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Product Information on Smoke Protection Dampers Type JZ-RS

PI/4/17/EN/5



Smoke protection dampers of the type JZ-RS with general building approval **Z-78.4-51**

Application

Smoke protection dampers are utilised for prevention of smoke transmission in ventilation control centres of air supply systems operated with recirculation or only with external air and for fire-protection-restructuring of old plants.

The damper installation is independent of the air flow direction.

The actuation is realised by spring return actuators.

Smoke protection dampers are not suitable for undertaking the functions of fire dampers.

Smoke protection dampers may only be used in conjunction with smoke detectors whose qualification for this application has been proven by a general building approval, e.g. TROX smoke detectors of the type RM-O-VS-D according to leaflet No. 4/6.2/EN/...

Attention!

Smoke protection dampers are items which require an official licence for use (general building approval). Therefore, the "General and Special Provisions" specified in the general building approval must be followed when using the smoke protection dampers.

Supervision by an external organisation as required by the German law is performed by FMFA, Baden-Württemberg.

Accessibility

The smoke protection dampers must be installed so that inspection, cleaning and repair of the components can be carried out easily in the installed status. This also applies to the connected smoke detectors, if necessary therefore revision-openings must be provided in the connected air ducts.

Permanence Regulations

The operator of the ventilation system must keep smoke protection dampers and associated smoke detectors constantly ready for operation and in good condition. In particular, the general maintenance guidelines according to DIN 31051 must be observed for preservation and, if necessary, for retrieval of the nominal condition. This applies to all safety related products.

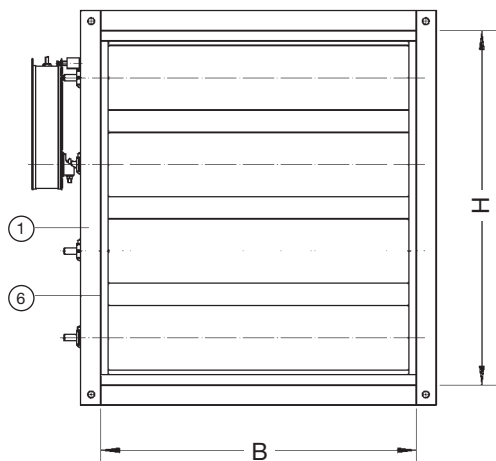
Maintenance Regulations

- Smoke protection dampers must be maintained at least once a year.
- The maintenance is to be recorded; the documents are to be retained by the operator of the ventilation system.

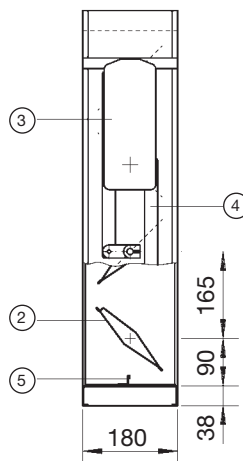
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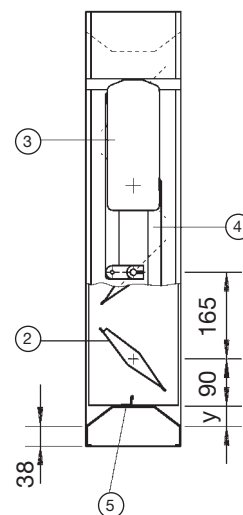
Construction



Standard Sizes



R20-Sizes



- ① Casing
- ② Blade
- ③ Spring return actuator
- ④ External linkage
- ⑤ Angle blade stop (arranged on the B-sides)
- ⑥ Seal steel sheet (arranged on the H-sides)

- Casing and blades made of profiled, galvanised sheet steel, casing flanges punched in the corners on both sides
- Blade spindles and external linkage made of galvanised steel
- Angle blade stops (arranged on the B-sides) made of galvanised steel
- Seal steel sheets (arranged on the H-sides) made of stainless steel
- Bearing bushes made of brass
- Opposed blade action
- Spring return drive located on the 2nd blade (irrespective of size)

Available Sizes

Standard sizes

B = 400 - 2000 mm (in steps of 200 mm)
H = 345 - 1995 mm (in steps of 165 mm)

