

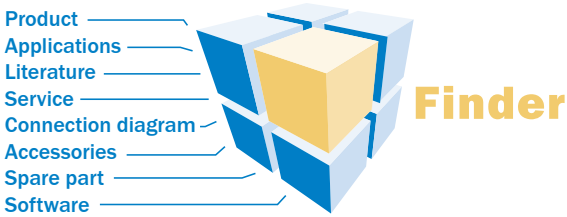


Dust measuring devices

New standards in dust measuring technologies, applications, and measuring devices

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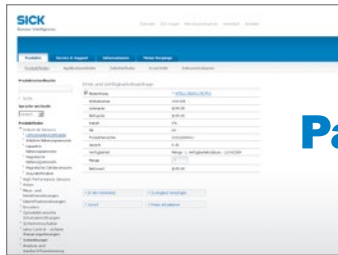


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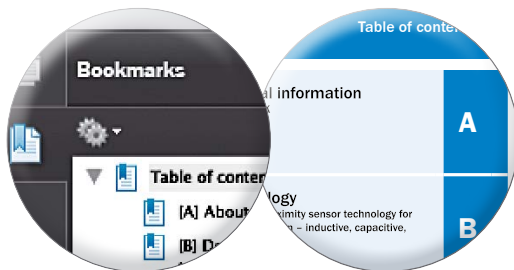
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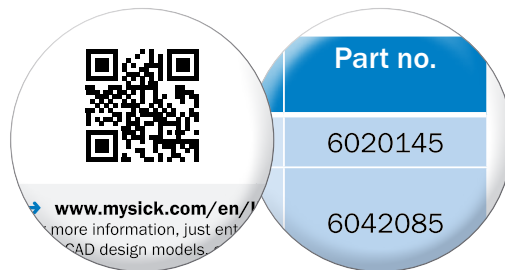
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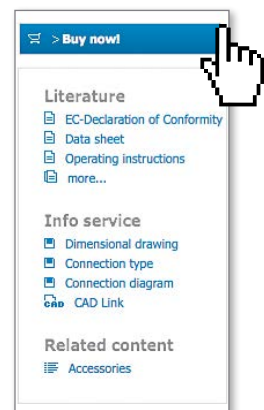
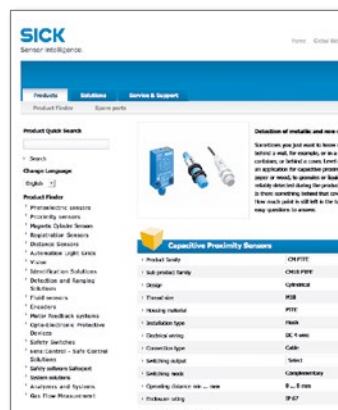
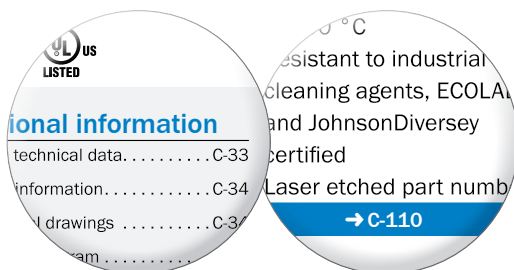
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By links, QR codes and part numbers
















By page references



Overview of dust measuring devices

■ = ideal match for requirement.
□ = meets requirement.

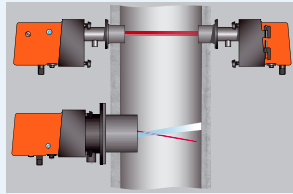
Product	Measuring principle				Certificates							Measuring conditions						Test functions			Duct diameter						Page					
	Scattered light forward	Scattered light backward	Transmittance	Gravimetric analysis	EN 15267 ¹⁾	EN 13284	MCERTS	U.S. EPA	GOST	Ex, ATEX	Low concentrations (< 200 mg/m ³)	High concentrations (> 200 mg/m ³)	Humid gas	Aggressive gas	Non-homogeneous medium density	Inner duct pressure (-50 ... +30 hPa)	Max. process temperature (+600 °C)	Max. process temperature (+400 °C)	Max. process temperature (+300 °C)	Max. process temperature (+220 °C)	Automatic control cycle	Manual linearity check	Contamination check	0.5	1	3		5	8	12		
Scattered light dust measuring devices																																
 DUSTHUNTER SB30		■									■			■	■						■	■				≥ 500 mm						D-38
 DUSTHUNTER SB50		■							■		■			■	■						■	■				≥ 500 mm						D-46
 DUSTHUNTER SB100		■			■		■		■		■			■	■						■	■	■			≥ 500 mm						D-54
 DUSTHUNTER SF100	■				■		■		■		■								■		■	■	■		0.5 ... 3 m		2.5 ... 6 m				D-62	
 DUSTHUNTER SP100	■				■		■		■		■					□ ^{2),3)}		■		■	■	■	■		≥ 250 mm						D-72	
 FW101 Ex	■				□ ⁴⁾				■	■	■					□ ²⁾		■		■	■	■	■		≥ 250 mm						D-82	
 FW102	■				□ ⁴⁾				■		■					■				■	■	■	■		≥ 150 mm						D-90	
 FWE200	■				□ ¹⁾		■	■			■		■	■		□ ⁵⁾				■	■	■	■		≥ 400 mm						D-98	
 FWE200DH	■				■		■	■			■		■	■		□ ⁵⁾				■	■	■	■		≥ 400 mm						D-104	
Transmittance dust measuring devices																																
 DUSTHUNTER C200	■		■		■				■	■	■			■	■						■	■	■		0.5 ... 3 m		2.5 ... 8 m				E-114	
 DUSTHUNTER T50			■						■		■			■	■						■	■			0.5 ... 2.5 m		2 ... 5 m		4 ... 8 m		E-126	
 DUSTHUNTER T100			■		■		■		■		■			■	■						■	■	■		0.5 ... 2.5 m		2 ... 5 m		4 ... 12 m		E-134	
 DUSTHUNTER T200			■		■		■		■		■			■	■						■	■	■		0.5 ... 2.5 m		2 ... 5 m		4 ... 12 m		E-144	
 FW300 Ex			■						■		■			■	■						■	■			0.5 ... 2 m		1.5 ... 8 m				E-154	
Gravimetric dust measuring devices																																
 GRAVIMAT SHC500				■		■		■	■		■	■				■	■								≥ 150 mm						F-166	

¹⁾ For equipment requiring approval to: (2001/80/EC, 2000/76/EC) and plants of 27th Federal Implementation Control Act
²⁾ Inner duct pressure: up to 10 kPa
³⁾ Up to 200 kPa on request
⁴⁾ TÜV-tested for equipment requiring approval to TA Clean Air Act (TA Luft) and 27th Federal Implementation Control Act
⁵⁾ Inner duct pressure: -20 +20 hPa

General information

About SICK

A



Technologies and services

B



Typical applications

C



Scattered light dust measuring devices

DUSTHUNTER SB30, DUSTHUNTER SB50, DUSTHUNTER SB100, DUSTHUNTER SF100, DUSTHUNTER SP100, FW101 Ex, FW102, FWE200, FWE200DH

D



Transmittance dust measuring devices

DUSTHUNTER C200, DUSTHUNTER T50, DUSTHUNTER T100, DUSTHUNTER T200, FW300 Ex

E



Gravimetric dust measurement devices

SHC500

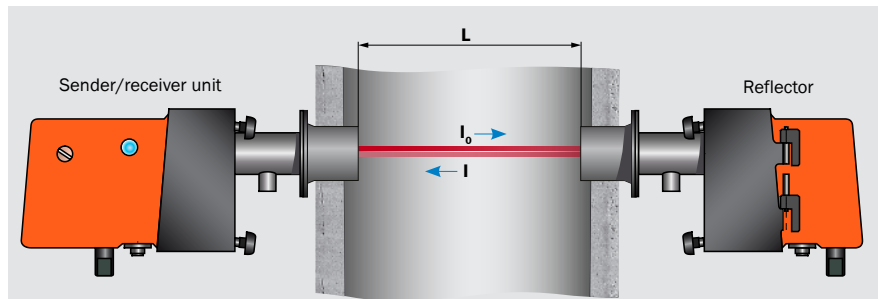
F

Continuous dust measurement principles

Transmissiometry

Light is transmitted through a mixture of gas and particles. The intensity of the light is attenuated by the particles. The more particles there are in the light beam, the more significant the attenuation of the light will be. SICK transmittance measuring devices are designed so that the light beam travels the measuring distance twice. The reflector opposite the sender reflects the light to a highly sensitive receiver, which accurately compares the intensity of the received (attenuated) light with that of the transmitted (unattenuated) light. Transmittance can be accurately determined based on the difference between the two values. The dust concentration in mg/m^3 is determined by converting the transmittance values into extinction and by taking a gravimetric comparison measurement.

The dust concentration is proportionate to the extinction. This measurement principle is most frequently used for medium to high dust concentrations.



Determination of dust concentration

Transmittance $T = \frac{I}{I_0}$

Opacity $O = 1 - T = 1 - \frac{I}{I_0}$

Extinction $E = \log \frac{1}{T} = -\lg(T)$

Lambert-Beer law $I = I_0 \cdot e^{-k \cdot L \cdot c}$

Dust concentration $c = \frac{\ln(T)}{-k \cdot L}$
 $\ln(T) = 2.3 \cdot \log(T)$
 $c = 2.3 \cdot \frac{E}{k \cdot L}$

T = Transmittance = Translucence

I_0 = Emitted light

I = Received light

O = Opacity = Light attenuation

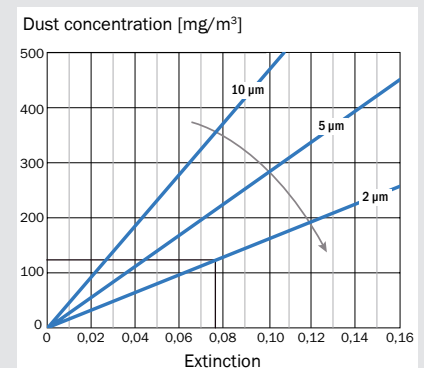
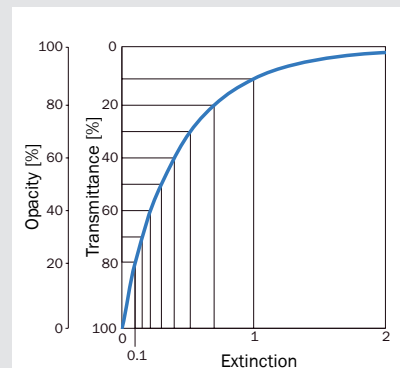
E = Extinction = Logarithmic measure of light attenuation

Lambert-Beer law = Dependence between attenuated light intensity I and dust concentration c over measuring distance L

k = Extinction coefficient, dependent on grain size, shape, and surface, as well as light wavelength

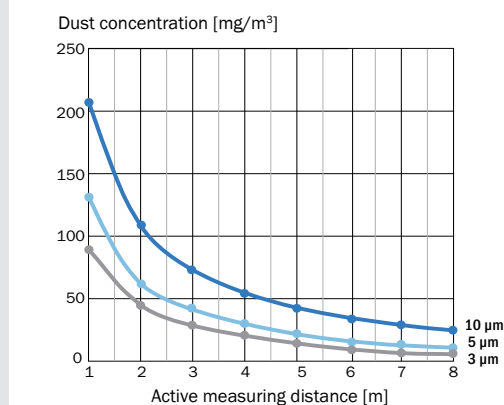
L = $2x$ measuring distance

c = Concentration

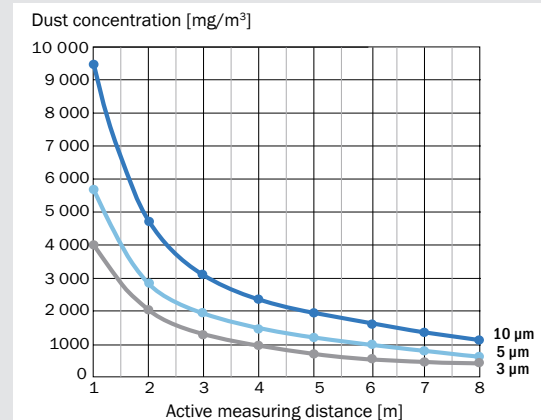


Dependence of the dust concentration measured on measuring distance and particle size

Smallest measuring range



Largest measuring range

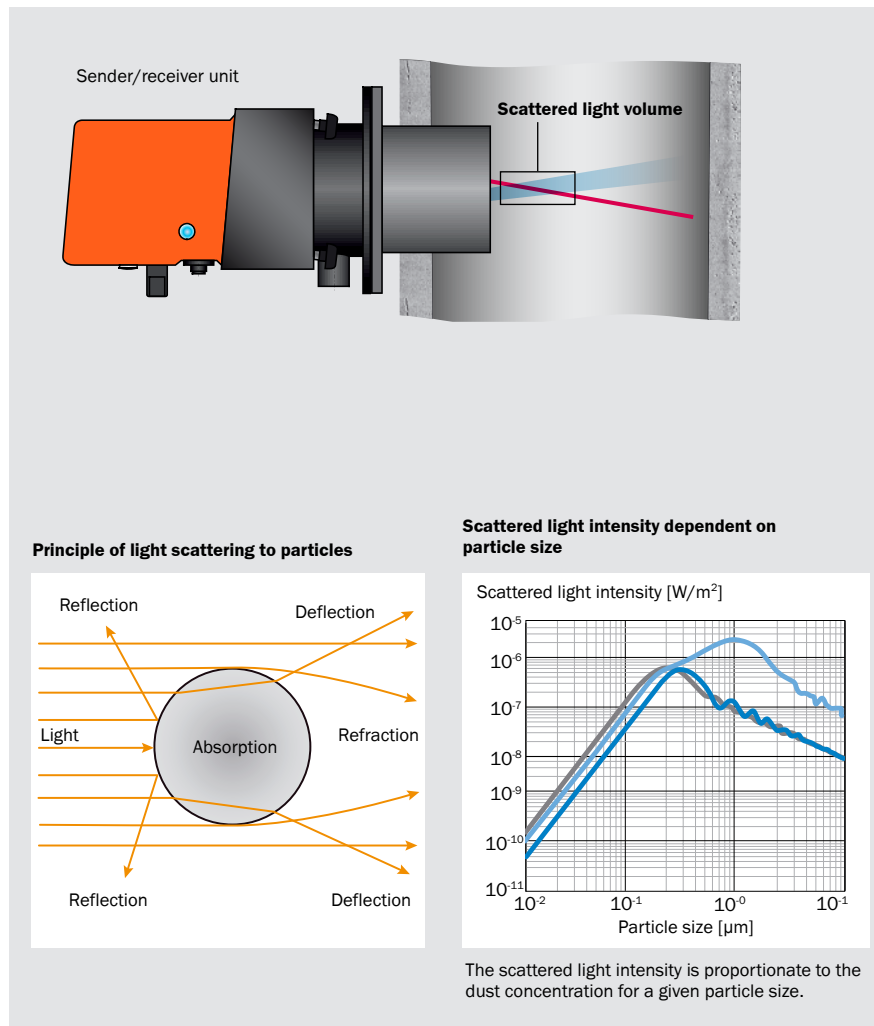


Scattered light measurement

A light sender emits light. The particles cause the light to be scattered in the gas mixture, where it is detected by a sensitive receiver. Since it is highly sensitive, the scattered light principle is particularly suitable for low dust concentrations – even below 1 mg/m^3 . The measuring volume in the gas duct is defined by the overlap of the sender beam and the receiver segment. The scattered light intensity measured is proportionate to the dust concentration and independent of the measuring distance. However, as the intensity of the scattered light is dependent not only on the number and size of the particles but also on their optical properties, the measuring system must be calibrated for precision measurement of the dust concentration by means of a gravimetric comparison measurement.

As a leading manufacturer of dust measuring devices, SICK can deliver measuring devices with both backward (see image) and forward scattering.

The scattered light measuring principle is suitable for measuring low to very low dust concentrations.



B

Other continuous measurement principles

The triboelectric or beta radiation measurement principles are used in addition to the proven measurement principles of transmittance and scattered light. These measurement principles can have significant disadvantages, including being affected

by the gas velocity, electrical charges, or moisture content of the particles. Separation processes can be more costly and complex and probes can become contaminated.

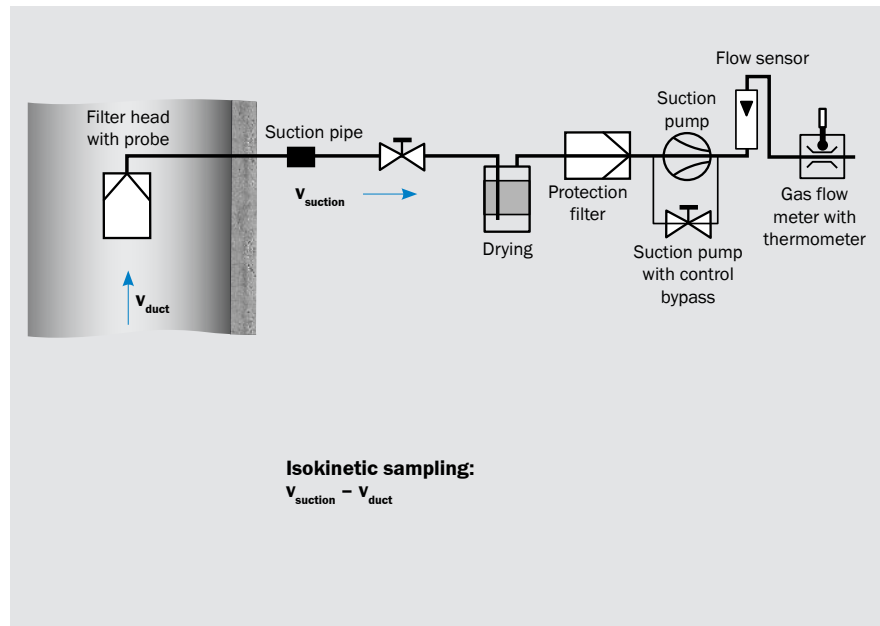
Discontinuous dust measurement principle

Gravimetric determination of dust concentration is the reference method according to directive DIN EN 13284-1 for the calibration of all continuous measuring devices.

Gravimetric analysis

The principle of gravimetric analysis is based on the following measuring sequence:

- Isokinetic sampling of a partial gas flow at a representative measuring point as a fundamental prerequisite
- Collection of the particles contained in the partial gas flow on or in a filter element
- Weighing of the filter before and after sampling and determination of pure particle mass
- Determination of dust concentration from particle mass and sampled volume
- Measurement of gas velocity and gas temperature



Basic setup of sampling equipment according to VDI 2066

Normalization of the measured values

Since the measured values of a measuring system are determined under highly diverse operating conditions (temperature, pressure, humidity, O₂ content), they must be converted to normalized values before they can be compared.

$$C_{i.B.} = \frac{100 - H_2O [\%]}{100} \cdot \frac{273.15}{273.15 + T [^{\circ}C]} \cdot \frac{1013 + \Delta P [\text{mbar}]}{1013} \cdot C_{i.N.}$$

$$C_{i.N.} = \frac{100}{100 - H_2O [\%]} \cdot \frac{273.15 + T [^{\circ}C]}{273.15} \cdot \frac{1013}{1013 + \Delta P [\text{mbar}]} \cdot C_{i.B.}$$

$C_{i.B.}$ Dust concentration under operating conditions [mg/m³]

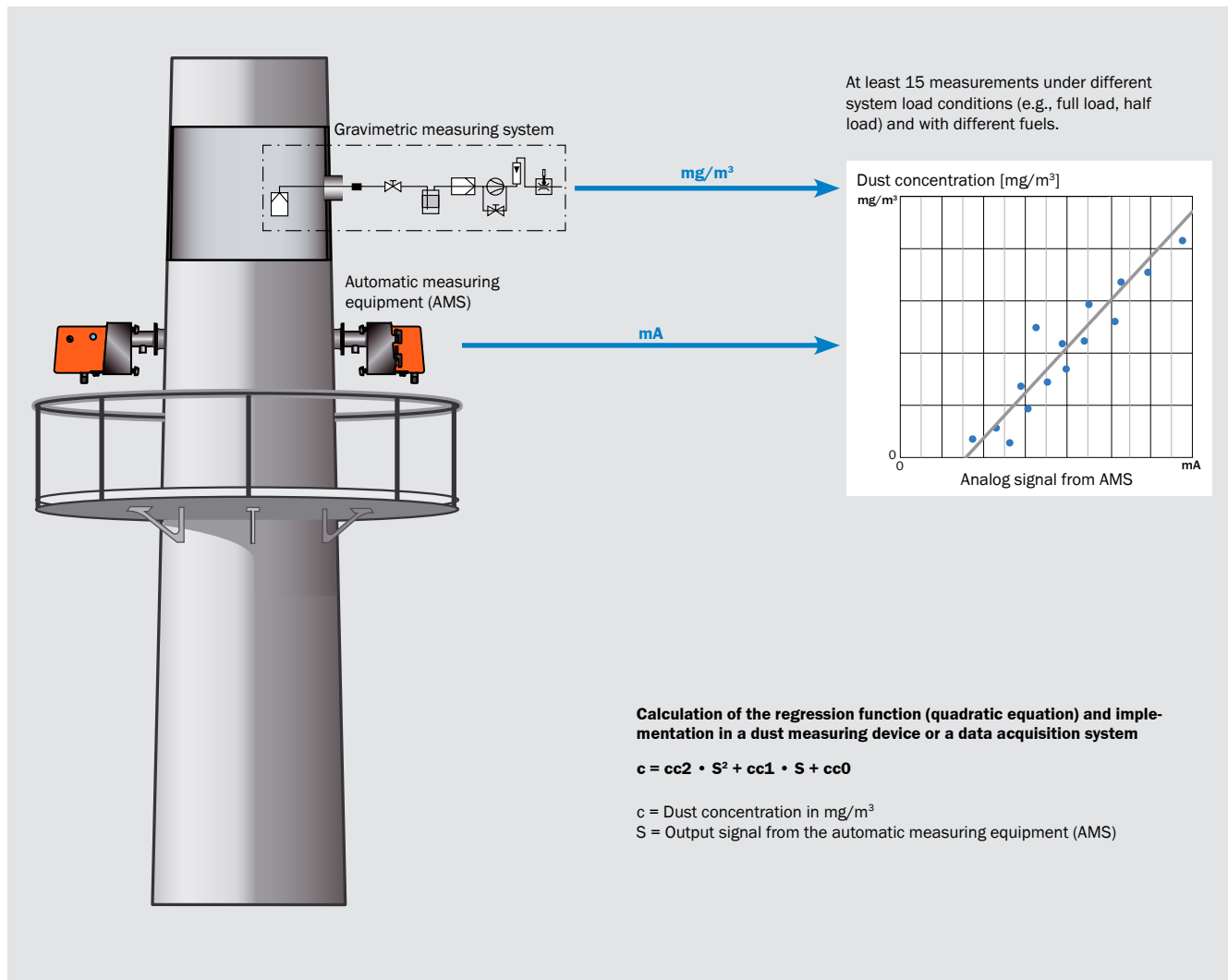
$C_{i.N.}$ Dust concentration under normalized or standard conditions [mg/m³]

Calibration of measurement on site

No continuous procedure is able to measure dust concentration directly without reference material. A gravimetric comparison measurement is necessary for calibration. This measurement determines the dust concentration at the measuring point with the system under different load conditions and with different fuels. A calibration curve is produced from the measured

values of the measuring equipment (AMS) and the measured values determined by means of gravimetric measurement. In Europe, the corresponding procedure is specified in standards EN 14181 and EN 13284-1. During calibration, a minimum of 15 pairs of values must be determined.

B



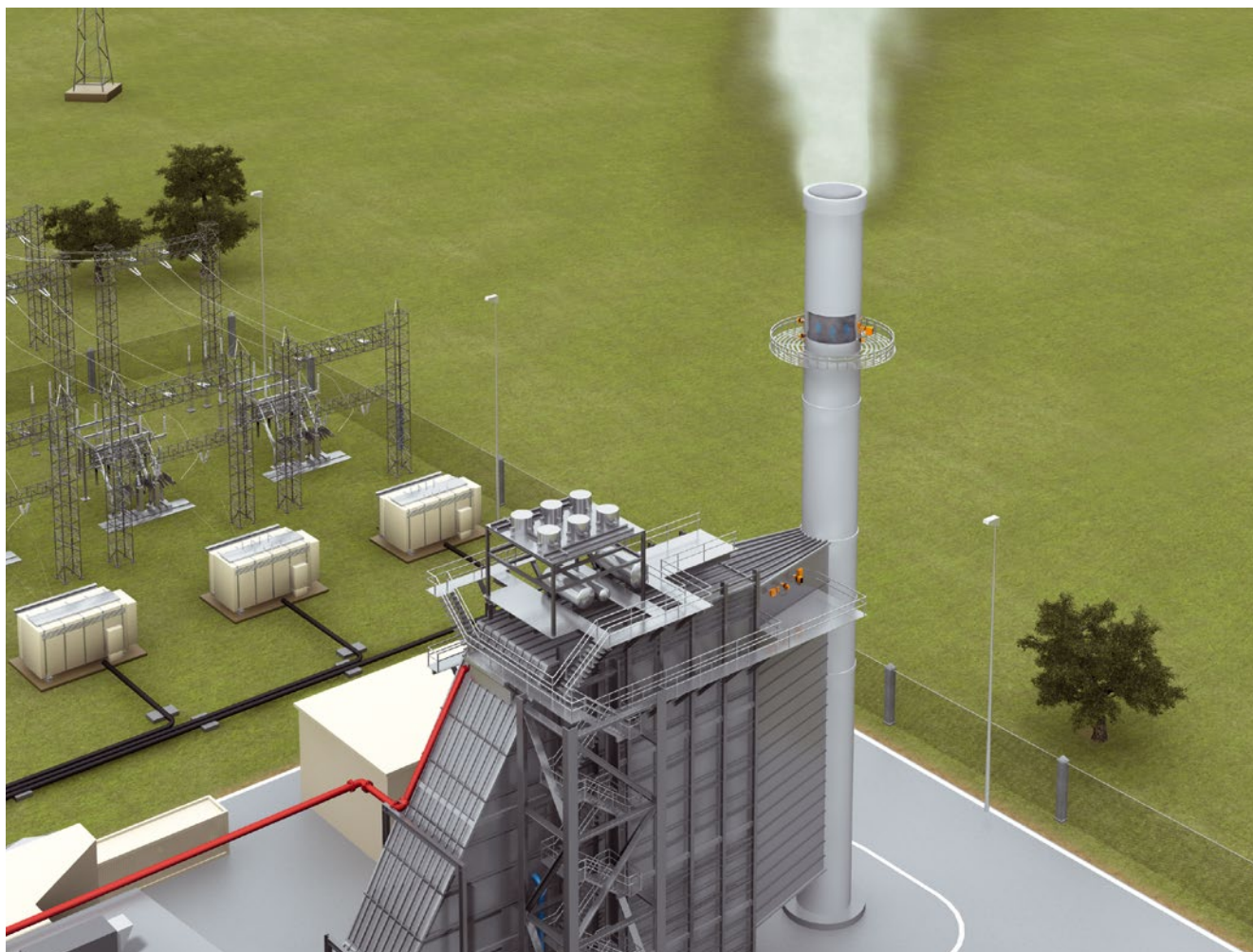
Emissions monitoring

Environmental regulations stipulate that certain pollutants in the flue gases emitted by industrial plants, as well as the reference values, must be continuously monitored. These regulations vary from country to country. In many countries, the emissions technology must be performance-tested (according to EN 15267 in Europe, for example, or in the USA conforming to EPA standards). Boasting a comprehensive product portfolio, SICK is able to offer reliable solutions for emissions monitoring.

Typical fields of application

Emissions are usually measured at or in the flue gas stacks and chimneys of industrial plants. Typical fields of application for continuous emissions monitoring of dust concentrations can be found in:

- Power plants
- Cement plants
- Waste incineration plants
- Plants in the steel industry
- Chemical plants

C

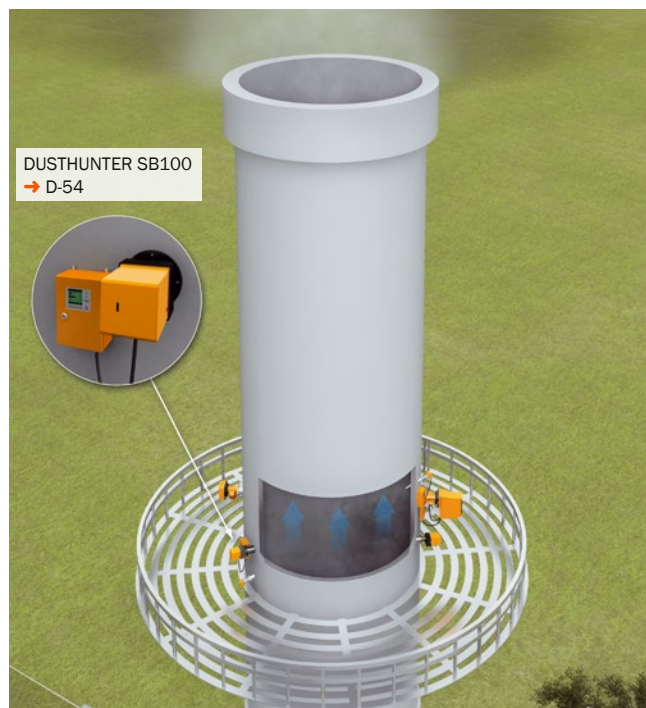
Measuring emissions in dry and wet gases

In many industrial processes, incineration plants play an important role in the production chain. Measuring devices which are in continuous operation are used at several stages of the manufacturing process. These industrial plants expect a great deal of the measuring devices used to monitor emissions (in relation to the composition, temperature, and humidity content of the flue gases, for example).

Measurements of dry flue gases

Thanks to sophisticated flue gas cleanup systems, usually only very low dust loads are released into the environment by flue gas stacks and chimneys. SICK's innovative dust measuring devices play a vital role here in ensuring that dust emissions meet legal requirements for low limit values and that the strict requirements of operators are complied with.

Continuous measurement of minimal to high concentrations, representative measurement results with very high availability for small and large duct diameters, installation on a single side – with the high-precision DUSTHUNTER SB100 or the DUSTHUNTER SP100 with probe version, SICK can always be relied upon for the ideal solution.

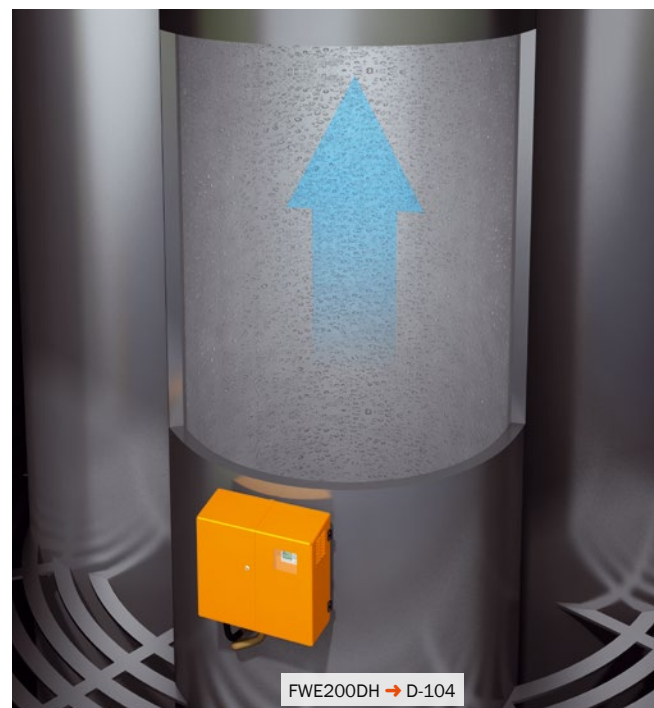


Depending on the medium of the dedusting plant and how the plant operates, the water or acid dew point can be undershot. This results in corrosion of the parts of measuring devices which come into contact with the flue gas. Therefore, both dry and wet flue gases have to be measured with high accuracy while availability remains maximized and maintenance is minimized.

Measurements of wet flue gases

In most installations (those used for waste treatment or even for metal processing, for example), flue gases are cleaned with scrubbers. However, the fact that these gases are usually cooled significantly and saturated with water poses a particular challenge to dust measuring devices. Here too, reliable and accurate monitoring of the permissible dust limit values is vital.

SICK has designed its FWE200DH dust measuring device specifically for this measuring task. The gas is extracted via a sampling probe and heated above dew point in a thermocyclone. Any droplets in the gas are vaporized and cannot falsify the measurement results. The scattered light principle enables even minimal dust concentrations to be measured.



Measurements of minimal dust concentrations downstream of fabric filters and bag filters

In a large number of areas of industry, installations for dedusting flue gases have a key role to play where meeting air pollution control requirements is concerned. Alongside the recovery of material, the primary task of dust filter plants is to protect the environment from damage caused by dust emissions. For compliance with permissible limit values and for operational reasons, filter plants of this type must be monitored at regular intervals to ensure that they are functioning correctly. The aim is that faults will be detected in good time and rectified relatively easily.

Safe filter monitoring

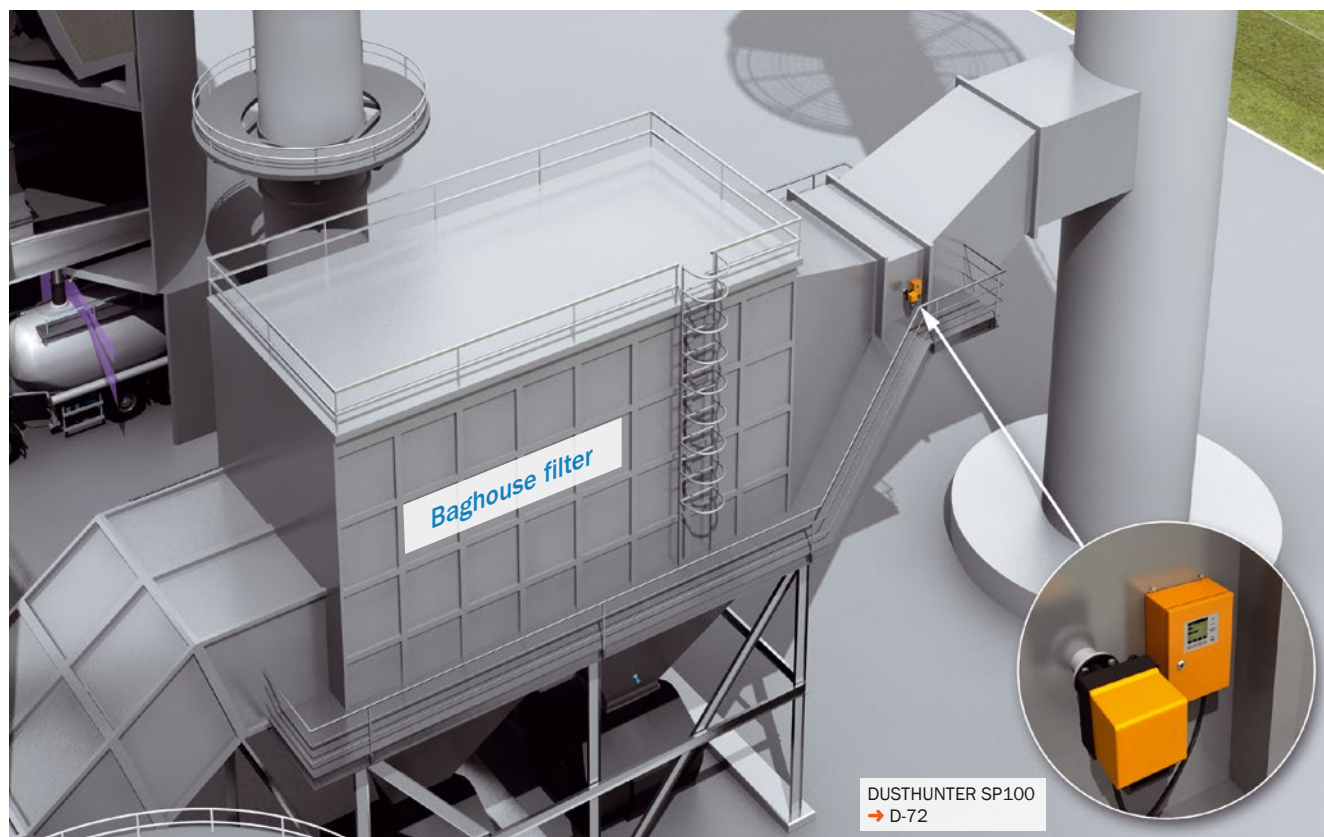
Filter bags have a limited service life. Over time, minor defects develop. As operation continues, they suddenly enlarge and can lead to dust being able to get into the clean gas. Dust measuring devices installed downstream of the panel filter in the clean gas stream can detect this type of damage at an early stage so that the bags concerned can be replaced. The more sensitive and faster the measuring device responds to a change in dust concentration, the more the system can be relied upon to prevent dust breaking through and to conform to limit values. The DUSTHUNTER SP100 is ideal for applications of this nature. It can be installed on the flue gas stack on the clean gas side of a panel filter very easily from a single side. The probe design renders mechanical adjustment and alignment with a particle-free measuring distance unnecessary.

Filter monitoring synchronized with cleaning

For the operators of dedusting plants and filter plants, it is very important that a faulty filter is detected at an early stage before the permissible limit values are exceeded. Locating a faulty bag or group of bags in the filter plant is also vital so that just the affected component(s) can be replaced. To perform this measuring task, the dust measuring device installed downstream of the filter plant in the clean gas duct must also carry out detection synchronized with cleaning. Faulty filters can then be detected when an emissions peak (above the basic emissions level) occurs in the filter group concerned.

It is to this very challenge that the FW102 dust measuring device is able to rise.

