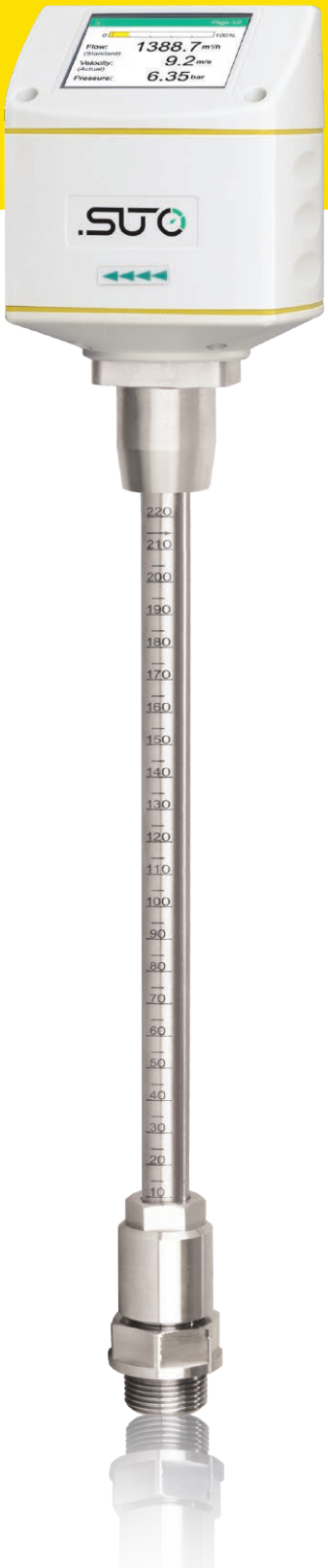
Be smart. **Measure it.**

S430

Pitot Tube Flow Meter for Wet Compressed Air

Insertion



PITOT TUBE MEASUREMENT
High accuracy at wider flow range reliable measurements

WET AIR MEASUREMENT
Directly at the compressor outlet

COMPRESSOR EFFICIENCY
Constant monitoring of the compressor performance

MOBILE APP
For remote configuration and monitoring

EASY INSTALLATION
Under pressure trough a ball valve

NO MECHANICAL WAER PARTS
Stable results in high temperature applications

Benefits

- Accurate flow measurement even at low flow rates, with a minimum cut-off velocity of 5 m/s.
- Accurate flow and consumption measurement in wet air or high mass flow and velocity applications using the pitot tube principle.
- Continuous and temperature stable monitoring of the compressed air flow at the compressor outlet.
- Various output signals compatible with SUTO displays & data loggers, third party systems and PLCs.
- Easy installation under pressure using a ball valve.
- Suitable for high temperature applications up to 120°C.
- Ideal for most compressor performance measurement applications.

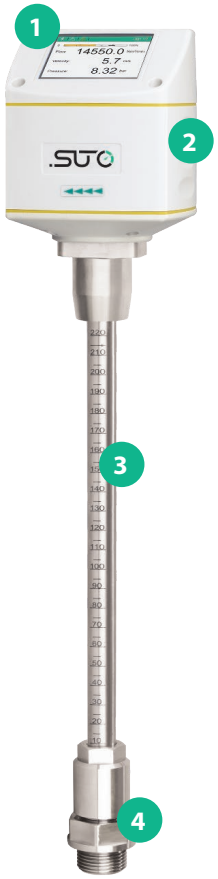
1 Optional Color Display

On-site display for live value readings, total consumption counter and convenient sensor settings. Totalizer with 10 digits (1 999 999 999).

