Fire dampers
Type FKS-EU

FKS-EU with fusible link
for 72 °C or 95 °C

CE compliant according
to European regulations

With TROXNETCOM
as an option

Tested to VDI 6022

Compact dimensions, ideal for restricted spaces

Small rectangular fire damper for the isolation of duct penetrations
between fire compartments, available in many sizes

- Nominal sizes 200 × 100 to 800 × 200 mm
- Low differential pressure and sound power level
- Optional stainless steel casing or powder-coated casing
  for increased corrosion protection
- Integration into the central BMS with TROXNETCOM
- Universal installation options

Optional equipment and accessories
- Electric actuator 24 V/230 V
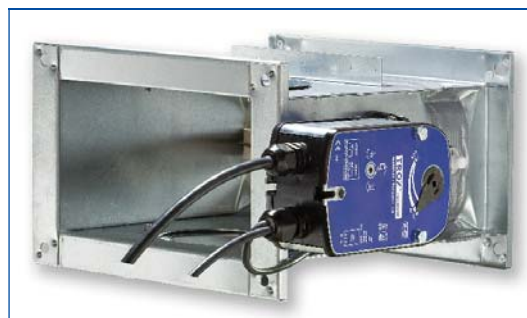- Release temperature 72/95 °C

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Variants

Product examples

FKS-EU with fusible link

Fire damper Type FKS-EU

Description

Fire damper Type FKS-EU

For detailed information
on attachments
see Chapter K4 – 1.2.

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

Classification
– Class of performance to EN 13501-3,
up to EI 120 (v_e, h_o, i ↔ o) S

Variants
– With fusible link
– With spring return actuator

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

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

Accessories
– Cover plate (to keep the fire damper stable
and hence facilitate mortaring)
– Cover grille
– Flexible connectors
– Extension piece

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

Special characteristics
– Declaration of performance according
to Construction Products Regulation
– Classification to EN 13501-3,
up to EI 120 (v_e, h_o, i ↔ o) S
– Building inspectorate licence Z-56.4212-991,
non-combustible and non-hazardous to health
– Complies with the requirements of EN 15650
– Tested to EN 1366-2
for fire resistance properties
– Hygiene complies with VDI 6022 part 1
(07/2011), VDI 3803 (10/2002), DIN 1946
part 4 (12/2008), and EN 13779 (09/2007)
– 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

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)

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 made of galvanised steel
or 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.

Installation and commissioning
Installion is to be carried out according
to the operating and installation manual

Mortar-based installation:
– In solid walls and ceiling slabs
– In lightweight partition walls and fire walls
with metal support structure
and cladding on both sides
– In shaft walls with metal support structure
and cladding on one side

Dry mortarless installation:
– In solid walls and ceiling slabs
with installation block E
– In lightweight partition walls with metal support
structure and cladding on both sides:
with installation block E
– In shaft walls with metal support structure
and cladding on one side with installation
block E

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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 13306 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 data

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

* Data applies to uniform upstream and downstream conditions for the fire damper
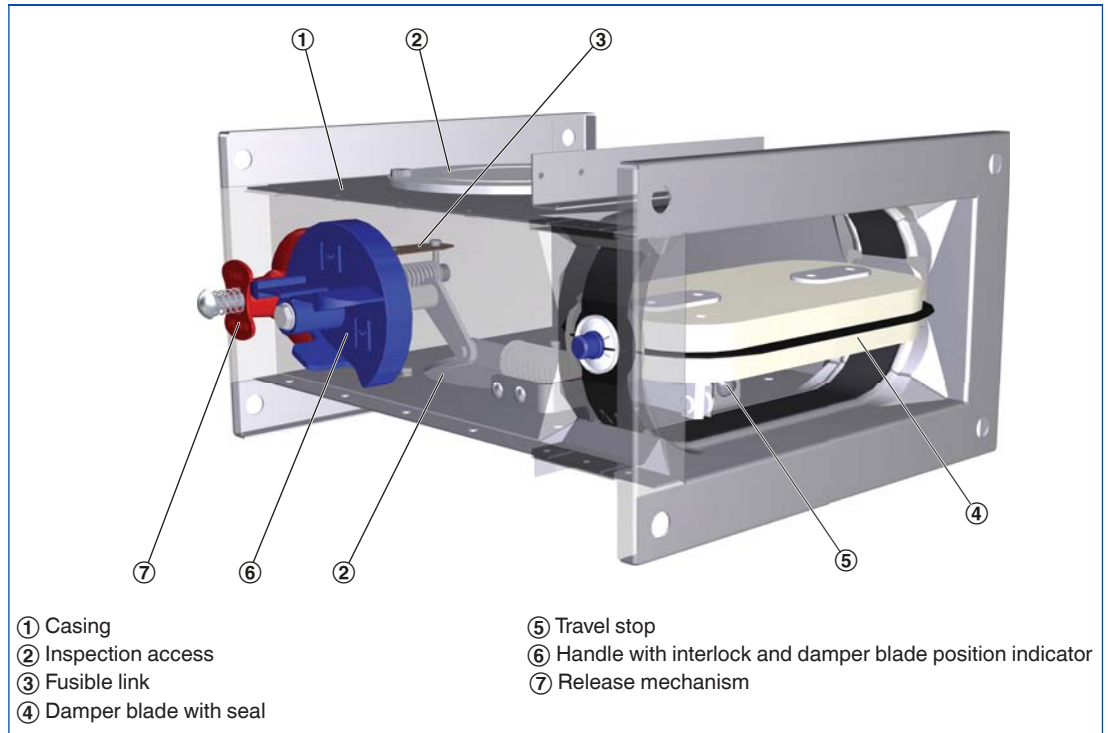**** Temperatures may differ for units with attachments**

Function

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.

