



## Product Information

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Smoke Control Damper Type RKE

***strulik***



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## General characteristics

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- Tested according to EN 1366-10
- Classified according to EN 13501-4  
E<sub>600</sub> 120 (v<sub>ed</sub> h<sub>od</sub> i ↔ o) S 1500 C<sub>10000</sub> MA single
- Minimal installation depth
- Declaration of performance DoP/RKE/001



Smoke Control Damper Type RKE

### Smoke Control Damper RKE

Smoke control dampers are designed for the extraction of smoke and the supply of necessary fresh air within smoke control systems.

Single compartment smoke control dampers such as the smoke control damper type RKE, are to be used for the extraction of smoke within the area to be smoked / fire compartment, since no requirements are placed on the fire resistance duration of the smoke control damper.

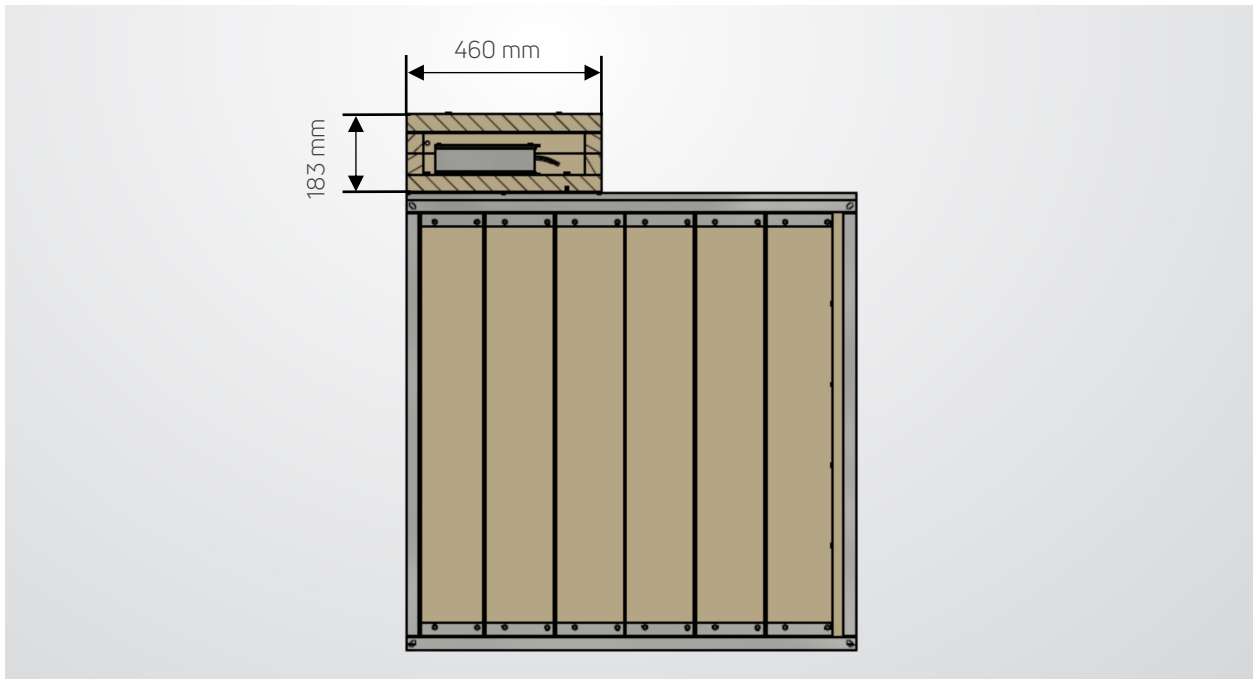
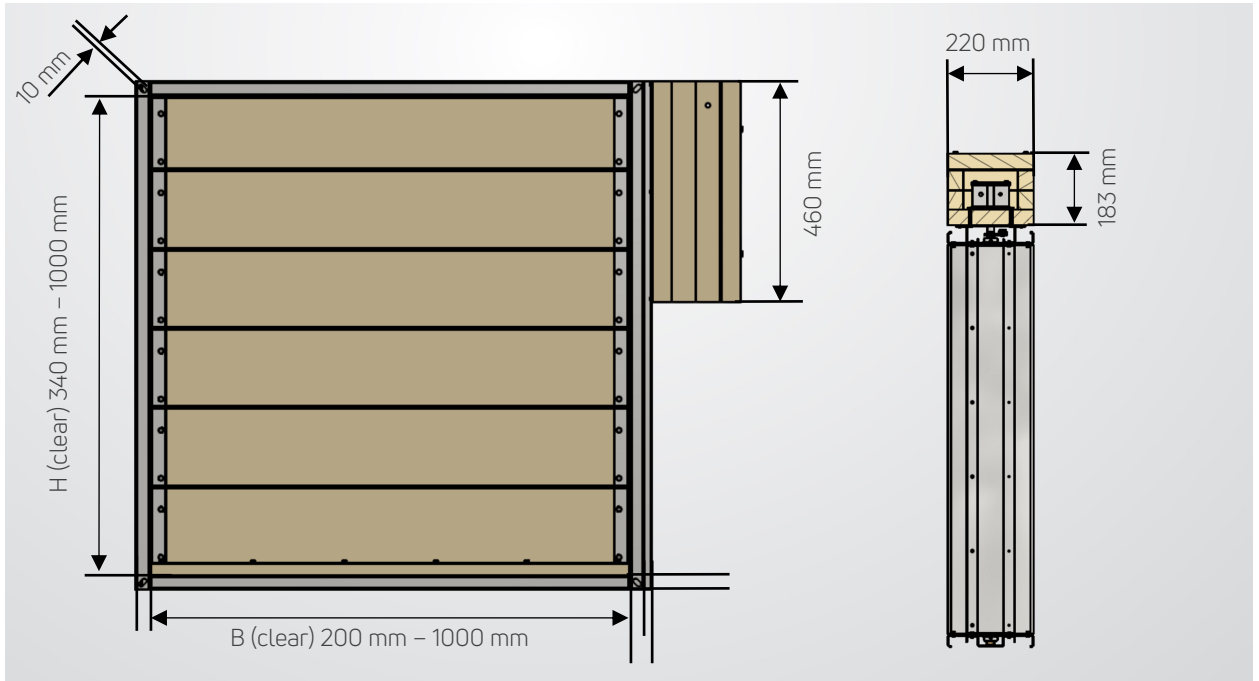
The smoke control dampers are equipped with electric actuators with a 24 V AC/DC or 230 V AC supply voltage, which are located in a thermally insulated housing in order to ensure that the smoke control damper can be opened and closed properly under fire conditions.

