PRODUCT INFORMATION

DUSTHUNTER SP30

MEASURE INTELLIGENTLY. REDUCE COSTS.

Scattered light dust measuring devices

SICK
Sensor Intelligence.

MEASURE INTELLIGENTLY. REDUCE COSTS.

Product description

The DUSTHUNTER SP30 is a measuring device which reliably detects very low to high dust content. The measurement is based on the forward scattering of light and is independent of the gas velocity and particle charge. The automated monitoring of the zero and reference point ensures a high level of accuracy. Thanks to its compact design, the DUSTHUNTER SP30 is available as an independent measuring device but also with an integrated purge air unit and MCU control unit for additional functions as an option. The installation is carried out on one side of a duct, whereby several mounting options and probe lengths are available. The measuring device is highly versatile, e.g., for process optimization or intelligent filter diagnostics and monitoring.

At a glance

- Independent measuring device – with or without MCU control unit
- Automated monitoring of zero and reference point
- Integrated purge air unit as an option
- Installation on one side of a duct
- Rugged and compact structure
- No moving parts in the duct

Your benefits

- Accurate dust measurement – independently of gas velocity or particle charge
- Convenient data transmission via Modbus® and analog output directly from the sensor
- Versatile thanks to several configurable measuring ranges
- Two calibration curves for switching with different dust sources
- No external purge air unit required as it is integrated into the device (option)
- High degree of flexibility due to different mounting options
- Low level of expenditure and maintenance work thanks to self-monitoring
- Easy replacement of the FW102 (compatible flange)

CE

Additional information

→ www.sick.com/DUSTHUNTER_SP30

For more information, simply visit the above link to obtain direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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Fields of application

- Emission monitoring which does not require permission in industrial systems
- Dust concentration measurements in exhaust gas ducts
- Monitoring of cloth filters for defective filter bags
- Ideal for monitoring electrostatic precipitators
- Dust monitoring in grinding and dosing systems
- Monitoring and regulation of fresh air and exhaust air systems

Detailed technical data

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.

DUSTHUNTER SP30 system

Measured values	Scattered light intensity, dust concentration (after gravimetric comparison measurement)
Measurement principles	Scattered light forward
Spectral range	640 mm ... 660 mm Laser, protection class 2, power < 1 mW
Measuring ranges	
Scattered light intensity	0 ... 7.5 SI / 0 ... 3,000 SI Measuring ranges freely selectable; nine measuring ranges pre-configured (0 ... 7.5/15/45/75/150/225/375/1,000/3,000 SI)
Response time (t_{90})	0.1 s ... 600 s Freely adjustable via SOPAS ET software
Accuracy	± 2 % Of measuring range full scale
Process temperature	–40 °C ... +220 °C
Process pressure	
With intergrated purge air unit:	–50 hPa ... 10 hPa
With external purge air unit:	–50 hPa ... 30 hPa
With instrument air (provided by the customer):	–50 hPa ... 100 hPa
Process gas humidity	Non-condensing
Duct diameter	
TriClamp version, 1″ thread version:	≥ 150 mm
Flange version:	≥ 250 mm
Conformities	TUEV type-examination
Electrical safety	CE
Test functions	Automatic self-test (linearity, drift, aging) Manual linearity test with reference filter
Options	MCU control unit Integrated purge air unit External purge air unit

DHSP30 sender/receiver unit

Ambient temperature	–40 °C ... +60 °C
Enclosure rating	IP65
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	4 inputs: For external maintenance switch, automated operational check, linearity measurement, calibration curve switching, or filter monitoring
Serial	✔
Type of fieldbus integration	RS-485
Function	For connection of a MCU control unit or as service interface
Modbus	✔
Type of fieldbus integration	RTU RS-485
Dimensions (W x H x D)	For details see dimensional drawings
Weight	
Nominal length 180 mm:	≤ 2.7 kg
Nominal length 280 mm:	≤ 2.7 kg
Nominal length 435 mm:	≤ 5 kg
Nominal length 735 mm:	≤ 6.3 kg All weights without integrated purge air unit
Power supply	
Voltage	24 V DC
	Supply via MCU control unit or an external power supply
Power consumption	Without integrated purge air unit: ≤ 4 W With intergrated purge air unit: ≤ 30 W

MCU-N control unit (option)

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	IP65
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 Potential-free; for status signals
Digital inputs	4 potential-free contacts
Modbus	✔
Type of fieldbus integration	TCP (Via optional interface module; only one module possible per MCU) RTU RS-485 (Via optional interface module; only one module possible per MCU)
PROFIBUS DP	✔
Type of fieldbus integration	Via optional interface module; only one module possible per MCU