C



Measurements of high dust concentrations in raw gas upstream of electrical precipitator

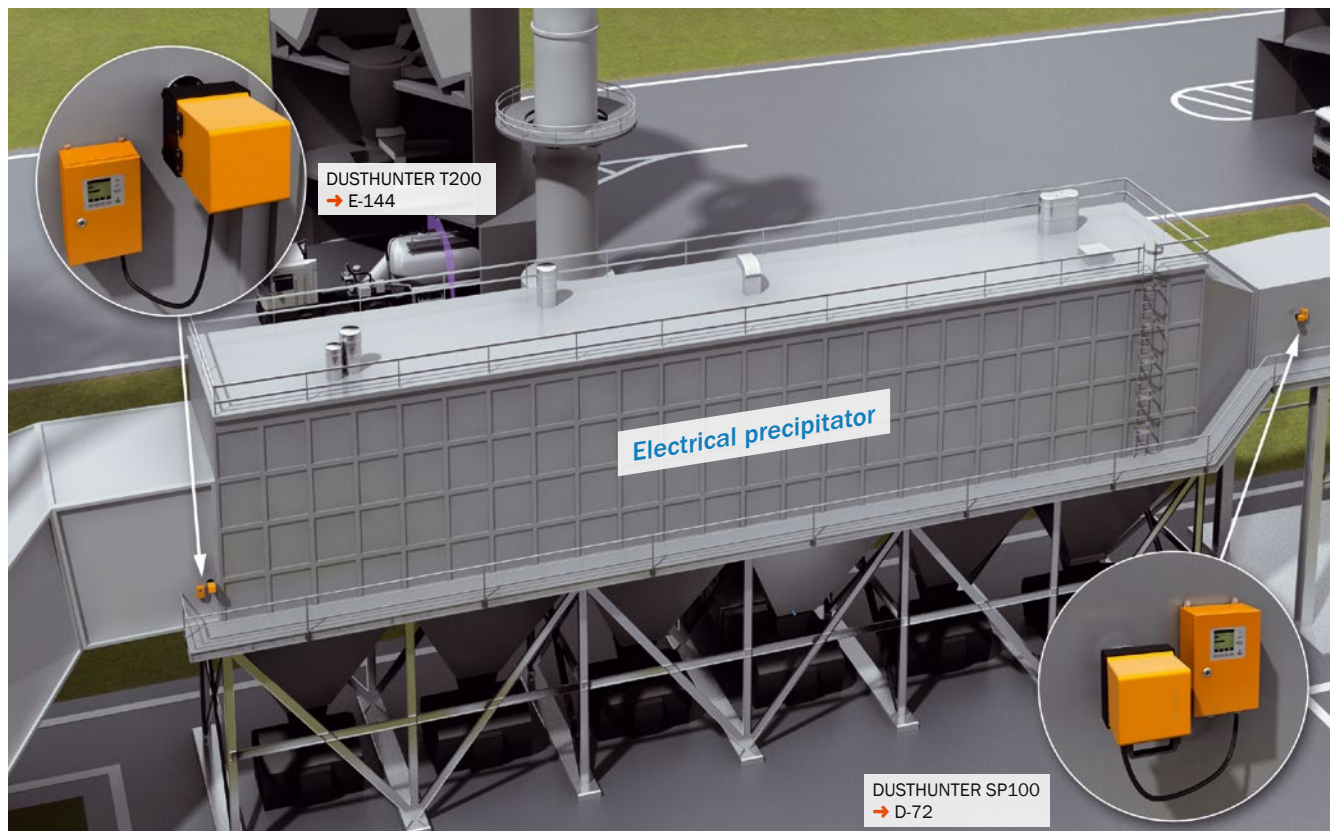
In the electrical precipitator the process gas is purified from dust particles. The initially high dust concentration of up to 20 g/m^3 is reduced to an average of 15 mg/m^3 . The particles are charged via an electric field and electric attractive forces cause them to migrate to what are known as collector electrodes. When the electrodes are knocked off automatically at regular intervals, the particles drop into a collecting container and can be disposed of. The efficiency of the filter must be monitored continuously in order to safeguard the optimum and reliable completion of the downstream stages of the process and to ensure that the electric filter is performing economically.

Efficient monitoring of electrical precipitator

For efficient control of filter performance and function monitoring, the dust concentration is measured continuously directly downstream of the electrical precipitator. The dust measuring device used is relied upon to detect increased dust concentrations caused by the precipitator malfunctioning, so that appropriate corrective action can be taken. A particular challenge is the frequently rectangular shape of the gas duct. Temperature variations can cause the duct to distort, resulting in tilting of the optical axis of the dust measuring device. If suitable corrective action is not taken, measurement results will not be accurate.

To avoid this, SICK offers the DUSTHUNTER T200, which has already proven its worth in many installations. Equipped with an automatic self-alignment function, this dust measuring device is able to equalize distortion of the duct caused by temperature fluctuations and can be relied upon to produce accurate measurement results at all times. Combined with contamination measurement on both sides, the DUSTHUNTER T200 has a six-month maintenance interval and thus costs operators relatively little to run.

C



More applications for effective dust measurements

In addition to rising to complex emissions measurement challenges and delivering effective filter monitoring, SICK's versatile dust measuring devices are proving their worth in many other areas of application.

Air monitoring in large production spaces

In large production spaces where dusts of various types are released, reliable monitoring is vital for reasons of personal health and occupational safety. SICK's dust measuring devices are able to detect and measure even fine dusts with particles measuring just a few μm . And in large open-air production spaces like those typical of quarries, for example, dust measuring devices can precisely detect extreme dust formation from crushers.

Monitoring in waste dumps

Where dusty goods are stored in the open air, gusts of wind, for example, can result in significant dust emissions. Similarly, the handling and transportation of goods on coal tips and in sand processing facilities, or dusts stored in the open air, are usually of relevance where emissions are concerned.

For these applications too, SICK can offer exactly the right products meeting a variety of requirements for efficient dust measurements.

Process control

Accurate and reliable dust measurements can also optimize process control in the monitoring of material transportation in pipelines or similar processes. Other fields of application include air or gas monitoring upstream of gas turbines.

C



C



D Reliable detection of low dust concentrations

The measurement principle of scattered light on dust particles enables even very low dust concentrations to be detected. Forward or backward scattering is used depending on requirements. Both methods deliver stable and reproducible measurement results independent of gas velocity, humidity, and particle charge.

Your benefits


- Reliable detection even at very low dust concentrations
- Easy installation and commissioning
- Convenient operation
- Long maintenance intervals thanks to automatic self-monitoring
- Condition-based maintenance signal
- Measurements independent of gas velocity, humidity, and particle charge





D


Scattered light dust measuring devices

Product family overview D-34


- 

DUSTHUNTER SB30 D-38
Continuous measurements of low and medium dust concentrations
- 

DUSTHUNTER SB50 D-46
The dust measuring device with backward scattered light measurement
- 

DUSTHUNTER SB100. D-54
The type-approved dust measuring device with backward scattered light measurement
- 


DUSTHUNTER SF100. D-62
The cross-duct design dust measuring device with forward scattered light measurement

- 

DUSTHUNTER SP100. D-72
The probe design with forward scattered light measurement
- 



FW101 Ex D-82
Effective monitoring of dust concentrations in explosion areas with scattered light
- 

FW102. D-90
Effective monitoring of dust concentrations with scattered light
- 

FWE200 D-98
Extractive dust measuring system for wet gases
- 

FWE200DH D-104
Extractive dust measuring system for wet gases

Product family overview

	 <p>DUSTHUNTER SB30</p> <p>Continuous measurements of low and medium dust concentrations</p>	 <p>DUSTHUNTER SB50</p> <p>The dust measuring device with backward scattered light measurement</p>	
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Technical data			
Measurement principle	Scattered light backward	Scattered light backward	
Measuring components	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)	
TÜV-approved measured values	-	-	
Measuring ranges	Scattered light intensity: 0 ... 30 SI / 0 ... 3,000 SI	Dust concentration: 0 ... 20 mg/m ³ / 0 ... 200 mg/m ³	
Remarks	Measuring ranges can be freely selected, there are three preset measuring ranges (0 ... 30/500/3,000 SI)	Higher measuring ranges on request	
Certified measuring ranges	-	-	
Process temperature	-40 °C ... +600 °C	-40 °C ... +600 °C	
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	
Duct diameter	≥ 500 mm	≥ 500 mm	
Test functions	Automatic self-test (linearity, drift, aging), manual linearity test with reference filter	Automatic self-test (linearity, drift, aging), manual linearity test with reference filter	

At a glance			
	<ul style="list-style-type: none"> • For low to medium dust content • Easy one-sided installation • Automatic check of zero and reference point • For medium to large duct diameters 	<ul style="list-style-type: none"> • For low to medium dust content • One-sided installation • Automatic check of zero and reference point • Automatic compensation of background radiation, therefore no light absorber required • For medium to large duct diameters 	

Detailed information	→ D-38	→ D-50	
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D



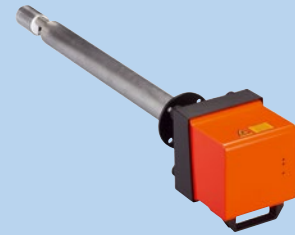
DUSTHUNTER SB100

The type-approved dust measuring device with backward scattered light measurement



DUSTHUNTER SF100

The cross-duct design dust measuring device with forward scattered light measurement



DUSTHUNTER SP100



The probe design with forward scattered light measurement

	Scattered light backward	Scattered light forward	Scattered light forward
	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
	Scattered light intensity	Scattered light intensity	Scattered light intensity
	Dust concentration: 0 ... 10 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request	Dust concentration: 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request	Dust concentration: 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request
	Scattered light intensity: 0 ... 100 SI / 0 ... 15 SI / 0 ... 50 SI / 0 ... 200 SI -40 °C ... +600 °C	Scattered light intensity: 0 ... 50 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 100 SI / 0 ... 200 SI -25 °C ... +300 °C	Scattered light intensity: 0 ... 15 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 50 SI / 0 ... 100 SI / 0 ... 200 SI Standard design DHSP-T2xx: -40 °C ... +220 °C High-temperature design DHSP-T4xx: -40 °C ... +400 °C
	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	With control unit MCU-P: -50 hPa ... 10 hPa With external purge air unit: -50 hPa ... 30 hPa With instrument air (from customer): -50 hPa ... 100 hPa
	≥ 500 mm	With scattered light receiver DHSF-R0: 0.5 m ... 3 m With scattered light receiver DHSF-R1: 2.5 m ... 6 m	≥ 250 mm
	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 20 %, fault at 30 %, manual linearity test with reference filter	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 20 %, fault at 30 %, manual linearity test with reference filter	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 30 %, fault at 40 %, manual linearity test with reference filter

<ul style="list-style-type: none"> • For very low to medium dust concentrations • One-sided installation • Contamination check • Automatic check of zero and reference point • Automatic compensation of background radiation, therefore no light absorber required • For medium to large duct diameters <p style="text-align: center;">→ D-54</p>	<ul style="list-style-type: none"> • For very low to medium dust concentrations • Contamination check • Automatic check of zero and reference point • For small to medium duct diameters <p style="text-align: center;">→ D-62</p>	<ul style="list-style-type: none"> • One-sided installation • For very low to medium dust concentrations • Automatic check of zero and reference point • Contamination check • Hastelloy probe available for corrosive gases • For small to medium duct diameters <p style="text-align: center;">→ D-72</p>
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D

Product family overview

			
	FW101 Ex	FW102	
	Effective monitoring of dust concentrations in explosion areas with scattered light	Effective monitoring of dust concentrations with scattered light	
Technical data			
Measurement principle	Scattered light forward	Scattered light forward	
Measuring components	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)	
TÜV-approved measured values	-	Dust concentration	
Measuring ranges	Dust concentration: 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³	Dust concentration: 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³	
Remarks	Measuring ranges can be freely selected, higher measuring ranges on request	Measuring ranges can be freely selected, higher measuring ranges on request	
Certified measuring ranges	-	Dust concentration: 0 ... 20 mg/m ³	
Process temperature	Standard design: -40 °C ... +220 °C High-temperature design: -40 °C ... +400 °C	-20 °C ... +220 °C	
Process pressure	With external purge air unit: -50 hPa ... 30 hPa With instrument air (from customer): -50 hPa ... 100 hPa	With connection unit with integrated purge air supply: -50 hPa ... 10 hPa With external purge air unit: -50 hPa ... 70 hPa With instrument air (from customer): -50 hPa ... 1,000 hPa	
Duct diameter	≥ 250 mm	≥ 150 mm	
Test functions	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 30 %, fault at 40 %, manual linearity test with reference filter	Automatic control cycle for zero point and reference point	
At a glance			
	<ul style="list-style-type: none"> • Automatic monitoring of zero and reference point • Contamination check • Optional evaluation unit for remote operation • Device versions for ATEX Zones 1, 2, and 22 	<ul style="list-style-type: none"> • Automatic monitoring of zero and reference point • Optional evaluation unit for connection and remote maintenance of up to three FW102 measuring devices 	
Detailed information	→ D-82	→ D-90	

D



FWE200

Extractive dust measuring system for wet gases



FWE200DH

Extractive dust measuring system for wet gases

	<p>Scattered light forward</p> <p>Scattered light intensity, dust concentration (according to gravimetric comparison measurement)</p> <p>Dust concentration</p> <p>Dust concentration: 0 ... 5 mg/m³ / 0 ... 200 mg/m³</p> <p>Measuring ranges can be freely selected, higher measuring ranges on request</p> <p>Dust concentration: 0 ... 15 mg/m³ / 0 ... 50 mg/m³</p> <p>PVDF probe: ≤ +120 °C Hastelloy probe: ≤ +220 °C</p> <p>-20 hPa ... 20 hPa</p>	<p>Scattered light forward</p> <p>Scattered light intensity, dust concentration (according to gravimetric comparison measurement)</p> <p>Dust concentration</p> <p>Dust concentration: 0 ... 5 mg/m³ / 0 ... 200 mg/m³</p> <p>Measuring ranges can be freely selected, higher measuring ranges on request</p> <p>-</p> <p>PVDF probe: ≤ +120 °C Hastelloy probe: ≤ +220 °C</p> <p>With purge air unit SLV4 2BH1300: -20 hPa ... 20 hPa</p> <p>With purge air unit SLV4 2BH1400: -40 hPa ... 40 hPa</p>
	-	-
	-	Automatic control cycle for zero point and reference point
	<ul style="list-style-type: none"> • For very low to medium dust concentrations • Gas sampling and return combined in one probe • Contamination check • Automatic monitoring of zero and reference point 	<ul style="list-style-type: none"> • For very low to medium dust concentrations • Gas sampling and return combined in one probe • Contamination check • Automatic monitoring of zero and reference point
	→ D-98	→ D-104

D

Continuous measurements of low and medium dust concentrations



Product description

The DUSTHUNTER SB30 is a measuring device for detecting low and medium dust concentrations, e.g., in hot or aggressive gases. The measurement is based on the proven measurement principle of backward light scattering.

Installation is very easy from just one side of the duct. Two different penetration depths are available, enabling the measuring device to be adapted to highly diverse duct diameters.

At a glance

- For low to medium dust content
- Easy one-sided installation
- Automatic check of zero and reference point
- For medium to large duct diameters

Your benefits

- Easy installation, commissioning and operation
- Proven measurement not dependent on gas velocity, humidity, or particle load
- Cost-effective thanks to easy mounting from just one side; no alignment necessary
- Self-monitoring for very low maintenance
- Condition-based maintenance messages

D



Additional information

Fields of applicationD-39
 Detailed technical data.D-39
 Ordering information.D-42
 Dimensional drawingsD-42

→ www.mysick.com/en/DUSTHUNTER_SB30

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Fields of application

- Emissions monitoring in industrial plants including, for example, power plants, heating systems, waste incineration plants, in steel production, and in cement plants
- Monitoring of dust concentrations upstream of filter plants
- Dust concentration measurements in flue gas ducts upstream and downstream of dust filters

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER SB30

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
Measurement principle	Scattered light backward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Scattered light intensity 0 ... 30 SI / 0 ... 3,000 SI Measuring ranges can be freely selected, there are three preset measuring ranges (0 ... 30/500/3,000 SI)
Response time	1 s ... 600 s Freely configurable with SOPAS ET software
Accuracy	± 2 % of the measuring range final value
Process temperature	-40 °C ... +600 °C
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa
Duct diameter	≥ 500 mm
Conformity	TÜV type test Conforms to China EPA
Electrical safety	CE
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω
Test functions	Automatic self-test (linearity, drift, aging) Manual linearity test with reference filter
Options	MCU control unit SCU control unit External purge air unit

Sender/receiver unit DHSB-T30

Description	Measuring system analyzer unit
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	1 output: 0/4 ... 20 mA, 750 Ω Electrically isolated
Digital outputs	3 relay contacts: 48 V, 1 A For status signals
Digital inputs	2 volt-free contacts: For external maintenance switch, automatic self-test or linearity measurement
Interfaces	RS-485, for the connection of an MCU control unit or as a service interface
Bus protocol	CAN, for the connection of an SCU control unit

Dimensions (W x H x D)	Details, see dimensional drawings	
Weight	7 kg	
Electrical connection	Voltage	24 V Supply via the MCU control unit or an external power supply
	Power consumption	≤ 4 W

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them	
Ambient temperature	-40 °C ... +60 °C	
Enclosure rating	IP 66	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)	
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)	
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals	
Digital inputs	4 volt-free contacts	
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)	
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)	
Display	LCD (option) Status LEDs: "Power", "Maintenance", and "Fault"	
Operation	Via LCD (option) or SOPAS ET software	
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm	
Weight	≤ 3.7 kg	
Electrical connection	Voltage	90 ... 250 V 24 V DC version available as an option
	Frequency	47 ... 63 Hz
	Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)	

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.	
Sample quantity	≤ 20 m³/h	
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air	
Enclosure rating	IP 66	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)	
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)	

Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD (option) Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD (option) or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

D

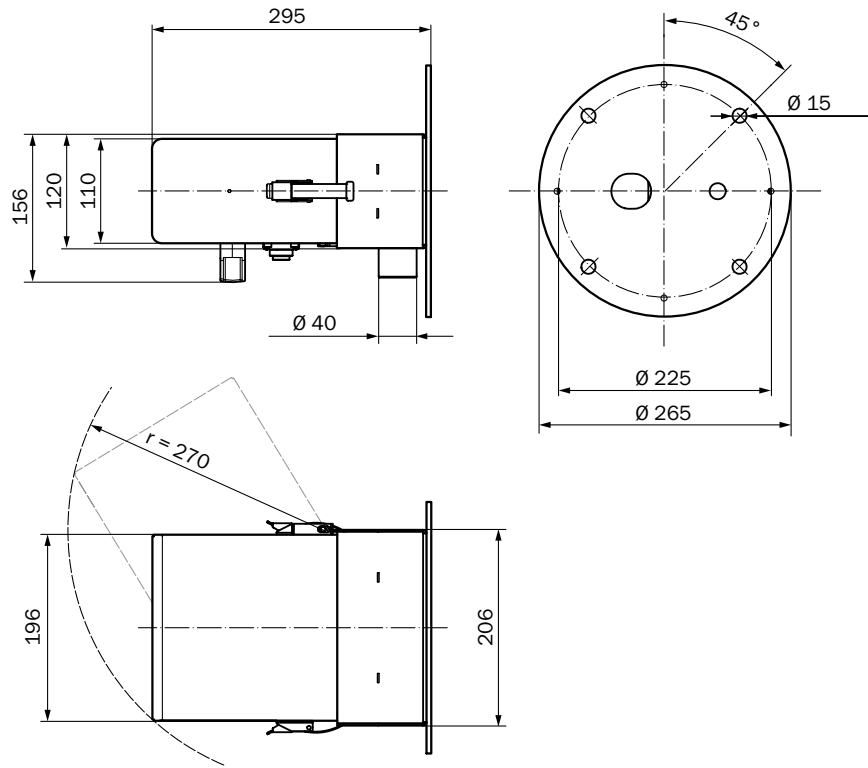
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings

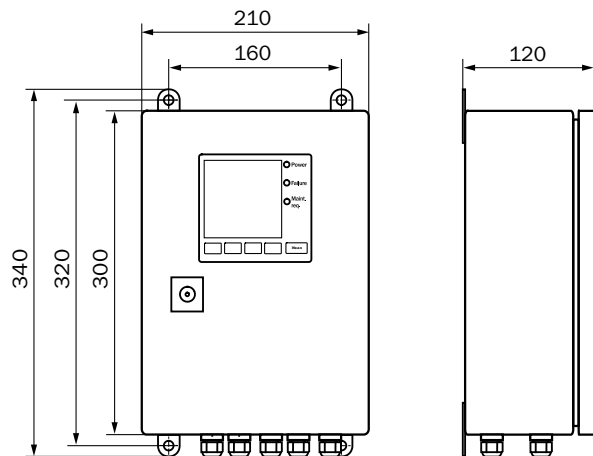
Dimensions in mm

Sender/receiver unit DHSB-T30

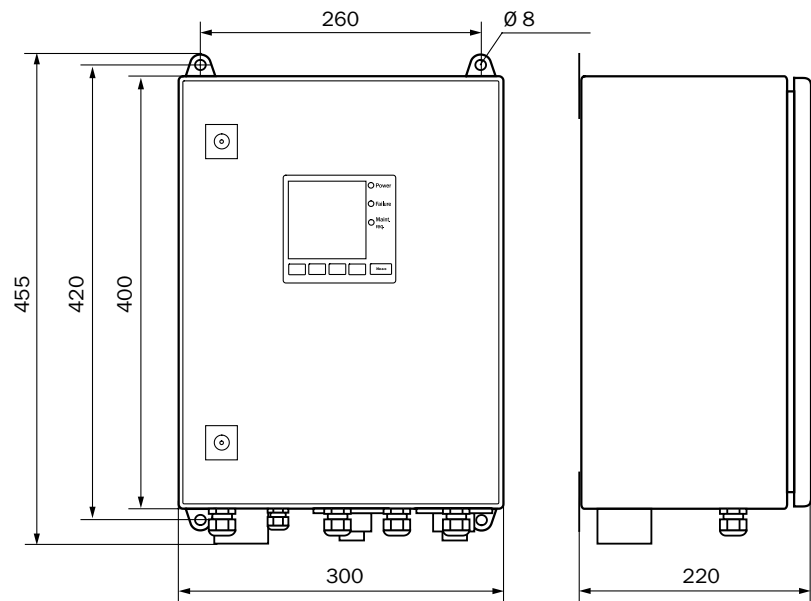


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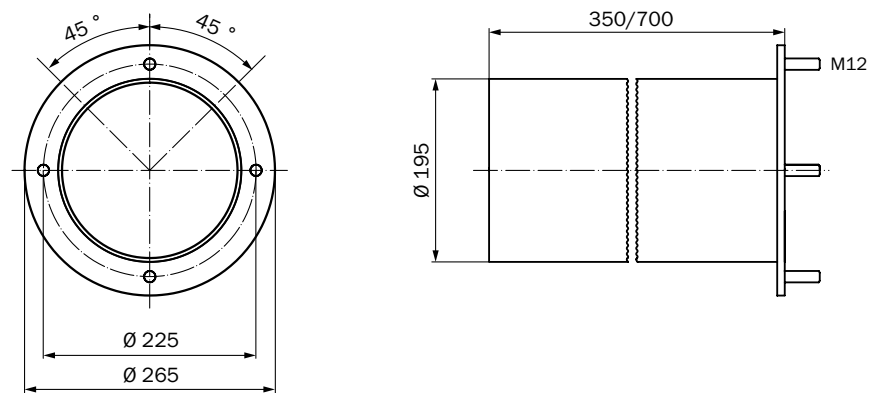
Control unit MCU-N



Control unit MCU-P

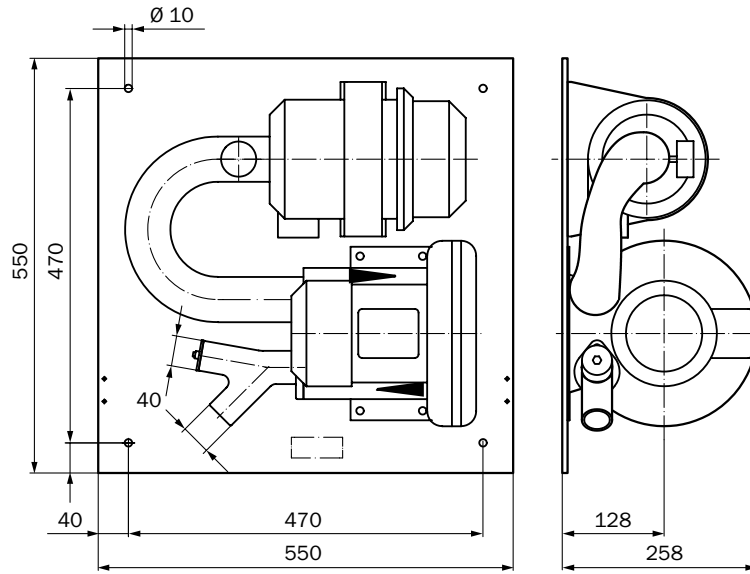


Mounting flange, D_f=195 mm

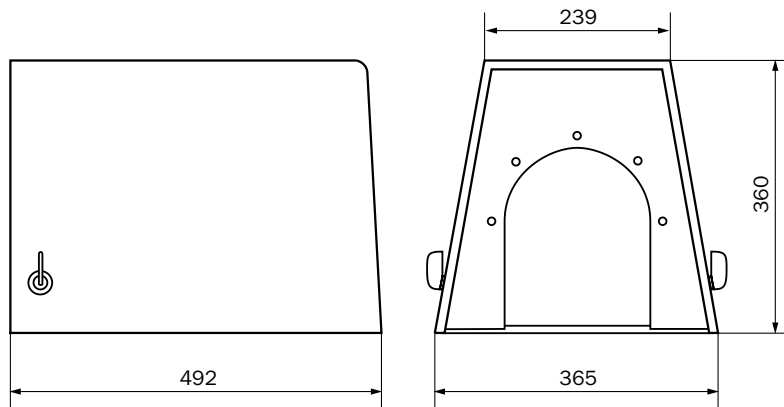


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Purge air unit SLV4 2BH1300, 3-ph

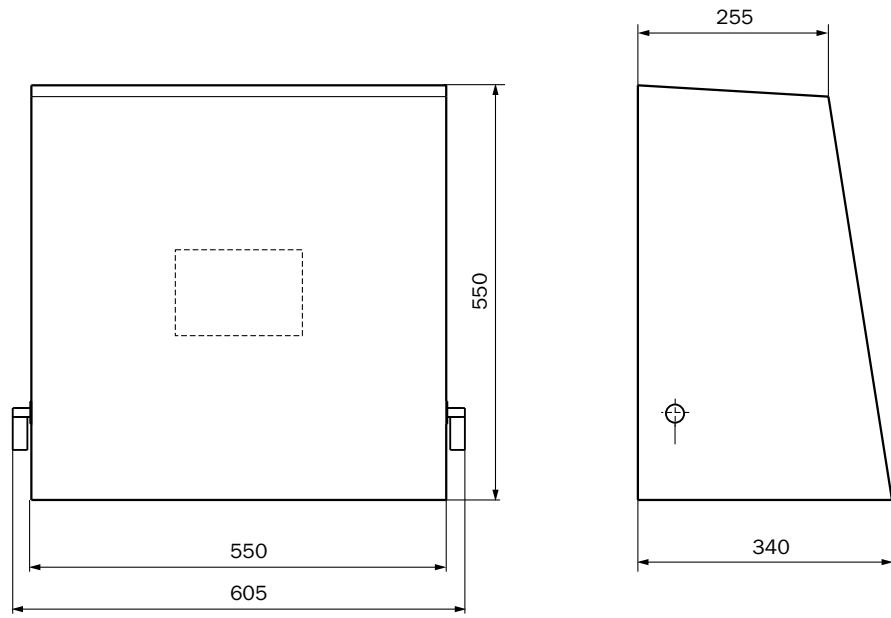


Weather hood for DHSB/DHSF-R1/DHC-R1



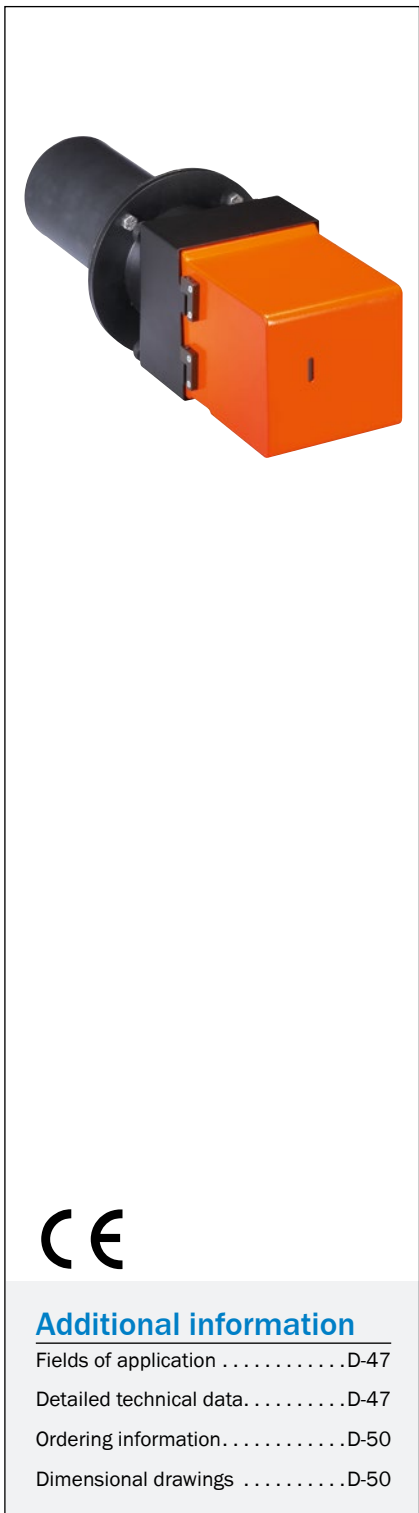
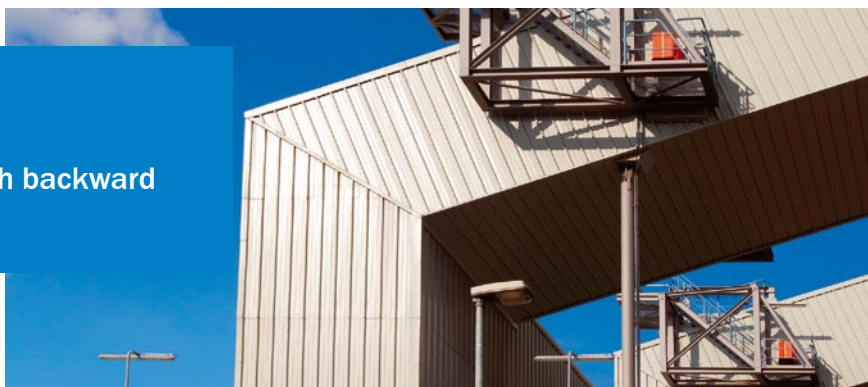
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Weather hood for purge air unit SLV4/SLV5



D

The dust measuring device with backward scattered light measurement



Product description

The DUSTHUNTER SB50 is a measuring device for detecting low to medium dust content in complex applications such as those involving hot or aggressive gases, for example. The measurement is based on backward light scattering. The

equipment is installed from just one side of the duct. There are two possible penetration depths. As background radiation is compensated automatically, a light absorber is not necessary.

At a glance

- For low to medium dust content
- One-sided installation
- Automatic check of zero and reference point
- Automatic compensation of background radiation, therefore no light absorber required
- For medium to large duct diameters

Your benefits

- Easy installation, commissioning and operation
- Measurement not dependent on gas velocity, humidity, or particle load
- Self-monitoring for low maintenance



Additional information

Fields of applicationD-47
 Detailed technical data.D-47
 Ordering information.D-50
 Dimensional drawingsD-50

→ www.mysick.com/en/DUSTHUNTER_SB50

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Emissions monitoring in heating systems
- Monitoring of dust concentrations upstream of filter plants
- Dust concentration measurements in cement plants

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER SB50

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
Measurement principle	Scattered light backward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 20 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request
Response time	1 s ... 600 s Freely configurable
Accuracy	± 2 % of the measuring range final value
Process temperature	-40 °C ... +600 °C
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa
Process gas humidity	Non-condensing
Duct diameter	≥ 500 mm
Electrical safety	CE
Test functions	Automatic self-test (linearity, drift, aging) Manual linearity test with reference filter

Sender/receiver unit DHSB-T00/-T01

Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	265 mm x 274 mm x 691 mm (for details see dimensional drawings)
Weight	≤ 9 kg
Electrical connection	Voltage 24 V Supply via control unit
	Power consumption ≤ 4 W

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)

Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD (option) Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD (option) or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
	Voltage 90 ... 250 V 24 V DC version available as an option
	Frequency 47 ... 63 Hz
	Power consumption ≤ 15 W
Options	Interface module(s) I/O module(s)

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD (option) Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD (option) or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
	Voltage 90 ... 250 V

D

	24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	
	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

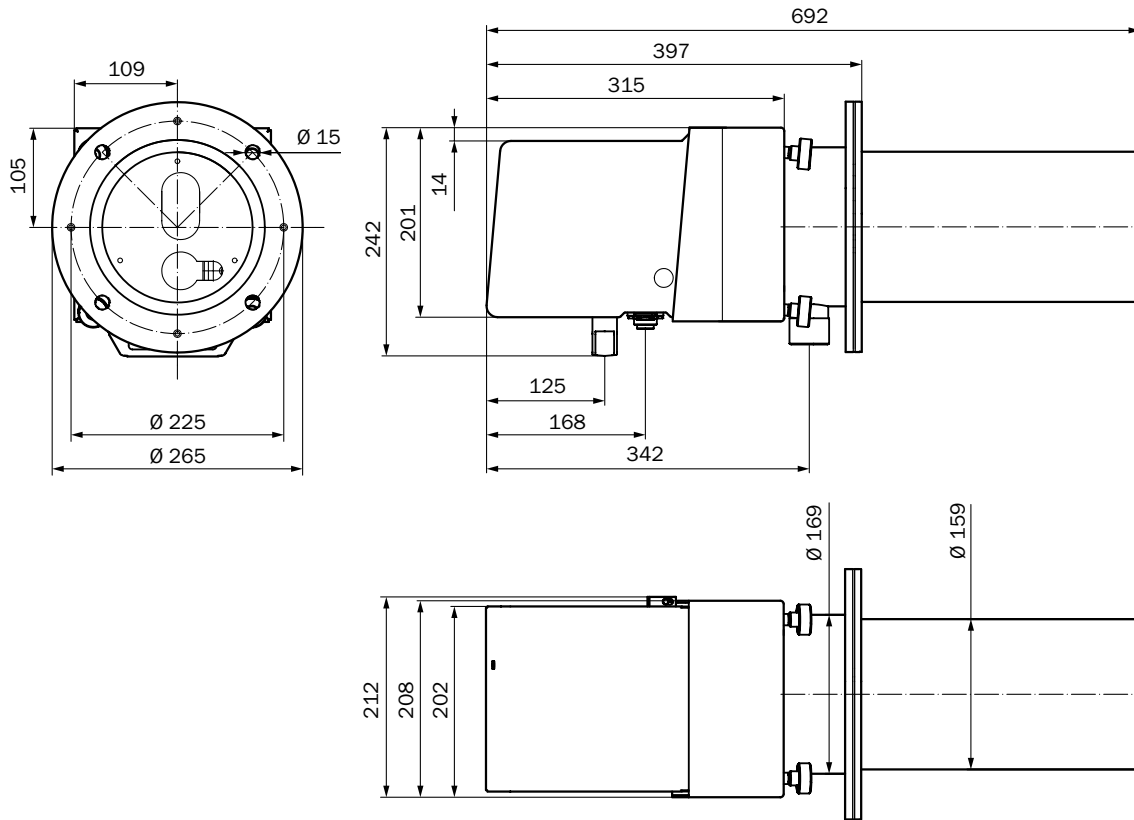
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings

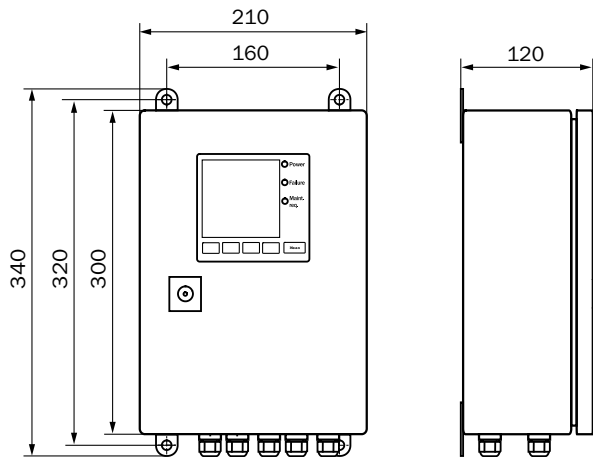
Dimensions in mm

Sender/receiver unit DHSB-T00/-T01

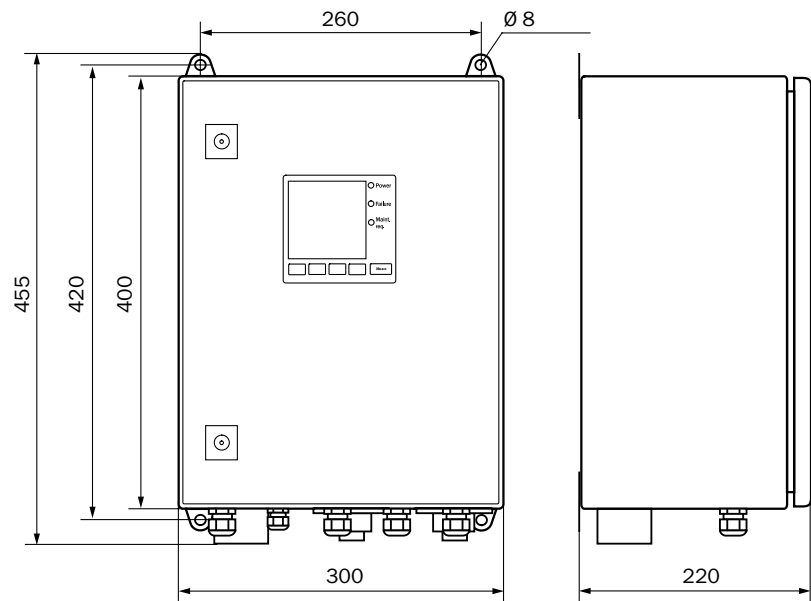


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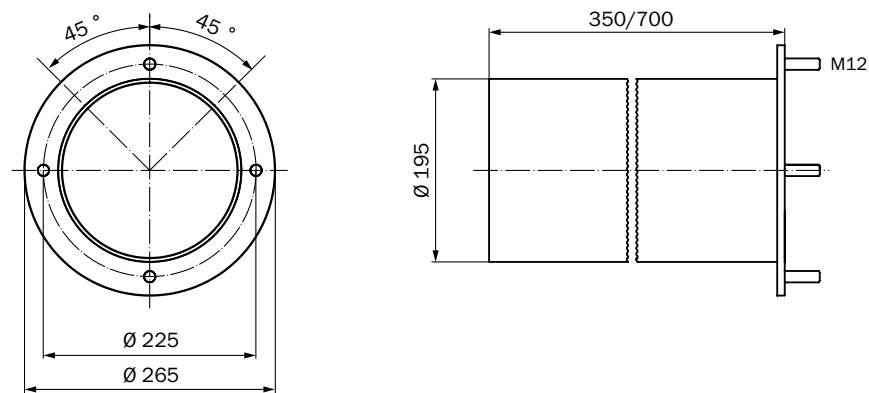
Control unit MCU-N



