Be smart. **Measure it.**

S402 OEM

Thermal Mass Flow Meter

Insertion

SMARTPHONE APP
For remote configuration

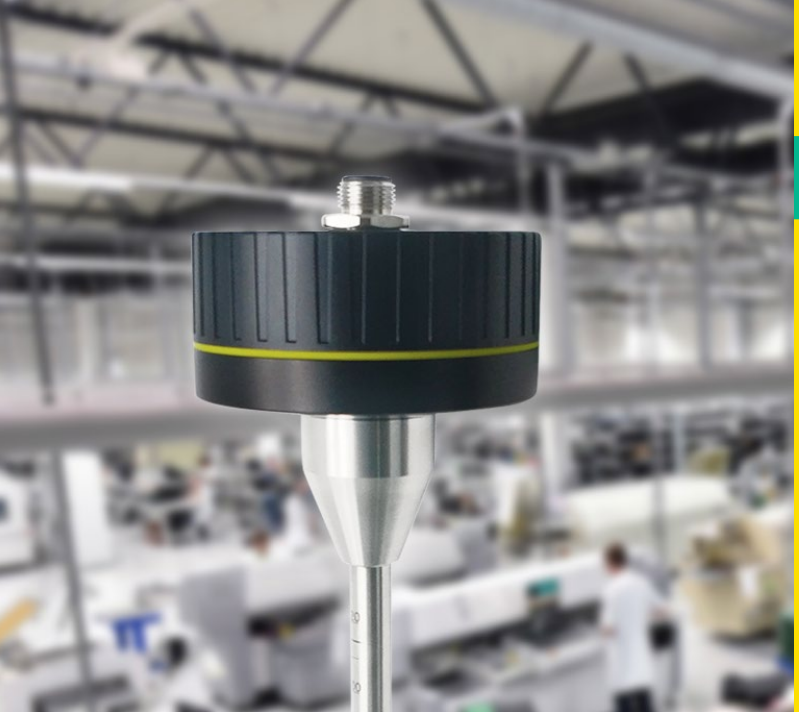
ACCURATE RESULTS
Very fast response time

EASY PROCESS MONITORING
Effective and inexpensive measurements

TOTAL FLOW
High accuracy and reliable measurements

EASY INSTALLATION
Under pressure

IP65 CASING
Provides robust protection



Benefits

- High accuracy and wide measuring range
- Fits any pipe size from DN25 to DN500 One shaft length fits all (for bigger pipes > DN250 sensor is inserted 100 mm)
- Easy installation under pressure without interrupting the process
- Various signal outputs allow users to connect the sensor to any system
- Compact and robust design for long lifetime

Cost-efficient flow measurement

The S402 OEM offers reliable and cost-efficient standard flow, mass flow and consumption measurement of compressed air and gases.

Due to the thermal mass flow principle, the sensor is independent of pressure and temperature changes. It also features very fast response time, high accuracy and wide measuring range.

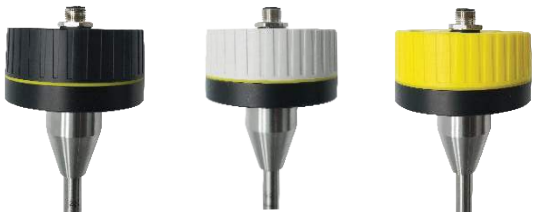
The compact IP65 casing provides robust protection in rough industrial environment for constant measurement results. The gas type can be easily selected. Some gases require real gas calibration.

The S402 OEM also offers various output signals:

- Isolated 4... 20 mA & Pulse
- Modbus/RTU
- Modbus/TCP
- M-Bus

Three colors available

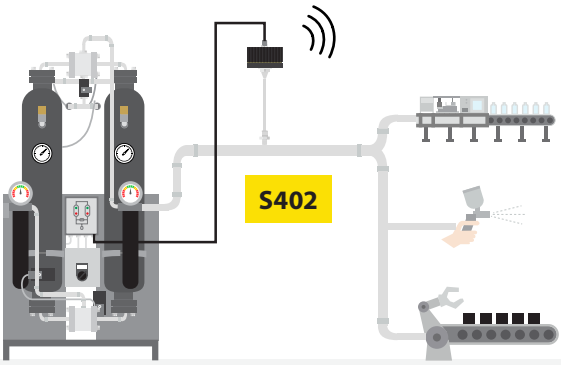
Private label version available with different colors, labels and features (MOQ required)



Smartphone App

Through the wireless interface, the flow meter can be connected to the smartphone by the S4C-FS app. This allows users to easily read live data and configure the S402 via their smartphone.

