Application

- Fire dampers of Type FKS-EU, with CE marking and declaration of performance, for the isolation of duct penetrations between fire compartments in the event of a fire.
- To prevent the propagation of fire and smoke through ductwork to adjacent designated fire compartments.
Special characteristics

- Declaration of performance according to Construction Products Regulation
- Classification to EN 13501-3, up to EI 120 (v, h, i ↔ o) S
- Building inspectorate licence Z-56.4212-991 for fire resistance properties
- Complies with the requirements of EN 15650
- Tested to EN 1366-2 for fire resistance properties
- Corrosion protection according to EN 15650 in connection with EN 60068-2-52
- Closed blade air leakage to EN 1751, class 2
- Casing air leakage to EN 1751, class C
- Low differential pressure and sound power level
- Any airflow direction
- Integration into the central BMS with TROXNETCOM

Classification

- Class of performance to EN 13501-3, up to EI 120 (v, h, i ↔ o) S

Nominal sizes

- B × H: 200 × 100 – 800 × 200 mm (width in increments of 50 mm)
- L: 300 mm

Description

Variants

- With fusible link
- With spring return actuator
- With cover grilles both ends as air transfer unit with general building inspectorate licence: Z-19.18-2127
- With spring return actuator and duct smoke detector
- With spring return actuator, duct smoke detector and cover grilles on both ends for use as an air transfer opening, with general building inspectorate licence Z-6.50-2231

Parts and characteristics

- Easy dry mortarless installation into solid walls and ceiling slabs, lightweight partition walls, fire walls and shaft walls using an installation block
- Release temperature 72 °C or 95 °C (for use in warm air ventilation systems)

Attachments

- Limit switch for damper blade position indication
- Spring return actuator for 24 V AC/DC or 230 V AC supply voltage
- Network module for the integration with AS-i or LON networks
- Spring return actuator and pre-wired duct smoke detector, 24 V or 230 V supply voltage

Accessories

- Cover plate (to keep the fire damper stable and hence facilitate mortaring)
- Cover grille
- Flexible connectors
- Extension piece
- Rectangular installation block E

Useful additions

- Duct smoke detector RM-O-3-D
- Duct smoke detector with airflow monitor RM-O-VS-D

Construction features

- Rectangular or square construction, rigid casing, both flanges with fixing holes (System 30)
Suitable for the connection of ducts, flexible connectors or a cover grille
The release mechanism is accessible and can be tested from the outside
Two inspection access panels
Intermediate dimensions in 50 mm increments for width
Remote control with spring return actuator

Materials and surfaces

Casing:
- Galvanised sheet steel
- Galvanised sheet steel, powder-coated RAL 7001
- Stainless steel 1.4301

Damper blade:
- Special insulation material
- Special insulation material with coating

Other components:
- Damper blade shaft in stainless steel
- Plastic bearings
- Seals of elastomer

The construction variants with stainless steel or powder-coated casing meet even more critical requirements for corrosion protection. Detailed listing on request.

Standards and guidelines

- Construction Products Regulation
- EN 15650:2010 Ventilation for buildings – Fire dampers
- EN 1366-2:1999 Fire resistance tests for service installations – Fire dampers
- EN 13501-3:2010 Fire classification of construction products and building elements
- EN 1751:1999 Ventilation for buildings – Air terminal devices

Maintenance

- The functional reliability of the fire damper must be tested at least every six months; this has to be arranged by the owner of the ventilation system; functional tests must be carried out in compliance with the basic maintenance principles stated in EN 13936 and DIN 31051. If two consecutive tests, one 6 months after the other, are successful, the next test can be conducted one year later.
- A functional test involves closing the damper blade and opening it again; with a spring return actuator this can be done via remote control
- Fire dampers must be included in the regular cleaning schedule of the ventilation system.
- For details on maintenance and inspection refer to the installation and operating manual

TECHNICAL INFORMATION

Construction with fusible link

Functional description
In the event of a fire, fire dampers shut automatically to prevent the propagation of fire and smoke through ductwork to adjacent designated fire compartments. In the event of a fire, the damper is triggered at 72 °C or at 95 °C (use in warm air ventilation systems) by a fusible link. The release mechanism is accessible and can be tested from the outside.

Construction with spring return actuator

Functional description
The spring return actuator enables the motorised opening and closing of the damper blade; it can be activated by the central BMS.
In the event of a fire, the damper is triggered thermoelectrically at 72 °C or 95 °C (use in warm air ventilation systems). As long as power is supplied to the actuator, the damper blade remains open. If the supply voltage fails, the damper closes (power off to close). Motorised fire dampers can be used to shut off ducts. The torque of each actuator is sufficient to open and close the damper blade even while the fan is running.

The spring return actuator is fitted with limit switches that can be used for capturing the damper blade position.

Schematic illustration of FKS-EU with fusible link
① Casing
② Inspection access
③ Fusible link
④ Damper blade with seal
⑤ Travel stop
⑥ Handle with interlock and damper blade position indicator
⑦ Release mechanism

Schematic illustration of FKS-EU with spring return actuator

① Casing
② Inspection access
③ Temperature sensor
④ Damper blade with seal
⑤ Travel stop
⑥ Thermoelectric release mechanism
⑦ Spring return actuator

Schematic illustration of the FKS-EU as air transfer unit, with fusible link and cover grille

① Casing
② Inspection access
③ Fusible link
Damper blade with seal
Travel stop
Handle with interlock and damper blade position indicator
Release mechanism
Cover grille
Extension piece

