SIEMENS

Sinteso™ / Cerberus™ PRO

Air sampling smoke detection kit

FDBZ290

- Reliable monitoring for smoke of supply air, exhaust air and recirculation ducts of air conditioning and ventilation systems
- Suitable for air speeds of 1…20 m/s
- Complies with EN 54-27 with specialized Sinteso and Cerberus PRO smoke detectors
- Easy mounting with just one air flow tube
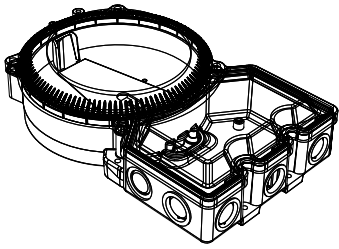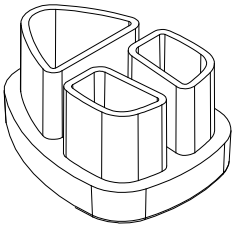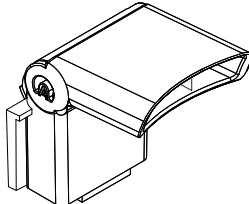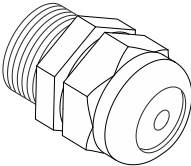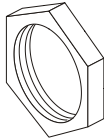- Accessories for all forms of ventilation ducts

- The air sampling smoke detection kit is a passive monitoring system without a fan of its own. It uses the pressure differences within the ventilation system to continuously take air samples from the ventilation duct via the air flow tube and supply them to the air sampling smoke detection kit.
- The air sampling smoke detection kit works only if the ventilation system is in operation and the air in circulation.
- The air to be monitored must usually be clean, i.e. free of dust and aerosols.
- If the smoke detector detects a certain concentration of smoke, the corresponding danger level is reported to the fire control panel which, in turn, triggers an alarm.

Design

Design

The air sampling smoke detection kit consists of the following components:
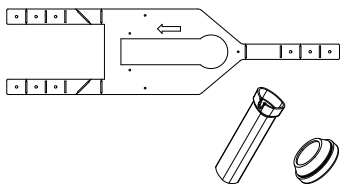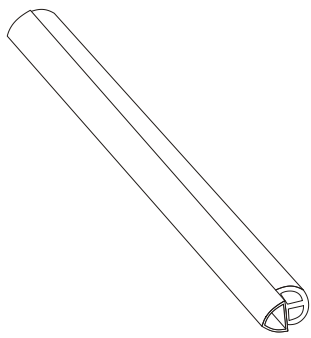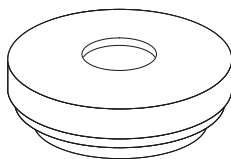
- Air duct sampling chamber (gray plastic housing with a transparent cover)
    - End plug for the air flow tube
    - Screws for installing the detector base
    - Screws for installing the air duct sampling chamber
    - Smoke cap
    - Plastic cable gland
    - Plastic counter nut

Air duct sampling chamber	End plug	Smoke cap

Plastic cable gland M20 x 1.5	Plastic counter nut M20 x 1.5

The point detector and detector base listed must be ordered separately.

Sinteso		Cerberus PRO	
Base	Detector	Base	Detector
FDB222 FDB202	FDOOT241-A9	DB110 DB721 DB721D	OOH740

Options

Mounting bracket FDBZ290-AD	Air flow tubes FDBZ290-AA,-AB,-AC	Sealing kit FDBZ292-AD
For uneven, round and insulated ducts incl. sealing sleeve, rubber seal and screws for installing the mounting bracket	600 mm, 1500 mm, 2800 mm Length (FDBZ290-AB, -AC incl. long end plug)	Required when using the longer air flow tubes FDBZ290-AB, FDBZ290-AC

Type overview

Type	Designation	Order number	Weight [kg]
FDBZ290	Air sampling smoke detection kit	S54319-S32-A1	0.664

Accessories for air sampling smoke detection kit FDBZ290

Type	Designation	Order number	Weight [kg]
DB110	Detector base (collective)	S54319-F5-A1	0.052
DB721	Detector base with loop contact DB721	S54319-F11-A1	0.052
DB721D	Detector base	S54319-F15-A1	0.054
FDB202	Collective detector base, flat	S54319-F3-F1	0.025
FDB222	Addressable detector base, flat	S54319-F1-A1	0.026
FDBZ290-AA	Air flow tube, length 600 mm	S54319-B33-A1	0.340
FDBZ290-AB	Air flow tube, length 1500 mm	S54319-B33-A2	0.840
FDBZ290-AC	Air flow tube, length 2800 mm	S54319-B33-A3	1.570
FDBZ290-AD	Mounting bracket	S54319-B34-A1	0.402
FDOOT241-A9	Neural fire detector, ASA	S54310-F11-A1	0.106
OOH740	Multi-sensor smoke detector, ASA	S54320-F7-A3	0.124
PSR720-2	Parameter set resistor	S54319-F17-A1	0.001
-	Metal cable gland M20 x 1.5	A5Q00004478	0.036
-	M20 x 1.5 metal counter nut	A5Q00004479	0.006

