

# BSKC9R

Circular regulating  
fire damper



FIRE SAFETY



CE

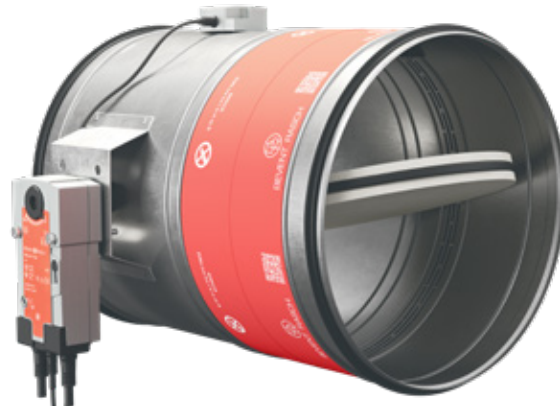
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[www.bevent-rasch.com](http://www.bevent-rasch.com)



**BEVENT RASCH**

AIR SOLUTIONS – FOR A BETTER TOMORROW



## Quick facts

- Fire class EI90 / EI90S
- Sizes from 100 mm to 630 mm
- Fitted regulating safety actuator 24V
- Low weight
- Easy installation from one side of the building part
- CE-marked building product in acc. with EN 15650:2010
- Available in MagiCAD

## Two dampers and actuators in one!

Bevent Rasch has developed a fire damper fire class EI90/EI90S with regulating actuator. This means it is possible to regulate the air flow from 0-100% with a control signal 2-10 V, use it as an adjustment damper or boosting damper while providing complete protection against the spread of fire/combustion gases.

## Use

Dampers in combination with walls or joists for fire-sectioning 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, MRB3, FENIX), or the like, the spread of fire/combustion gases is prevented. No further action against the spread of fire/combustion gases is required.

## Performance

CoCP (Certificate of  
Constancy of Performance)  
EN 15650:2010  
**0402-CPR-SC0051-19**

Classification of fire  
resistance in accordance  
with EN 13501-3

**EI90 (ve ho i <-> o) S**

For complete classification,  
refer to the Performance Declaration.



## Installation

BSKC9R is mounted on fire cell separating walls or joist systems, alternatively in horizontal insulated ducts running through a fire cell separating building part, according to extensive installation instructions. Should not be installed outdoors or in damp areas.

## Actuator

BSKC9R is always supplied with an electric safety actuator with spring return complete with thermal sensor equipped with pushbutton for local manual operating test. The sensor breaks the power supply to the actuator device if the temperature exceeds 72°C inside or outside the damper. 24 V actuators are always used with the MRB, MRB3, FENIX monitoring systems.

Note that the damper is always supplied with a safety actuator.

## Activation

The Boverket Building Regulations state a requirement for smoke detectors verified in accordance with SS-EN 54-7 for activation of dampers. The obligatory thermal sensor closes the damper at 72°C in accordance with ISO 10294-4.

## Control and monitoring

When the damper is used to prevent the spread of fire and smoke it must be closed via impulses from the smoke detector. This must be fitted in the ventilation duct near the damper or in another suitable location. Smoke detectors are monitored by means of Bevent Rasch's monitoring system or the like. The system also performs automatic function tests on the damper every 48 hours and is designed so that faults are indicated immediately and the damper closes.

See [www.bevent-rasch.com](http://www.bevent-rasch.com) for further details.



**Size** Ø100-630 mm.

### Specifications

BSKC9R is supplied complete with a factory mounted, maintenance-free, 24 V electric safety actuator with thermal sensor featuring built-in contacts to indicate the damper position. The damper comes as standard with spiral duct connections.

The control signal can come from e.g. room controllers, air quality sensors, or other devices that give a 2-10 V DC output signal.

The actuator provides an actual value signal of 2-10 V DC depending on the damper position.

In the event of a power failure, the damper closes automatically via the actuator's spring return.

