DetlaflowC2

Data sheet

deltaflowC2

Pitot tube

Venturi

Desciption

The principle of deltaflowC-pitot tube and deltaflowC-Venturi are based on the differential pressure measurement. Integrated temperature and pressure sensors make sure that there is a precise measurement also with changes of process data. Thus the deltaflowC compensates the effect on the flow related to changes in temperature and pressure.

- By measuring temperature, absolute pressure and differential pressure, deltaflowC offers a compact and cost-effective compensated solution for a large number of different flow measurement applications.
- The mass flow value and/or alternatively medium pressure and medium temperature can be output directly via the integrated current and voltage outputs and optionally transmitted digitally with CAN- or MODBUS.
- In comparison to other measuring methods such as thermoanemometers, the deltaflowC is particularly less insensitive to condensate and particles.
- The deltaflowC works maintenance-free and can be used for large flow, temperature and pressure ranges.
- In addition, the deltaflowC insertion probe with only one installation length fits in almost all pipelines or channels ("one size fits all"). As a result, the deltaflowC is ready for delivery within a short time and is also ideally suited for storage by the customer.
- The deltaflowC venturi is particularly suitable for small flow rates.
- Due to the ultra-fast signal processor, the deltaflowC can also be used for pulsating fluids, e.g. at combustion engines or air compressors.

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Specification

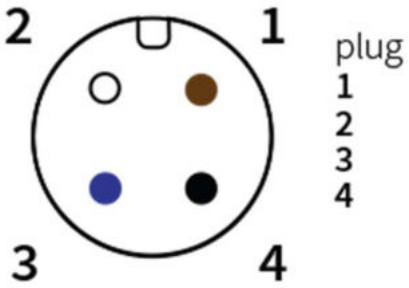
Description	Specification
Principle of measurement	Differential pressure principle, compensation of absolute pressure and temperature
Measured variables	(turbulent) Volume- / mass flow, temperature, static pressure
Media	Air, gases (non explosive, non corrosive)

Accuracy *	Standard Type	High Accuracy Type (calibrated)
	3% of configured span 1:10, when setting is within 25% of max Span	High Precision 1.5 % o.S. 1:10 when setting is within 25% of max Span

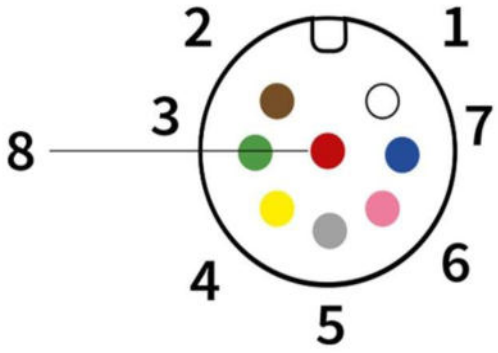
Variants	Pitot tube	Venturi
Process connection	18 mm weld in cut ring stud (C- / SS-steel)	G¾, G1, G1½ regarding DIN ISO 228-1. Others on request
Probe and housing material	1.4571 stainless steel	Aluminium
Pipe sizes	DN20 to ∞	-
Maximal insertion depth	on stop, max 100 mm	-

Application data	Min	Typical	Max	Unit
Pressure LP	0 (Vacuum)	-	16	bar abs
Temperature of media (Probe type)	-50	-	180	°C
Temperature of media (Venturi type)	-50		120	°C
Temperature of environment	-40	-	80	°C
Flow span setting	1:4 with no accuracy reduction, 1:20 with reduced accuracy			
Burst pressure			30	bar abs

* Valid in ambient temperature range 0 – 40°C. Application related accuracy can be calculated with the deltaflowC Designer software. Download available under www.systec-controls.de



M12 plug 4 pin (standard)



M12 plug 8 pin (extended functions)

Electrical specifications				
M12 4pin connector, IP67 Output Option IO	Pin 1	Power Supply 18-36VDC		
	Pin 2	4..20mA Output		
	Pin 3	GND		
	Pin 4	0..10VDC Output		
	Min	**Typical**	**Max**	**Unit**
Voltage	18	24	36	VDC
Current	22	40	55	mA

M12 4pin connector, IP67 Output Option CAN	Pin 1	Ground connection		
	Pin 2	CAN high		
	Pin 3	Power supply		
	Pin 4	CAN low		
	Min	**Typical**	**Max**	**Unit**
Voltage	5	24	36	VDC
Current	22	40	55	mA