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
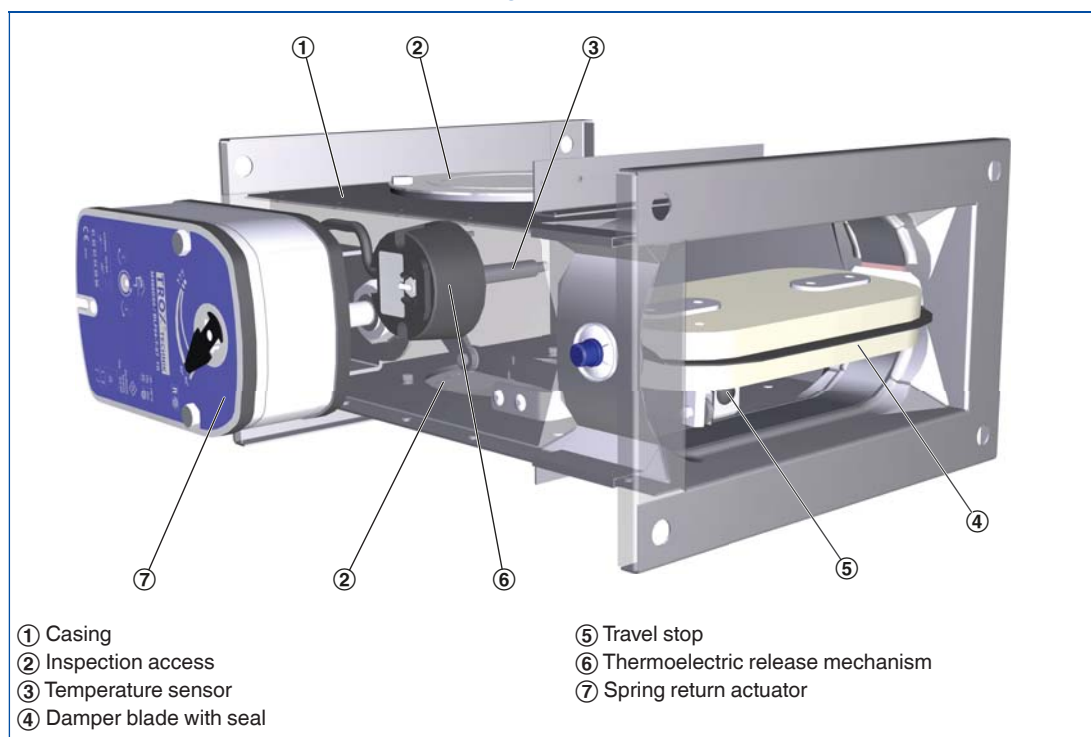⑦ Release mechanism

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Function

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.

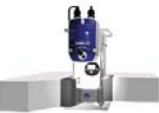**Schematic illustration of FKS-EU with spring return actuator**

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

1

Design information
– Approved only for use in ventilation
  and air conditioning sytems
– A class of performance up to EI 120
  (v_e, h_o, i ↔ o) S can only be achieved
  with ducts connected on both ends,
  or with a duct on one end and a cover grille
  on the other end.
– If the fire damper is installed in a solid wall,
  solid ceiling slab, lightweight partition wall
  or shaft wall with a lower fire resistance class
  than that of the fire damper, the fire resistance
  class of the wall or ceiling slab applies also
  to the FKS-EU (details upon request)

– Ducting must be installed in such a manner
  that it does not impose any significant loads
  on the fire damper in the event of a fire.
– For particular applications it is recommended
  that flexible connectors are used to connect
  rigid ducting to the unit.
– Fire dampers must be installed,
  connected and secured according
  to the operating and installation manual.

Correct use in solid walls and ceiling slabs

Installation location	Construction and building material	Minimum thickness	Performance class	Mortar-based installation	Dry mortarless installation
		mm	EI TT (v_e–h_o, i ↔ o) S		
Solid walls	Solid walls, gross density ≥ 500 kg/m³	100	EI 120 S	N	–
	Solid walls, gross density ≥ 500 kg/m³	100	EI 90 S	N	E
Solid ceiling slabs	Solid ceiling slabs, gross density ≥ 600 kg/m³	150	EI 120 S	N	–
	Solid ceiling slabs, gross density ≥ 600 kg/m³	150	EI 90 S	N	E
	Solid ceiling slabs, gross density ≥ 600 kg/m³	150	EI 90 S	N	–

N = Mortar-based installation, E = Installation block

Correct use in lightweight partition walls and fire walls

Installation location		Construction and building material	Minimum thickness	Performance class	Mortar-based installation	Dry mortarless installation
			mm	EI TT (v_e–h_o, i ↔ o) S		
Lightweight partition walls with metal support structure and cladding on both sides		Lightweight partition walls	100	EI 90 S	N	E
Fire walls with metal support structure and cladding on both sides		Fire walls	115	EI 90 S	N	E
Lightweight partition walls with metal support structure and cladding on one side		Shaft walls	90	EI 90 S	N	E

N = Mortar-based installation, E = Installation block

Installation orientation

Installation orientation with horizontal ducts

① Release mechanism (mechanical or spring return actuator)

1
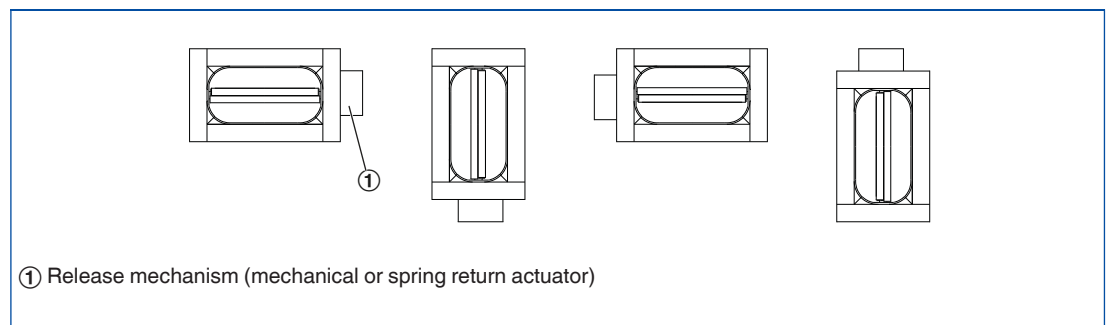
FKS-EU

FKS – EU – 1 / DE / 800×200×300 / E / A0 / Z43

         1   2   3   4   5   6   7

1 Type
FKS-EU Fire damper

2 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[1]   With fusible link 95 °C
        (only for use in warm
        air ventilation systems)

3 Country of destination
DE   Germany
    Other destination countries upon request

4 Nominal size [mm]
    B × H × L

5 Accessories 1
    No entry: none
E   Installation block
B   Cover plate

6 Accessories 2
    No entry: none
S0 – AS

7 Attachments
Z00 – ZL08

[1] W can be combined
  with all constructions listed under **2**

Order example

FKS-EU-1/DE/800×200×300/E/SS/Z43

Construction	Casing powder-coated, RAL 7001, silver grey
Country of destination	Germany
Nominal size	800 × 200 × 300 mm
Installation block	Installation block with cover plate
Accessories	Flexible connector on operating and installation sides
Attachment	Spring return actuator 230 V AC

Description

/ E /
5
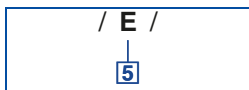
Order code detail

Application
– Installation block E for dry mortarless
  installation into solid walls and ceiling slabs,
  into lightweight partition walls
  with metal support structure and cladding
  on one side or on both sides,
  and in lightweight fire walls
– The installation block is factory mounted
  to the fire damper
– The unit is installed without a mortar
  mix by simply inserting it into the prepared
  installation opening
– In the event of a fire the intumescent
  seal closes the remaining gap.
– A cover plate conceals any gaps and is used
  for screw fixing

Materials and surfaces
– The installation block is sheet steel
  with a special sealing compound
– Cover plate and casing of the installation block
  made of galvanised sheet steel
  (and powder-coated silver grey, RAL 7001,
  when used with powder-coated (1)
  and stainless steel (2) dampers)

Installation block	Order code
Installation block with cover plate	E

FKS-EU with fusible link, dimensions [mm] and weight [kg]

H	B						
	200	300	400	500	600	700	800
100	7.7	9.7	11.6	13.7	15.8	17.8	19.8
125	8.5	10.5	12.4	14.4	16.4	18.5	20.6
150	8.8	10.9	12.9	15.1	17.3	19.4	21.4
160	8.9	11.0	13.1	15.4	17.7	19.7	21.7
200	9.7	12.1	14.5	16.6	18.7	21.0	23.2

Width B: Intermediate dimensions in 50 mm increments are available.
FKS-EU with spring return actuator: weight + 2 kg.