Control unit MCU-P

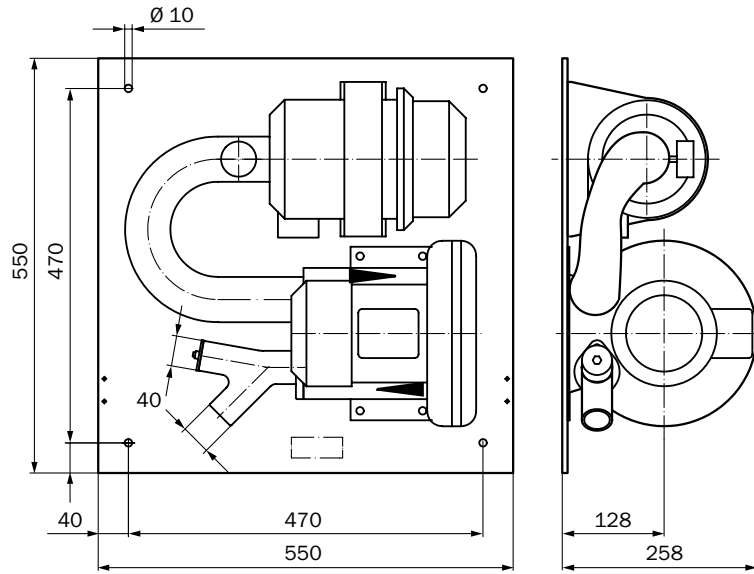


Mounting flange, $D_f=195$ mm

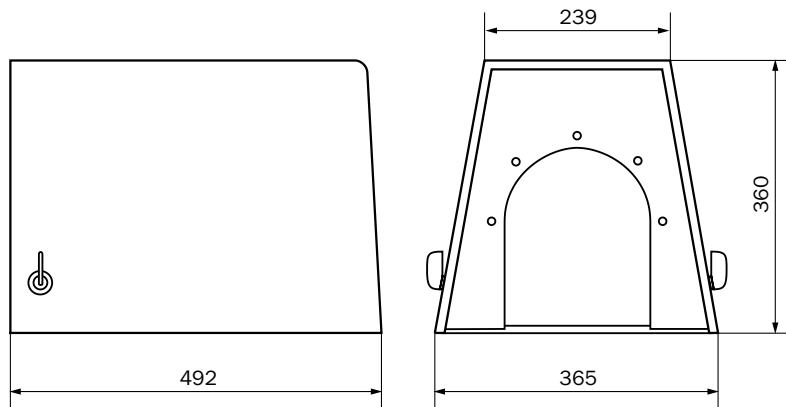


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Purge air unit SLV4 2BH1300, 3-ph

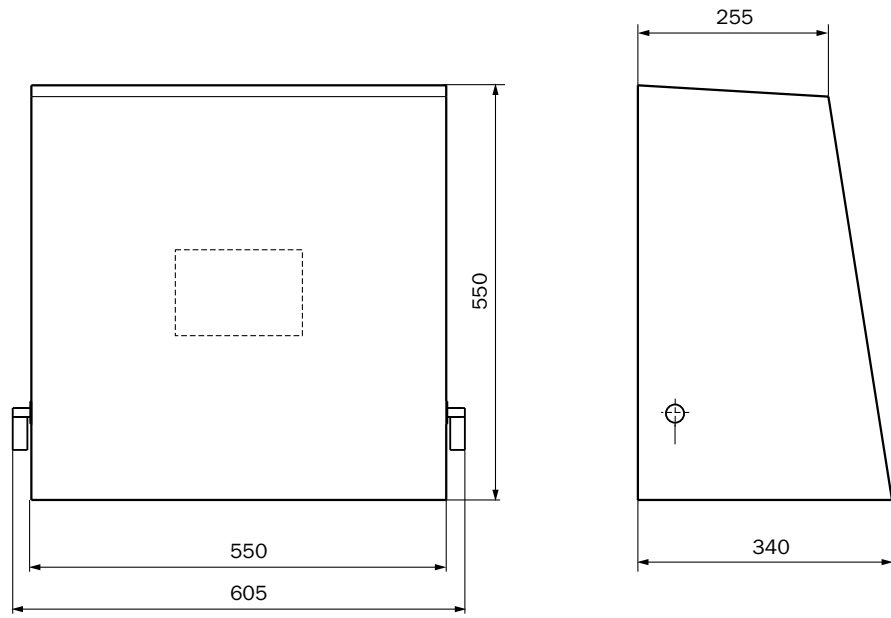


Weather hood for DHSB/DHSF-R1/DHC-R1



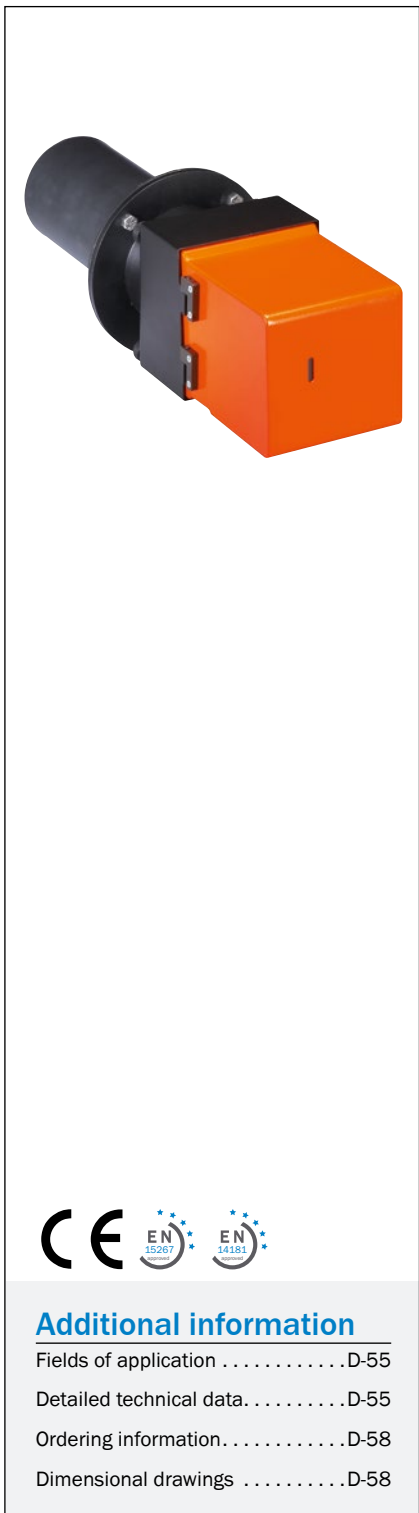
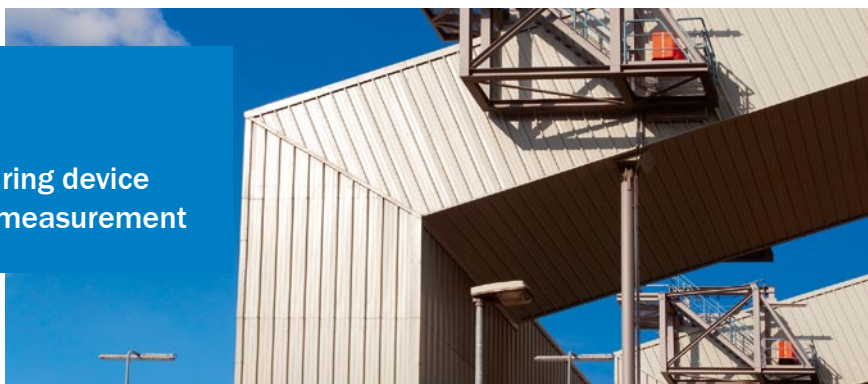
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Weather hood for purge air unit SLV4/SLV5



D

The type-approved dust measuring device with backward scattered light measurement



Product description

The DUSTHUNTER SB100 is a type-approved measuring device for detecting very low to medium dust content in complex applications such as those involving hot or aggressive gases, for example. The measurement is based on backward light scattering. The equipment is installed from just one side of the duct.

There are two possible penetration depths. As background radiation is compensated automatically, a light absorber is not necessary. Automatic checking of the zero and reference points as well as a contamination check are integrated into the device.

At a glance

- For very low to medium dust concentrations
- One-sided installation
- Contamination check
- Automatic check of zero and reference point
- Automatic compensation of background radiation, therefore no light absorber required
- For medium to large duct diameters

Your benefits

- Easy installation, commissioning and operation
- Measurement not dependent on gas velocity, humidity, or particle load
- Type-approved to EN 15267
- Self-monitoring for low maintenance



Additional information

Fields of applicationD-55
 Detailed technical data.D-55
 Ordering information.D-58
 Dimensional drawingsD-58

→ www.mysick.com/en/DUSTHUNTER_SB100

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Emissions monitoring in power plants and waste incineration plants
- Monitoring of filter plants
- Monitoring of dust load in factories
- Control of air supplies and exhaust air installations

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER SB100

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
TÜV-approved measured values	Scattered light intensity
Measurement principle	Scattered light backward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 10 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request
Certified measuring ranges	Scattered light intensity 0 ... 100 SI / 0 ... 15 SI / 0 ... 50 SI / 0 ... 200 SI
Response time	1 s ... 600 s Freely configurable
Accuracy	≤ 2 % of the measuring range final value
Process temperature	-40 °C ... +600 °C
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa
Process gas humidity	Non-condensing
Duct diameter	≥ 500 mm
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) EN 14181 EN 15267 MCERTS TA-Luft (Prevention of Air Pollution)
Electrical safety	CE
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 20 %, fault at 30 % Manual linearity test with reference filter

Sender/receiver unit DHSB-T10/-T11

Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	265 m x 274 m x 691 m (for details see dimensional drawings)
Weight	≤ 10 kg
Electrical connection	Voltage 24 V Supply via control unit
Power consumption	≤ 4 W

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
	Voltage 90 ... 250 V 24 V DC version available as an option
	Frequency 47 ... 63 Hz
	Power consumption ≤ 15 W
Options	Interface module(s) I/O module(s)

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)

Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	
	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

D

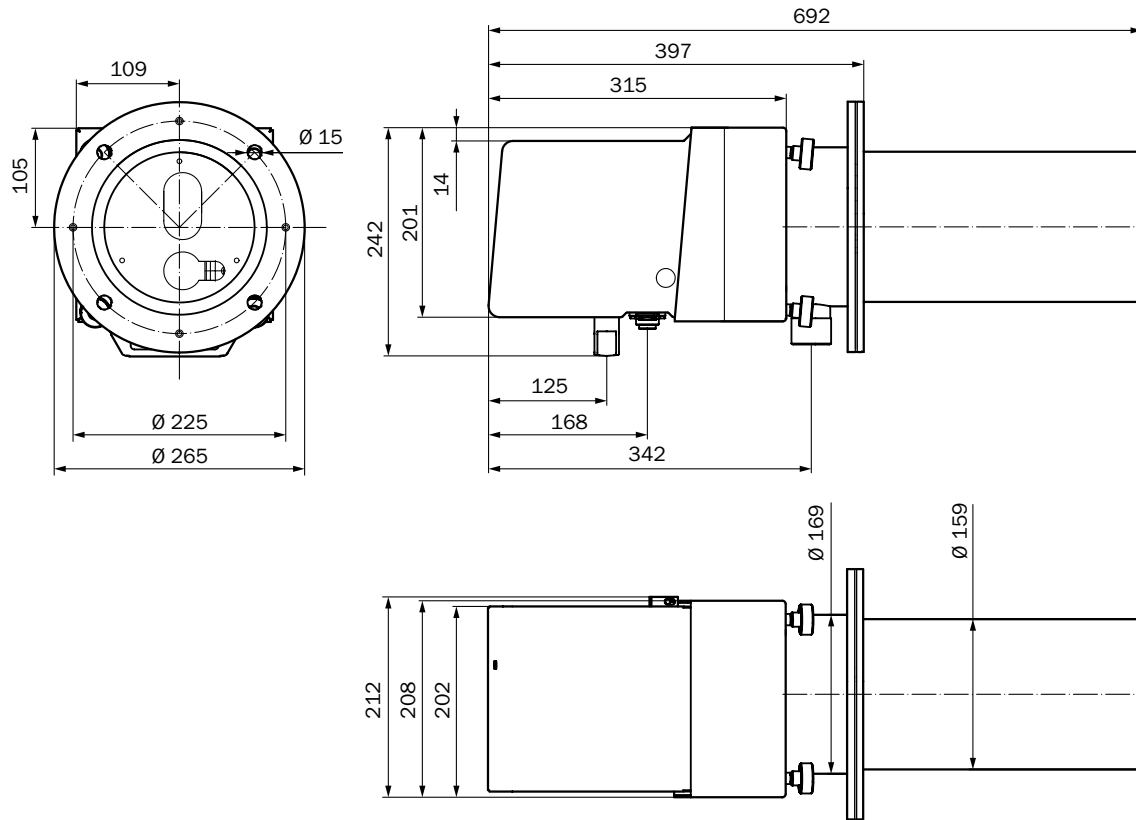
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

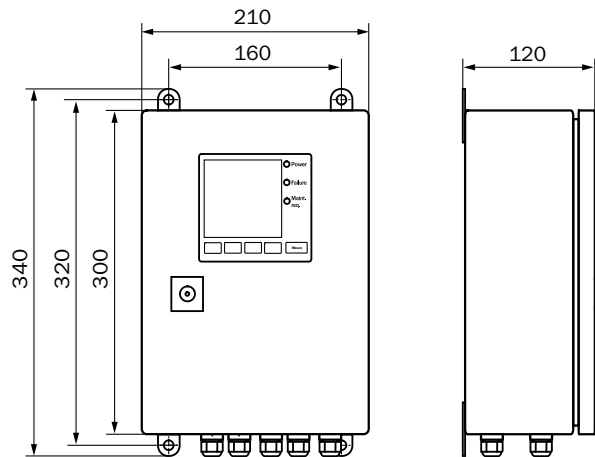
Dimensional drawings

Dimensions in mm

Sender/receiver unit DHSB-T10/-T11

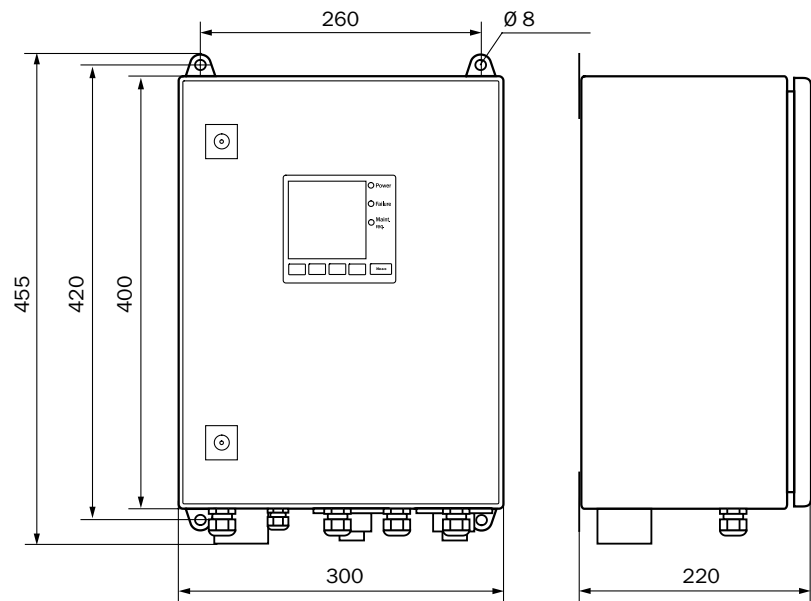


Control unit MCU-N

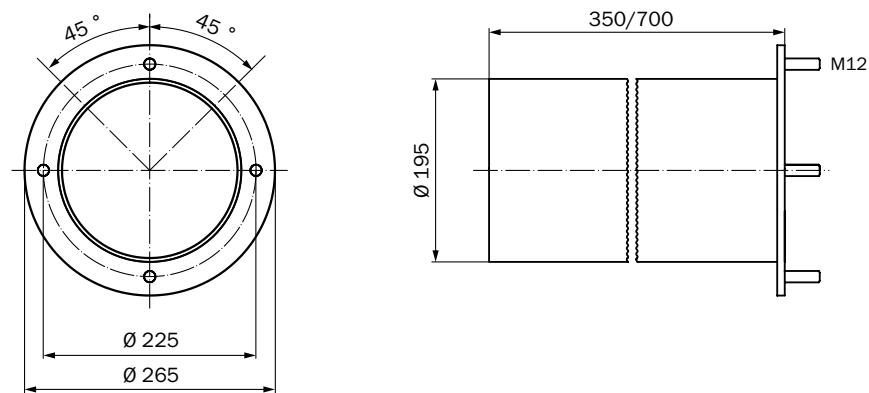


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Control unit MCU-P

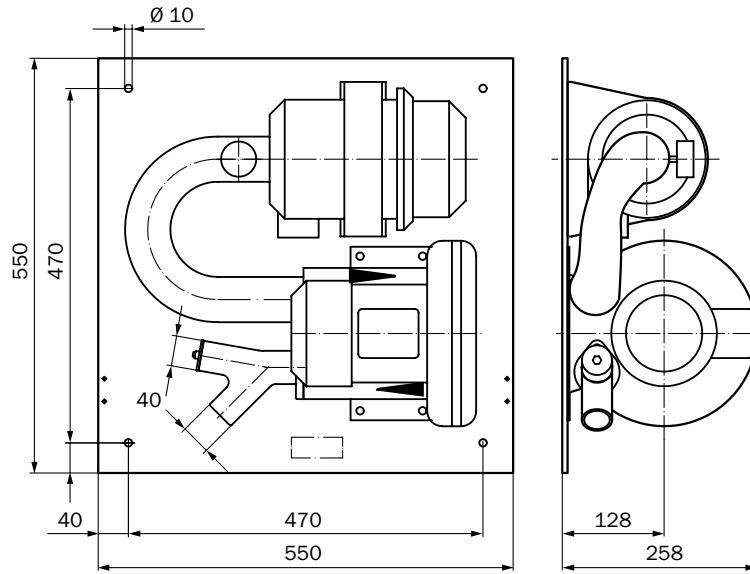


Mounting flange, $D_f=195$ mm

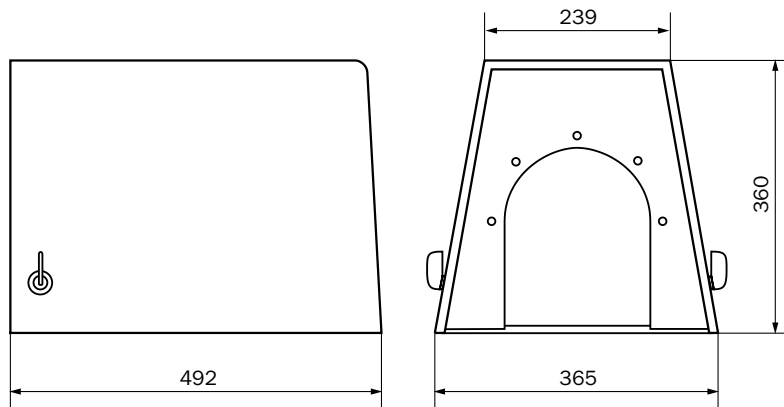


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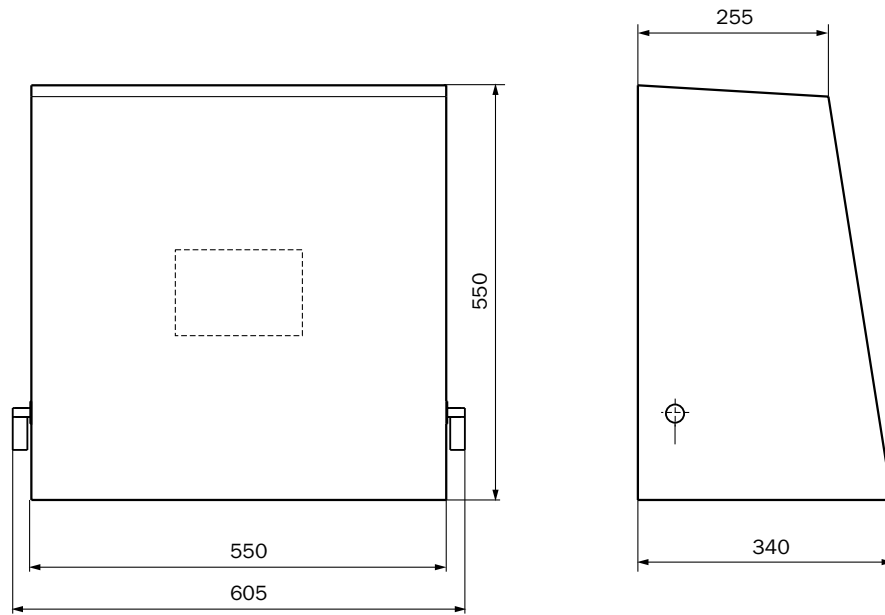
Purge air unit SLV4 2BH1300, 3-ph



Weather hood for DHSB/DHSF-R1/DHC-R1



D

Weather hood for purge air unit SLV4/SLV5**D**

The cross-duct design dust measuring device with forward scattered light measurement



Product description

The DUSTHUNTER SF100 is a type-approved measuring device for detecting very low to medium dust content. The measurement is based on forward light

scattering. Automatic checking of the zero and reference points as well as a contamination check are integrated into the device.

At a glance

- For very low to medium dust concentrations
- Contamination check
- Automatic check of zero and reference point
- For small to medium duct diameters

Your benefits

- For difficult duct geometries and media conditions
- Type-approved to EN 15267
- Self-monitoring and contamination check for low maintenance

D



Additional information

Fields of applicationD-63
 Detailed technical data.D-63
 Ordering information.D-66
 Dimensional drawingsD-66

→ www.mysick.com/en/DUSTHUNTER_SF100

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Fields of application

- Emissions monitoring in power plants and waste incineration plants
- Monitoring of filter plants
- Monitoring of dust load in factories

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER SF100

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
TÜV-approved measured values	Scattered light intensity
Measurement principle	Scattered light forward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request
Certified measuring ranges	Scattered light intensity 0 ... 50 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 100 SI / 0 ... 200 SI
Response time	1 s ... 600 s Freely configurable
Accuracy	≤ 2 % of the measuring range final value
Process temperature	-25 °C ... +300 °C
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa
Process gas humidity	Non-condensing
Duct diameter	With scattered light receiver DHSF-R0: 0.5 m ... 3 m With scattered light receiver DHSF-R1: 2.5 m ... 6 m
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) EN 14181 EN 15267 MCERTS TA-Luft (Prevention of Air Pollution)
Electrical safety	CE
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 20 %, fault at 30 % Manual linearity test with reference filter

Sender unit DHSF-T

Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 429 mm (for details see dimensional drawings)
Weight	≤ 10 kg
Electrical connection	Voltage 24 V Supply via control unit
	Power consumption ≤ 17 W

Receiver unit DHSF-R0

Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 420 mm (for details see dimensional drawings)
Weight	≤ 6.5 kg

Receiver unit DHSF-R1

Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	265 mm x 308 mm x 550 mm (for details see dimensional drawings)
Weight	≤ 8 kg

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
	Voltage 90 ... 250 V 24 V DC version available as an option
	Frequency 47 ... 63 Hz
	Power consumption ≤ 15 W
Options	Interface module(s) I/O module(s)

D

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
	Voltage
	90 ... 250 V 24 V DC version available as an option
	Frequency
	47 ... 63 Hz
	Power consumption
	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

D

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	
	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclon type, dust capacity 200 g

Ordering information

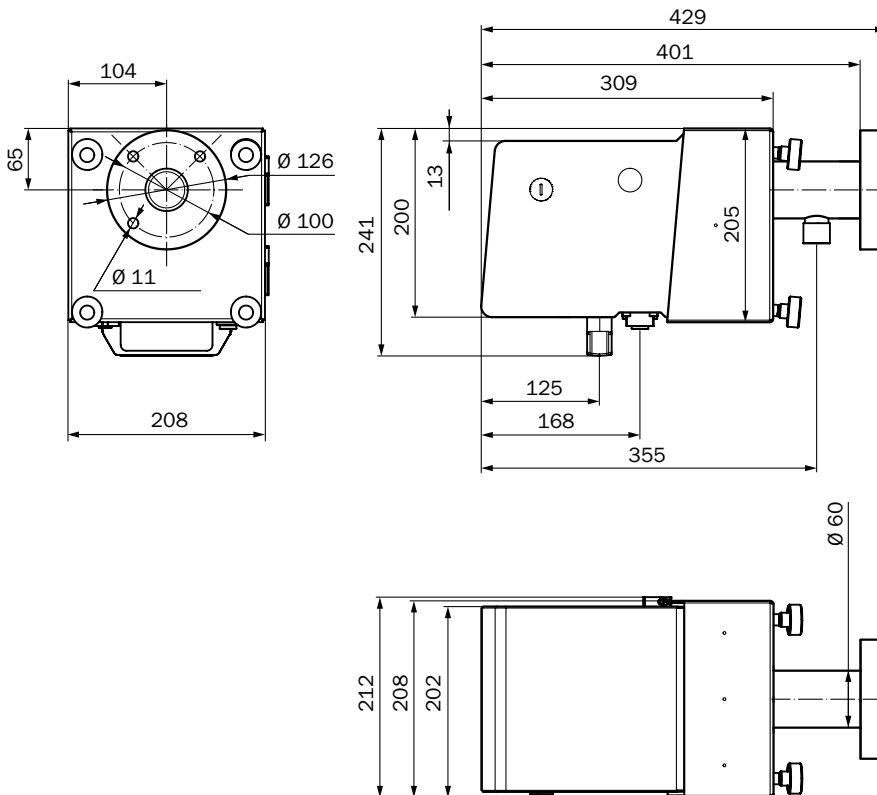
Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings

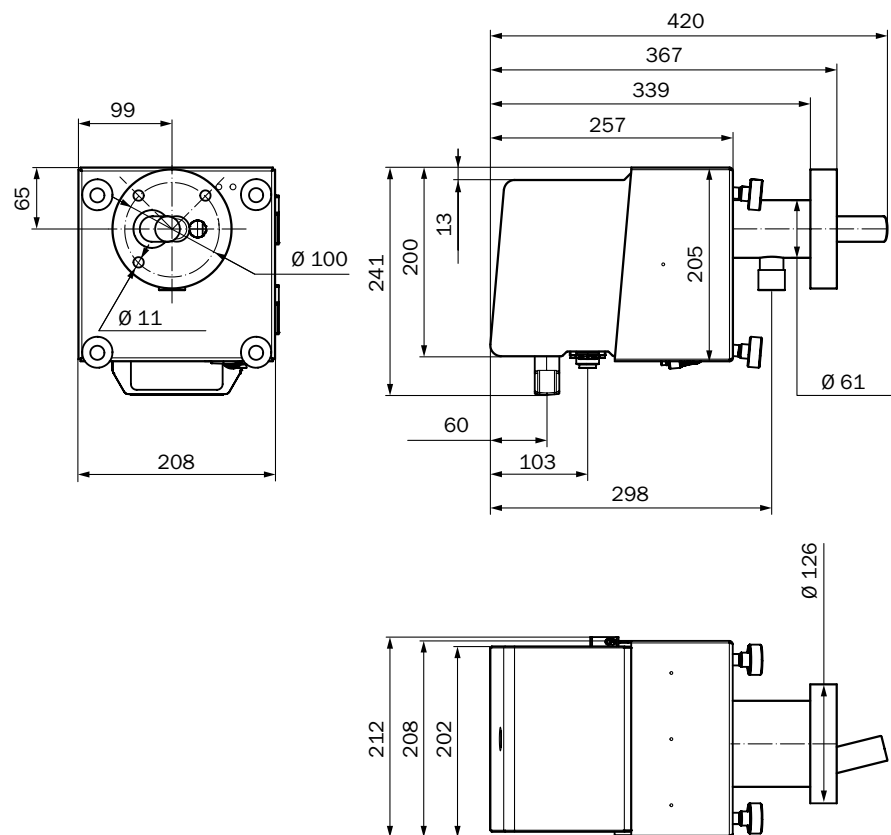
Dimensions in mm

Sender unit DHSF-T

D

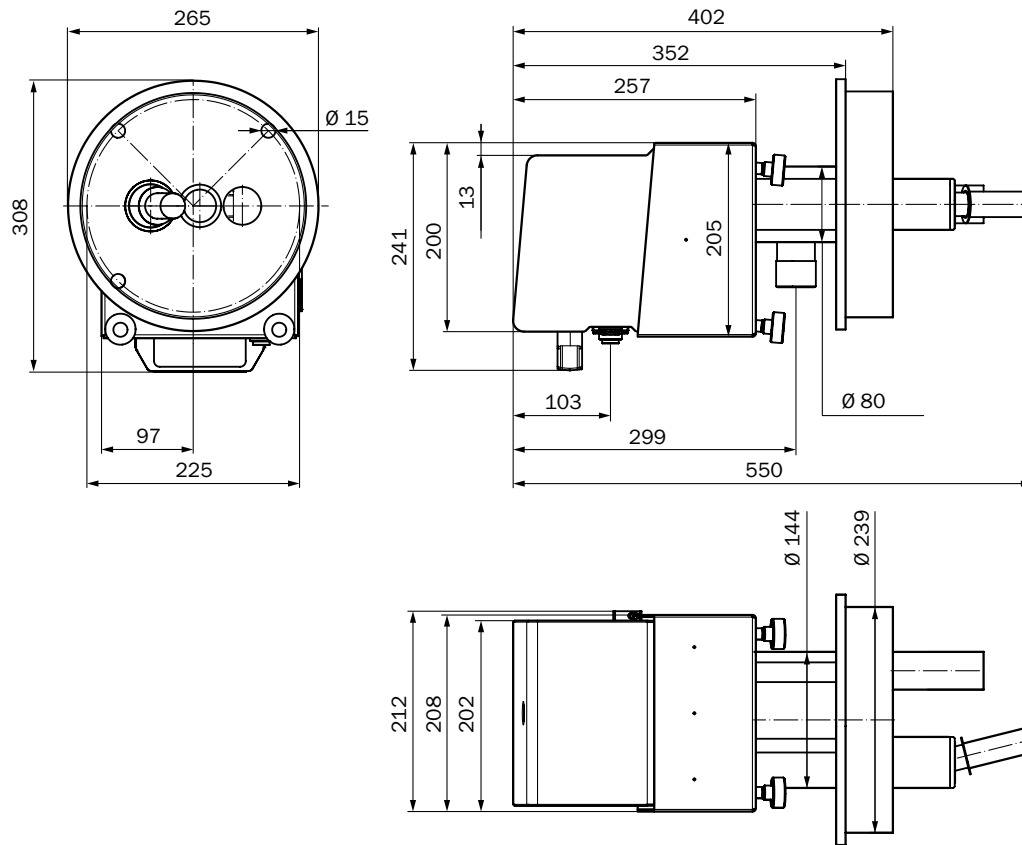


Receiver unit DHSF-R0



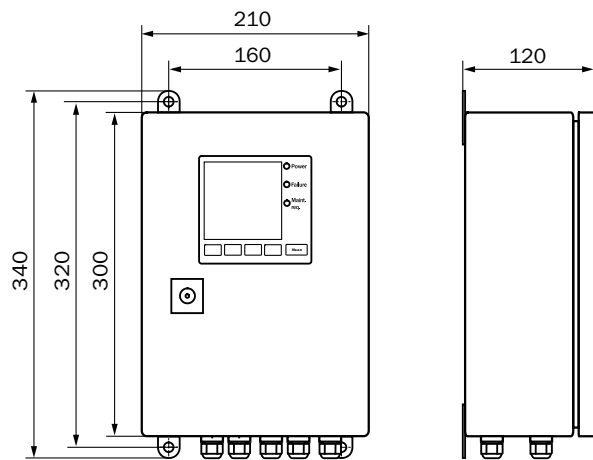
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Receiver unit DHSF-R1

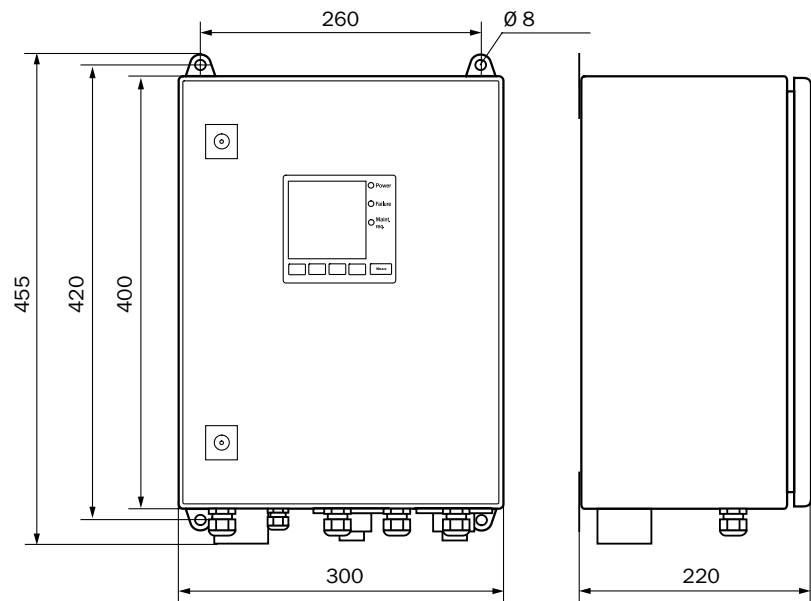


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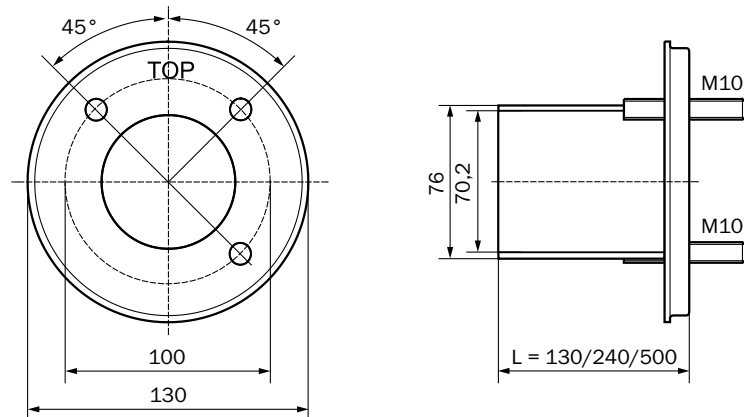
Control unit MCU-N



Control unit MCU-P

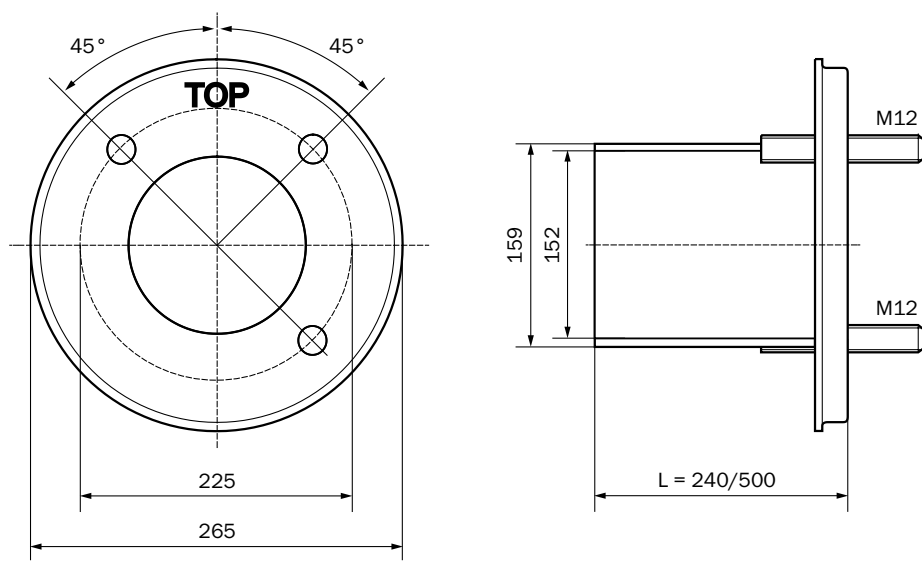


Mounting flange, $D_f=70.2$ mm

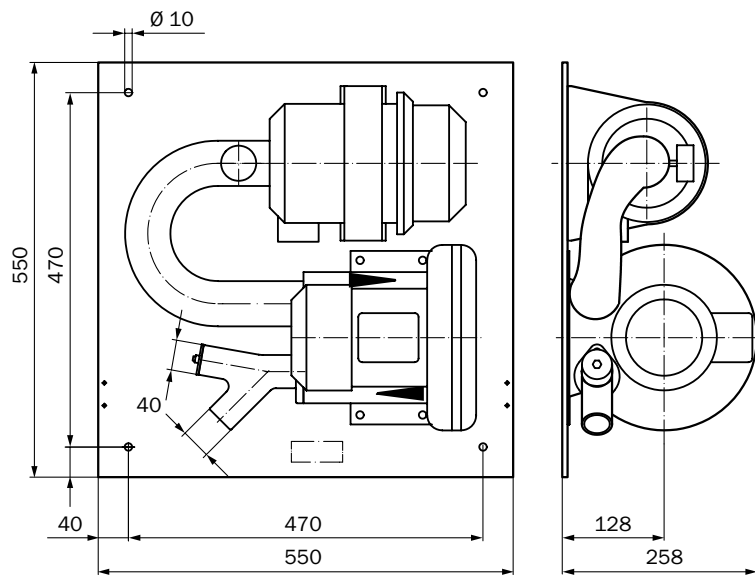


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Mounting flange, $D_f=152$ mm

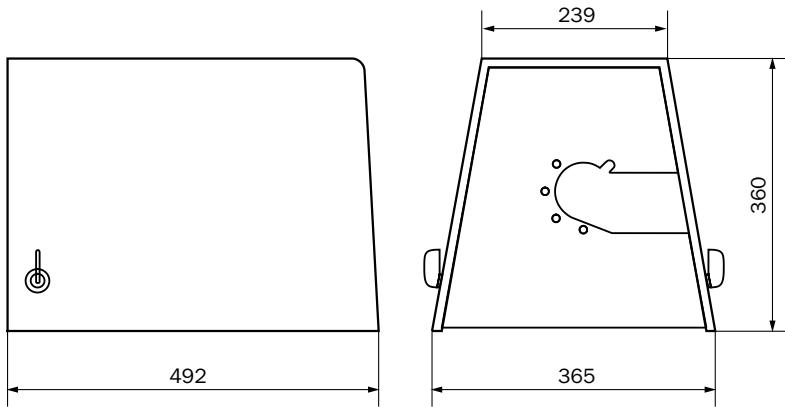


Purge air unit SLV4 2BH1300, 3-ph

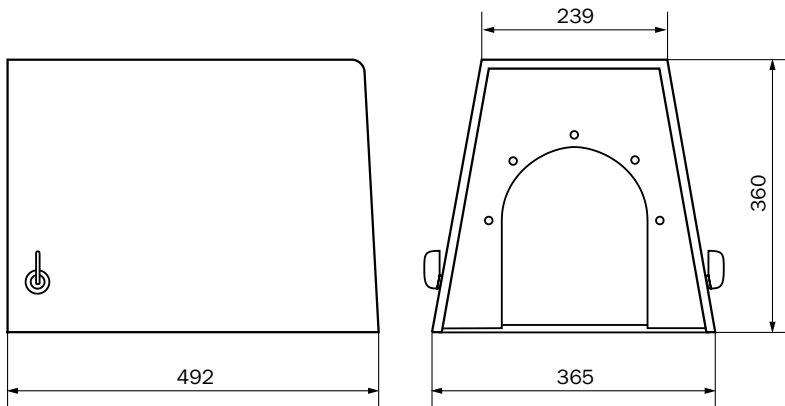


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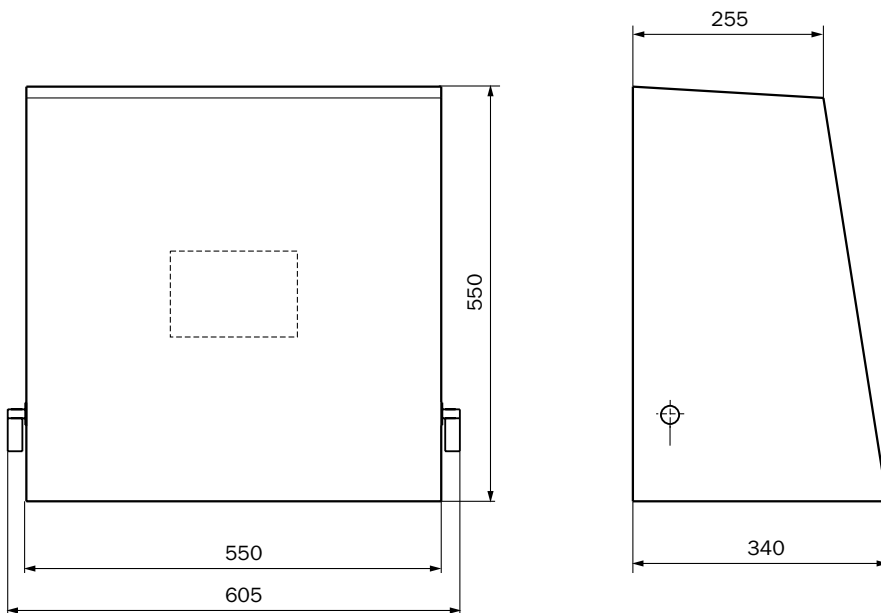
Weather hood for sender/receiver unit



Weather hood for DHSB/DHSF-R1/DHC-R1

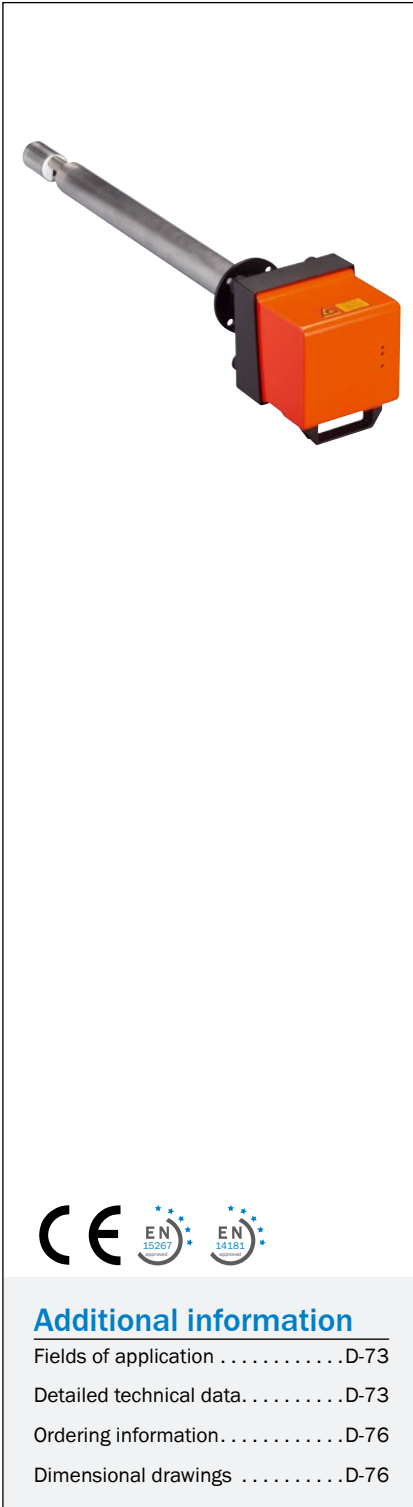


Weather hood for purge air unit SLV4/SLV5



D

The probe design with forward scattered light measurement



Product description

The DUSTHUNTER SP100 is a type-approved measuring device for detecting very low to medium dust content. Its design features a measuring probe. Since it is installed from just one side, it is particularly suitable for ducts with thick

or double walls. The measurement is based on forward light scattering. Automatic checking of the zero and reference points as well as a contamination check are integrated into the device.

