

**Overview**

- Volume, velocity, and temperature measurement in one sensor
- Precise and stable measurements with accuracies to 1.0 %
- For media with conductivity > 50 µS/cm in closed systems
- Measurement range 0 ... 72 m³/h with pipe diameter DN 10 ... 50
- Compact, robust, and resistant to temperature jumps



Picture similar

**Technical data**

**Performance characteristics**

Measuring principle	Electromagnetic flow measurement
Nominal diameter range	DN 10 ... DN 50
Hysteresis	3 % o. r.
Max. flow velocity	10 m/s
Max. measuring error	± 1.0 % o. r. ± 2 °C
Max. turndown ratio	1 : 1000
Measuring range, flow	1.9 ... 1200 l/min 0.4 ... 10 m/s
Measuring range, temperature	-10 ... 100 °C
Media characteristics	≥ 50 µS/cm
Step response time	≤ 400 ms
Sampling interval	≤ 200 ms
Temperature drift (by ambient)	0.03 % FSR/10 K
Min. measuring span	0.2 ... 0.4 m/s
Damping	0.2 ... 1000 s
Repeatability	≤ 0.25 % o. r.

**Process conditions**

Process pressure	-1 ... 16 bar
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**Process connection**

Connection variants	DIN 228-1 male thread NPT male thread
Sensor tube dimensions	Refer to section "Dimensional drawings"
Sensor tube material	AISI 304 (1.4301)
Wetted parts material	AISI 316 (1.4401) PTFE FKM
Wetted parts material, process connection	AISI 304 (1.4301)
Wetted parts material, liner	PTFE
Wetted parts material, electrodes	AISI 316L (1.4404)

**Process connection**

Wetted parts material, gas-ket	FKM
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**Ambient conditions**

Operating temperature range	-20 ... 80 °C
Storage temperature range	-20 ... 60 °C
Altitude	-200 ... 4000 m
Degree of protection (EN 60529)	IP 67
Humidity	0 ... 100 %
Insulation resistance	> 100 MΩ
Insulation voltage	500 V DC

**Output signal**

Current output	0 ... 20 mA 4 ... 20 mA
Digital output signal	1 x pulse / frequency / alarm 2 x pulse / frequency / alarm (optional)
Analog output (optional)	0...20 mA 4...20 mA
Voltage output	1.2 V DC 0
Output type	1 x pulse / frequency / alarm
Status signal empty	2 mA
Voltage drop	1.2 V DC
Load resistance	≤ 200 Ω, Vs = 10 V DC ≤ 1000 Ω, Vs = 30 V DC
Sensor failure	0 mA
Short circuit protection	No
Damping	0.2 ... 1000 s

**Housing**

Style	Connection head
Overall size	Refer to section "Dimensional drawings"
Material	AISI 304 (1.4301)

**Electrical connection**

Connector	M12-A, 5-pin, stainless steel
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**Technical data**

**Electrical connection**

Cable 2 m, 5-wire, shielded, PVC

**Power supply**

Voltage supply range 10 ... 30 V DC

Power consumption ≤ 1 W

Power-up time 15 min

**Power supply**

Reverse polarity protection Yes

**Compliance and approvals**

EMC IEC 61326-1  
EN 61326-1

Pressure directive PED

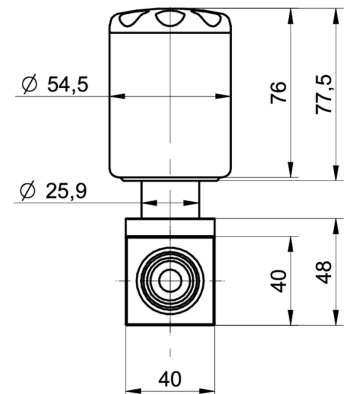
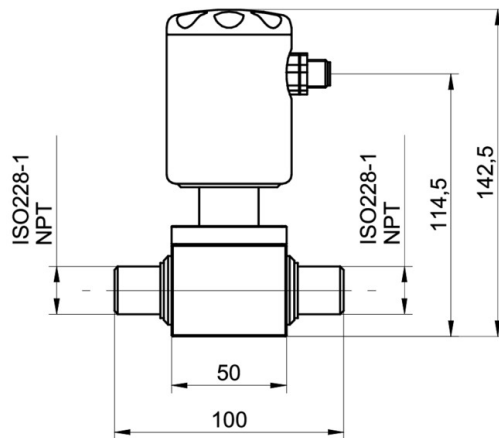
**Operating conditions**

Nominal diameter	Measuring range			
	0.4 ... 10 m/s	1.9 ... 48 l/min	1.31 ... 32.81 ft/s	0.5 ... 12.68 gal/min
DN10	0.4 ... 10 m/s	1.9 ... 48 l/min	1.31 ... 32.81 ft/s	0.5 ... 12.68 gal/min
DN15	0.4 ... 10 m/s	4.3 ... 108 l/min	1.31 ... 32.81 ft/s	1.14 ... 28.53 gal/min
DN20	0.4 ... 10 m/s	7.7 ... 192 l/min	1.31 ... 32.81 ft/s	2.03 ... 50.72 gal/min
DN25	0.4 ... 10 m/s	12 ... 300 l/min	1.31 ... 32.81 ft/s	3.17 ... 79.25 gal/min
DN32	0.4 ... 10 m/s	19.7 ... 491.5 l/min	1.31 ... 32.81 ft/s	5.20 ... 129.84 gal/min
DN40	0.4 ... 10 m/s	30.7 ... 768 l/min	1.31 ... 32.81 ft/s	8.11 ... 202.88 gal/min
DN50	0.4 ... 10 m/s	48 ... 1200 l/min	1.31 ... 32.81 ft/s	12.68 ... 317.01 gal/min

Note: gal is defined as US liq. gal.

