

S435

Vortex Flow Meter for Steam

Wafer type

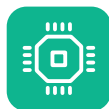


**Integrated
Display**

**External
Display**



**INTERGRATED
TEMPERATURE
SENSOR**
Automatic density
adjustment



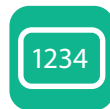
**EASY PROCESS
MONITORING**
Effective and
inexpensive
measurements



**ACCURATE
RESULTS**
Very fast
response time



TOTAL FLOW
High accuracy
and reliable
measurements



LOCAL DISPLAY
For easy
configuration and
live values



Benefits

- ✓ Accurate saturated steam measurement by instant flow and consumption monitoring
- ✓ Integrated temperature sensor and small pressure loss
- ✓ High protection level due to robust industrial design and no moving parts
- ✓ Analog and Modbus output for data logging and analysis
- ✓ Wafer type makes it easy for installation

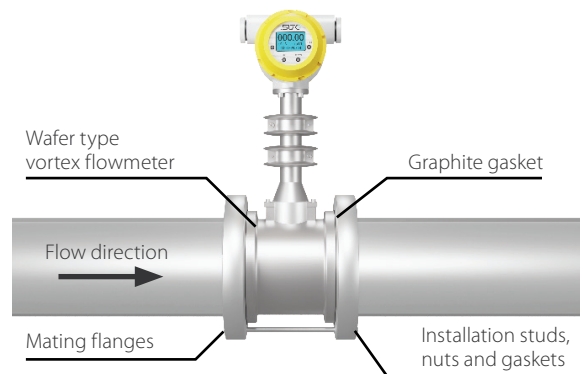
Accurate Steam Monitoring

Vortex flow meters are the ideal choice for steam measurements due to their robust design, without any moving parts and high temperature/pressure resistance.

S435 provides mass flow and consumption measurements in saturated steam with automatic density compensation. This always guarantees accurate results. Parameter settings can be done through the user interface (keys and display) at the flow meter directly. Connection to an SCADA system is through the Modbus/RTU interface or the analog output available.

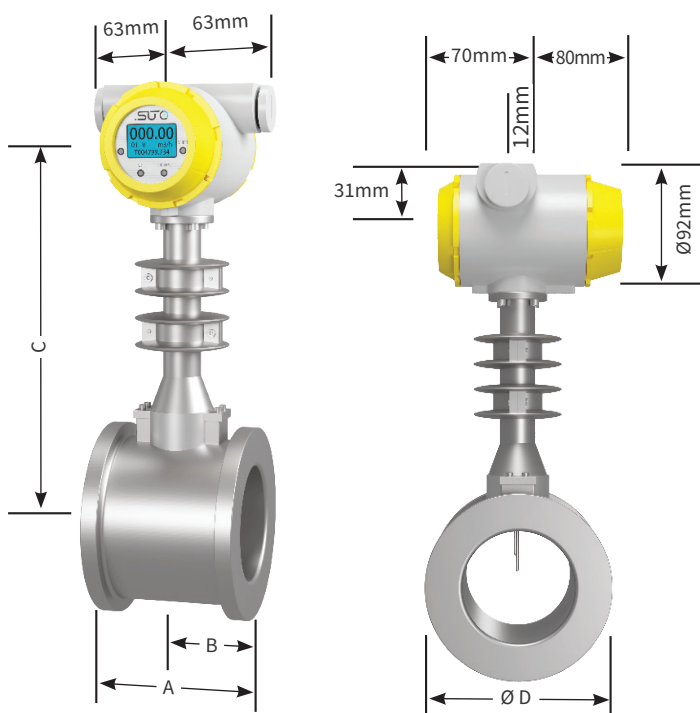
Please ensure that the steam parameters such as temperature, pressure and nominal flow are within the specification of S435.

Installation



Use double bolts and nuts. We provide gaskets and bolts.

Dimensions



Vortex Flow Meter dimension rated pressure 1.6 MPa unit: mm

DN	A	B	C	D
40	100	50	256	75
50	110	55	256	87
65	110	55	262	109
80	110	55	267	120
100	120	60	271	149
125	133	73	291	175
150	160	90	304	203
200	185	115	331	259
250	210	140	357	312
300	240	165	383	363

Technical Data

Measurement

Flow

Accuracy	1.5 % of reading
Selectable units	m ³ /h, m ³ /min, kg/h, t/h
Measuring range	see table below
Repeatability	0.5 % o.RDG
Sensor	Vortex
Turndown ratio	1:10

Consumption

Selectable units	m ³ , kg, t
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Signal / Interface & Supply

Analog output

Signal	4 ... 20 mA (4-wire), isolated
Scaling	0 ... max flow, freely adjustable
Update rate	Value updated ever 1 sec

Frequency output

Measuring range	0~2000 Hz
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Fieldbus

Protocol	Modbus/RTU
Update rate	Value updated ever 1 sec

Supply

Voltage supply	24VDC
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General Data

Display

Integrated	LCD display
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Material