Ethernet	✔
Type of fieldbus integration	Via optional interface module; only one module possible per MCU
Function	Connection to SOPAS ET software
Indication	
	LC display (option)
	Status LEDs: “Power”, “Maintenance” and “Failure”
Operation	Via LC-display (option) or software SOPAS ET
Dimensions (W x H x D)	
	210 mm x 340 mm x 120 mm
Weight	
	≤ 3.7 kg
Power supply	
Voltage	90 ... 250 V
	Version with 24 V DC available as an option
Frequency	47 ... 63 Hz
Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)

SLV4-2 purge air unit, 2BH1300, 3-ph

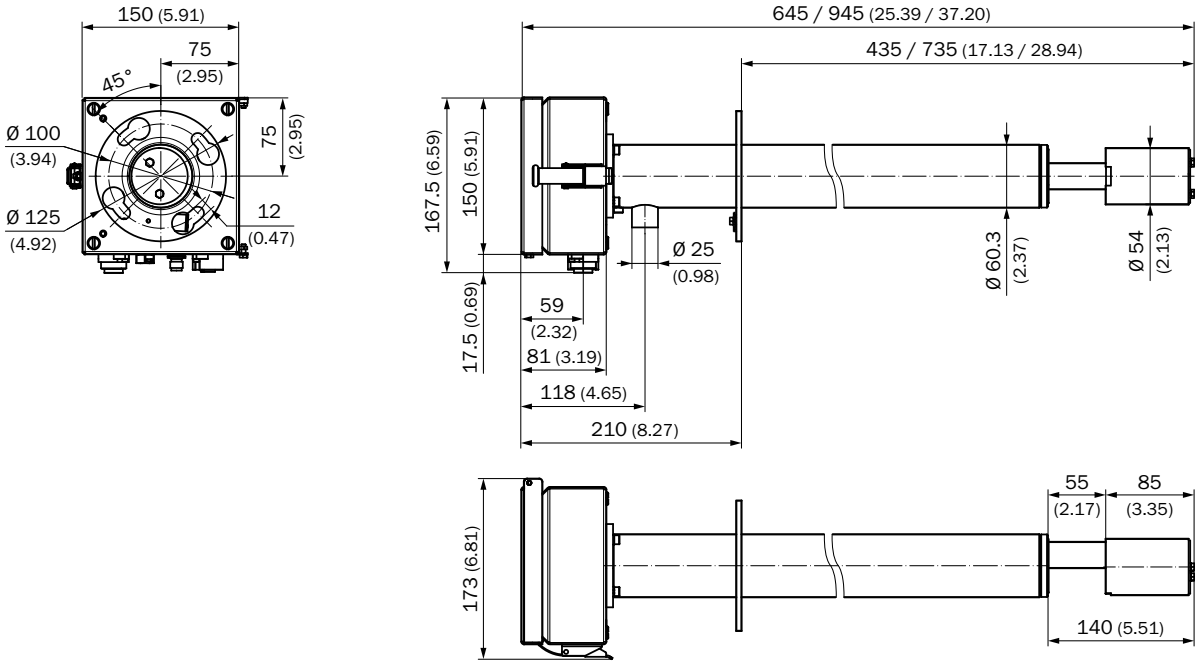
Description	Unit to provide dust-free air for flushing of optical surfaces
Gas flow rate	
	38 m³/h ... 63 m³/h At 30 hPa counter pressure, depending on low pressure inside the filter
Ambient temperature	
	–40 °C ... +55 °C
Enclosure rating	
	IP54
Dimensions (W x H x D)	
	550 mm x 550 mm x 258 mm. For details see dimensional drawings
Weight	
	18 kg
Power supply	
Three-phase current	Δ: 200 ... 240 V, 50 Hz, 2,6 A, 400 W Y: 345 ... 415 V, 50 Hz, 1,5 A, 400 W Δ: 200 ... 275 V, 60 Hz, 2,6 A, 500 W Y: 380 ... 480 V, 60 Hz, 1,5 A, 500 W Δ: 270 ... 330 V, 50 Hz, 2,0 A, 400 W Y: 465 ... 570 V, 50 Hz, 1,16 A, 400 W Δ: 290 ... 360 V, 60 Hz, 2,1 A, 500 W Y: 500 ... 600 V, 60 Hz, 1,26 A, 500 W Δ: 230 V, 50 Hz, 2,7 A, 370 W Δ: 115 V, 60 Hz, 3,0 A, 450 W Δ: 220 ... 270 V, 50 Hz, 2,5 A, 400 W Y: 380 ... 465 V, 50 Hz, 1,45 A, 400 W Δ: 240 ... 290 V, 60 Hz, 2,6 A, 500 W Y: 415 ... 500 V, 60 Hz, 1,55 A, 500 W
Auxiliary gas connections	
Purge air	40 mm
Test functions	Pressure switch (switching point –35 hPa)
Integrated components	2-step air filter, type Europiclon, dust capacity 200 g