FKS-EU with installation block in a solid wall

B + 150
H + 100

115

B + 70
H + 70

① Cover plate ③ Seal
② Installation block ④ Solid wall
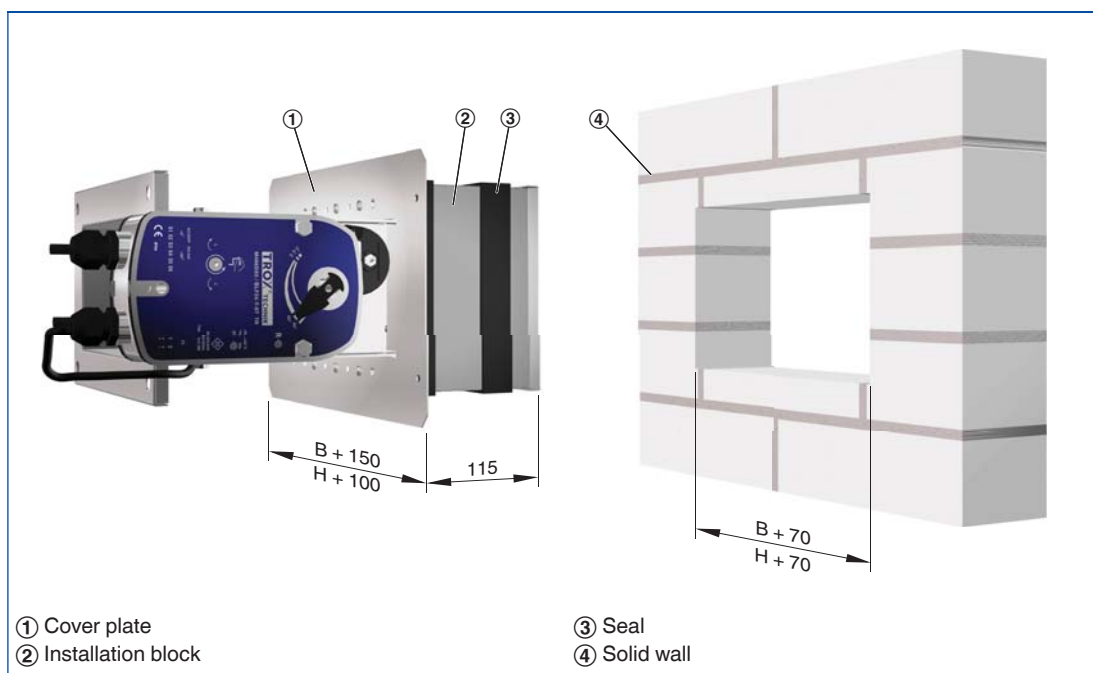
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FKS-EU with installation block in a lightweight partition wall

① Cover plate
② Installation block
③ Seal
④ Lightweight partition wall

B + 150
H + 100

115

B + 70
H + 70

Description

/ **B** /
5
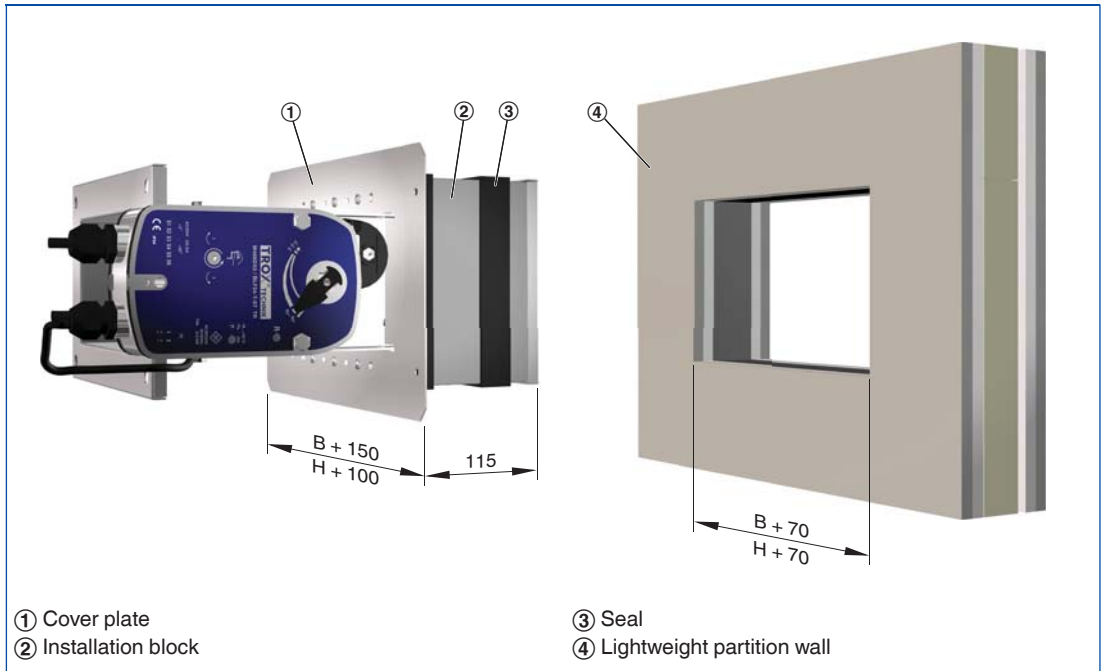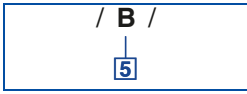
Order code detail

Application

– A cover plate facilitates mortar-based installation (perimeter mortar infill)

It is supplied unassembled and allows for positioning the fire damper in the installation opening and for applying the perimeter mortar infill.

