Technical Documentation
"Installation, Mounting and Operating Instructions"

Fig.: BKA-EN with B10 drive

BKP-EN

Fire damper

USABILITY CERTIFICATES

- **Declaration of Performance**
  DoP-BKP-EN-2020-09-01

CLASSIFICATION AND STANDARDS

- **Classification**
  according to EN 13501-3, depending on the installation situation EI 90 (v_e, h_o i↔o) S to EI 120 (v_e, h_o i↔o) S
- **Product standard**
  EN 15650
- **Test standard**
  EN 1366-2

PERFORMANCE DATA

- For automatic locking of fire lobbies
- For use or connection of a smoke release device with abZ (e.g. SCHAKO smoke detection system RMS) in connection with suitable release devices (e.g. spring return actuator)

SPECIAL FEATURES

- ATEX version available (at an extra charge)
- Extensive uses and applications
- Large free cross-sections
- For optimum integration into the building control system via the SCHAKO EasyBus signalling and switching bus system or the SCHAKO BKSYS fire damper mini-controller

SCHAKO | Ferdinand Schad KG
Steigstraße 25-27
D-78600 Kolbingen

Phone +49 (0) 7463-980-0
Fax +49 (0) 7463-980-200
schako.com | info@schako.de

TABLE OF CONTENTS

DESCRIPTION

Fire dampers built into ventilation ducts (air-conditioning systems) are used for the automatic locking of fire lobbies.
The fire damper BKP-EN conforms to EN 15650, EN 13501-3 and EN 1366-2.
The BKP-EN has been tested according to EN 1366-2 in compliance with Declaration of Performance No. DoP-BKP-EN-2020-09-01. Its classification according to EN 13501-3 is EI 90 (v_e, h_o i↔o) S to EI 120 (v_e, h_o i↔o) S.
According to Directive 2014/34/EU, EC Certificate of Conformity Number EPS 13 ATEX 2 610 X, its use in areas subject to explosion hazards is permitted, not only with spring return actuator ExMax-5.10-BF (X10 - X15), including safety temperature limiter (FireSafe or ExPro-TT), but also with mechanical trigger via fusible link (manual actuation with or without ATEX limit switch ES-Ex). The fire damper is marked as follows according to ATEX:

II 2 G Ex h IIC T6 Gb
II 2 D Ex h IIIC T80°C Db EPS 13 ATEX 2 610 X
II 3 D Ex h IIIC T80°C Dc*)

*) when using the safety temperature limiter FireSafe.

The national standards and guidelines must be observed in connection with this technical documentation "Installation, mounting and operating instructions". Further information on ATEX can be found in the additional BKP-EN operating instructions according to ATEX 2014/34/EU.
For functional test, service, retrofitting, etc., inspection openings must be provided on site in suspended ceilings, shaft walls, connected ventilation ducts, etc., if necessary. They must be built in in sufficient numbers and sizes and must not impair the functioning of the fire dampers.
The fire dampers must be connected to the ventilation system by means of ventilation ducts either on one or on both sides. When connected on one side, finishing protective gratings made of non-flammable building materials (EN13501-1) must be provided on the opposite side. The fire dampers can be connected to non-flammable and flammable ventilation ducts as well as to flexible spigots.

- Housing made of galvanised sheet steel.
  optionally (at an extra charge):
  - Housing made of stainless steel material no. 1.4301
  - Housing with DD coating (two-component top coat based on polyurethane varnish) inside/outside (replaceable, non-coated parts are made of stainless steel material no. 1.4301)
- Moulded connection flanges with centre hole or three equidistant holes on the B side (from B ≥ 200 mm), corner angle with long hole for simple duct mounting and high stability
- Shut-off damper made of silicate board
  optionally (at an extra charge):
  - DD coating (RAL 7035 / light-grey)
- Cold and hot leakage requirements according to EN 1366-2 are met by means of circumferential rubber and intumescent seals.
- Horizontal position of the damper blade axle
- The installation position is independent of the air flow direction.
- Thermal trigger via fusible link 72 °C or 98 °C
  optionally (at an extra charge):
  - with electrothermal trigger devices (with spring return actuators)
- with an inspection opening on the B side (bottom), from B ≥ 200 mm.
- Use: max. operating pressure of 1000 Pa at v_{stirn} ≤ 10 m/s
- Housing leakage class C according to EN 1751
- Use or connection of a smoke trigger device with general building supervisory approval (e.g. SCHAKO smoke detection system RMS, see technical documentation smoke detection system RMS) in connection with suitable electric trigger devices of the fire damper is possible; only trigger devices working by the "currentless closed" principle may be connected to the RMS system; the propagation of fire and smoke is effectively prevented and the requirements of the Model Building Regulation (MBO) are fulfilled. Optimal integration into the building control system by means of the SCHAKO EasyBus signalling and switching bus system (see technical documentation EasyBus) or the SCHAKO fire damper mini-controller BKSYS (see technical documentation BKSYS).

ATTENTION

Building installations must be, among other things, erected, modified and maintained in a way to prevent the formation of fire and the propagation of fire and smoke (propagation of fire) and to allow, in the event of a fire, human beings and animals to be rescued and effective extinguishing work to be carried out.
Smoke propagation through the air-conditioning and ventilation system can be prevented for example by means of fire dampers and spring return actuators in combination with approved smoke detector devices (e.g. SCHAKO smoke detection system RMS).

MODELS AND DIMENSIONS

Dimensions

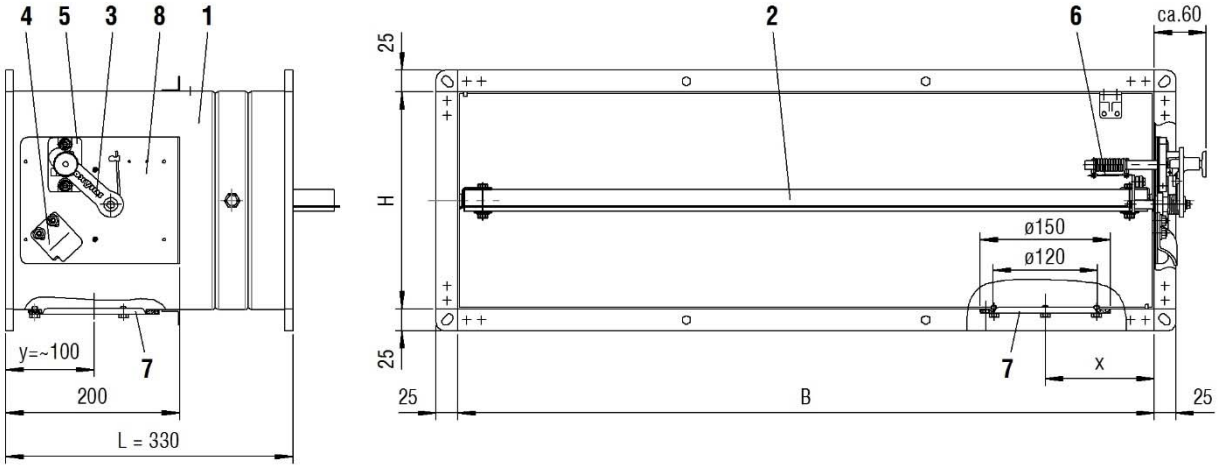


Figure 1: Dimensions BKP-EN

1 Fire damper BKP-EN
2 Damper blade
3 Hand lever
4 Locking profile
5 Release device
6 Fusible link
7 Inspection opening (arranged at bottom) from B ≥ 200, for B < 200 no inspection opening possible.
x = B/2 ➔ 200 ≥ B < 600 or
x ~ 125 mm ➔ B ≥ 600
y ~ 100 mm from the connection flange
8 Actuator unit
9 Profile CW 50/50/06 (with wall thickness = 100 mm, for larger wall thicknesses, the profiles must be adapted accordingly)
9.1 Profile CW 75/50/0.6 - 150 profiles
10 Profile UW 50/40/06 (with wall thickness = 100 mm, for larger wall thicknesses, the profiles must be adapted accordingly)
10.1 Profile UW 75/40/0.6 - 150 profiles
11 Mineral wool (according to the wall manufacturer's specifications)
12 Panelling of the lightweight partition wall made of gypsum-bonded wall boards
12.1 Panelling of the shaft wall made of gypsum-bonded wall boards.
13 Mortar
14 Mortar anchor (-on site-, 2 drywall screws per B side, which project approx. 20 mm into the installation opening, for example TN 3.5x35. Drywall screws arranged at the ⅓ points.
When using reveals, the length of the drywall screws must be adjusted accordingly.
15 Reveal, optional (-on site-)
16 Solid ceiling
17 Mounting frame ER-P1 (accessories: loose as mounting kit or premounted ex works (extra charge)).
17.1 + 17.3 B side Parts 1 and 2
17.2 + 17.4 H side Parts 1 and 2
17.5 Countersunk head screw 4.0 x 60 mm (8 x)
18 Fixing lugs (accessories: mounting frame ER-P1)
19 Drywall screws (on site 2 x / fixing lug; e.g. ø 3.5 x 35 mm)
19.1 Drywall screws (on site, e.g. ø 3.5 x 35 mm)
19.2 Drywall screws (on site, 2 x / fixing lug; e.g. ø 5.5 x 90 mm)
20 Reveal, circumferential (-on site- 12.5-mm plasterboards)
20.1 Reveal, circumferential (on site, 20 mm plasterboards)
21 Steel cable -galvanised- (accessories: position indicator type MSZ)
22 Clamping nipple (accessories: position indicator type MSZ)
23 Position indicator (accessories: position indicator type MSZ)
24 False ceiling
25 Manual unlocking disc
26 Fastening screws
27 Locking bolts
28 Fusible link holder
29 Spring return actuator
30 Switch/Lever/Pushbutton
31 Thermoelectric trigger device
32 Duct inside temperature fuse
33 Drywall screws (-on site- e.g. ø 3.5 x 25 mm; screw spacing ≤ 250 mm, but at least 2 screws per side)
34 Horizontal reinforcement e.g. bracket (Ø 8; e ≤ 150 mm)
35 Concrete base (concrete C20/25)
36 Splice bars (Ø 8; e ≤ 500 mm; at least 4 pieces/base)
37 Double-board layer (gypsum-bonded wall boards, d=20 mm, b=60 mm).

