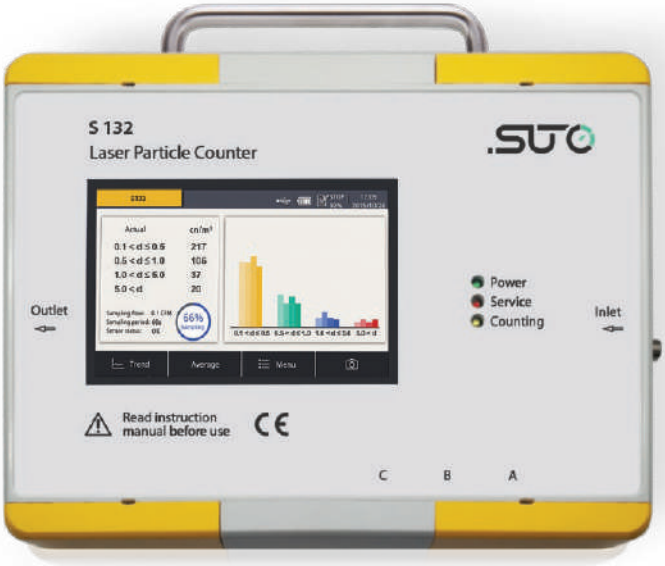
Be smart. **Measure it.**

S130 / S132

Laser Particle Counter

ECO (0.3 < d ≤ 5.0 µm) **S130**



S132 PRO (0.1 < d ≤ 5.0 µm)

PARTICLE MEASUREMENT
According ISO-8573 Standard

EASY INSTALLATION
Plug and Play Solution

PRO VERSION S132
Smallest channel 0.1 < d ≤ 0.5 µm

ECO VERSION S130
Smallest channel 0.3 < d ≤ 0.5 µm

Benefits

- Accurate compressed air quality measurements and monitoring with particle size ranges:
  0.1 < d ≤ 0.5 µm / 0.5 < d ≤ 1.0 µm / 1.0 < d ≤ 5.0 µm / d > 5.0 µm
- Classification according to ISO 8573-1 while being in compliance with the ISO 8573-4
- Easy connection to compressed air system through a 6 mm hose with quick connectors
- Integrated pressure diffuser suitable for inlet pressure ranges of 3 ... 15 bar(g)
- Optional 5" touch screen integrated for live data readings and data logging functions
- Designed to be used as stationary solution, as well as in portable audit measurements

Reliable particulates counts in compressed air systems

The SUTO S130 / S132 Laser Particle Counters are optimized for 24/7 compressed air quality monitoring. Unlike its competition, the SUTO laser particle counters are coming with integrated pressure diffusers to reduce the line pressure inside the instrument. Users are enabled to use the laser particle counters directly at the compressed air system, without installing pressure reducers and therefore being in compliance with the ISO 8573-4 standard.

The measurement values are displayed in counts per volume (cn/m3), but can also display alternative volume units like cubic-feet or liter.

The integrated display offers live readings for all channels, signal output settings as well as an integrated data logger, to store the measurement data on the device.

Applications

Particle free compressed air is not an easy task to be achieved. Monitoring is a must in many industries and applications to avoid contamination in products and health risks for humans.