Tested according to EN 1366-10 with CE marking according to EN 12101-8.

For use on duct walls of vertical and horizontal smoke control ducts according to EN 12101-7, tested according to EN 1366-9.

## Dimensions and available sizes

### Dimensions



## Dimensions and available sizes

### Available sizes

| Width B (mm) | Hight H (mm) |
|--------------|--------------|
| 200          | 170          |
| 300          | 340          |
| 400          | 505          |
| 500          | 670          |
| 600          | 835          |
| 700          | 1000         |
| 800          |              |
| 900          |              |
| 1000         |              |

### Installation information

The smoke control damper RKE is suspended separately by threaded rods of at least M8 diameter with a maximum load of 20 N/mm<sup>2</sup> per threaded rod. The lateral distance of the threaded rods to the outer surface of the smoke control damper RKE must not exceed 50 mm.

The RKE smoke control damper is mounted to the smoke control duct using duct clamps, M8 screws, nuts and washers; a spacer must be placed between them.

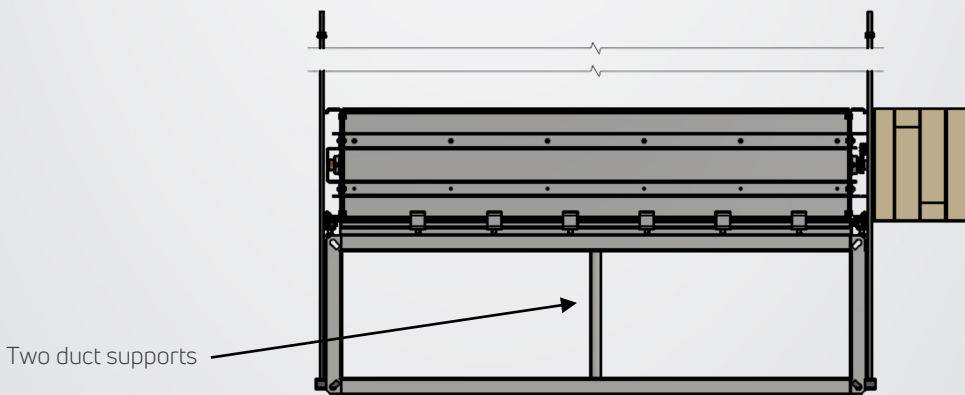
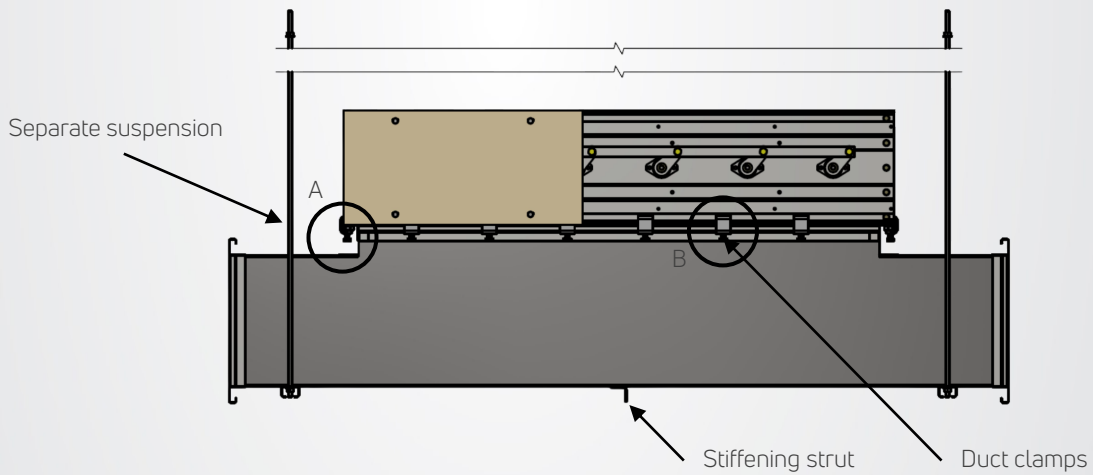
The length of the threaded rods is unlimited and they do not require fire-resistant cladding if they exceed 1.5 m in length. The steel suspension crossbeams can be made of L-profiles 35/35/4 mm or C-profiles 30/20/1.75 mm.

A non-combustible seal must be fitted between smoke control damper and smoke control duct to maintain heat tightness.

## Mounting situations

### Installation on or below a smoke control duct

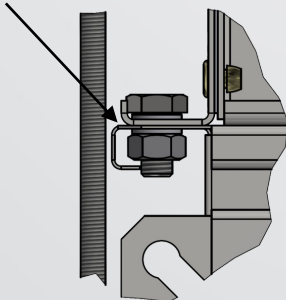
Installation on or below a smoke control duct out of sheet steel according to EN 12101-7