Available sizes [mm]

Width (B)	Height (H)
100	100
150	125
200	150
250	160
300	175
400	200
500	225
600	250
700	
800	

Table 1: Available sizes

- Housing length L = 330 mm.
- All heights and widths which can be combined are available!
- Trigger device always on H side
- Inspection opening always on B side (bottom)
- Intermediate sizes on request

Frame bores

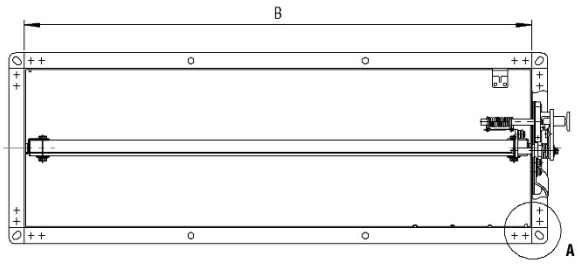


Figure 2: Frame bores

The fire damper type BKP-EN is supplied with front side fitted corner long holes for M8 screws. The connection flanges of the B sides are provided with additional fastening holes from width B ≥ 200 mm (centre position for B ≥ 200 mm up to B < 600 and 1/3 position for width ≥ 600 mm).
On the non-operating side, either fastening materials (e.g. screws, press-in nuts, etc.) must be provided and attached for mounting duct components prior to installation or, alternatively, extension pieces (on site or as accessories, e.g. SCHAKO type VT) can be mounted.

Detail A

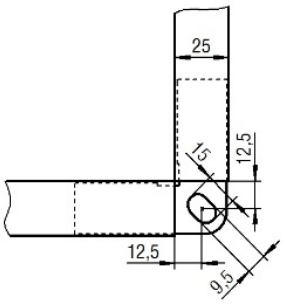


Figure 3: Detail A - Corner angle

Damper blade projecting ends

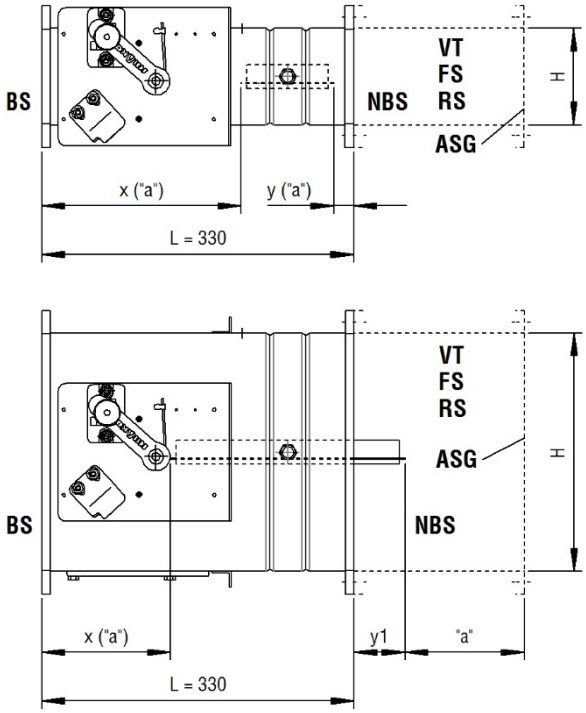


Figure 4: Damper blade projecting ends

"a" = 50 mm: Minimum distance between the front edge of the open damper blade and the finishing protective grating (ASG), the flexible spigot (FS) or the duct connection spigot (RS).

SCHAKO ASG/VT/FS/RS: Flange holes suitable for BKP-EN

H	Operating side (BS)		Non-operating side (NBS)	
100	210	x	20 *	y
125	198		8 *	
150	185		5 *	y1
160	180		10 *	
175	173		18 *	
200	160		30 *	
225	148		43 *	
250	135		55 *	

* Extension piece (VT) necessary

Table 2: Damper blade projecting ends

Use

The fire damper type BKP-EN can be fitted as shown in the following table.

Use		Installation	Material/Model	Minimum thickness [mm]	Minimum distance [mm]	Fire resistance class	Notes Page °
WALL	solid; apparent density ≥450 kg/m³	in	Wet installation in, for example, concrete; masonry according to EN 1996 or DIN 1053; solid plaster wall boards according to EN 12859	100	next to each other: 200 Wall: 75 Ceiling: 75	EI 120 (v_e, i↔o) S	9
	lightweight partition wall Classification according to EN 13501-2 or comparable national standards	in	Wet installation in lightweight partition walls with metal posts and panelling on both sides	100	next to each other: 200 Wall: 90 [2)] Ceiling: 80 [2)]	EI 90 (v_e, i↔o) S	12
			Dry installation with additional installation frame ER-P1 in lightweight partition walls with metal posts and panelling on both sides	100	next to each other: 200 Wall: 100 [2)] Ceiling: 100 [2)]	EI 90 (v_e, i↔o) S	14
			Wet installation in lightweight partition walls with metal posts and panelling on one side	115	next to each other: 220 [2)] Wall: 110 [2)] Ceiling: 100 [2)]	EI 90 (v_e, i↔o) S	15
			Dry installation with additional installation frame ER-P1 in lightweight partition walls with metal posts and panelling on one side	115	next to each other: 200 Wall: 110 [2)] Ceiling: 100 [2)]	EI 90 (v_e, i↔o) S	16
CEILING	solid; apparent density ≥500 kg/m³	in	Wet installation in, for example, concrete; aerated concrete	125	next to each other: 200 Wall: 75	EI 120 (h_o, i↔o) S	10
		on [1)]	Wet installation with concrete base on, for example, concrete; aerated concrete	125	next to each other: 200 Wall: 75	EI 120 (h_o, i↔o) S	11

Table 3: Usability

Additional note:
It may also be installed in walls or in and on ceilings of a lower fire resistance class. In this case, however, the fire resistance class of the fire damper is reduced accordingly. The conditions listed above must be taken into account.

[1)] Installation only in connection with a concrete base still to be made on site.

[2)] Due to the construction or installation.

General information

- During mounting or installation, there is a risk of injuries. To avoid any possible injuries, personal protective equipment (PPE) must be worn.
- Fire dampers must be installed such that external forces do not impair their permanent functioning.
- Ventilation ducts must not exert significant forces on walls, supports or ceilings and thus also on fire dampers as a result of thermal expansion (in case of fire).
  Appropriate compensation measures, such as the arrangement of flexible spigots (SCHAKO type FS) or a suitable duct routing (duct angles and distortions), must be taken as required. National regulations must be observed and adhered to.
- Prior to installing the fire damper, the possible connections of the ventilation ducts must be checked. Extension pieces (on site or as accessories SCHAKO type VT) may be necessary, for example, for large wall and ceiling thicknesses. When connecting duct components, the type of fastening must be selected such that no damage is caused to the fire damper or its accessories.
- During mounting it may be required to provide reinforcements for the housing or the like.
- The requirement of statically load-bearing lintels may have to be taken into consideration.
- If a fire damper is not filled with mortar on all four sides, installation and mounting aids on site must be removed.
- Improper transport/handling may result in damage/functional impairment. In addition to that, the film of the transport packaging must be removed and the delivery inspected for completeness.
- In storage, fire dampers must be protected from dust, dirt, moisture and the effects of temperature (e.g. direct sunlight, heat-emitting light source, etc.). They must not be exposed to direct effects of the weather and must not be stored below -20 °C or above 50 °C.
- The fire damper must be protected from dirt and damage. After installation is complete, any dirt must be removed immediately.
- Enough space must be provided for installation, mortar lining, etc.
- Carry out a functional check of the fire damper before and after mounting and ensure ready access.
- Electrical installations or work on electrical components may only be carried out by skilled electricians. The supply voltage must be switched off when performing this work and secured against being switched on again.
- On the non-operating side, either fastening materials (e.g. screws, press-in nuts, etc.) must be provided and attached for mounting duct components prior to installation of the BKP-EN. Alternatively, extension pieces (on site or as accessories, e.g. SCHAKO type VT) can be mounted.
- We would like to point out that only suitable cleaning materials may be used to clean the stainless steel version of fire dampers!

Minimum distances or projecting ends

The dimensions given must be considered an installation recommendation for the BKP-EN and may differ, depending on the local situation.
To guarantee fire protection, the fire damper must be installed in accordance with the technical documentation, installation, mounting and operating instructions. The inspection opening of the fire damper must be freely accessible, otherwise inspection openings in the connected ventilation ducts must be provided in the immediate proximity. This must be ensured in particular when at least 2 fire dampers are installed next to each other or below each other in the immediate proximity of adjacent components.

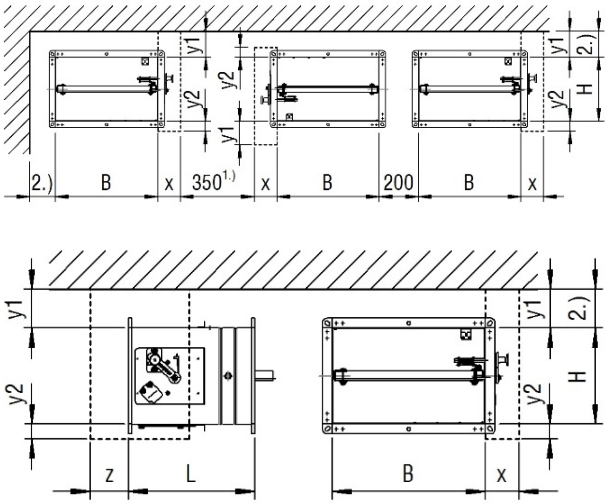


Figure 5: Minimum distances to walls and ceilings and BKP-EN to one another

1.) Minimum distance recommended by SCHAKO for sufficient accessibility
2.) The distance between the fire damper and the adjacent component (wall/ceiling) must be determined according to the particular installation situation or adjusted to the dimensions of the projecting ends.