Product documentation

Document ID	Name
008141	Data sheet Multi-sensor fire detectors for step-wise modernization FDOOT241-A3, FDOOT241-A4, FDOOT241-A5, FDOOT241-A9, FDOOT241-8
008164	Equipment overview Sinteso™ Detector system FD20
009726	Installation Air sampling smoke detection kit FDBZ292
A6V10284161	Data sheet Automatic fire detectors OOH740, OOHC740
A6V10409732	Technical Manual Air sampling smoke detection kit FDBZ290

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following Internet address:

http://siemens.com/bt/download

Notes

Mounting

Selecting a location

- The air sampling smoke detection kit is installed in the same location within a ventilation system in which air flow measuring instruments would normally be installed, i.e. where no air vortexes, changes of direction, branchings, constrictions or enlargements of the ventilation duct occur.
- To ensure a reliable smoke monitoring of the air, the air sampling smoke detection kit is installed after the last air inlet point.

Mounting variants

- The air sampling smoke detection kit is installed on the outside of the ventilation duct.
- Suitable for taking ventilation ducts with a diameter of 100…2700 mm.
- The air duct sampling chamber is usually mounted on a rectangular ventilation duct using sheet-metal screws.
- With round and/or insulated ventilation ducts, the air sampling smoke detection kit is installed directly on the mounting bracket FDBZ290-AD.

The mounting method and the accessories required for mounting depend on the ventilation duct design.

The diameter of the ventilation duct determines whether the air flow tube only protrudes into the ventilation duct (see figure on the left) or whether it penetrates through the ventilation duct (see figure on the right).
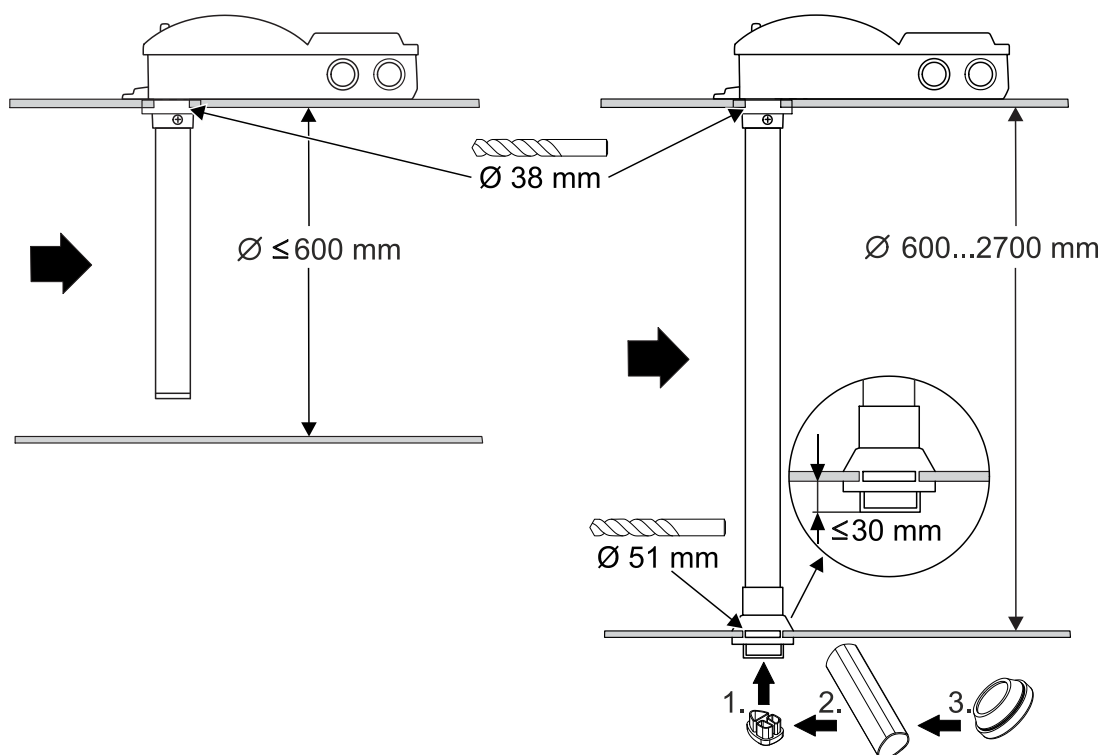