2 Various Outputs

The S430 pitot tube flow meter is perfectly suited to be integrated into process controls or high-level monitoring systems. Various output options are offered for a seamless integration:

- Isolated 4 ... 20 mA output for actual flow readings
- Isolated Pulse output for totalizer
- Modbus/RTU to read all values digitally
- Modbus/TCP
- M-Bus



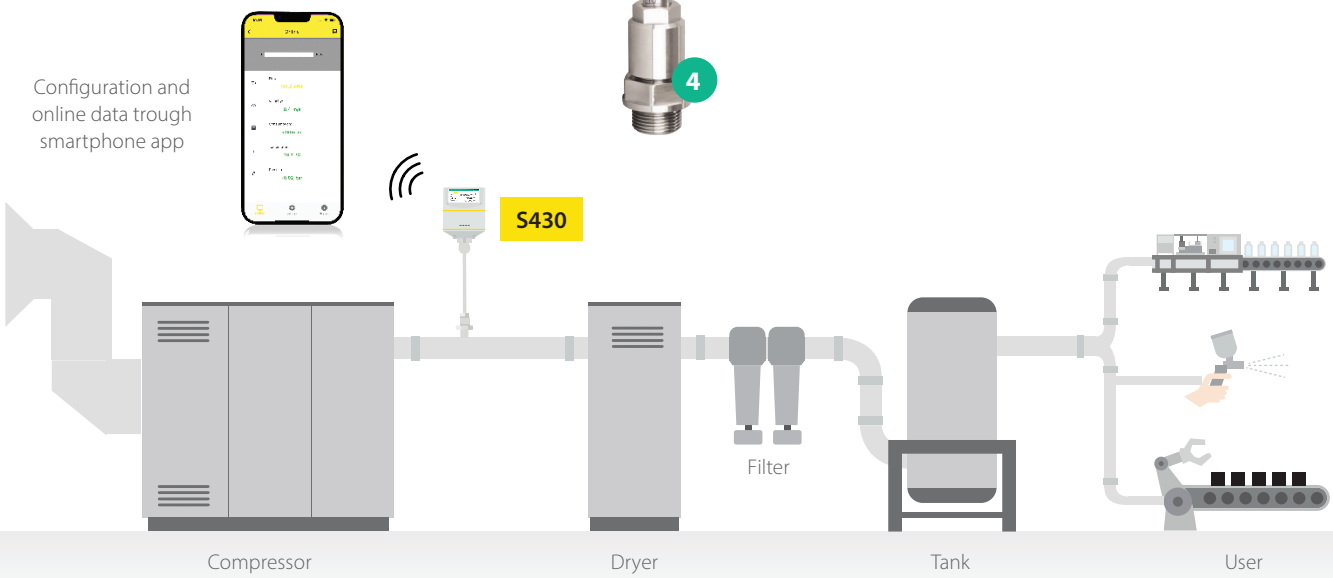
3 Robust Materials

- IP65 casing provides robust protection in rough industrial environment
- All parts which come into contact with the measurement medium are made of stainless steel 316L. This makes the sensors robust and guarantees a reliable measurement.