The dimension x is:
- manual trigger approx. 60 mm
- approx. 90 mm for spring return actuators B10/B11 or B42 and S00/S01
- approx. 185 mm for explosion-protected spring return actuator Ex-Max-5.10-BF (X10 - X15)

The dimension y1 is:
- max. 65 mm with manual trigger
- max. 40 mm for explosion-protected spring return actuator Ex-Max-5.10-BF (X10 - X15) or B42

The dimension y2 is:
- max. 25 mm with manual trigger
- max. 40 mm for explosion-protected spring return actuator Ex-Max-5.10-BF (X10 - X15) or B42

The dimension z is:
- approx. 95 mm with spring return actuators B10/B11
- approx. 110 mm for spring return actuators S00/S01
- approx. 135 for spring return actuator B42
- approx. 160 mm for explosion-protected spring return actuator Ex-Max-5.10-BF (X10 - X15)

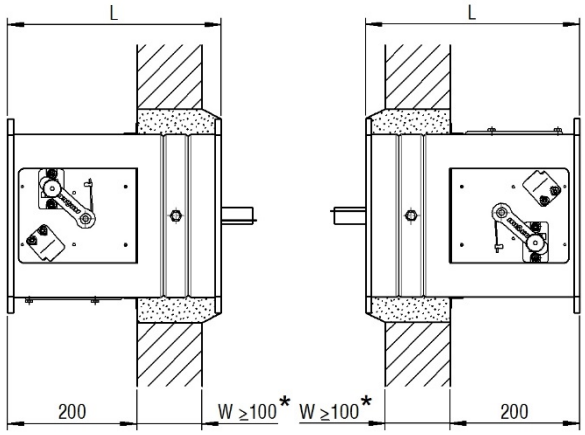
Wet installation (mortar lining)

- If the fire damper is installed by means of mortar lining, it must be completely filled with mortar of class M 10 to M 15 according to EN 998-2 or fire protection mortar of corresponding grades or with concrete or plaster mortar suitable for the wall or ceiling type.
- If the fire damper is installed during the assembly of the wall/ceiling, the annular gap dimensions can be smaller than specified.
- The mortar bed depth must not be less than 130 mm.
- The mortar lining must be executed such that it is permanent. The information given by the mortar manufacturer must be observed.

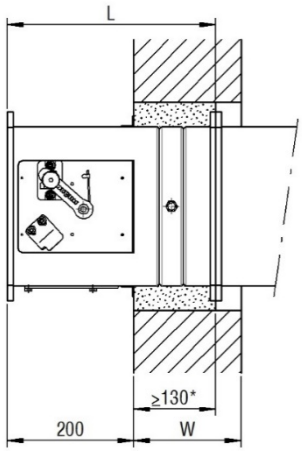
INSTALLATION IN SOLID WALLS

- Installation in solid walls (shaft walls, shafts, ducts and fire walls) made of, for example, concrete; masonry according to EN 1996 or DIN 1053; solid plaster wall boards according to EN 12859; apparent density ≥ 450 kg/m³ and wall thickness W ≥ 100 mm.

Installation positions



for large wall thicknesses



*) The mortar bed depth is always at least 130 mm.

Figure 6: Installation positions in solid walls

Wet installation of a fire damper, complete mortar lining

- The minimum distance of fire dampers from one another must be at least 200 mm.
- The minimum distance from adjacent components (wall/solid ceiling) is at least 75 mm.

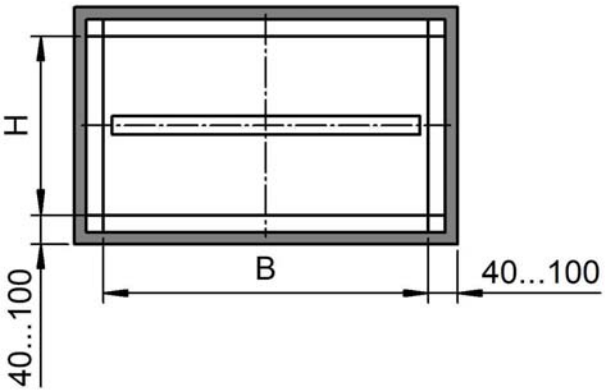


Figure 7: Annular gap dimensions for complete mortar lining in solid walls

INSTALLATION IN SOLID CEILINGS

- Installation in solid ceilings made, for example, of concrete, aerated concrete, apparent density ≥ 500 kg/m³ and ceiling thickness D ≥ 125 mm.

Installation positions

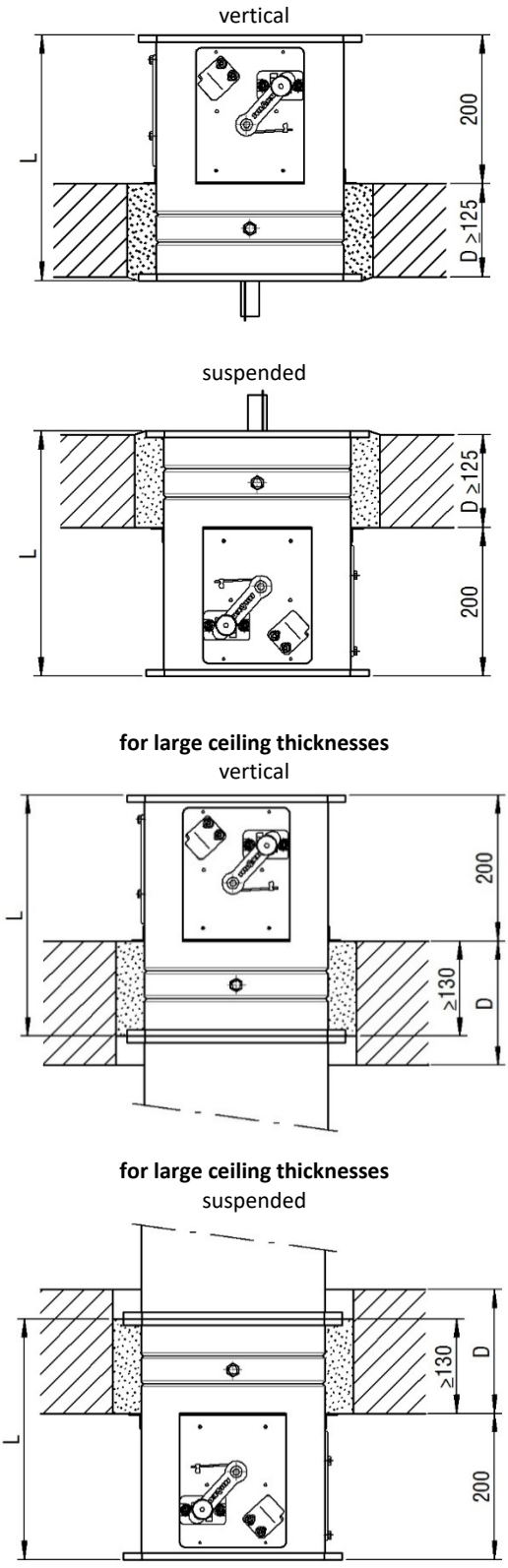


Figure 8: Installation positions in solid ceilings

Wet installation of a fire damper, complete mortar lining

- The minimum distance of fire dampers from one another must be at least 200 mm.
- The minimum distance from adjacent components (wall) is at least 75 mm.

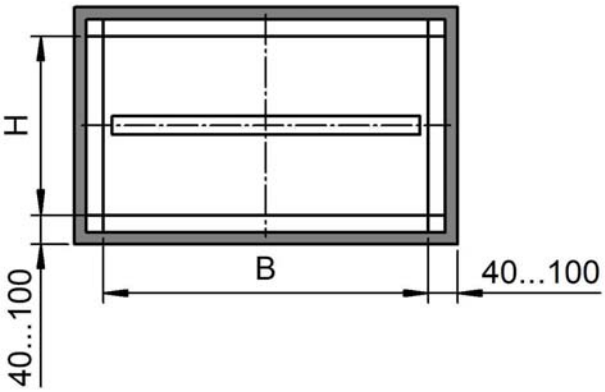


Figure 9: Annular gap dimensions for complete mortar lining in solid ceilings

Wet installation with concrete base

- Construction of a circumferential, straight reinforced concrete base (concrete grade: C20/25; concrete cover ≥ 35 mm; reinforcement: concrete steel BSt500S concrete steel mats B500A). The base must be constructed circumferentially with a wall thickness of at least 100 mm, measured from the housing of the fire damper. The height of the base must be maintained up to the prescribed installation dimension (200 mm). The maximum base height is ≤ 550 mm.
  The damper leaf clearance of the installed fire damper must be guaranteed. Make sure that there is nothing left that may affect the function of the new fire damper.
  Prior to installation of the fire damper, fastening materials (e.g. screws, press-in nuts, etc.) must be provided and attached on the non-operating side for mounting duct components or, if subsequent mounting is no longer possible, the ventilation duct must be connected prior to installation. Alternatively, extension pieces (on site or as accessories, e.g. SCHAKO type VT) can be mounted.
  During the formation of the concrete base on solid ceilings, in addition to the constructive anti-crack reinforcement, it must be ensured that the concrete base is applied directly to the reinforced concrete ceiling or connected to the raw ceiling.
  Any separating layers (floor coverings, seals, insulations, floating screeds, etc.) must be removed or must not be present in this area.
  During the construction of the concrete base, make sure that the housing of the fire damper is not pressed inwards (reinforcement).
- The minimum distance of fire dampers from one another must be at least 200 mm.
- If an adjacent solid component (wall) is closer than 100 mm to the housing of fire damper, the existing gap to this component must be filled as described above. This option becomes available if the adjacent component has F90 characteristics.

