

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



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, process connection	AISI 304 (1.4301)
Wetted parts material, liner	PTFE
Wetted parts material, electrodes	AISI 316 (1.4401)
Wetted parts material, gasket	FKM

Ambient conditions

Operating temperature range	-20 ... 80 °C
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Ambient conditions

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

Digital output signal	1 x pulse / frequency / alarm 2 x pulse / frequency / alarm (optional)
Analog output (optional)	0...20 mA 4...20 mA
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
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
Reverse polarity protection	Yes

Compliance and approvals

EMC	IEC 61326-1 EN 61326-1
Pressure directive	PED

PF55S

Electromagnetic flow meter

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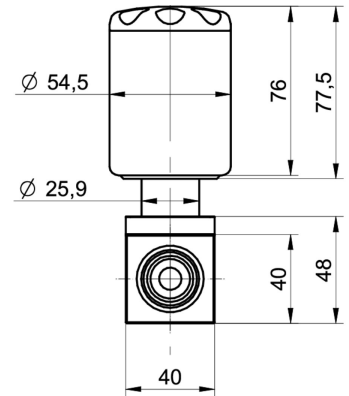
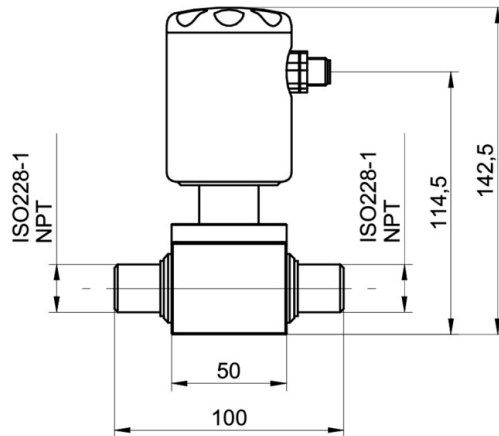
Operating conditions

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

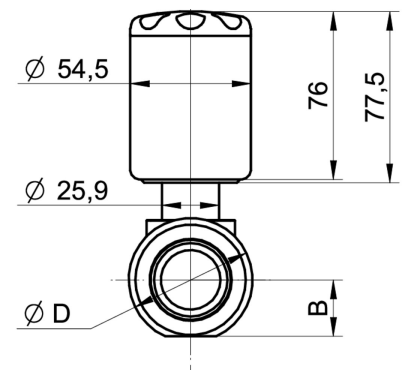
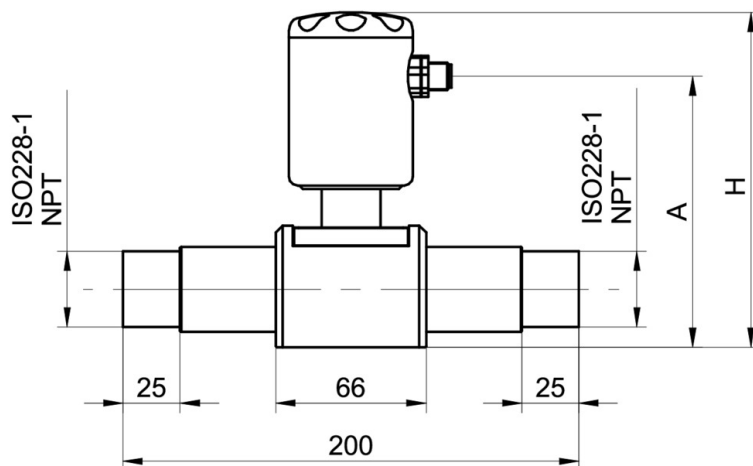
Note: gal is defined as US liq. gal.

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

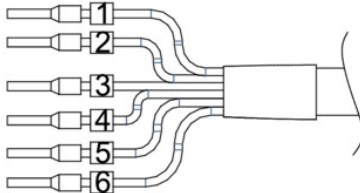
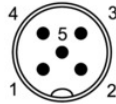


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Electrical connection

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
Product	Process sensor flow PF55S	PF55S																	
Output signal analog	Without		1																
	4 ... 20 mA		2																
Output signal digital	1 x Pulse / frequency output (programmable)		1																
	2 x Pulse / frequency output (programmable)		2																
Interface	Without				1														
Protection class	IP67					2													
Electrical connection	M12-A, 5-pin, stainless steel						1												
	Cable outlet, 5-wire, PVC						5												
Cable length	Without							0											
	2 m							1											
Process temperature (conti.)	-10 ... 100 °C								1										
Max. process pressure	PN16									1									
Nominal diameter	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
Process connection	DIN 228-1 male thread																		1
	NPT male thread																		2

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

PF55S

Electromagnetic flow meter

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Ordering information

Ordering key - Configuration possibilities see website

	PF55S	#	#	.	1	2	#	#	1	1	.	#	#	#	1	0	0	0	0
Wetted parts material																			
Sensorbody: PTFE coated steel; Electrodes: AISI 316 (1.4404)															1				
Sensorbody: PTFE coated stainless steel AISI 304; Electrodes: AISI 316 (1.4404)															2				
Sealing-/ O-ring material (int																			
FKM																1			
Special approvals																			
Standard																	0		
Industrial approvals																			
Standard																		0	
Explosion protection																			
Without																			0
Configuration / Parametrizatio																			
Factory settings																			0