Materials and surfaces

– Cover plate made of galvanised sheet steel (and powder-coated silver grey, RAL 7001, when used with powder-coated (1) and stainless steel (2) dampers)

Cover plate	Order code
Cover plate	B

FKS-EU with cover plate

① Cover plate   ② Solid wall or lightweight partition wall

1
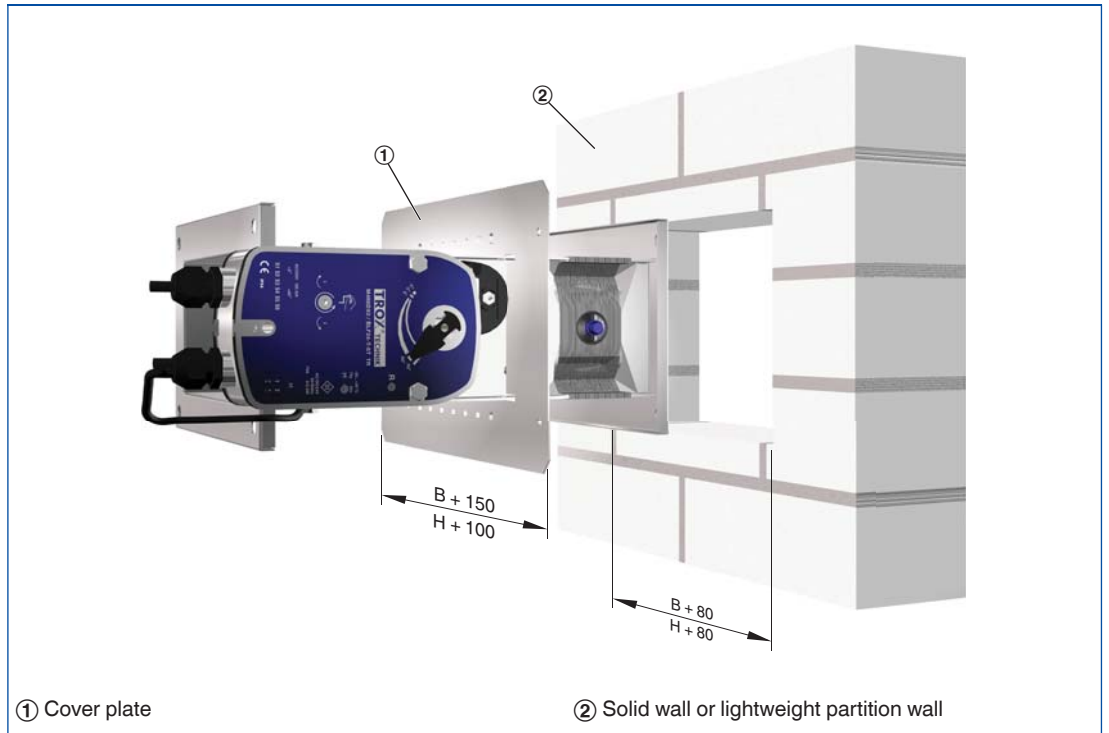
Description

Cover grille for FKS-EU

Application

– If only one end is to be ducted on site,
  the other end must have a cover grille
– Fire dampers ordered with a cover grille
  may be supplied with an extension piece
  if required
– The extension is factory mounted
  to the damper
– The free area of the cover grille is approx. 65%
– Cover grilles are also available separately
– An extension piece is required
  on the installation side
– Cover grilles both ends may be used
  in Germany only for air transfer dampers
  with general building inspectorate licence

Materials and surfaces

– Cover grilles made of galvanised sheet steel
  (and powder-coated silver grey, RAL 7001,
  when used with powder-coated (1)
  and stainless steel (2) dampers)

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/ A0 /
/ 0A /
    6
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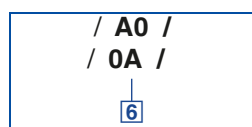
Order code detail

Cover grille for FKS-EU

Operating side	Installation side	Order code
Cover grille	–	A0
–	Cover grille	0A*

* Extension piece required

The distance »a«
between the open damper
blade and the spigot
should be 50 mm.

Cover grille

① A0
② 0A*

③ Extension piece
* Extension piece required

Cover grille

① Without extension piece
② With extension piece
③ Cover grille on operating side
④ Cover grille on installation side

⑤ Extension piece
⑥ Damper blade
y = * 51 with H = 200 mm

Description

Flexible connector
with flange for FKS-EU

Application

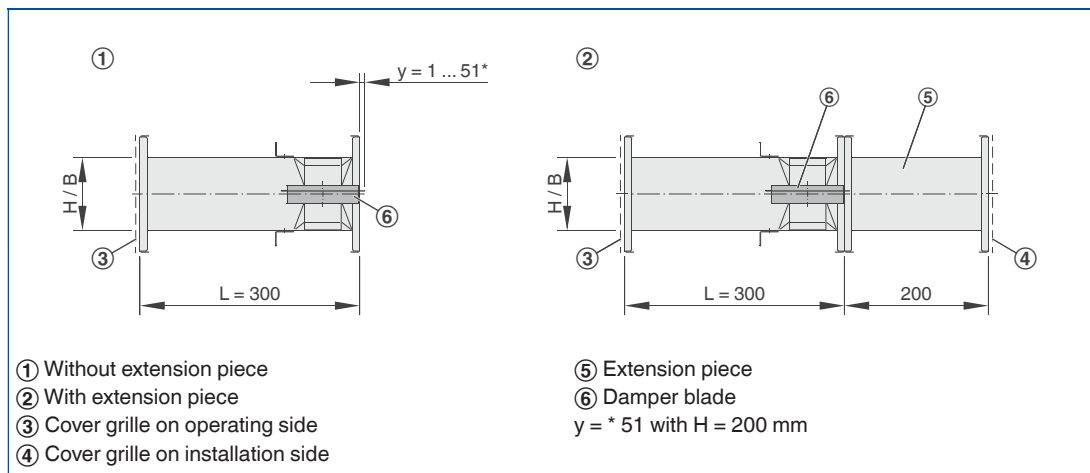– Ducting must be installed in such a manner that it does not impose any significant loads on the fire damper in the event of a fire.
– For information on how to limit such loads please refer to the guideline regarding fire protection requirements on ventilation systems (Lüftungsanlagen-Richtlinie, LüAR)
– As ducts may expand and walls may become deformed in the event of a fire, we recommend using flexible connectors for the following applications: installation in lightweight partition walls, in lightweight shaft walls and in lightweight fire walls
– Flexible connectors should be installed in such a way that both ends can compensate both tension and compression
– Flexible ducts can be used as an alternative
– An extension piece is required on the installation side
– Flexible connectors are supplied unassembled
– The fixing holes in the flexible connectors and extension pieces match those in the fire damper flanges
– Flexible connectors are also available separately

Materials and surfaces

– Flexible connectors made of galvanised steel and fibre-reinforced plastic
– Fire resistance properties to 4102; B2

/ **S0** /
/ **0S** /
/ **SS** /
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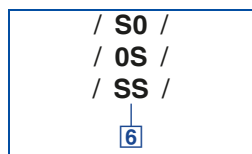
Order code detail

Flexible connector for FKS-EU

Operating side	Installation side	Order code
Flexible connector	–	S0
–	Flexible connector	0S
Flexible connector	Flexible connector	SS

The distance »a« between the open damper blade and the flexible connector should be 50 mm.