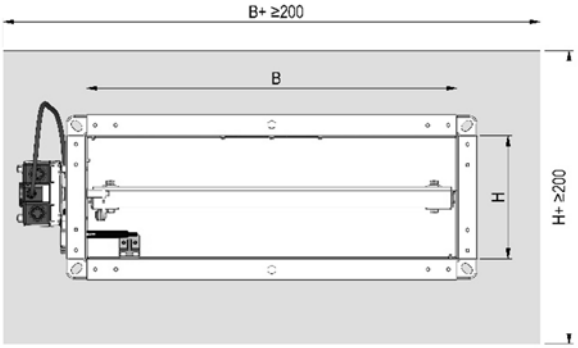


Figure 10: Installation in solid ceilings with concrete base, top view

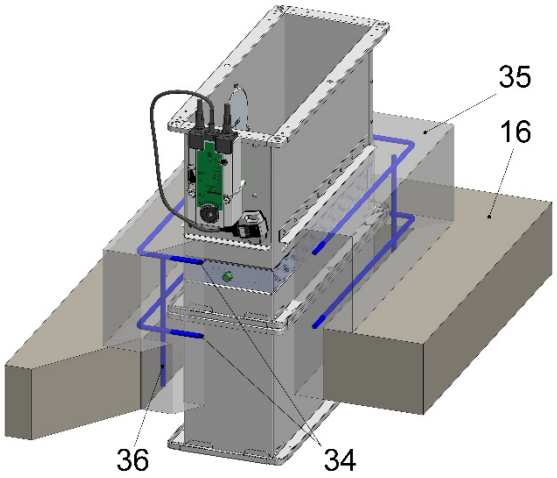


Figure 11: Installation in solid ceilings with concrete base

16 Solid ceiling
34 Horizontal reinforcement e.g. bracket (Ø 8; e ≤ 150 mm)
35 Concrete base (concrete C20/25)
36 Splice bars (Ø 8; e ≤ 500 mm; at least 4 pieces/base)

Reinforcement of the reinforced concrete upstand (Concrete cover ≥ 35 mm; Note: Mounting reinforcement not drawn):
- Horizontal reinforcement (pos. 34):
closed bracket Ø 8, e ≤ 150 mm or steel bar with appropriate overlap lengths or equivalent mesh reinforcement (Q335A); arranged in centre of base (pos. 35).

- Connecting reinforcement to the reinforced concrete ceiling, if **an** annular gap is present in the immediate ceiling opening area, it must be sealed with concrete in the appropriate grade:
Ø 8 e ≤ 500 mm (splice bar in ceiling, pos. 36) centre of base (=/=), but at least 4 pieces/base (arranged in the corner areas of the base)

- Connecting reinforcement to the reinforced concrete ceiling, if **no** annular gap is present in the immediate ceiling opening area.
Ø 8 e ≤ 500 mm (splice bar in ceiling, pos. 36) centre of base (=/=), but at least 4 pieces/base (arranged in the corner areas of the base); to be glued into ceiling using, for example, Hilti HIT HY 200.

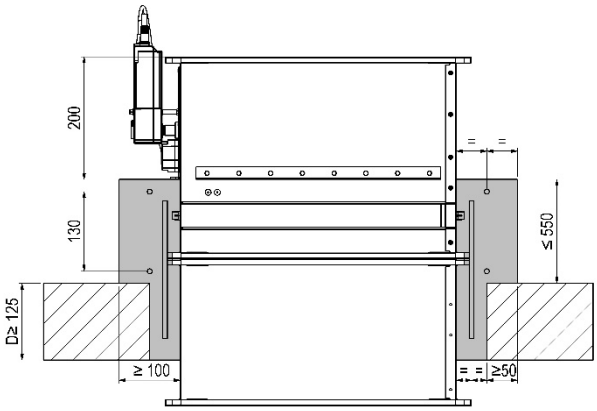


Figure 12: Installation in solid ceilings with concrete base, section

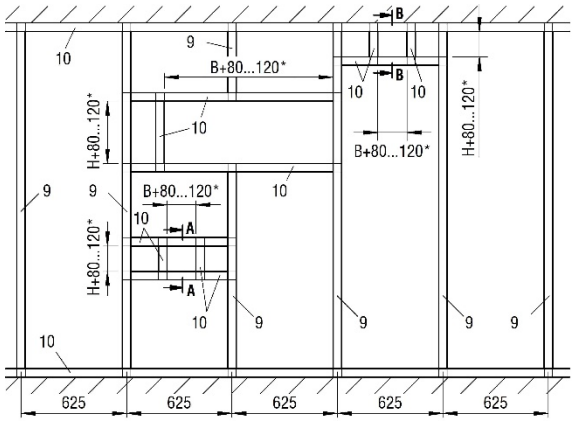
INSTALLATION IN LIGHTWEIGHT PARTITION WALLS WITH METAL POSTS

LIGHTWEIGHT PARTITION WALLS WITH PANELLING ON BOTH SIDES AND WALL THICKNESS W ≥ 100 MM

- Installation in lightweight partition walls with metal posts and panelling on both sides (gypsum-bonded wall boards; wall thickness W≥ 100 mm) as classified according to EN 13501-2 or comparable national standards.
- Installation and mounting aids on site must be removed.

Wet installation of a fire damper, complete mortar lining

- The minimum distance of fire dampers from one another must be at least 200 mm.
- The minimum distance from adjacent components is (due to the construction) at least 90* mm from the wall and at least 80* mm from the solid ceiling. The actual minimum distance may slightly differ from the distances mentioned above and must be executed and adapted as a function of the wall connection type.

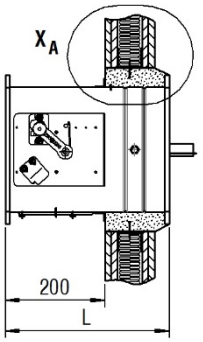


*) When reveals are lined with plasterboards (12.5 mm circumferentially), the opening dimensions of the exchange parts and the distances from adjacent components are increased by 25 mm.

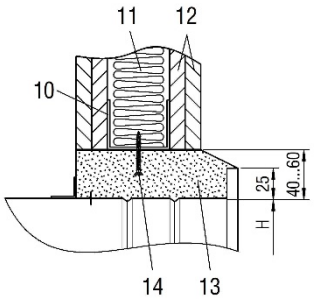
Figure 13: Metal posts plus required exchange parts

Mounting information:
In the overlap area of the exchangeable profiles, they must be riveted, crimped or screwed once on both sides. These connections are purely for fastening the individual metal profiles during mounting.

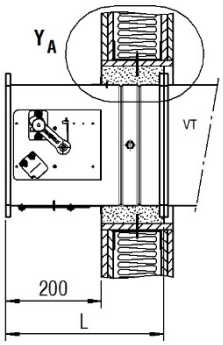
Section A-A



Detail X_A



Section A-A



Detail Y_A

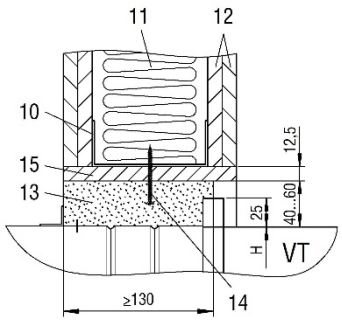


Figure 14: Wet installation in lightweight partition wall (F90)

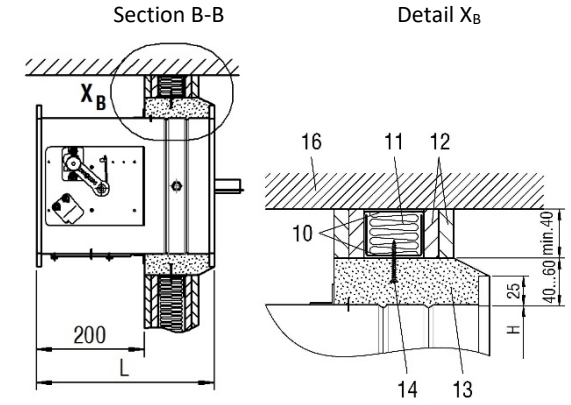
Installation procedure

- Mount the metal posts and the wall in accordance with the specifications of the wall manufacturer and the required exchange parts as shown on Figure 13.
- On both B sides of the exchange profiles (at the ⅓ points), two drywall screws each must be attached to the metal profiles centrally at the wall as mortar anchor (pos. 14).
- Insert the BKP-EN into the wall recess (operating side - observe the installation dimension of 200 mm). Average out the circumferential annular gap evenly between the wall and the BKP-EN. Mount the BKP-EN with the help of mounting suspensions, etc.
- Insert mortar (pos. 13) into the circumferential gap 40 mm in width between the housing of the BKP-EN and the circumferential metal profiles (pos. 10). If reveals (pos. 15) are used, the opening dimension must be adjusted accordingly. For large wall thicknesses, a mortar bed depth of 130 mm is sufficient.
- After the mortar has set, the mounting aids (mounting suspensions, etc.) must be removed.

Wet installation of a fire damper under a solid ceiling, complete mortar lining

- Wet installation under solid ceiling does not constitute a sliding ceiling connection.

Sectional view under solid ceiling without reveal



Sectional view under solid ceiling with reveal

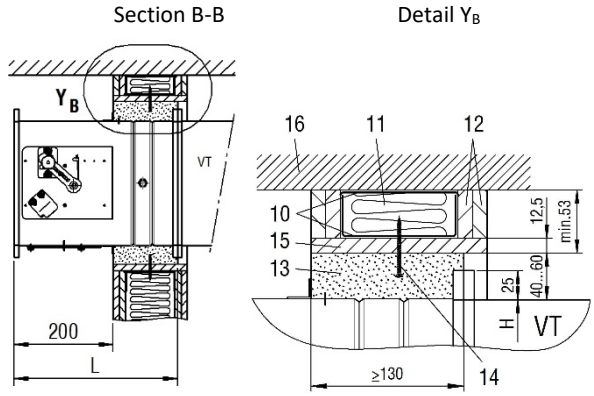


Figure 15: Wet installation in lightweight partition wall under solid ceiling

Installation procedure

- Mount the metal posts and the wall in accordance with the specifications of the wall manufacturer and the required exchange parts as shown on Figure 13.
- On both B sides of the exchange profiles (at the ⅓ points), two drywall screws each must be attached to the metal profiles centrally at the wall as mortar anchor (pos. 14).
- Insert the BKP-EN into the wall recess (operating side - observe the installation dimension of 200 mm). Average out the circumferential annular gap evenly between the wall and the BKP-EN. Mount the BKP-EN with the help of mounting suspensions, etc.
- Insert mortar (pos. 13) into the circumferential annular gap between the housing of the BKP-EN and the circumferential metal profiles (pos. 10). If reveals (pos. 15) are used, the opening dimension must be adjusted accordingly. For large wall thicknesses, a mortar bed depth of 130 mm is sufficient.
- After the mortar has set, the mounting aids (mounting suspensions, etc.) must be removed.