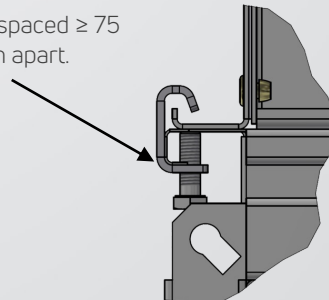
Detail A

Detail B

Hex bolt, washers  
and nut M8



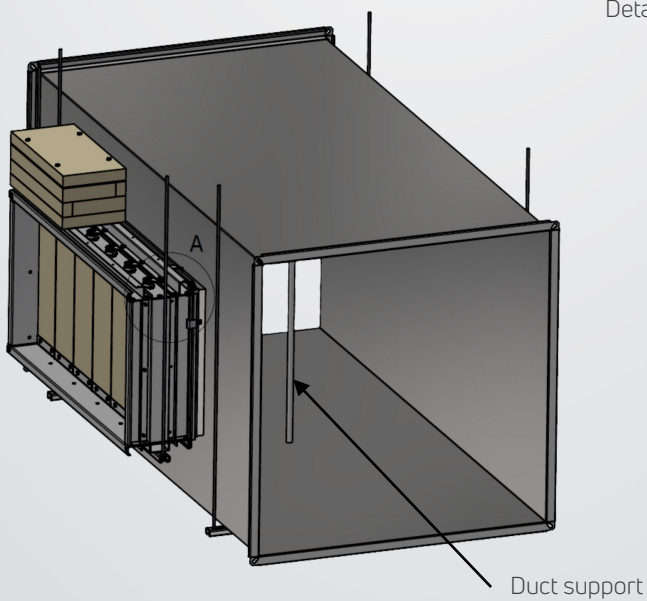
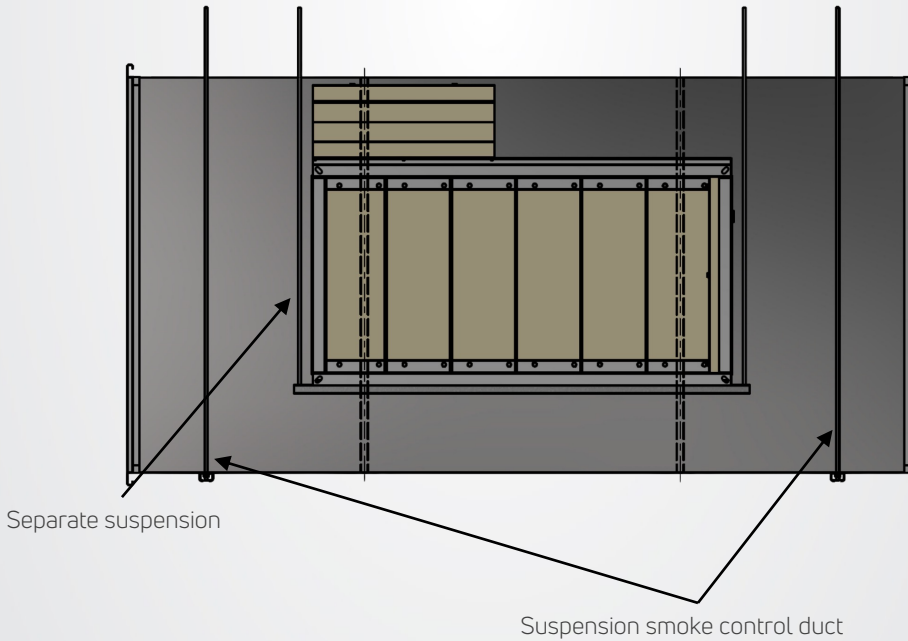
Duct clamps spaced  $\geq 75$   
mm  $\leq 125$  mm apart.



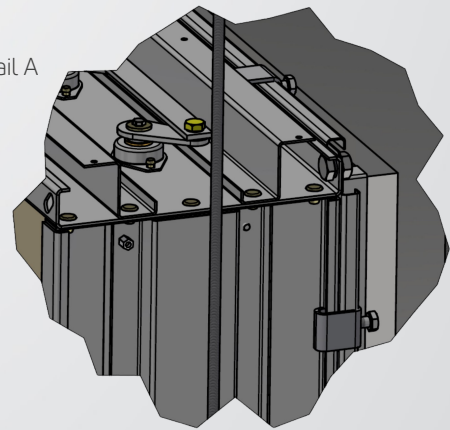
## Mounting situations

### Installation on the side of a smoke control duct

Installation on the side of a smoke control duct out of sheet steel according to EN 12101-7



Detail A

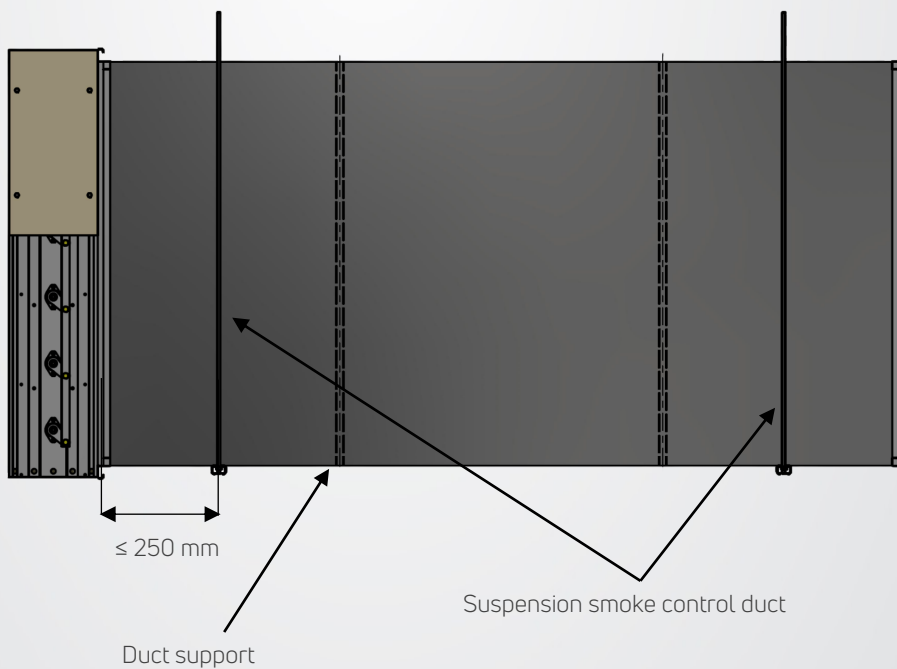


Duct clamps spaced  $\geq 75$  mm  $\leq 125$  mm apart.  
Hex bolt, washers  
and nut M8

## Mounting situations

### Front-mounted installation

Front-mounted installation with a smoke control duct out of sheet steel according to EN 12101-7



Note: If, when the RKE is mounted on the front of the smoke control duct, a suspension point is already in place at a distance of  $\leq 250$  mm from the RKE, it no longer needs to be suspended separately.



## Correction factors

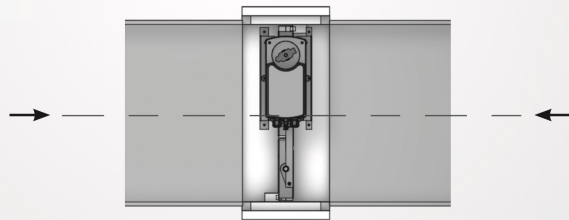
In the following diagrams, the pressure loss  $\Delta p$  in Pa and the duct sound power level LWA in dB(A) for the installation situation "clear air supply" can be read directly from the required volume flow  $V_{punkt}$  in m<sup>3</sup>/h (from page 11).