Flexible connector

① S0
② 0S

③ Extension piece

Flexible connector

~ 185
~ 160*
~ 185
~ 160*
H / B
④
③
L = 300
200
①
①
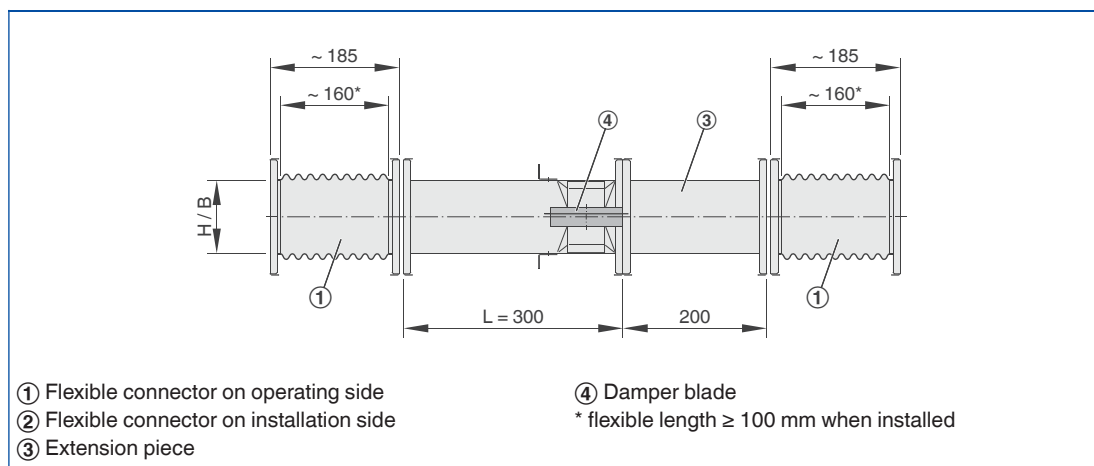
① Flexible connector on operating side
② Flexible connector on installation side
③ Extension piece
④ Damper blade
* flexible length ≥ 100 mm when installed

Description

Extension piece
for FKS-EU

Application
– Fire dampers ordered with flexible connector or cover grille are supplied including extension piece
– Extension pieces are also available separately

Materials and surfaces
– Extension pieces made of galvanised sheet steel (and powder-coated silver grey, RAL 7001, when used with powder-coated (1) and stainless steel (2) dampers)

Installation and commissioning
– The distance »a« between the open damper blade and the cover grille or circular spigot should be 50 mm

When using cover grilles or flexible connectors an extension piece is required.

Extension piece

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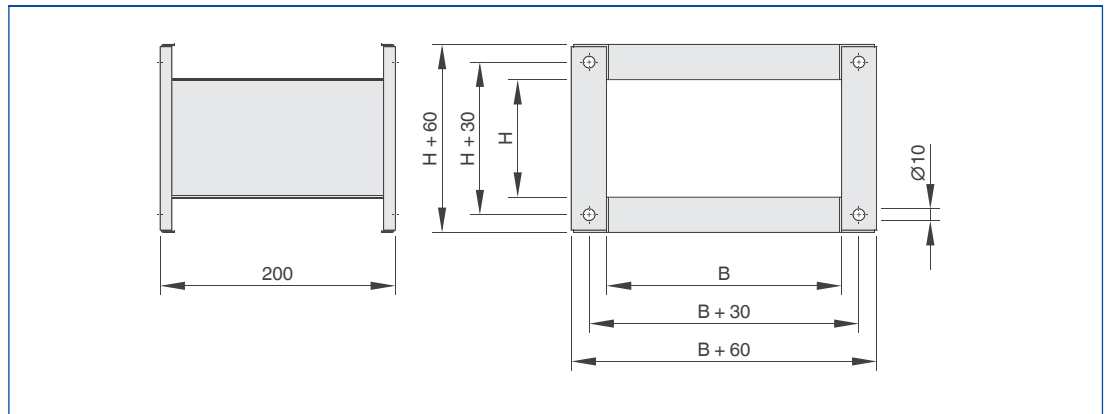
Description

Limit switch

For detailed information on limit switches see Chapter 1.2

FKS-EU with limit switch
– Limit switches with volt-free contacts enable the damper blade position indication.
– Up to the maximum switch rating, relays or indicator lights for fire alarm systems can be used
– One limit switch each is required for damper blade positions OPEN and CLOSED
– Fire dampers with a fusible link can be supplied with one or two limit switches; the switches can also be fitted later

/ **Z01**
/ **Z02**
/ **Z03**
|
7

Order code detail

Attachments	Order code
Limit switch for damper blade position CLOSED	Z01
Limit switch for damper blade position OPEN	Z02
Limit switches for damper blade positions CLOSED and OPEN	Z03

Description

FKS-EU with
spring return actuator

For detailed information
on the spring return
actuator see Chapter 1.2

FKS-EU with spring return actuator
– An open/close actuator allows for the remote
   control of the fire damper and/or release
   by a suitable duct smoke detector
– If the supply voltage fails, or with thermoelectric
   release, the damper closes (power off to close)
– Fire dampers with spring return actuators
   can be functionally checked
   OPEN/CLOSED/OPEN
– Ambient temperature,
   normal operation –30 to 50 °C
– Two integral limit switches with volt-free
   contacts enable the damper blade position
   indication (OPEN and CLOSED)
– BLF24-T-ST TR: The connecting cables
   of the spring return actuator are fitted
   with plugs, which ensure quick and easy
   connection to the TROX AS-i bus system
– A conversion kit is available for adding
   an actuator to the standard construction
– In case of conventional wiring (Z45)
   the voltage is supplied by a safety transformer

/ **Z43**
/ **Z45**
7

Bestellschlüsseldetail

Attachments	Order code
BLF230-T TR	Z43
BLF24-T-ST TR	Z45

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Description

FKS-EU with
TROXNETCOM module

For detailed information
on TROXNETCOM
see Chapter 1.2

FKS-EU with spring return actuator and TROXNETCOM

– Fire dampers with spring return actuator
  BLF24-T-ST TR and the modules shown
  here as attachments form a functional unit
  ready for automatic operation.
– The components
  are factory assembled and wired
– It enables the integration of different
  components (modules) into a network
  regardless of the manufacturer
– The modules control actuators and/or
  receive signals from sensors

Application

LON:
– LON indicates a standard local
  operating network system with
  manufacturer-independent communications
– Data transmission is based
  on a uniform protocol
– LonMark defines standards
  to ensure product compatibility
– Only the bus line and the supply
  voltage remain to be connected by others
– LON-WA1/B2: To provide the control
  input signal for up to two fire dampers
– LON-WA1/B2-AD: Connection box
  for connecting the second fire damper with
  24 V DC supply voltage to LON-WA1/B2-AD
– LON-WA1/B2-AD230: Connection box
  with integral 230/24 V power supply unit
  for the connection of a second actuator-driven
  24 V fire damper to LON-WA1/B2

AS-i:
– The AS interface is a global
  standard bus system according
  to EN 50295 and IEC 62026-2
– The module sends the control signals
  between the spring return actuator
  and the controller and power unit
– This allows for controlling the actuator
  and monitoring of its running time during
  functional testing
– The voltage (24 V DC) for the module
  and the actuator is supplied via
  the two-wire AS-i flat cable
– Function display: operation, 4 inputs, 2 outputs

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/ ZL06
/ ZL07
/ ZL08
/ ZA07
  |
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Order code detail