### Material and surface finish

- Casing and details of galvanized steel sheet according of environmental class C3
- EPDM duct seals
- Blade seal of PE/PP
- Blade of Calcium Silicate

### Specification

Example: **Fire damper BSKC9R - 400 - 1 - 0**

Size, nom. diameter ØD mm

#### Material

Galvanized sheet steel = 1

Stainless EN 1.4404 = 3

#### Actuator

Electric 24V with thermal sensor = 0

Electric 24V incl. RCTU = 5

*Note Factory-fitted actuator device is always included.*

### Accessories

<b>BRTO</b>	Wire mesh grille
<b>RCKB</b>	Junction box
<b>RCDU</b>	MRB-system, max 2 dampers
<b>RCBK4</b>	MRB-system, max 4 dampers
<b>RCMU8</b>	MRB-system, max 8 dampers
<b>RCKD/-RD</b>	Smoke detectors
<b>RCTU/RCTC</b>	MRB3-system, max 236 dampers
<b>FENIX2</b>	max 2 dampers
<b>FENIX4 / FENIX+</b>	max 16 dampers

### Installations options for BSKC9R

Size	Fire class	Wall of drywall EI90 Group A, SS-EN1363-1	Solid wall	Joist system*	Duct
Ø400 - Ø630	EI90S	√	√	√	
Ø100 - Ø315	EI90S	√	√	√	√

\*125 mm lightweight concrete

### Product data for BSKC9R

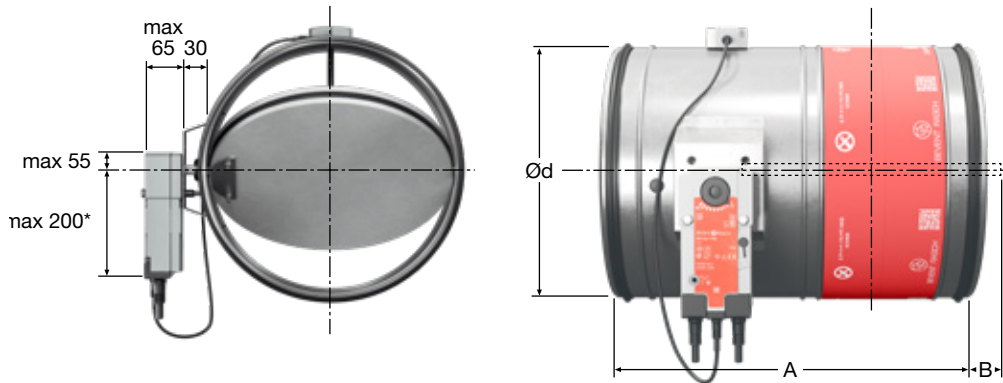
Size	Pressure class AMA VVS & Kyl 19	Casing tightness SS-EN1751	Tightness over damper blades SS-EN1751	2-position actuator On-Off	Regulating actuator 0°-90°	Actuator type
Ø400 - Ø630	B	C	3	√	√	Belimo BFN-T
Ø100 - Ø315	B	C	3**	√	√	Belimo BFL-T

Pressure class B:  
2500Pa

\*\*Size  
Ø100-Ø125: 2



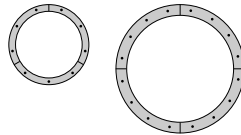
## Dimensions and weight



Size Ø mm	A	B	Weight, kg
100	450	–	3,0
125	450	–	3,2
160	450	–	3,5
200	450	–	4,0
250	450	30	4,5
315	450	60	5,5
400	550	60	10,5
500	550	110	13,0
630	550	180	17,0

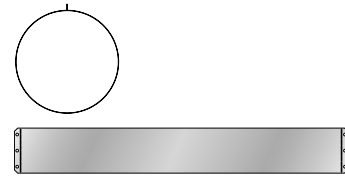
### Installation kit (sleeve rings)

Ø100-315 = 3 parts with 3 screws in each  
Ø400-630 = 4 parts with 4 screws in each



### Union piece

Supplied with sizes Ø100 - Ø315.  
Used when installing in duct.  
See the installation instructions.



\* If necessary, the actuator can be rotated 90°.

## Actuator - damper size

Actuator BFL-T is supplied for dampers in size Ø100-315 mm.

Actuator BFN-T is supplied for dampers in size Ø400-630 mm.