Ordering information

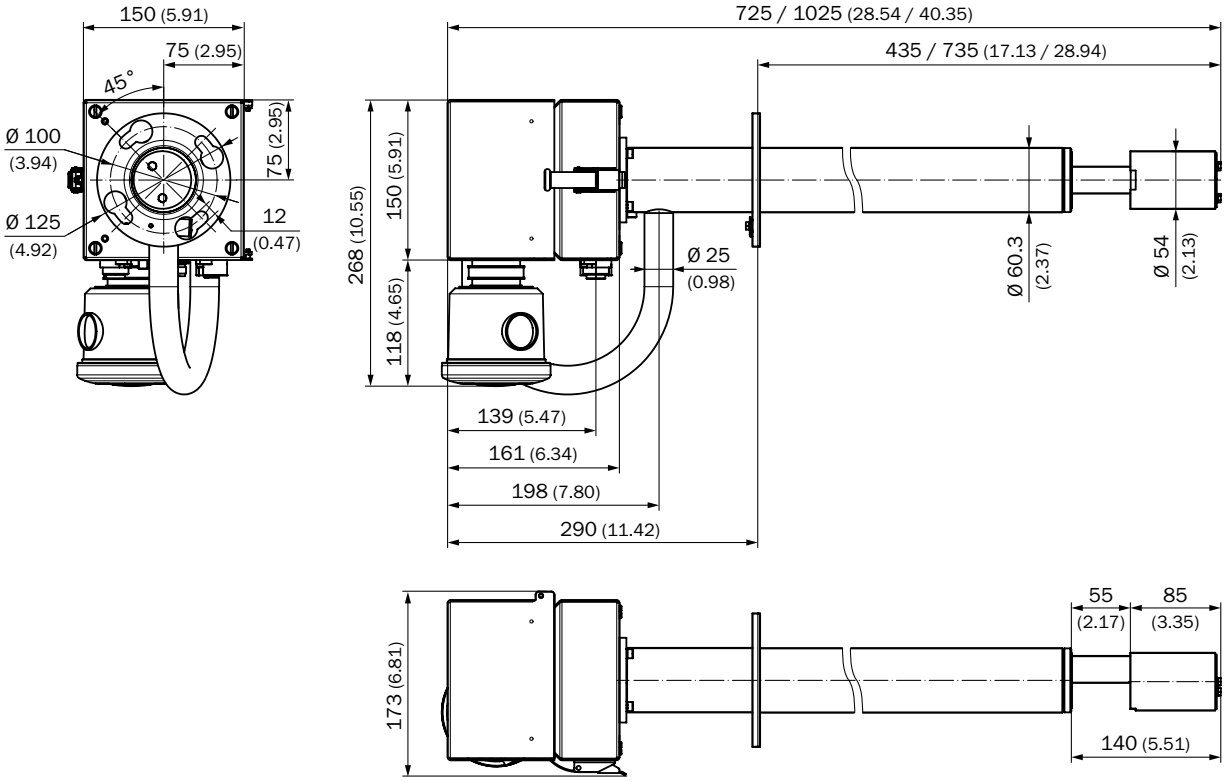
Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings (Dimensions in mm (inch))