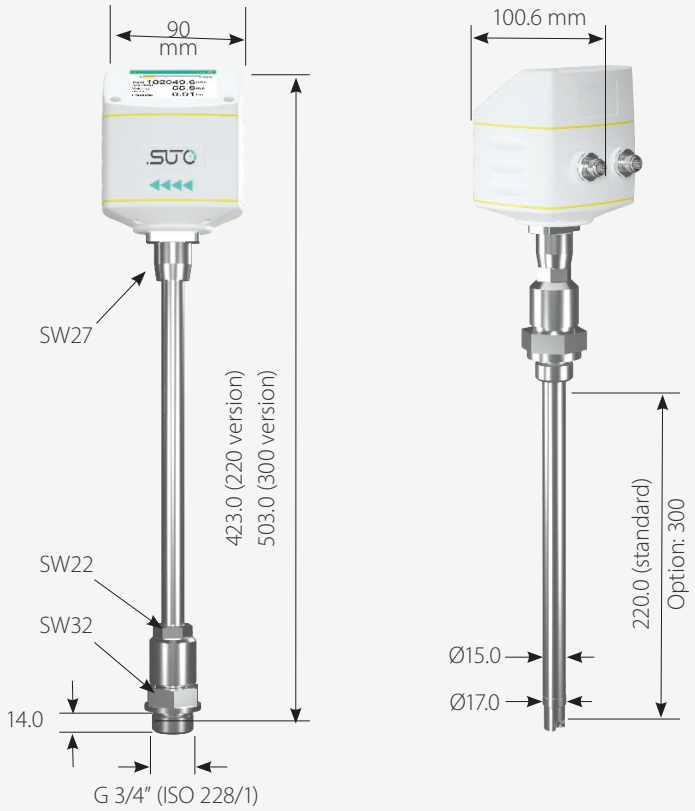
4 Flexible and Easy Installation

- Tube diameters of 1.25" to 10" through center installation, bigger diameters through non-center installation
- Thanks to the insertion through a 3/4" ball valve, the S430 can be installed and under pressure and is perfectly suited for installations where shutdowns are not acceptable.

Configuration and online data trough smartphone app

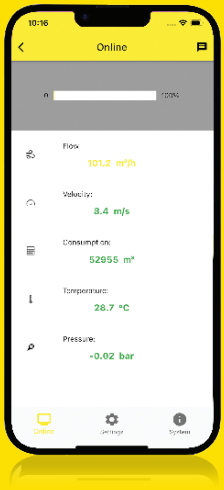


Dimensions



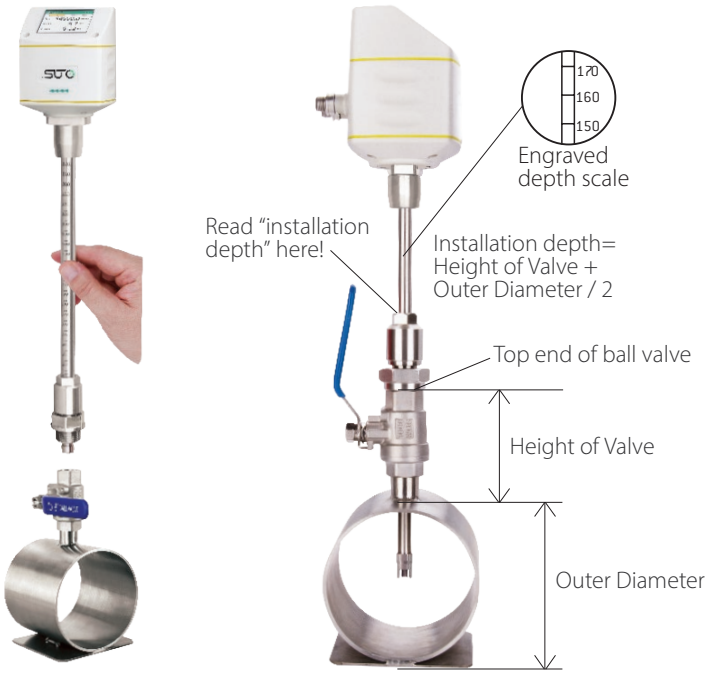
Mobile App

Mobile Phone app for configuration and online readings. The app enable users to completely get rid of the inconvenience caused by cables, bulky PCs and hard-to-reach places.



