

Proline t-mass F 300

Thermische massaflowmeter

Inline-flowmeter met langetermijnstabiliteit en een compacte, gemakkelijk toegankelijke transmitter



Voordelen:

- Flexibele, makkelijke programmering gebaseerd op 21 standaardgassen of vrij definieerbare gasmengsels hiervan
- Hoog niveau van procesbewaking – eersteklas meetnauwkeurigheid en herhaalbaarheid
- Betrouwbare bewaking – detectie van procesverstoringen en omgekeerde flow
- Eenvoudig onderhoud – uitneembare sensor
- Volledige toegang tot proces- en diagnose-informatie – talrijke, vrij te combineren I/O's en veldbussen
- Verminderde complexiteit en verscheidenheid – vrij configureerbare I/O-functionaliteit
- Geïntegreerde verificatie – Heartbeat Technology

Meer informatie en actuele prijzen:

www.be.endress.com/6F3B

Overzicht specificaties

- **Max. meetfout** Gas: 1.0% o.r. (10 to 100% o.f.s.), 0.1% o.f.s. (1 to 10% o.f.s.)
- **Measuring range** 0.5 to 3750 kg/h (1.1 to 8250 lb/h)
- **Medium temperature range** -40 °C to +180°C (-40 °F to +356 °F)
- **Max. process pressure** PN40 / Cl. 300 / 20K
- **Wetted materials** Measuring tubes DN 15 to 50 (½ to 2"): stainless cast steel, CF3M/1.4408 DN 65 to 100 (2½ to 4"): stainless steel, 1.4404 (316/316L) Process connections Flange connections Stainless steel, 1.4404 (F316/F316L) Threaded connections Stainless steel, 1.4404 (316/316L) Sensing element Unidirectional Stainless steel, 1.4404 (316/316L) Alloy C22, 2.4602 (UNS N06022); Bidirectional Stainless steel, 1.4404

(316/316L) Reverse flow detection Stainless steel, 1.4404
(316/316L)

Toepassingsgebied: Het gepatenteerde sensorontwerp van t-mass F levert ongeëvenaarde meetstabiliteit bij thermische inline-massaflowmetingen. Het compenseert in realtime wijzigingen van procesomstandigheden: temperatuur, druk, flowrichting en gastype. De compacte transmitter biedt een hoge flexibiliteit wat betreft bediening en systeemintegratie: toegang vanaf een webserver, weergave op afstand en verbeterde connectiviteitsopties. Bovendien garandeert de Heartbeat Technology betrouwbare metingen en verificaties volgens de regels.

Kenmerken en specificaties

Gas

Meetprincipe

Thermal

Product headline

Inline flowmeter with long-term stability and a compact, easily accessible transmitter.

Flexible, convenient programming based on 21 standard gases or freely definable gas mixtures thereof.

Measurement of utility and process gases as well as gas mixtures in small line sizes.

Sensor features

High level of process control – premium measurement accuracy and repeatability. Reliable monitoring – detection of process disturbances and reverse flow. Easy maintenance – removable sensor.

Inline version with DN 15 to 100 (½ to 4"). Bidirectional measurement; high measuring performance. Patented drift-free sensor with SIL 2.

Gas

Transmitter features

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

Nominal diameter range

DN 15 to DN 100 (1/2" to 4")

Wetted materials

Measuring tubes

DN 15 to 50 (½ to 2"): stainless cast steel, CF3M/1.4408

DN 65 to 100 (2½ to 4"): stainless steel, 1.4404 (316/316L)

Process connections

Flange connections

Stainless steel, 1.4404 (F316/F316L)

Threaded connections

Stainless steel, 1.4404 (316/316L)

Sensing element

Unidirectional

Stainless steel, 1.4404 (316/316L)

Alloy C22, 2.4602 (UNS N06022);

Bidirectional

Stainless steel, 1.4404 (316/316L)

Reverse flow detection

Stainless steel, 1.4404 (316/316L)

Measured variables

Massflow, temperature, standard volume flow, volume flow, Free air delivery, velocity, heat flow, energy flow, density

Max. meetfout

Gas: 1.0% o.r. (10 to 100% o.f.s.), 0.1% o.f.s. (1 to 10% o.f.s.)

Measuring range

0.5 to 3750 kg/h (1.1 to 8250 lb/h)

Gas

Max. process pressure

PN40 / Cl. 300 / 20K

Medium temperature range

-40 °C to +180°C (-40 °F to +356 °F)

Ambient temperature range

-40 to 60°C (-40 to 140°F)

Optional:

Transmitter: -50 to 60°C (-50 to 140°F),

Sensor: -60 to 60°C (-60 to 140°F)

Transmitter housing material

Aluminium, AlSi10Mg, coated

Polycarbonate

Degree of protection

IP66/67, Type 4X enclosure

Display/Operation

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

Configuration via local display and operating tools possible

Remote display available

Outputs

3 outputs:

4-20 mA HART (active/passive)

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Relay output

Inputs

Status input

4-20 mA input

Digital communication

HART, Modbus RS485

Gas

Power supply

DC 24V
AC 100 to 240V

Hazardous area approvals

ATEX, cCSAus, IECEx, NEPSI, JPN, UK Ex

Product safety

CE, C-tick

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)
Heartbeat Technology complies with the requirements for measurement traceability according to ISO 9001:2015 – Section 7.1.5.2 a

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material
NACE MR0175/MR0103

Meer informatie www.be.endress.com/6F3B