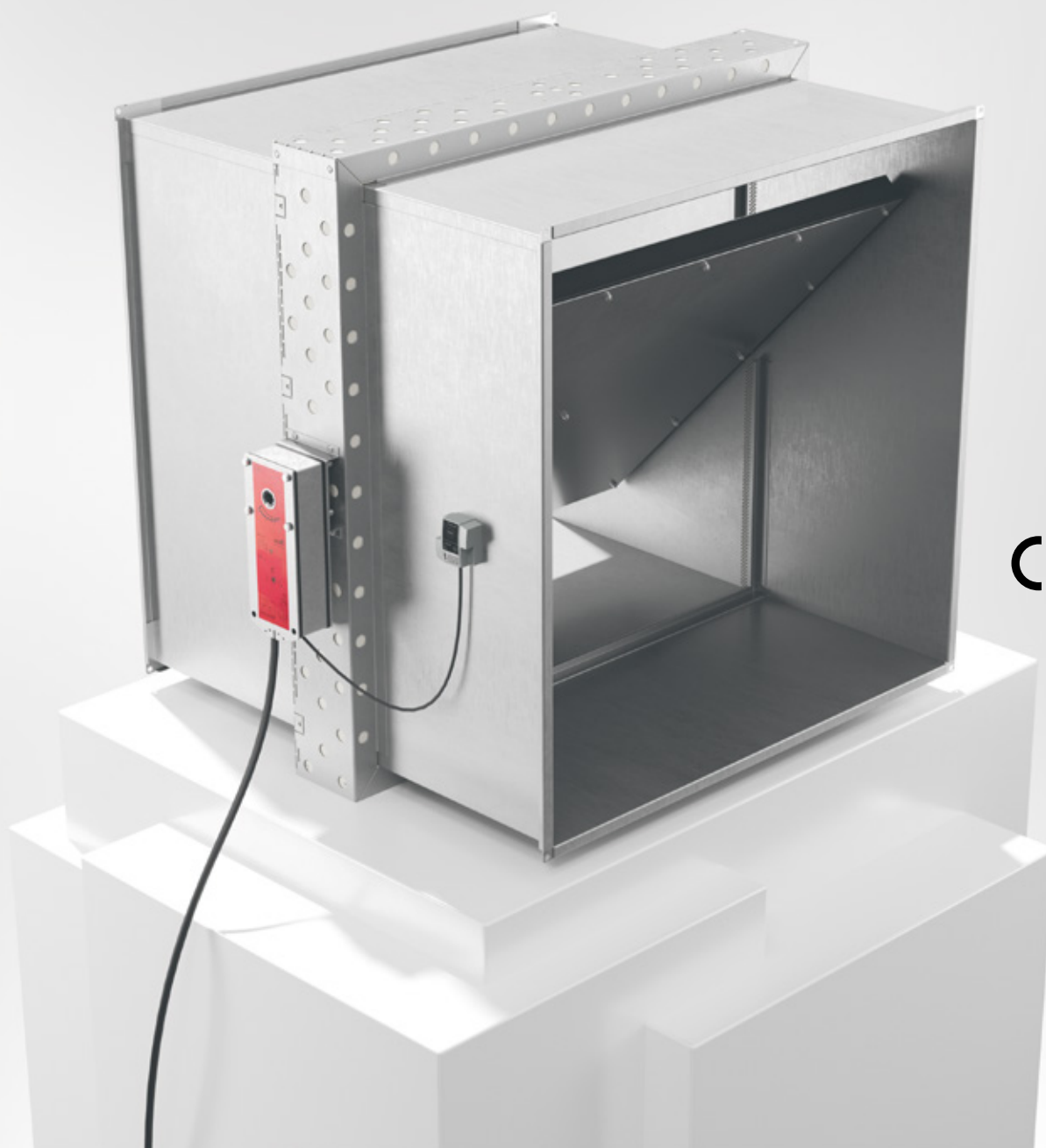


BSK9R

Rectangular regulating
fire damper



FIRE SAFETY



CE

03/04/2024



Quick facts

- Fire class EI90 / EI90S
- Sizes from 200 x 200 mm to 800 x 800 mm
- Prefitted 24 V safety actuator
- Easy flow regulation
- Low weight
- Easy installation
- 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 combustion gases.