For the mounting situations »duct connection on both sides«, »clear air exhaust«, »clear air exhaust and clear air supply« und »clear air supply on the duct« the measured pressure

loss  $\Delta p$  in Pa must be multiplied by the specified factors depending on the installation situation ( $V_{point} = \text{constant}$ ). The sound power level LWA in dB(A) is corrected via the calculated pressure loss  $\Delta p$  in Pa using the diagram. The density of the conveyed medium, air, is 1.2 kg/m<sup>3</sup> at 20°C.

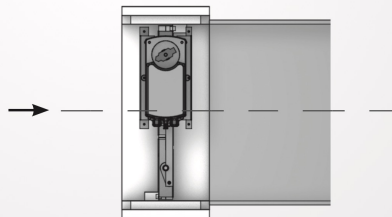
### Duct connection on both sides

Correction faktor: 0,68



### Clear air supply

(This mounting situation can be read directly from the design diagrams)

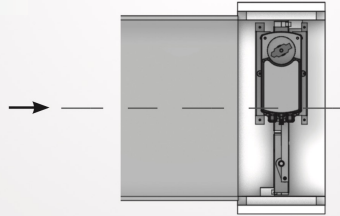


## Correction factors

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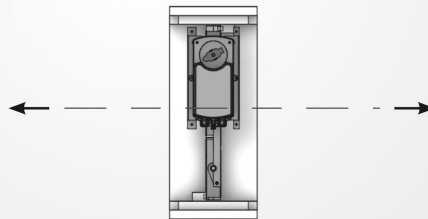
### Clear air exhaust

Correction faktor: 1,59



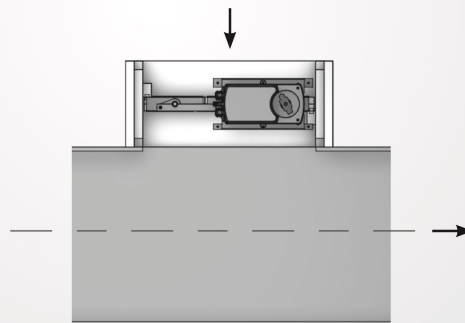
### Clear air exhaust and clear air supply

Correction faktor: 2,91

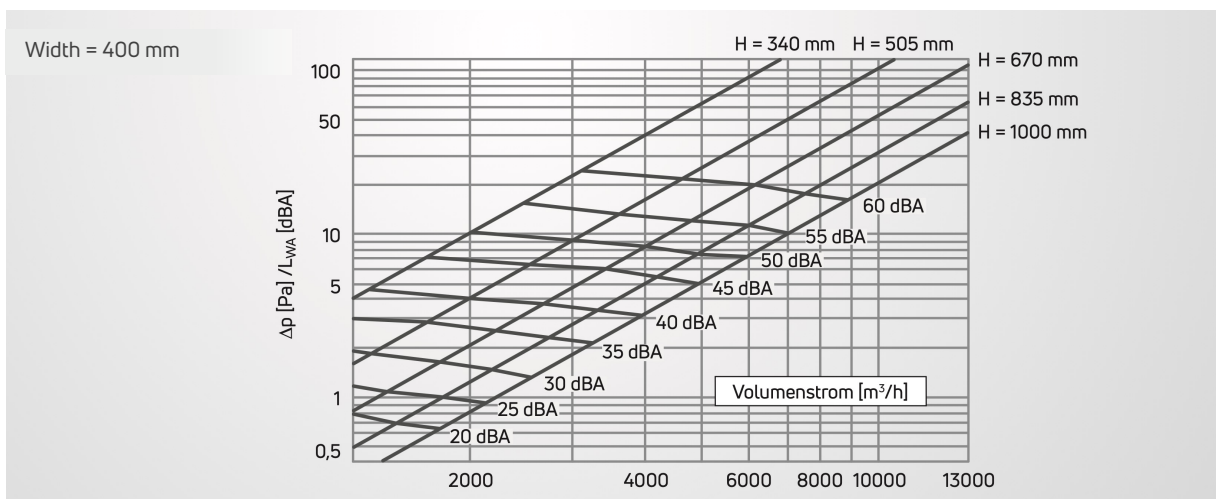
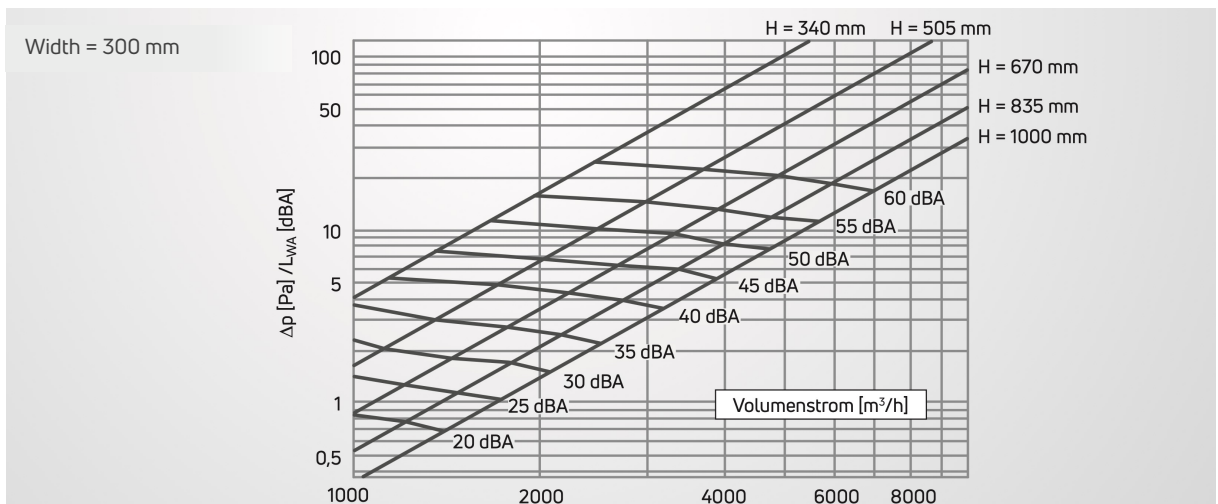
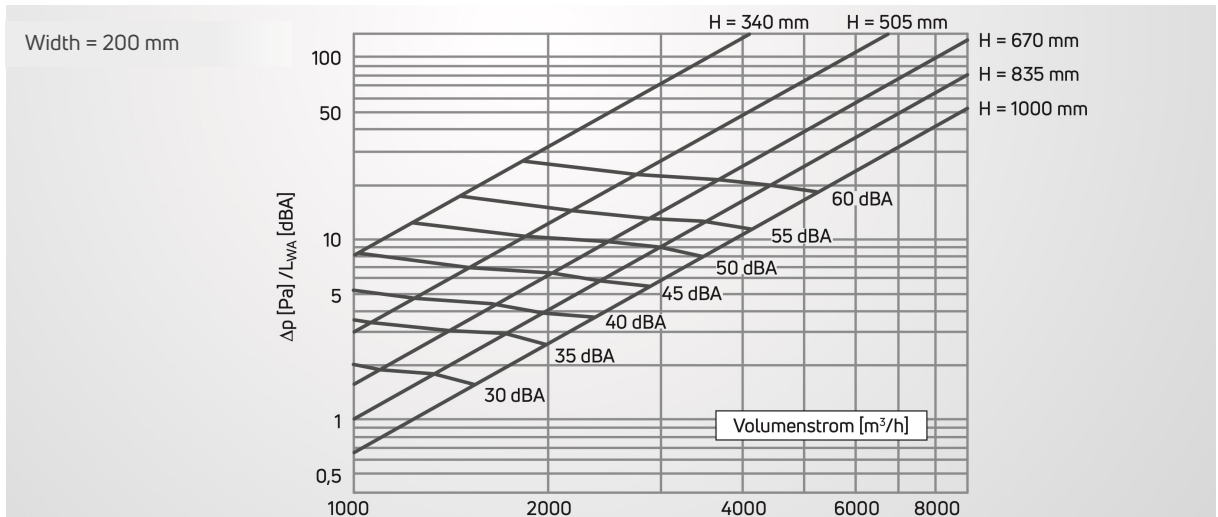


