



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

Product description

The FWE200 dust measuring device is designed to measure dust concentrations in wet flue gas. The gas is extracted via a sampling probe and heated above dew point. 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

Measured values	Scattered light intensity, dust concentration (after gravimetric comparison measurement)
Performance-tested measurands	Dust concentration
Measurement principles	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 (t₉₀)	0.1 s ... 600 s Freely adjustable
Accuracy	± 2 % Of measuring range full scale
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 vapour
Ambient temperature	-20 °C ... +50 °C
Conformities	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
Electrical safety	CE
Enclosure rating	System: IP 54 Electronics enclosure: IP 65
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; second output as option
Digital outputs	4 relay contacts: 250 V, 1 A Preset for failure, warning, limit value and maintenance
Digital inputs	1 input: Potential-free; for maintenance switch

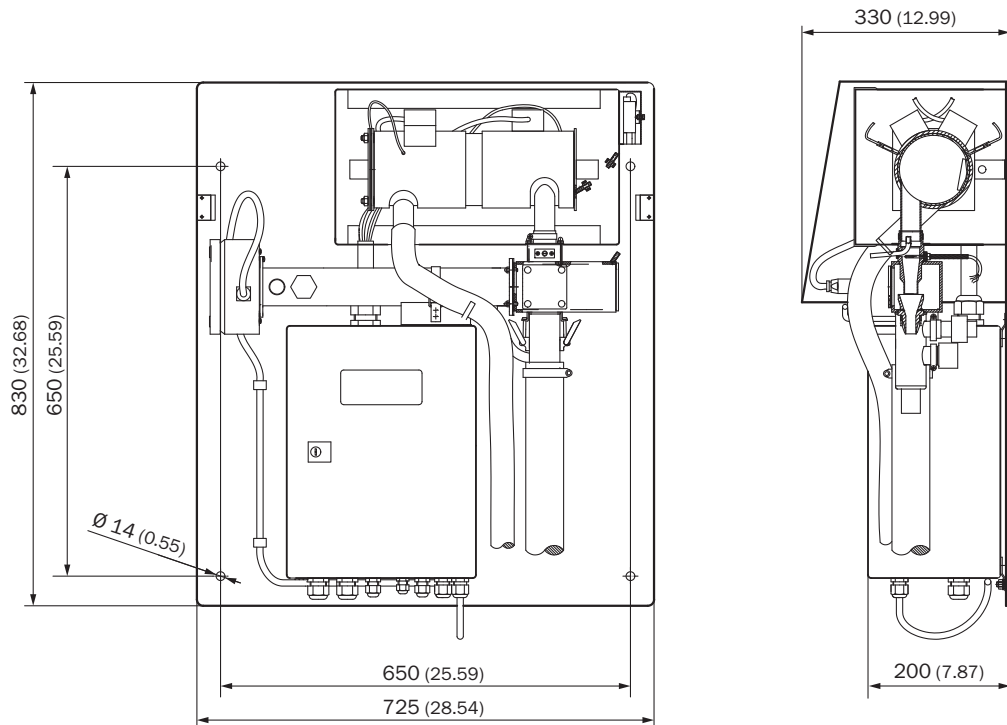
Interfaces and bus protocols		RS-232 Proprietary service interface
Operation		Menu-driven operation via control unit
Dimensions (W x H x D)		730 mm x 830 mm x 340 mm (FWE200 measuring and control unit, for details see dimensional drawings)
Weight		FWE200 measuring and control unit: 65 kg Sampling probe: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

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

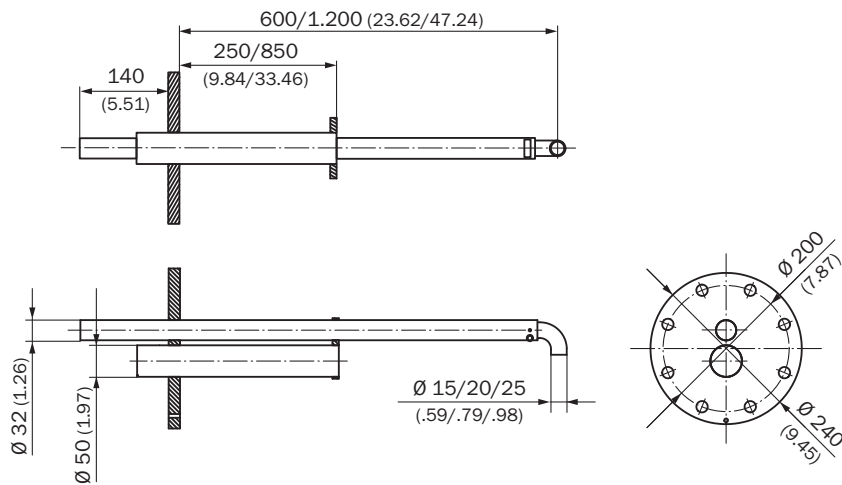
Description	Unit to provide dust-free air for flushing of optical surfaces
Gas flow rate	38 m ³ /h ... 63 m ³ /h At 30 hPa counter pressure, depending on low pressure inside the filter
Ambient temperature	-20 °C ... +40 °C
Enclosure rating	IP 54
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details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