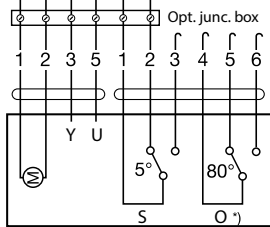
## Electrical data (values in brackets refer to 230V)

Actuator type	BFL...	BFN...
Sizing, max	6,5 VA	8,5 VA
Running time. – motor opening, max; – spring return, max	60 s approx. 20 s	60 s 20 s at -10 to +55°C < 60 s at -30 to -10°C
Protection class	IP 54 in all installation positions	
Supply voltage	24V~ ±20%, 50/60Hz 24V= ±10% (220-240V~, 50/60Hz)	
Control signal Y	DC 0-10V	
Working range	DC 2-10V	
Position reversal U	DC 2-10V	
Design	I <sub>max</sub> 8,3A @ 5ms	
Ambient temperature	-30° to +55°C	
Thermal sensor tripping temperature	72°C	
Mode contacts (Load)	1mA...3 (0,5 inductive) A, AC250V	
Sound level when opening	< 43 dB (A)	< 55 dB (A)
Closing noise level	< 62 dB (A)	< 67 dB (A)
Maintenance	Underhållsfri	



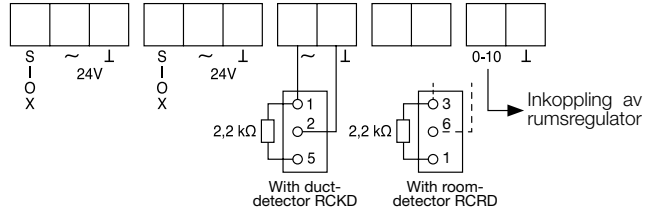
Wiring diagram

**Option 1 – Connection to parent system**

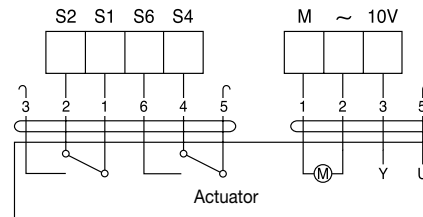


Actuator

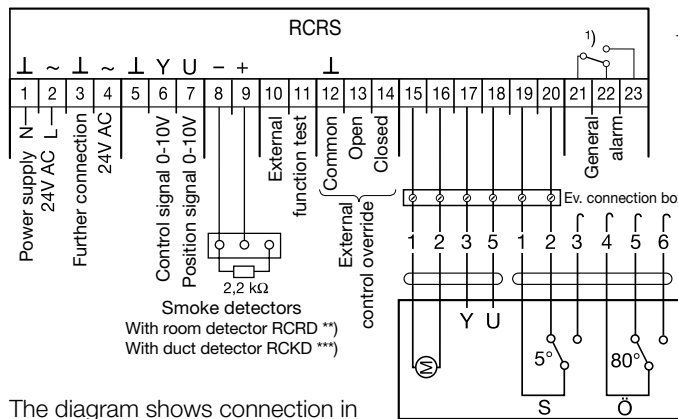
**Option 2 – Connection to RCTU**



**BF24-SR, BRS24, BFL24-SR, BFN24-SR**



**Option 3 – Connection to RCRS**

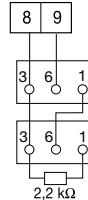


Actuator

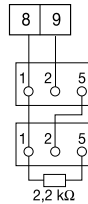
1) Potential-free contact max. 24V AC, Drawn in voltage-free/alarm mode.

\*) Limit switch for Open position is only included on BRS24-act

\*\*) With room detector RCRD connected in series



\*\*\*) With duct detector RCKD connected in series

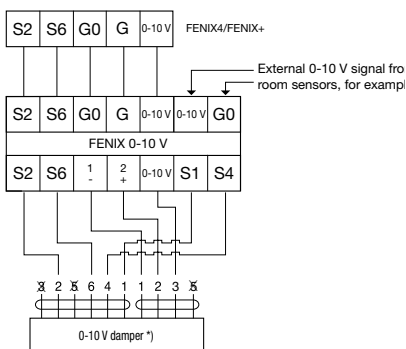


The diagram shows connection in non-energised state.