At a glance

- One-sided installation
- For very low to medium dust concentrations
- Automatic check of zero and reference point
- Contamination check
- Hastelloy probe available for corrosive gases
- For small to medium duct diameters

Your benefits

- Ideal for ducts with thick or double walls
- Type-approved to EN 15267
- Self-monitoring and contamination check for low maintenance



Additional information

- Fields of applicationD-73
- Detailed technical data.D-73
- Ordering information.D-76
- Dimensional drawingsD-76

→ www.mysick.com/en/DUSTHUNTER_SP100

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Emissions monitoring in power plants and waste incineration plants
- Monitoring of filter plants
- Measurements in flue gas or exhaust air ducts

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER SP100

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
TÜV-approved measured values	Scattered light intensity
Measurement principle	Scattered light forward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Higher measuring ranges on request
Certified measuring ranges	Scattered light intensity 0 ... 15 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 50 SI / 0 ... 100 SI / 0 ... 200 SI
Response time	1 s ... 600 s Freely configurable
Accuracy	≤ 2 % of the measuring range final value
Process temperature	Standard design DHSP-T2xx: -40 °C ... +220 °C High-temperature design DHSP-T4xx: -40 °C ... +400 °C
Process pressure	With control unit MCU-P: -50 hPa ... 10 hPa With external purge air unit: -50 hPa ... 30 hPa With instrument air (from customer): -50 hPa ... 100 hPa
Process gas humidity	Non-condensing
Duct diameter	≥ 250 mm
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) EN 14181 EN 15267 TA-Luft (Prevention of Air Pollution) MCERTS Conforms to U.S. EPA PS-11
Electrical safety	CE
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 30 %, fault at 40 % Manual linearity test with reference filter

D

Sender/receiver unit DHSP-Txxx

Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	Details, see dimensional drawings
Weight	Nominal length 435 mm: ≤ 6.5 kg Nominal length 735 mm: ≤ 7.8 kg Nominal length 1,035 mm: ≤ 9.5 kg Nominal length 1,335 mm: ≤ 11 kg
Electrical connection	
Voltage	24 V Supply via control unit
Power consumption	≤ 4 W

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)

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Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
	Voltage
	90 ... 250 V 24 V DC version available as an option
	Frequency
	47 ... 63 Hz
	Power consumption
	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

D

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclon type, dust capacity 200 g

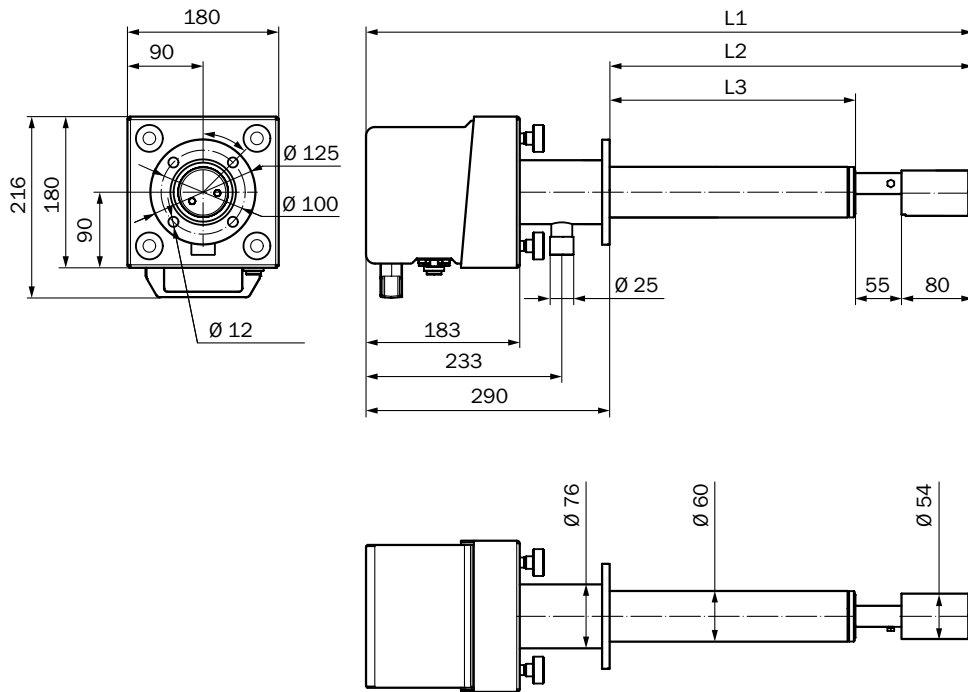
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings

Dimensions in mm

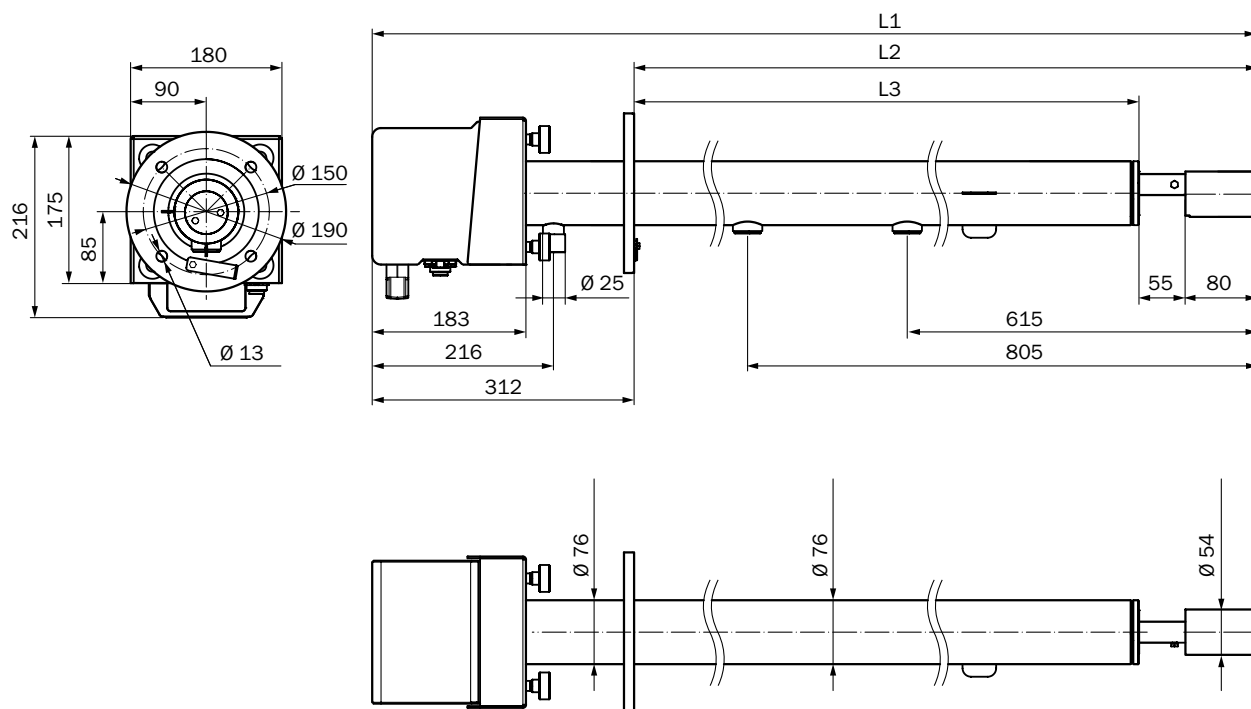
Sender/receiver unit DHSP-Txx1/-Txx2



Sender/receiver unit type	L1	Nominal length of probe L2	L3
DHSP-Txx1	725	435	300
DHSP-Txx2	1,025	735	300

All dimensions in mm

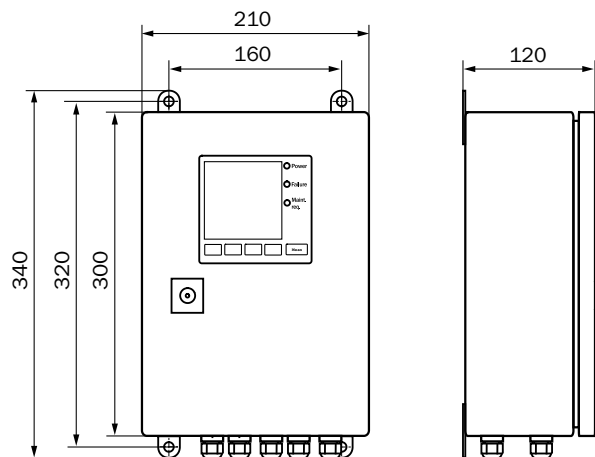
Sender/receiver unit DHSP-Txx3/-Txx4/-Txx5/-Txx6/-Txx7



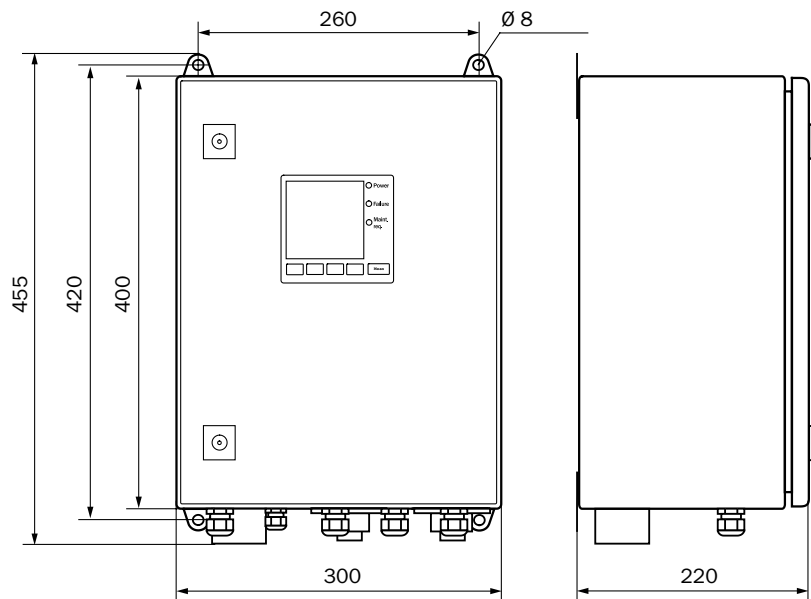
Sender/receiver unit type	L1	Nominal length of probe L2	L3
DHSP-Txx3	1,347	1,035	900
DHSP-Txx4	1,647	1,335	1,200
DHSP-Txx5	1,947	1,635	1,500
DHSP-Txx6	2,147	1,835	1,700
DHSP-Txx7	2,397	2,085	1,950

All dimensions in mm

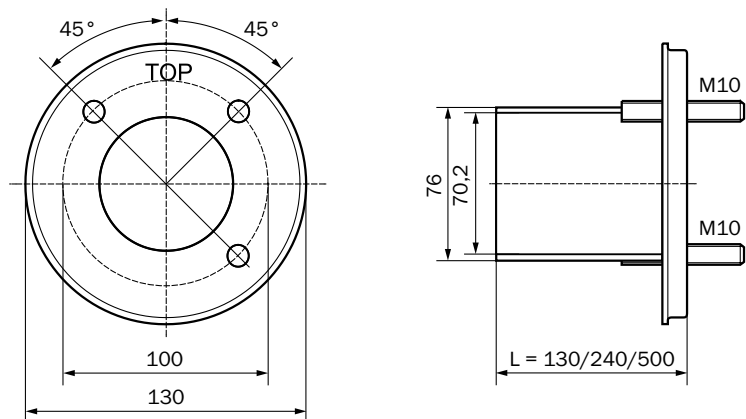
Control unit MCU-N



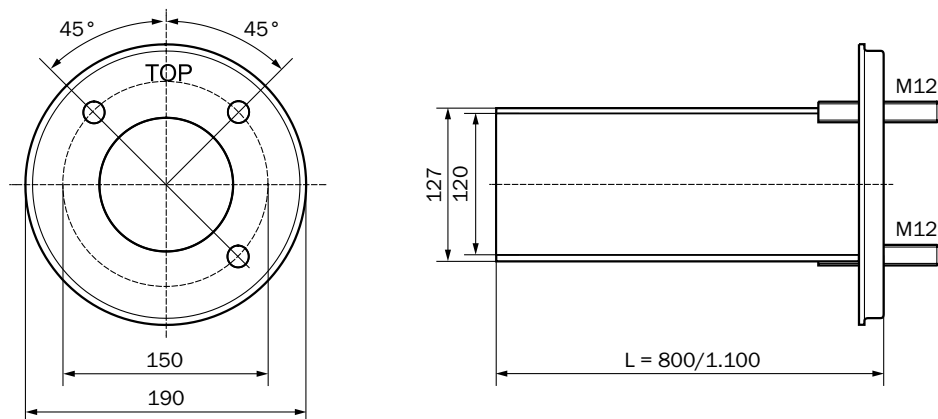
Control unit MCU-P



Mounting flange, $D_1=70.2$ mm

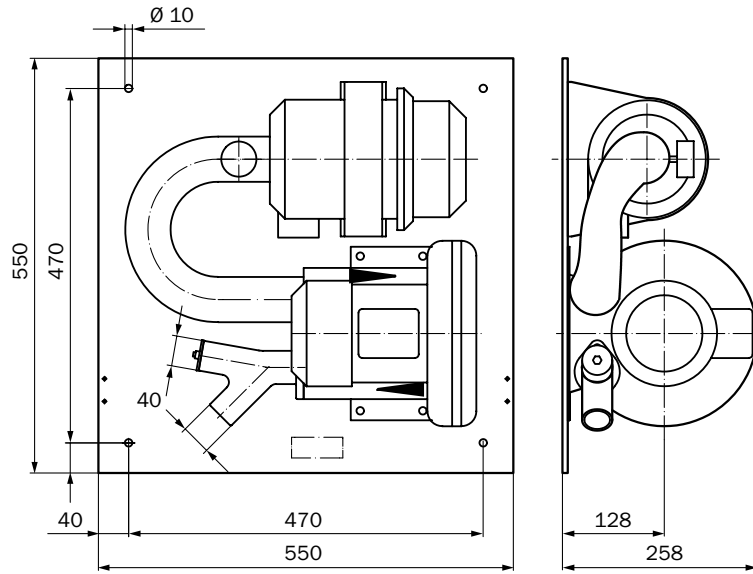


Mounting flange, $D_1=125$ mm

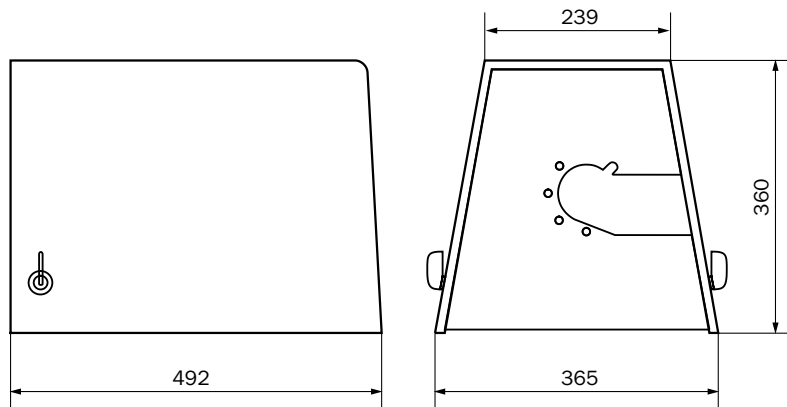


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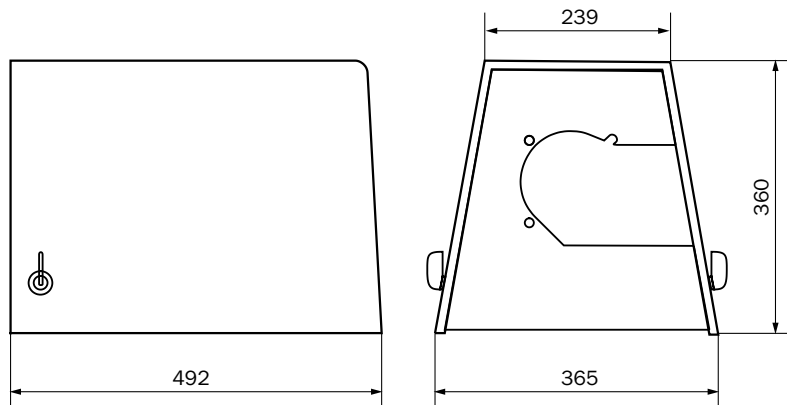
Purge air unit SLV4 2BH1300, 3-ph



Weather hood for sender/receiver unit

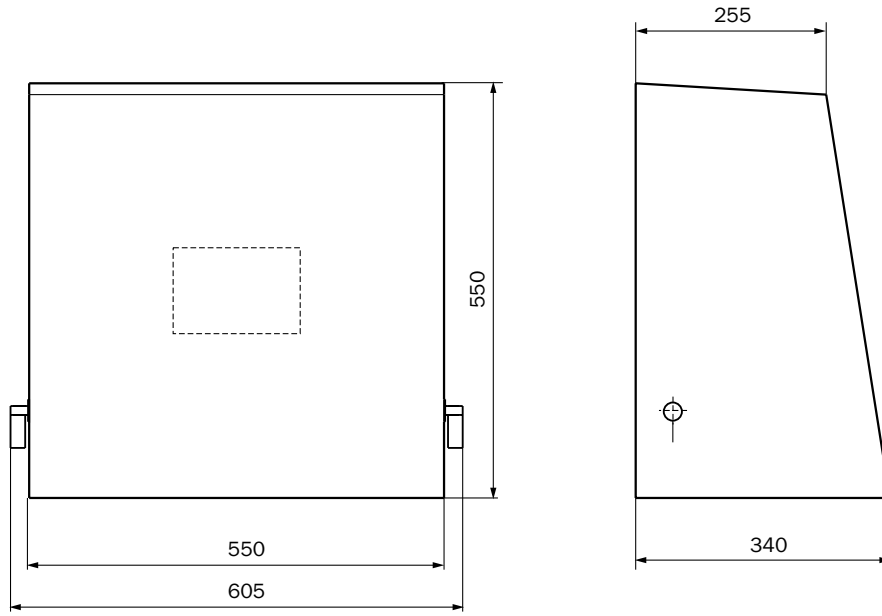


Weather hood for sender/receiver unit DHSP-Txx3/-Txx4/-Txx5/-Txx6/-Txx7



D

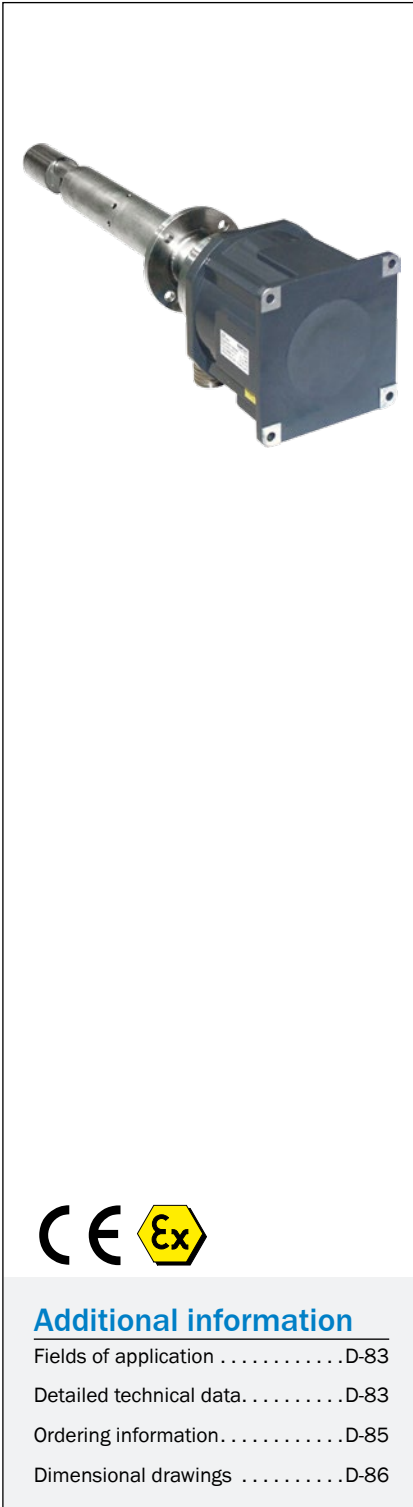
Weather hood for purge air unit SLV4/SLV5



D



Effective monitoring of dust concentrations in explosion areas with scattered light



Product description

The FW101 Ex measuring device is used for continuous measuring of low to medium dust concentrations. It takes its measurements independent of gas velocity, humidity, and particle charge. The probe design of the FW101 Ex is particularly advantageous. Mounted on one side of the gas duct, it needs neither mechan-

ical adjustment nor alignment on dust-free measuring distance. As a result, the measuring device is very versatile. It can be used, for example, both for gas ducts with small to large diameters and for chimneys with thin and thick walls.

At a glance

- Automatic monitoring of zero and reference point
- Contamination check
- Optional evaluation unit for remote operation
- Device versions for ATEX Zones 1, 2, and 22

Your benefits

- One-sided installation
- Easy mounting
- Measurements in explosion areas



Additional information

Fields of applicationD-83
 Detailed technical data.D-83
 Ordering information.D-85
 Dimensional drawingsD-86

→ www.mysick.com/en/FW101_Ex

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Clean gas monitoring downstream of filter plants
- Monitoring of cloth filters for broken filters
- Dust monitoring in grinding plants and dosing systems
- Protection of flue gas desulfurization plants against excess dust load
- Monitoring and control of air supply and exhaust air installations

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System FW101 Ex

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
Measurement principle	Scattered light forward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Measuring ranges freely selectable Higher measuring ranges on request
Response time	0.1 s ... 600 s Freely configurable
Accuracy	± 2 % of the measuring range final value
Process temperature	Standard design: -40 °C ... +220 °C High-temperature design: -40 °C ... +400 °C
Process pressure	With external purge air unit: -50 hPa ... 30 hPa With instrument air (from customer): -50 hPa ... 100 hPa
Process gas humidity	Non-condensing
Duct diameter	≥ 250 mm
Electrical safety	CE
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 30 %, fault at 40 % Manual linearity test with reference filter
Options	External purge air unit

Sender/receiver unit FWSE101 Ex

Description	Measuring system analyzer unit
Ambient temperature	-20 °C ... +40 °C
Ex approvals	ATEX Design for Zone 1 and 2: II 2G Ex IIC T6 Design for Zone 22: II 3D Ex t IIIB T80 °C Dc IP 54
Enclosure rating	IP 66
Dimensions (W x H x D)	180 mm x 200 mm x 700 mm (nominal length 435 mm, for details see dimensional drawings) 180 mm x 200 mm x 1,000 mm (nominal length 735 mm, for details see dimensional drawings)
Weight	Nominal length 435 mm: 10.6 kg Nominal length 735 mm: 11.9 kg
Electrical connection	Voltage 24 V Supply via connection unit
	Power consumption ≤ 4 W

Connection unit AK1-Ex

Description	Unit for connecting data cables and power supply for system components; for use in explosion areas	
Ambient temperature	-20 °C ... +40 °C	
Ex approvals	ATEX	II 2G Ex de IIC T6
Enclosure rating	IP 65	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second optional output	
Digital outputs	3 relay contacts: 48 V, 1 A Volt-free; for operation/fault status signals, limit value, maintenance	
Digital inputs	1 input: Volt-free; for maintenance switch	
Interfaces	RS-232 (service interface)	
Bus protocol	CAN (option), for the connection of an evaluation unit	
Display	Two-line LCD	
Dimensions (W x H x D)	210 mm x 493 mm x 180 mm (for details see dimensional drawings)	
Weight	13.3 kg	
Electrical connection	Voltage	100 ... 240 V
	Frequency	47 ... 63 Hz
	Power consumption	≤ 15 W

Connection unit AK1-Ex22

Description	Unit for connecting data cables and power supply for system components; for use in dust explosion areas	
Ambient temperature	-20 °C ... +40 °C	
Ex approvals	ATEX	II 2D Ex tD A21 T80 °C IP 6X
Enclosure rating	IP 65	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second optional output	
Digital outputs	3 relay contacts: 48 V, 1 A Volt-free; for operation/fault status signals, limit value, maintenance	
Digital inputs	1 input: Volt-free; for maintenance switch	
Interfaces	RS-232 (service interface)	
Bus protocol	CAN (option), for the connection of an evaluation unit	
Display	Two-line LCD	
Dimensions (W x H x D)	200 mm x 300 mm x 155 mm (for details see dimensional drawings)	
Weight	4.9 kg	
Electrical connection	Voltage	100 ... 240 V Optional: 24 V DC ± 2 V
	Frequency	47 ... 63 Hz
	Power consumption	≤ 15 W



Purge air unit SLV5 2BH1300, Ex 2/3G

Description	Unit supplying dust-free air for purging optical surfaces; for use in explosion areas
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 230 V / 50 Hz / 2.4 A / 550 W 3-phase, Y: 400 V / 50 Hz / 1.4 A / 550 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

Purge air unit SLV5 2BH1300, Ex 2/3D

Description	Unit supplying dust-free air for purging optical surfaces; for use in dust explosion areas
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 230 V / 50 Hz / 2.4 A / 550 W 3-phase, Y: 400 V / 50 Hz / 1.4 A / 550 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

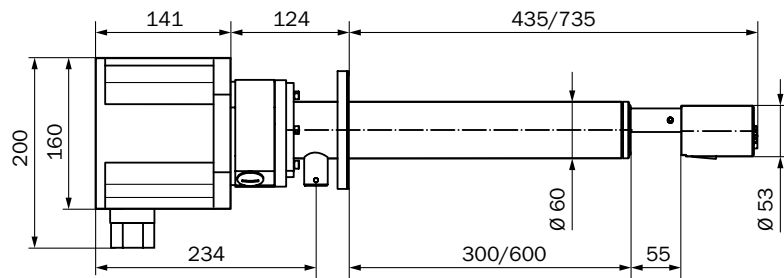
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

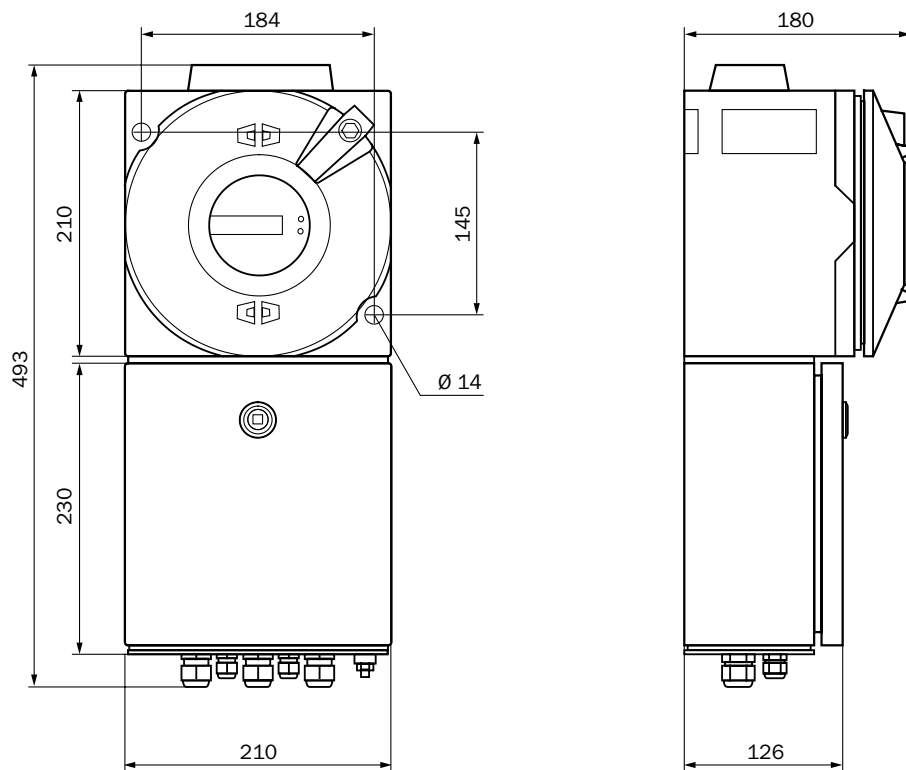
Dimensional drawings

Dimensions in mm

Sender/receiver unit FWSE101 Ex

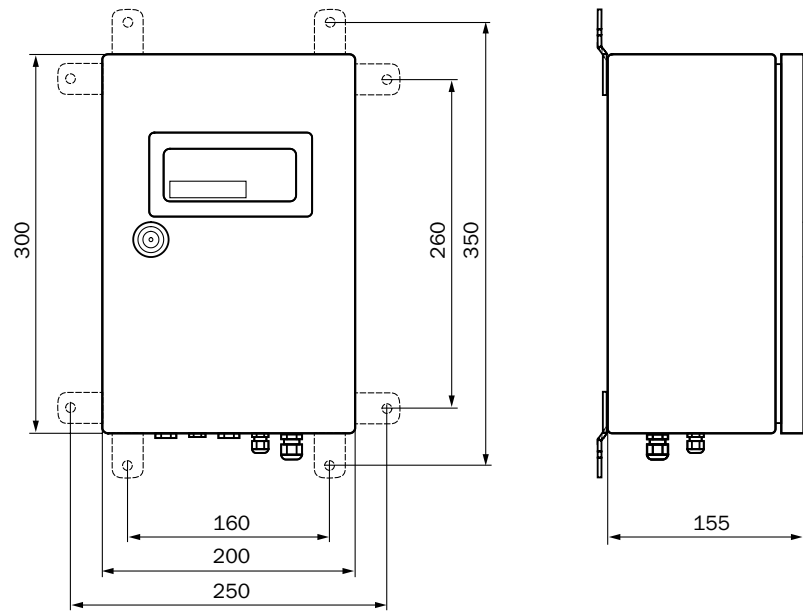


Connection unit AK1-Ex

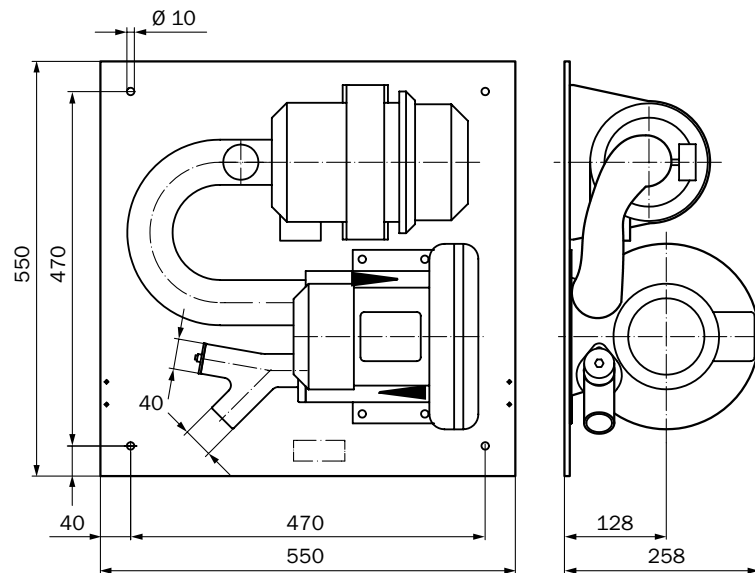


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Connection unit AK1-Ex22

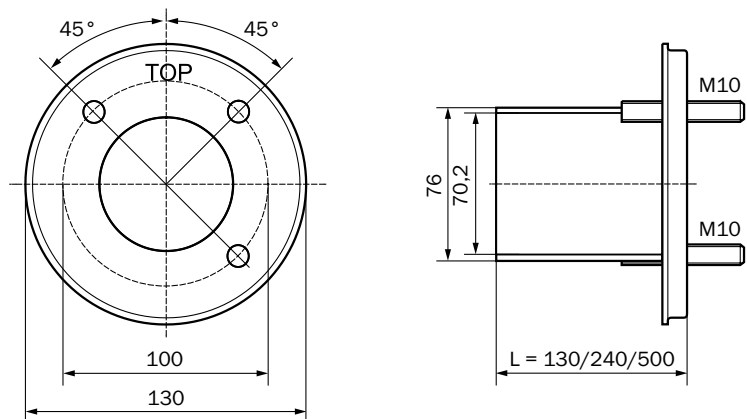


Purge air unit SLV5 2BH1300, Ex 2/3G
Purge air unit SLV5 2BH1300, Ex 2/3D

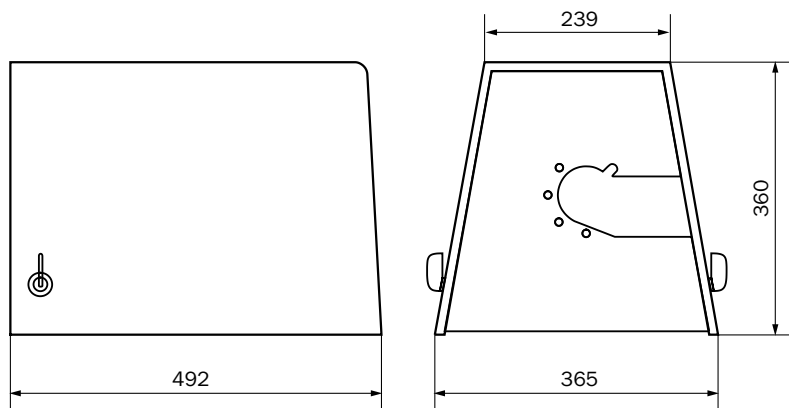


D

Mounting flange, $D_f=70.2$ mm

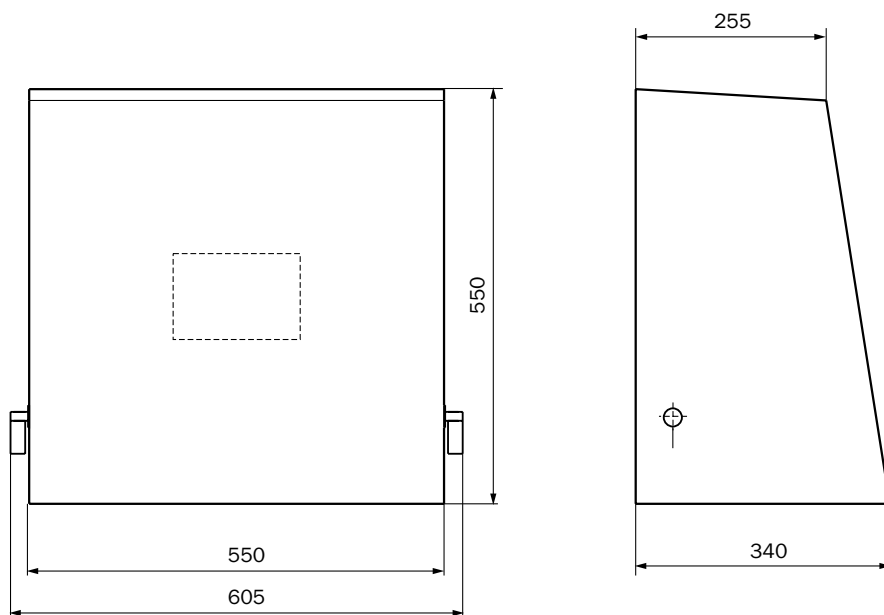


Weather hood for sender/receiver unit



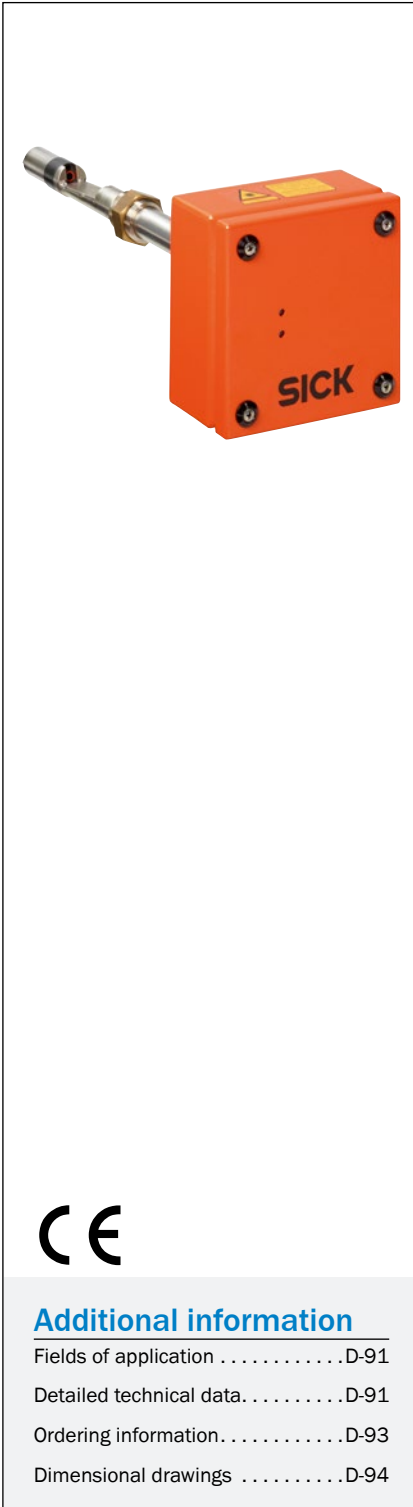
D

Weather hood for purge air unit SLV4/SLV5





Effective monitoring of dust concentrations with scattered light



Product description

The FW102 is used for continuous measuring of low to medium dust concentrations. It takes its measurements independent of gas velocity, humidity, and particle charge. The probe design of the FW102 is particularly advantageous.