9 Profile CW 50/50/06 (with wall thickness = 100 mm, for larger wall thicknesses, the profiles must be adapted accordingly)
10 Profile UW 50/40/06 (with wall thickness = 100 mm, for larger wall thicknesses, the profiles must be adapted accordingly)
11 Mineral wool (according to the wall manufacturer's specifications)
12 Panelling of the lightweight partition wall made of gypsum-bonded wall boards
13 Mortar
14 Mortar anchor (2 drywall screws per B side, which project approx. 20 mm into the installation opening, for example TN 3.5x35. Drywall screws arranged at the ⅓ points. When using reveals, the length of the drywall screws must be adjusted accordingly.
15 Reveal, optional
16 Solid ceiling

Dry installation with installation frame type ER-P1

- On the non-operating side, fastening materials (e.g. screws, press-in nuts, etc.) must be provided for mounting duct components prior to installation of the mounting frame type ER-P1, which may take place on site. Alternatively, extension pieces (on site or as accessories, e.g. SCHAKO type VT) can be mounted. If the mounting frame type ER-P1 is mounted on site, press-in nuts are present.
- The minimum distance of fire dampers from one another must be at least 200 mm.
- The minimum distance from adjacent components (wall/solid ceiling) must be (due to the construction) at least 100 mm. The actual minimum distance may slightly differ from the distances mentioned above and must be executed and adapted as a function of the wall connection type.

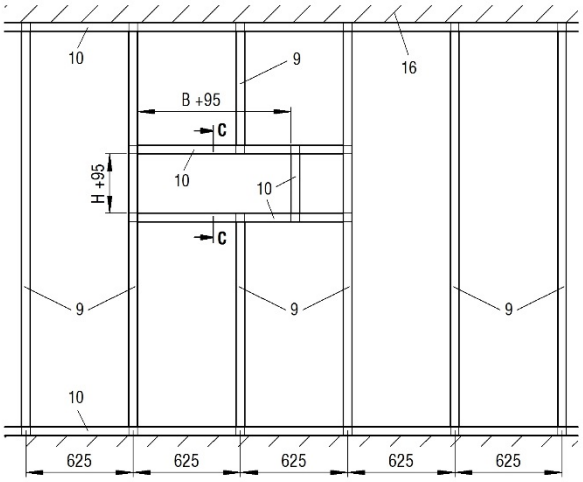


Figure 16: Metal posts plus required exchange parts for BKP-EN with installation frame type ER-P1

Mounting information:
In the overlap area of the exchangeable profiles, they must be riveted, crimped or screwed once on both sides. These connections are purely for fastening the individual metal profiles during mounting.

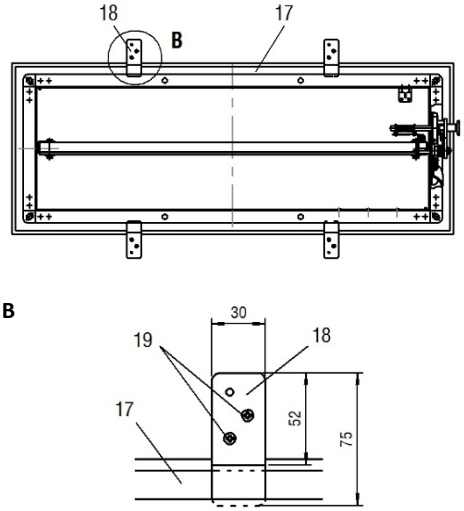


Figure 17: BKP-EN with installation frame type ER-P1 and shown fixing lugs

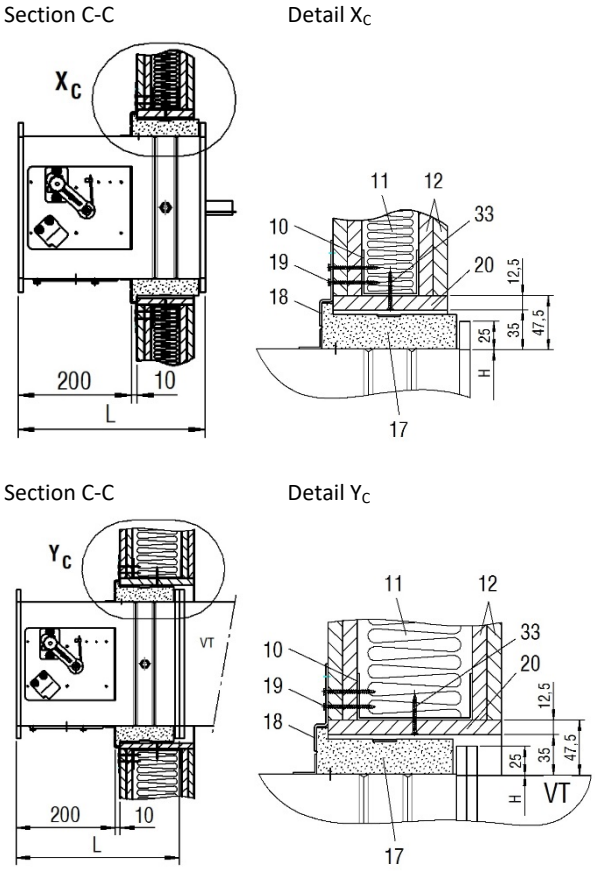


Figure 18: Dry installation in lightweight partition wall (F90) with installation frame type ER-P1 (section)

Installation procedure

- Mount the metal posts and the wall in accordance with the specifications of the wall manufacturer and the required exchange parts as shown on Figure 16. Leave a recess for installing the BKP-EN with mounting frame type ER-P1 (pos. 17).
- Construct a circumferential reveal (pos 20) with 12.5-mm plasterboards and screw them centrally to the circumferential metal profile frame (pos. 33 - fastening: e.g. drywall screws ø 3.5x25 mm, screw distance ≤ 250 mm, but at least 2 screws per side).
- Insert the BKP-EN into the wall recess (dimensions: B+95 mm x H+95 mm), so that the stop of the mounting frame type ER-P1 contacts the wall (operating side – observe installation dimension of 200 mm up to ER-P1 or 210 mm up to VK wall). Average out the circumferential annular gap "s" evenly between the wall recess and the mounting frame type ER-P1. Mount the BKP-EN with the help of mounting suspensions, etc.
- The fire damper is fastened to the supporting structure (exchange profiles - pos. 10) on the B sides (top and bottom) using two fixing lugs each (pos. 18; 4 per damper). The fixing lugs are fastened to the supporting structure using 2 drywall screws each (pos. 19 e.g. ø 3.5x35 mm; adjust screw length to panelling thickness).
- Mounting aids (suspension, wedges, etc.) must be removed (fixing lugs are no installation and mounting aids and must remain mounted).

9 Profile CW 50/50/0.6 (with wall thickness = 100 mm, for larger wall thicknesses, the profiles must be adapted accordingly)
10 Profile UW 50/40/0.6 (with wall thickness = 100 mm, for larger wall thicknesses, the profiles must be adapted accordingly)
11 Mineral wool (according to the wall manufacturer's specifications)
12 Panelling of the lightweight partition wall made of gypsum-bonded wall boards
16 Solid ceiling
17 Mounting frame ER-P1 (accessories: loose as mounting kit or premounted ex works (extra charge).
17.1 + 17.3 B side Parts 1 and 2
17.2 + 17.4 H side Parts 1 and 2
17.5 Countersunk head screw 4.0 x 60 mm (8 x)
18 Fixing lugs (accessories: mounting frame ER-P1)
19 Drywall screws (on site 2 x / fixing lug; e.g. ø 3.5 x 35 mm)
20 Reveal, circumferential (-on site- 12.5-mm plasterboards)
33 Drywall screws (-on site- e.g. ø 3.5 x 25 mm; screw spacing ≤ 250 mm, but at least 2 screws per side)

LIGHTWEIGHT PARTITION WALLS WITH PANELLING ON ONE SIDE AND WALL THICKNESS W ≥ 115 MM

- Installation in lightweight partition walls (shaft walls) with metal posts and panelling on one side (gypsum-bonded wall boards; wall thickness ≥ 115 mm) as classified according to EN 13501-2 or comparable national standards.
- The specifications of the wall manufacturers regarding wall heights, widths and thicknesses must be taken into account.
- Installation and mounting aids on site must be removed.

Wet installation of a fire damper

- The minimum distance between the fire dampers must be at least 220 mm.
- The minimum distance from adjacent components must be at least 110 mm from the wall and 100 mm from the solid ceiling. The actual minimum distance may slightly differ from the distances mentioned above and must be executed and adapted as a function of the wall connection type.

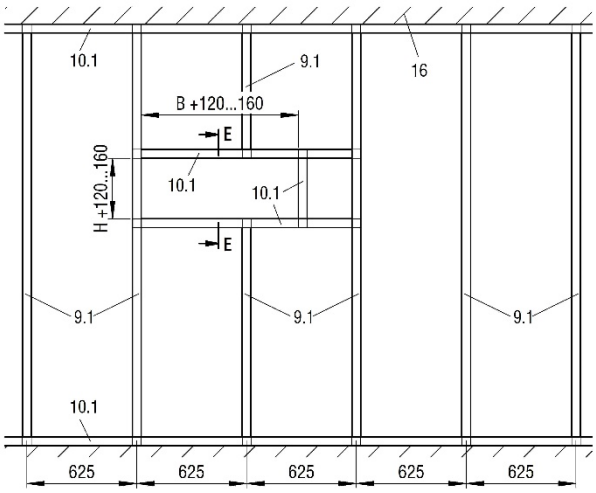


Figure 19: Metal posts with required exchange parts for wet installation (shaft wall)

Mounting information:
In the overlap area of the exchangeable profiles, they must be riveted, crimped or screwed once on both sides. These connections are purely for fastening the individual metal profiles during mounting.