Note

- For 2 position operation: The damper assumes min-position when the control signal is 0V or broken and max-position when 10V in-signal or 24V AC direct on block 6.
- Measurement and control signal are connected to common system 0.

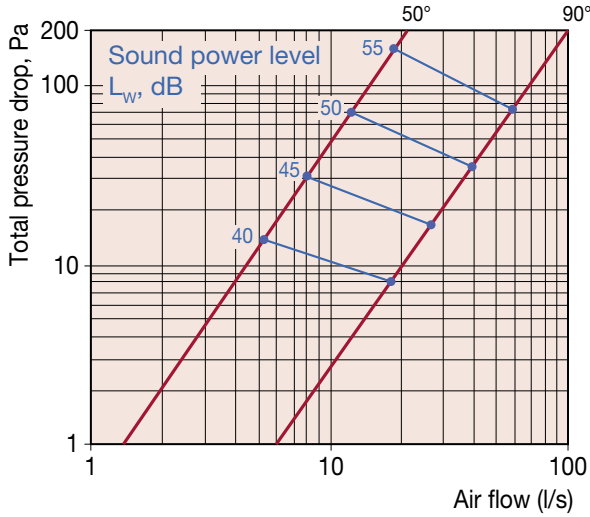
**Option 4 – Connection to FENIX 0-10 V module**