Mounted on one side of the gas duct, it needs neither mechanical adjustment nor alignment on dust-free measuring distance.

At a glance

- Automatic monitoring of zero and reference point
- Optional evaluation unit for connection and remote maintenance of up to three FW102 measuring devices

Your benefits

- One-sided installation
- Easy mounting



Additional information

Fields of applicationD-91
 Detailed technical data.D-91
 Ordering information.D-93
 Dimensional drawingsD-94

→ www.mysick.com/en/FW102

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Clean gas monitoring downstream of filter plants
- Monitoring of cloth filters for broken filters
- Dust monitoring in grinding plants and dosing systems
- Protection of flue gas desulfurization plants against excess dust load
- Monitoring and control of air supply and exhaust air installations

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System FW102

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
TÜV-approved measured values	Dust concentration
Measurement principle	Scattered light forward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Measuring ranges freely selectable Higher measuring ranges on request
Certified measuring ranges	Dust concentration 0 ... 20 mg/m ³
Response time	0.1 s ... 600 s Freely configurable
Accuracy	± 2 % of the measuring range final value
Process temperature	-20 °C ... +220 °C
Process pressure	With connection unit with integrated purge air supply: -50 hPa ... 10 hPa With external purge air unit: -50 hPa ... 70 hPa With instrument air (from customer): -50 hPa ... 1,000 hPa
Process gas humidity	Non-condensing
Duct diameter	≥ 150 mm
Conformity	TA-Luft (Prevention of Air Pollution) 27. BImSchV (Traffic Noise Protection)
Electrical safety	CE
Test functions	Automatic control cycle for zero point and reference point
Options	External purge air unit

Sender/receiver unit FWSE102

Description	Analyzer unit with measuring probe
Ambient temperature	-20 °C ... +50 °C
Enclosure rating	IP 65
Dimensions (W x H x D)	150 mm x 150 mm x 440 mm
Weight	2.7 kg
Electrical connection	Voltage 24 V Supply via connection unit
	Power consumption ≤ 4 W

Connection unit AK1-N

Description	Unit for connecting data cables and power supply for system components
Ambient temperature	-20 °C ... +45 °C
Enclosure rating	IP 65
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second optional output
Digital outputs	3 relay contacts: 48 V, 1 A Volt-free; for operation/fault status signals, limit value, maintenance
Digital inputs	1 input: Volt-free; for maintenance switch
Interfaces	RS-232 (service interface)
Bus protocol	CAN (option), for the connection of an evaluation unit
Display	Two-line LCD Option
Dimensions (W x H x D)	200 mm x 220 mm x 130 mm (for details see dimensional drawings)
Weight	3.7 kg
Electrical connection	
Voltage	100 ... 240 V Optional: 24 V DC ± 2 V
Frequency	47 ... 63 Hz
Power consumption	≤ 15 W

Connection unit AK1-P

Description	Unit for connecting data cables and power supply for system components; with integrated purge air supply
Ambient temperature	-20 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 65
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second optional output
Digital outputs	3 relay contacts: 48 V, 1 A Volt-free; for operation/fault status signals, limit value, maintenance
Digital inputs	1 input: Volt-free; for maintenance switch
Interfaces	RS-232 (service interface)
Bus protocol	CAN (option), for the connection of an evaluation unit
Display	Two-line LCD Option
Dimensions (W x H x D)	300 mm x 420 mm x 220 mm (for details see dimensional drawings)
Weight	13.5 kg
Electrical connection	
Voltage	100 ... 240 V Optional: 24 V DC ± 2 V
Frequency	47 ... 63 Hz
Power consumption	≤ 70 W

D

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

Ordering information

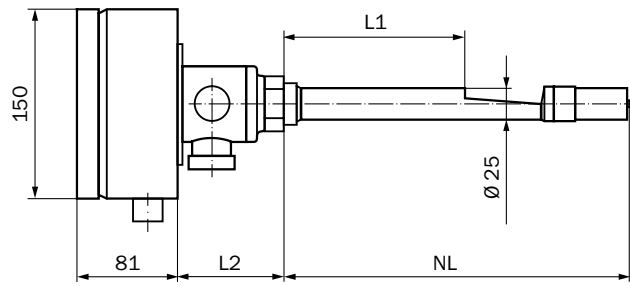
Our regional sales organization will help you to select the optimum device configuration.



Dimensional drawings

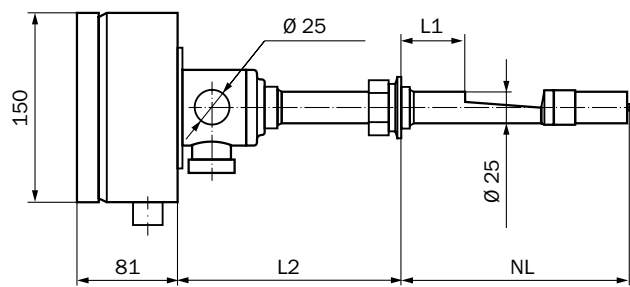
Dimensions in mm

FW102 with 1" thread



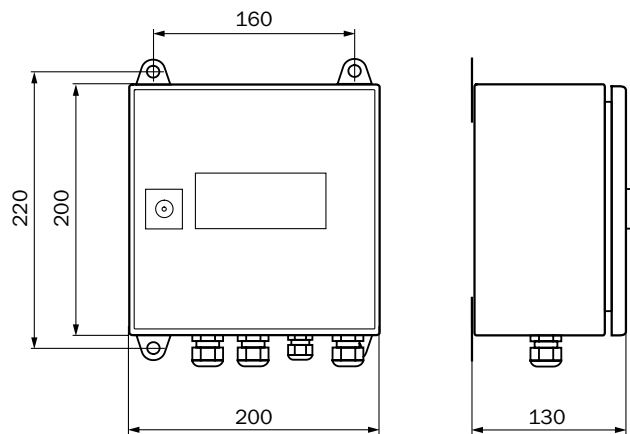
Nominal length	L1	L2
180	50	179
280	150	79
All dimensions in mm		

FW102 with tri-clamp connection

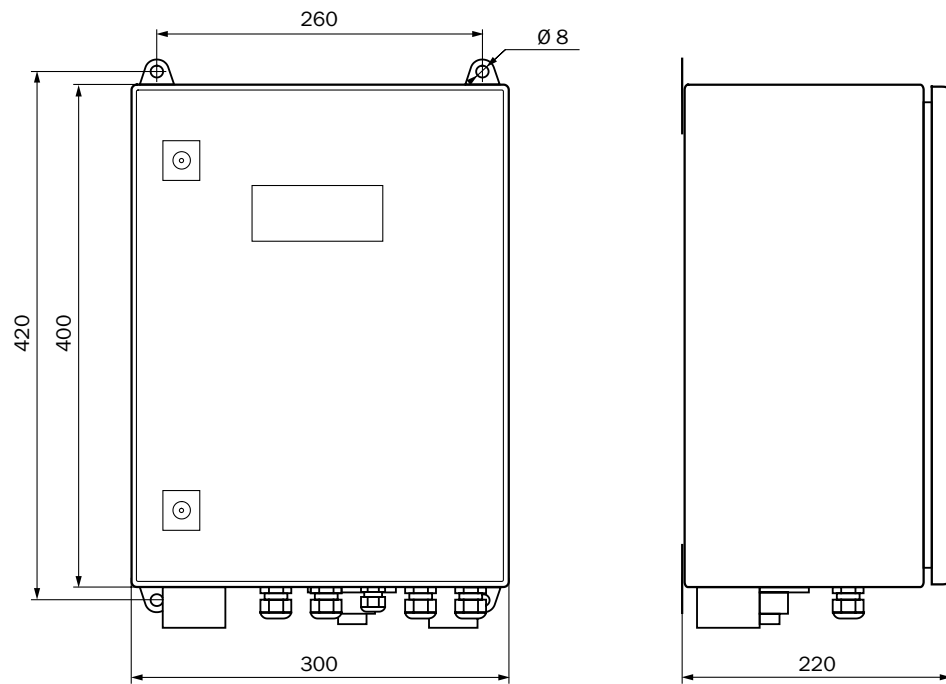


Nominal length	L1	L2
180	50	179
280	150	79
All dimensions in mm		

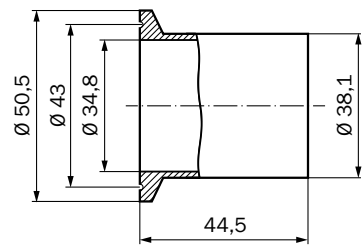
Connection unit AK1-N



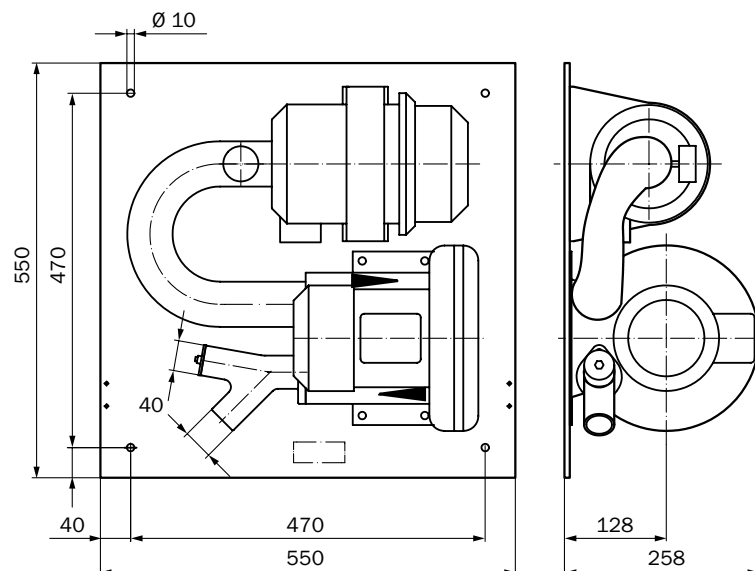
Connection unit AK1-P



Mounting flange, tri-clamp

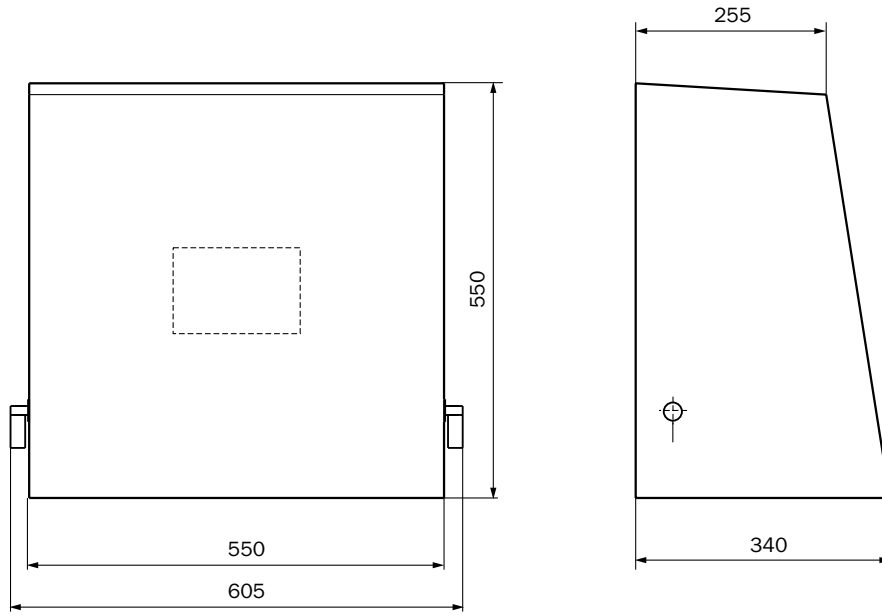


Purge air unit SLV4 2BH1300, 3-ph



D

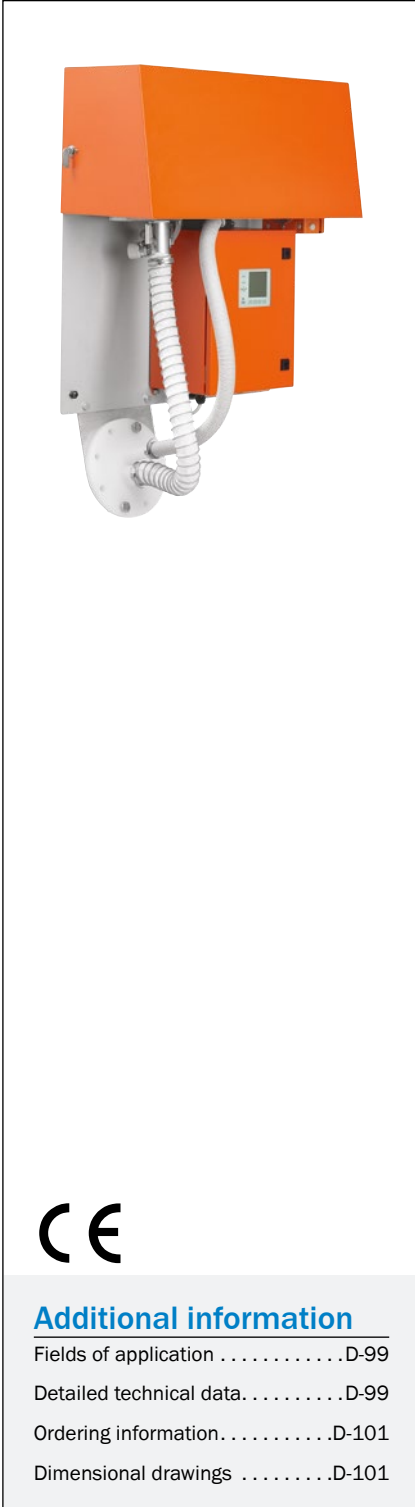
Weather hood for purge air unit SLV4/SLV5



D



Extractive dust measuring system for wet gases



Product description

The FWE200 dust measuring system is designed to measure dust concentrations in wet gases. The gas is extracted via a sampling probe and heated above dew point in a thermocyclone. All of the droplets contained in the gas are

condensed and are thus unable to falsify the measurement result. The scattered light principle enables even minimal dust concentrations to be measured.

At a glance

- For very low to medium dust concentrations
- Gas sampling and return combined in one probe
- Contamination check
- Automatic monitoring of zero and reference point

Your benefits

- Reliable dust measurement in wet gas
- Low-maintenance thanks to the absence of moving parts coming into contact with aggressive gas
- Compact design for installation directly on the duct



Additional information

- Fields of applicationD-99
- Detailed technical data.D-99
- Ordering information.D-101
- Dimensional drawingsD-101

→ www.mysick.com/en/FWE200

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Monitoring of wet scrubber facilities
- Measurement in saturated gas downstream of desulfurization plants
- Determination of dust concentrations in wet exhaust air

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System FWE200

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
TÜV-approved measured values	Dust concentration
Measurement principle	Scattered light forward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Measuring ranges freely selectable Higher measuring ranges on request
Certified measuring ranges	Dust concentration 0 ... 15 mg/m ³ / 0 ... 50 mg/m ³
Response time	0.1 s ... 600 s Freely configurable
Accuracy	± 2 % of the measuring range final value
Process temperature	PVDF probe: ≤ +120 °C Hastelloy probe: ≤ +220 °C
Process pressure	-20 hPa ... 20 hPa
Process gas velocity	4 m/s ... 20 m/s
Process gas humidity	Max. 10 g/m ³ liquid water without water vapor
Ambient temperature	-20 °C ... +50 °C
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) TA-Luft (Prevention of Air Pollution) MCERTS Conforms to U.S. EPA PS-11
Electrical safety	CE
Enclosure rating	System: IP 54 Electronics housing: IP 65
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second optional output
Digital outputs	4 relay contacts: 250 V, 1 A Preassigned for fault, warning, limit value, and maintenance
Digital inputs	1 input: Volt-free; for maintenance switch
Interfaces	RS-232 (service interface)
Operation	Menu-driven operation via control unit
Dimensions (W x H x D)	730 mm x 830 mm x 340 mm (FWE200 measuring and control unit; for details see dimensional drawings)

Weight	FWE200 measuring and control unit: 65 kg Sampling probe: ≤ 15 kg
Electrical connection	
Voltage	115 V / 230 V
Frequency	47 ... 63 Hz
Power consumption	≤ 2.5 kW
Options	Mounting frame FWE200

Purge air unit SLV4 2BH1300, 1-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	
Voltage	230 V / 115 V
Frequency	50 Hz / 60 Hz
Power consumption	≤ 6 A
Power consumption	≤ 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g



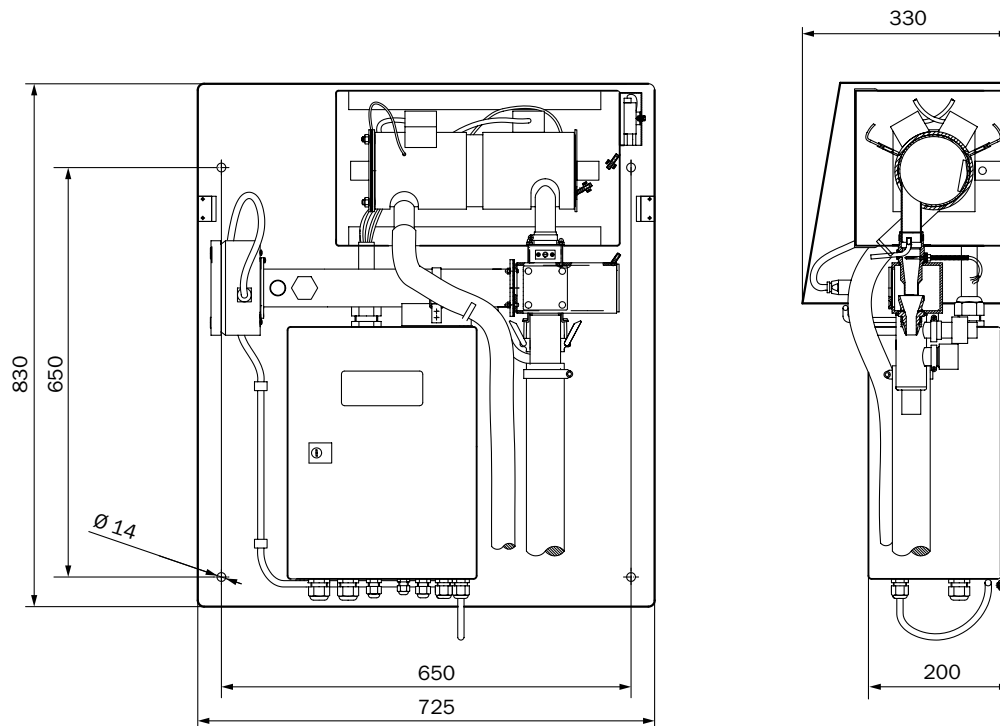
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

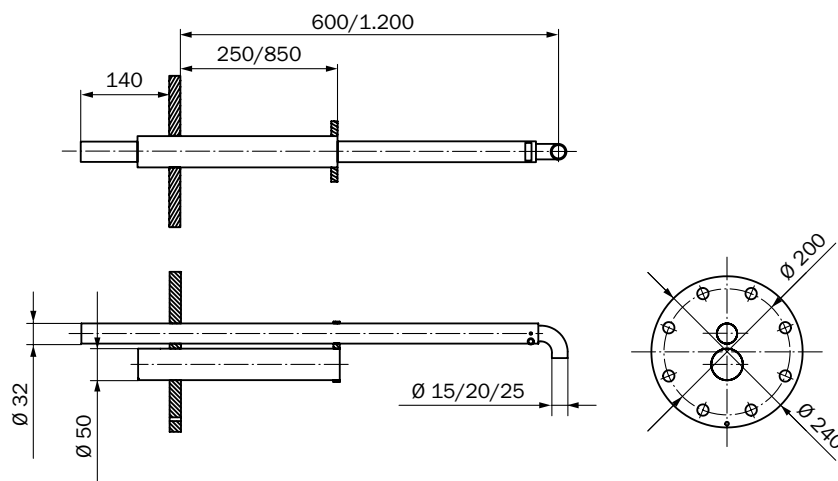
Dimensional drawings

Dimensions in mm

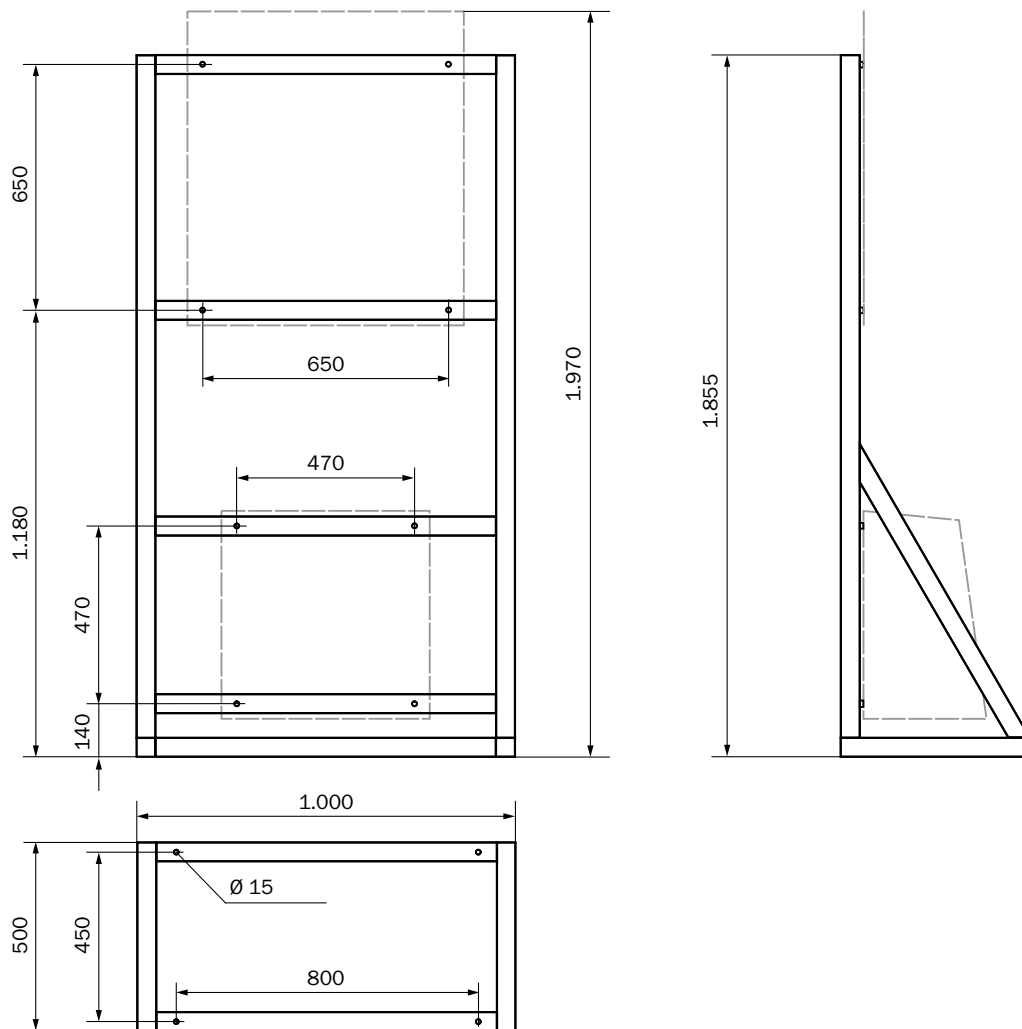
Measuring and control unit FWE200



Sampling probe FWE200

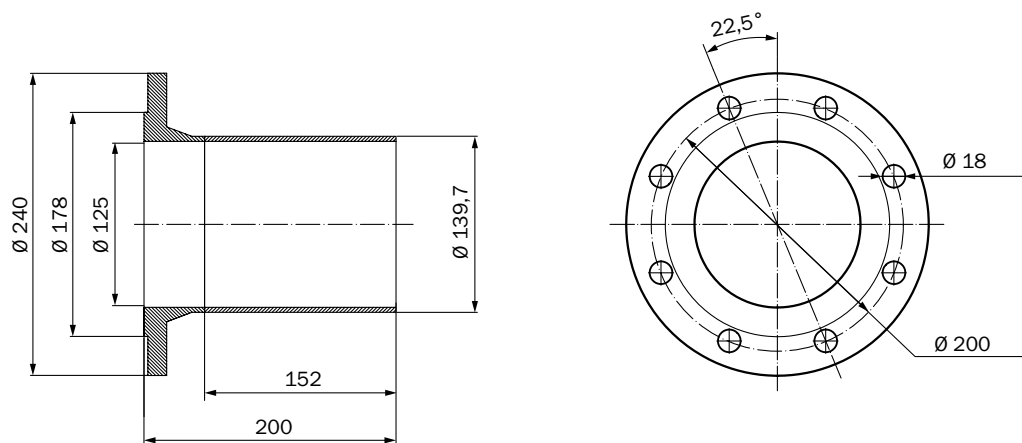


Mounting frame FWE200

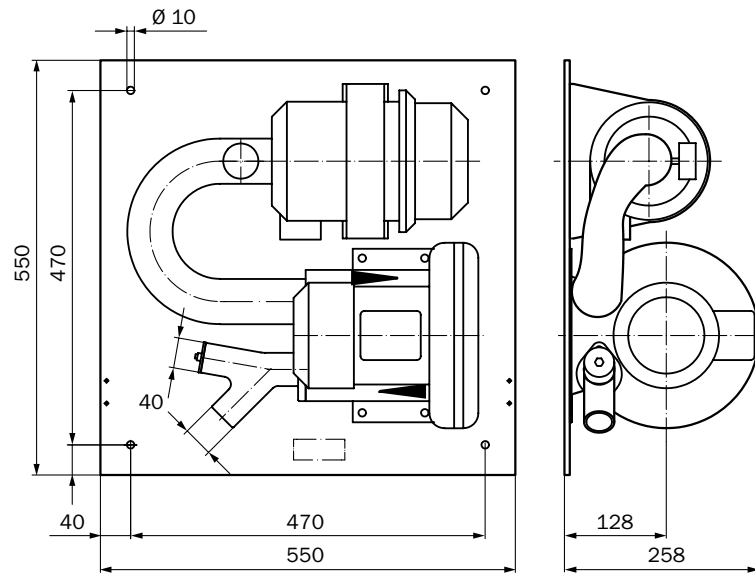


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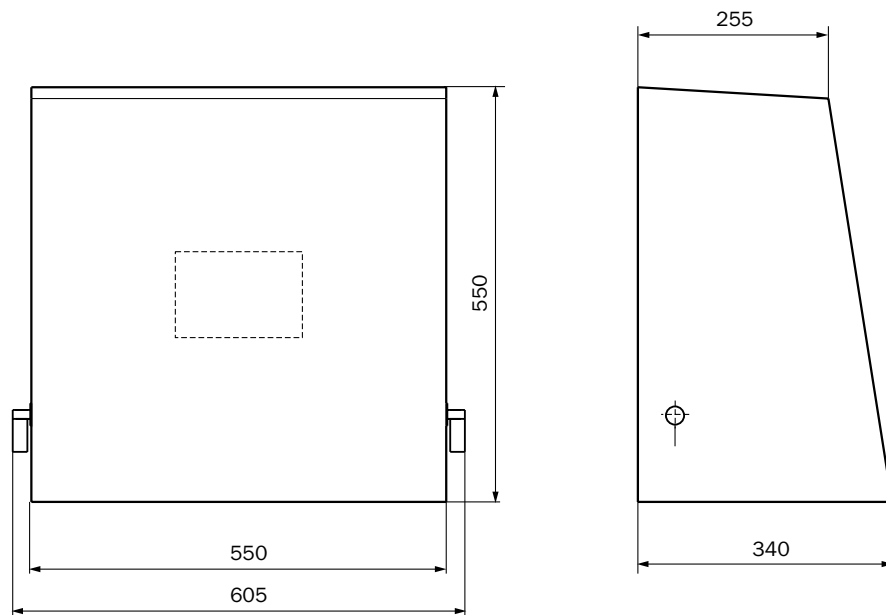
Mounting flange, $D_1=125$ mm



Purge air unit SLV4 2BH1300, 1-ph

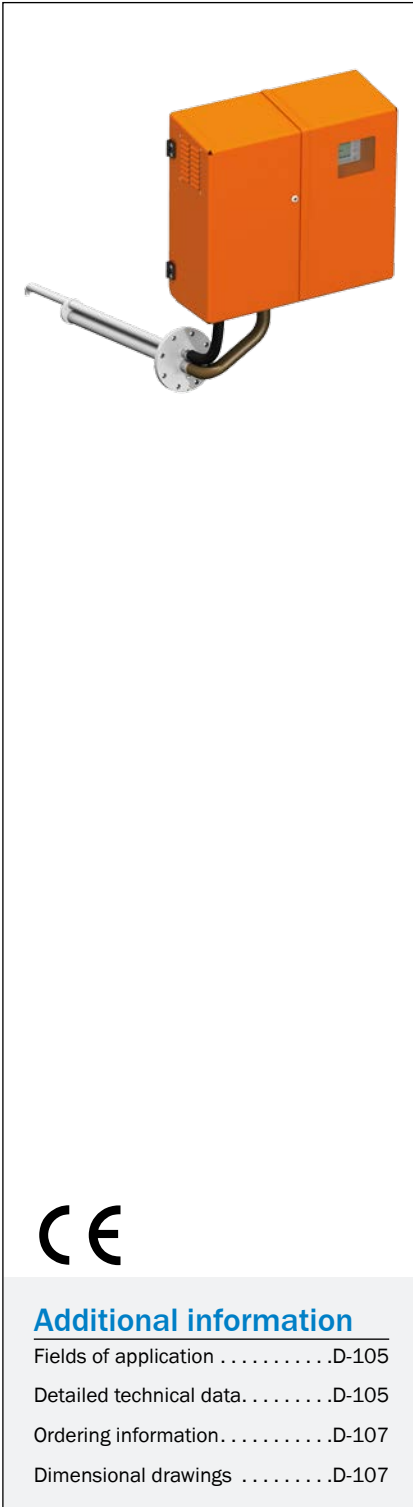


Weather hood for purge air unit SLV4/SLV5



D

Extractive dust measuring system for wet gases



Product description

The FWE200DH dust measuring system is designed to measure dust concentrations in wet gases. The gas is extracted via a sampling probe and heated above dew point in a thermocyclone. All of the droplets contained in the gas are

condensed and are thus unable to falsify the measurement result. The scattered light principle enables even minimal dust concentrations to be measured.