Attachments	Order code
LON-WA1/B2 and BLF24-T-ST TR	ZL06
LON-WA1/B2-AD and BLF24-T-ST TR	ZL07
LON-WA1/B2-AD230 and BLF24-T-ST TR	ZL08
AS-EM and BLF24-T-ST TR	ZA07

Description

Duct smoke detector
RM-O-3-D

Duct smoke detector
RM-O-VS-D

For detailed information
on the duct smoke
detector see Chapter 1.2

General

– To prevent smoke from spreading in buildings, it is extremely important that the smoke is detected at an early stage.
– Duct smoke detectors that operate on the principle of light scattering detect the smoke regardless of its temperature so that the fire dampers can be closed before the release temperature of 72 °C is reached
– If the air contains suspended particles, as is the case with smoke, beams of light are deflected off these. A sensor (photodiode), which does not receive light in clear air, is illuminated by the scattered light.
– The fire damper or smoke protection damper blade is released when the brightness of the scattered light exceeds a certain threshold

Application

RM-O-3-D:
– Duct smoke detector for fire dampers and smoke protection dampers
– General building inspectorate licence Z-78.6-125
– For airflow velocities from 1 – 20 m/s
– Independent of the airflow direction
– Supply voltage 230 V AC, 50/60 Hz or 24 V DC with voltage monitoring module (VWM) (upon request)
– Volt-free signal and alarm relays
– Integral signal lamps
– Contamination level indicator
– Automatic adjustment of alarm threshold
– Long service life
– Temperature range 0 – 60 °C

RM-O-VS-D:
– Duct smoke detector for fire dampers and smoke protection dampers
– General building inspectorate licence Z-78.6-67
– For airflow velocities from 1 – 20 m/s
– Independent of the airflow direction
– Airflow monitoring with warning for lower limit 2 m/s
– Supply voltage 230 V AC, 50/60 Hz
– Volt-free signal and alarm relays
– Integral signal lamps
– Contamination level indicator
– Automatic adjustment of alarm threshold
– Long service life
– Temperature range 0 – 60 °C

Attachments	Order code
Smoke detector	RM-O-3-D
	RM-O-VS-D

Duct smoke detectors are attachments and to be ordered separately.

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Volume flow rate V̇ [m³/h] at differential pressure Δp$_{st}$ < 35 Pa

H [mm]	L$_{WA}$ [dB(A)]	B [mm]						
		200	300	400	500	600	700	800
100	35	300	480	660	840	1030	1230	1420
	45	420	670	920	1180	1450	1720	2000
125	35	410	650	890	1150	1400	1700	1940
	45	570	900	1250	1600	1960	2350	2700
150	35	520	830	1140	1470	1800	2140	2480
	45	730	1160	1600	2060	2520	3000	3480
160	35	570	900	1250	1600	1970	2340	2700
	45	790	1260	1750	2240	2750	3280	3800
200	35	760	1220	1690	2170	2660	3170	3680
	45	1060	1700	2360	3040	3750	4430	5150

The Easy Product Finder allows you to size products using your project-specific data.
You will find the Easy Product Finder on our website.

H [mm]	Parameter	B [mm]				
		100	125	150	160	200
200	A [m²]	0.01	0.02	0.02	0.02	0.03
	ζ	1.46	0.98	0.71	0.63	0.43
300	A [m²]	0.02	0.03	0.03	0.04	0.05
	ζ	1.26	0.84	0.60	0.54	0.36
400	A [m²]	0.03	0.04	0.05	0.05	0.07
	ζ	1.17	0.77	0.55	0.49	0.33
500	A [m²]	0.03	0.05	0.06	0.06	0.08
	ζ	1.11	0.73	0.52	0.46	0.31
600	A [m²]	0.04	0.05	0.07	0.08	0.10
	ζ	1.08	0.71	0.50	0.44	0.29
700	A [m²]	0.05	0.06	0.08	0.09	0.12
	ζ	1.05	0.69	0.49	0.43	0.28
800	A [m²]	0.05	0.07	0.09	0.10	0.13
	ζ	1.04	0.68	0.48	0.42	0.28

1 Dimensions

FKS-EU with fusible link

FKS-EU with fusible link

① Keep clear to provide access to the release mechanism
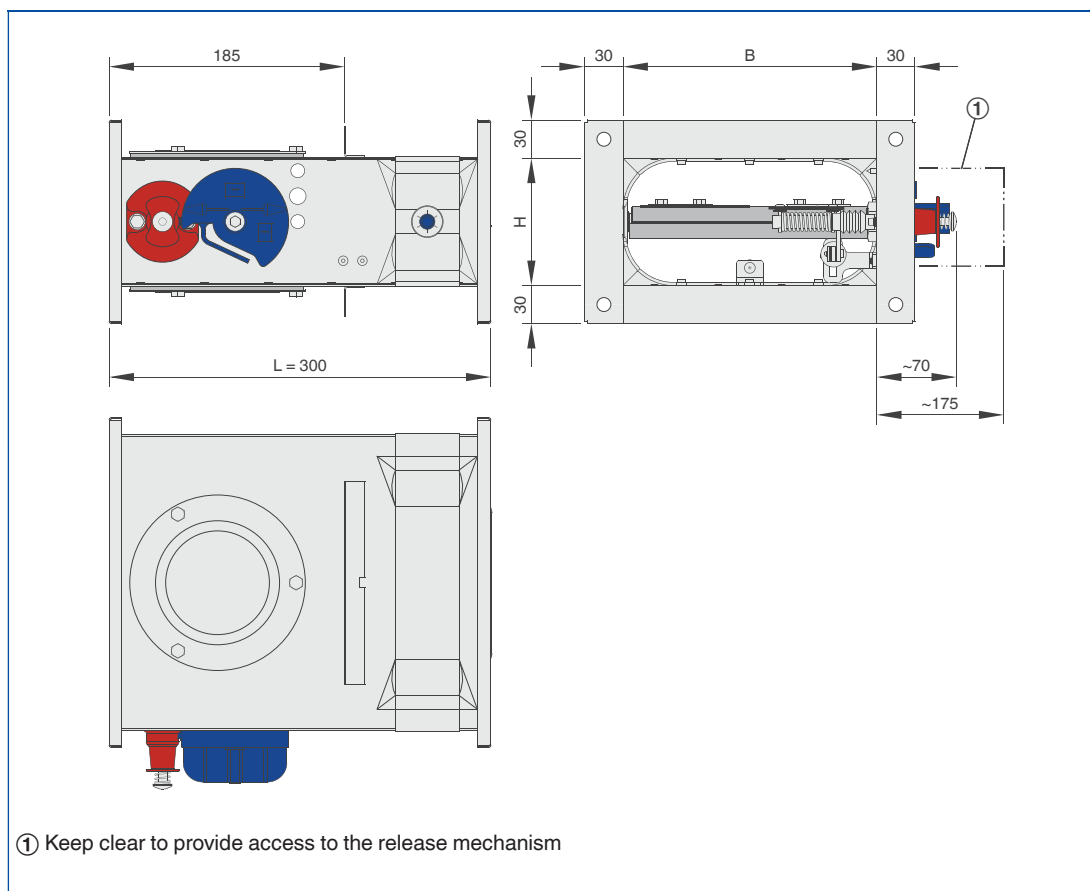
Dimensions [mm] / Weight [kg]

H	B						
	200	300	400	500	600	700	800
100	3.3	4.1	4.9	5.7	6.5	7.4	8.2
125	3.6	4.5	5.3	6.2	7	7.8	8.6
150	3.7	4.7	5.6	6.6	7.5	8.4	9.2
160	3.8	4.8	5.7	6.7	7.7	8.6	9.4
200	4.1	5.3	6.5	7.5	8.4	9.4	10.3

Width B: Intermediate dimensions in 50 mm increments are available.