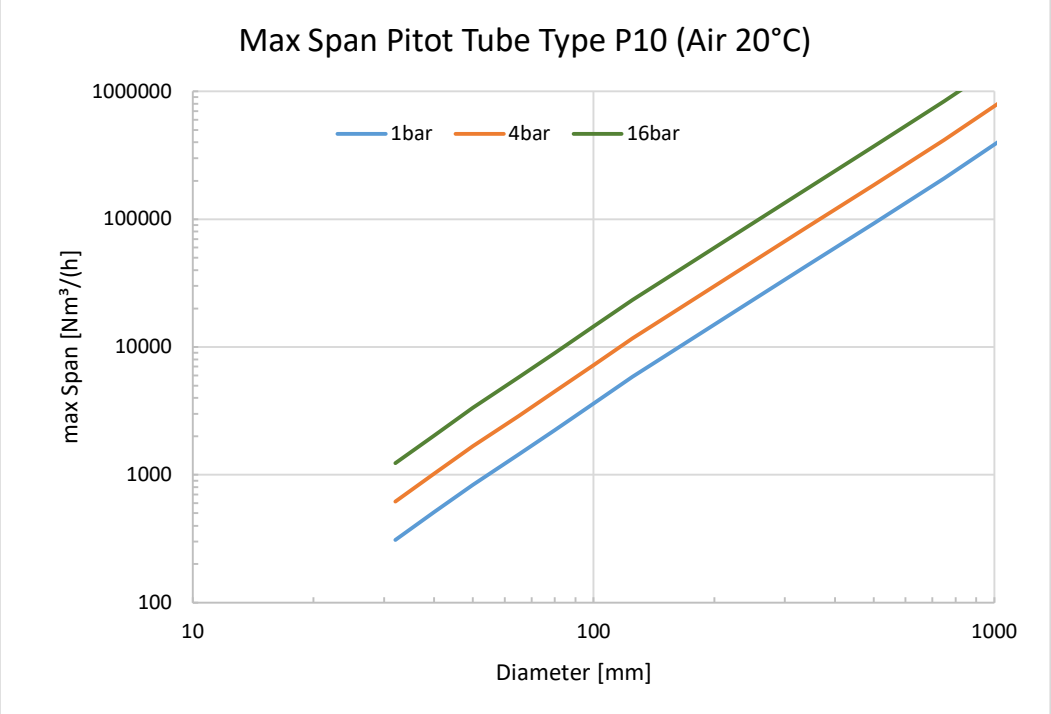
M12 4pin connector, IP67 Output Option MOD	Pin 1	Ground connection		
	Pin 2	Modbus RTU A		
	Pin 3	Power supply		
	Pin 4	Modbus RTU B		
	Min	**Typical**	**Max**	**Unit**
Voltage	180	24	36	VDC
Current	22	40	55	mA

M12 8pin connector, IP67 Output Option IO CAN	Pin 1	Ground connection
	Pin 2	4..20mA Output

	Pin 3	Power supply		
	Pin 4	0..10VDC Output		
	Pin 5	Pulse output +		
	Pin 6	Pulse output -		
	Pin 7	CAN High		
	Pin 8	Can LOW		
	Min	**Typical**	**Max**	**Unit**
Voltage	18	24	36	VDC
Current	22	40	55	mA

M12 8pin connector, IP67 Output Option IO MOD	Pin 1	Ground connection		
	Pin 2	4..20mA Output		
	Pin 3	Power supply		
	Pin 4	0..10VDC Output		
	Pin 5	Pulse output +		
	Pin 6	Pulse output -		
	Pin 7	Modbus RTU A		
	Pin 8	Modbus RTU B		
	Min	**Typical**	**Max**	**Unit**
Voltage	18	24	36	VDC
Current	22	40	55	mA