Section E-E Detail X_E

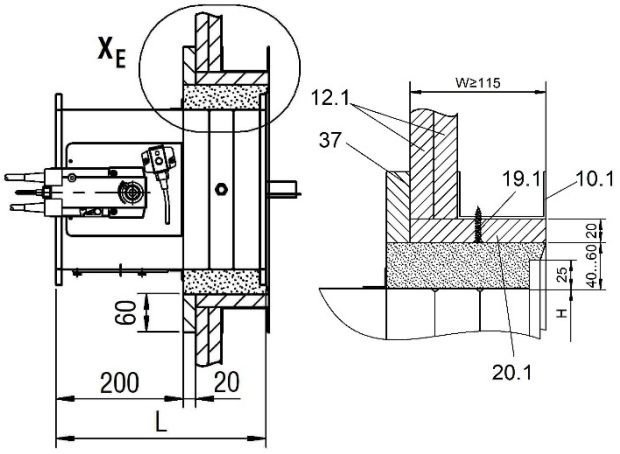


Figure 20: Wall panelling and double-board layers (shaft wall)

Installation procedure

- Mount the metal posts and the wall in accordance with the specifications of the wall manufacturer and the required exchange parts as shown on Figure 19.
- Construct a circumferential reveal (pos 20.1) with 20 mm plasterboards and screw them centrally to the circumferential metal profile frame (pos. 19.1 - fastening: e.g. drywall screws ø 3.5 x 35 mm, screw distance ≤ 250 mm, but at least 2 screws per side).
- Insert the BKP-EN into the wall recess (operating side - observe the installation dimension of 200 mm). Average out the circumferential annular gap evenly between the wall and the BKP-EN. Mount the BKP-EN with the help of mounting suspensions, etc.
- Insert mortar (pos. 13; mortar bed depth at least 130 mm) into the circumferential annular gap between the housing of the BKP-EN and the circumferential reveal (pos. 20.1).
- Mounting aids (suspension, wedges, etc.) must be removed (fixing lugs are no installation and mounting aids and must remain mounted).

10.1 Profile UW 75/40/0.6 - 150 profiles
12.1 Panelling (on one side 2x20) of the shaft wall made of gypsum-bonded wall boards.
19.1 Drywall screws (on site, e.g. ø 3.5 x 35 mm)
20.1 Reveal, circumferential (on site, 20 mm plasterboards)
37 Double-board layer (gypsum-bonded wall boards, d=20 mm, b=60 mm). Fastening: Dry-wall screws, for example, ø 5.5 x 90, a ≤ 200 mm, but at least 2 screws per side, connection and butt joints of the double-board layer must be filled with the wall material.

Dry installation of a fire damper

- Dry installation in a shaft wall panelled on one side is only possible for BKP-EN with installation frame ER-P1.
- The minimum distance between the fire dampers must be at least 200 mm.
- The minimum distance from adjacent components must be at least 110 mm from the wall and 100 mm from the solid ceiling. The actual minimum distance may slightly differ from the distances mentioned above and must be executed and adapted as a function of the wall connection type.

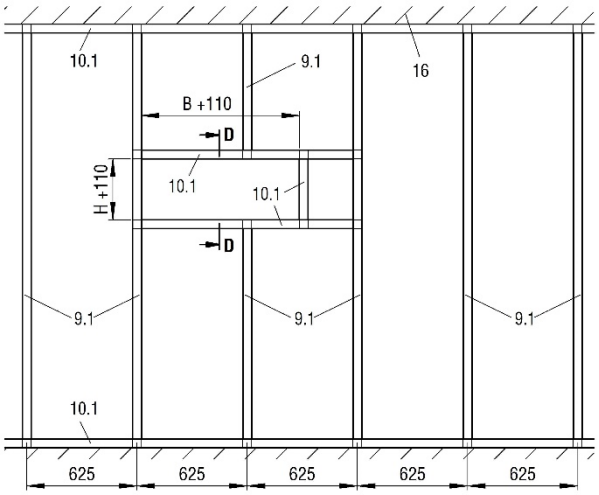


Figure 21: Metal posts plus required exchange parts for dry installation with installation frame ER-P1

Mounting information: In the overlap area of the exchangeable profiles, they must be riveted, crimped or screwed once on both sides. These connections are purely for fastening the individual metal profiles during mounting.

Section D-D Detail X_D

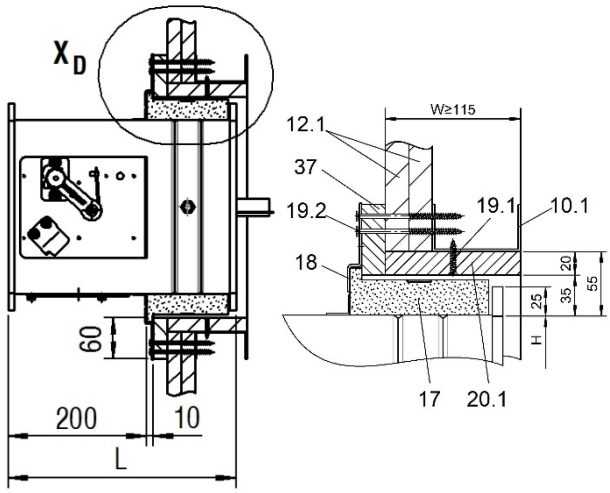


Figure 22: Dry installation with installation frame ER-P1 in shaft wall

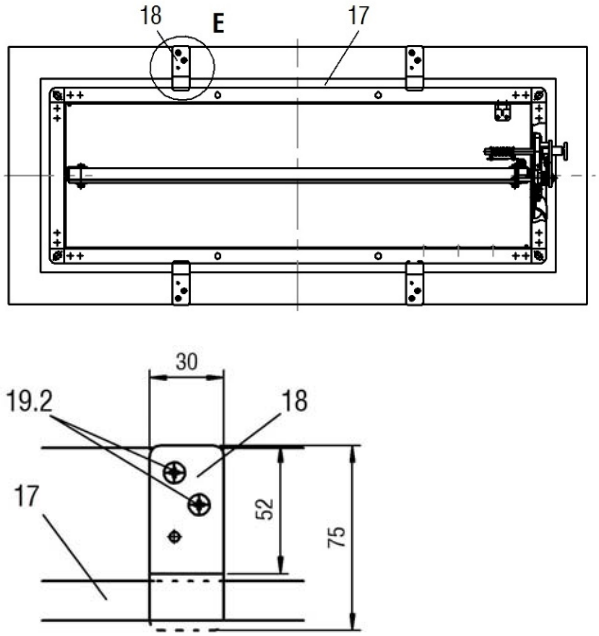


Figure 23: Detail fixing lugs

9.1 Profile CW 75/50/0.6 - 150 profiles
10.1 Profile UW 75/40/0.6 - 150 profiles
12.1 Panelling (on one side 2x20) of the shaft wall made of gypsum-bonded wall boards.
16 Solid ceiling
17 Mounting frame ER-P1 (accessories: loose as mounting kit or premounted ex works (extra charge)).
17.1 + 17.3 B side Parts 1 and 2
17.2 + 17.4 H side Parts 1 and 2
17.5 Countersunk head screw 4.0 x 60 mm (8 x)
18 Fixing lugs (accessories: mounting frame ER-P1)
19.1 Drywall screws (on site, e.g. ø 3.5 x 35 mm)
19.2 Drywall screws (on site, 2 x / fixing lug; e.g. ø 5.5 x 90 mm)
20.1 Reveal, circumferential (on site, 20 mm plasterboards)
37 Double-board layer (gypsum-bonded wall boards, d=20 mm, b=60 mm). Fastening: Dry-wall screws, for example, ø 5.5 x 90, a ≤ 200 mm, but at least 2 screws per side, connection and butt joints of the double-board layer must be filled with the wall material.

Installation procedure

- Mount the metal posts and the wall in accordance with the specifications of the wall manufacturer and the required exchange parts as shown on Figure 21. Leave a recess for installing the BKP-EN with mounting frame type ER-P1 (pos. 17).
- Construct a circumferential reveal (pos 20.1) with 20 mm plasterboards and screw them centrally to the circumferential metal profile frame (pos. 19.1 - fastening: e.g. drywall screws ø 3.5 x 35 mm, screw distance ≤ 250 mm, but at least 2 screws per side).
- Insert the BKP-EN into the wall recess, so that the stop of the installation frame type ER-P1 contacts the wall (operating side – observe installation dimension of 200 mm up to ER-P1 or 210 mm up to the front edge of the wall). Average out the circumferential annular gap evenly between the reveal recess and the installation frame type ER-P1. Mount the BKP-EN with the help of mounting suspensions, etc.
- The fire damper is fastened to the supporting structure (exchange profiles - pos. 10.1) on the B sides (top and bottom) using two fixing lugs each (pos. 18; 4 per damper). The fixing lugs are fastened to the supporting structure using 2 drywall screws for each lug (pos. 19.2, e.g. ø 5.5 x 90 mm).
- Mounting aids (suspension, wedges, etc.) must be removed (fixing lugs are no installation and mounting aids and must remain mounted).

INSTALLATION INFORMATION

Connection of ventilation ducts

The fire dampers must be connected to the ventilation system by means of ventilation ducts either on one or on both sides. When connected on one side, finishing protective gratings made of non-flammable building materials (EN13501-1) must be provided on the opposite side. The fire dampers can be connected to non-flammable or to flammable ventilation ducts. Ventilation ducts must be suspended separately.
On the non-operating side, either fastening materials (e.g. screws, press-in nuts, etc.) must be provided and attached for mounting duct components prior to installation of the BKP-EN. Alternatively, extension pieces (on site or as accessories, e.g. SCHAKO type VT) can be mounted.
The local regulations or national standards on ventilation systems (in Germany e.g. LüAR) apply. In particular, ventilation ducts must not exert significant forces on walls, supports or ceilings and thus also on fire dampers as a result of thermal expansion (in case of fire). Appropriate compensation measures, such as the arrangement of flexible spigots (SCHAKO type FS) or a suitable duct routing (duct angles and distortions), must be taken as required. National regulations must be observed and adhered to.
When using flexible spigots (SCHAKO type FS), the flexible part of the spigot (polyester fabric) must have a minimum length of l_{min} = 100 mm when mounted, resulting in an installation dimension of approx. L = 160 mm. Alternatively, flexible ventilation ducts can be connected.

