S 430 PITOT TUBE FLOW / CONSUMPTION SENSOR

S 430 is based on the pitot tube principle to measure flow. Properly installed (refer to instruction manual for details) the sensor can measure in wet and dirty gases as occurring, for example, at the discharge of a compressor.

The sensor features long term stability , wide turn-down ratio and good temperature stability. It can be used in compressed air and non-corrosive gases.

Through a 1/2" G-type ball valve the sensor can be inserted into the pipe under pressure.

Various output signals allow the sensor to be connected to CS-iTEC displays and/or third party displays and PLCs.

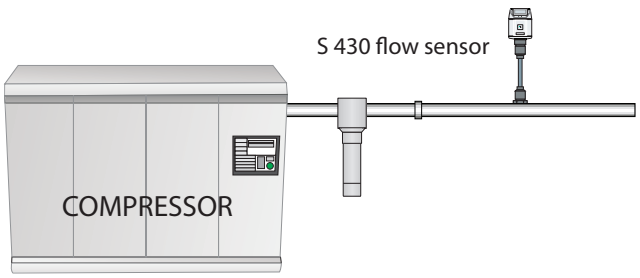
Color graphic display for online values and sensor settings

Features

- Flow and consumption measurement in wet air or high mass flow / velocity applications
- Measurement at compressor outlet
- Tube diameters of 1" to 10" through center installation, bigger diameters through non-center installation
- Insertion type, easy installation under pressure through ball valve possible
- High temperature applications up to 200 °C
- No mechanical wear parts
- All parts which are in contact with flow medium are made of stainless steel
- Compressor-FAD-Measurement
- Steam mass flow and consumption measurement

Technical data S 430

Flow range	Refer to Instruction Manual
Pressure range	0 ... 1.6 MPa
Temperature range	-40 °C ... +200 °C
Accuracy	Flow: 0.5% F.S. Pressure: 0.5% F.S. Temperature: 0.5 °C
Reference conditions	Programmable, default P =1000 hPa(a), T = 20 °C
Medium	Wet and dry air, non-corrosive gases, steam
Output signals	SDI (CS-iTEC specific) 4 ... 20 mA and Pulse (optional) Modbus/RTU (optional) MBUS (optional)
Medium temp.	-40 °C ... +200 °C
Ambient temp.	-20 °C ... +60 °C
Power supply	24 VDC, 150 mA
Display option	2.4" color graphics display with keypad
Process connection	1/2" G type
Sensor material	Stainless steel 1.4404 (SUS 316L)



Compressor air delivery measurement and FAD calculation

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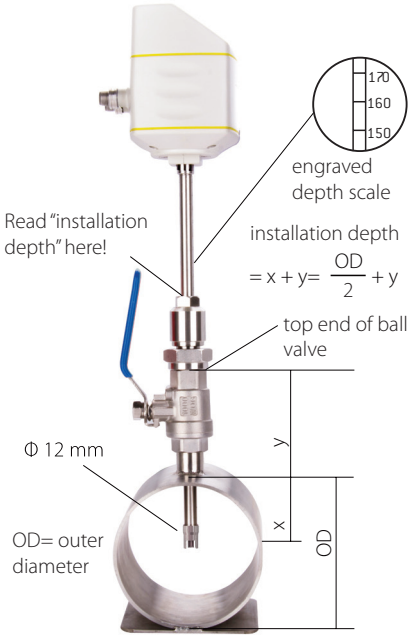
Flow ranges

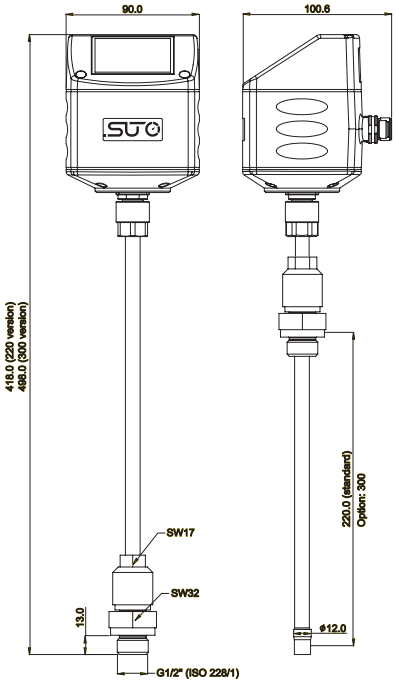
Inch		Volumetric flow					
Inch	mm	m^3/h		m^3/min		cfm	
		Min	Max	Min	Max	Min	Max
1	27.3	15.5	319	0.25	5.3	9	188
1¼"	36.0	27.5	575	0.45	9.6	16	338
1½"	41.9	38	791	0.65	13.2	22.5	466
2"	53.1	62	1295	1.05	21.6	36.5	762
2½"	68.9	106	2215	1.75	36.9	62.5	1303
3"	80.9	147.5	3073	2.45	51.2	86.5	1809
4"	100.0	225.5	4711	3.75	78.5	133	2772
5"	125.0	353.5	7378	5.9	123.0	208	4342
6"	150.0	509.5	10637	8.5	177.3	300	6260
8"	200.0	908	18955	15.15	315.9	534.5	11155
10"	250.0	1420.5	29652	23.7	494.2	836	17450

Flow range for Air at 6 barg, 50 °C and 90% humidity. For other gas and condition please download Flow Range software from www.suto-itec.com
All above flow rates are standard flows with reference to P = 1000 hPa(a) and T = 20 °C.

Installation



Dimensions



S 430	Process connection	Gas medium	Fieldbus	Calibration	Display	Description	
S695 4300						S 430, pitot tube flow sensor, insertion type, 220 mm shaft	
S695 4302						S 430, pitot tube flow sensor, insertion type, 300 mm shaft, for steam application	
	A					G ½"	*standard*
A1006	B					PT ½" adaptor	
A1005	C					NPT ½" adaptor	
A1007		A				Medium Air	
A1008		B				Medium CO^2	
A1009		C				Medium O^2 (oil & grease free cleaned)	
A1010		D				Medium N^2	
A1011		E				Medium N_20	
A1012		F				Medium Ar	
A1013		G				Medium Natural gas (exact gas mix required)	
A1014		H				Medium H_2	
A1015		I				Others (please specify the gas or gas mix)	
A1016		J				Medium He	
A1019		K				Steam	
A1061			A			Modbus/RTU	
A1062			B			Analog, Pulse	
A1063			C			MBUS	
				A		Standard	
A1066				B		Bi-directional	
A1067				C		High speed: Max flow increased by 30%	
					A	Without Display	
A1060					B	With Display	*standard*