

S435

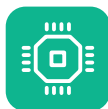
# Vortex Flow Meter for Steam

Inline



#### INTERGRATED TEMPERATURE SENSOR

Automatic density adjustment



#### EASY PROCESS MONITORING

Effective and inexpensive measurements



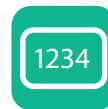
#### ACCURATE RESULTS

Very fast response time



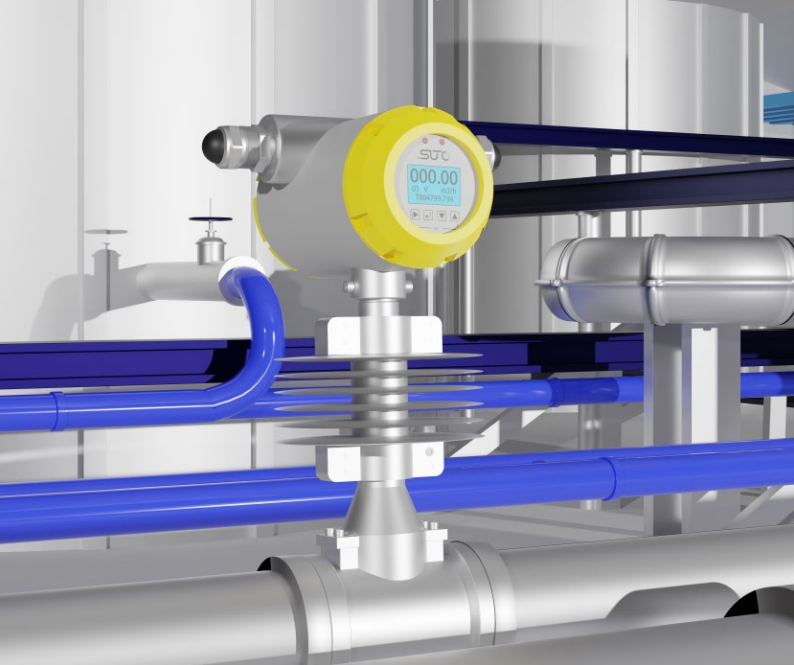
#### TOTAL FLOW

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

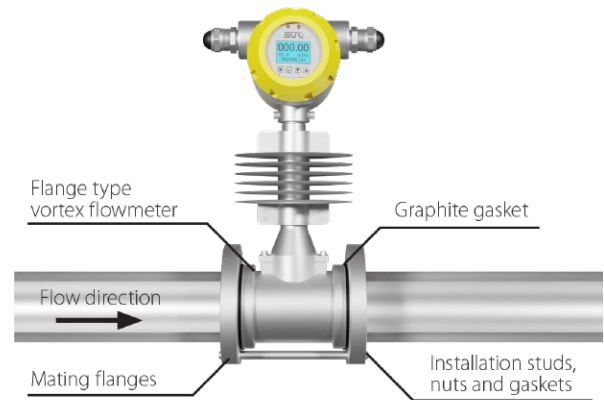
## Accurate Steam Monitoring

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.

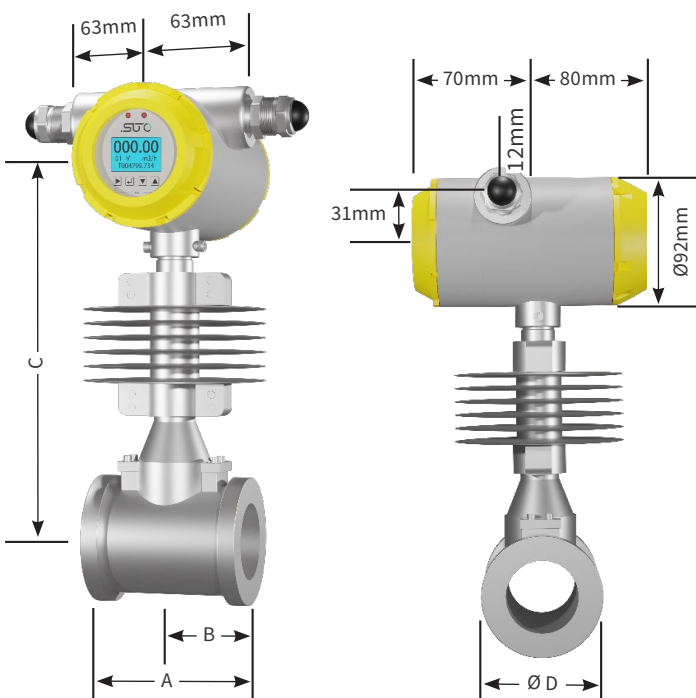
Please ensure that the steam parameters such as temperature, pressure and nominal flow are within the specification of S435.