Sender/receiver unit DHSP30, flange version



Sender/receiver unit DHSP30, flange version, with integrated purge air unit



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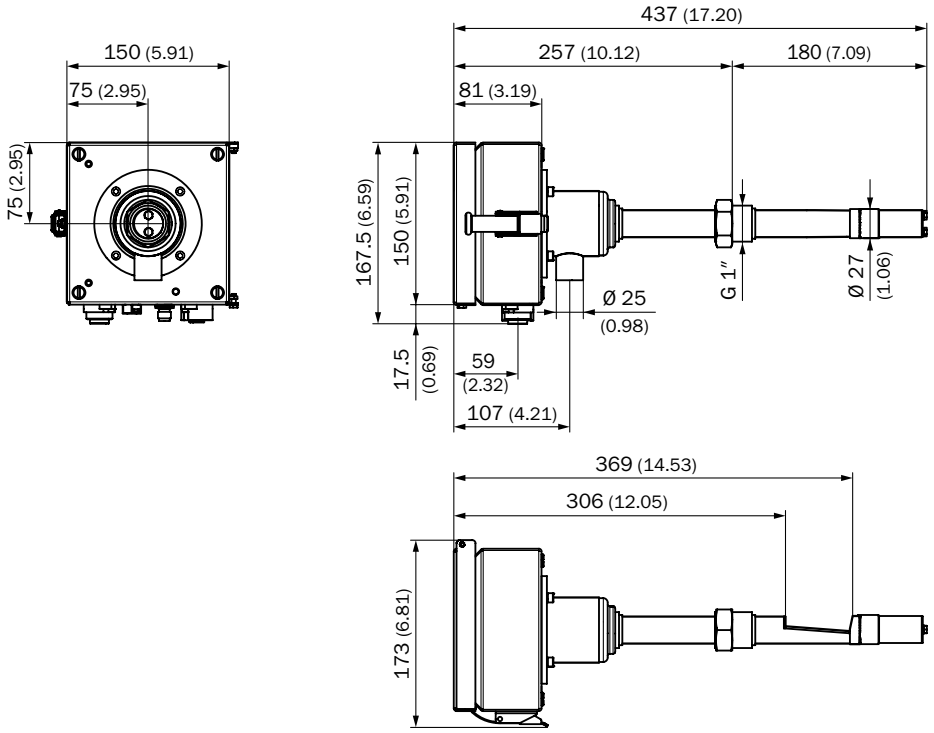
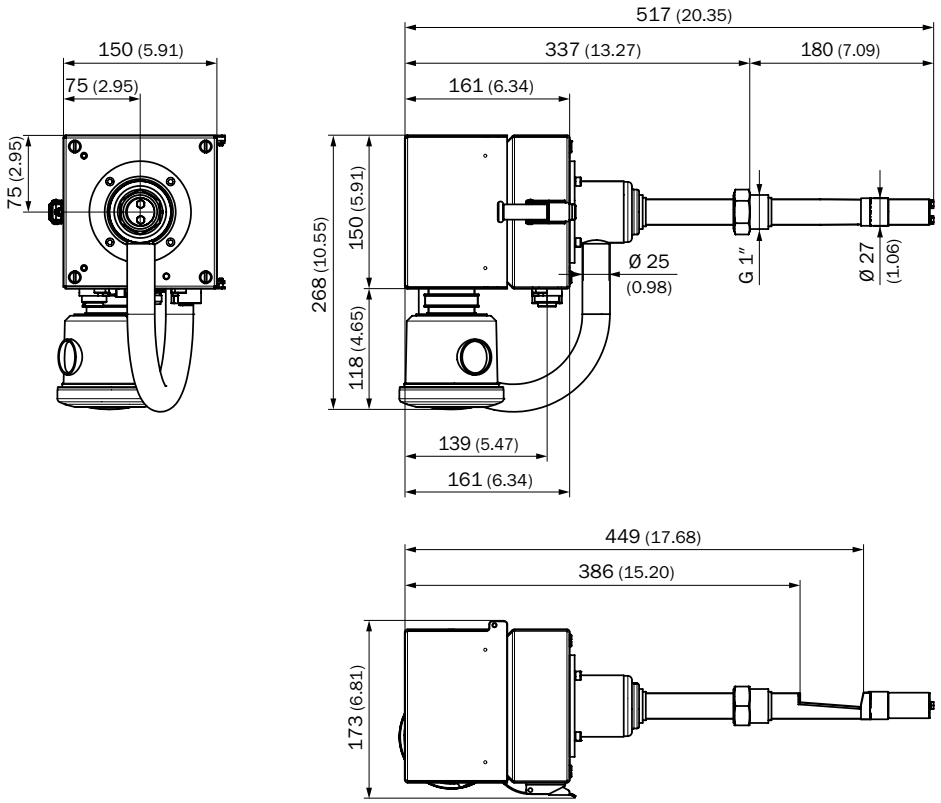
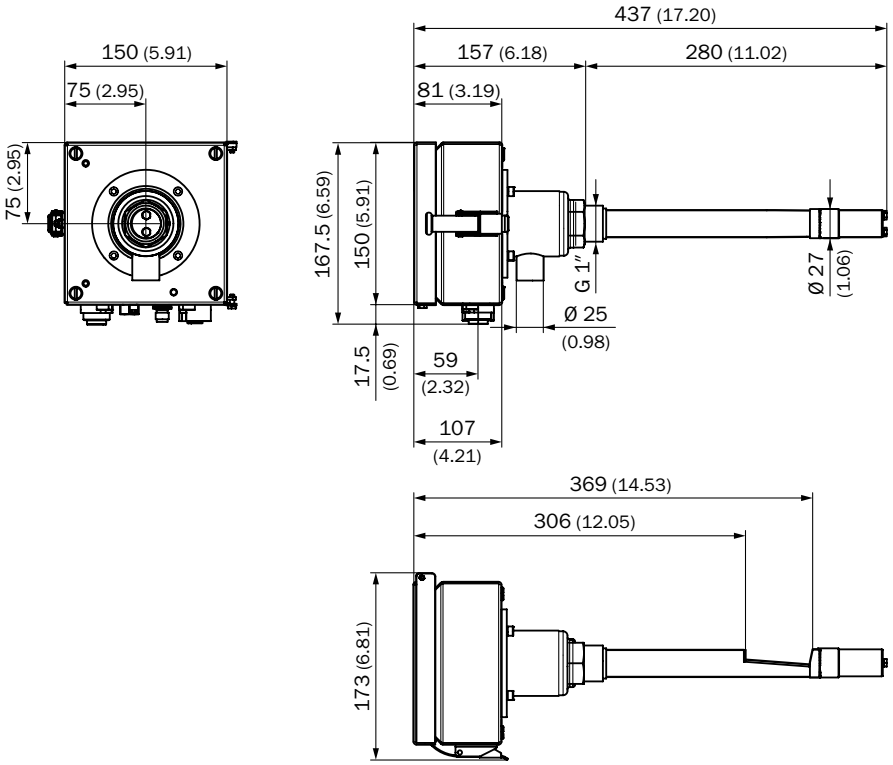
Sender/receiver unit DHSP30, 1″ thread, nominal length = 180 mm