Dimensional drawings (Dimensions in mm (inch))

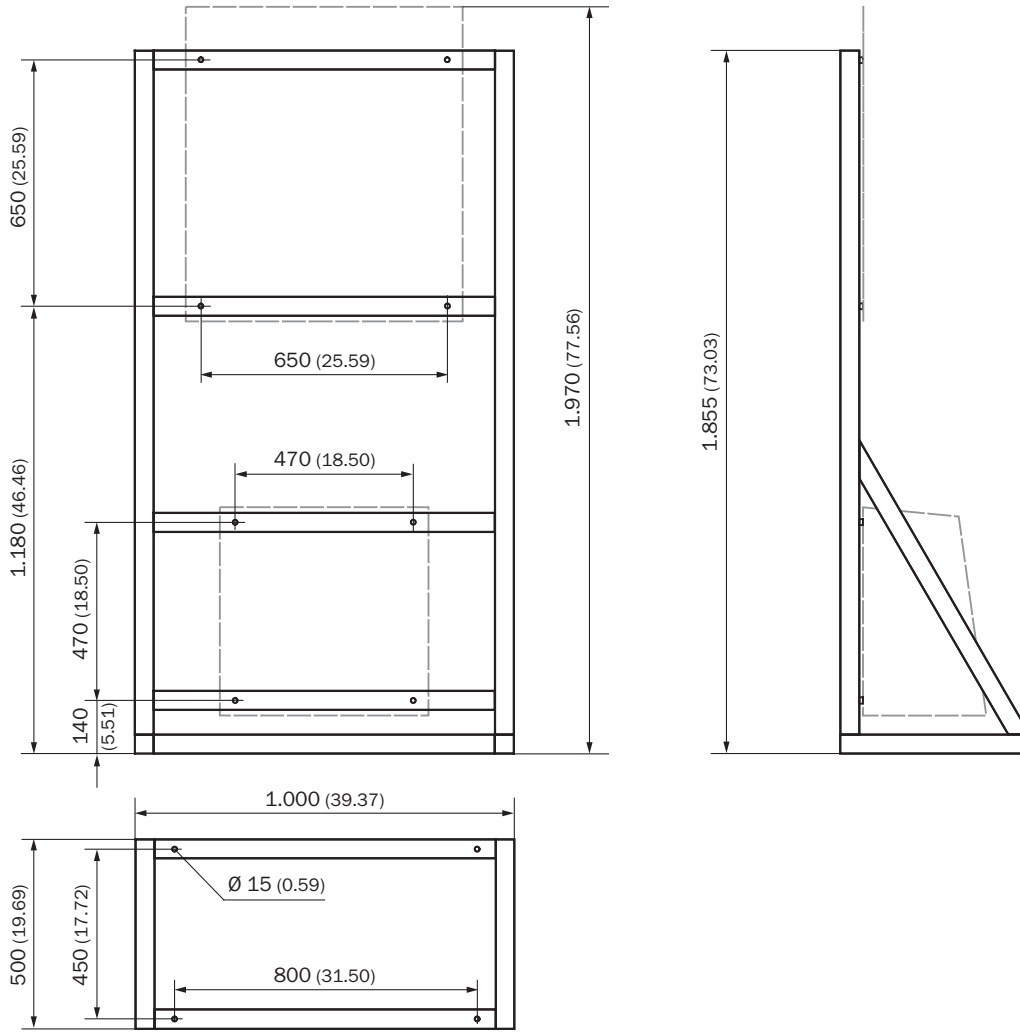
FWE200 measuring and control unit



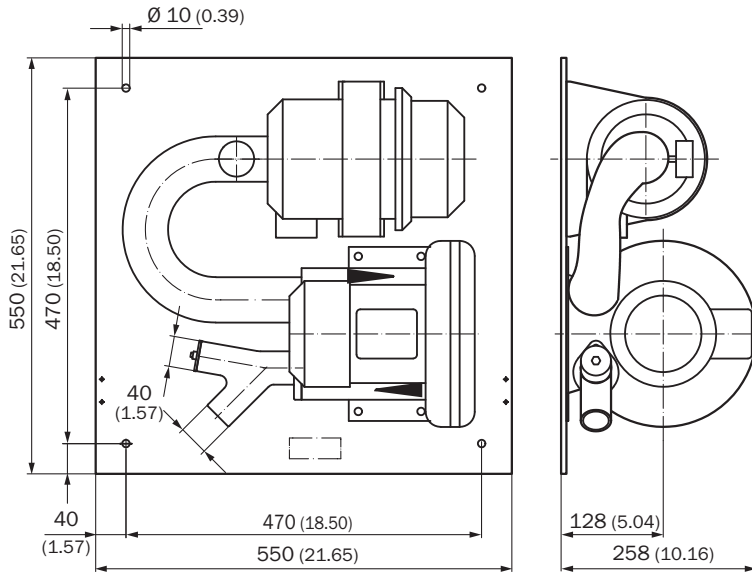
Sampling probe



FWE200 mounting rack



SLV4-2 purge air unit, 2BH1300



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