistent operating concept as the universal modular transmitter can be connected to all sensor sizes

### Explosion proof design

The universal explosion proof design concept provides the best temperature classes on the market plus international approvals like ATEX, IECEx, FM, NEPSI and GOST.



### Comprehensive diagnostics

- Extensive measuring tube monitoring, for example for detecting a tube rupture or blockage
- Self-monitoring transmitter
- Elaborate alarm concept
- Wide range of communication options provide device information at any time
- Measuring tube diagnosis to detect abrasion and deposits by storage of device-specific data (finger print). This option allows easy meter verification in the field.

### Concentration measurement

Due to its integral DensiMass software the Coriolis MultyMass MMC 2 allows direct Brix measurements, net oil calculations or temperature-standardized concentration calculations. The software provides the largest database currently on the market as a calculating basis and can be activated in the field at any time.



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## Communication

- Easily accessible Fieldbus address setting, even without power supply.
- Three freely configurable current and pulse outputs, active or passive, are standard
- Freely configurable contact input and output
- Simple field optimization for mass and volume flow, density, concentration and temperature measurement
- Wide range of function tests and simulation routines for commissioning.

## Sensor MMC2

- S-shape twin tube design
- DN15 - DN150
- 0,1% / 0,15% / 0,25% / 0,4% of range
- Density accuracy up to 1g/l
- $T_{medium}$  -50°C up to +200°C (-58°F up to 392°F)
- Standard pressure rating up to PN100
- Higher pressure ratings on request

## Sensor MMC2 Hygiene

- S-shape twin tube design
- DN15 - DN80
- 0,1% / 0,15% / 0,25% / 0,4% of range
- Density accuracy up to 1g/l
- $T_{medium}$  -50°C up to +200°C (-58°F up to 392°F)
- Higher pressure ratings on request

## Transmitter MME2

- Universal transmitter for all sensors and applications for ambient temperatures between -40°C and 60°C (-40°F to 140°F)
- Remote or integral mount design
- Continuously rotatable transmitter head in compact design
- Illuminated graphic display with easy to read clear text menu in various languages
- Universal menu operation philosophy and easy installation using the „Easy Set-up“ function
- FRAM technology for rapid transmitter exchange without reprogramming

## Nominal diameters and maximum measuring ranges

Type	Nominal diameter	Max. measuring range $Q_{max}$
MMC2	„E“ DN20 (3/4")	0 - 100 kg/min
MMC2	„F“ DN25 (1")	0 - 160 kg/min
MMC2	„G“ DN40 (1 1/2")	0 - 475 kg/min
MMC2	„H“ DN50 (2")	0 - 920 kg/min
MMC2	„I“ DN65 (2 1/2")	0 - 1890 kg/min
MMC2	„J“ DN80 (3")	0 - 2460 kg/min
MMC2	„K“ DN100 (4")	0 - 4160 kg/min
MMC2	„L“ DN150 (6")	0 - 11000 kg/min

## MMC2 Hygiene



The starting point of both efficiency increase and energy saving is always high-accuracy measurement. The Coriolis MultyMass MMC2 provides extremely precise measuring results. Direct mass flow measurement, for example, allows exact dosing of raw materials. This is how Coriolis MultyMass MMC2 helps you increase efficiency and save resources.

## MME2



## Chemistry and petrochemistry

The Coriolis MultyMass MMC2 is ideal for filling or dosing of oils, solvents and chemicals. It measures online the mass and volume flow, density, concentration and temperature of different fluids. The high-precision density measurement provides superior accuracy for quality checking of the products or for inline blending, for example automatic mixing of different product components. As an integral part of the standard software you will find the greatest database for concentration measurement on the market.

