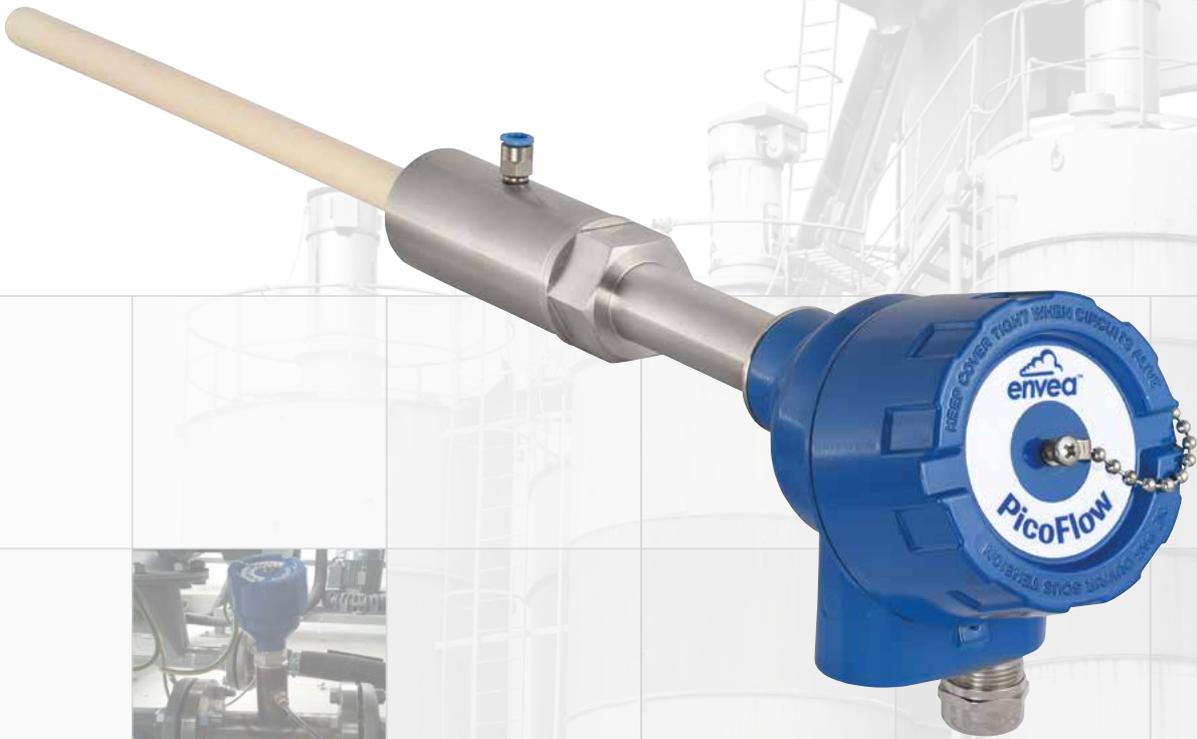


PicoFlow

Continuous flow measurement
at low solid/air ratios



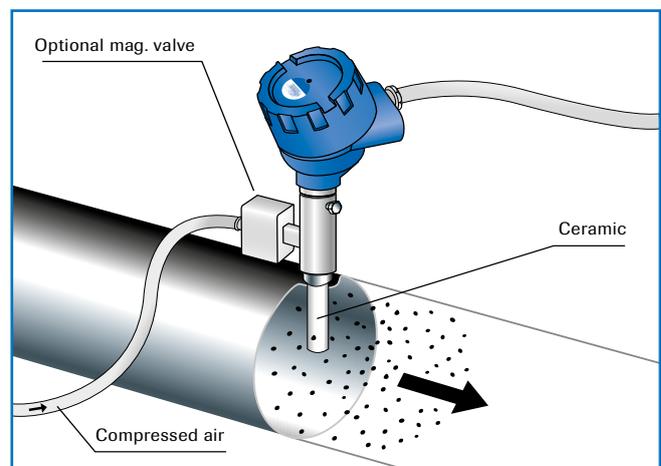
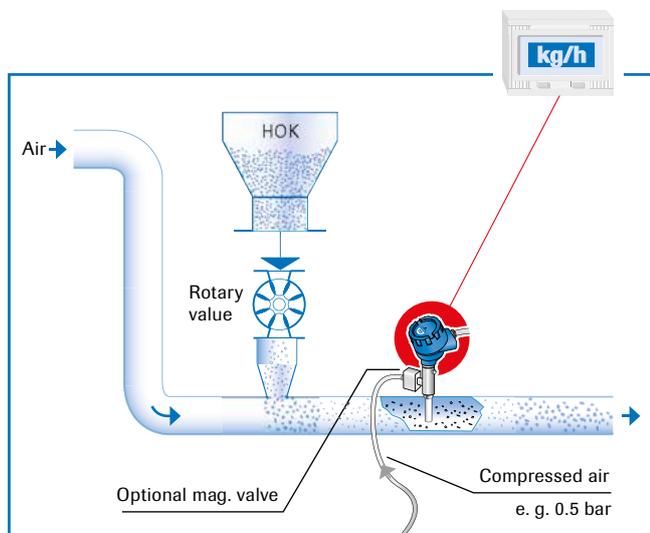
Use

PicoFlow was specially developed for measuring powder flows in transport lines with very low material concentrations. PicoFlow is particularly good in pneumatic applications but will also work reliably in free-fall applications with drop speeds of at least 2 m/s.