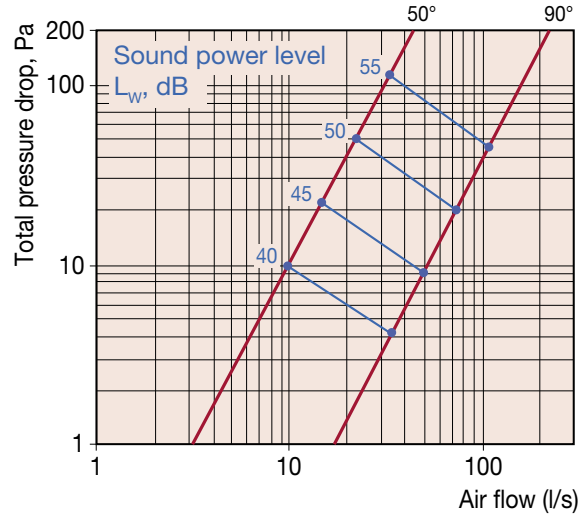


Dimensioning diagram

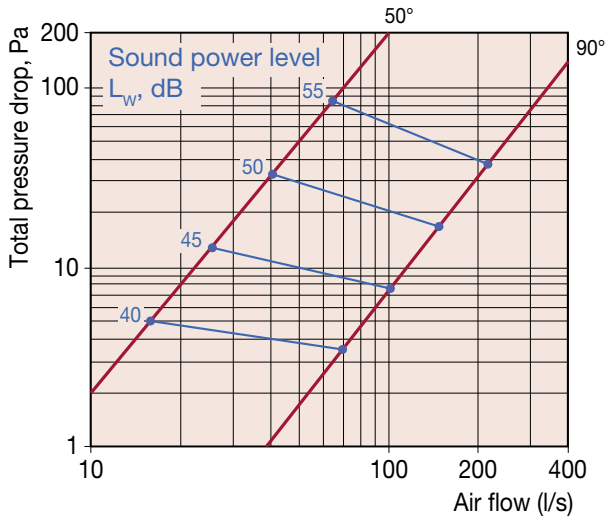
Size - 100



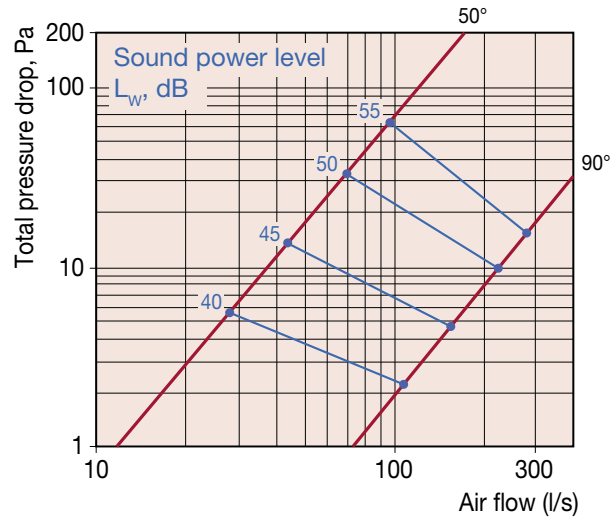
Size - 125



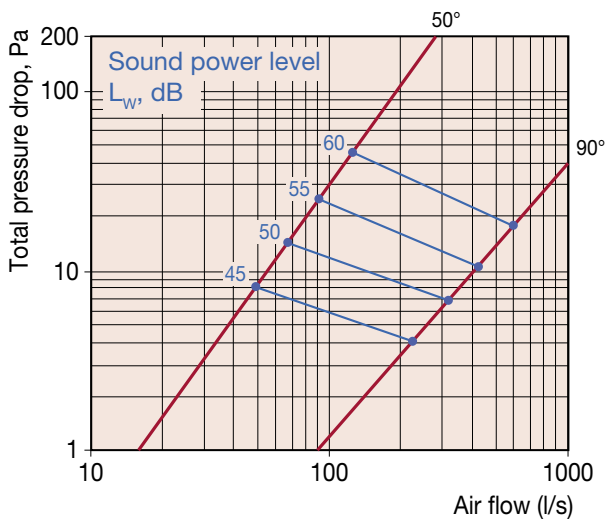
Size - 160



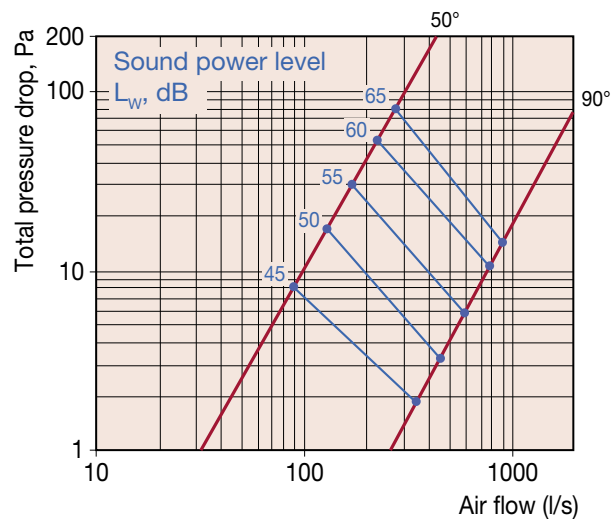
Size - 200



Size - 250



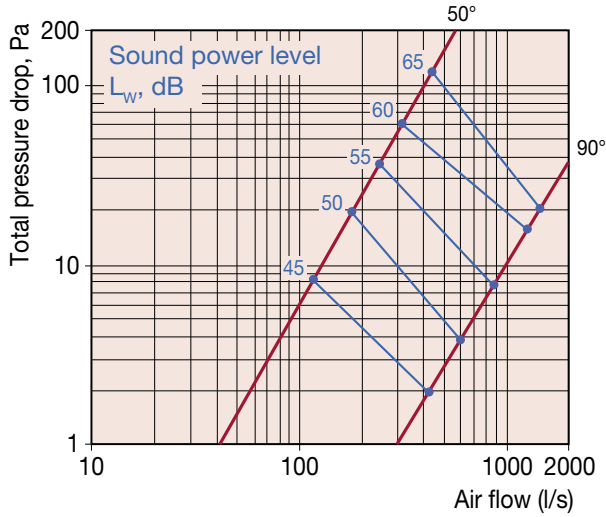
Size - 315



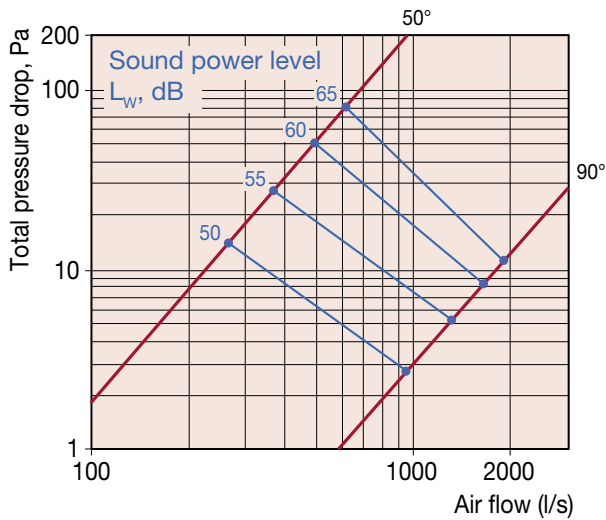


Dimensioning diagram contd.

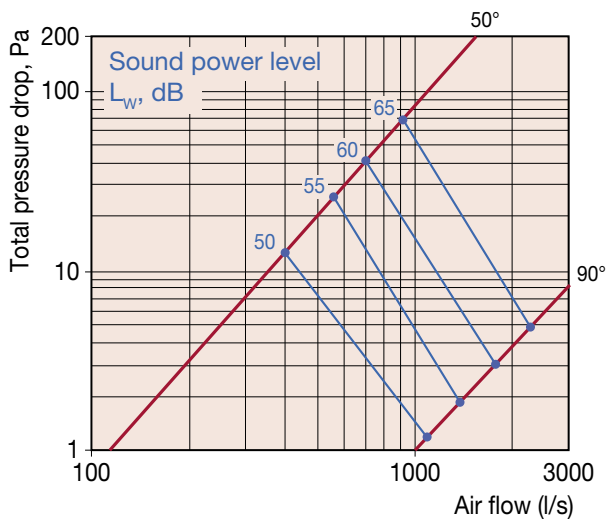
Size - 400



Size - 500



Size - 630



Sound data

Correction of sound power level,  $L_{Wok}$ , in octave band

$$L_{Wok} = L_w + K_{ok}$$

Correction,  $K_{ok}$

Dimension Ø mm	Centre Frequency Hz							
	63	125	250	500	1000	2000	4000	8000
100	-4	-9	-10	-10	-10	-15	-18	-22
125	-4	-8	-8	-9	-10	-15	-21	-22
160	-4	-7	-9	-11	-14	-16	-20	-25
200	-2	-8	-11	-14	-15	-18	-23	-25
250	-2	-11	-11	-14	-14	-21	-27	-28
315	-1	-12	-14	-16	-15	-23	-29	-29
400	-2	-10	-13	-15	-15	-21	-28	-29
500	-1	-11	-14	-17	-18	-24	-31	-32
630	-1	-11	-15	-17	-17	-25	-28	-31
Tol. ± dB	1	2	5	6	6	4	3	4





## Installation instructions

**Installation in wall, fire resistance class EI90**  
**Damper's fire resistance class: EI90 (ve ho i <-> o) S.**  
**EC certificate 0402-CPR-SC0051-19**

**CE**

Min. thickness 95 mm

**\* Installation kit (sleeve rings)**  
Ø100-315 = 3 parts with 3 screws in each  
Ø400-630 = 4 parts with 4 screws in each