### Clear air supply on the duct

Correction faktor: 1,59

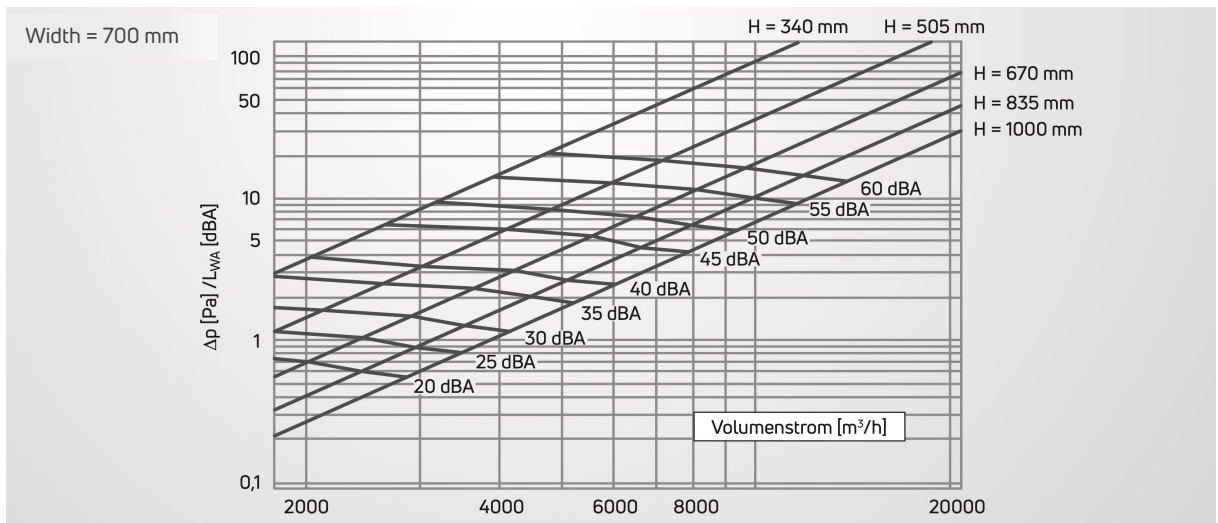
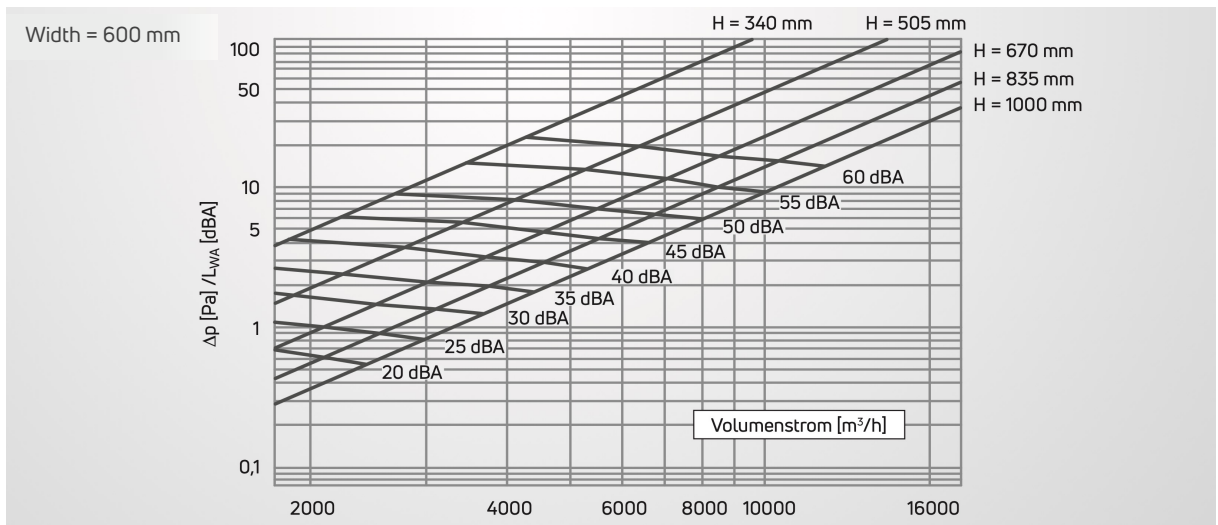
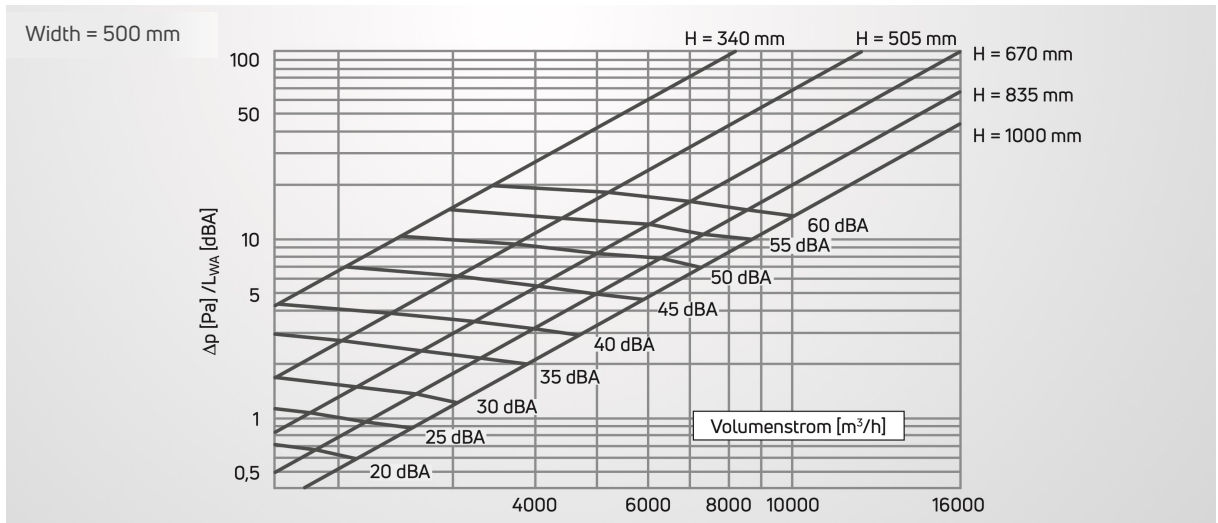