Process connection	Carbon steel /304/316/316L(Flange/Wafer)
Housing	SUS 304
Sensor	SUS 316
Metal parts	SUS 304

Miscellaneous

Electrical connection	1/2"-14NPT
Protection class	IP65
Process connection	wafer
Weight	depends on pipe size - please enquire if needed

Operating conditions

Medium	Saturated steam
Medium temperature	-40 ... +250 °C
Operating pressure	0 ... 1.6 MPa (applicable for option 2.5MPa or 4.0MPa)
Ambient temperature	-10 ... +60 °C
Ambient humidity	< 99 % rH
Storage temperature	-10 ... +60 °C
Transport temperature	-10 ... +60 °C
Pipe sizes	DN25 ... DN300

Measuring Ranges

Saturated Steam Mass Flowrate (Unit: t/h)

DN (mm)	0.20 MPa		0.40 MPa		0.60 MPa		0.70 MPa		0.8 MPa		1 MPa	
DN50	0.06	0.6	0.094	0.94	0.13	1.3	0.15	1.5	0.16	1.6	0.2	2
DN65	0.1	1	0.16	1.6	0.22	2.2	0.25	2.5	0.28	2.8	0.34	3.4
DN80	0.15	1.5	0.24	2.4	0.33	3.3	0.38	3.8	0.42	4.2	0.52	5.2
DN100	0.24	2.4	0.38	3.8	0.52	5.2	0.6	6	0.66	6.6	0.8	8
DN125	0.37	3.7	0.59	5.9	0.81	8.1	0.93	9.3	1.03	10.3	1.27	12.7
DN150	0.53	5.3	0.85	8.5	1.17	11.7	1.34	13.4	1.5	15	1.83	18.3
DN200	0.95	9.5	1.5	15	2	20	2.4	24	2.6	26	3.2	32
DN250	1.48	14.8	2.36	23.6	3.25	32.5	3.72	37.2	4.2	42	5	50
DN300	2.1	21	3.4	34	4.6	46	5.4	54	6	60	7.3	73

Ordering

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

S435 Vortex Flow Meter for Steam with Integrated Display (Inline)

Order No.	Description
S695 4359	S435 Vortex flow meter for saturated steam, DN40, wafer-type installation, with integrated display
S695 4350	S435 Vortex flow meter for saturated steam, DN50, wafer-type installation, with integrated display
S695 4351	S435 Vortex flow meter for saturated steam, DN65, wafer-type installation, with integrated display
S695 4352	S435 Vortex flow meter for saturated steam, DN80, wafer-type installation, with integrated display
S695 4353	S435 Vortex flow meter for saturated steam, DN100, wafer-type installation, with integrated display
S695 4354	S435 Vortex flow meter for saturated steam, DN125, wafer-type installation, with integrated display
S695 4355	S435 Vortex flow meter for saturated steam, DN150, wafer-type installation, with integrated display
S695 4356	S435 Vortex flow meter for saturated steam, DN200, wafer-type installation, with integrated display
S695 4357	S435 Vortex flow meter for saturated steam, DN250, wafer-type installation, with integrated display
S695 4358	S435 Vortex flow meter for saturated steam, DN300, wafer-type installation, with integrated display

S435 Vortex Flow Meter for Steam with external Display (Inline)

Order No.	Description
S695 0435	435 Vortex flow meter for saturated steam, DN40, wafer-type installation, with external display
S695 1435	435 Vortex flow meter for saturated steam, DN50, wafer-type installation, with external display
S695 2435	435 Vortex flow meter for saturated steam, DN65, wafer-type installation, with external display
S695 3435	435 Vortex flow meter for saturated steam, DN80, wafer-type installation, with external display
S695 4435	435 Vortex flow meter for saturated steam, DN100, wafer-type installation, with external display
S695 5435	435 Vortex flow meter for saturated steam, DN125, wafer-type installation, with external display
S695 6435	435 Vortex flow meter for saturated steam, DN150, wafer-type installation, with external display
S695 7435	435 Vortex flow meter for saturated steam, DN200, wafer-type installation, with external display
S695 8435	435 Vortex flow meter for saturated steam, DN250, wafer-type installation, with external display
S695 9435	435 Vortex flow meter for saturated steam, DN300, wafer-type installation, with external display

S435 Accessories

Order No.	Description
A695 0001	Blind pipe for uninstallation - DN40 & DN50
A695 0002	Blind pipe for uninstallation - DN65
A695 0003	Blind pipe for uninstallation - DN80
A695 0004	Blind pipe for uninstallation - DN100
A695 0005	Blind pipe for uninstallation - DN125
A695 0006	Blind pipe for uninstallation - DN150
A695 0007	Blind pipe for uninstallation - DN200

Remark:

All flow meters: wafer mounting (mating flange, screw and gasket included), temperature compensation, medium temperature <250°C, 4...20 mA signal output, 1/2-14 NPT electrical connection, IP65, accuracy +1.5 % , 24 VDC, Modbus/RTU, pulse, only for saturated steam