Installation and Sensor Removal

Installation through a ball valve



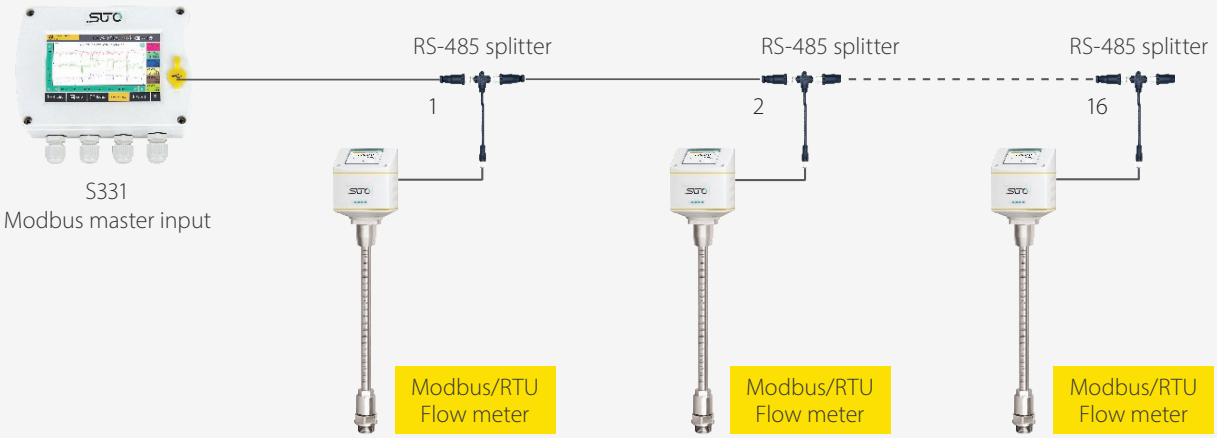
Based on the pitot tube principle

The S430 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.

Optional Color Display

Color graphic display for online values and sensor settings

Connect several Flow Meters to Modbus Master



Flow meters can be easily integrated into a Modbus/RTU network (daisy chain)

Volumetric Flow Ranges

Tube			Volumetric Flow			
			Standard		High-speed	
Inch	DN	Inner diameter (mm)	Min	Max	Min	Max
			Sm^3/h		Sm^3/h	
1¼″	DN32	36	12	508	12	660
1½″	DN40	41.9	18	757	18	984
2″	DN50	53.1	31	1,298	31	1,687
2½″	DN65	68.9	56	2,311	56	3,005
3″	DN80	80.9	80	3,270	98	5,201
4″	DN100	100	125	5,095	125	6,623
5″	DN125	125	196	8,006	196	10,408
6″	DN150	150	283	11,548	283	15,012
8″	DN200	200	507	20,690	507	26,897
10″	DN250	250	793	32,339	793	42,040
12″	DN300	300	114,2	46,568	1,142	60,538

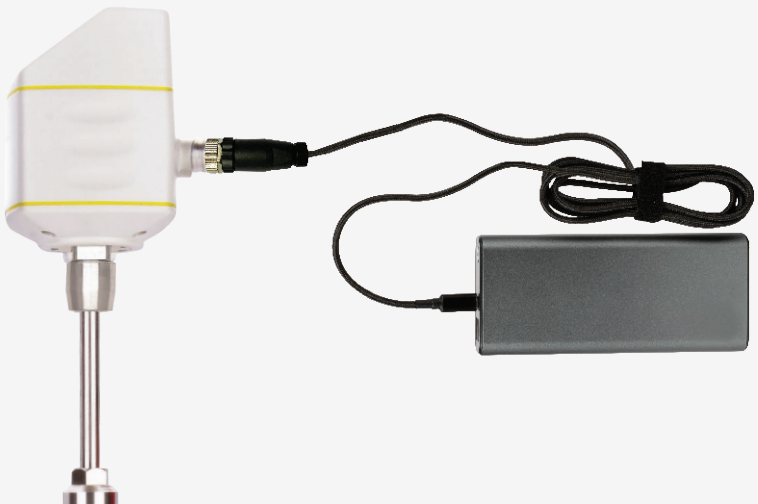
Stated measuring ranges under following conditions:

- Standard flow in air
- Reference pressure: 1000 hPa
- Reference Temperature: +20 °C

Flow range is calculated for Air
at 6 bar(g), 50 °C and 90 % humidity.
Cut-off velocity: 5 m/s

Mobile Power

S430 powered by power bank with connection cable A553 0154.
Note: power bank must be sourced locally due to shipping restrictions [USB-C, 20 V, min. 100 mA]



Technical Data

Measurement

Flow	
Accuracy	1.5 % o.r. ±0.3 % FS Volumetric Flow: Sm³/h, Sm³/min, SL/min, Sl/s, Scfm Mass Flow: kg/h, kg/min, kg/s, t/h, lb/h
Selectable units	Actual Velocity: m/s, ft/min
Measuring range	See table on the previous page
Repeatability	0.5 % o.r.
Sensor	Differential pressure sensor
Sampling rate	3/sec
Turn-down ratio	40 : 1
Response time (t90)	2 sec
Consumption	
Selectable units	Sm³, Sft, t, lb, Sl, kg
Reference conditions	
Selectable conditions	20 °C 1000 mbar (ISO1217) 0 °C 1013 mbar (DIN1343) freely adjustable