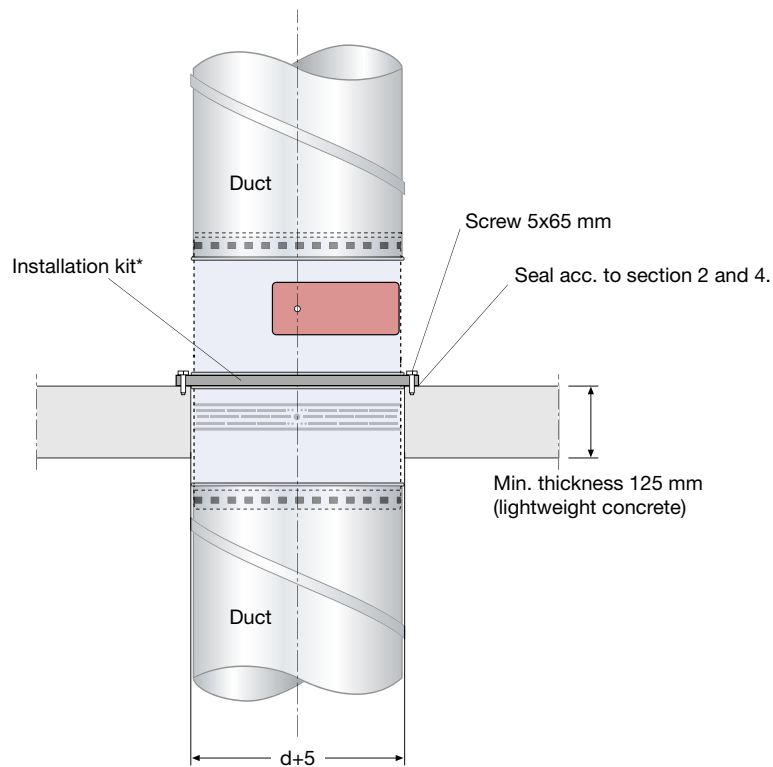
1. Make a hole for size in question ( $d + 5$  mm).
  2. Apply fire sealant on the wall, 20 mm around the periphery of the hole.
  3. Secure the damper flat and tight with the installation kit placed in the groove as shown in the photo. Make sure that the shape of the damper is not impacted when mounting.
  4. Seal joints between the installation kit and damper casing with fire sealant.
  5. When installing without a duct connection, the damper should be fitted with an incombustible grille. The minimum distance between the open damper blade and grille should be 50 mm.
  6. The duct system is fitted in accordance with current requirements. Ensure that suspension and duct systems do not affect the movement of the damper blade.
- Damper for installation in walls with fire resistance class EI90.
  - The shortest distance between dampers must be 200 mm.
  - The minimum distance to the connecting structure should be 75 mm.
  - Free position on damper spindle.





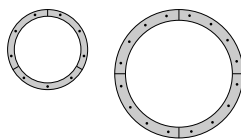
## Installation instructions

Installation in floor or joist systems, fire resistance class EI90.  
 Damper's fire resistance class: EI90 (ve ho i <-> o) S.  
 EC certificate 0402-CPR-SC0051-19