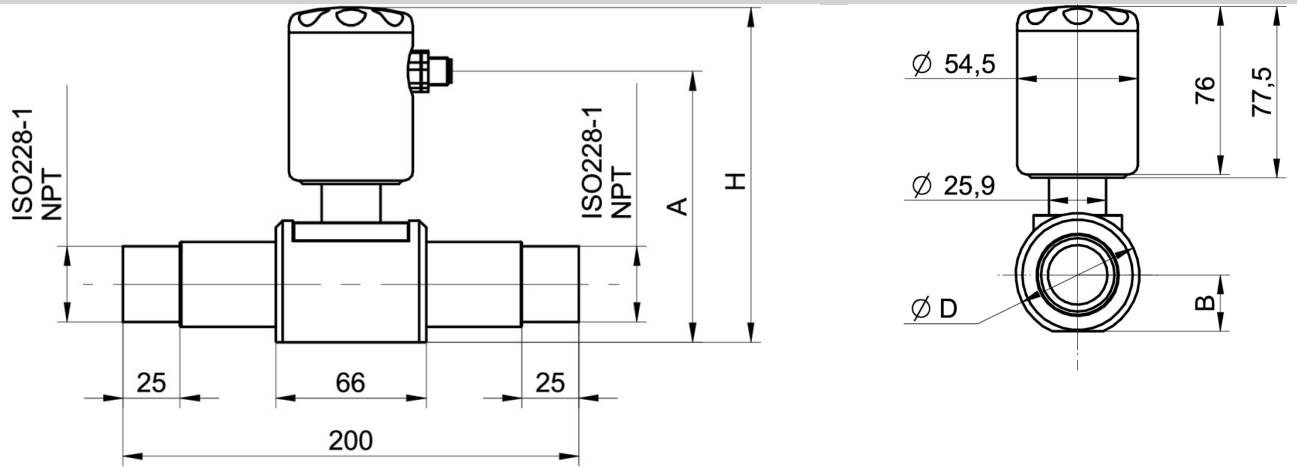
**Dimensional drawings (mm)**

Nominal diameter	ISO228-1 / NPT	D	H	A	B
DN10	1/2"	-	-	-	-
DN15	3/4"	-	-	-	-
DN20	1"	-	-	-	-



Nominal diameter	ISO228-1 / NPT	D	H	A	B
DN25	1"	56.0 mm	147.0 mm	119.0 mm	25.5 mm
DN32	1 1/4"	56.0 mm	147.0 mm	119.0 mm	25.5 mm
DN40	1 1/2"	62.0 mm	154.5 mm	126.5 mm	28.5 mm
DN50	2"	69.0 mm	162.5 mm	134.5 mm	32.0 mm

**Dimensional drawings (mm)**



**Electrical connection**

Electrical connection	Function	Pin assignment
M12-A, 5-pin	+Vs	1
	GND (0 V)	5
	Dout1	2
	Dout2 (optional)	3
	Iout (optional)	4
Cable 2 m, 5-wire, shielded	+Vs	1
	GND (0 V)	5
	Dout1	2
	Dout2 (optional)	3
	Iout (optional)	4
	Shield	6

**Ordering information**

Ordering key - Configuration possibilities see website

	PF55S	#	#	.	1	2	#	#	1	1	.	#	#	#	1	0	0	0	0
<b>Product</b>	PF55S																		
Process sensor flow PF55S	PF55S																		
<b>Output signal analog</b>																			
Without		1																	
4 ... 20 mA		2																	
<b>Output signal digital</b>																			
1 x Pulse / frequency output (programmable)			1																
2 x Pulse / frequency output (programmable)			2																
<b>Interface</b>																			
Without					1														
<b>Protection class</b>																			
IP67						2													
<b>Electrical connection</b>																			
M12-A, 5-pin, stainless steel									1										
Cable outlet, 5-wire, PVC										5									
<b>Converter version</b>																			
Compact																			0
2 m																			1
<b>Process temperature (conti.)</b>																			
-10 ... 100 °C											1								

**Ordering information**

Ordering key - Configuration possibilities see website

	PF55S	#	#	.	1	2	#	#	1	1	.	#	#	#	1	0	0	0	0
<b>Max. process pressure</b>																			
PN16										1									
<b>Nominal diameter</b>																			
DN10 (Process connection: 1/2 thread)																			1
DN15 (Process connection: 3/4 thread)																			2
DN20 (Process connection: 1 thread)																			3
DN25 (Process connection: 1 thread)																			4
DN32 (Process connection: 1 1/4 thread)																			5
DN40 (Process connection: 1 1/2 thread)																			6
DN50 (Process connection: 2 thread)																			7
<b>Process connection</b>																			
DIN 228-1 male thread																			1
NPT male thread																			2
<b>Wetted parts material</b>																			
Sensorbody: PTFE coated steel; Electrodes: AISI 316L (1.4404)																			1
Sensorbody: PTFE coated stainless steel AISI 304 (1.4301); Electrodes: AISI 316L (1.4404)																			2
<b>Sealing-/ O-ring material (int)</b>																			
FKM																			1
HNBR																			8
HNBR																			9
<b>Special approvals</b>																			
Standard																			0
<b>Industrial approvals</b>																			
Standard																			0
<b>Explosion protection</b>																			
Without																			0
<b>Configuration / Parametrizatio</b>																			
Factory settings																			0

2025-09-23 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.