Signal / Interface & Supply

Analog output	
Signal	4 ... 20 mA, isolated
Scaling	0 ... max flow
Load	250R
Update rate	1/sec
Pulse output	
Signal	Max 30 V, 200 mA
Scaling	1 pulse per consumption unit
Fieldbus	
Protocol	Modbus/RTU, Modbus/TCP
Update rate	
Supply	
Voltage supply	24 VDC 48 VDC (PoE)
Current consumption	150 mA 100 mA (PoE)

General data

Configuration	
Wireless	S4C-FS App for mobile phones
Others	Display with 3 touch buttons (Option)
Display	
Integrated	2.4" color graphic display with 3 touch buttons (option)
Material	
Process connection	Stainless steel 1.4404 (SUS 316L)
Housing	PC + ABS
Sensor	Stainless steel 1.4404 (SUS 316L)
Metal parts	Stainless steel 1.4404 (SUS 316L)
Miscellaneous	
Electrical connection	2 x M12 (5 pole) 1 x M12 (8-pole x-coded) for TCP
Protection class	IP65
Approvals	CE, RoHS, FCC
Process connection	G ¾" (ISO 228/1)
Weight	1.12 kg
Operating conditions	
Medium	Wet/dry air, other gases
Medium quality	Non corrosive
Medium temperature	-20 ... +120 °C
Medium humidity	No requirements
Operating pressure	0 ... 1.6 MPa -30 ... +70 °C housing 0 ... +50 °C display (Optional)
Ambient temperature	-10 ... +40 °C PoE (Optional)
Ambient humidity	< 95 % rH
Storage temperature	-30 ... 70 °C
Transport temperature	-30 ... 70 °C
Pipe sizes	>=DN32

Ordering

Please use the following tables to assist in placing your order with our sales staff.

S430 Pitot Tube Flow Sensor (Insertion Type)

Order No.	Description
S695 4300	S430, Pitot Tube Flow Meter, insertion type, 220 mm shaft
S695 4302	S430, Pitot Tube Flow Meter, insertion type, 300 mm shaft
Flow Medium	
A1007	Option, flow medium Air
A1008	Option, flow medium CO_2
A1009	Option, flow medium O_2 (cleaning for oil and grease-free)
A1010	Option, flow medium N_2
A1011	Option, flow medium N_2O
A1012	Option, flow medium Argon
A1013	Option, flow medium Natural Gas
A1014	Option, flow medium H_2 (For real gas calibration. Please consult manufacturer for this option in advance)
A1015	Other gas (specify gas or gas mix)
A1016	Option, flow medium He (real gas calibration)
Range / Calibration	
A1065	S430: Standard Range Calibration
A1066	S430: Bi-directional standard range
A1067	S430: High speed: Max flow increased by 30 %
Output	
A1410	Isolated 4 ... 20 mA + Pulse output
A1411	Modbus/RTU output
A1424	Modbus/TCP output with PoE support
A1063	M-Bus
Display	
A1425	No display
A1420	Color graphics display, 2.4" with keypad

S430 Accessories

Order No.	Description
A695 0010	NPT ¾" thread adapter (former A1069)
A695 0011	PT ¾" thread adapter (former A1068)
A553 0104	Sensor cable, 5 m with M12 connector, open wires, AWG 24 (0.2 mm^2)
A553 0105	Sensor cable, 10 m with M12 connector, open wires, AWG 24 (0.2 mm^2)
A553 0154	Cable to connect power bank, 1.8 m, USB-C connector for power bank, M12 connector

Ordering Example

Example	S430, 220 mm shaft, Air, Standard range calibration, Modbus/RTU, Display
Order Code	S695 4300.A1007.A1065.A1411.A1420