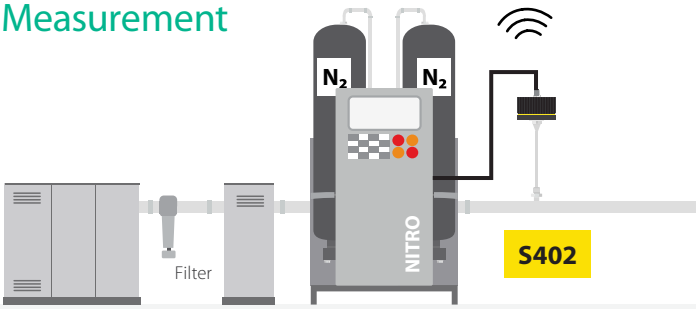
Compressed Air Measurement



High tech Compressed Air Dryer

Compressed Air Usage

Nitrogen Measurement

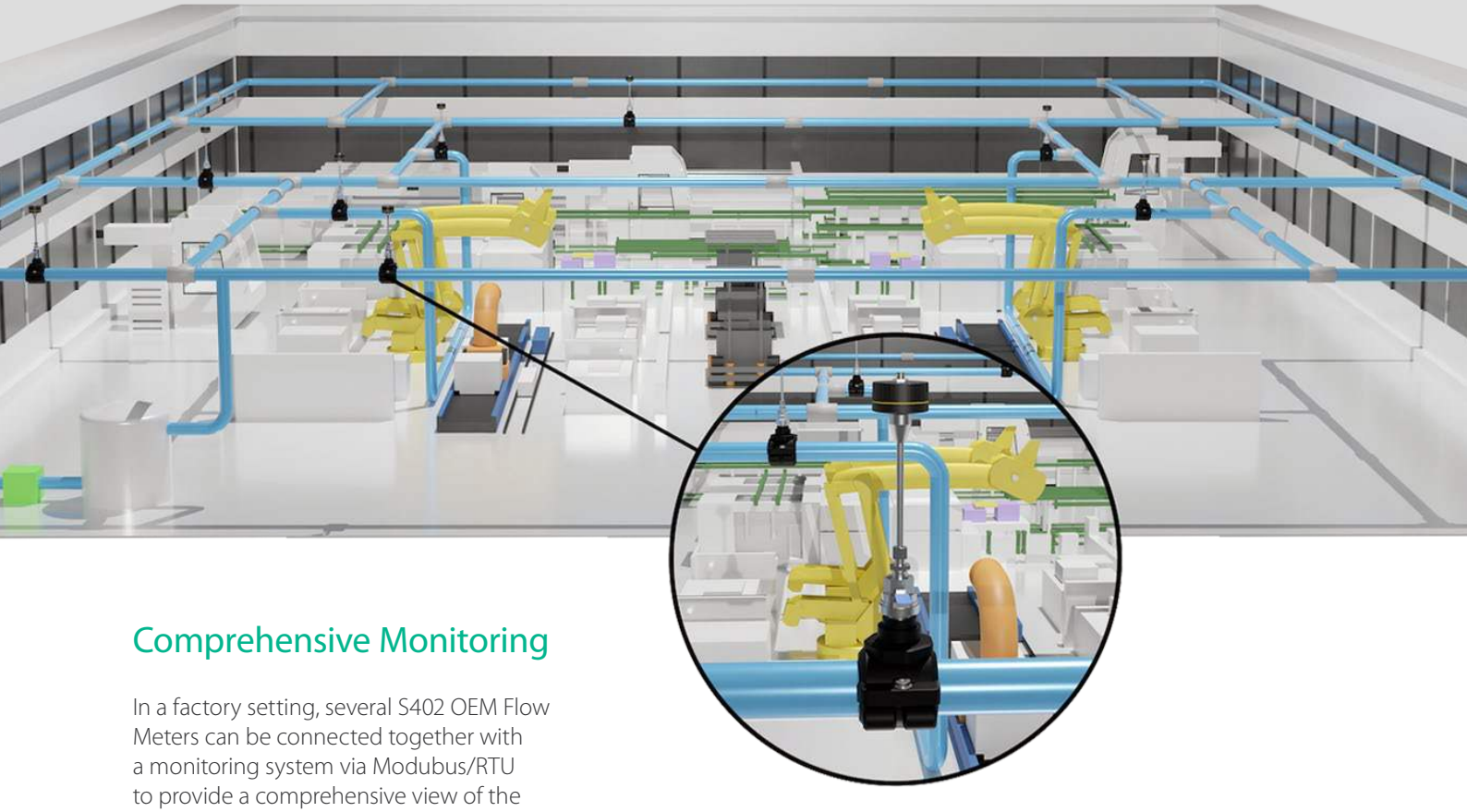


Compressor

Dryer

Nitrogen Generator

Nitrogen Usage



Comprehensive Monitoring

In a factory setting, several S402 OEM Flow Meters can be connected together with a monitoring system via Modubus/RTU to provide a comprehensive view of the compressed air usage and flow.

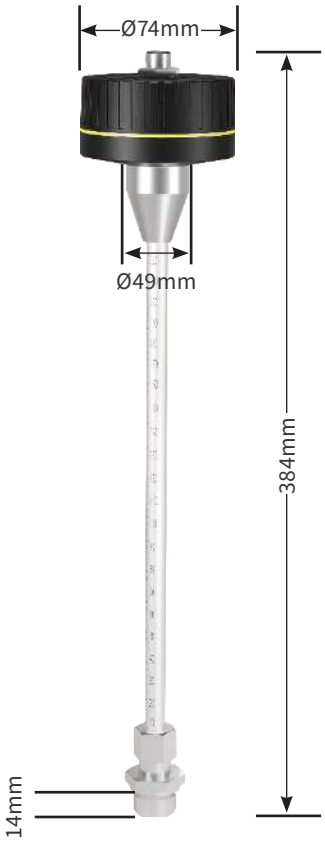
This helps factory managers and operators to identify and address any issues quickly, ultimately improving the overall efficiency of the production process.