Fig. 1: Mounting variant depending on the diameter of the ventilation duct

With round or insulated ventilation ducts, the air sampling smoke detection kit is not installed directly on the ventilation duct but on the mounting bracket FDBZ290-AD (1).
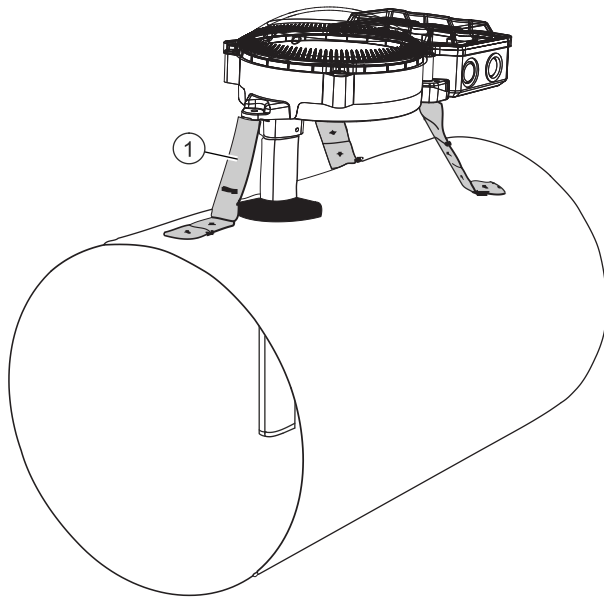
Fig. 2: Air sampling smoke detection kit with mounting bracket FDBZ209-AD

The following table shows the accessories required for the mounting variants:

Diameter	Round/insulated ventilation duct	Rectangular ventilation duct
≤600 mm	Air sampling smoke detection kit FDBZ290	Air sampling smoke detection kit FDBZ290
	Air flow tube 600 mm FDBZ290-AA	Air flow tube 600 mm FDBZ290-AA
	Metal cable gland M20 x 1.5 [1]	Metal cable gland M20 x 1.5 [1]
	M20 x 1.5 metal counter nut [1]	M20 x 1.5 metal counter nut [1]
	Mounting bracket FDBZ290-AD	–
>600…1400 mm	Air sampling smoke detection kit FDBZ290	Air sampling smoke detection kit FDBZ290
	Air flow tube 1500 mm FDBZ290-AB	Air flow tube 1500 mm FDBZ290-AB
	Metal cable gland M20 x 1.5 [1]	Metal cable gland M20 x 1.5 [1]
	M20 x 1.5 metal counter nut [1]	M20 x 1.5 metal counter nut [1]
	Sealing kit FDBZ292-AD	Sealing kit FDBZ292-AD
	Mounting bracket FDBZ290-AD	–
>1400…2700 mm	Air sampling smoke detection kit FDBZ290	Air sampling smoke detection kit FDBZ290
	Air flow tube 2800 mm FDBZ290-AC	Air flow tube 2800 mm FDBZ290-AC
	Metal cable gland M20 x 1.5 [1]	Metal cable gland M20 x 1.5 [1]
	M20 x 1.5 metal counter nut [1]	M20 x 1.5 metal counter nut [1]
	Sealing kit FDBZ292-AD	Sealing kit FDBZ292-AD
	Mounting bracket FDBZ290-AD	–

[1] Required to achieve protection category IP54 if cable diameter <7 mm

Disposal

	The device is considered an electronic device for disposal in accordance with European Directive and may not be disposed of as domestic waste.
	● Use only designated channels for disposing the devices.
	● Comply with all local and currently applicable laws and regulations.

Technical data

	FDBZ290
Operating temperature	-20...+50 °C
Air humidity	≤95 % rel.
Air flow tube	Aluminum
Permissible air speeds	1…20 m/s
Air flow indicator	≥1 m/s
Housing of the air duct sampling chamber ● Material ● Protection category (IEC 60529) ● Color	ABS IP54 ~RAL 7001 silver grey
Smoke detector/detector base	See 'Technology/design' section
System compatibility ● Sinteso ● Cerberus PRO	FDnet, collective C-NET, collective
Approvals ● VdS	G216035
Standards	EN 54-27 when used with specialized Sinteso or Cerberus PRO smoke detectors

Dimensional drawings

FDBZ290

Document ID	A6V10405166_g_en_--
Edition	2023-02-08