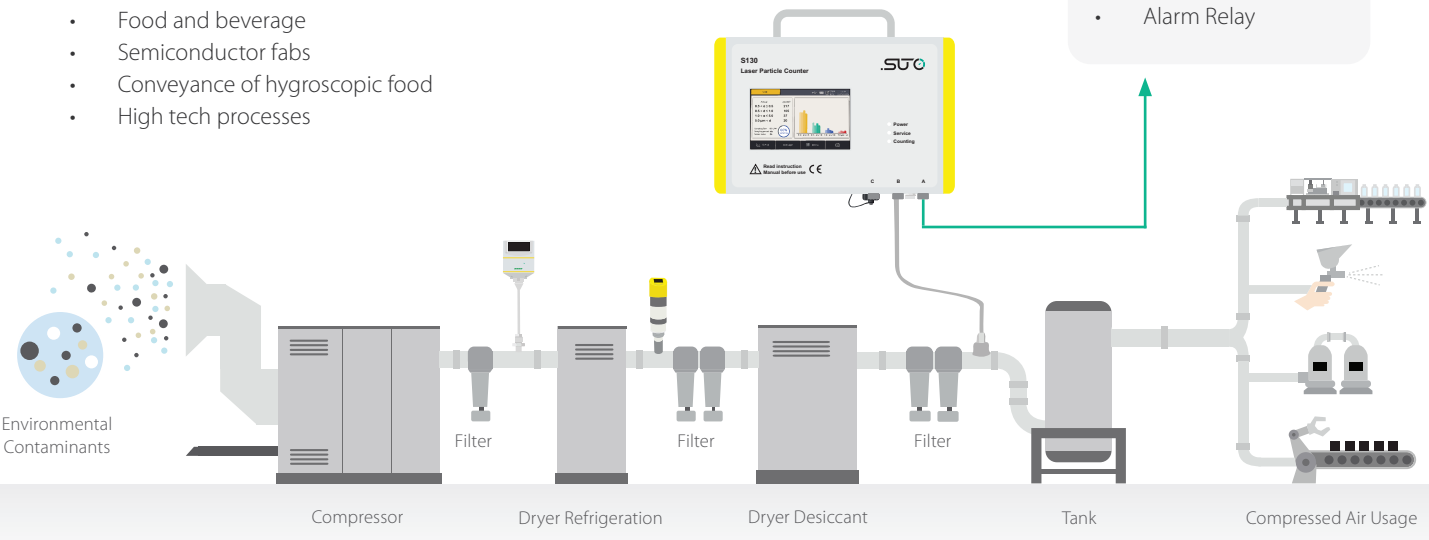
- Medical air
- Pharmaceuticals
- Breathable air for rescue workers and divers
- Food and beverage
- Semiconductor fabs
- Conveyance of hygroscopic food
- High tech processes

S130/S132

Portable and stationary Solution

Output Signals

- 4 ... 20 mA analog output
- Modbus/RTU and Modbus/TCP (TCP only with Display version)
- Alarm Relay



Particulates in Paint Shops

In a modern paint shop, the painting quality highly depends on the quality of the compressed air. Modern paint systems inject the paint into the paint gun, where compressed air is driving the paint through the nozzle. When existing the nozzle, the paint atomizes into a fine and uniformed mist. These tiny paint particles repel each other as they are leaving the nozzle and stick to the object being painted.

Excess impurities in the compressed air will cause the paint particles to “clump”, resulting in uneven coverage and an inconsistent finish.

The only way to secure this high-quality painting process is by monitoring the particle concentration of the compressed air supply.

Air Quality Monitoring according to the ISO 8573-1

The ISO 8573-1 defines the compressed air purity classes for particulates in a compressed air system by providing the limit values for each channel.

The S132 Laser Particle Counter measures the channels as defined by the ISO 8573-1:

- 0.1 < d ≤ 0.5 µm
- 0.5 < d ≤ 1.0 µm
- 1.0 < d ≤ 5.0 µm

For these 3 channels, the limit values are defined and divided into classes.

But furthermore, as stated in the ISO 8573, the fourth channel must be measured as well:

- d > 5.0 µm

This channel value must be 0 for the classes 0 ... 5, as otherwise the classification falls into class 6 or worse, where a mass concentration is defined as limit values.

Certain industries like the pharmaceutical and food industry requires high-quality compressed air. By meeting the ISO 8573-1 standard requirements you can:

Ensure Process and Product Safety:

Contaminants mixing with applications effect product results and can create safety concerns.