Volumetric Flow Ranges

Inch	DN	Di (mm)	Standard (m^3/h)	Max (m^3/h)
1″	DN25	27.3	0.5 ... 147	0.6 ... 294
1¼″	DN32	36.0	0.9 ... 266	1.2 ... 531
1½″	DN40	41.9	1.2 ... 366	1.5 ... 731
2″	DN50	53.1	2.0 ... 600	2.5 ... 1197
2½″	DN65	68.9	3.5 ... 1026	5.0 ... 2048
3″	DN80	80.9	5.0 ... 1424	7.0 ... 2842
4″	DN100	100.0	10 ... 2183	12 ... 4357
5″	DN125	125.0	13 ... 3419	18 ... 6824
6″	DN150	150.0	18 ... 4930	25 ... 9838
8″	DN200	200.0	26 ... 8785	33 ... 17533
10″	DN250	250.0	40 ... 13743	52 ... 27428
12″	DN300	300.0	60 ... 19814	80 ... 39544

The table shows flow ranges up to 300 mm pipe diameter at standard conditions in air. Other standard conditions and gases flow ranges are available on request. In larger pipe diameters flow can also be measured.

Dimensions



Technical Data

Measurement

Flow	
Accuracy	2 % of reading ± 0.3% FS
Selectable units	m^3/h, m^3/min, l/min, l/s, cfm, kg/h, kg/min, kg/s
Measuring range	see table below
Repeatability	0.25 % o.RDG
Sensor	Thermal mass flow sensor
Sampling rate	3 samples / sec
Turndown ratio	1:100
Response time (t90)	0.5 sec
Consumption	
Selectable units	m^3, ft^3, l
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, freely adjustable
Load	Max. 250R
Update rate	1/sec
Pulse output	
Signal	Switch output, normally open, max. 30 VDC, 20 mA
Scaling	1 pulse per consumption unit
Fieldbus	
Protocol	Modbus/RTU
Supply	
Voltage supply	15 ... 30 VDC
Current consumption	200 mA

General data

Configuration	
Wireless	S4C-FS App for mobile phones
Material	
Process connection	Stainless steel 1.4404 (SUS 316L)
Housing	PC + ABS
Sensor	Ceramic, glass coated
Metal parts	Stainless steel 1.4404 (SUS 316L)
Miscellaneous	
Electrical connection	A1415: M12 (6 pole) other options: M12 (5-pole)
Protection class	IP65
Approvals	CE, RoHS, FCC
Process connection	G1/2" (ISO 228/1)
Weight	0.9 kg
Operating conditions	
Medium	Air, N_2, O_2, CO_2 and other gases
Medium quality	ISO 8573: 4.4.3 or better
Medium temperature	-30 ... +140 °C
Medium humidity	< 90 % rH, no condensation
Operating pressure	Max. 1.6 MPa(g)
Ambient temperature	-30 ... +70 °C
Ambient humidity	< 99 % rH
Storage temperature	-30 ... +70 °C
Transport temperature	-30 ... 70 °C
Pipe sizes	½" ... 12" (bigger pipes on request)

S402 comes with a safety line made by steel to prevent from shooting out while uninstalling

Ordering

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

S402 Thermal Mass Flow Meter (OEM Version)

Order No.	Code	Description
S695 4105	S402	S402 Thermal Mass Flow Meter, 220 mm shaft
Connection thread		
Standard	A	G1/2"
A1005	B	NPT 1/2" Adapter
A1006	C	PT 1/2" Adapter
Output		
A1415	A	Isolated analogue 4...20 mA and pulse, 6 pole
A1416	B	Modbus/RTU, 5 pole
A1417	C	MBUS, Analogue 4 ... 20 mA, 5 pole
A1418	D	Modbus/RTU, Analogue 4 ... 20 mA, 5 pole
A1419	E	Analogue 4 ... 20 mA and pulse, 5 pole (compatible S400)
Range		
Standard	A	Standard range version (92.7 m/s)
A1406	B	Max range version (185 m/s)
Gas type		
A1007	A	Air
A1008	B	CO_2
A1009	C	O_2 (Oil- & grease-free cleaned)
A1010	D	N_2
Casing color		
A1421	A	Casing color yellow
A1422	B	Casing color light gray
A1423	C	Casing color black

Accessories

Order No.	Description
A553 0104	Sensor cable 5 m, M12 and open ends, 5 pole
A553 0105	Sensor cable 10 m, M12 and open ends, 5 pole
A553 0144	Sensor cable 5 m, M12 and open ends, 6 pole
A554 0008	½"G type ball valve

Example: **S402ABBAA**

S402, G1/2" connection, Modbus/RTU, Max range calibration, for air, yellow casing

Stated measuring ranges under following conditions:

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

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