## Design diagrams\*



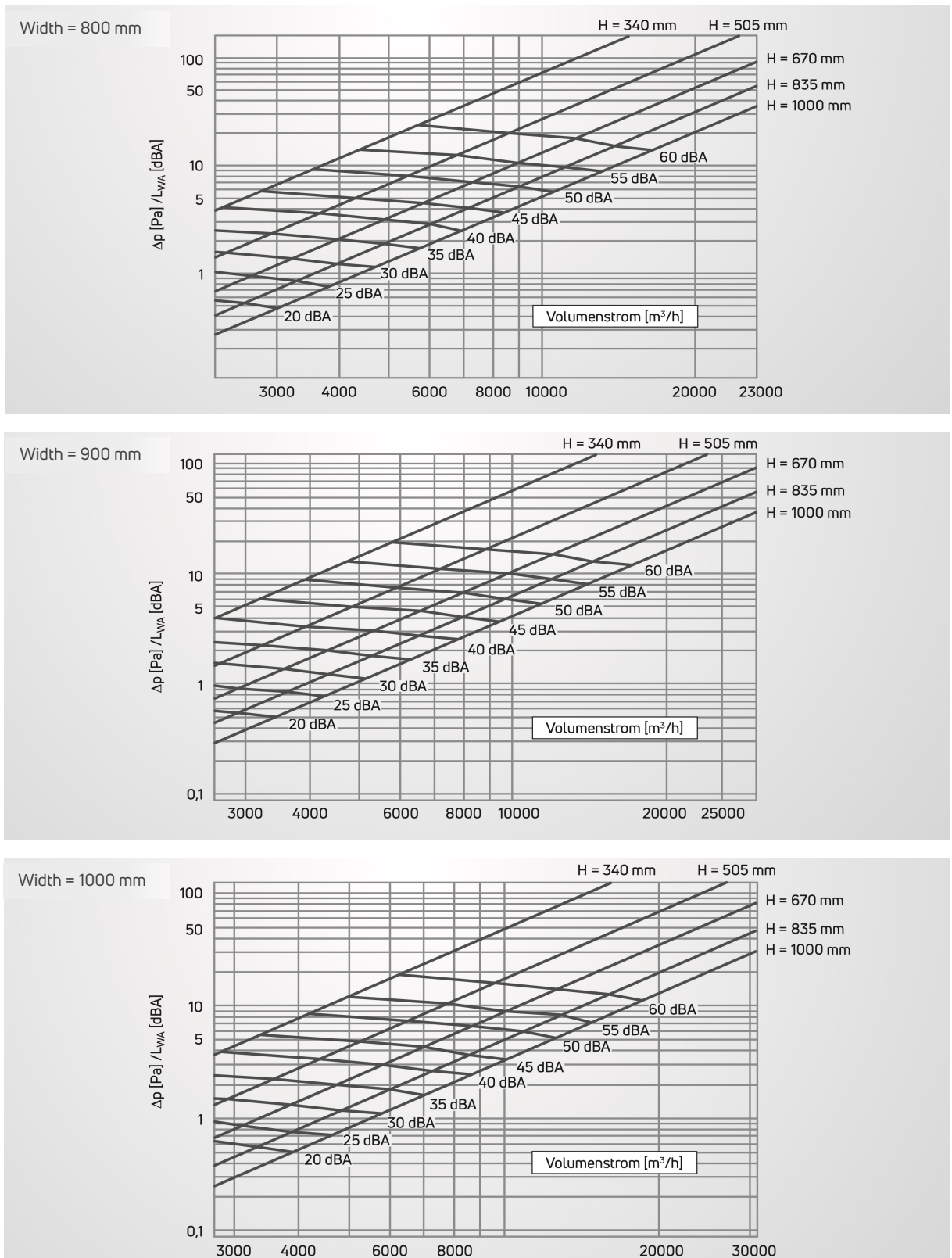
\*depending on the mounting situation, take into account the conversion factors on pages 9 and 10!