Use

Damper in combination with walls or joist system for ventilation fire protection 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 systems (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-SC1299-13

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

BSK9R is mounted in fire cell separating walls or joist systems, according to the adjoining installation instructions. Should not be installed outdoors or in damp areas.

Actuator

BSK9R 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 FENIX, MRB3 and MRB 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

Dampers for protection against the spread of fire and combustion gases shall be closed via impulses from a smoke detector. Smoke detectors are mounted in ventilation ducts or monitored spaces. Fire dampers, smoke detectors and ventilation units are connected to the FENIX, MRB3 or MRB control unit for complete ventilation fire protection. FENIX, MRB3 and MRB perform functional checks of the fire protection in accordance with current regulations.

See www.bevent-rasch.com for further details.

Size From 200 x 200 mm to 800 x 800 mm.

Specifications

The BSK9R comes complete with an electrical safety actuator and thermal sensor. The actuator is maintenance-free and has integrated signal contacts for indication of the damper blade position. The standard version of the damper is supplied with a slip joint connection.



Material and surface finish

- Shell and details in hot-dip galvanized steel plate in accordance with environmental class C3.
- Blade sealing of fibre glass reinforced canvas.
- Blades and casing of calcium silicate.

Accessories

BRAS	Connection spigot for spiro duct
RBFS	Extension spigot for walls/joist systems thicker than 280 mm, and in combination with BRAS or wire mesh grille
RCKB	Junction 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
RCTU/RCTC	MRB3-system, max 236 dampers
FENIX2	max 2 dampers
FENIX4 / FENIX+	max 16 dampers

Specification

Example:

Fire damper **BSK9R - 400 - 400 - 1 - 0**

Size

Width x Height (W x H), mm

Material

Galvanized sheet steel = 1

Stainless EN 1.4404 (SS2343) = 3

Actuator

Electric 24V with thermal sensor = 0

Electric 24V incl. RCTU = 5

Note Factory-fitted actuator device is always included.

Installations options for BSK9R

Size	Fire class	Wall of drywall EI90 Group A, SS-EN1363-1	Solid wall	Joist system*
200 - 800 mm	EI90S	√	√	√

*125 mm lightweight concrete

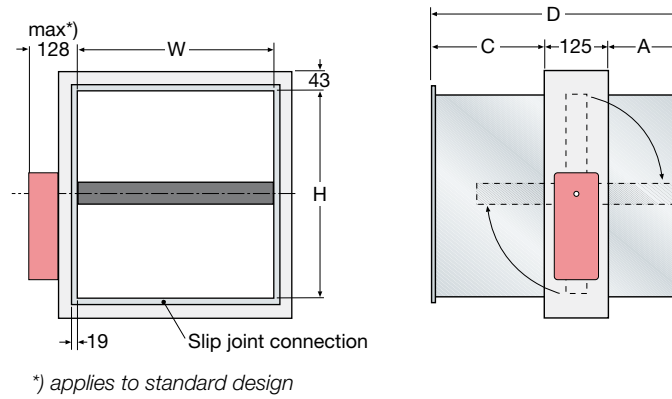
Product data for BSK9R

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
200 - 800 mm	B	B	2	√	√	Belimo BFN24-SR-T

Pressure class B:
2500Pa



Dimensions and weight



Dimensions, mm

H	A	C	D
200	148	227	500
250	148	227	500
300	148	227	500
350	148	227	500
400	148	227	500
450	248	247	620
500	248	247	620
550	248	247	620
600	248	247	620
650	348	347	820
700	348	347	820
750	348	347	820
800	348	347	820

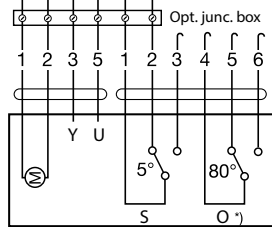
Weight incl. 24 V actuator, kg

H	W												
	200	250	300	350	400	450	500	550	600	650	700	750	800
200	12	13	15	16	17	18	22	23	24	26	27	29	30
250	13	15	16	17	18	20	23	24	26	27	29	30	32
300	15	16	17	18	20	21	24	26	27	29	30	32	34
350	16	17	18	20	21	22	26	27	29	30	32	34	35
400	17	18	20	21	22	24	27	29	30	32	34	35	37
450	20	22	23	25	27	28	32	34	36	37	39	40	41
500	22	23	24	27	28	29	33	36	37	39	40	42	43
550	23	24	26	28	29	30	34	37	39	40	42	46	44
600	24	26	27	29	30	32	35	39	40	42	43	48	46
650	29	30	32	33	35	36	39	43	45	47	48	51	52
700	30	31	33	35	36	37	41	44	47	48	50	52	54
750	31	32	35	36	37	39	42	46	48	50	51	54	55
800	32	34	36	37	39	40	43	47	50	51	53	55	57