The measuring system delivers absolute measurements (after calibration) in g/h or kg/h. A special air purging system is also available as an option. This is used for materials which tend to bake onto surfaces.

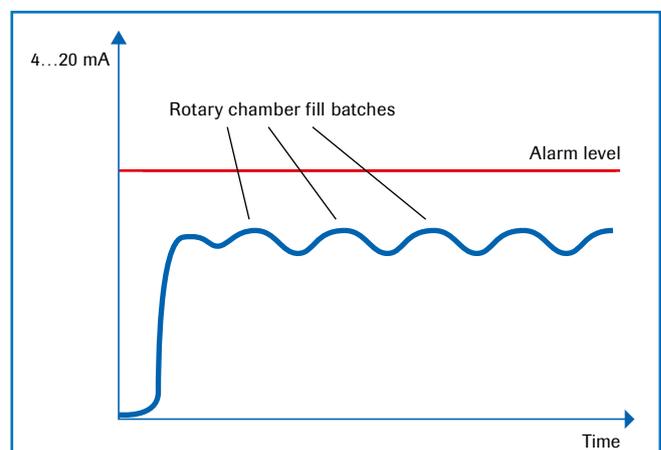
PicoFlow is used for the following:

- In pneumatic applications for material flow rates from some few g/h (depending on application)
- In free-fall with a drop speed of at least 2 m/s (approx. 25 cm drop height)
- In cases where dust measuring instruments are unable to cope and flow rate measuring instruments are over specified