Dimensions

Fire damper Type FKS-EU

FKS-EU with spring return actuator

① Keep clear to provide access to the spring return actuator
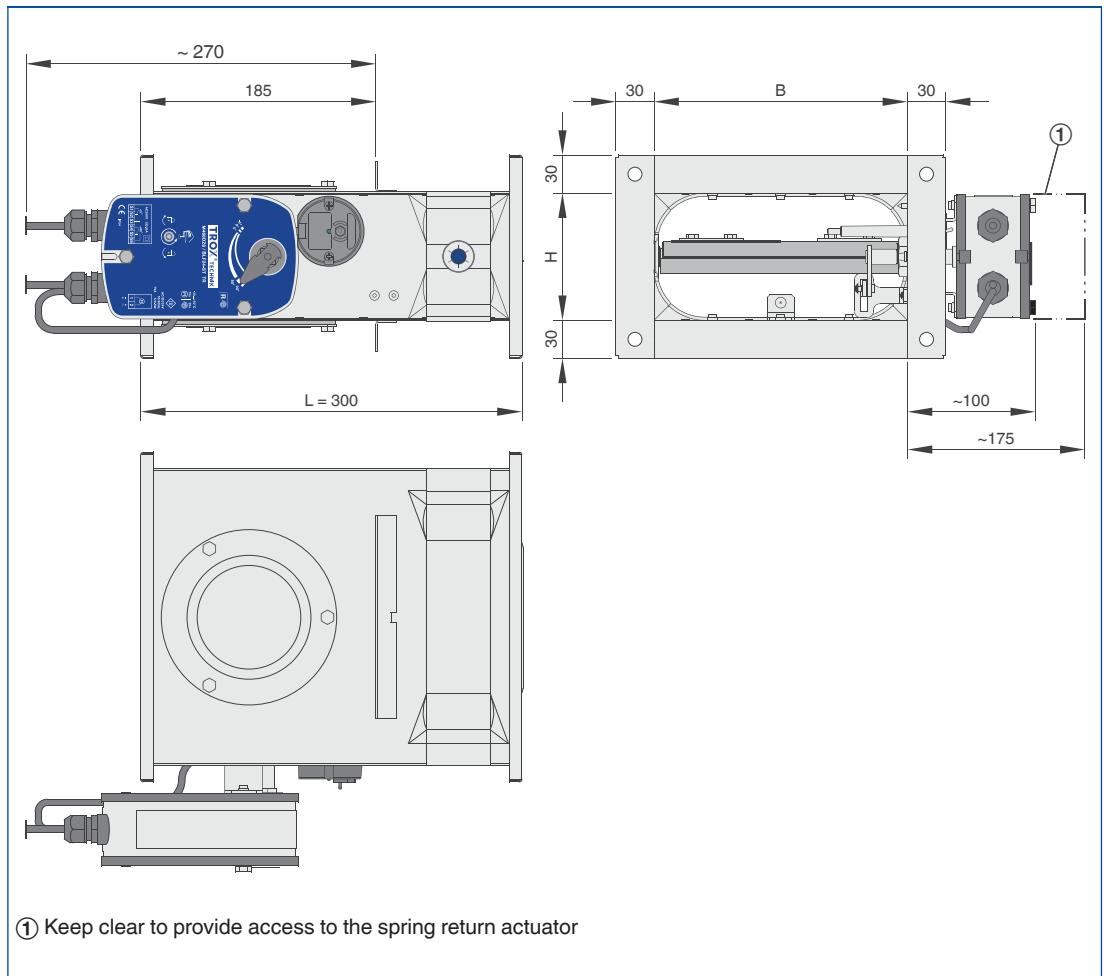
Dimensions [mm] / Weight [kg]

H	B						
	200	300	400	500	600	700	800
100	5.3	6.1	6.9	7.7	8.5	9.4	10.2
125	5.6	6.5	7.3	8.2	9	9.8	10.6
150	5.7	6.7	7.6	8.6	9.5	10.4	11.2
160	5.8	6.8	7.7	8.7	9.7	10.6	11.4
200	6.1	7.3	8.5	9.5	10.4	11.4	12.3

Width B: Intermediate dimensions in 50 mm increments are available.

1 Description

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

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_e, h_o, i ↔ o) S
– Building inspectorate licence Z-56.4212-991, non-combustible and non-hazardous to health
– Complies with the requirements of EN 15650
– Tested to EN 1366-2 for fire resistance properties
– Hygiene complies with VDI 6022 part 1 (07/2011), VDI 3803 (10/2002), DIN 1946 part 4 (12/2008), and EN 13779 (09/2007)
– 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 made of galvanised steel or 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

Sizing data

– $\dot{V}$ _____ [m³/h]
– Δp_{st} _____ [Pa]
– L_{WA} Air-regenerated noise _____ [dB(A)]

Order options

① Type
FKS-EU Fire damper

② 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**[1] With fusible link 95 °C (only for use in warm air ventilation systems)

③ Country of destination
- ☐ **DE** Germany
Other destination countries upon request

④ Nominal size [mm]
- ☐ B × H × L

⑤ Accessories 1
No entry: none
- ☐ **E** Installation block
- ☐ **B** Cover plate

⑥ Accessories 2
No entry: none
- ☐ **S0 – AS**

⑦ Attachments
- ☐ **Z00 – ZL08**

[1] W can be combined with all constructions listed under ②

Fire dampers
Basic information and nomenclature

- Product selection
- Principal dimensions
- Nomenclature
- Colour codes according to IEC 60757
- Sizing