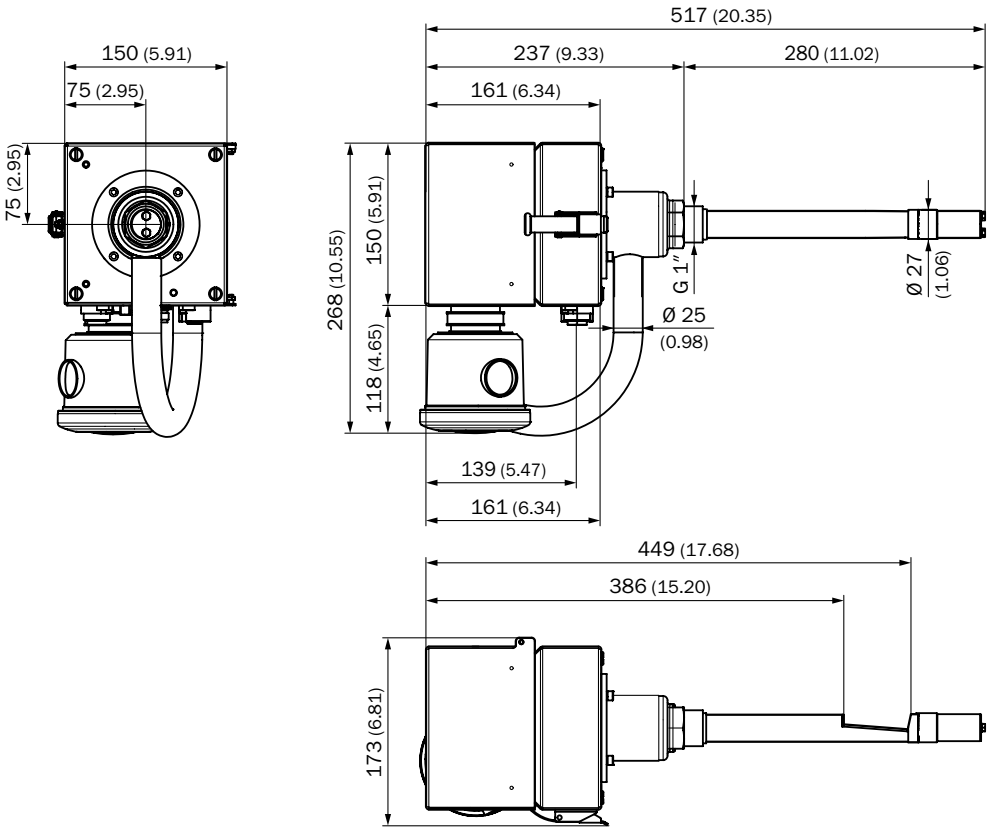
Sender/receiver unit DHSP30, 1″ thread, nominal length = 180 mm, with integrated purge air unit