With ventilation duct arranged on one side and security grille

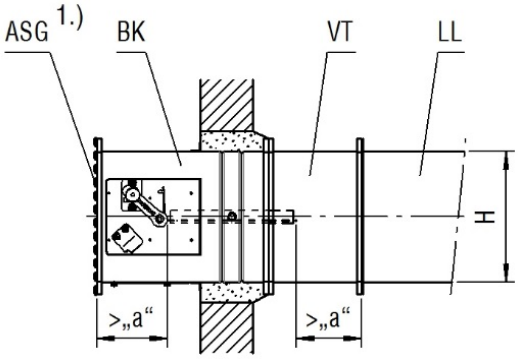


Figure 24: Connection example of a ventilation duct arranged on one side and security grille

On both sides with ventilation ducts

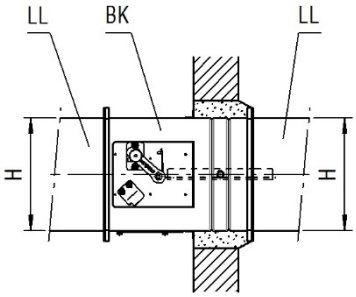


Figure 25: Connection example on both sides with ventilation ducts

On both sides with flexible spigot and ventilation ducts

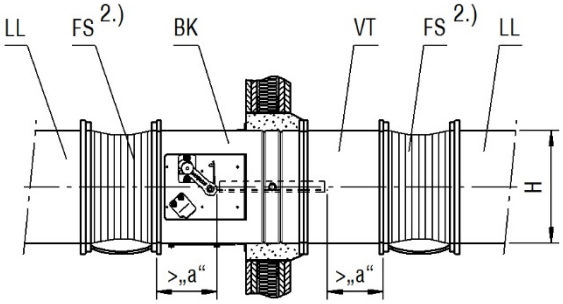


Figure 26: Connection example on both sides with flexible spigot and ventilation ducts

BK	Fire damper model BKP-EN
ASG	Security grille type ASG [1.)]
VT	Extension piece type VT [1.)]
FS	Flexible spigot type FS [2.)]
LL	Ventilation duct

[1.)] made of non-flammable building materials (EN 13501-1)
[2.)] at least normally inflammable to EN 13501-1

"a" = 50 mm: Minimum distance between the front edge of the open damper blade and the finishing protective grating (ASG), the flexible spigot (FS) or the duct connection spigot (RS).

TECHNICAL DATA

Pressure loss and noise level

Pressure loss, flow generated and radiated noise
BKP-EN (without finishing protective grating)

Damper width B = 100 mm

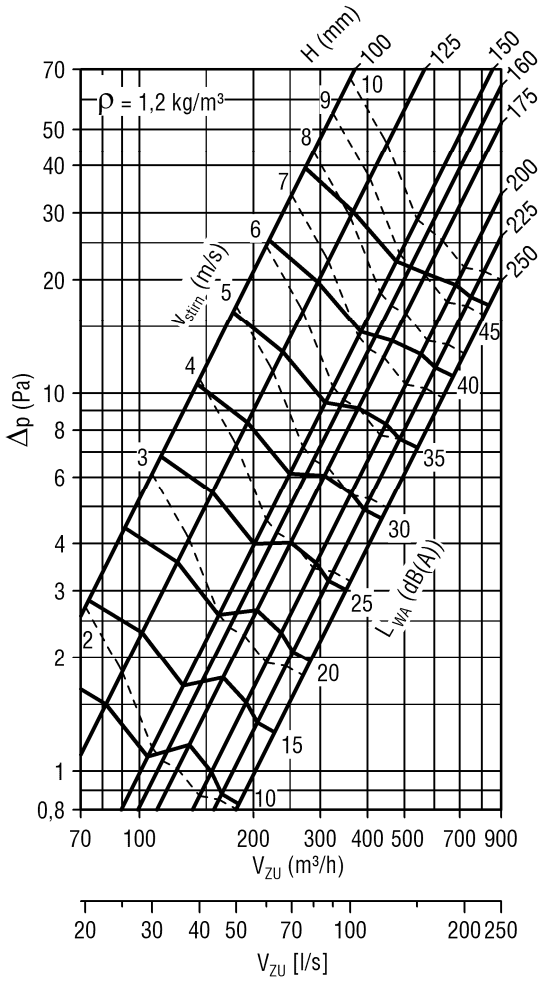


Diagram 1: Damper width B= 100 mm; pressure loss and noise level without finishing protective grating

Correction values B = 100 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.08
Δp [Pa] x 1.4

Radiated noise:
L_{WA} -6 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 150 mm

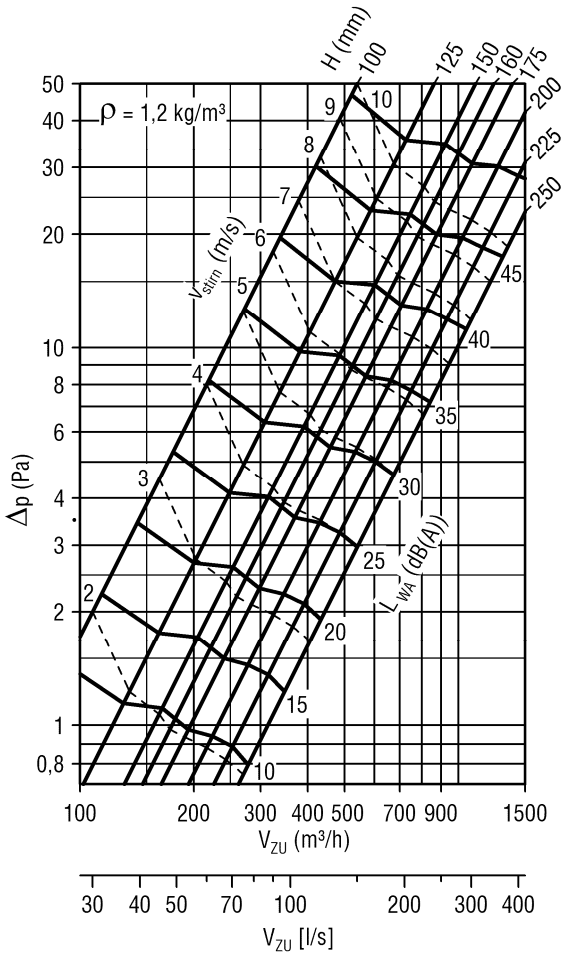


Diagram 2: Damper width B= 150 mm; pressure loss and noise level without finishing protective grating

Correction values B = 150 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.08
Δp [Pa] x 1.62

Radiated noise:
L_{WA} -6 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 200 mm

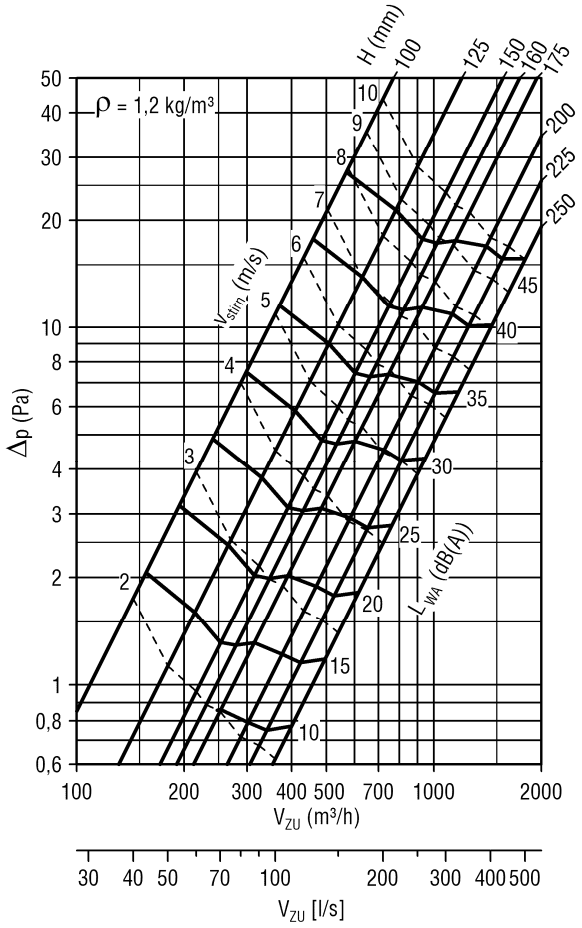


Diagram 3: Damper width B= 200 mm; pressure loss and noise level without finishing protective grating

Correction values B = 200 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.09
Δp [Pa] x 2.04

Radiated noise:
L_{WA} -6 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 250 mm

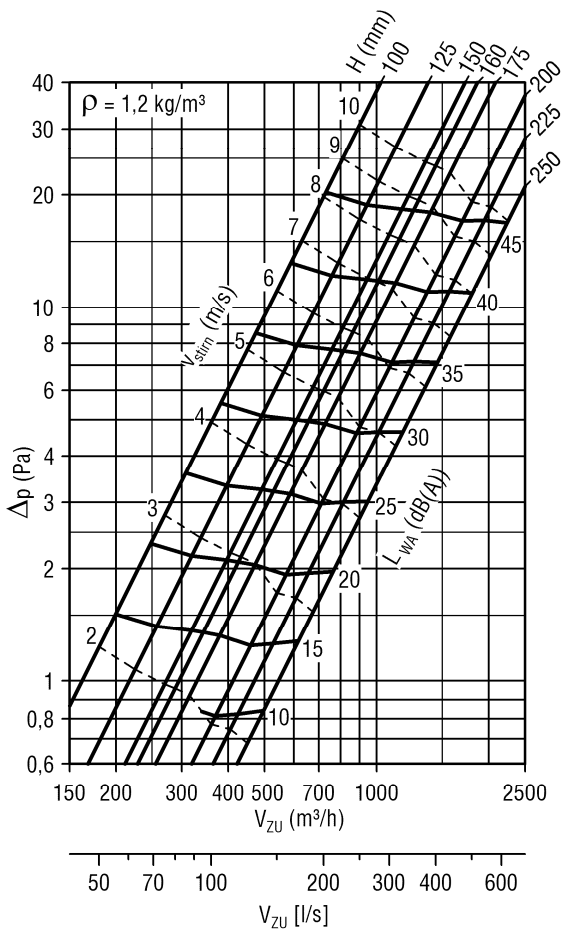


Diagram 4: Damper width B= 250 mm; pressure loss and noise level without finishing protective grating