### Features

- Excellent temperature classes in explosion hazardous areas
- Example:  $T_{med}$  200°C (392°F) at  $T_{amb}$  60°C (140°F), even with compact design models
- Unique flexible explosion proof design concept – “e” and “i” in one electronic package, switchable
- Comprehensive explosion proof design concept including solutions for zone 0, zone 1 and zone 2
- Flameproof enclosure offers special protection for critical processes
- Double safety through type of protection [ia] with three passive outputs and contact input and output
- Type tested and standardized according to NAMUR
- NACE conformity
- Heatable up to 200°C (392°F)
- SIL assessed
- Insensitive to noise from gas or solid content in the fluid

### Typical fluids

- Sodium hydroxide
- Isopropanol
- Methanol
- Sulfur
- Sulfuric acid
- Nitric acid
- Benzol
- Crude oil
- Benzine
- Kerosine
- Polymers

## Pharmaceutical, food & beverage industry

The Coriolis MultyMass MMC2 is used for many applications in dairies, breweries, the alcohol industry, the beverage industry and starch production. Direct calculation of concentration like Brix, Plato or Baumé provides advantages for blending processes of, for example, fruit juices or for the fat content adjustment of milk. As the Coriolis MultyMass MMC2 is insensitive to noise from gas or solid content in the fluid it is ideal for the most demanding applications.



### Features

- Direct mass flow measurement with an accuracy of 0.1% of range
- Density measurement with an accuracy of 0.001 kg/l
- Excellent cleanability, EHEDG certified
- CIP and SIP suitable up to 200°C (392°F)
- Polished fluid wetted parts
- Flexible, hygienic fitting concept (for example Tri-Clamp® or DIN11864)
- Measurement of both conductible and non-conductible fluids
- Insensitive to noise for example from external vibrations or from gas and solid content in the fluid

### Typical fluids

- |                 |                       |
|-----------------|-----------------------|
| • Alcohol       | • Flavors             |
| • Oils          | • Mayonnaise          |
| • Fats          | • Beer                |
| • Mashs         | • Cream               |
| • Pastes        | • Spirits             |
| • Concentrates  | • Liquid sugar        |
| • Acids         | • Chocolate           |
| • Leaches       | • Whey                |
| • Milk products | • Demineralized water |
| • Gyle          | • Juices              |



## Power and water industry

The Coriolis MultyMass MMC2 enables the measurement of mass and volume flow, density, concentration and temperature with a single measuring instrument. It is also well-proven for lime milk density measurement. Contrary to radioactive density measurement no radioactive material is required for Coriolis measurement. Other typical applications are the dosing of expensive biocides and high-precision fuel supply to burners in power plants where an important increase in efficiency is achieved through direct fuel mass flow measurement.

### Features

- Direct mass flow measurement with an accuracy of 0,1% of range
- Density measurement with an accuracy of 0.001 kg/l
- Process safety through sturdy design and thick wall tubes
- Virtually wear-free, no moving mechanical parts contained
- Heatable up to 200°C (392°F)
- Insensitive to noise for example from external vibrations or from gas and solid content in the fluid

### Typical fluids

- Crude oil
- Diesel
- Biodiesel
- Ethanol
- Lime milk
- Ferrous oxide
- Biocide
- Iron salt solution
- Waste water sludges
- Demineralized water

## Pulp and paper industry

The Coriolis MultyMass MMC2 sets the standards for the measurement of mass and volume flow, density, concentration and temperature in color and coating kitchens. It is perfect for the measurement of expensive chemicals, for air content measurement around the head box and especially for precise measurement of high viscosity fluids whilst maintaining a huge turndown ratio. Online density measurement simplifies, for example, quality control of colors.

### Features

- Direct mass flow measurement with an accuracy of 0.1% of range
- Density measurement with an accuracy of 0.001 kg/l
- Sturdy design and thick wall tubes
- Virtually wear-free, no moving mechanical parts contained
- Insensitive to noise from gas or solid content

### Typical fluids

- Slimicide
- Optical brightener
- Calcium carbonate
- Defoamer
- Synthetic thickener
- Synthetic binder
- Wet strength agent
- Oils and fuels
- Lubricants
- Sodium hydroxide
- Coating colors
- Kaolin
- Talc
- Biocide
- Starch
- Black liquor
- White liquor

