

Promass 83X



More information and current pricing:

www.dk.endress.com/83X

Benefits:

- Increased profit – single installation point providing premium accuracy for large quantities
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Quality – software for filling, density & concentration, advanced diagnostics
- Flexible data transfer options – numerous communication types
- Automatic recovery of data for servicing

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ± 0.1 (standard), 0.05 % (option) Volume flow (liquid): ± 0.1 % Mass flow (gas): ± 0.35 % Density (liquid): ± 0.0005 g/cm³
- **Measuring range** 0 to 4100 t/h (0 to 4520 tn. sh./h)
- **Medium temperature range** -50 to $+180$ °C (-58 to $+356$ °F)
- **Max. process pressure** PN 100, Class 600
- **Wetted materials** Measuring tube: 1.4404 (316/316L)
Connection: 1.4404 (316/316L)

Field of application: Promass 83X is designed to meet the requirements of the oil and gas industry. Typical applications include pipelines and transfers to and from tanker ships, trucks and railroad cars. The key to the accuracy of the Promass X is its patented four-tube design, the first in the world. With its 14-inch diameter and accuracy up to 0.05%, the Promass 83X four-tube Coriolis mass flowmeter is ideal for high flow rate applications requiring reliability and low maintenance.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

The highest capacity four-tube flowmeter with extended transmitter functionality. For highest flow rates and outstanding performance in on/offshore applications in the oil & gas industry.

Sensor features

Increased profit – single installation point providing premium accuracy for large quantities. Fewer process measuring points – multivariable measurement (flow, density, temperature). Spacesaving installation – no in/outlet run needs. Nominal diameter: DN 300 to 400 (12 to 16"). Four-tube system with low pressure drop.

Transmitter features

Quality – software for filling, density & concentration, advanced diagnostics. Flexible data transfer options – numerous communication types. Automatic recovery of data for servicing. 4-line backlit display with touch control. Device in compact or remote version.

Nominal diameter range

DN 300 to 400 (12 to 16")

Wetted materials

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Max. measurement error

Mass flow (liquid): ± 0.1 (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Liquids

Measuring range

0 to 4100 t/h (0 to 4520 tn. sh./h)

Max. process pressure

PN 100, Class 600

Medium temperature range

-50 to +180 °C (-58 to +356 °F)

Ambient temperature range

Standard: -20 to +60 °C (-4 to +140 °F)

Option: -40 to +60 °C (-40 to +140 °F)

Sensor housing material

1.4404 (316L), highest corrosion resistance

Transmitter housing material

Powder-coated die-cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

Degree of protection

IP67, type 4X enclosure. Remote transmitter: IP67, type 4X enclosure

Display/Operation

4-line backlit display with touch control (operation from outside)

Configuration via local display and operating tools possible

Outputs

4 modular outputs:

0-20 mA (active)/4-20 mA (active/passive)

Pulse/frequency/switch output (passive)

Relay

Inputs

2 modular inputs:

Status

0-20 mA (active)/4-20 mA (active/passive)

Liquids

Digital communication

HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus RS485, EtherNet/IP

Power supply

DC 16 to 62 V

AC 85 to 260 V (45 to 65 Hz)

AC 20 to 55 V (45 to 65 Hz)

Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

Other approvals and certificates

3.1 material, calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR, SIL, marine

PED, CRN, AD 2000

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

Product safety

CE, C-tick, EAC marking

Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

Gas

Measuring principle

Coriolis

Product headline

The highest capacity four-tube flowmeter with extended transmitter functionality. For highest flow rates and outstanding performance in on/offshore applications in the oil & gas industry.

Sensor features

Increased profit – single installation point providing premium accuracy for large quantities. Fewer process measuring points – multivariable measurement (flow, density, temperature). Spacesaving installation – no in/outlet run needs. Nominal diameter: DN 300 to 400 (12 to 16"). Four-tube system with low pressure drop.

Transmitter features

Quality – software for filling, density & concentration, advanced diagnostics. Flexible data transfer options – numerous communication types. Automatic recovery of data for servicing. 4-line backlit display with touch control. Device in compact or remote version.

Nominal diameter range

DN 300 to 400 (12 to 16")

Wetted materials

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Max. measurement error

Mass flow (liquid): ± 0.1 (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Gas

Measuring range

0 to 4100 t/h (0 to 4520 tn. sh./h)

Max. process pressure

PN 100, Class 600

Medium temperature range

-50 to +180 °C (-58 to +356 °F)

Ambient temperature range

Standard: -20 to +60 °C (-4 to +140 °F)

Option: -40 to +60 °C (-40 to +140 °F)

Sensor housing material

1.4404 (316L), highest corrosion resistance

Transmitter housing material

Powder-coated die-cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

Degree of protection

IP67, type 4X enclosure. Remote transmitter: IP67, type 4X enclosure

Display/Operation

4-line backlit display with touch control (operation from outside)

Configuration via local display and operating tools possible

Outputs

4 modular outputs:

0-20 mA (active)/4-20 mA (active/passive)

Pulse/frequency/switch output (passive)

Relay

Inputs

2 modular inputs:

Status

0-20 mA (active)/4-20 mA (active/passive)

Gas

Digital communication

HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus RS485, EtherNet/IP

Power supply

DC 16 to 62 V

AC 85 to 260 V (45 to 65 Hz)

AC 20 to 55 V (45 to 65 Hz)

Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

Other approvals and certificates

3.1 material, calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR, SIL, marine

PED, CRN, AD 2000

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

Product safety

CE, C-tick, EAC marking

Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

More information www.dk.endress.com/83X