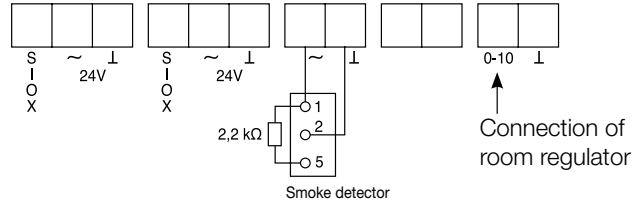
Wiring diagram

Option 1 – Connection to parent system



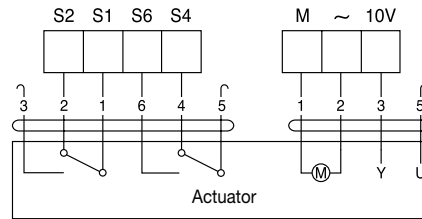
Actuator

Option 2 – Connection to RCTU



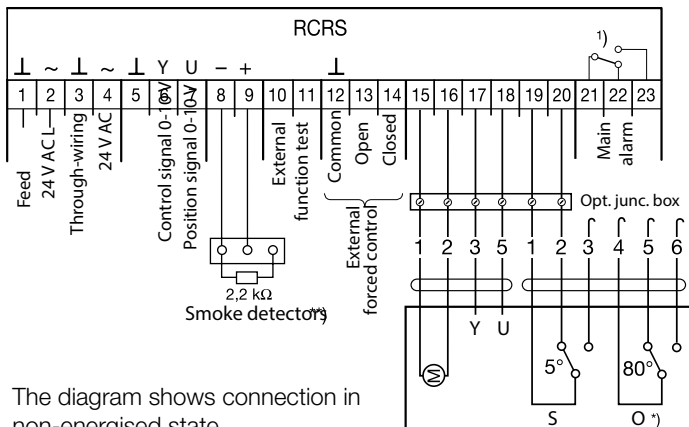
Connection of room regulator

BF24-SR, BRS24



Actuator

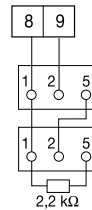
Option 3 – Connection to RCRS



1) Potential free contact max. 24 V AC, 3 A
Drawn in de-energised/alarm mode.

*) Microswitch for O only included on BRS24-actuator

**) With detectors connected in series.



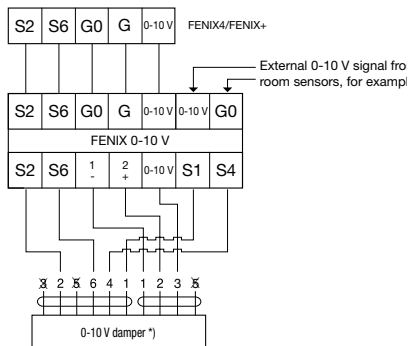
The diagram shows connection in non-energised state.