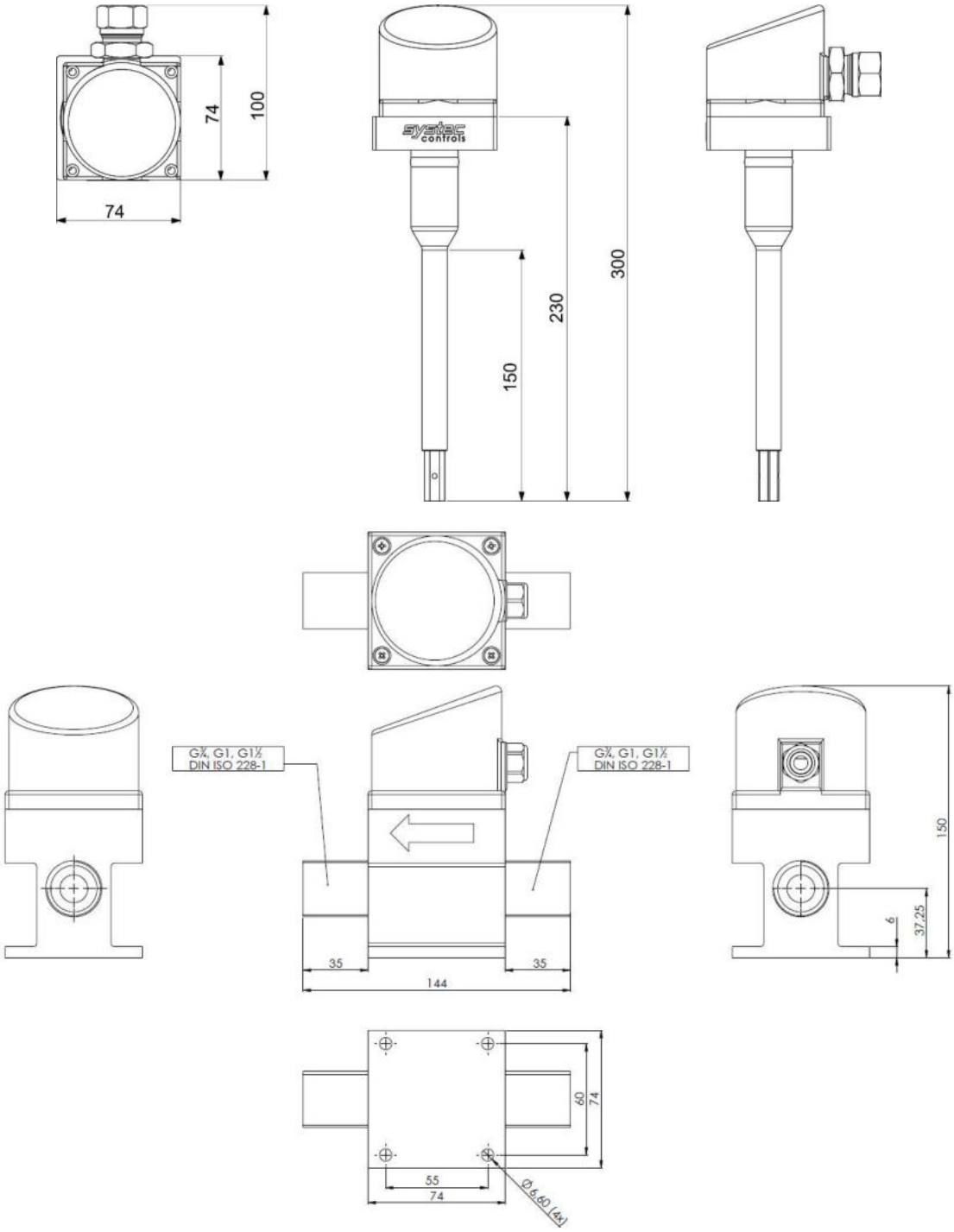
Flowspan



Maximal Span Venturi Type deltaflowC2 (Air, 20°C) [Nm³/h]

Type	1bar	4bar	8bar	12bar	16bar
V20(4)	10,9	21,7	30,7	37,6	43,4
V20(6)	24,5	49,0	69,3	84,9	98,0
V20(8)	48,7	97,4	137,7	168,7	194,8
V20(10)	77,0	154,0	217,8	266,7	308,0
V25	179,0	358,0	506,3	620,1	716,0
V40	289,0	578,0	817,4	1001,1	1156,0

Dimensions



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Typecode

	Type	Variante	Display	Accuracy	Accessories	
DFC2						deltaflowC Mass Flow Meter
	P10C					Pitot Tube, length 100mm; Weld-in-cutring carbon steel
	P10S					Pitot Tube, length 100mm; Weld-in-cutring stainless steel 1.4571
	V20(4)					Venturi 3/4" Male PN16 (4mm neck diameter)
	V20(6)					Venturi 3/4" Male PN16 (6mm neck diameter)
	V20(8)					Venturi 3/4" Male PN16 (8mm neck diameter)
	V20(10)					Venturi 3/4" Male PN16 (10mm neck diameter)
	V25					Venturi 1" Male PN16 (15mm neck diameter)
	V40					Venturi 1 1/2" Male PN16 (25mm neck diameter)
		IO				Outputs 4..20mA and 0..10VDC (4 pin M12 Plug)
		CAN				Can-Bus Version (VS, GND, CANHI, CANLO) (4 pin M12 Plug)
		MOD				MOD-Bus Version (VS, GND, A, B) (4 pin M12 Plug)
		IO MOD				Outputs 4..20mA, 0..10VDC, Pulses, MOD-Bus (8 pin M12 Plug)
		IO-CAN				Outputs 4..20mA, 0..10VDC, Pulses, CAN-Bus (8 pin M12 Plug)
			D0			no Display (settings by systec) o.R.
			D1			integrated display / keypad
				DS		Standard 3% o.S. 1:5 (span reduction down to 25% of max span)
				DH		High Precision 1% o.S. 1:10 (span reduction down to 25% of max span), incl 5 point calibration
					RSXX	Hot Tap Accessorie for pipe dimesnions 45..335mm
					M12-4	M12 cable 1,5m 4pin
					M12-8	M12 cable 1,5m 8pin

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