Function

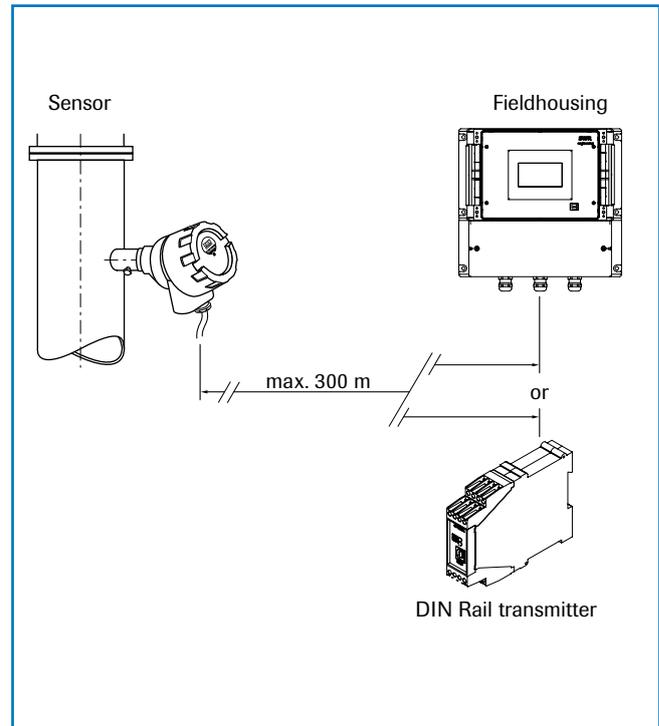
The measuring principle of the PicoFlow is based on the electrodynamic measuring effect. A ceramic coating on the very short antenna prevents sensor wear. Specially developed hardware and software allows the measurements to be linearised.



System

A complete measuring point consists of the following components:

- Weld-on socket with air purge connection
- PicoFlow sensor with ceramic coating
- Transmitter MSE 300



Mounting and installation

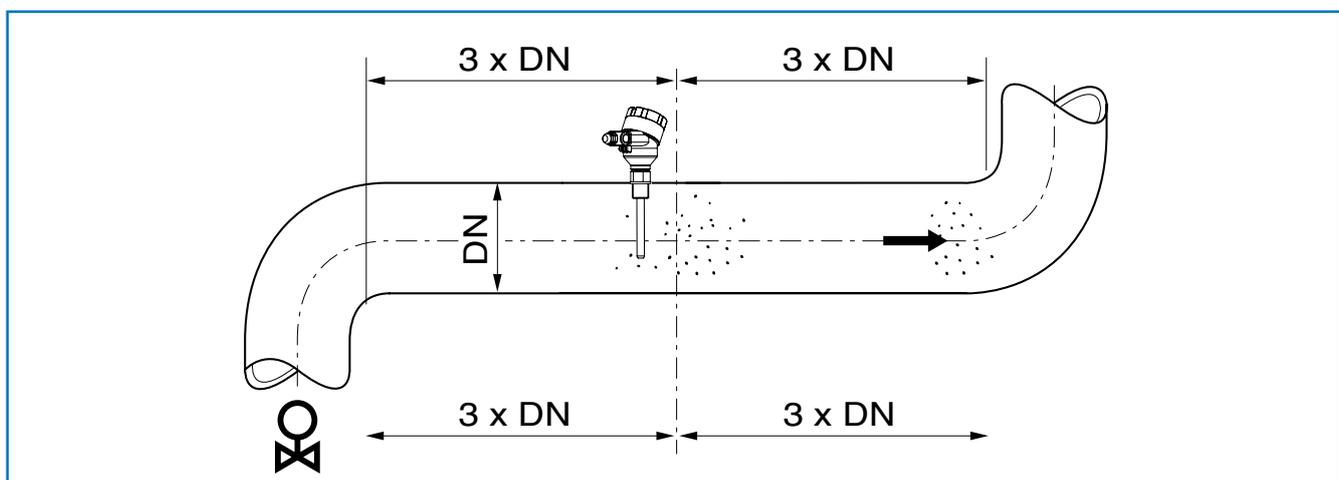
The PicoFlow can be installed in metallic ducts and pipelines.

It should be installed as far as possible away from curves and other fittings such as valves and slides.