Sender/receiver unit DHSP30, 1″ thread, nominal length = 280 mm



Sender/receiver unit DHSP30, 1″ thread, nominal length = 280 mm, with integrated purge air unit



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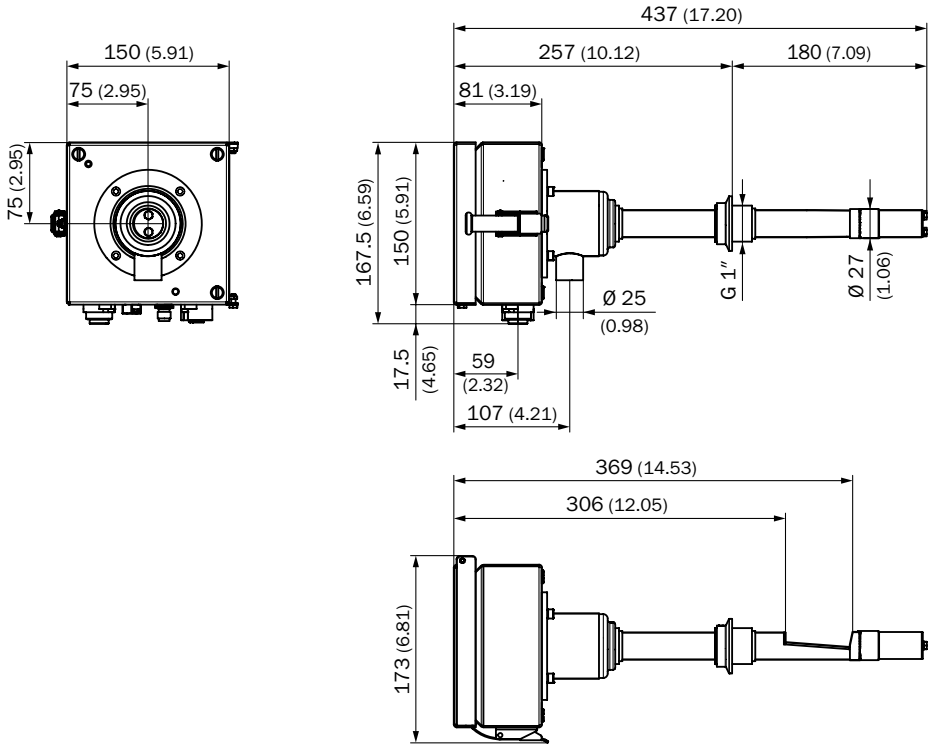
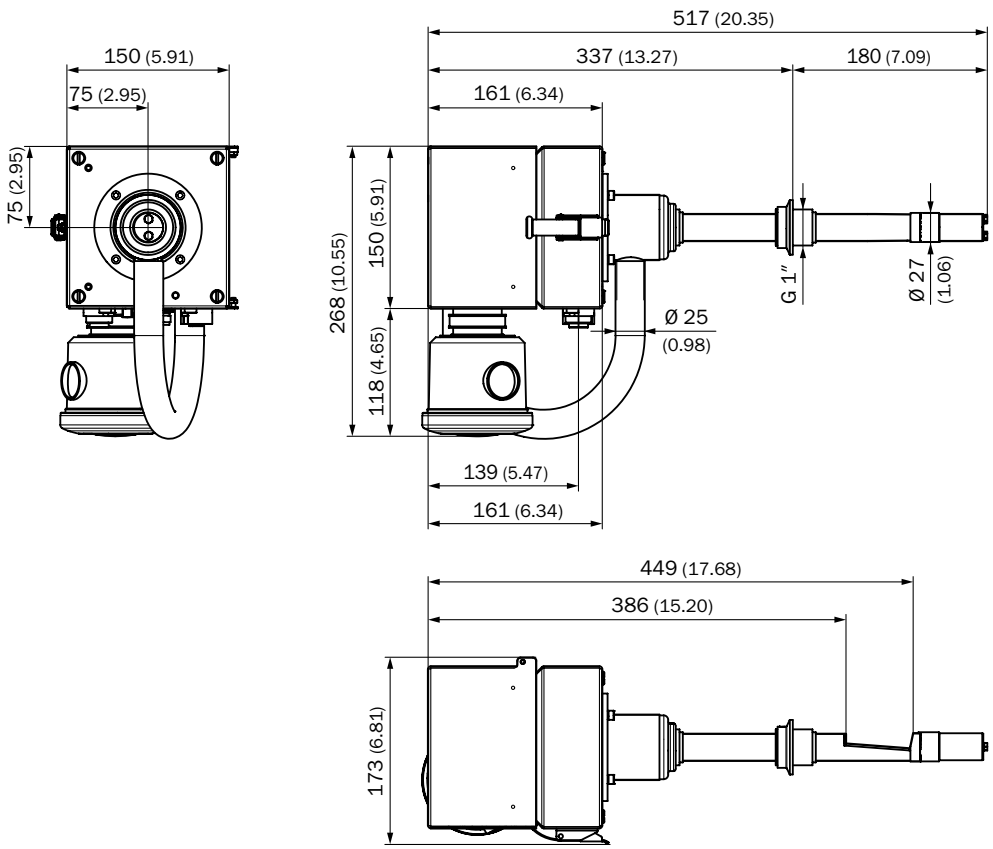
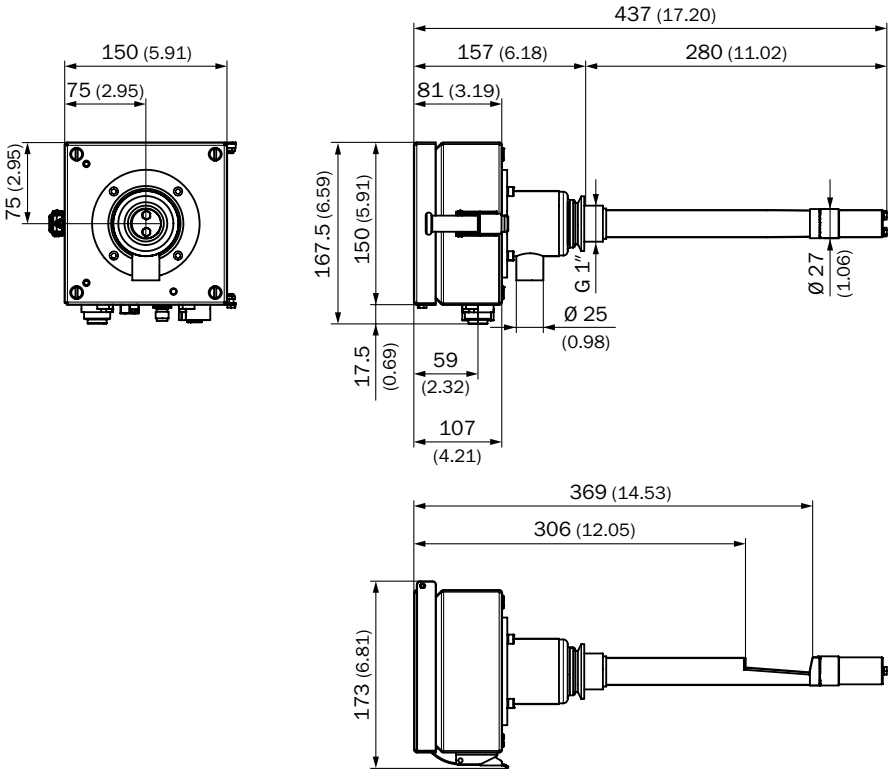
Sender/receiver unit DHSP30, TriClamp, nominal length = 180 mm