Intermediate sizes

B = 357 - 1998 mm (available in increments of 1 mm)
H = 357 - 1998 mm (available in increments of 1 mm)

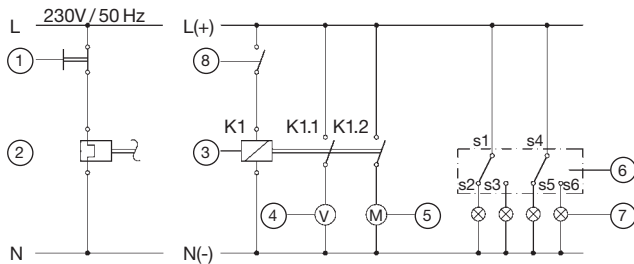
Installation

- Between ventilation ducts
- In front of walls and ceilings (with masonry subframe); Details of the masonry subframe and the flange punching see leaflet No. 3/1/EN/...

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Circuit- and Wiring Diagram for Smoke Protection Damper and Smoke Detector



Smoke protection damper in **CLOSED** position shown

- ① Electric switch, supplied by others (close and open smoke protection damper)
- ② Smoke detector (close smoke protection damper), e.g. TROX smoke detector type RM-O-VS-D with push-button "Test / Reset"
- ③ Load-relay K1, supplied by others with contact on K1.1 / K1.2 for switching off the spring return actuator and the ventilator
- ④ Ventilator, supplied by others
- ⑤ Spring return actuator of the smoke protection damper (only AC 230 V / 50...60 Hz resp. AC 24 V / 50...60 Hz and DC 24 V)
- ⑥ In the spring return actuator integrated limit switches (for constructions ZF08 and ZF09)
- ⑦ Consumer electrics, supplied by others (e.g. pilot lamp for position indication)
- ⑧ Contact from alarm relay of the smoke detector

Description of Function

Opening in case of conventional operation

Close electric circuit to the smoke detector Pos. (2) via the switch Pos. (1). The alarm relay of the smoke detector picks up and closes via the contact Pos. (8) the electric circuit to the load relay Pos. (3). The load relay picks up and closes the electric circuit to the spring return actuator Pos. (5) and to the ventilator Pos. (4). The smoke protection damper opens, the ventilator Pos. (4) starts up.

Closing in case of conventional operation

Interrupt electric circuit to the smoke detector Pos. (2) via the switch Pos. (1).

Closing in case of missing air flow

If there is no air flow in the area of the smoke detector Pos. (2), the alarm relay Pos. (8) of the smoke detector interrupts the electric circuit to the load relay Pos. (3). The spring return actuator Pos. (5) closes the smoke protection damper, the ventilator Pos. (4) is switched off. A re-opening is only possible by actuating the Reset-button on the smoke detector.

Remark: During the opening of the smoke protection damper, the "flow monitor" function will be activated delayed by 140 seconds. If no air flow appears in the area of the smoke detector after 140 seconds, the smoke protection damper returns to the CLOSED position.

Closing in case of electronic damages or missing smoke detector

In such cases, the smoke protection damper will also be closed automatically. As well as in case of missing air flow a "reset" is only possible directly on the smoke detector.

Closing in case of unallowable high smoke concentration

If the smoke concentration in the area of the smoke detector Pos. (2) is unallowable high, the alarm relay Pos. (8) drops down. Thus also the load relay Pos. (3) is switched currentless with the consequence that the ventilator Pos. (4) is switched off and the spring return actuator Pos. (5) closes automatically the smoke protection damper. A "Reset" is only possible via the Reset-button directly on the smoke detector, but the premise is a smoke-free smoke sensor chamber.

Re-opening after voltage drop

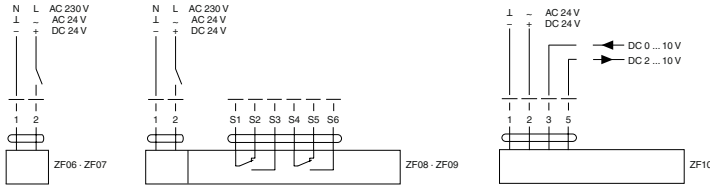
After a voltage drop no Reset-operation is necessary to re-open the smoke protection damper. As soon as the supply voltage is available again, the smoke protection damper opens automatically and the smoke detector is ready for function again.