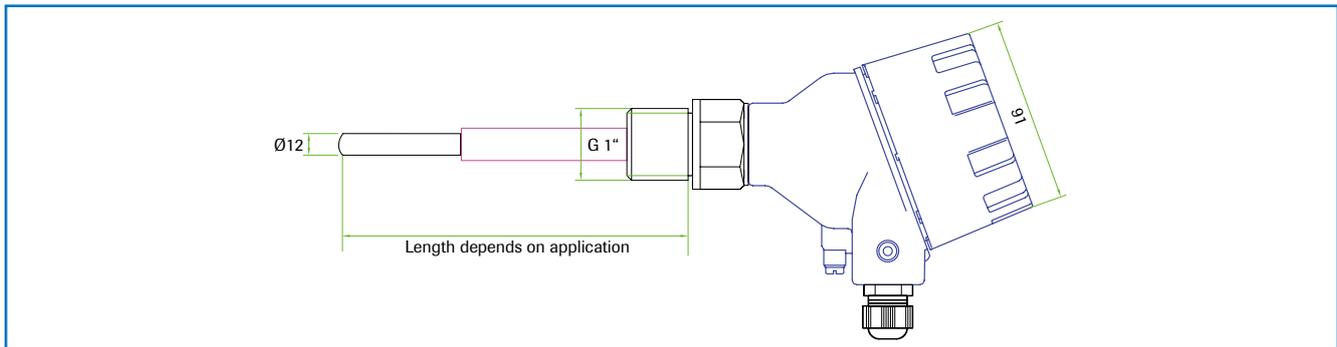
The distance between the sensor rod and fittings in the duct should be at least three times the duct diameter in every flow direction.

Non-metallic ducts must be cased with a metal sleeve, a metal foil or a tight-mesh metal grille over a length of at least five times the duct diameter.

After deciding the installation location, drill a hole in the duct wall where the supplied weld-on socket can be welded perpendicular to the pipe. Then screw the sensor rod into the socket using the screw-in thread.



Technical data



Sensor	
Housing	Stainless steel 1.4571
Protection type	IP 66; ATEX: Cat. 1/2 GD
Operation temperature	Process: -20 ... +150 °C Ambient: -20 ... + 60 °C
Max. working pressure	10 bar
Weight	1,5 kg
Sensor rod	Stainless steel, ceramic coated, max. 450 mm
Accuracy	± 5 % in calibrated range



Transmitter (DIN Rail)	
Power supply	24 V DC ±10 %
Power consumption	20 W / 24 VA
Protection type	IP 40 to EN 60 529
Ambient operating temperature	-10 ... +45 °C
Dimensions	23 x 90 x 118 mm (W x H x D)
Weight	Approx. 172 g
DIN rail fastening	DIN 60715 TH35
Connection terminals cable cross-section	0.2-2.5 mm ² [AWG 24-14]
Current output	1 x 4 ... 20 mA (0 ... 20 mA), load < 500 Ω
Interface	ModBus RTU (RS 485) / USB
Pulse output	Open collector - max. 30 V, 20 mA
Relay contact	Max. rated load: 250 V AC Max. peak current: 6 A Max. rated load 230 V AC: 250 VA Max. breaking capacity DC1: 3/110/220 V: 3/0.35/0.2 A Min. switching load: 500 mW (10 V / 5 mA)
Data backup	Flash memory

Transmitter (field housing)	
Power supply	110 / 230 V AC 50 Hz (optional 24 V DC)
Power consumption	20 W / 24 VA
Protection type	IP 65 to EN 60 529/10.91
Ambient operating temperature	-10 ... +45 °C
Dimensions	258 x 237 x 174 mm (W x H x D)
Weight	Approx. 2.5 kg
Interface	RS 485 (ModBus RTU) / USB
Cable screw connectors	3 x M20 (4,5 - 13 mm Ø)
Connection terminals cable cross-section	0.2-2.5 mm ² [AWG 24-14]
Current output	3 x 4 ... 20 mA (0 ... 20 mA), load < 500 Ω
Pulse output	Open collector - max. 30 V, 20 mA
Relay contact	Max. rated load: 250 V AC Max. peak current: 6 A Max. rated load 230 V AC: 250 VA Max. breaking capacity DC1: 3/110/220 V: 3/0.35/0.2 A Min. switching load: 500 mW (10 V / 5 mA)
Data backup	Flash memory