Rectangular Fire damper BSK120

- Fire resistance class EI120 /EI120S
- Sizes from 200 x 200 mm to 1200 x 1000 mm
- Prefitted safety actuator 24V or 230V
- Available in MagiCAD
- CE-marked building product according to 15650:2010
Quick facts
- Fire resistance class EI120 /EI120S
- Sizes from 200 x 200 mm to 1200 x 1000 mm
- Prefitted safety actuator 24V or 230V
- Available in MagiCAD
- CE-marked building product according to 15650:2010

Use
Damper in combination with walls or joist systems for fire separation of heating, ventilation and air conditioning installations in buildings. In accordance with the harmonised European standard EN 15650:2010. In designs according to associated documents, installation instructions and when the damper is used in combination with smoke detectors and monitoring system (MRB), or the like, the spread of fire/combustion gases is prevented. No further action against the spread of fire/combustion gases is required.

Performance
EC certificate according to EN 15650:2010
0402-CPD-SC0206-13
Classification of fire resistance according to EN 13501-3
EI 120 (ve ho i <-> o) S
For complete classification, see the Declaration of Performance.

Installation
BSK120 is installed in fire cell separating walls or joist systems, according to the adjoining installation instructions. Should not be installed outdoors or in damp areas.

Actuator
BSK120 is always supplied with an electric safety actuator with spring return complete with thermal sensor with pushbutton for local manual operating test. The sensor disconnects the power to the actuator if the temperature exceeds 72 °C inside or outside the damper. 24V actuators are always used in connection with the MRB monitoring system. Dampers can also be supplied with electric actuator 230V. Note that the BSK120 damper is always supplied with an actuator.
Activation
According to Boverket’s Building Regulations smoke detectors must be verified according to SS-EN 54-7 to activate dampers. The mandatory thermal sensor closes the damper at 72 °C according to ISO 10294-4.

Control and monitoring
When the damper is used to prevent the spread of fire and combustion gases it must be closed via impulses from the smoke detector. This must be fitted in the ventilation duct in the proximity of the damper or in another suitable location. Smoke detectors are monitored by means of Rasch’s MRB system or the like. The MRB monitoring system also performs automatic operating checks on the damper every 48 hours and is designed so that faults are indicated immediately and the damper closes. See www.bevent-rasch.se for further details.

Sizes  200 x 200 up to 1200 x 1000 mm

Design
The BSK120 damper is supplied complete with factory mounted, maintenance-free, 24V electric safety actuator with thermal sensor (unless otherwise stated) and built-in signal contacts to indicate the damper position. BSK120 is available in slip joint or flanged designs. Supplied as standard without inspection hatches.

Material and surface finish
Casing and components of galvanized steel sheet according to environmental class C3. Other materials are available for higher environmental requirements. Damper blade of solid fire protection materials.

Accessories
BRAS  Connection spigot for spiral duct
RBFS  Extension spigot for wall/joist systems thicker than 280 mm, and in combination with BRAS or wire mesh grilles
RBMP  Assembly plate, excl. refinishing material (RBBM), for installation in plaster structures EI 60 / EI 120
RCKB  Connection box
RCDU  MRB system, max 2 dampers
RCBK4 MRB system, max 4 dampers
RCMU8 MRB system, max 8 dampers
RCKD/-RD Smoke detectors
BRTR  Wire mesh grille, rectangular
BRTO  Wire mesh grille, circular
RCTU/RCTC MRB3 system, max 236 dampers
**Specification**

Example:

**Fire damper**

| BSK120 - 500 - 400 - 1 - 1 - 1 - 0 |

**Size**
- Width x Height (B x H), mm

**Connection**
- Slip joint = 1
- Flange = 2

**Material**
- Hot-dip galvanized sheet steel = 1
- Stainless AISI 3041 – EN 1.4301 = 2
- Stainless AISI 316L – EN 1.4404 = 3

**Actuator**
- Electric 24 V AC/DC with thermal sensor = 1
- Electric 230 V AC with thermal sensor = 3

**Note! Factory fitted actuator always included.**

**Inspection hatches**
- Without = 0
- With = 1

**Accessories**

**Connection spigot**

| BRAS |

| Extension spigot |

| RBFS - 2 - 500 - 400 - 1 - 1 |

**Spigot length**
- L = 155 mm = 1
- L = 330 mm = 2

**Size**
- Width x Height (B x H), mm

**Connection**
- Slip joint = 1
- Flange = 2

**Material**
- Hot-dip galvanized sheet steel = 1
- Stainless AISI 3041 – EN 1.4301 = 2
- Stainless AISI 316L – EN 1.4404 = 3

