



# FWE200

SCATTERED LIGHT DUST MEASURING DEVICES

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
FWE200	On request

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

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

Other models and accessories → [www.sick.com/FWE200](http://www.sick.com/FWE200)

### 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. Any droplets in the gas are vaporized, making it impossible for them to falsify the measurement results. The scattered light principle enables even very low 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 check of zero and reference point

### Your benefits

- Reliable dust measurement in wet gas
- No moving parts in contact with aggressive gas, therefore low maintenance
- Mounting directly at the duct due to compact design



## Fields of application

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

## Detailed technical data

### FWE200 system

<b>Measured values</b>	Scattered light intensity, dust concentration (after gravimetric comparison measurement)
<b>Performance-tested measurands</b>	Dust concentration
<b>Measurement principles</b>	Scattered light forward
<b>Spectral range</b>	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
<b>Measuring ranges</b>	Dust concentration 0 ... 5 mg/m <sup>3</sup> / 0 ... 200 mg/m <sup>3</sup> Measuring ranges freely selectable Higher measuring ranges on request
<b>Certified measuring ranges</b>	Dust concentration 0 ... 15 mg/m <sup>3</sup> / 0 ... 50 mg/m <sup>3</sup>
<b>Response time (t<sub>90</sub>)</b>	0.1 s ... 600 s Freely adjustable
<b>Accuracy</b>	± 2 % Of measuring range full scale
<b>Process temperature</b>	PVDF probe: ≤ +120 °C Hastelloy probe: ≤ +220 °C
<b>Process pressure</b>	-20 hPa ... 20 hPa
<b>Process gas velocity</b>	4 m/s ... 20 m/s
<b>Process gas humidity</b>	Max. 10 g/m <sup>3</sup> liquid water without water vapour
<b>Ambient temperature</b>	-20 °C ... +50 °C
<b>Conformities</b>	Approved for plants requiring approval 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27.BImSchV TA-Luft (Prevention of Air Pollution) EN 15267 EN 14181 MCERTS U.S. EPA PS-11 compliant
<b>Electrical safety</b>	CE
<b>Enclosure rating</b>	System: IP 54 Electronics enclosure: IP 65
<b>Analog outputs</b>	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; second output as option
<b>Digital outputs</b>	4 relay contacts: 250 V, 1 A Preset for failure, warning, limit value and maintenance
<b>Digital inputs</b>	1 input: Potential-free; for maintenance switch

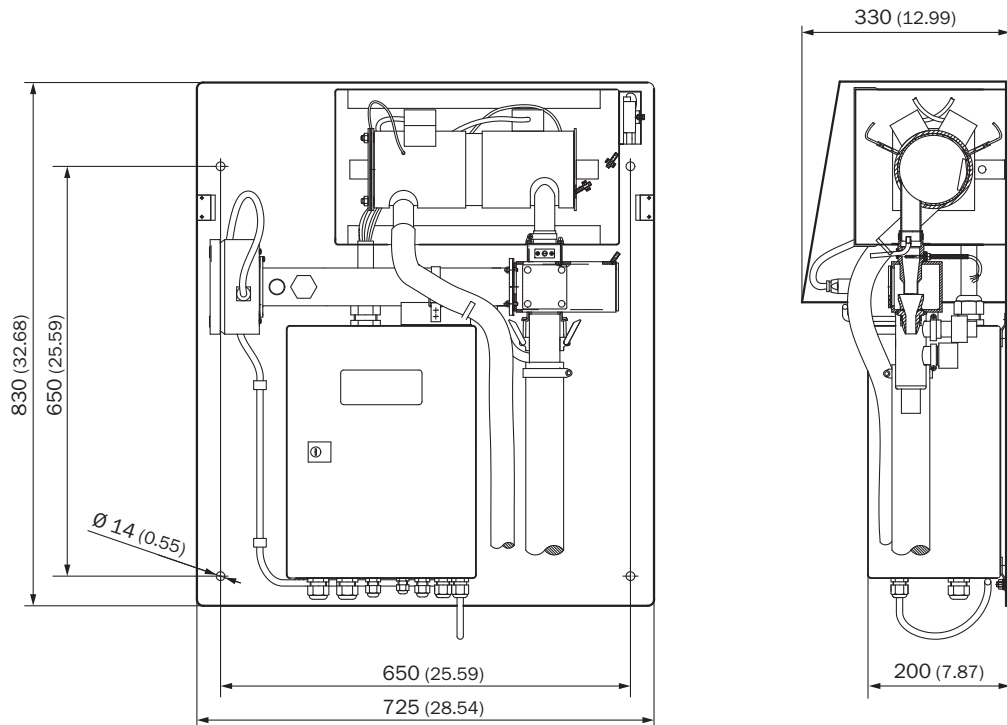
<b>Interfaces and bus protocols</b>	RS-232	Proprietary service interface
<b>Operation</b>		Menu-driven operation via control unit
<b>Dimensions (W x H x D)</b>		730 mm x 830 mm x 340 mm (FWE200 measuring and control unit, for details see dimensional drawings)
<b>Weight</b>		FWE200 measuring and control unit: 65 kg Sampling probe: ≤ 15 kg
<b>Power supply</b>		
	Voltage	115 V / 230 V
	Frequency	47 ... 63 Hz
	Power consumption	≤ 2.5 kW
<b>Options</b>		FWE200 mounting rack