Actuator

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





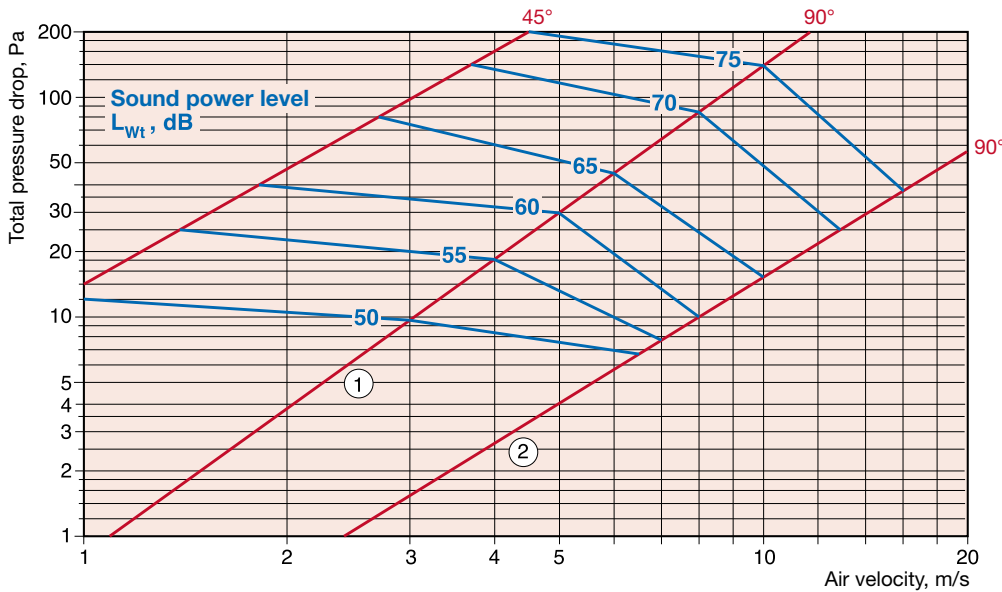
Technical data

Sound data

The speed is calculated on the damper's gross area, i.e. a BSK9R - 400 x 400 has a gross area of 0.16 m².

The specified pressure drop applies to the damper without accessories.

Due to the thickness of the damper blade, sound and pressure drop data differs between the low sizes and the higher ones when the damper is fully open. When the damper blade is angled, the same pressure drop line is used for all the sizes and the sound power level is corrected according to the damper area



Refers to open damper

- ① Damper height H < 400 mm
- ② Damper height H ≥ 400 mm

Correction of sound power level, L_w, for different sizes use curves ① - ② according to: $L_w = L_{wt} + K_1$

Damper height, mm	Damper area, m ²				
	< 400 acc. to ①	0,08	0,16	0,28	-
≥ 400 acc. to ②	0,08	0,16	0,32	0,64	1,28
K ₁	-3	0	3	6	9

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

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

Correction, K_{ok}

Opening angle	Centre frequency Hz							
	63	125	250	500	1000	2000	4000	8000
45°	-1	-9	-14	-19	-21	-24	-28	-35
90°	-1	-11	-18	-23	-26	-28	-32	-38
Tol. ± dB	1	2	3	4	6	6	6	6

Electrical data

Actuator type	BFN24-SR-T
Sizing, max	8,5 VA
Running time. - motor opening, max; - spring return, max	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
Control signal Y	DC 0-10V
Working range	DC 2-10V
Position reversal U	DC 2-10V
Design	I _{max} 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	< 55 dB (A)
Closing noise level	< 67 dB (A)
Maintenance	Maintenance free



Accessories

Connection spigot BRAS

Extension spigot RBFS

BRAS Ød	Min. damper size	A
100	200 x 200	50
125	200 x 200	50
160	200 x 200	50
200	200 x 200	50
250	250 x 250	50
315	350 x 350	65
400	400 x 400	80
500	500 x 500	80
630	650 x 650	80
800	800 x 800	80