Exception: After an "alarm event" (closing due to missing air flow, due to electronic damages and as a result of too high smoke concentration) with a subsequent AC/DC power failure; after such an event a Reset-operation also must be executed.

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Product Range

Accessories Type or construction variant combined with	Code
<p>Spring return actuator (power off to close) Damper "CLOSED", if no current</p> <p>Note: Connection 24 V via safety transformer</p> 	
<p>– without integrated limit switches U = AC 24 V, 50/60 Hz / DC 24 V, opening ≈ 5 W, in the open position ≈ 2,5 W, capacity 7,5 VA, protection class III safety extra-low voltage, degree of protection IP54, opening ≤ 75 s, closing ≤ 20 s, weight 2,1 kg</p> <p style="text-align: right;">Torque min. 20 Nm</p>	ZF06
<p>– without integrated limit switches U = AC 24...240 V, 50/60 Hz / DC 24...125 V, opening ≈ 7 W, in the open position ≈ 3,5 W, capacity 18 VA, protection class II totally insulated, degree of protection IP54, opening ≤ 75 s, closing ≤ 20 s, weight 2,2 kg</p> <p style="text-align: right;">Torque min. 20 Nm</p>	ZF07
<p>– with integrated limit switches U = AC 24 V, 50/60 Hz / DC 24 V, opening ≈ 5 W, in the open position ≈ 2,5 W, capacity 7,5 VA, protection class III safety extra-low voltage, degree of protection IP54, opening ≤ 75 s, closing ≤ 20 s, Auxiliary switch: 2 x SPDT, 1 mA...3 (0,5) A, AC 250 V, weight 2,3 kg</p> <p style="text-align: right;">Torque min. 20 Nm</p>	ZF08
<p>– with integrated limit switches U = AC 24...240 V, 50/60 Hz / DC 24...125 V, opening ≈ 7 W, in the open position ≈ 3,5 W, capacity 18 VA, protection class II totally insulated, degree of protection IP54, opening ≤ 75 s, closing ≤ 20 s, Auxiliary switch: 2 x SPDT, 1 mA...3 (0,5) A, AC 250 V, weight 2,4 kg</p> <p style="text-align: right;">Torque min. 20 Nm</p>	ZF09
<p>– Control drive without integrated limit switches U = AC 24 V, 50/60 Hz / DC 24 V, opening ≈ 5 W, in the open position ≈ 3 W, capacity 7 VA, protection class III safety extra-low voltage, degree of protection IP54, opening ≤ 150 s, closing ≤ 20 s, weight 2,1 kg</p> <p style="text-align: right;">Torque min. 20 Nm</p>	ZF10

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Order Code

JZ - RS - G - R / 1000x1005 / 22 / ZF06					
1	2	3	4	5	6

1 Type

JZ-RS Smoke Protection Damper

2 Construction variant

no entry: basic version

G Casing both flanges drilled

3 Drive side

R right

L left

(if this is not specified then "R" is supplied)

4 Nominal size [mm]

B x H (see page 2)

5 Masonry subframe

0 without

22 with

6 Accessories

ZF06 to ZF10

Additionally we are able to offer TROXNETCOM communication-solutions for the drive of smoke protection dampers based on LON and AS-Interface. Information are available on the Internet under Products/Automation and System Technology.

Tendering Text

Smoke protection dampers for prevention of smoke transmission in air conditioning systems, basically consisting of a C-shaped profiled casing, flow-adequate made hollow-body-blades, coupled via external linkages, actuation via spring return actuator, with issued general building approval Z-78.4-51 awarded by German Institute for Building Technology, Berlin.

Suitable to be controlled via smoke detectors, whose qualification for this application has been proven, e.g. TROX smoke detectors of the type RM-O-VS-D.

Make: TROX

Type: JZ-RS

Order Example

Item 1

Make: TROX

Type: JZ-RS-G-R/1000x1005/22/ZF06

Qty: 4

Item 2

Make: TROX

Type: RM-O-VS-D

Qty: 4

Further information according to
leaflet No. 4/6.2/EN/...