### SLV4-2 purge air unit, 2BH1300, 1-ph

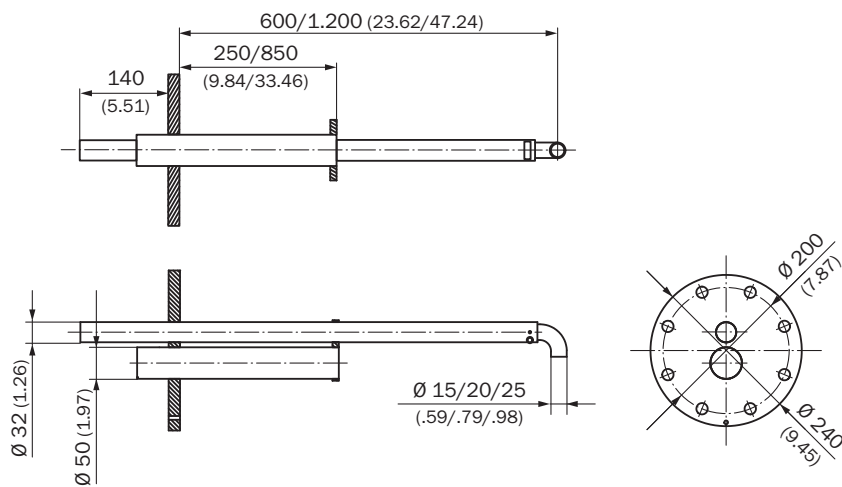
<b>Description</b>		Unit to provide dust-free air for flushing of optical surfaces
<b>Gas flow rate</b>		38 m <sup>3</sup> /h ... 63 m <sup>3</sup> /h At 30 hPa counter pressure, depending on low pressure inside the filter
<b>Ambient temperature</b>		-20 °C ... +40 °C
<b>Enclosure rating</b>		IP 54
<b>Dimensions (W x H x D)</b>		550 mm x 550 mm x 258 mm (for details see dimensional drawings)
<b>Weight</b>		18 kg
<b>Power supply</b>		
	Voltage	230 V / 115 V
	Frequency	50 Hz / 60 Hz
	Current consumption	≤ 6 A
	Power consumption	≤ 450 W
<b>Auxiliary gas connections</b>		Purge air: 40 mm
<b>Test functions</b>		Pressure switch (switching point -35 hPa)
<b>Integrated components</b>		2-step air filter, type Europiclön, dust capacity 200 g

Dimensional drawings (Dimensions in mm (inch))

