FISCHER MESS- UND REGELTECHNIK

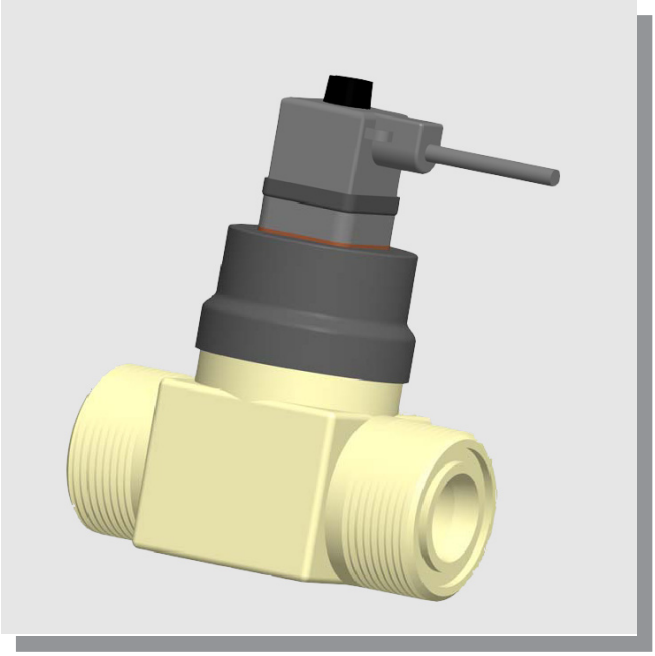
*(preliminary product information)*

# FB39 || Flow transmitter for aggressive media

## Applications

Flow transmitter based on the differential pressure principle with integrated orifice and ceramic pressure sensors, housing and process connection made from high-quality plastic.

The flow transmitters in this series are suitable for diverse measuring tasks in electroplating and in treatment plant for drinking, potable, process and wastewater.



## Setup and action

The metering section, consisting of an orifice with differential pressure tapping holes, is grouped together with two pressure sensors and the electronics in a joint housing.

The flow-dependent differential pressure arising at the orifice is measured by the two pressure sensors and converted into a standard electronic signal.

Chemically resistant plastics for the components in contact with the measured medium and the pressure sensors made from highly pure ceramic enable use in plants with aggressive media.

## Main features

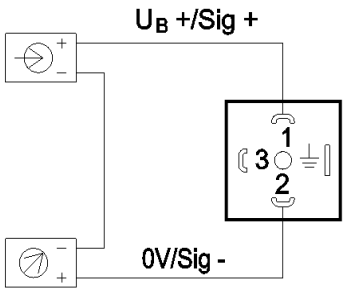
- Robust design
- Resistant against aggressive media
- Measuring cell made from 99.6% $AL_2O_3$ ceramic (coated)
- Compact design
- No moving parts
- Flow-proportional output signal
- Plant pressure possible as second output signal

# Specifications

| **Measuring range [$m^3/h$]** | **0.75…3.0** | **1.25…5.0** | **2.0…8.0** | **3.0…12.0** | **5.0…20.0** | **7.5…30.0** | **10.0…40.0** |
|---|---|---|---|---|---|---|---|
| Nominal size [DN] | 15 | 20 | 25 | 32 | 40 | 50 | 63 |
| Connection thread [inch] | G 1 | G 1 ¼ | G 1 ½ | G 2 | G 2 ¼ | G 2 ¾ | G 3 |

| | |
|---|---|
| **General:** | |
| Accuracy | ± 3% within the calculation point, 80% of the max. flow (cf. diagram) |
| all. ambient temperature | 0…60 °C |
| all. continuous medium temp. | 0…60 °C |
| Pressure range | 3 bar static |
| Differential pressure | 600 mbar |
| Electrical connection | 4 pole standard plug to EN 175301 -803-803-A |
| Display | 4 digit LED<br>(only in conjunction with clip-on display) |
| Degree of protection | IP65 to EN 60529 |
| Materials of parts in contact with media | PVDF/Viton® |
| Housing material | Polypropylene PP<br>Polyvinylidene fluoride PVDF |
| **Electrical data:** | |
| Nominal voltage $(U_B)$ | 24 VDC |
| max. all. tolerance range $(U_{min}...U_{max})$ | 12…30V DC |
| Output signal | 4…20 mA, root extracted |
| Type of electrical connection | 2 conductor |
| Limiting current | 22.5 mA |
| Load impedance | $\frac{(U_B - U_{min})}{0,0225} \cdot [\Omega]$ |
| Temperature drift | 0…60 °C ±0.5% |
| Zero point / measuring range | Temperature error band over the whole temperature range |