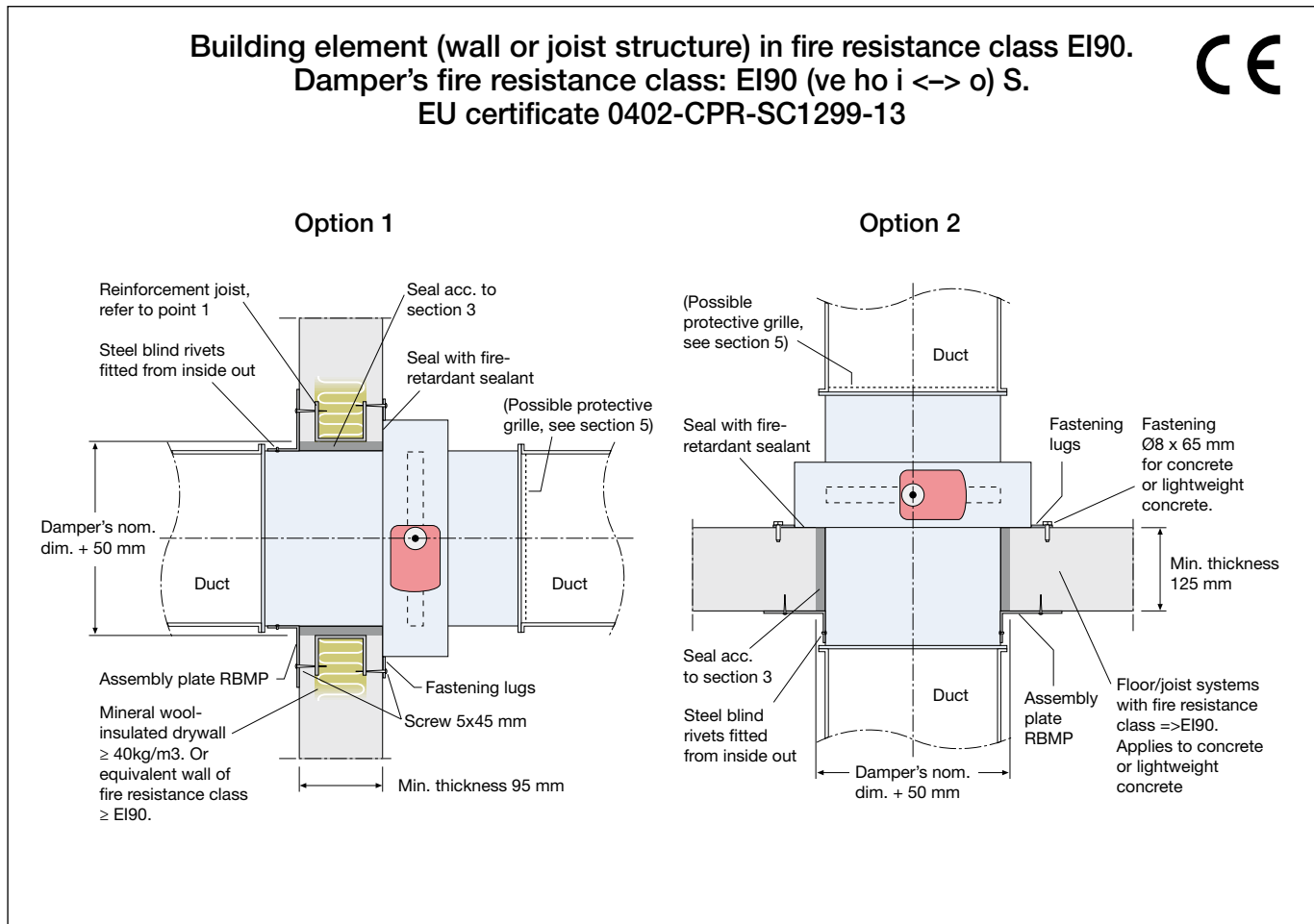
Note For circular dampers, first use the BSKC9.

Mounting plate (included in delivery)

Supplied unassembled



Installation instructions



Option 1 and 2

1. Create a hole, corresponding to the damper's nominal dimensions + 50 mm, in the building element.
If installing in plasterboard, a steel reinforcement frame of 45x45 mm must be used.
2. The damper is secured flat and tight using fire-retardant sealant between the damper and wall/joist structure with all fastening lugs, which are opened out. Screw \varnothing 5 mm with a minimum length of 45 mm to be used when mounting in drywall. The screw is pulled through the reinforcement stud.
3. Check that the gap between the damper and the wall is 25 mm all the way round. Sealing is carried out by caulking with mineral wool, min 40 kg/m³.
4. Fit the cover frame against the substrate with suitable fixings. Now fasten the frame on the damper with steel blind rivets \varnothing 5 mm through the pre-punched holes in the mounting frame. Fit with blind rivets from inside out. Ensure that the damper blade runs freely.
5. When using a Fire/combustion gas damper as a transfer-air or end device, a non-combustible louvre intended for the damper must be mounted on the non-connected sides of the damper. The minimum distance between the damper blade in the open position and the louvre is 50 mm.
6. Connect the actuator device to the control unit and carry out a function check.
7. Install the duct system according to applicable requirements. Ensure that connecting ducts systems do not affect dampers during fire loading.
 - *The shortest distance between dampers must be 200 mm.*
 - *The shortest distance to wall/joist must be 75 mm.*
 - *The damper shaft must be mounted horizontally.*