## 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 <sup>3</sup> /h, m <sup>3</sup> /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 <sup>3</sup> , 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	0~5000 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		0.50 MPa		0.60 MPa		0.70 MPa		1.00 MPa		1.50MPa	
DN40	(28.8 ~ 329.8 kg/h)		(39.9 ~ 633.0 kg/h)		(42.9 ~ 732.5 kg/h)		0.05	0.83	0.05	1.13	0.06	1.61
DN50	0.04	0.52	0.06	0.99	0.07	1.14	0.07	1.29	0.08	1.76	0.1	2.52
DN65	0.08	0.87	0.11	1.67	0.11	1.93	0.12	2.18	0.14	2.97	0.17	4.26
DN80	0.12	1.32	0.16	2.53	0.17	2.93	0.18	3.3	0.21	4.5	0.25	6.45
DN100	0.18	2.06	0.25	3.96	0.27	4.58	0.28	5.16	0.33	7	0.4	10.08
DN125	0.28	3.22	0.39	6.18	0.42	7.15	0.44	8.06	0.52	11	0.62	15.76
DN150	0.4	4.64	0.56	8.9	0.6	10.3	0.64	11.61	0.75	15.83	0.9	22.69
DN200	0.72	8.25	1	15.83	1.07	18.31	1.14	20.64	1.33	28.14	1.59	40.34
DN250	1.12	12.88	1.56	24.73	1.68	28.61	1.78	32.25	2.1	44	2.49	63.03
DN300	1.62	18.55	2.24	35.61	2.41	41.2	2.56	46.45	3	63.3	3.58	90.76

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

## S435 Vortex Flow Meter for Steam (Inline)

Order No.	Description
S695 4359	S435 Vortex Flow Meter DN40, wafer type
S695 4350	S435 Vortex Flow Meter DN50, wafer type
S695 4351	S435 Vortex Flow Meter DN65, wafer type
S695 4352	S435 Vortex Flow Meter DN80, wafer type
S695 4353	S435 Vortex Flow Meter DN100, wafer type
S695 4354	S435 Vortex Flow Meter DN125, wafer type
S695 4355	S435 Vortex Flow Meter DN150, wafer type
S695 4356	S435 Vortex Flow Meter DN200, wafer type
S695 4357	S435 Vortex Flow Meter DN250, wafer type
S695 4358	S435 Vortex Flow Meter DN300, wafer type
A695 0001	Blind pipe for uninstillation - DN40&DN50
A695 0002	Blind pipe for uninstillation - DN65
A695 0003	Blind pipe for uninstillation - DN80
A695 0004	Blind pipe for uninstillation - DN100
A695 0005	Blind pipe for uninstillation - DN125
A695 0006	Blind pipe for uninstillation - DN150
A695 0007	Blind pipe for uninstillation - DN200

Notes:

All Flow meters: Wafer connection (Companion flange, bolt and gasket included), temperature compensation, local display, medium temperature <250 °C, 4-20 mA signal output, 1/2-14 NPT electric connection, IP65, accuracy +1.5 %, 24 VCD, Modbus/RTU, Pulse, for saturated steam only