# Connection diagram

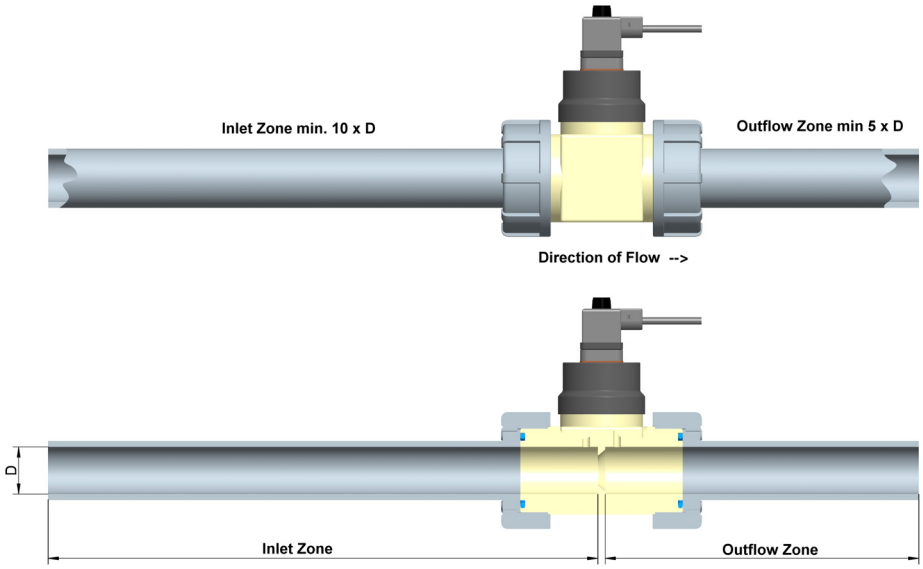



Legend:

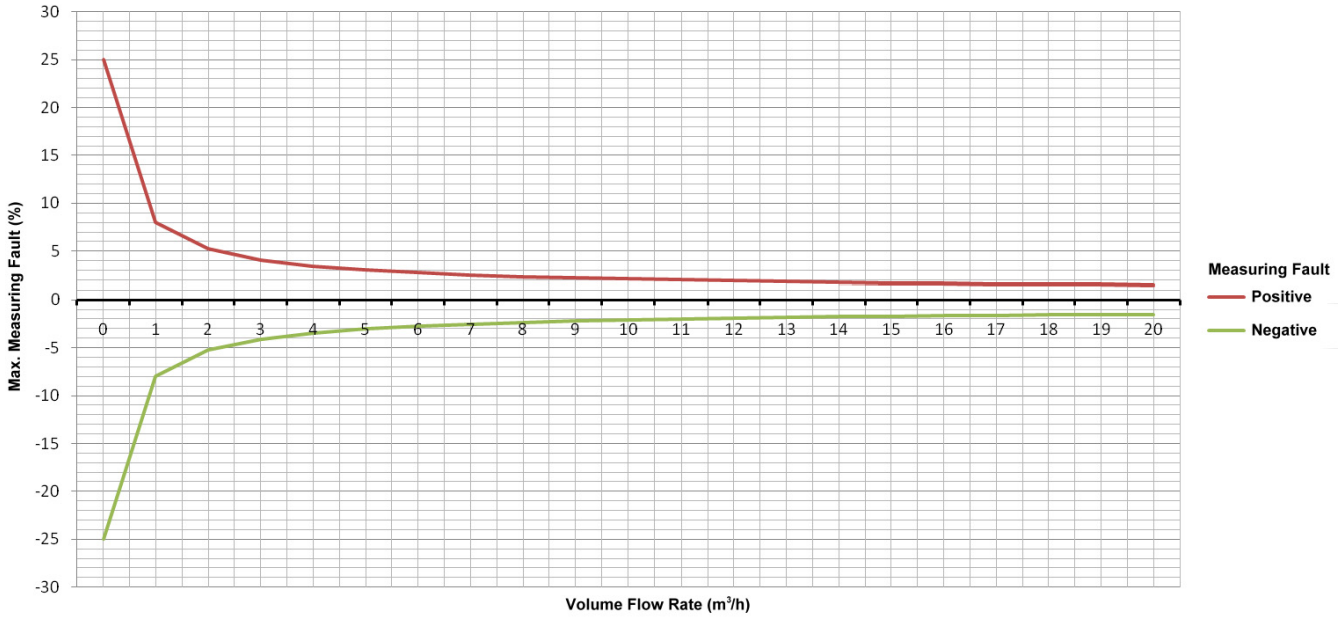
Power supply

Consumer

## Metering section

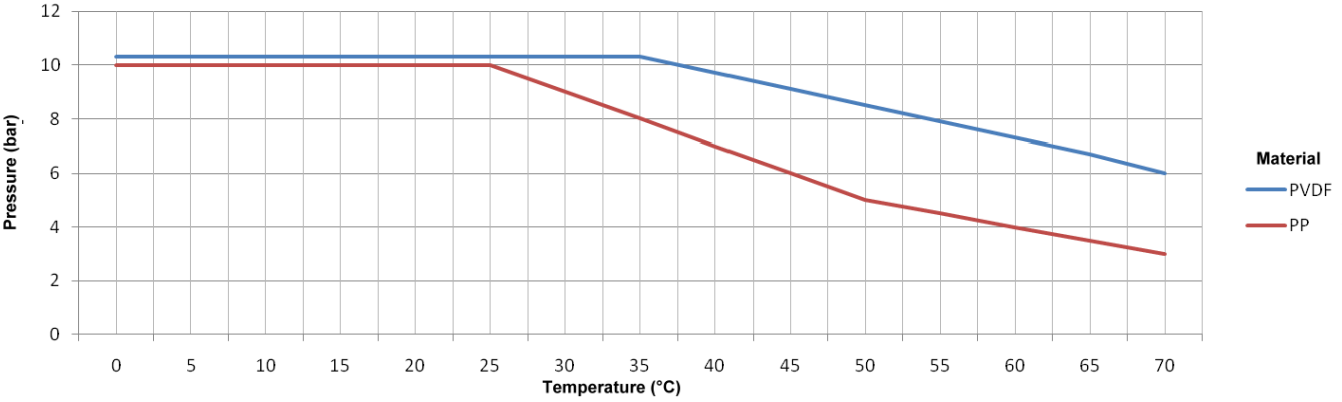



## Accuracy (DN40 orifice)




## Ambient temperature / continuous medium temperature

Range of use according to material (linearised)



## Order code

### Flow transmitter for aggressive media

| FB39 | W | | | | | | | F | 9 | H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Measured medium**

Water ..... > W

**Measuring range; Nominal size; Connection thread**

| | | | | | | |
|---|---|---|---|---|---|---|
| 0.75 … 3.0 $m^3/h$;[1] | DN 15; ..... G 1 ..... > | 1 | 0 | 1 | 0 | A |
| 1.25 … 5.0 $m^3/h$;[1] | DN 20; ..... G 1 ¼ ..... > | 1 | 0 | 2 | 0 | B |
| 2.0 … 8.0 $m^3/h$;[1] | DN 25; ..... G 1 ½ ..... > | 1 | 0 | 3 | 0 | C |
| 3.0 … 12.0 $m^3/h$;[1] | DN 32; ..... G 2 ..... > | 1 | 0 | 4 | 0 | D |
| 5.0 … 20.0 $m^3/h$;[1] | DN 40; ..... G 2 ¼ ..... > | 1 | 0 | 5 | 0 | E |
| 7.5 … 30.0 $m^3/h$;[1] | DN 50; ..... G 2 ¾ ..... > | 1 | 0 | 6 | 0 | F |
| 10.0 … 40.0 $m^3/h$;[1] | DN 63; ..... G 3 ..... > | 1 | 0 | 7 | 0 | G |

1) Flow calculation for water as measured medium;
other measured media such as air, oils, etc. possible on request

**Housing material**

Polypropylene PP ..... > A
Polyvinylidene fluoride PVDF ..... > B

**Electrical output signal**

4 … 20 mA 2 conductor, root extracted ..... > F

**Operating voltage**

24 V DC ..... > 9

**Electrical connection**

Plug-in connection 4-pole, standard plug to EN 175 301-803-A ..... > H

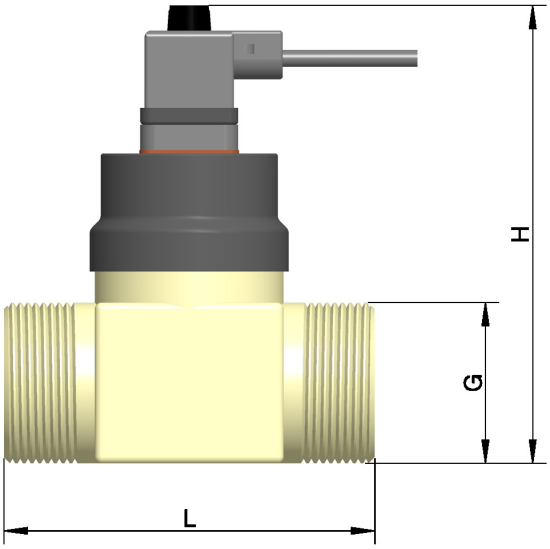
**Gasket in contact with medium**

Viton B ..... > W
EPDM ..... > E

**Measured value display**

without measured value display ..... > 0
4-digit digital measured value display with switching contact ..... > M

## Dimensioned drawings




The plug can be rotated in all directions.

| Nominal Size | Connection Thread | Lenght L | Hight H |
|---|---|---|---|
| DN15 | G 1" | 90mm | 123mm |
| DN20 | G 1 1/4" | 100mm | 129mm |
| DN25 | G 1 1/2" | 110mm | 137mm |
| DN32 | G 2" | 110mm | 148mm |
| DN40 | G 2 1/4" | 120mm | 151mm |
| DN50 | G 2 3/4" | 130mm | 169mm |
| DN63 | G 3" | 140mm | 172mm |



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