**\* Installation kit (sleeve rings)**

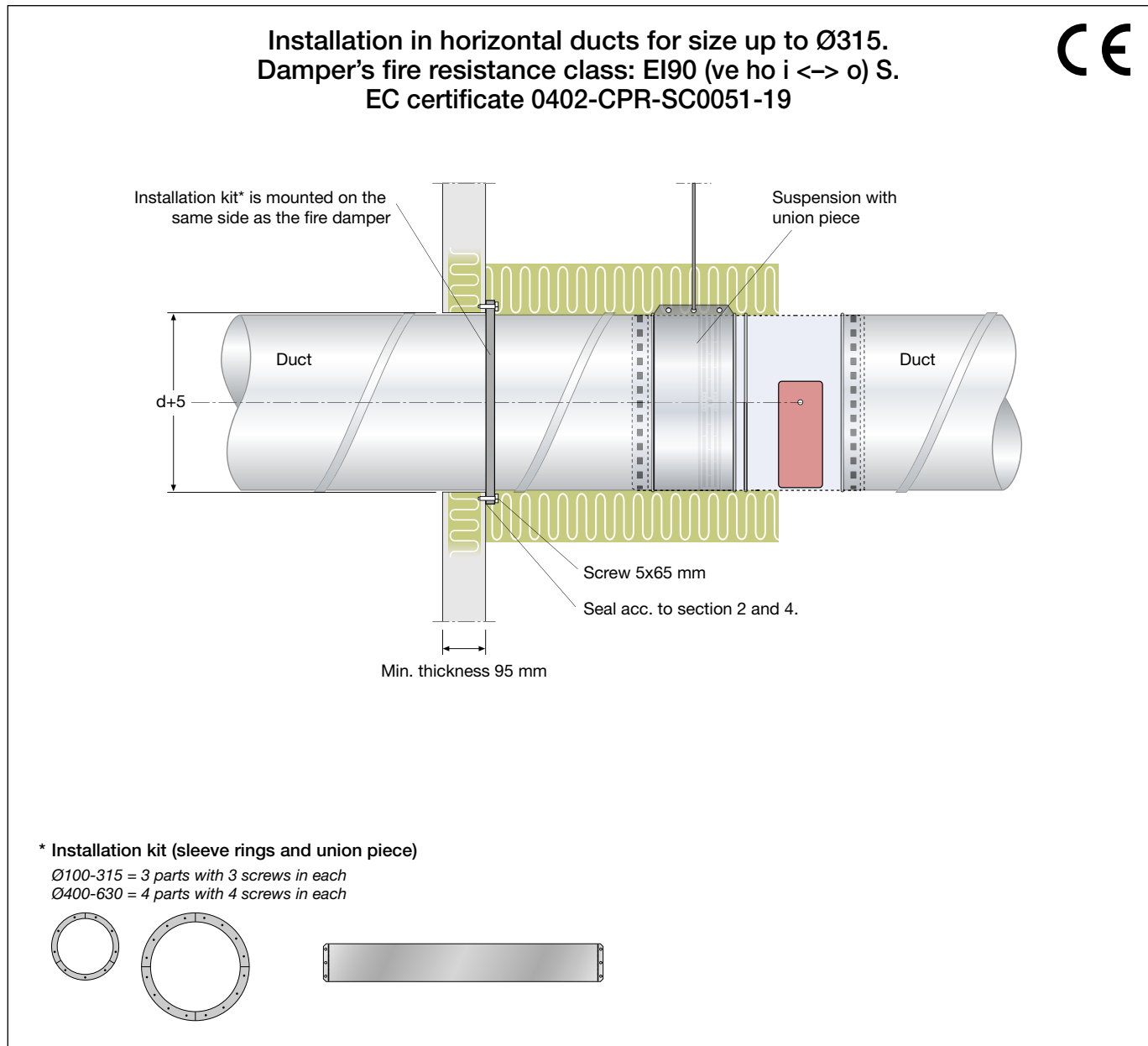
Ø100-315 = 3 parts with 3 screws in each  
 Ø400-630 = 4 parts with 4 screws in each



1. Make a hole for size in question ( $d + 5$  mm).
2. Apply fire sealant on the floor, 20 mm around the periphery of the hole.
3. Secure the damper flat and tight with the installation kit placed in the groove as shown in the photo. Make sure that the shape of the damper is not impacted when mounting.
4. Seal joints between the installation kit and damper casing with fire sealant.
5. When installing without a duct connection, the damper should be fitted with an incombustible grille. The minimum distance between the open damper blade and grille should be 50 mm.
6. The duct system is fitted in accordance with current requirements. Ensure that suspension and duct systems do not affect the movement of the damper blade.
  - Damper for mounting in floors or joist systems of at least 125 mm lightweight concrete.
  - The shortest distance between dampers must be 200 mm.
  - The minimum distance to the connecting structure should be 75 mm.



## Installation instructions



1. Make a hole for size in question ( $d + 5$  mm).
  2. Apply fire sealant on the wall, 20 mm around the periphery of the hole.
  3. Secure the installation kit flat and tight to the wall.
  4. Seal joints between the installation kit and duct with fire sealant.
  5. Fit the metal union piece over the red decal on the cover of the damper.
  6. When installing without a duct connection, the damper should be fitted with an incombustible grille. The minimum distance between the open damper blade and grille should be 50 mm.
  7. Insulate the channel from the hole in the wall to the actuator of the damper. Insulate the duct system EI90 according to the supplier's instructions.
  8. The duct system is fitted in accordance with current requirements. Ensure that suspensions and duct systems do not affect the shape of the damper or impede the movement of the damper blade.
- *Dampers for installation in duct systems, size Ø100 - Ø315.*
  - *The shortest distance between dampers must be 200 mm.*
  - *The minimum distance to the connecting structure should be 75 mm.*
  - *Free position on damper spindle.*