## Design diagrams\*



\*depending on the mounting situation, take into account the conversion factors on pages 9 and 10!

## Design diagrams\*



\*depending on the mounting situation, take into account the conversion factors on pages 9 and 10!

## Free area A-effective in m<sup>2</sup>

Smoke control damper RKE

| Hight<br>H<br>(mm) | Width B (mm) |       |       |       |       |       |       |       |       |    |
|--------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|----|
|                    | 200          | 300   | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |    |
| 170                | 0,016        | 0,024 | 0,032 | 0,040 | 0,048 | 0,056 | 0,064 | 0,072 | 0,080 | SE |
| 340                | 0,042        | 0,063 | 0,084 | 0,105 | 0,126 | 0,147 | 0,168 | 0,189 | 0,210 | SE |
| 505                | 0,067        | 0,101 | 0,134 | 0,168 | 0,201 | 0,235 | 0,268 | 0,302 | 0,335 | SE |
| 670                | 0,092        | 0,138 | 0,184 | 0,230 | 0,276 | 0,322 | 0,368 | 0,414 | 0,460 | SE |
| 835                | 0,117        | 0,176 | 0,234 | 0,293 | 0,351 | 0,410 | 0,468 | 0,527 | 0,585 | SE |
| 1000               | 0,142        | 0,213 | 0,284 | 0,355 | 0,426 | 0,497 | 0,568 | 0,639 | 0,710 | SE |

## Technical data electric actuator

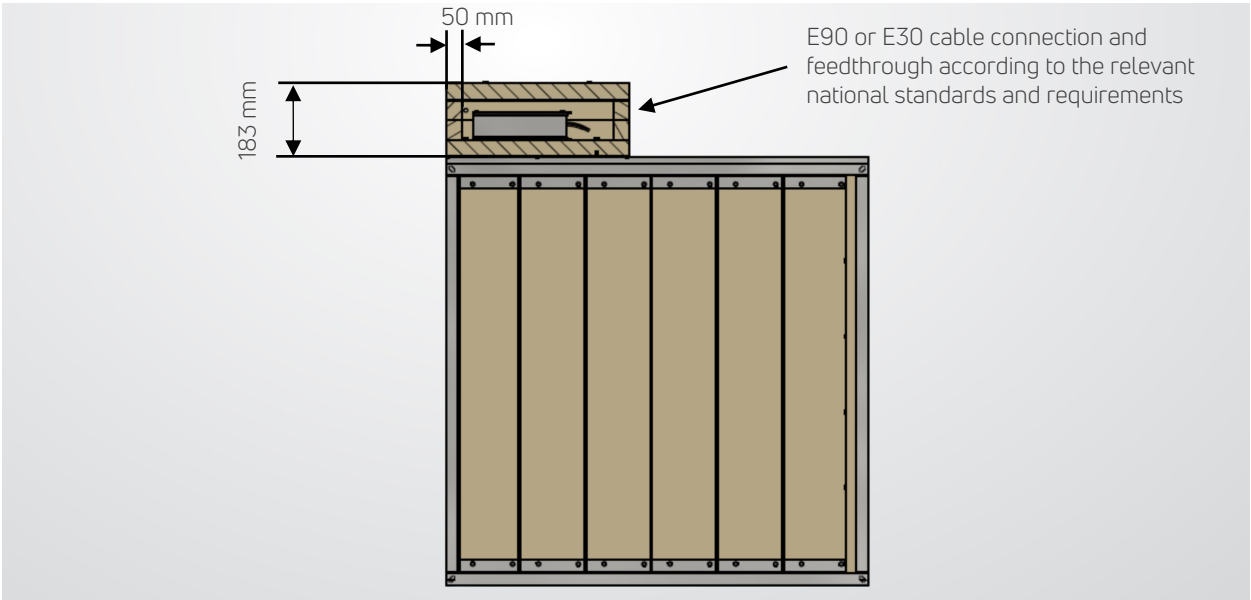
The actuator types BE24 and BE230 are controlled via 2-point (see connection diagram on page 16).

All electrical connections between the electric actuator and the power supply must be carried out in accordance with the applicable guidelines.

|                                    | BE24   | BE230   |
|------------------------------------|--|---------|
| Nominal voltage                    | 24 V ≈                                       | 230 V ~ |
| Power consumption during operation | 12 W   | 8 W     |
| in end position                    | 0,5W   |         |
| Dimensioning                       | 18 VA  | 15 VA   |
| Degree of protection               | IP54   |         |
| Protection rating                  | III  | II      |
| Minimum torque                     | 40 Nm  |         |
| Cycle time                         | < 60 s                                       |         |
| Sound power level                  | max. 62 dB(A)                                |         |
| Angle of rotation                  | 100°   |         |
| Auxiliary switch                   | 2x SPDT                                      |         |
| Switching power auxiliary switch   | 1 mA...6 A (3 A induktiv), DC 5 V...AC 250 V |         |
| Maintenance                        | maintenance-free                             |         |
| Weight                             | ~ 2,7 kg                                     |         |

# Technical data electric actuator

## Motor arrangement and cable routing



## Connection diagram for electric actuator BE24 und BE230

Depiction OPEN

|            |                          |   |                        |    |    |    |    |    |
|------------|--------------------------|---|------------------------|----|----|----|----|----|
| $\pm$<br>N | $\sim$<br>L <sub>1</sub> |   |                        |    |    |    |    |    |
| 1          | 2                        | 3 | S1                     | S2 | S3 | S4 | S5 | S6 |
| Motor      |                          |   | Endlagenschalter       |    |    |    |    |    |
| Actuator   |                          |   | End of Position Switch |    |    |    |    |    |

|         |   |     |   |    |
|---------|---|-----|---|----|
| 24 VAC  | ± | 20% | ⊥ | ~  |
| 24 VDC  | ± | 10% | - | +  |
| 230 VAC | ± | 10% | N | L1 |