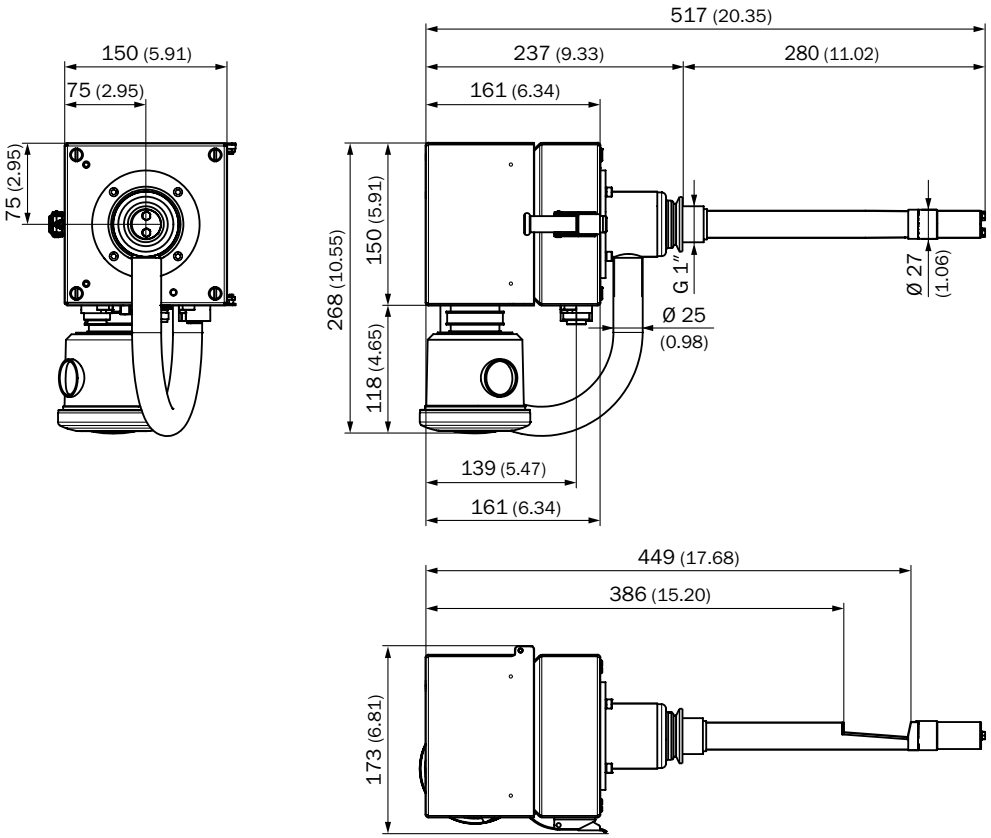
Sender/receiver unit DHSP30, TriClamp, nominal length = 180 mm, with integrated purge air unit