At a glance

- For very low to medium dust concentrations
- Gas sampling and return combined in one probe
- Contamination check
- Automatic monitoring of zero and reference point

Your benefits

- Reliable dust measurement in wet gas
- Low-maintenance thanks to the absence of moving parts coming into contact with aggressive gas.
- Compact design for installation directly on the duct



Additional information

Fields of applicationD-105
 Detailed technical data.D-105
 Ordering information.D-107
 Dimensional drawingsD-107

→ www.mysick.com/en/FWE200DH

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



D

Fields of application

- Monitoring of wet scrubber facilities
- Measurement in saturated gas downstream of desulfurization plants
- Determination of dust concentrations in wet exhaust air

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System FWE200DH

Measured variables	Scattered light intensity, dust concentration (according to gravimetric comparison measurement)
TÜV-approved measured values	Dust concentration
Measurement principle	Scattered light forward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Dust concentration 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Measuring ranges freely selectable Higher measuring ranges on request
Response time	0.1 s ... 600 s Freely configurable
Accuracy	± 2 % of the measuring range final value
Process temperature	PVDF probe: ≤ +120 °C Hastelloy probe: ≤ +220 °C
Process pressure	With purge air unit SLV4 2BH1300: -20 hPa ... 20 hPa With purge air unit SLV4 2BH1400: -40 hPa ... 40 hPa
Process gas velocity	8 m/s ... 30 m/s
Process gas humidity	Max. 10 g/m ³ liquid water without water vapor
Ambient temperature	-20 °C ... +50 °C Optional: -40 °C ... +60 °C Suction temperature for the purge air: -40 °C ... +50 °C
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) TA-Luft (Prevention of Air Pollution) EN 15267 EN 14181 Conforms to U.S. EPA PS-11
Electrical safety	CE
Enclosure rating	System: IP 54 Electronics housing: IP 65
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω Electrically isolated
Analog inputs	4 inputs: 0 ... 20 mA Preassigned for pressure, temperature, humidity, and O ₂ value
Digital outputs	5 relay contacts: 250 V, 1 A Preassigned for fault, warning, maintenance, limit value, and control cycle, four additional optional outputs

D

Digital inputs	4 inputs: Volt-free; four additional optional inputs
Interfaces	RS-232 (service interface) USB
Bus protocol	Ethernet (option) PROFIBUS DP (option) MODBUS TCP (option) OPC (option)
Display	LDC and status LEDs
Input	Function keys
Operation	Menu-driven operation via control unit
Dimensions (W x H x D)	730 mm x 830 mm x 340 mm (FWE200DH measuring and control unit; for details see dimensional drawings)
Weight	FWE200DH measuring and control unit: 65 kg Sampling probe: ≤ 15 kg
Electrical connection	Voltage 115 V / 230 V Frequency 47 ... 63 Hz Power consumption ≤ 1.7 kW
Test functions	Automatic control cycle for zero point and reference point Contamination check
Options	Mounting frame FWE200DH

Purge air unit SLV4 2BH1300, 1-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	Voltage 230 V / 115 V Frequency 50 Hz / 60 Hz Power consumption ≤ 6 A Power consumption ≤ 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

Purge air unit SLV4 2BH1400, 1-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	86 m ³ /h ... 125 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 303.5 mm (for details see dimensional drawings)
Weight	25 kg
Electrical connection	Voltage 230 V / 115 V



Frequency	50 Hz
Power consumption	≤ 10.4 A
Power consumption	≤ 800 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

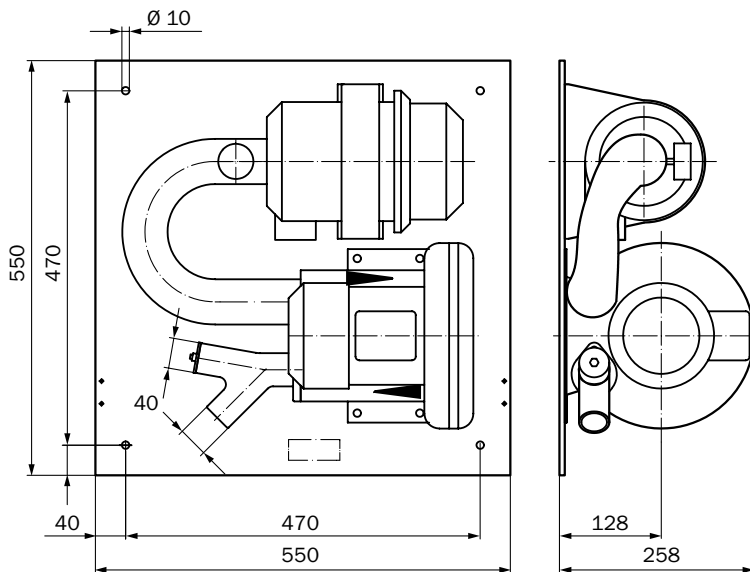
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

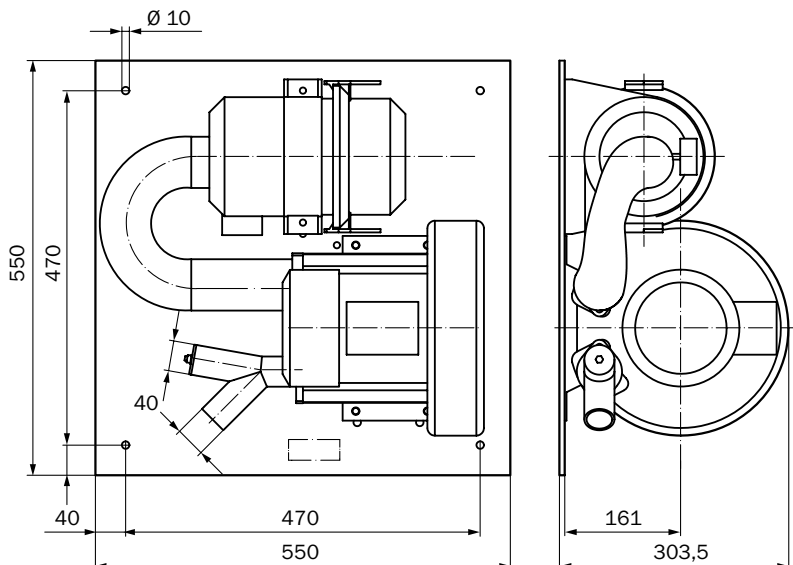
Dimensional drawings

Dimensions in mm

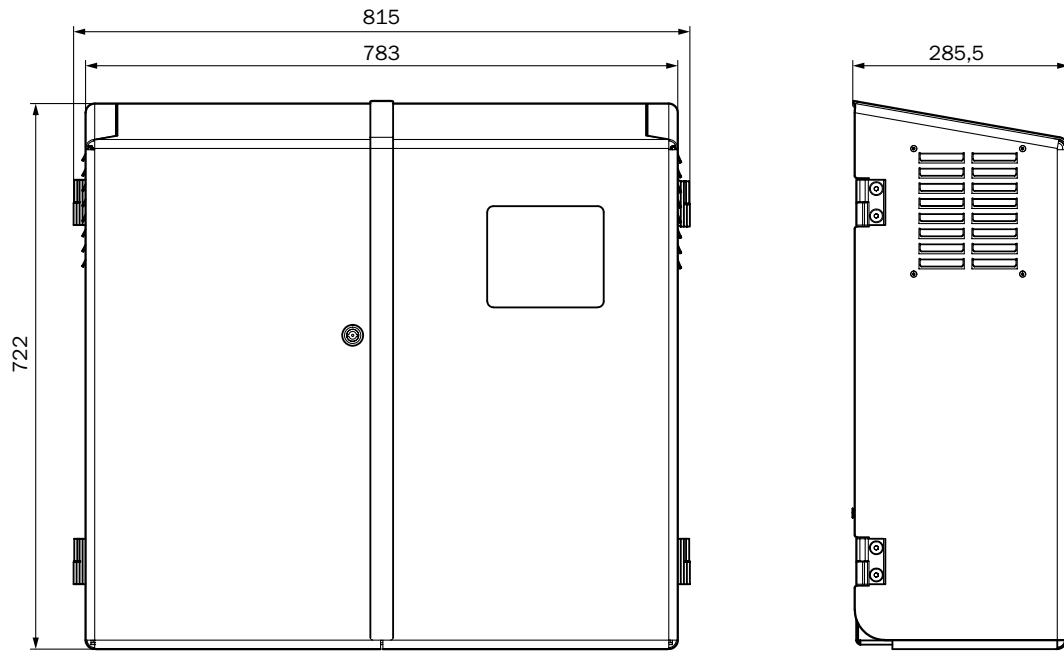
Purge air unit SLV4 2BH1300, 1-ph



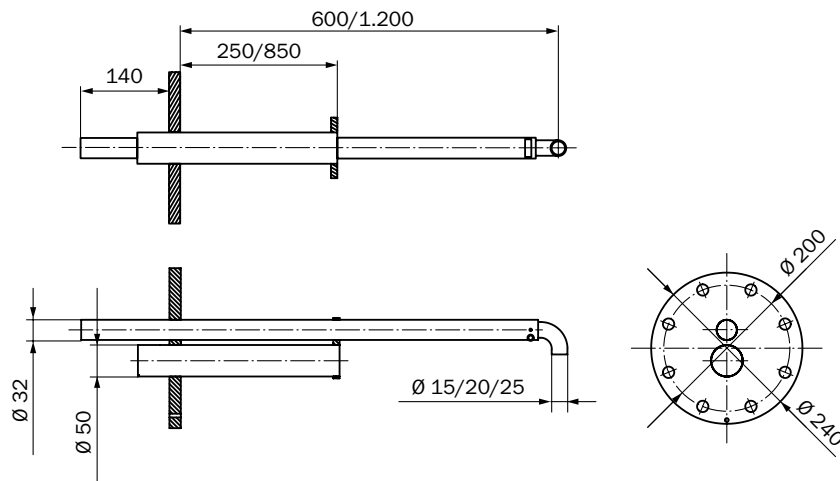
Purge air unit SLV4 2BH1400, 1-ph



Measuring and control unit FWE200

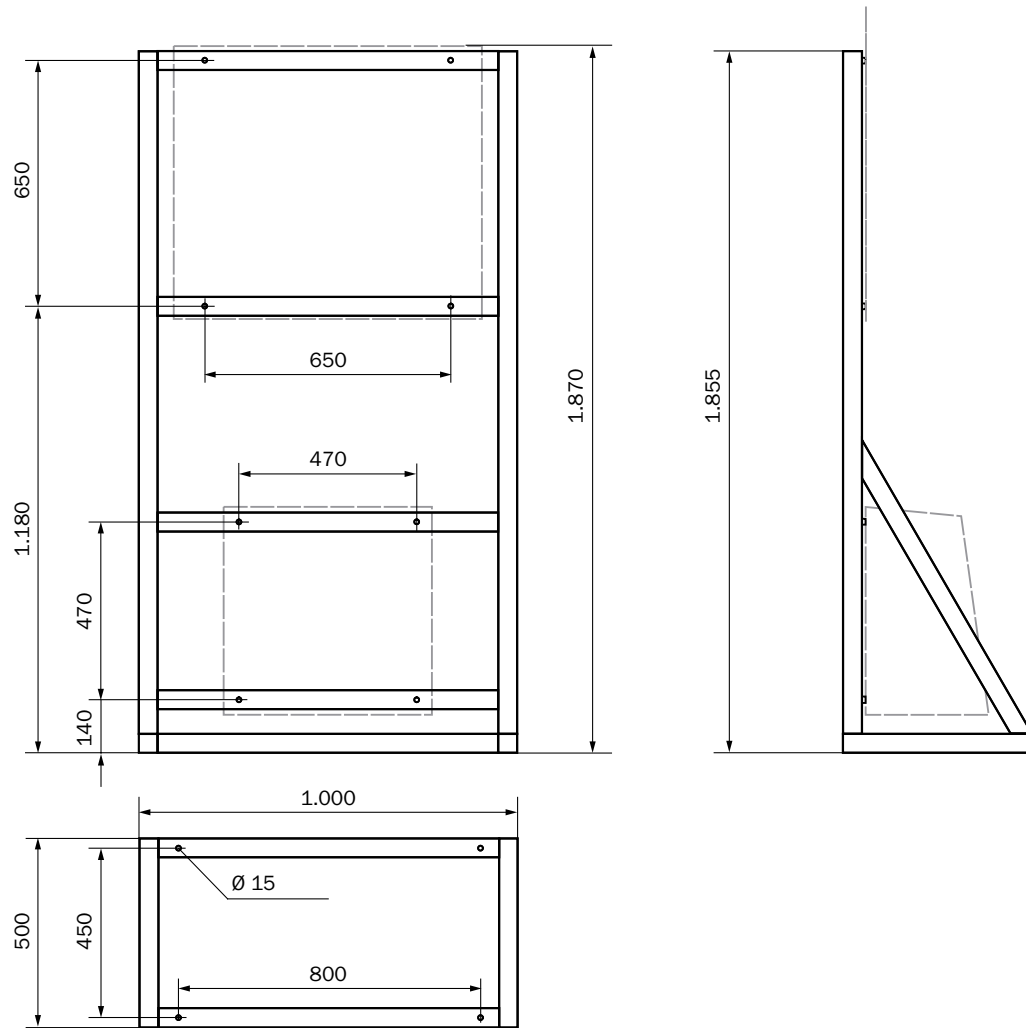


Sampling probe FWE200DH

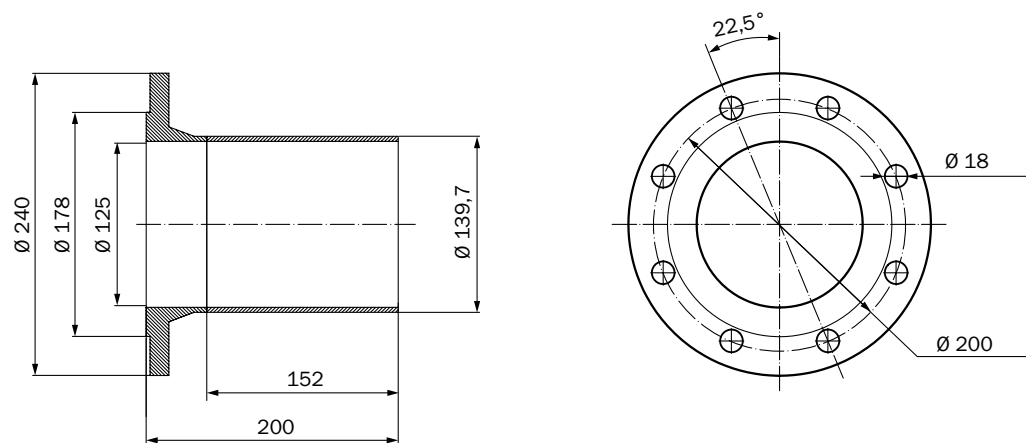


D

Mounting frame FWE200DH



Mounting flange, $D_f=125$ mm



D



Retaining an overview even at high dust concentrations

E

Transmittance dust measuring devices transmit light through the entire duct. The attenuation of the light indicates the dust concentration in the duct. The devices have been designed specifically for medium to high levels of dust concentration and large duct diameters. Therefore, they are as suitable for emissions and process monitoring as they are for monitoring applications in large production spaces.


Your benefits


- Reliable detection even at high dust concentrations
- Easy installation and commissioning
- Convenient operation
- Suitable for small to large measuring distances
- Long maintenance intervals thanks to automatic self-monitoring
- Condition-based maintenance signal
- Measurements independent of gas velocity, humidity, and particle charge




Transmittance dust measuring devices


Product family overview E-112

 **DUSTHUNTER C200** E-114
Two-in-one – dust measuring device with transmittance and scattered light measurement

 **DUSTHUNTER T50** E-126
The transmissiometer for monitoring dust concentrations

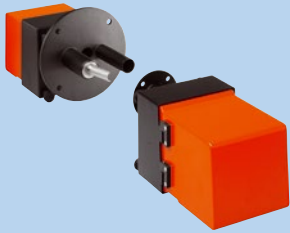

 **DUSTHUNTER T100.** E-134
The type-approved transmissiometer for monitoring emissions

 **DUSTHUNTER T200.** E-144
The type approved transmissiometer with self-alignment function

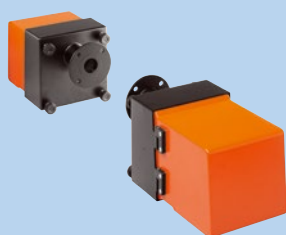
 **FW300 Ex** E-154
The reliable dust measuring device for explosion areas



Product family overview

			
	DUSTHUNTER C200	DUSTHUNTER T50	
	Two-in-one – dust measuring device with transmittance and scattered light measurement	The transmissiometer for monitoring dust concentrations	
Technical data			
Measurement principles	Transmittance measurement, scattered light forward	Transmittance measurement	
Measuring components	Transmittance, opacity, relative opacity, extinction, dust concentration (scattered light), dust concentration (transmittance), scattered light intensity	Transmittance, opacity, relative opacity, extinction, dust concentration	
TÜV-approved measured variables	Scattered light intensity, extinction	-	
Measuring ranges	Transmittance: 100 ... 90 % / 100 ... 0 % Opacity: 0 ... 10 % / 0 ... 100 % Relative opacity: 0 ... 10 % / 0 ... 100 % Extinction: 0 ... 0.045 / 0 ... 2 Dust concentration (scattered light): 0 ... 5 mg/m ³ / 0 ... 200 mg/m ³ Dust concentration (transmittance): 0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³	Transmittance: 100 ... 50 % / 100 ... 0 % Opacity: 0 ... 50 % / 0 ... 100 % Relative opacity: 0 ... 50 % / 0 ... 100 % Extinction: 0 ... 0.3 / 0 ... 1 Dust concentration: 0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³	
Remarks	The transmittance measurement depends on measuring distance and dust properties	The measurement depends on measuring distance and dust properties	
Certified measuring ranges	Dust concentration (scattered light): 0 ... 50 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 100 SI / 0 ... 200 SI Dust concentration (transmittance): 0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext	-	
Process temperature	-40 °C ... +300 °C	-40 °C ... +600 °C	
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	
Duct diameter	With reflector/scattered light receiver DHC-R0: 0.5 m ... 3 m With reflector/scattered light receiver DHC-R1: 2.5 m ... 8 m	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 8 m	
Test functions	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 30 %, fault at 40 %, manual linearity test with reference filter	Automatic self-test (linearity, drift, aging), manual linearity test with reference filter	
At a glance			
	<ul style="list-style-type: none"> • Combination of transmittance and scattered light measurement • For very low to high dust concentrations • Automatic check of zero and reference point • Double-sided contamination check and correction • Automatic self-alignment • For medium to large duct diameters 	<ul style="list-style-type: none"> • For medium to high dust concentrations • Automatic check of zero and reference point • For small to medium measuring distances 	
Detailed information	→ E-114	→ E-126	

E



DUSTHUNTER T100

The type-approved transmissiometer for monitoring emissions



DUSTHUNTER T200

The type approved transmissiometer with self-alignment function



FW300 Ex

The reliable dust measuring device for explosion areas

	Transmittance measurement Transmittance, opacity, relative opacity, extinction, dust concentration	Transmittance measurement Transmittance, opacity, relative opacity, extinction, dust concentration	Transmittance measurement Transmittance, opacity, extinction, dust concentration
	Dust concentration	Dust concentration	-
	Transmittance: 100 ... 80 % / 100 ... 0 % Opacity: 0 ... 20 % / 0 ... 100 % Relative opacity: 0 ... 20 % / 0 ... 100 % Extinction: 0 ... 0.1 / 0 ... 2 Dust concentration: 0 ... 200 mg/m ³ / 0 ... 10.000 mg/m ³	Transmittance: 100 ... 90 % / 100 ... 0 % Opacity: 0 ... 10 % / 0 ... 100 % Relative opacity: 0 ... 10 % / 0 ... 100 % Extinction: 0 ... 0.045 / 0 ... 2 Dust concentration: 0 ... 200 mg/m ³ / 0 ... 10.000 mg/m ³	Transmittance: 100 ... 80 % / 100 ... 0 % Opacity: 0 ... 20 % / 0 ... 100 % Extinction: 0 ... 0.1 ext / 0 ... 2.5 ext Dust concentration: 0 ... 13 mg/m ³ / 0 ... 12,000 mg/m ³
	The measurement depends on measuring distance and dust properties Dust concentration (transmittance): 0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext	The measurement depends on measuring distance and dust properties Dust concentration (transmittance): 0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext	The measurement depends on measuring distance and dust properties -
	-40 °C ... +600 °C	-40 °C ... +600 °C	0 °C ... +600 °C
	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	-50 hPa ... 30 hPa
	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 12 m	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 12 m	0.5 m ... 2 m 1.5 m ... 8 m
	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 20 %, fault at 30 %, manual linearity test with reference filter	Automatic self-test (linearity, contamination, drift, aging), contamination limit values: warning at 30 %, fault at 40 %, manual linearity test with reference filter	Automatic self-test (linearity, drift, aging), manual linearity test with reference filter

<ul style="list-style-type: none"> • For medium to high dust concentrations • Integrated contamination check • Automatic check of zero and reference point • For small to large measuring distances 	<ul style="list-style-type: none"> • Integrated contamination check for sender/receiver and reflector unit • Automatic self-alignment of the optical modules • Automatic check of zero and reference point • For medium to high dust concentrations • For small to large measuring distances 	<ul style="list-style-type: none"> • For medium to high dust concentrations • Automatic monitoring of zero and reference point • Device versions for ATEX Zones 1, 2, and 22 • For small to medium measuring distances
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→ E-134

→ E-144

→ E-154



Two-in-one – dust measuring device with transmittance and scattered light measurement



Additional information

Fields of applicationE-115

Detailed technical data.E-115

Ordering information.E-119

Dimensional drawingsE-119

Product description

The DUSTHUNTER C200 is a type-approved measuring device which combines the benefits of the transmittance and scattered light measurement principles. This makes it ideal for detecting very low to high dust content. Automatic

self-alignment optimizes the position of the measuring beam and prevents erroneous measurements. Automatic checking of the zero and reference points as well as a contamination check are integrated into the device.

At a glance

- Combination of transmittance and scattered light measurement
- For very low to high dust concentrations
- Automatic check of zero and reference point
- Double-sided contamination check and correction
- Automatic self-alignment
- For medium to large duct diameters

Your benefits

- Suitable for highly fluctuating dust concentration levels
- Redundant measurements for application reliability
- Self-monitoring for low maintenance
- Fit for the future for decreasing limit values
- Type-approved to EN 15267

→ www.mysick.com/en/DUSTHUNTER_C200

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



E

Fields of application

- Emissions monitoring in power plants and waste incineration plants
- Monitoring of filter plants
- Measurements of dust concentration in flue gas and exhaust air ducts upstream and downstream of filter

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER C200

Measured variables	Transmittance, opacity, relative opacity, extinction, dust concentration (scattered light), dust concentration (transmittance), scattered light intensity												
TÜV-approved measured variables	Scattered light intensity, extinction												
Measurement principles	Transmittance measurement, scattered light forward												
Spectral range	Transmittance measurement: 450 nm ... 700 nm Scattered light forward: 640 nm ... 660 nm Laser, protection class 2, power < 1 mW												
Measuring ranges	<table> <tr> <td>Transmittance</td> <td>100 ... 90 % / 100 ... 0 %</td> </tr> <tr> <td>Opacity</td> <td>0 ... 10 % / 0 ... 100 %</td> </tr> <tr> <td>Relative opacity</td> <td>0 ... 10 % / 0 ... 100 %</td> </tr> <tr> <td>Extinction</td> <td>0 ... 0.045 / 0 ... 2</td> </tr> <tr> <td>Dust concentration (scattered light)</td> <td>0 ... 5 mg/m³ / 0 ... 200 mg/m³</td> </tr> <tr> <td>Dust concentration (transmittance)</td> <td>0 ... 200 mg/m³ / 0 ... 10,000 mg/m³</td> </tr> </table> <p>The transmittance measurement depends on measuring distance and dust properties</p>	Transmittance	100 ... 90 % / 100 ... 0 %	Opacity	0 ... 10 % / 0 ... 100 %	Relative opacity	0 ... 10 % / 0 ... 100 %	Extinction	0 ... 0.045 / 0 ... 2	Dust concentration (scattered light)	0 ... 5 mg/m ³ / 0 ... 200 mg/m ³	Dust concentration (transmittance)	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³
Transmittance	100 ... 90 % / 100 ... 0 %												
Opacity	0 ... 10 % / 0 ... 100 %												
Relative opacity	0 ... 10 % / 0 ... 100 %												
Extinction	0 ... 0.045 / 0 ... 2												
Dust concentration (scattered light)	0 ... 5 mg/m ³ / 0 ... 200 mg/m ³												
Dust concentration (transmittance)	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³												
Certified measuring ranges	<table> <tr> <td>Dust concentration (scattered light)</td> <td>0 ... 50 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 100 SI / 0 ... 200 SI</td> </tr> <tr> <td>Dust concentration (transmittance)</td> <td>0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext</td> </tr> </table>	Dust concentration (scattered light)	0 ... 50 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 100 SI / 0 ... 200 SI	Dust concentration (transmittance)	0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext								
Dust concentration (scattered light)	0 ... 50 SI / 0 ... 5 SI / 0 ... 20 SI / 0 ... 100 SI / 0 ... 200 SI												
Dust concentration (transmittance)	0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext												
Response time	1 s ... 600 s configurable												
Accuracy	≤ ± 2 %												
Process temperature	-40 °C ... +300 °C												
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa												
Process gas humidity	Non-condensing												
Duct diameter	With reflector/scattered light receiver DHC-R0: 0.5 m ... 3 m With reflector/scattered light receiver DHC-R1: 2.5 m ... 8 m												
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) EN 14181 EN 15267 TA-Luft (Prevention of Air Pollution) MCERTS Conforms to U.S. EPA PS-1 Conforms to U.S. EPA PS-11												
Electrical safety	CE												
Corrective functions	Automatic self-alignment												
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 30 %, fault at 40 % Manual linearity test with reference filter												

Sender/receiver unit DHC-T

Description	Analyzer unit of the cross-duct measuring system
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 429 mm (for details see dimensional drawings)
Weight	≤ 9.5 kg
Electrical connection	
Voltage	24 V
	Supply via control unit
Power consumption	≤ 17 W
Auxiliary connections	Purge air

Reflector/scattered light receiver DHC-RO

Description	Combination of reflector unit for transmittance measurement and receiver for scattered light measurement
Measuring distances	≤ 0.1 m effective measuring distance for scattered light measurement
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 420 mm (for details see dimensional drawings)
Weight	≤ 8 kg
Auxiliary connections	Purge air

Reflector/scattered light receiver DHC-R1

Description	Combination of reflector unit for transmittance measurement and receiver for scattered light measurement
Measuring distances	≤ 0.3 m effective measuring distance for scattered light measurement
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	265 mm x 308 mm x 549 mm (for details see dimensional drawings)
Weight	≤ 12 kg
Auxiliary connections	Purge air

E

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)

Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclon type, dust capacity 200 g

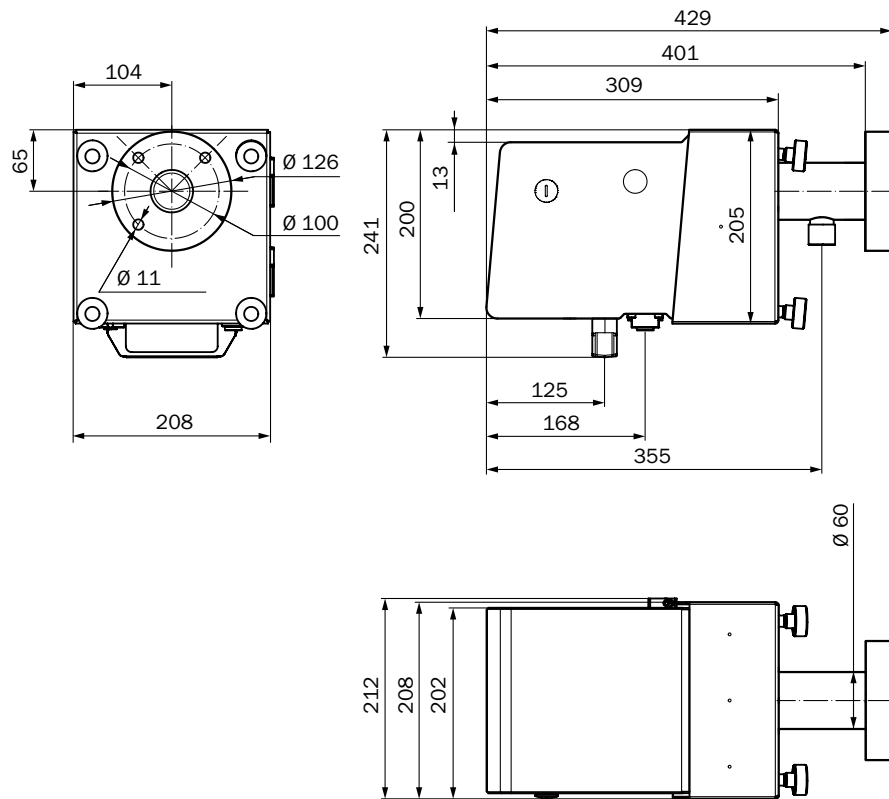
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

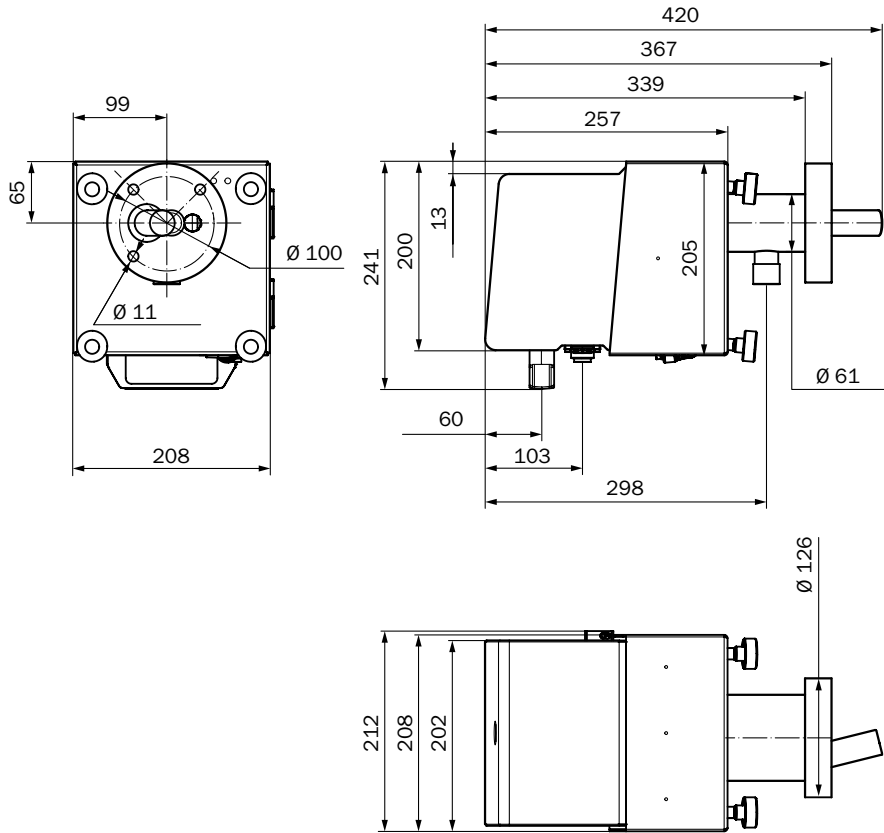
Dimensional drawings

Dimensions in mm

Sender/receiver unit DHC-T

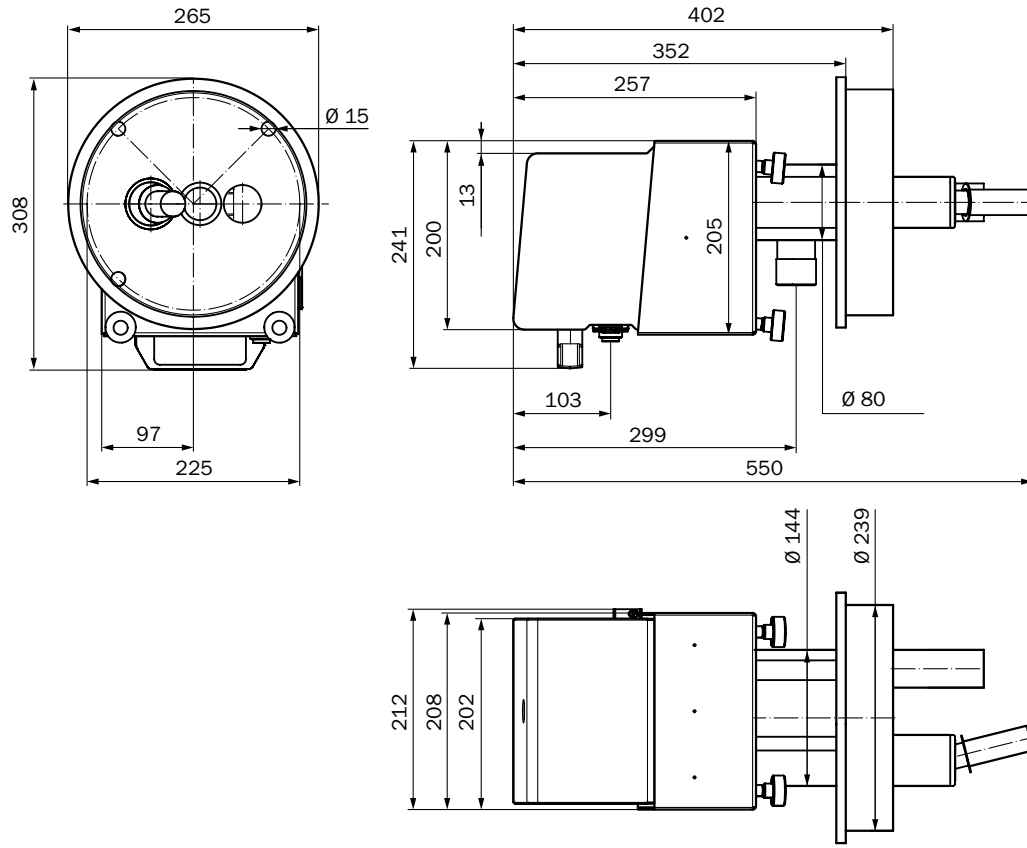


Reflector/scattered light receiver DHC-R0

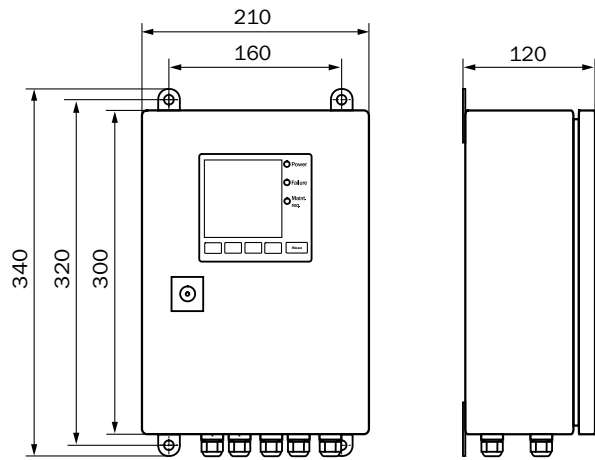


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Reflector/scattered light receiver DHC-R1

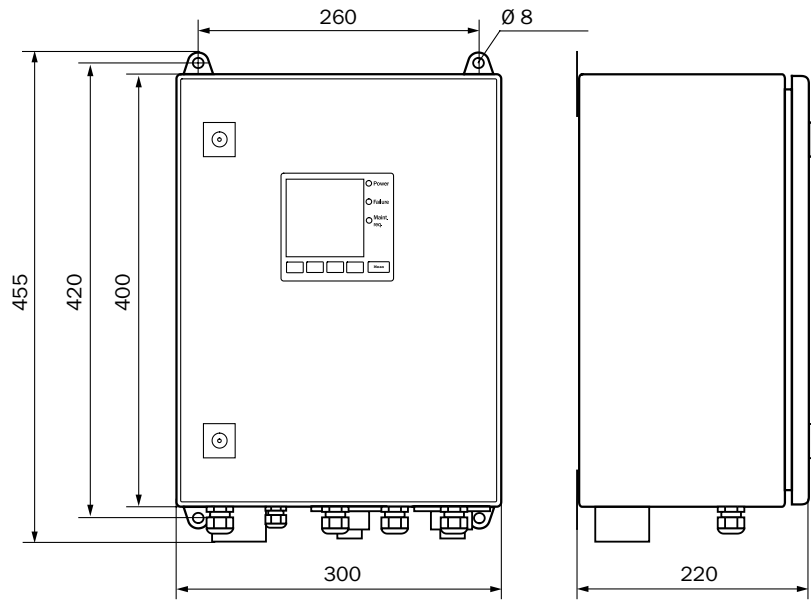


Control unit MCU-N

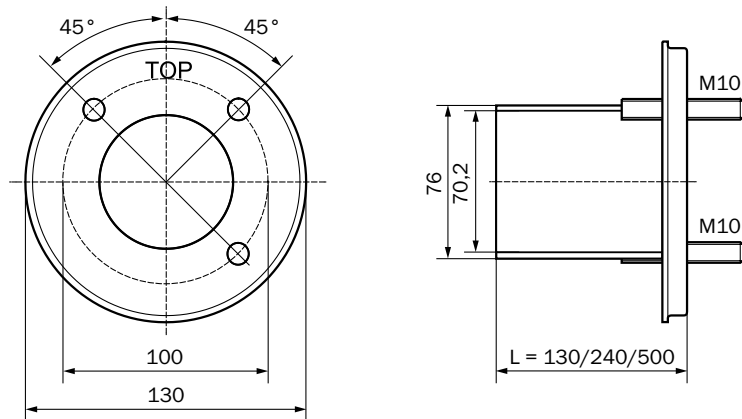


E

Control unit MCU-P

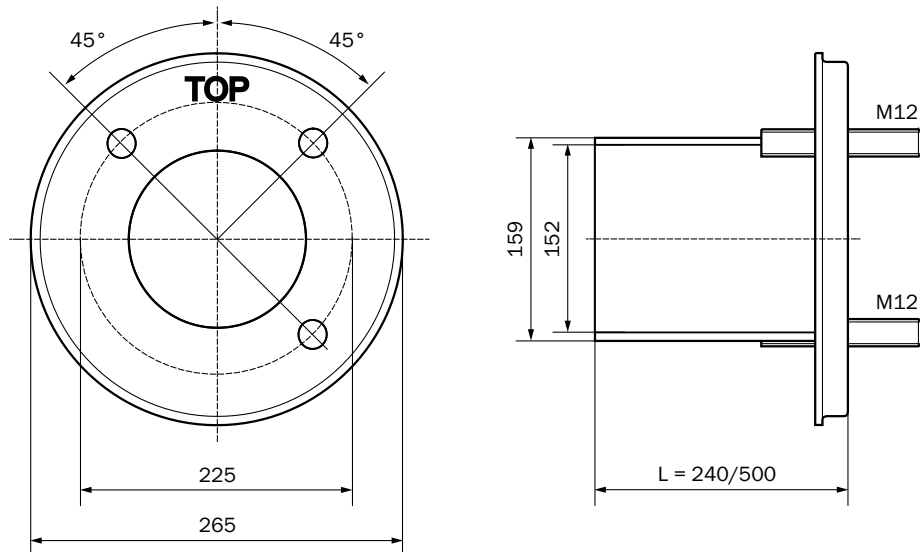


Mounting flange, $D_f=70.2$ mm

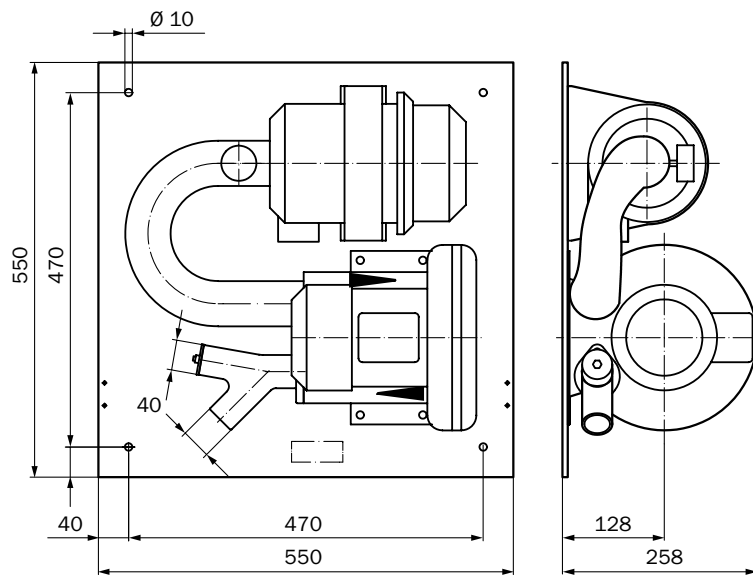


E

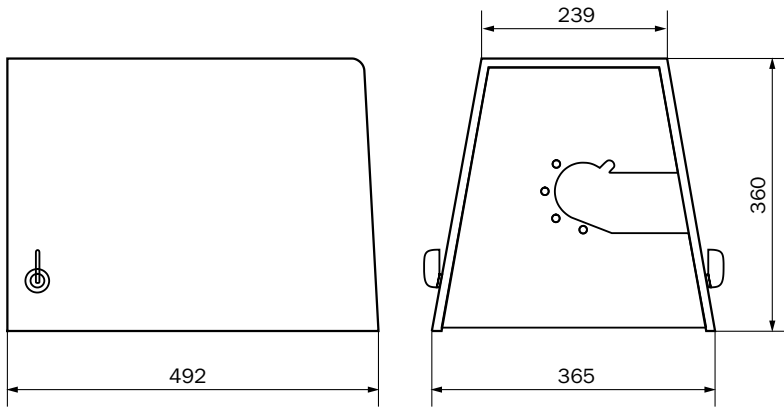
Mounting flange, $D_f=152$ mm



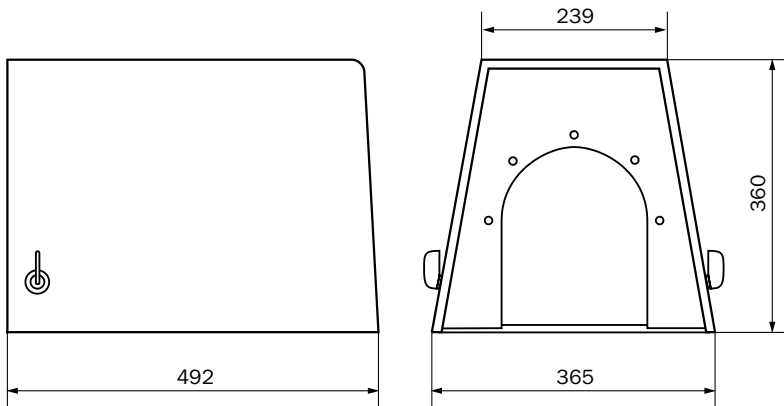
Purge air unit SLV4 2BH1300, 3-ph



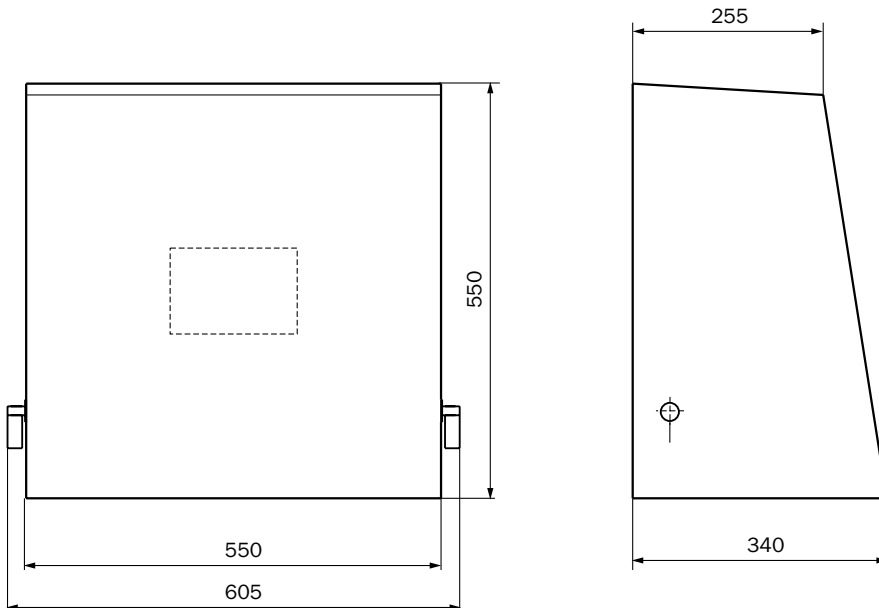
Weather hood for sender/receiver unit



Weather hood for DHSB/DHSF-R1/DHC-R1



Weather hood for purge air unit SLV4/SLV5



E



The transmissiometer for monitoring dust concentrations



Product description

The DUSTHUNTER T50 is a cost-effective measuring device for detecting medium to high dust content in gases above the dew point. Transmittance is the basic measured variable. It can be used to cal-

culate and output opacity and extinction as well as dust concentration according to gravimetric comparison measurements.