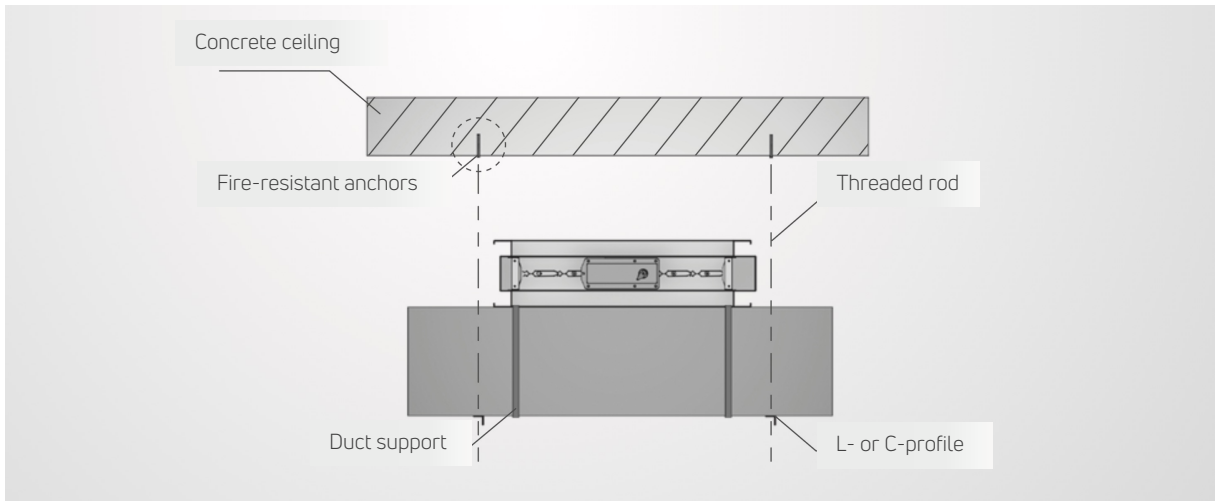


# Suspension and weights

## Suspension

The dimensioning of the unclad threaded rods must be carried out in such a way that the calculated stress of 20 N/mm<sup>2</sup> is not

exceeded. The hangers are to be routed around the cable in a U-shape (see DIN 4102-4).



## Weights of smoke control damper RKE in kg

| Hight<br>H<br>(mm) | Width B (mm) |      |      |      |      |      |      |      |      |
|--------------------|--------------|------|------|------|------|------|------|------|------|
|                    | 200          | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1000 |
| 170                | 20,5         | 25,4 | 30,3 | 35,1 | 40,0 | 44,9 | 49,8 | 54,6 | 59,5 |
| 340                | 24,2         | 29,1 | 34,0 | 38,8 | 43,7 | 48,6 | 53,5 | 58,3 | 63,2 |
| 505                | 28,2         | 33,1 | 38,0 | 42,8 | 47,7 | 52,6 | 57,5 | 62,3 | 67,2 |
| 670                | 31,6         | 36,5 | 41,4 | 46,2 | 51,1 | 56,0 | 60,9 | 65,7 | 70,6 |
| 835                | 35,3         | 40,2 | 45,1 | 49,9 | 54,8 | 59,7 | 64,6 | 69,4 | 74,3 |
| 1000               | 39,0         | 43,8 | 48,8 | 53,6 | 58,5 | 63,5 | 68,4 | 73,3 | 78,0 |

# Maintenance

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## General requirements

Smoke control dampers must be operational and reliable. Owners and operators are obligated to maintain smoke control dampers properly.

For safety reasons, repair work on smoke control dampers may only be carried out by specialist personnel or the manufacturer.

After repair work, a functional test must be carried out on the repaired smoke control damper.

Only original spare parts from the manufacturer may be used for repairs.

All repair work must be documented and archived.

The following standards contain the fundamentals for maintenance: EN 12101-8, EN 13306 and EN 15423.

Smoke control dampers and their electric actuator are maintenance-free with regard to wear, but must be cleaned regularly and checked for smooth operation and must be included in the regular cleaning of the smoke extraction system.

## Functional test

Smoke control dampers must be inspected before being put into operation. Subsequently, their functionality must be checked at regular intervals. In addition, all relevant building regulations must be taken into account.

As part of the functional test, the smoke control damper is checked for smooth opening and closing. This is usually done by means of control via the fire alarm control panel (FACP).

## Order example

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**RKEEG / 73 / B = 300 / H = 670 / 230**

**①                      ②                                      ③                                      ④**

- |                      |   |
|----------------------|---|
| 1. Serie             | Smoke control damper RKE  |
| 2. Product Group     | 73  |
| 3. Dimension         | Width: 200, 300, 400, 500, 600, 700, 800, 900 und 1000<br><br>Hight: 170, 340, 505, 670, 835 and 1000 |
| 4. Electric Actuator | BE24 or BE230   |

# Tender text

| Pos. | Description  | Unit | Price per unit<br>EUR | Total price<br>EUR |
|------|--|------|-----------------------|--------------------|
|      | <p><b>Smoke Control Damper Type RKE</b></p> <p>Multi-blade single compartment smoke control damper (rectangular) for the extraction of smoke within smoke exhaust systems.</p> <p>Fire tested according to EN 1366-10 with CE marking according to product standard EN 12101-8.</p> <p>The RKE smoke control damper consists of a steel sheet housing and multi-blade calcium silicate blades, as well as an electric actuator.</p> <p>Suitable for installation on vertical and horizontal smoke extraction ducts according to EN 12101-7, which are tested according to EN 1366-9.</p> <p>Control via electric actuator OPEN / CLOSE 24 V AC/DC or 230 V AC for 2-point control with L90 wiring for thermal protection of the electric drive.</p> <ul style="list-style-type: none"><li>• Classification according to EN 13501-4<br/>E<sub>600</sub> 120 (v<sub>ed</sub> h<sub>od</sub> i ↔ o) S 1500 C<sub>10000</sub> MA single</li><li>• Steel sheet housing, calcium silicate blades</li><li>• Dimensions: Width 200 – 1000 mm,<br/>Height 170 – 1000 mm</li><li>• Damper depth: 220mm</li><li>• Automatic (AA) and Manual Activation (MA)</li></ul> <p>Type: <b>RKE</b><br/>Manufacturer: <b>Strulik GmbH</b></p> |      |                       |                    |



**Strulik GmbH**

Neesbacher Straße 15

65597 Hünfelden

[www.strulik.com](http://www.strulik.com)