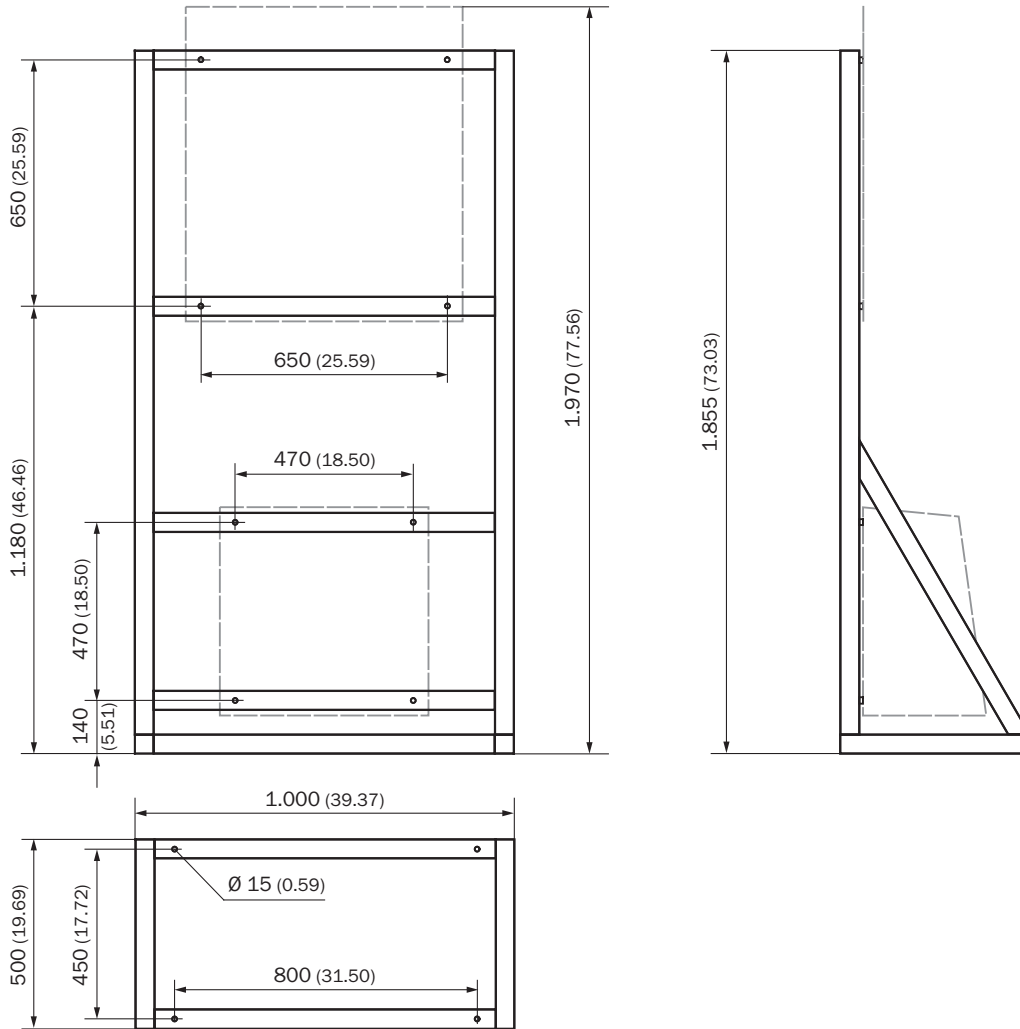
FWE200 measuring and control unit



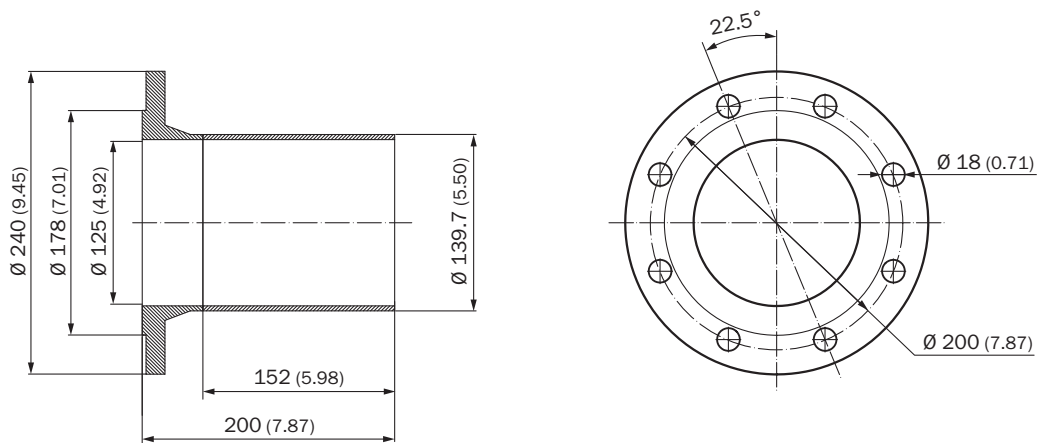
Sampling probe



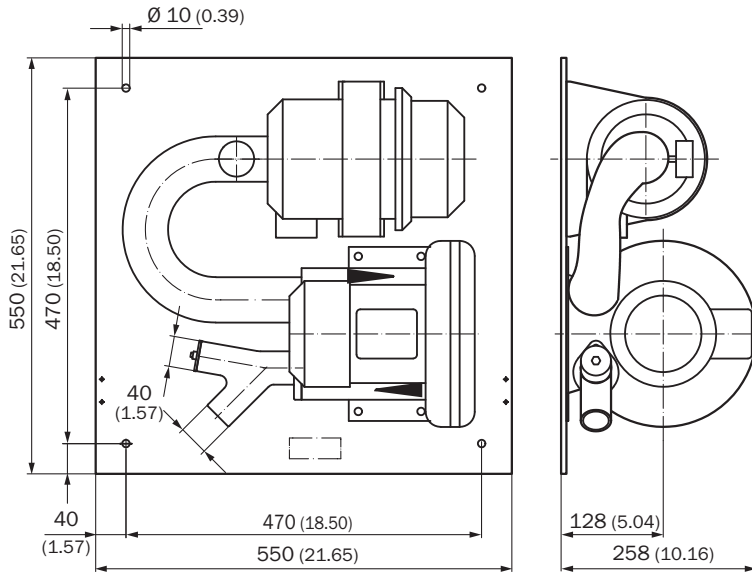
FWE200 mounting rack