Schematic illustration of FKS-EU as air transfer damper

Casing
Inspection access
Temperature sensor
Damper blade with seal
Travel stop
Thermoelectric release mechanism
Spring return actuator
Cover grille
Extension piece
Duct smoke detector RM-O-3-D

<table>
<thead>
<tr>
<th>Nominal sizes</th>
<th>200 × 100 to 800 × 200 mm</th>
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<tr>
<td>Casing length</td>
<td>300 mm</td>
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<td>Volume flow rate range</td>
<td>Up to 1600 l/s or up to 5760 m³/h</td>
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<td>Differential pressure range</td>
<td>Up to 1500 Pa</td>
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<td>Operating temperature</td>
<td>At least 0 – 50 °C **</td>
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<td>Release temperature</td>
<td>72 °C or 95 °C (for warm air ventilation systems)</td>
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<tr>
<td>Upstream velocity*</td>
<td>≤ 8 m/s with standard construction; ≤ 10 m/s with spring return actuator</td>
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</table>

* Data applies to uniform upstream and downstream conditions for the fire damper

** Temperatures may differ for units with attachments; details for other applications are available on request.
### Volume flow rate V [m³/h] at differential pressure Δpst < 35 Pa

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<th>H [mm]</th>
<th>L_{WA} [dB(A)]</th>
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### Volume flow rate V [l/s] at differential pressure Δpst < 35 Pa

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</table>
Rectangular or square fire dampers with flanges, for the isolation of duct penetrations between fire compartments.

Tested for fire resistance properties to EN 1366-2, with CE marking and declaration of performance according to the Construction Products Regulation.

Ready-for-operation unit, which includes a fire-resistant damper blade and a release mechanism. For mortar-based installation and dry mortarless installation into solid walls and ceiling slabs, lightweight partition walls and fire walls with cladding on both sides; also in shaft walls with metal support structure and cladding on one side.

Casing length 300 mm, for the connection to ducts made of non-combustible or combustible materials. Thermal or thermoelectric release at 72 °C or 95 °C (warm air ventilation systems).

Constructions with spring return actuator for opening and closing the fire damper independent of the nominal size and even while the ventilation system is running, e.g. for a functional test.

Construction with installation block for easy dry mortarless installation.

Special characteristics

- Declaration of performance according to Construction Products Regulation
- Classification to EN 13501-3, up to EI 120 (v, h, i ↔ o) S
- Building inspectorate licence Z 56.4212-991 for fire resistance properties
- Complies with the requirements of EN 15650
- Tested to EN 1366-2 for fire resistance properties
- Corrosion protection according to EN 15650 in connection with EN 60068-2-52
- Closed blade air leakage to EN 1751, class 2
- Casing air leakage to EN 1751, class C
- Low differential pressure and sound power level
- Any airflow direction
- Integration into the central BMS with TROXNETCOM

Materials and surfaces

Casing:
- Galvanised sheet steel
- Galvanised sheet steel, powder-coated RAL 7001
- Stainless steel 1.4301

Damper blade:
- Special insulation material
- Special insulation material with coating

Other components:
- Damper blade shaft in stainless steel
- Plastic bearings
- Seals of elastomer

The construction variants with stainless steel or powder-coated casing meet even more critical requirements for corrosion protection. Detailed listing on request.

Technical data

- Nominal sizes: 200 × 100 mm – 800 × 200 mm
- Casing length: 300 mm
- Volume flow rate range: up to 1600 l/s or 5760 m³/h
- Differential pressure: up to 1500 Pa
- Operating temperature: at least 0 – 50 °C **
- Release temperature 72 °C or 95 °C (for use in warm air ventilation systems)
- Upstream velocity: ≤ 8 m/s with standard construction; ≤ 10 m/s * with actuator

* Data applies to uniform upstream and downstream conditions for the fire damper

** Temperatures may differ for units with attachments; details for other applications are available on request.
**FKS-EU Fire Damper**

**Construction**

- No entry: standard construction
- 1: Powder-coated casing
- 2: Stainless steel casing
- 7: Coated damper blade

- 1 – 7: Powder-coated casing and coated damper blade
- 2 – 7: Stainless steel casing and coated damper blade

- **W**: With fusible link 95 °C (only for use in warm air ventilation systems)

**Country of destination**

- DE: Germany
- Other destination countries upon request

**Nominal size [mm]**

- $B \times H \times L$

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**FKS-EU Fire Damper**

**Construction**

- No entry: standard construction
- 1: Powder-coated casing, RAL 7001
- 2: Stainless steel casing
- 7: Coated damper blade

- 1 – 7: Powder-coated casing, RAL 7001, and coated damper blade
- 2 – 7: Stainless steel casing and coated damper blade

**Country of destination**

- DE: Germany
- Other destination countries upon request

**Nominal size [mm]**

- $B \times H \times L$

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**FKS-EU Fire Damper**

**Construction**

- No entry: standard construction
- 1: Powder-coated casing
- 2: Stainless steel casing
- 7: Coated damper blade

- 1 – 7: Powder-coated casing and coated damper blade
- 2 – 7: Stainless steel casing and coated damper blade

**Country of destination**

- DE: Germany
- Other destination countries upon request

**Nominal size [mm]**

- $B \times H \times L$
**Type**
FKS-EU  Air transfer damper

**Construction**

1. No entry: standard construction
2. Stainless steel casing
7. Coated damper blade
1 – 7. Powder-coated casing, RAL 7001, and coated damper blade
2 – 7. Stainless steel casing and coated damper blade

**Country of destination**

DE  Germany
Other destination countries upon request

**Nominal size [mm]**

B × H × L

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**Homepage > PRODUCTS > Fire and Smoke Protection > Fire dampers > Type FKS-EU**

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