**Assembly plate**

| RBMP - 500 - 400 - 1 |

**Size**
- Duct, Width x Height (B x H), mm

**Material**
- Hot-dip galvanized sheet steel = 1
- Stainless AISI 3041 – EN 1.4301 = 2
- Stainless AISI 316L – EN 1.4404 = 3
Dimensions and weight

*) applies to standard design

Dimensions, mm

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*) Only applies to B-measurement

Weight incl. 24 V actuator, kg

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*) Only applies to B-measurement
Installation

**Connection spigot**
**BRAS**

**Extension spigot**
**RBFS**

<table>
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<th>BRAS Ød</th>
<th>Min. damper size</th>
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<th>L₁</th>
<th>L₂</th>
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*) Length as per the table above

**Assembly plate RBMP (incl. in delivery)**

- **BRAS**
- **RBFS**

**Duct size W/H + 190 mm**

**RBMP supplied unassembled**
Technical data

Sound data
The speed is calculated on the damper’s gross area, i.e. a BSK120 - 400 x 400 has a gross area of 0.16 m².
The specified pressure drop applies to the damper without accessories.

Correction of sound power level, \( L_{W} \), for different sizes use curves 1 - 4 according to:

\[ L_{W} = L_{Wt} + K_{1} \]

<table>
<thead>
<tr>
<th>Damper height mm</th>
<th>Damper area, m²</th>
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<tr>
<td>≥400 as per 1</td>
<td>0.08 0.16 0.32 0.64 1.28</td>
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<tr>
<td>360 as per 2</td>
<td>0.07 0.14 0.28</td>
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<tr>
<td>300 as per 3</td>
<td>0.06 0.12 0.24</td>
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<tr>
<td>200 as per 4</td>
<td>- 0.08 0.16</td>
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</table>

\( K_{1} \) = -3 0 3 6 9

Electrical data (values in brackets refer to 230 V)

Actuator type BF.. BLF..
Sizing, max ................. 10 VA (12.5 VA) 7 VA (7 VA)
Running time;
– motor opening, max ....... ca 140 s 40-75 s
– spring return, max........... ca 20 s
Protection class ............... IP 54
Power supply ................. 24V~ ±20%, 50/60Hz
24V± ±10% (220-240V~, 50/60Hz)
Ambient temperature ........... -30°C to +50°C
Safety temperature ............. -30°C to +75°C
(24 hrs. guaranteed safety)
Tripping temperature with thermal sensor ........... 72°C
End position contacts
- load ≤ 300 mW ....... min 1 mA/5V, max 100 mA/250V~

Correction of sound power level, \( L_{Wt} \), in octave band

\[ L_{W} = L_{W} + K_{ok} \]

Correction, \( K_{ok} \)

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<th>125</th>
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<th>1K</th>
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After exceeding the above values it applies:
- load > 300 mW ..... min 100 mA, max 3 A/250~

Sound level when opening approx 45 dB(A)
Sound level when closing approx 62 dB(A)

Wiring diagram

Chart indicates in the de-energized state
**Installation instructions**

**Building element (wall or joist structure) in fire resistance class EI120.**

**Damper’s fire resistance class: EI120 (ve ho i <-> o) S.**

**EC certificate SC0206-13**

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### Options 1 and 2

1. Joists should be supported horizontally and when applicable vertically so that the desired opening is obtained.

2. Fit the assembly plates RBMP on the damper using the supplied screws so that the damper blade is inside the building element when installed. RBMP is reversible.

3. The damper is centred in the opening and screwed in position through the assembly plates RBMP and the wall studs.

4. Refinish with mineral wool ≥ 55 kg/m³

5. Install the duct system according to applicable requirements. Make sure that the connected duct system does not impact on the damper in the event of a fire load.

* ) If the fire damper is not connected to the duct system, fit non-combustible grilles designed for the damper on the unconnected sides. The minimum distance between the damper blade in the open position and the grille is 50 mm.

- Minimum distance between dampers must be 200 mm.
- Minimum distance to joist structure/wall must be 75 mm.
- Horizontal installation of the damper spindle.