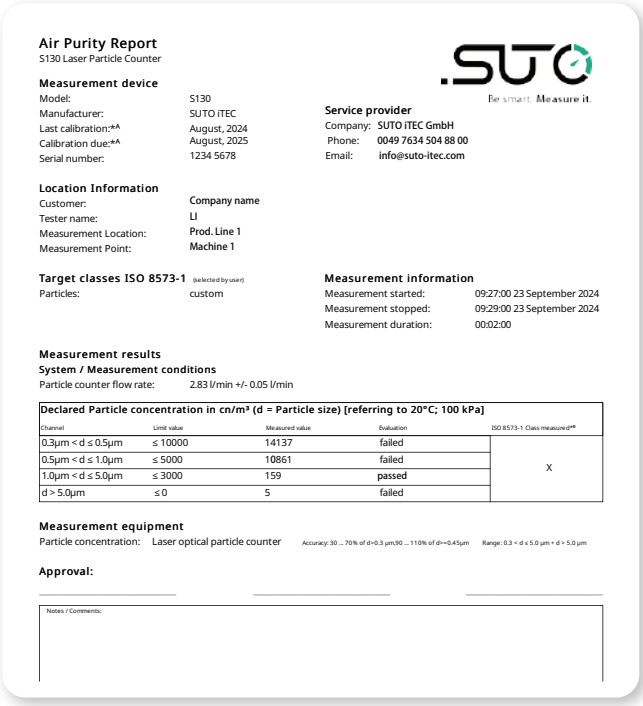
Prevent production downtime:

Processes and machines are stopped to find and eliminate the contamination issues.

Compressed Air Purity Reports

The S130/132 Particle Counter features an innovative Guided Measurement tool that simplifies the process of testing compressed air quality. This intelligent feature guides the user through each step of the measurement process, making it easy to use even for inexperienced users. The instrument produces detailed compressed air purity reports showing particle concentration, ISO particle class and whether the current air quality meets the required standard.

These reports are generated as PDF files and are fully compliant with ISO 8573-1, the global standard for air quality classification. This ensures that your compressed air system meets the required cleanliness levels for your specific needs. With its user-friendly Guided Measurement and commitment to ISO compliance, the S130/132 is an essential tool for ensuring high quality compressed air.



Air Purity Report
S130 Laser Particle Counter

Be smart. Measure it.

Measurement device

Model:	S130
Manufacturer:	SUTO iTEC
Last calibration:*A	August, 2024
Calibration due:*A	August, 2025
Serial number:	1234 5678

Service provider
Company: SUTO iTEC GmbH
Phone: 0049 7634 504 88 00
Email: info@suto-itec.com

Location Information

Customer:	Company name
Tester name:	LI
Measurement Location:	Prod. Line 1
Measurement Point:	Machine 1

Target classes ISO 8573-1 (selected by user)
Particles: custom

Measurement information

Measurement started:	09:27:00 23 September 2024
Measurement stopped:	09:29:00 23 September 2024
Measurement duration:	00:02:00

Measurement results
System / Measurement conditions
Particle counter flow rate: 2.83 l/min +/- 0.05 l/min

Declared Particle concentration in cn/m³ (d = Particle size) [referring to 20°C; 100 kPa]

Channel	Limit value	Measured value	Evaluation	ISO 8573-1 Class measured*B
0.3µm < d ≤ 0.5µm	≤ 10000	14137	failed	x
0.5µm < d ≤ 1.0µm	≤ 5000	10861	failed	
1.0µm < d ≤ 5.0µm	≤ 3000	159	passed	
d > 5.0µm	≤ 0	5	failed	

Measurement equipment
Particle concentration: Laser optical particle counter
Accuracy: 30 ... 70% of d=0.3 µm,90 ... 110% of d=~0.45µm Range: 0.3 < d ≤ 5.0 µm + d > 5.0 µm

Approval:

Notes / Comments:

Technical Data

Measurement

Particle	
Measuring range	S130: 0.3 < d ≤ 3.0 µm, 0.3 < d ≤ 5.0 µm S132: 0.1 < d ≤ 5.0 µm
Measuring channels	S130: CH1: 0.3 < d ≤ 0.5 µm CH2: 0.5 < d ≤ 1.0 µm CH3: 1.0 < d ≤ 3.0 / 5.0 µm CH4: 3.0 / 5.0 µm < d (configurable) S132: CH1: 0.1 < d ≤ 0.5 µm CH2: 0.5 < d ≤ 1.0 µm CH3: 1.0 < d ≤ 5.0 µm CH4: 5.0 µm < d (configurable)
Counting Efficiency according ISO 21501-4	S130 30 ... 70 % of d > 0.3 µm 90 ... 110 % of d ≥ 0.45 µm S132 30 ... 70 % of d > 0.1 µm 90 ... 110 % of d ≥ 0.3µm
Principle of measurement	Laser detection
Sensor	LED-laser
Consumption	
Selectable units	cn/m³, cn/ft³, mg/m³

Signal / Interface & Supply

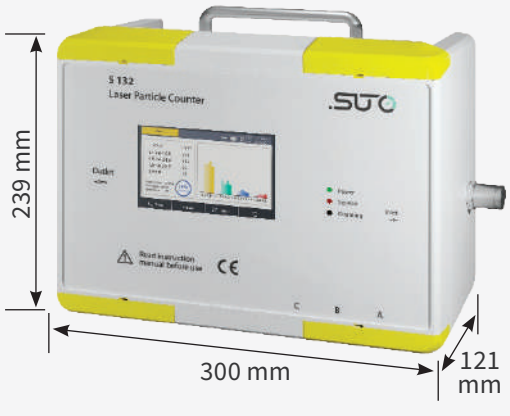
Analog output	
Signal	4 ... 20 mA (2-wire)
Alarm	Switch output, normally open, max. 40 VDC, 200 mA
Fieldbus	
Protocol	Modbus/RTU, Modbus/TCP (with Display version)
Supply	
Voltage supply	24 VDC / 10 W (without Display) 24 VDC / 20 W (with Display)
Current consumption	420 mA (without Display) 840 mA (with Display)
Data interface	
USB	USB Micro with OTG support

S130

General data

Configuration	
Others	Device comes pre-configured Configuration can be done via on-screen touch
Display	
Integrated	5" color touch screen
Data Logger	
Storage	30 million measurement values (optional)
Miscellaneous	
Electrical connection	3X M12
Protection class	IP65
Process connection	6 mm quick connect (pressurized version), barb connection (ambient version)
Material	PC, Al alloy
Weight	S130: 1.9 kg S132: 3.2 kg
Dimensions	S130: 271 x 205 x 91 mm S132: 300 x 240 x 120 mm
Operating conditions	
Medium	Compressed air and gases free of corrosive, aggressive, caustic and flammable constituents
Flow rate	2.83 l/min
Sample rate	One sample per minute
Medium quality	ISO 8573-4
Medium temperature	0 ... + 50 °C
Medium humidity	< 90 %, no condensation
Operating pressure	0.3 ... 1.5 MPa
Ambient temperature	0 ... + 50 °C
Ambient humidity	0 ... 90 % rH
Storage temperature	-10 ... + 50 °C
Storage humidity	< 90 % with no condensation
Transport temperature	-10 ... + 50 °C

S132



Ordering

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

S130 / S132 Particle Counter for Compressed Air: P = 0.3 ... 1.5 Mpa

Order No.	Description
S604 1303	S130, Particle Counter for Compressed Air, size range d: 0.3 < d ≤ 5.0 µm, 2.83 l/min
S604 1305	S130, Particle Counter for Compressed Air, size range d: 0.3 < d ≤ 5.0 µm, 2.83 l/min, display, logger
S604 1316	S130, Laser Particle Counter for Compressed Air, particle size d channels: 0.3 < d ≤ 3.0 µm, 2.83 l/min, display, data logger
S604 1308	S132, Particle Counter for Compressed Air, size range d: 0.1 < d ≤ 5.0 µm, 2.83 l/min
S604 1309	S132, Particle Counter for Compressed Air, size range d: 0.1 < d ≤ 5.0 µm, 2.83 l/min, display, logger

S130 / S132 Accessories

Order No.	Description
A554 0120	Transport case S120 / S130
A554 0116	Transport case S132
A554 1204	Zero count filter
R200 0130	Calibration particle counter S130
R200 0131	Calibration particle counter S132