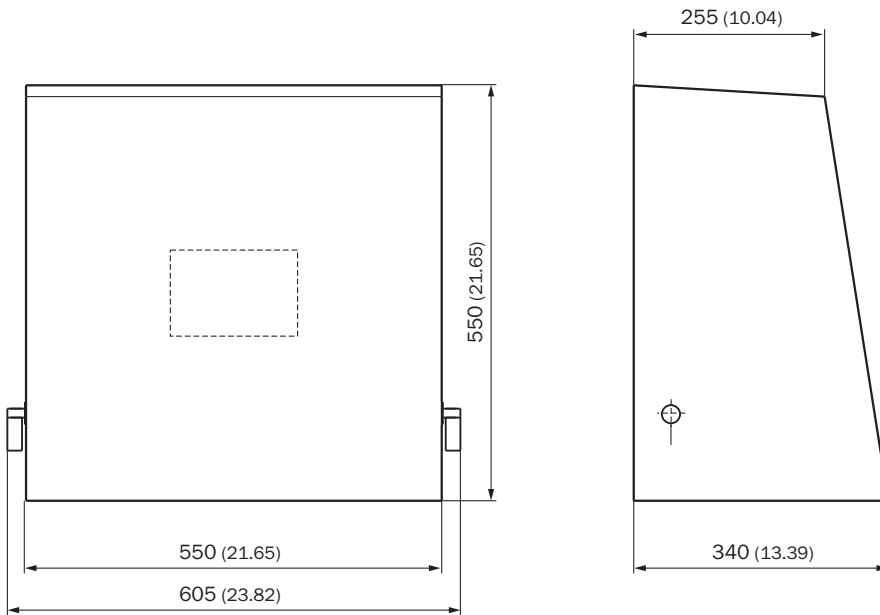
Mounting flange,  $D_i=125$  mm



SLV4-2 purge air unit, 2BH1300



Weather hood for SLV4/SLV5/SLV7 purge air unit



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)