At a glance

- For medium to high dust concentrations
- Automatic check of zero and reference point
- For small to medium measuring distances

Your benefits

- Easy installation, commissioning and operation
- Measurement not dependent on gas velocity, humidity, or particle load
- Self-monitoring for low maintenance



Additional information

Fields of applicationE-127
 Detailed technical data.E-127
 Ordering information.E-130
 Dimensional drawingsE-130

→ www.mysick.com/en/DUSTHUNTER_T50

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



E

Fields of application

- Emissions monitoring in heating systems
- Monitoring of dust concentrations upstream of filter plants
- Dust concentration measurements in cement plants

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER T50

Measured variables	Transmittance, opacity, relative opacity, extinction, dust concentration	
Measurement principles	Transmittance measurement	
Spectral range	450 nm ... 700 nm	
Measuring ranges	Transmittance 100 ... 50 % / 100 ... 0 % Opacity 0 ... 50 % / 0 ... 100 % Relative opacity 0 ... 50 % / 0 ... 100 % Extinction 0 ... 0.3 / 0 ... 1 Dust concentration 0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³ The measurement depends on measuring distance and dust properties	
Response time	1 s ... 600 s Freely configurable	
Accuracy	± 2 %	
Process temperature	-40 °C ... +600 °C	
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa	
Process gas humidity	Non-condensing	
Duct diameter	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 8 m	
Electrical safety	CE	
Test functions	Automatic self-test (linearity, drift, aging) Manual linearity test with reference filter	
Options	External purge air unit	

Sender/receiver unit DHC-T00

Description	Analyzer unit of the cross-duct measuring system	
Ambient temperature	-40 °C ... +60 °C	
Enclosure rating	IP 66	
Dimensions (W x H x D)	198 mm x 216 mm x 398 mm (for details see dimensional drawings)	
Weight	≤ 5 kg	
Electrical connection	Voltage 24 V Supply via control unit Power consumption ≤ 15 W	



Reflector unit DHT-R5x

Description	Reflector unit with triple reflector
Enclosure rating	IP 66
Dimensions (W x H x D)	126 mm x 131 mm x 139 mm (for details see dimensional drawings)
Weight	DHT-R50, DHT-R51: ≤ 1 kg

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them						
Ambient temperature	-40 °C ... +60 °C						
Enclosure rating	IP 66						
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)						
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)						
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals						
Digital inputs	4 volt-free contacts						
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)						
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)						
Display	LCD (option) Status LEDs: "Power", "Maintenance", and "Fault"						
Operation	Via LCD (option) or SOPAS ET software						
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm						
Weight	≤ 3.7 kg						
Electrical connection	<table border="0"> <tr> <td style="padding-right: 20px;">Voltage</td> <td>90 ... 250 V 24 V DC version available as an option</td> </tr> <tr> <td>Frequency</td> <td>47 ... 63 Hz</td> </tr> <tr> <td>Power consumption</td> <td>≤ 15 W</td> </tr> </table>	Voltage	90 ... 250 V 24 V DC version available as an option	Frequency	47 ... 63 Hz	Power consumption	≤ 15 W
Voltage	90 ... 250 V 24 V DC version available as an option						
Frequency	47 ... 63 Hz						
Power consumption	≤ 15 W						
Options	Interface module(s) I/O module(s)						

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m³/h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)

Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD (option) Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD (option) or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

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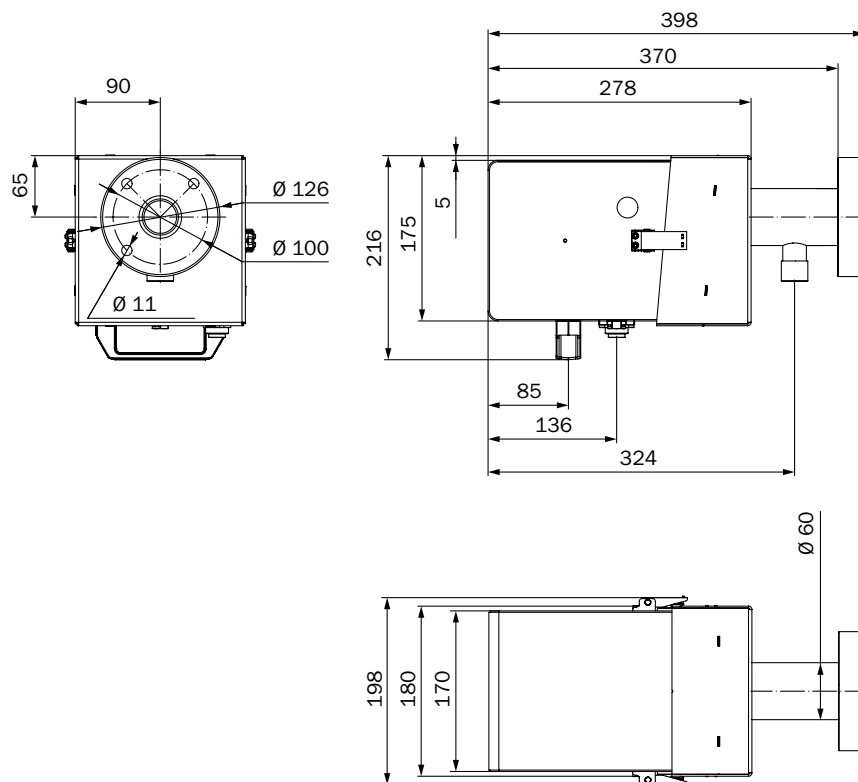
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

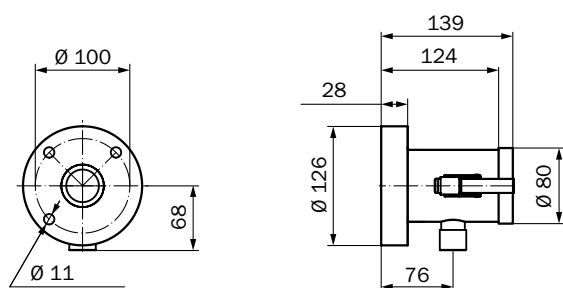
Dimensional drawings

Dimensions in mm

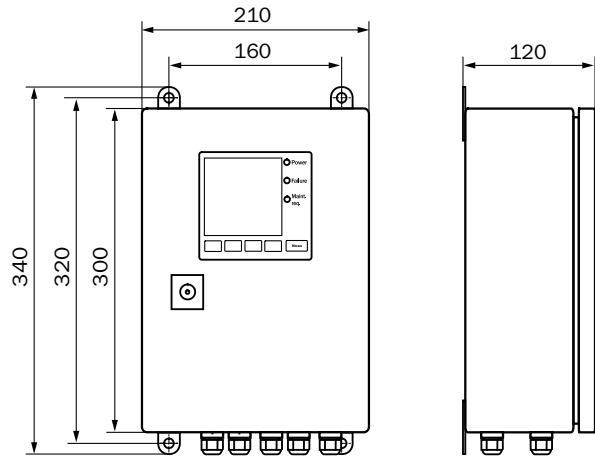
Sender/receiver unit DHC-T00



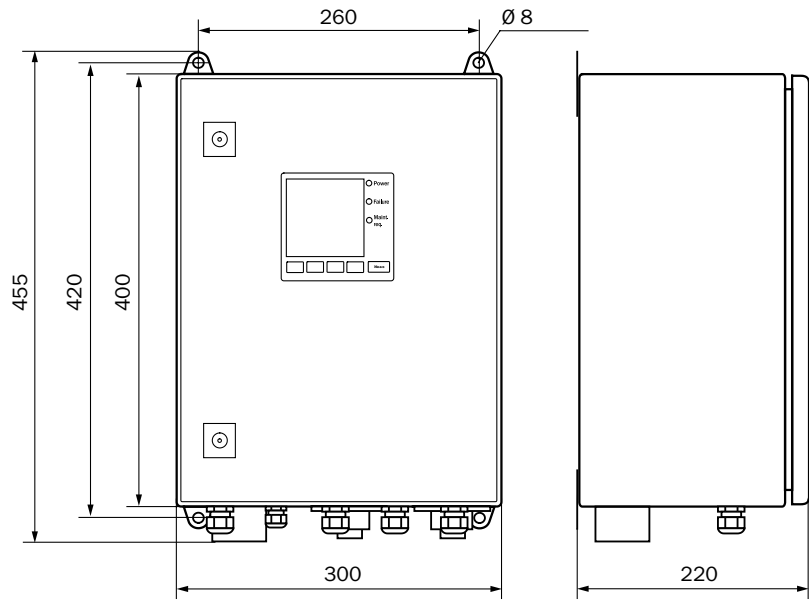
Reflector unit DHT-R5x



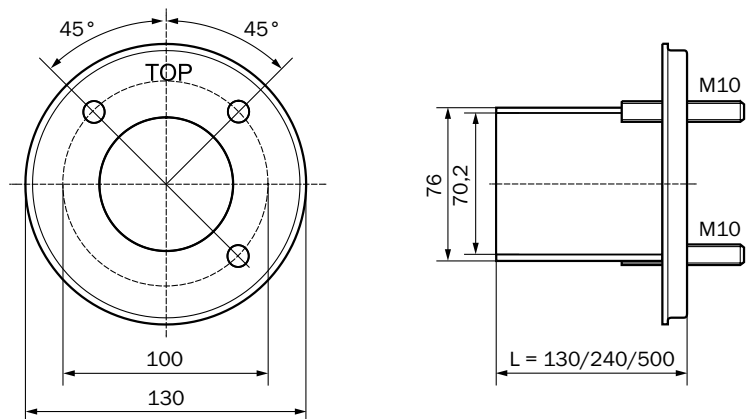
Control unit MCU-N



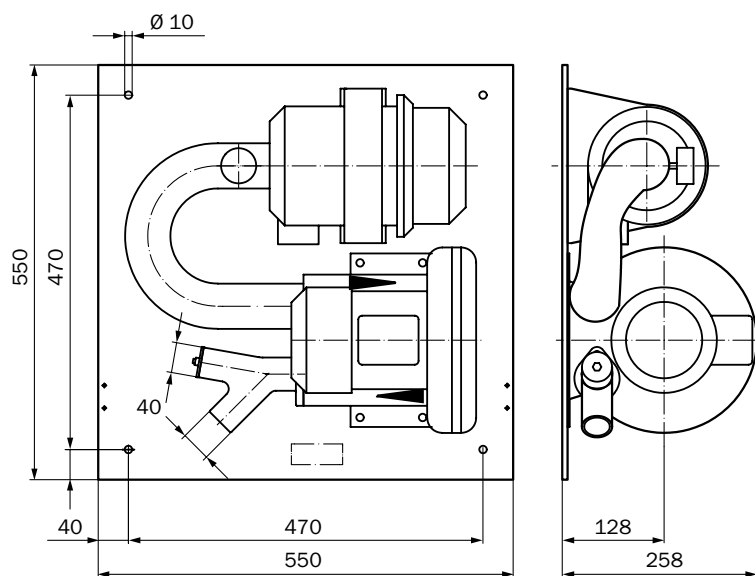
Control unit MCU-P



Mounting flange, $D_1=70.2$ mm

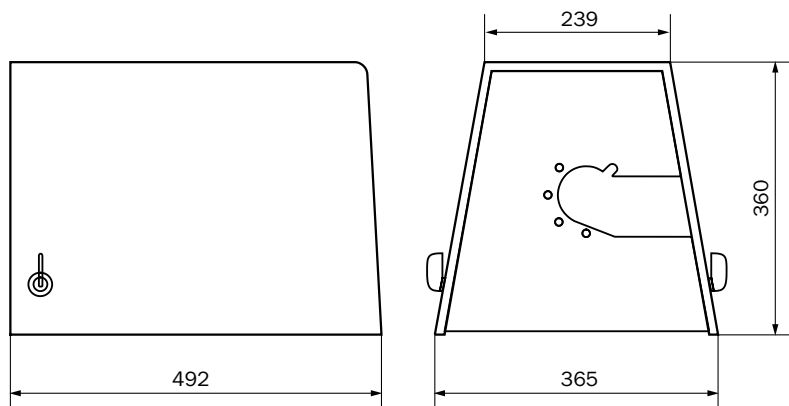


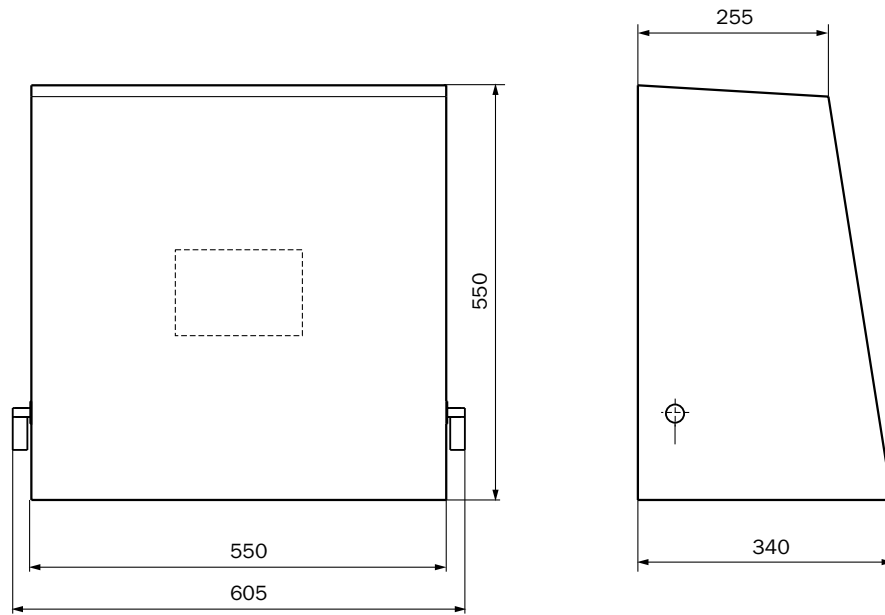
Purge air unit SLV4 2BH1300, 3-ph



E

Weather hood for sender/receiver unit



Weather hood for purge air unit SLV4/SLV5

The type-approved transmissiometer for monitoring emissions



Product description

The DUSTHUNTER T100 is a measuring device for detecting medium to high dust content. Transmittance is the basic measured variable. Opacity and extinction can be calculated and output along with dust concentration according to gravi-

metric comparison measurements. The measuring system features an integrated contamination check. The DUSTHUNTER T100 is type-approved to EN 15267-3.

At a glance

- For medium to high dust concentrations
- Integrated contamination check
- Automatic check of zero and reference point
- For small to large measuring distances

Your benefits

- Easy installation, commissioning and operation
- Measurement not dependent on gas velocity, humidity, or particle load
- Self-monitoring for low maintenance
- Type-approved to EN 15267



Additional information

Fields of applicationE-135
 Detailed technical data.E-135
 Ordering information.E-138
 Dimensional drawingsE-138

→ www.mysick.com/en/DUSTHUNTER_T100

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



E

Fields of application

- Emissions monitoring in power plants and waste incineration plants
- Monitoring of filter plants
- Monitoring of dust load in factories
- Control of air supply and exhaust air installations

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER T100

Measured variables	Transmittance, opacity, relative opacity, extinction, dust concentration										
TÜV-approved measured variables	Dust concentration										
Measurement principles	Transmittance measurement										
Spectral range	450 nm ... 700 nm										
Measuring ranges	<table> <tr> <td>Transmittance</td> <td>100 ... 80 % / 100 ... 0 %</td> </tr> <tr> <td>Opacity</td> <td>0 ... 20 % / 0 ... 100 %</td> </tr> <tr> <td>Relative opacity</td> <td>0 ... 20 % / 0 ... 100 %</td> </tr> <tr> <td>Extinction</td> <td>0 ... 0.1 / 0 ... 2</td> </tr> <tr> <td>Dust concentration</td> <td>0 ... 200 mg/m³ / 0 ... 10,000 mg/m³</td> </tr> </table> <p>The measurement depends on measuring distance and dust properties</p>	Transmittance	100 ... 80 % / 100 ... 0 %	Opacity	0 ... 20 % / 0 ... 100 %	Relative opacity	0 ... 20 % / 0 ... 100 %	Extinction	0 ... 0.1 / 0 ... 2	Dust concentration	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³
Transmittance	100 ... 80 % / 100 ... 0 %										
Opacity	0 ... 20 % / 0 ... 100 %										
Relative opacity	0 ... 20 % / 0 ... 100 %										
Extinction	0 ... 0.1 / 0 ... 2										
Dust concentration	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³										
Certified measuring ranges											
Dust concentration (transmittance)	0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext										
Response time	1 s ... 600 s Freely configurable										
Accuracy	± 2 %										
Process temperature	-40 °C ... +600 °C										
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa										
Process gas humidity	Non-condensing										
Duct diameter	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 12 m										
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) EN 15267 EN 14181 MCERTS TA-Luft (Prevention of Air Pollution)										
Electrical safety	CE										
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 20 %, fault at 30 % Manual linearity test with reference filter										
Options	External purge air unit										

Sender/receiver unit DHT-T10 and DHT-T21

Description	Analyzer unit of the cross-duct measuring system
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 429 mm (for details see dimensional drawings)
Weight	≤ 6.5 kg
Electrical connection	
Voltage	24 V Supply via control unit
Power consumption	≤ 15 W

Reflector unit DHT-R0x and DHT-R1x

Description	Reflector unit with triple reflector
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 364 mm (for details see dimensional drawings)
Weight	DHT-R00, DHT-R01, DHT-R02: ≤ 3 kg

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
	Voltage 90 ... 250 V 24 V DC version available as an option
	Frequency 47 ... 63 Hz
	Power consumption ≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)

Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	

	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 220 ... 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g

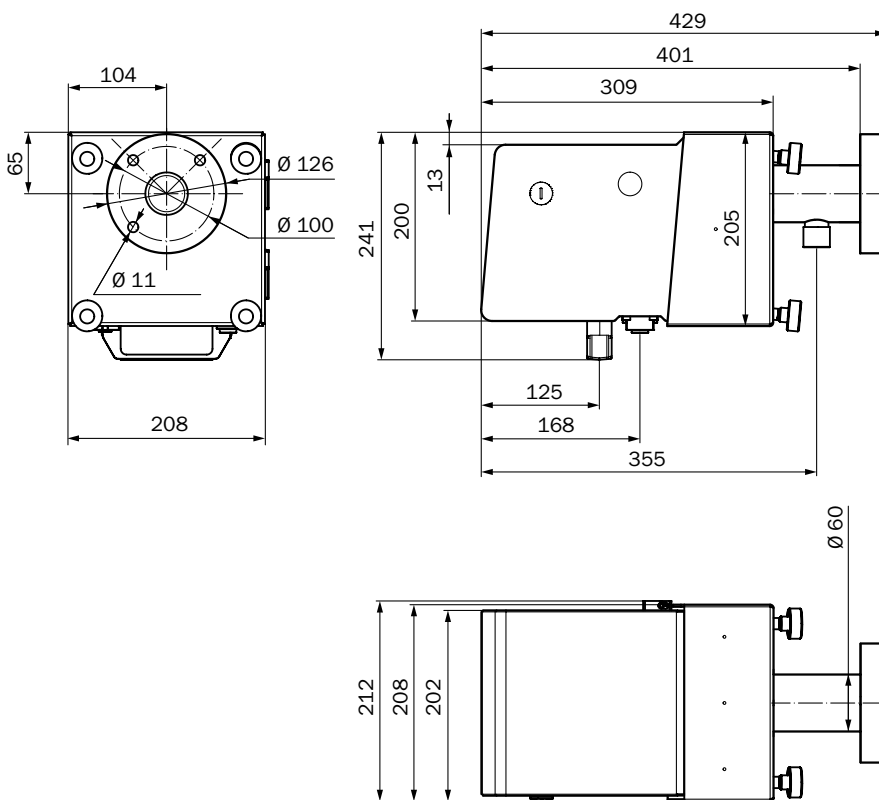
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

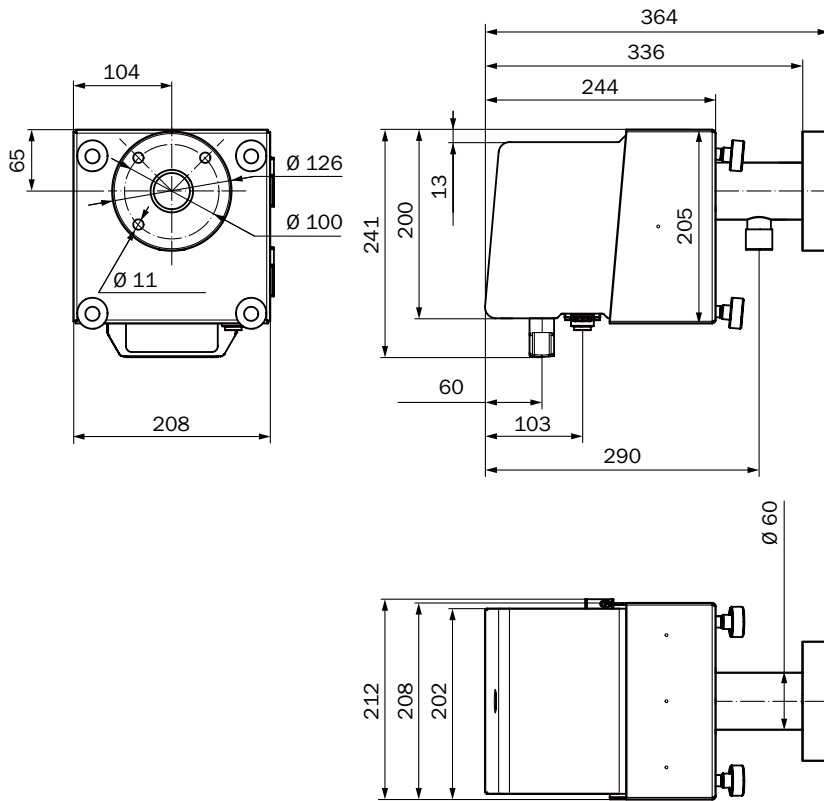
Dimensional drawings

Dimensions in mm

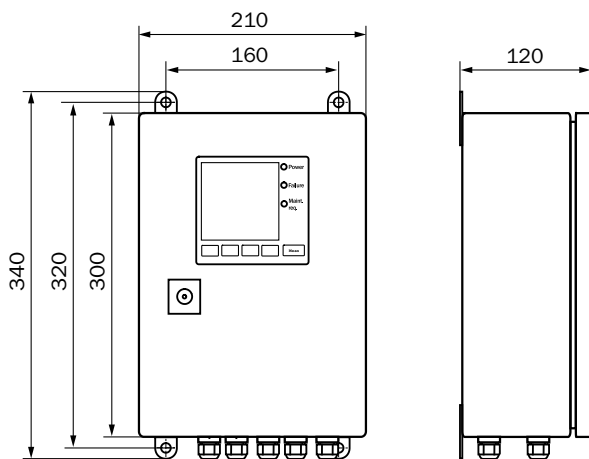
Sender/receiver unit DHT-T10 and DHT-T21



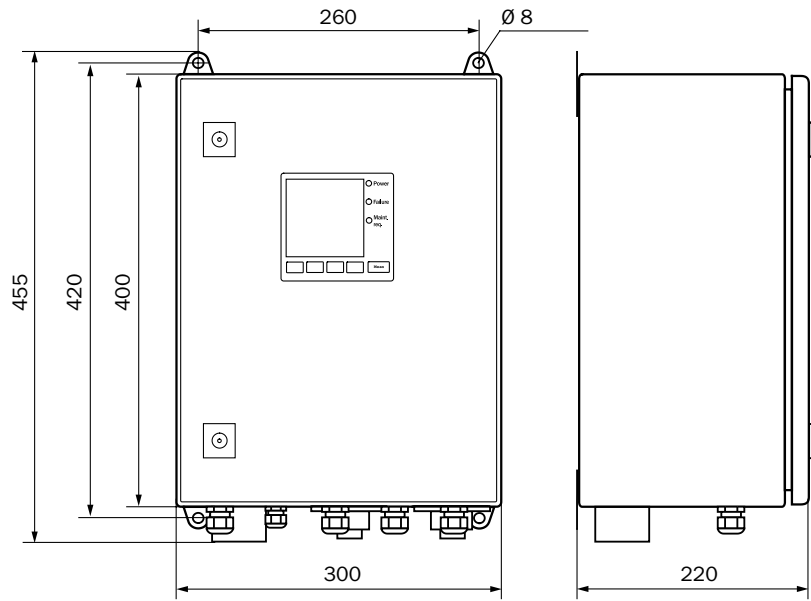
Reflector unit DHT-R0x and DHT-R1x



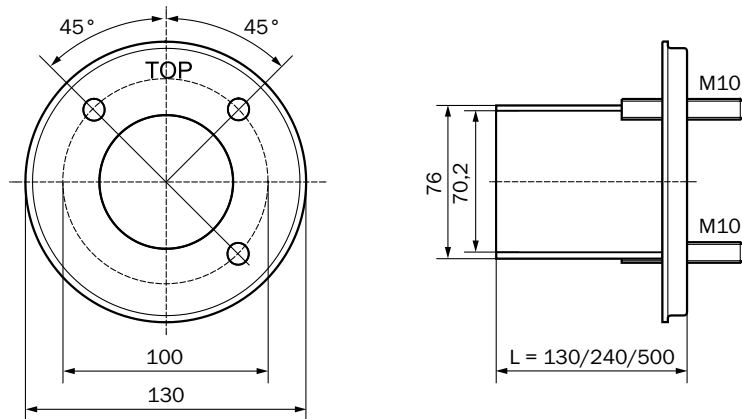
Control unit MCU-N



Control unit MCU-P

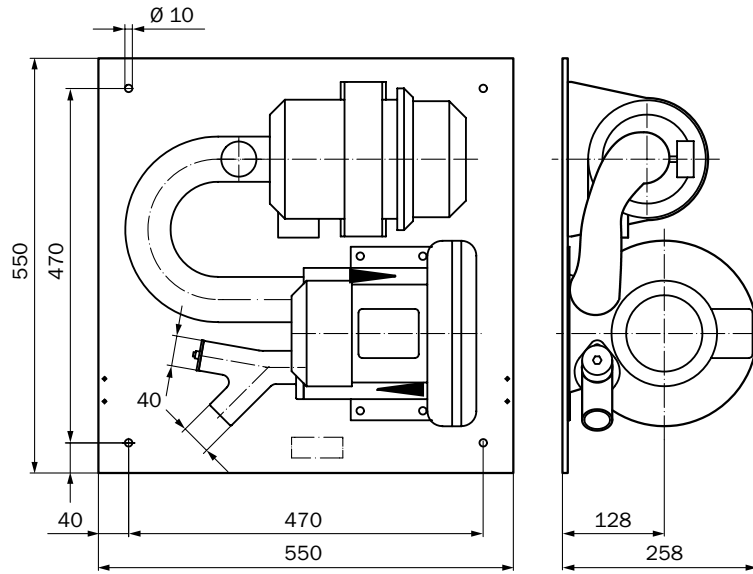


Mounting flange, $D_f=70.2$ mm

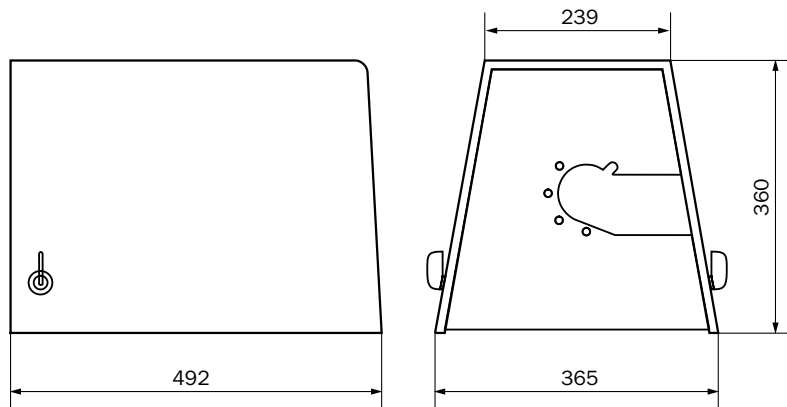


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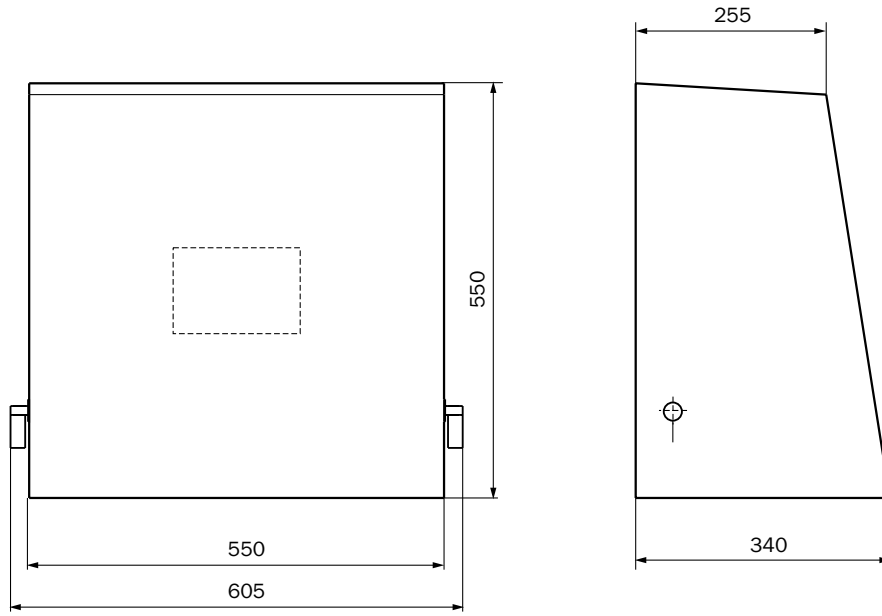
Purge air unit SLV4 2BH1300, 3-ph



Weather hood for sender/receiver unit



Weather hood for purge air unit SLV4/SLV5



E



The type approved transmissiometer with self-alignment function



Additional information

Fields of applicationE-145

Detailed technical data.E-145

Ordering information.E-148

Dimensional drawingsE-148

Product description

The DUSTHUNTER T200 is a measuring device for detecting medium to high dust content. Transmittance is the basic measured variable. Opacity and extinction can be calculated and output along with dust concentration according to gravimetric comparison

measurements. It also features an integrated contamination check for sender/receiver and reflector unit and automatic self-alignment of the optical modules. The DUSTHUNTER T200 is type-approved to EN 15267.

At a glance

- Integrated contamination check for sender/receiver and reflector unit
- Automatic self-alignment of the optical modules
- Automatic check of zero and reference point
- For medium to high dust concentrations
- For small to large measuring distances

Your benefits

- Easy installation, commissioning and operation
- Measurement not dependent on gas velocity, humidity, or particle load
- Self-monitoring and contamination check for low maintenance
- Type-approved to EN 15267

E

→ www.mysick.com/en/DUSTHUNTER_T200

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Fields of application

- Emissions monitoring in power plants and waste incineration plants
- Monitoring of filter plants
- Monitoring of dust load in factories
- Control of air supply and exhaust air installations

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System DUSTHUNTER T200

Measured variables	Transmittance, opacity, relative opacity, extinction, dust concentration										
TÜV-approved measured variables	Dust concentration										
Measurement principles	Transmittance measurement										
Spectral range	450 nm ... 700 nm										
Measuring distances	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 12 m										
Measuring ranges	<table> <tr> <td>Transmittance</td> <td>100 ... 90 % / 100 ... 0 %</td> </tr> <tr> <td>Opacity</td> <td>0 ... 10 % / 0 ... 100 %</td> </tr> <tr> <td>Relative opacity</td> <td>0 ... 10 % / 0 ... 100 %</td> </tr> <tr> <td>Extinction</td> <td>0 ... 0.045 / 0 ... 2</td> </tr> <tr> <td>Dust concentration</td> <td>0 ... 200 mg/m³ / 0 ... 10,000 mg/m³</td> </tr> </table> <p>The measurement depends on measuring distance and dust properties</p>	Transmittance	100 ... 90 % / 100 ... 0 %	Opacity	0 ... 10 % / 0 ... 100 %	Relative opacity	0 ... 10 % / 0 ... 100 %	Extinction	0 ... 0.045 / 0 ... 2	Dust concentration	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³
Transmittance	100 ... 90 % / 100 ... 0 %										
Opacity	0 ... 10 % / 0 ... 100 %										
Relative opacity	0 ... 10 % / 0 ... 100 %										
Extinction	0 ... 0.045 / 0 ... 2										
Dust concentration	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³										
Certified measuring ranges											
Dust concentration (transmittance)	0 ... 0.1 ext / 0 ... 0.05 ext / 0 ... 0.2 ext / 0 ... 0.5 ext / 0 ... 1 ext										
Response time	1 s ... 600 s Freely configurable										
Accuracy	± 2 %										
Process temperature	-40 °C ... +600 °C										
Process pressure	With control unit MCU-P: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa										
Process gas humidity	Non-condensing										
Duct diameter	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 12 m										
Conformity	Approved for system requiring permission 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV (Traffic Noise Protection) EN 15267 EN 14181 MCERTS TA-Luft (Prevention of Air Pollution) Conforms to U.S. EPA PS-11										
Electrical safety	CE										
Corrective functions	Automatic self-alignment										
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 30 %, fault at 40 % Manual linearity test with reference filter										
Options	External purge air unit										

Sender/receiver unit DHT-T10 and DHT-T21

Description	Analyzer unit of the cross-duct measuring system
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 429 mm (for details see dimensional drawings)
Weight	≤ 10 kg
Electrical connection	
Voltage	24 V Supply via control unit
Power consumption	≤ 15 W

Reflector unit DHT-R0x and DHT-R1

Description	Reflector unit with triple reflector
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 364 mm (for details see dimensional drawings)
Weight	DHT-R10, DHT-R11, DHT-R12: ≤ 5 kg

Control unit MCU-N

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm
Weight	≤ 3.7 kg
Electrical connection	
Voltage	90 ... 250 V 24 V DC version available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)

Control unit MCU-P

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Sample quantity	≤ 20 m ³ /h
Ambient temperature	-40 °C ... +45 °C Suction temperature for the purge air
Enclosure rating	IP 66
Analog outputs	3 outputs: 0/2/4 ... 20 mA, 750 Ω electrically isolated; two additional outputs if using I/O modules (option)
Analog inputs	2 inputs: 0 ... 20 mA not electrically isolated; two additional inputs if using I/O modules (option)
Digital outputs	5 relay contacts: 48 V, 1 A Volt-free; for status signals
Digital inputs	4 volt-free contacts
Interfaces	USB (service interface) RS-232 (service interface) RS-485 (via optional interface module) Interface module (option)
Bus protocol	Ethernet TCP/IP (via optional interface module) MODBUS (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LCD Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LCD or SOPAS ET software
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm
Weight	≤ 13.5 kg
Electrical connection	
	Voltage 90 ... 250 V 24 V DC version available as an option
	Frequency 47 ... 63 Hz
	Power consumption ≤ 70 W
Auxiliary connections	Purge air
Options	Interface module(s) I/O module(s)



Purge air unit SLV4 2BH1300, 3-ph

Description	Unit supplying dust-free air for purging optical surfaces
Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Electrical connection	3-phase, Δ: 200 ... 240 V / 50 Hz / 2.6 A / 350 W 3-phase, Δ: 275 V / 60 Hz / 2.3 A / 450 W 3-phase, Y: 345 ... 415 V / 50 Hz / 1.5 A / 350 W 3-phase, Y: 380 ... 480 V / 60 Hz / 1.3 A / 450 W
Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclon type, dust capacity 200 g

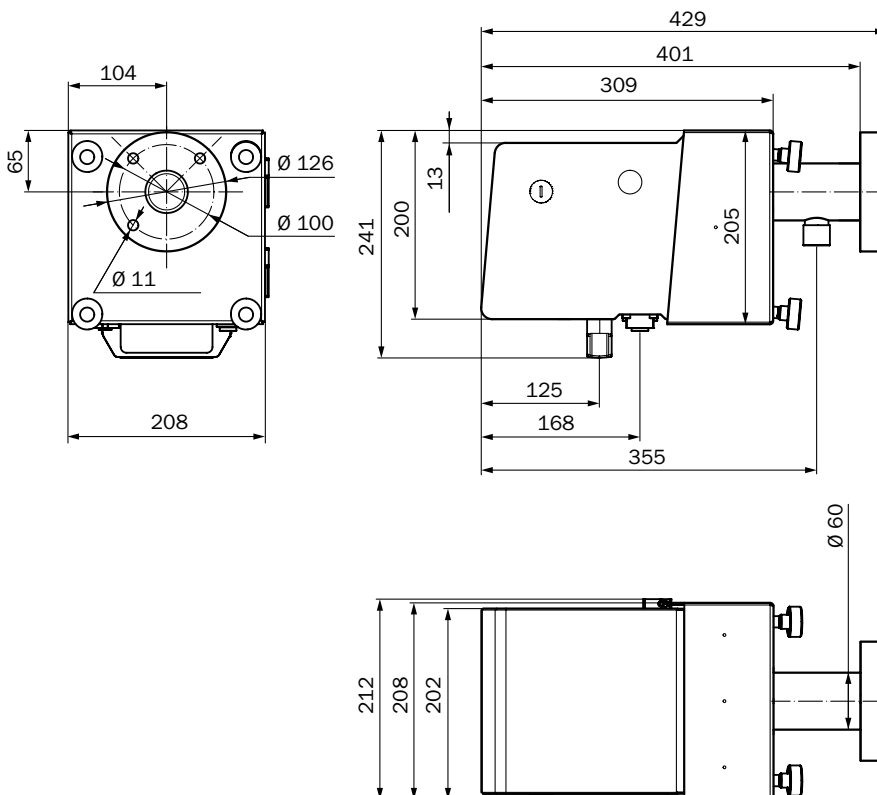
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings

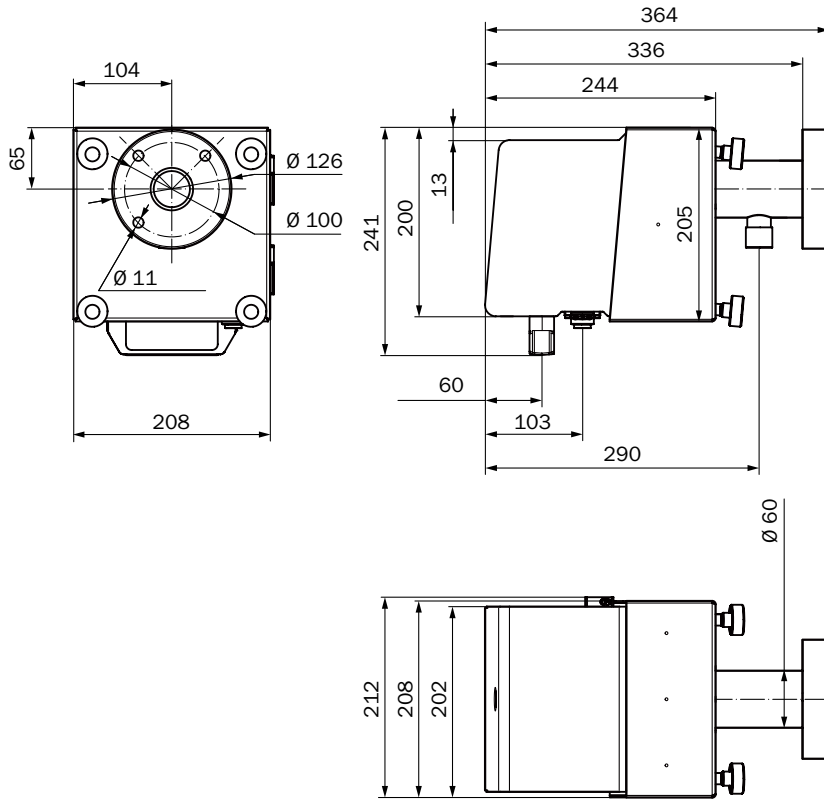
Dimensions in mm

Sender/receiver unit DHT-T10 and DHT-T21

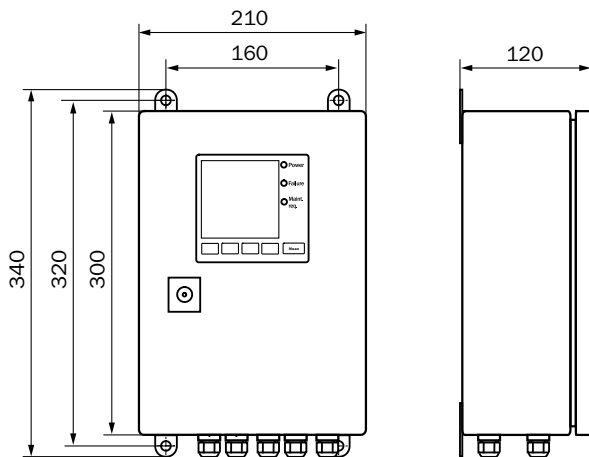


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Reflector unit DHT-R0x and DHT-R1x

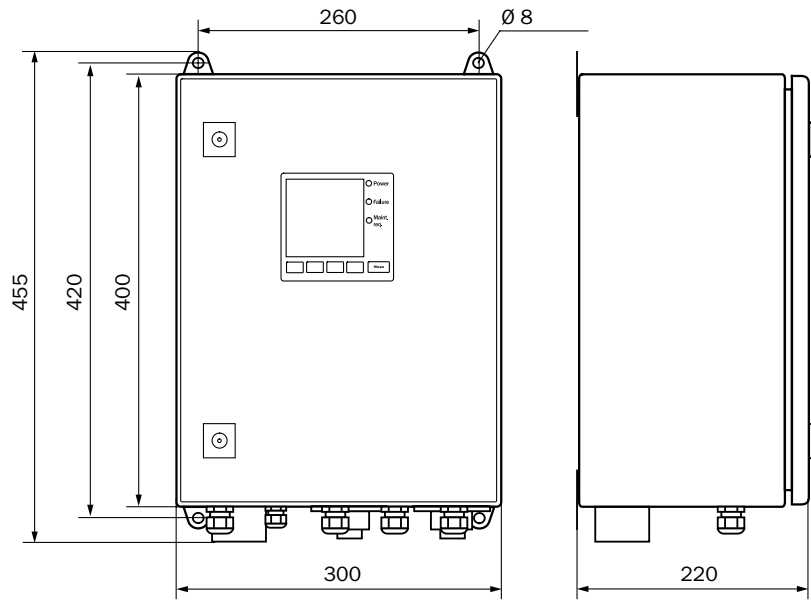


Control unit MCU-N

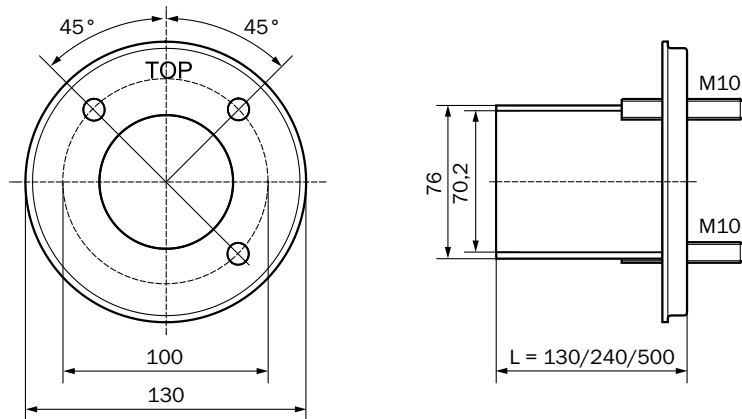


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Control unit MCU-P

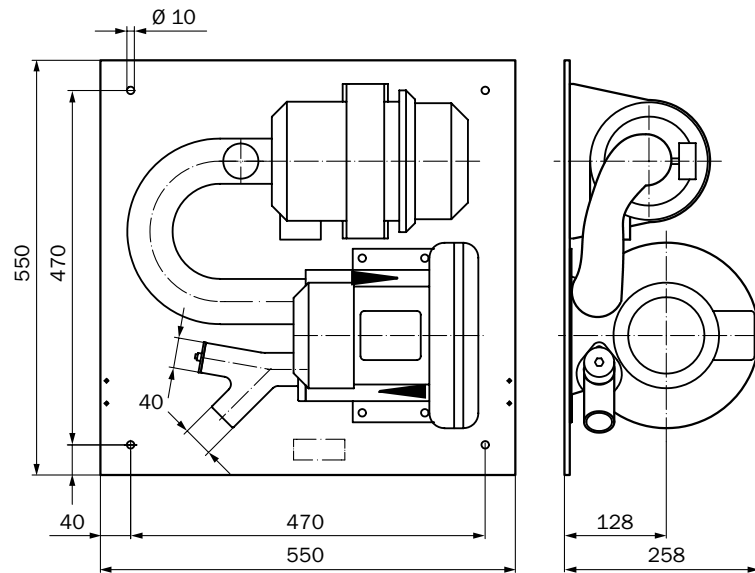


Mounting flange, $D_f=70.2$ mm

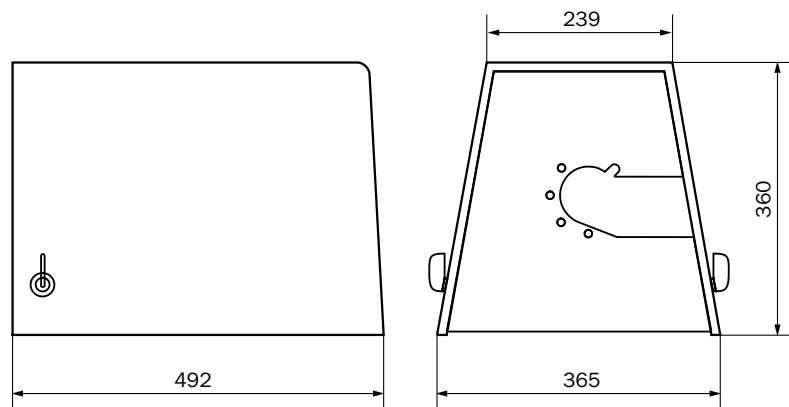


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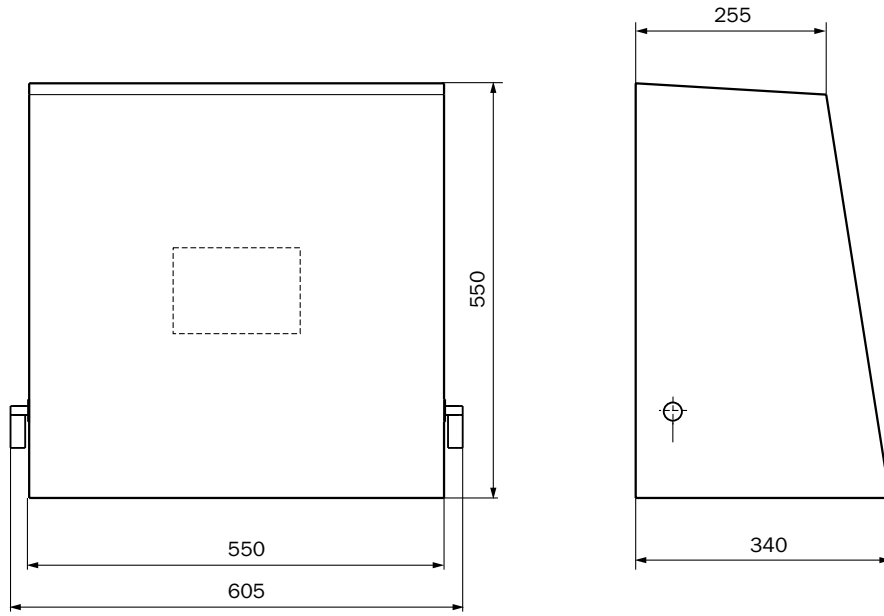
Purge air unit SLV4 2BH1300, 3-ph



Weather hood for sender/receiver unit



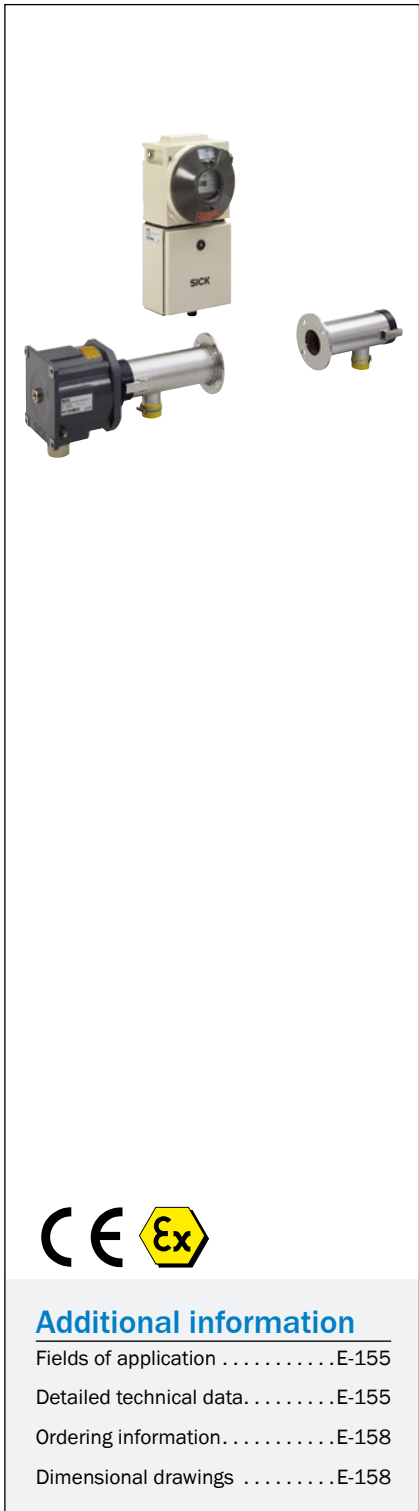
Weather hood for purge air unit SLV4/SLV5



E



The reliable dust measuring device for explosion areas



Product description

Transmittance, opacity, extinction, and dust concentration - with the FW300 Ex, these measured variables can be freely selected. Be it sticky dusts, high gas temperatures, or fluctuating gas velocities, the FW300 Ex is capable of speedy

and highly accurate measurements even under the most difficult of conditions. For applications in explosion areas, a version housed inside a pressure-resistant enclosure and a dust-proof version are available.

At a glance

- For medium to high dust concentrations
- Automatic monitoring of zero and reference point
- Device versions for ATEX Zones 1, 2, and 22
- For small to medium measuring distances

Your benefits

- Easy operation
- Minimum maintenance required
- Measurements in explosion areas



Additional information

Fields of application E-155
 Detailed technical data E-155
 Ordering information E-158
 Dimensional drawings E-158

→ www.mysick.com/en/FW300_Ex

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



E

Fields of application

- Monitoring of filter plants for broken filters
- Monitoring of dust load in factories
- Emissions monitoring in industrial plants
- Measurements of dust emissions in waste dumps, quarries, and grinding plants

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System FW300 Ex

Measured variables	Transmittance, opacity, extinction, dust concentration								
Measurement principles	Transmittance measurement								
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW								
Measuring ranges	<table> <tr> <td>Transmittance</td> <td>100 ... 80 % / 100 ... 0 %</td> </tr> <tr> <td>Opacity</td> <td>0 ... 20 % / 0 ... 100 %</td> </tr> <tr> <td>Extinction</td> <td>0 ... 0.1 ext / 0 ... 2.5 ext</td> </tr> <tr> <td>Dust concentration</td> <td>0 ... 13 mg/m³ / 0 ... 12,000 mg/m³</td> </tr> </table> <p>The measurement depends on measuring distance and dust properties</p>	Transmittance	100 ... 80 % / 100 ... 0 %	Opacity	0 ... 20 % / 0 ... 100 %	Extinction	0 ... 0.1 ext / 0 ... 2.5 ext	Dust concentration	0 ... 13 mg/m ³ / 0 ... 12,000 mg/m ³
Transmittance	100 ... 80 % / 100 ... 0 %								
Opacity	0 ... 20 % / 0 ... 100 %								
Extinction	0 ... 0.1 ext / 0 ... 2.5 ext								
Dust concentration	0 ... 13 mg/m ³ / 0 ... 12,000 mg/m ³								
Response time	0.1 s ... 600 s Freely configurable								
Accuracy	Transmittance: ± 0.4 % Opacity: ± 0.4 % Extinction: ± 0.002 ext Dust concentration: ± 2 %								
Process temperature	0 °C ... +600 °C								
Process pressure	-50 hPa ... 30 hPa								
Process gas humidity	Non-condensing								
Duct diameter	0.5 m ... 2 m 1.5 m ... 8 m								
Electrical safety	CE								
Operation	Via MEPA software								
Test functions	Automatic self-test (linearity, drift, aging) Manual linearity test with reference filter								

Sender/receiver unit FWSE300 Ex

Description	Analyzer unit of the cross-duct measuring system
Ambient temperature	-20 °C ... +40 °C
Ex approvals	
	ATEX Zone 1 and 2: II 2G Ex IIC T6 Zone 22: II 3D Ex t IIIB T80 °C Dc IP 54
Enclosure rating	IP 65
Dimensions (W x H x D)	160 mm x 200 mm x 191 mm (for details see dimensional drawings)
Weight	≤ 4.6 kg
Electrical connection	
	Voltage 24 V Supply via connection unit
	Power consumption ≤ 4 W

Rotary reflector FW-R-055-D

Description	Reflector unit with glass triple reflector	
Ambient temperature	-20 °C ... +40 °C	
Ex approvals	ATEX	Zone 1 and 2: II 2G Ex IIC T6 Zone 22: II 3D Ex t IIIB T80 °C Dc IP 54
Enclosure rating	IP 65	
Dimensions (W x H x D)	160 mm x 200 mm x 191 mm (for details see dimensional drawings)	
Weight	4.7 kg	
Electrical connection	Voltage	24
	Power consumption	≤ 12 W
		Supply via connection unit

Fixed reflector FW-R-055-F

Description	Reflector unit with glass triple reflector	
Ambient temperature	-20 °C ... +40 °C	
Enclosure rating	IP 65	
Dimensions (W x H x D)	80 mm x 80 mm x 34 mm (for details see dimensional drawings)	
Weight	0.4 kg	

Purge air fixture FW-V

Description	Flange fixture with connection for the purge air	
Dimensions (W x H x D)	126 mm x 126 mm x 200 mm (for details see dimensional drawings)	
Weight	1.4 kg	

Connection unit AK1-Ex

Description	Unit for connecting data cables and power supply for system components; for use in explosion areas	
Ambient temperature	-20 °C ... +40 °C	
Ex approvals	ATEX	II 2G Ex de IIC T6
Enclosure rating	IP 65	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second output as option	
Digital outputs	3 relay contacts: 48 V, 1 A Volt-free; for operation/fault status signals, limit value, maintenance	
Digital inputs	1 input: Volt-free; for maintenance switch	
Interfaces	RS-232 (service interface)	
Bus protocol	CAN (option), for the connection of an evaluation unit	
Display	Two-line LCD	
Dimensions (W x H x D)	210 mm x 493 mm x 180 mm (for details see dimensional drawings)	
Weight	13.3 kg	

Electrical connection	Voltage	100 ... 240 V
	Frequency	47 ... 63 Hz
	Power consumption	≤ 15 W

Connection unit AK1-Ex22

Description	Unit for connecting data cables and power supply for system components; for use in dust explosion areas	
Ambient temperature	-20 °C ... +40 °C	
Ex approvals	ATEX	II 2D Ex tD A21 T80 °C IP 6X
Enclosure rating	IP 65	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated, second output as option	
Digital outputs	3 relay contacts: 48 V, 1 A Volt-free; for operation/fault status signals, limit value, maintenance	
Digital inputs	1 input: Volt-free; for maintenance switch	
Interfaces	RS-232 (service interface)	
Bus protocol	CAN (option), for the connection of an evaluation unit	
Display	Two-line LCD	
Dimensions (W x H x D)	200 mm x 300 mm x 155 mm (for details see dimensional drawings)	
Weight	4.9 kg	
Electrical connection	Voltage	100 ... 240 V Optional: 24 V DC ± 2 V
	Frequency	47 ... 63 Hz
	Power consumption	≤ 15 W

Purge air unit SLV5 2BH1300, Ex 2/3G

Description	Unit supplying dust-free air for purging optical surfaces; for use in explosion areas	
Sample quantity	38 m³/h ... 63 m³/h At 30 hPa counterpressure, dependent on vacuum in filter	
Ambient temperature	-20 °C ... +40 °C	
Enclosure rating	IP 54	
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)	
Weight	18 kg	
Electrical connection	3-phase, Δ: 230 V / 50 Hz / 2.4 A / 550 W 3-phase, Y: 400 V / 50 Hz / 1.4 A / 550 W	
Auxiliary connections	Purge air: 40 mm	
Test functions	Low pressure warning device (switching point -35 hPa)	
Integrated components	Two-stage air filter, Europiclone type, dust capacity 200 g	

Purge air unit SLV5 2BH1300, Ex 2/3D

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Sample quantity	38 m ³ /h ... 63 m ³ /h At 30 hPa counterpressure, dependent on vacuum in filter
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Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
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Auxiliary connections	Purge air: 40 mm
Test functions	Low pressure warning device (switching point -35 hPa)
Integrated components	Two-stage air filter, Europiclon type, dust capacity 200 g

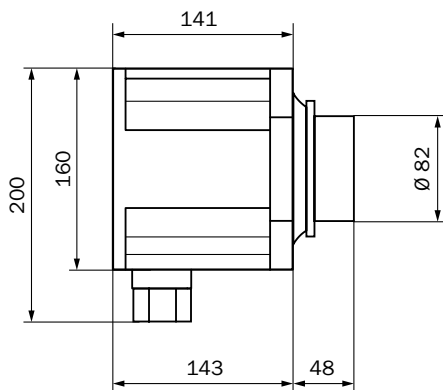
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

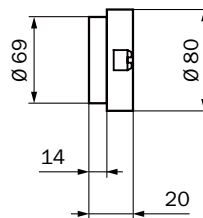
Dimensional drawings

Dimensions in mm

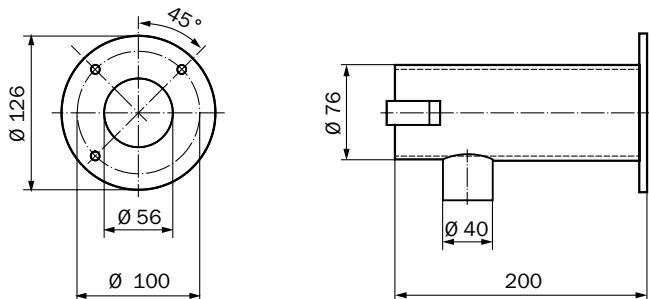
Sender/receiver unit FWSE300 Ex
Rotary reflector FW-R-055-D



Fixed reflector FW-R-055-F

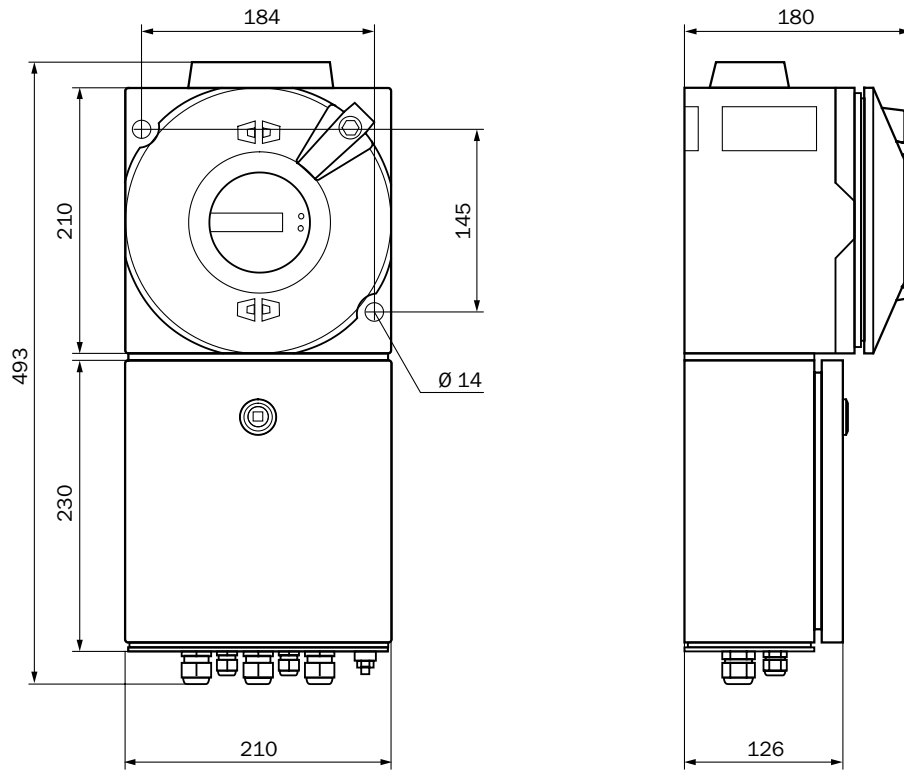


Purge air fixture FW-V

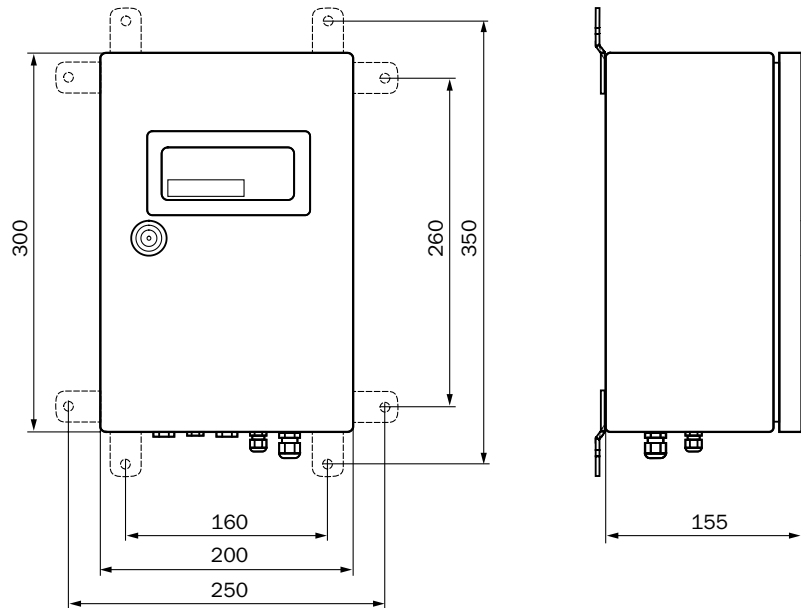


E

Connection unit AK1-Ex

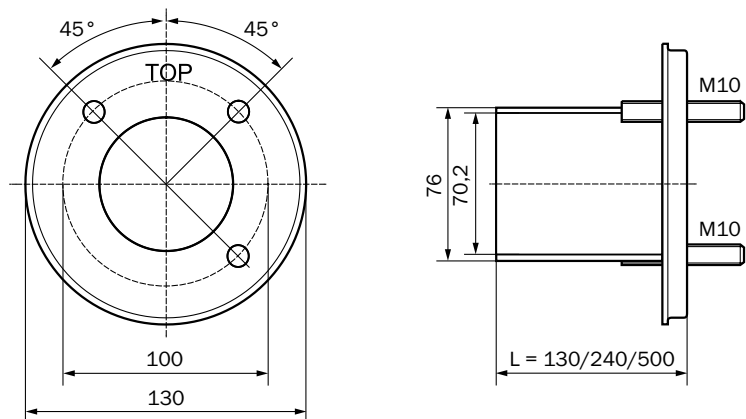


Connection unit AK1-Ex22



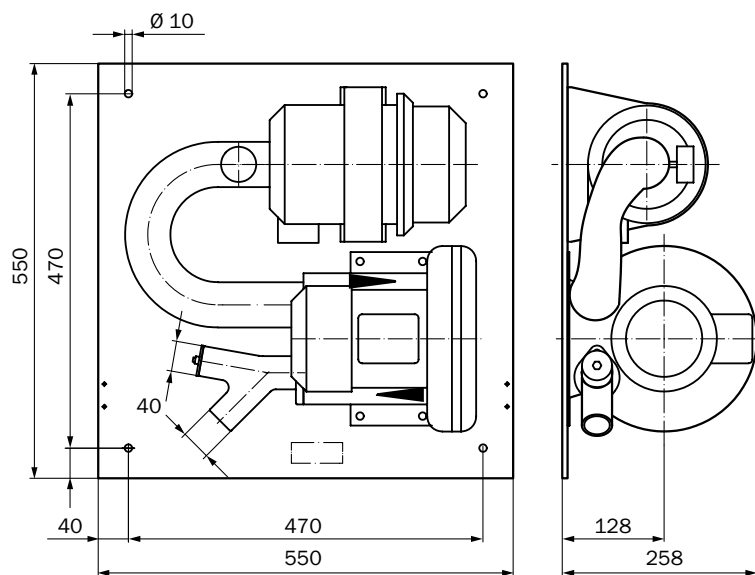
E

Mounting flange, $D_1=70.2$ mm



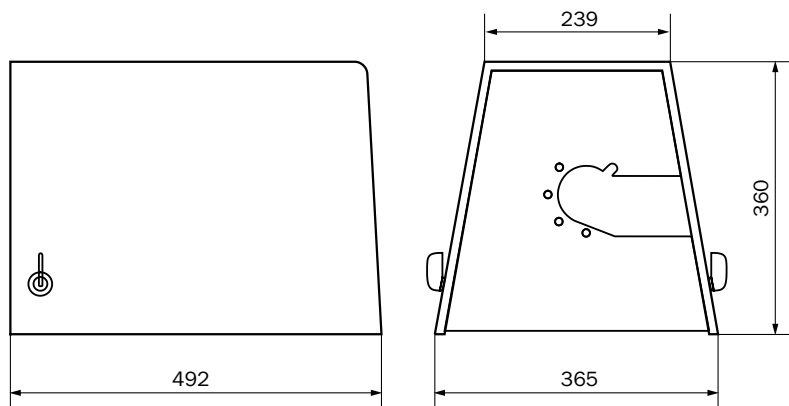
Purge air unit SLV5 2BH1300, Ex 2/3G

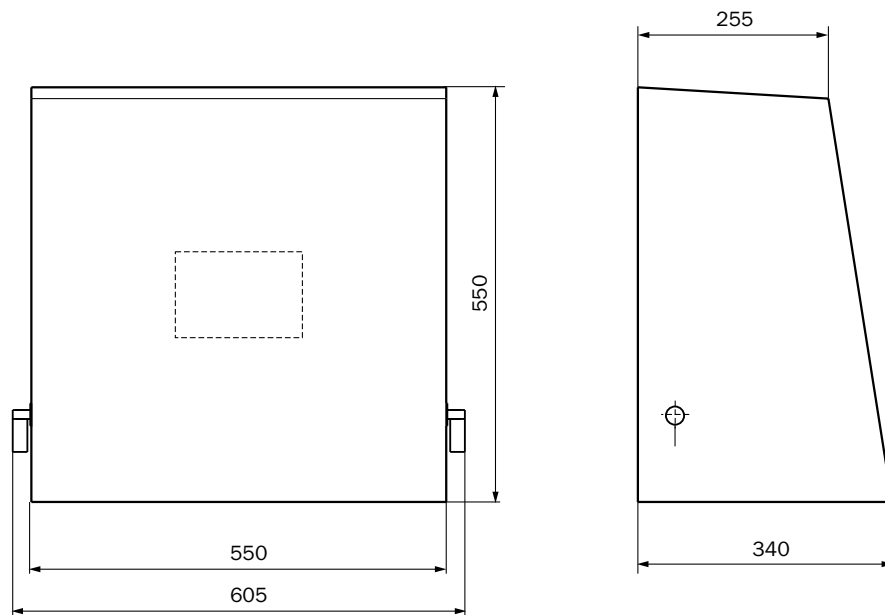
Purge air unit SLV5 2BH1300, Ex 2/3D



E

Weather hood for sender/receiver unit



Weather hood for purge air unit SLV4/SLV5



Straightforward design, precise measurement, fast result

Gravimetric dust measurement devices extract a partial gas flow from the duct under defined conditions. The gas is passed through a filter to separate the dust particles. The filter is weighed to determine the dust quantity directly and thus calculate the concentration inside the duct. Gravimetric dust measurement is particularly suitable for the calibration of other dust measuring devices and for official comparison measurements.

Your benefits

- High measurement accuracy even at low dust concentrations
- Easy single-person operation
- Automatic monitoring of gas samples
- Automatic data recording and system control
- Automatic storage and evaluation of the measuring values
- Measurement results are available immediately after the sample has been taken

F



Gravimetric dust measurement devices


F

Product family overview F-164

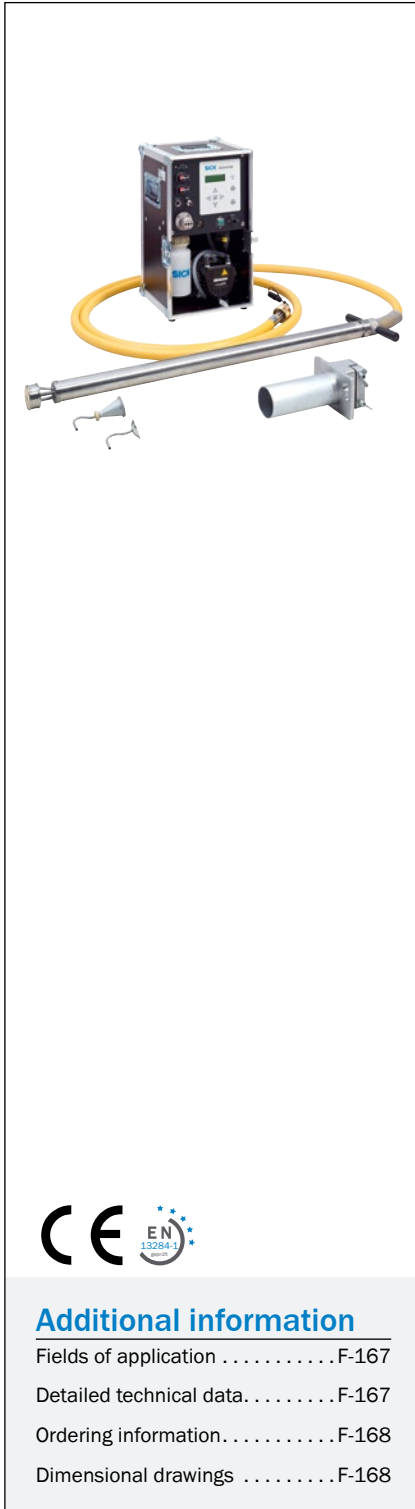


SHC500 Gravimat F-166
Mobile measuring system for gravimetric dust concentration measurements

Product family overview

 <p>SHC500 Gravimat</p>	
<p>Mobile measuring system for gravimetric dust concentration measurements</p>	
Technical data	
Measuring components	Dust concentration
Measuring ranges	Dust concentration: 0.1 ... 200 mg/m ³ / 50 ... 50,000 mg/m ³
Process temperature	Without air cooling: ≤ +250 °C With air cooling: ≤ +400 °C High-temperature design: ≤ +600 °C
Process pressure	-50 hPa ... 50 hPa
At a glance	
	<ul style="list-style-type: none"> • No dust loss due to optimized sampling system • Automatic data recording and system control • Isokinetic control in real time (SHC502 only) • Automatic storage and evaluation of the measuring values • Automatic measurement of the flow angle and detection of swirl effects
Detailed information	→ F-166

Mobile measuring system for gravimetric dust concentration measurements



Product description

The SHC500 Gravimat is used for gravimetric measurements for the calibration of dust measuring devices and for comparison measurements on filter plants. A partial gas flow is extracted isokinetically

via a filter head probe. This is controlled automatically and in real time. The dust content is determined by weighing the dust collector mass before and after extraction.

At a glance

- No dust loss due to optimized sampling system
- Automatic data recording and system control
- Isokinetic control in real time (SHC502 only)
- Automatic storage and evaluation of the measuring values
- Automatic measurement of the flow angle and detection of swirl effects

Your benefits

- High measurement accuracy even at low dust concentrations
- Measurement results are immediately available after sampling
- Due to compact design and low number of components, only one person necessary for transport and operation

F



Additional information

Fields of application F-167
 Detailed technical data F-167
 Ordering information F-168
 Dimensional drawings F-168

→ www.mysick.com/en/SHC500_Gravimat

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Fields of application

- Calibration of continuous dust measuring devices
- Compliance measurements at filter plants
- Occasional check measurements
- Flow and temperature profile measurements, determination of the flow direction

Detailed technical data

The detailed device specifications and performance data for the product may differ. They are dependent upon the prevailing application and customer specification.

System SHC500 Gravimat

Measured variables	Dust concentration
Sample quantity	0.5 m ³ /h ... 2.4 m ³ /h
Measuring ranges	
Dust concentration	0.1 ... 200 mg/m ³ / 50 ... 50,000 mg/m ³
Accuracy	Volume flow measurement: ± 1 % of maximum throughput
Process temperature	Without air cooling: ≤ +250 °C With air cooling: ≤ +400 °C High-temperature design: ≤ +600 °C
Process pressure	-50 hPa ... 50 hPa
Process gas velocity	2 m/s ... 48 m/s
Ambient temperature	-10 °C ... +50 °C
Conformity	EN 13284-1 Conforms to U.S. EPA GOST
Electrical safety	CE
Auxiliaries	
Cooling air:	5 m ³ /h ... 10 m ³ /h

Automatic unit AE50x

Description	The automatic unit serves as the user interface and is responsible for data processing and output as well as control and monitoring functions
Enclosure rating	Closed: IP 65 Open: IP 54
Analog inputs	2 inputs: 0 ... 20 mA SHC502 only
Interfaces	RS-232
Display	Four-line LCD
Operation	Via LCD and function keys
Dimensions (W x H x D)	310 mm x 550 mm x 290 mm
Weight	24 kg
Electrical connection	
Voltage	115 V / 230 V
Frequency	50 Hz / 60 Hz
Power consumption	≤ 400 W
Auxiliary connections	Cooling air
Integrated components	Control and evaluation electronics Suction pump (rotary vane pump) Pressure sensors Condensate vessel (0.8 l, plastic)

GS5 filter head probe

Description	Special head with integrated holder for dust collector, with pressure measuring points for isokinetic control of the suction process and with temperature sensor for accurate measurement of the gas temperature
Dimensions (W x H x D)	Details, see dimensional drawings
Weight	Probe length 1 m: 7.3 kg
Mounting	Installation opening: diameter ≥ 80 mm

HC dust collector

Description	Collector for high dust concentrations (50 ... 50,000 mg/m ³)
Suction diameter	4.2 mm / 5.2 mm / 6.4 mm / 8 mm / 10 mm / 11.5 mm
Weight	Funnel: 25 g Sample tube: 22 g
Material	Aluminum (funnel), brass/stainless steel (sample tube)

LC dust collector

Description	Collector for low dust concentrations (0.1 ... 200 mg/m ³)
Suction diameter	4.2 mm / 5.2 mm / 6.4 mm / 8 mm / 10 mm / 11.5 mm
Weight	16 g
Material	Stainless steel

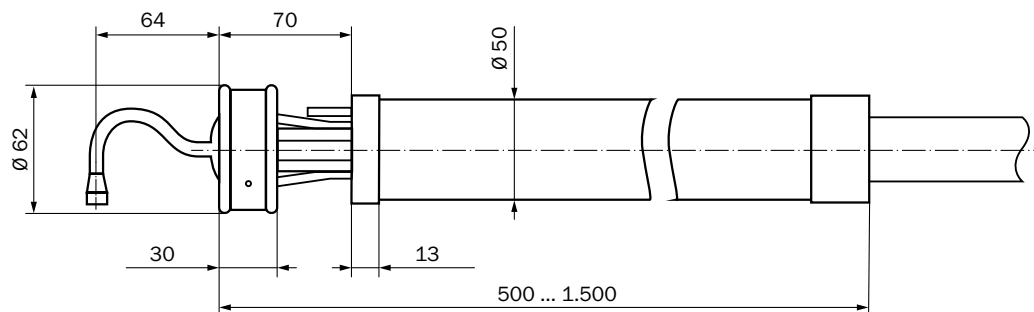
Ordering information

Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings

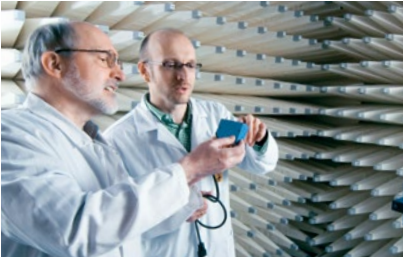
Dimensions in mm

GS5 filter head probe





SICK at a glance



Leading technologies

With a staff of more than 6,000 and over 40 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



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- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
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