Sender/receiver unit DHSP30, TriClamp, nominal length = 280 mm



Sender/receiver unit DHSP30, TriClamp, nominal length = 280 mm, with integrated purge air unit



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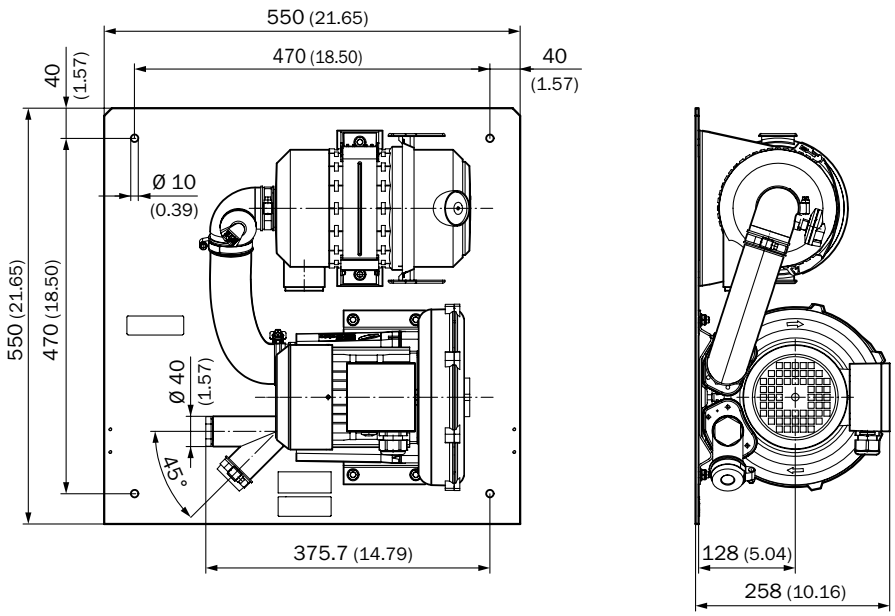
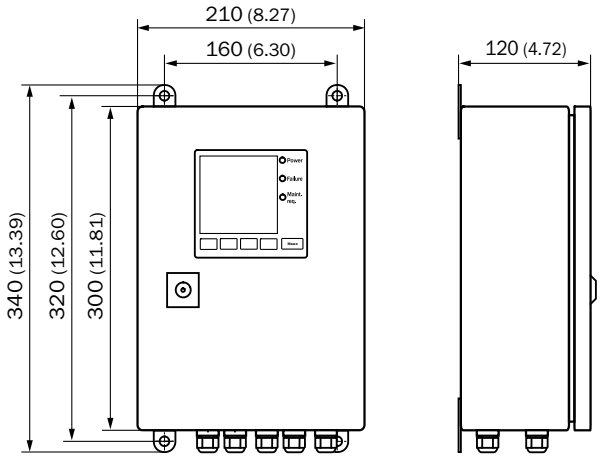
SLV4-2 purge air unit, 2BH1300



MCU-N control unit; wall-mounting enclosure, compact version (for non-hazardous areas only)



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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,000 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. 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 various 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 round out 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:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com

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