1

Product selection
Fire dampers

Usage			Type							
			FK-EU				FKS-EU		FKR-EU	
			Mortar-based installation		Dry mortarless installation		Mortar-based installation	Dry mortarless installation	Mortar-based installation	Dry mortarless installation
Installation location	**Construction/ building material**	**Minimum thickness**	peri-meter	parti-ally[5]	Fire batt	Instal-lation kit[2]	perimeter	Installation kit[2]	perimeter	Installation kit[2]
		mm	Fire resistance class							
In solid walls	Walls/gross density ≥ 500 kg/m³	100	EI 90 S	EI 90 S	EI 120 S	EI 90 S	EI 120 S	EI 90 S	EI 120 S	–
In solid walls with movement joint	Walls/gross density ≥ 500 kg/m³	100	EI 90 S	–	–	–	–	–	–	–
On the face of solid walls	Walls/gross density ≥ 500 kg/m³	100	–	–	–	EI 90 S	–	–	–	–
Adjacent to solid walls[1]	Walls/gross density ≥ 500 kg/m³	100	–	–	–	EI 90 S	–	–	–	–
Remote from solid walls[1]	Walls/gross density ≥ 500 kg/m³	100	–	–	–	EI 90 S	–	–	–	–
In solid ceiling slabs	Ceiling slabs/gross density ≥ 600 kg/m³	125	EI 90 S	–	–	–	–	–	–	–
	Ceiling slabs/gross density ≥ 600 kg/m³	150	EI 90 S		EI 120 S		EI 120 S	EI 90 S	EI 120 S	–
In solid ceiling slabs, with concrete base	Ceiling slabs/gross density ≥ 600 kg/m³	125	EI 90 S	–	–	–	EI 90 S	–	EI 90 S	–
Lightweight partition walls with metal support structure and cladding on both sides	Lightweight partition walls	100	EI 90 S	–	EI 120 S	EI 90 S	EI 90 S	EI 90 S	EI 90 S	EI 90 S
Lightweight partition walls with metal support structure and cladding on both sides, flexible ceiling joint[1]	Lightweight partition walls	100	–	–	–	EI 90 S	–	–	–	–
Fire walls with metal support structure and cladding on both sides	Fire walls	115	EI 90 S	–	–	EI 90 S	EI 90 S	EI 90 S	EI 90 S	EI 90 S
Lightweight partition walls with metal support structure and cladding on one side	Shaft walls	90	–	–	–	EI 90 S	EI 90 S	EI 90 S	EI 90 S	EI 90 S
Lightweight partition walls without metal support structure but with cladding on one side	Shaft walls	40 or 50[4]	–	–	–	EI 90 S	–	–	EI 90 S	EI 90 S
In self supporting fire-resistant suspended ceilings	Tile ceilings, screw-fixed and primed	–	–	–	–	–	–	–	–	–
	Lay-in ceiling tiles made of panel materials	–	–	–	–	–	–	–	–	–
	Metal ceilings	–	–	–	–	–	–	–	–	–

[1] Not for FK-EU as air transfer damper
[2] Installation kit for the selected installation situation
[3] For ØDN 100 to 200 in lightweight partition wall with metal support structure and mineral wool
[4] 50 only for FKR-EU
[5] Additional mineral wool

Product selection
Fire dampers

Usage				Type						
				FKRS-EU			FV-EU	KA-EU	FVZ-K30	KU-K30
Installation location	Construction/building material	Minimum thickness		Mortar-based installation	Dry mortarless installation		Mortar-based installation			Dry mortarless installation
				perimeter	Fire batt	Installation kit[2]	perimeter	Mortar-based installation	Installation kit	
		mm		Fire resistance class						
In solid walls	Walls/gross density ≥ 500 kg/m³	100		EI 120 S	EI 120 S[3], EI 90 S	EI 90 S	EI 120 S	K90	–	–
In solid walls with movement joint	Walls/gross density ≥ 500 kg/m³	100		–	–	–	–	–	–	–
On the face of solid walls	Walls/gross density ≥ 500 kg/m³	100		EI 90 S	–	EI 90 S	–	–	–	–
Adjacent to solid walls[1]	Walls/gross density ≥ 500 kg/m³	100		–	–	–	–	–	–	–
Remote from solid walls[1]	Walls/gross density ≥ 500 kg/m³	100		–	–	–	–	–	–	–
In solid ceiling slabs	Ceiling slabs/gross density ≥ 600 kg/m³	125		–	–	–	–	–	–	–
	Ceiling slabs/gross density ≥ 600 kg/m³	150		EI 120 S	EI 120 S[3], EI 90 S	EI 90 S	EI 120 S	K90	–	–
In solid ceiling slabs, with concrete base	Ceiling slabs/gross density ≥ 600 kg/m³	125		–	–	–	–	–	–	–
Lightweight partition walls with metal support structure and cladding on both sides	Lightweight partition walls	100		EI 120 S[3], EI 90 S	EI 120 S[3], EI 90 S	EI 120 S[3], EI 90 S	EI 120 S	K90	–	–
Lightweight partition walls with metal support structure and cladding on both sides, flexible ceiling joint[1]	Lightweight partition walls	100		–	–	EI 90 S	–	–	–	–
Fire walls with metal support structure and cladding on both sides	Fire walls	115		EI 90 S	–	EI 90 S	–	K90	–	–
Lightweight partition walls with metal support structure and cladding on one side	Shaft walls	90		EI 90 S	–	EI 90 S	–	–	–	–
Lightweight partition walls without metal support structure but with cladding on one side	Shaft walls	40 or 50[4]		–	–	–	–	–	–	–
In self supporting fire-resistant suspended ceilings	Tile ceilings, screw-fixed and primed	–		–	–	–	–	–	K30-U	K30-U
	Lay-in ceiling tiles made of panel materials	–		–	–	–	–	–	K30-U	K30-U
	Metal ceilings	–		–	–	–	–	–	K30-U	K30-U

[1] Not for FK-EU as air transfer damper
[2] Installation kit for the selected installation situation
[3] For ØDN 100 to 200 in lightweight partition wall with metal support structure and mineral wool
[4] 50 only for FKR-EU
[5] Additional mineral wool

1

Principal dimensions

Rectangular fire dampers

B [mm]
Width of the fire damper

H [mm]
Height of the fire damper

Circular fire dampers

Nominal size [mm]
Diameter of the fire damper

L [mm]
Length of the fire damper

Nomenclature

$\dot{V}$ **[m³/h] and [l/s]**
Volume flow rate

L_{WA} [dB(A)]
A-weighted sound power level
of air-regenerated noise for the fire damper

A [m²]
Free area

ζ
Resistance coefficient (fully ducted)

Δp_{st} [Pa]
Static differential pressure

v [m/s]
Airflow velocity based on
the upstream cross section (B × H or diameter)

K
Correction value

Wiring

Colour codes according to IEC 60757

Code	Colour
BK	black
BN	brown
RD	red
OG	orange
YE	yellow
GN	green
BU	blue

Colour codes according to IEC 60757

Code	Colour
VT	violet
GY	grey
WH	white
PK	pink
TQ	turquoise
GNYE	green-yellow

Sizing with the help of this catalogue

This catalogue provides convenient
quick sizing tables for fire dampers.
The volume flow rates for all available
dimensions and nominal sizes are provided
based on a particular differential pressure.
Sizing data for other volume flow rates
and differential pressures can be determined
quickly and precisely using
the Easy Product Finder design programme.

Easy Product Finder

The Easy Product Finder
allows you to size
products using your
project-specific data.

You will find
the Easy Product Finder
on our website.