Correction values B = 250 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.09
Δp [Pa] x 2.16

Radiated noise:
L_{WA} -6 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 300 mm

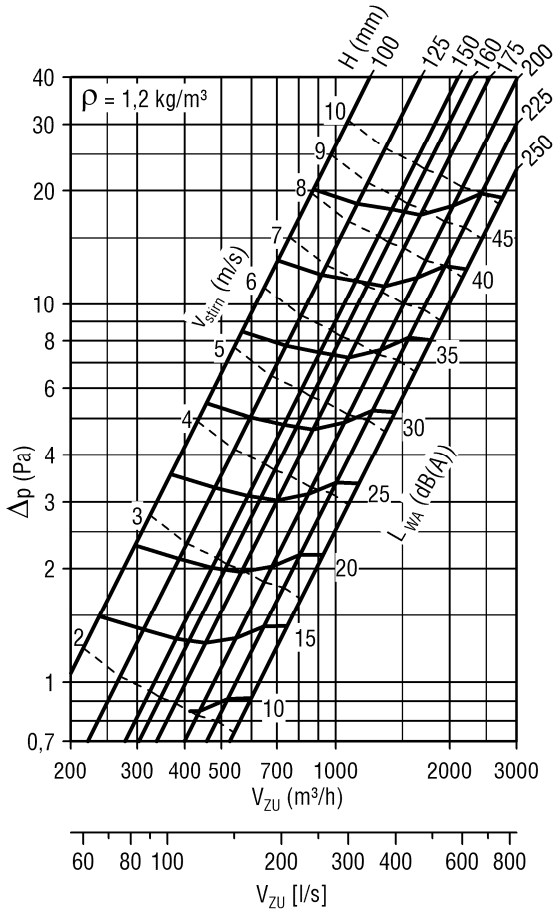


Diagram 5: Damper width B= 300 mm; pressure loss and noise level without finishing protective grating

Correction values B = 300 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.11
Δp [Pa] x 2.53

Radiated noise:
L_{WA} -7 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 400 mm

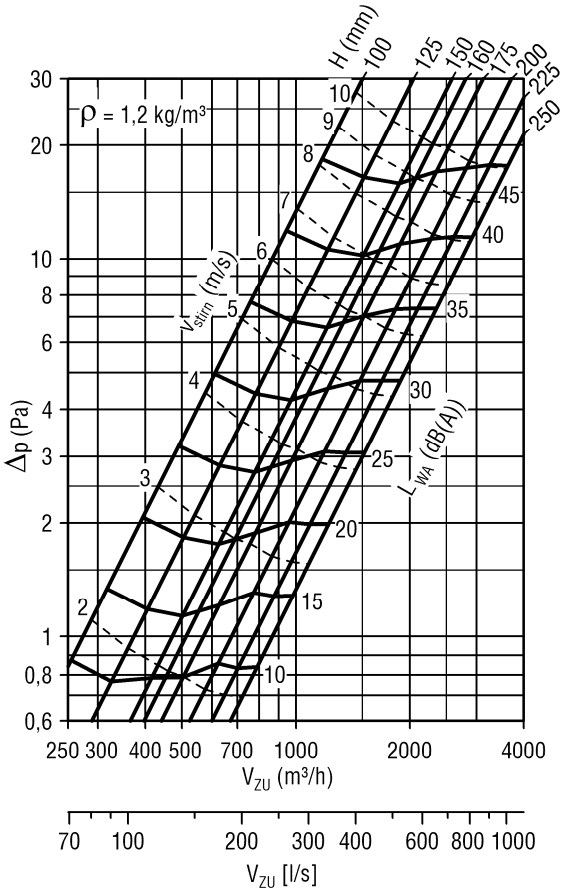


Diagram 6: Damper width B= 400 mm; pressure loss and noise level without finishing protective grating

Correction values B = 400 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.14
Δp [Pa] x 2.61

Radiated noise:
L_{WA} -7 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 500 mm

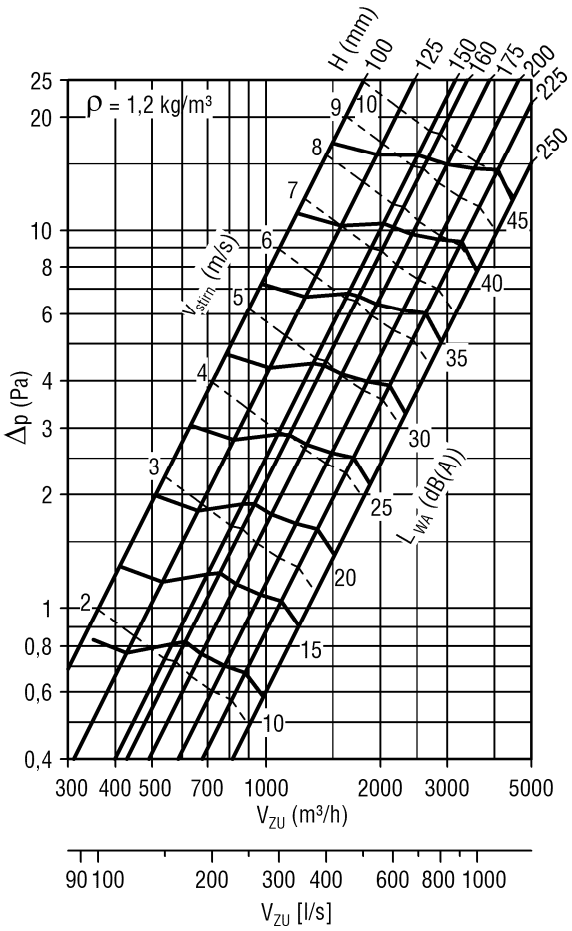


Diagram 7: Damper width B= 500 mm; pressure loss and noise level without finishing protective grating

Correction values B = 500 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.16
Δp [Pa] x 2.89

Radiated noise:
L_{WA} -8 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at $v_{face} \leq 10$ m/s.

Damper width B = 600 mm

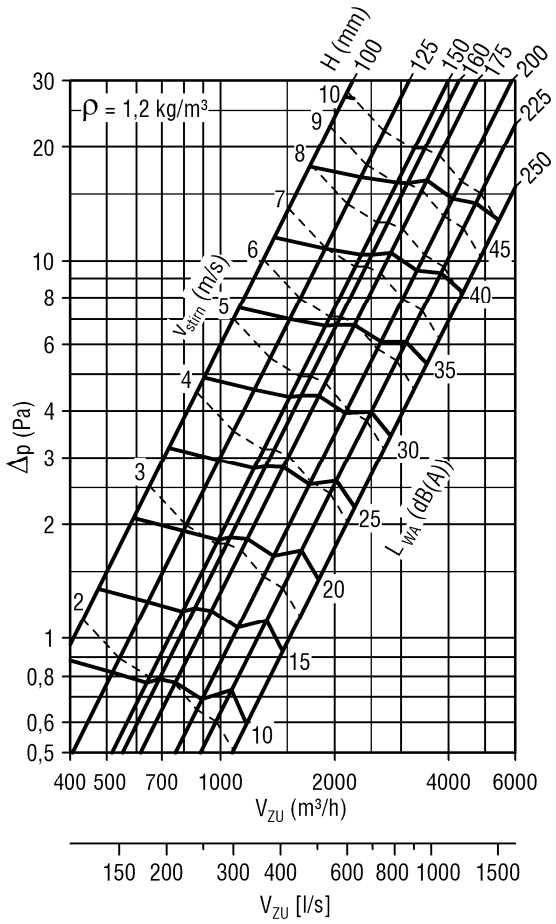


Diagram 8: Damper width B= 600 mm; pressure loss and noise level without finishing protective grating

Correction values B = 600 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.16
Δp [Pa] x 2.92

Radiated noise:
L_{WA} -8 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at $v_{face} \leq 10$ m/s.

Damper width B = 700 mm

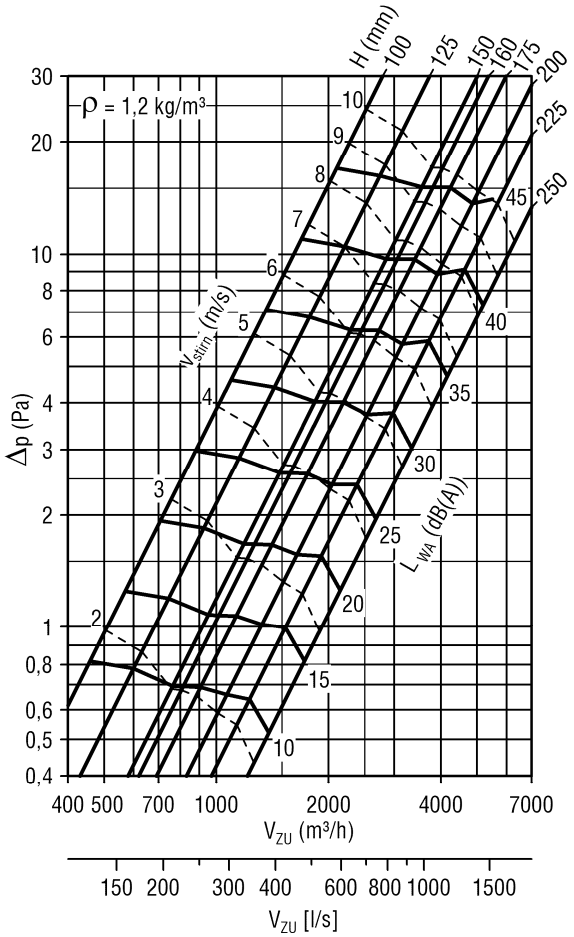


Diagram 9: Damper width B= 700 mm; pressure loss and noise level without finishing protective grating

Correction values B = 700 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.14
Δp [Pa] x 2.92

Radiated noise:
L_{WA} -8 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Damper width B = 800 mm

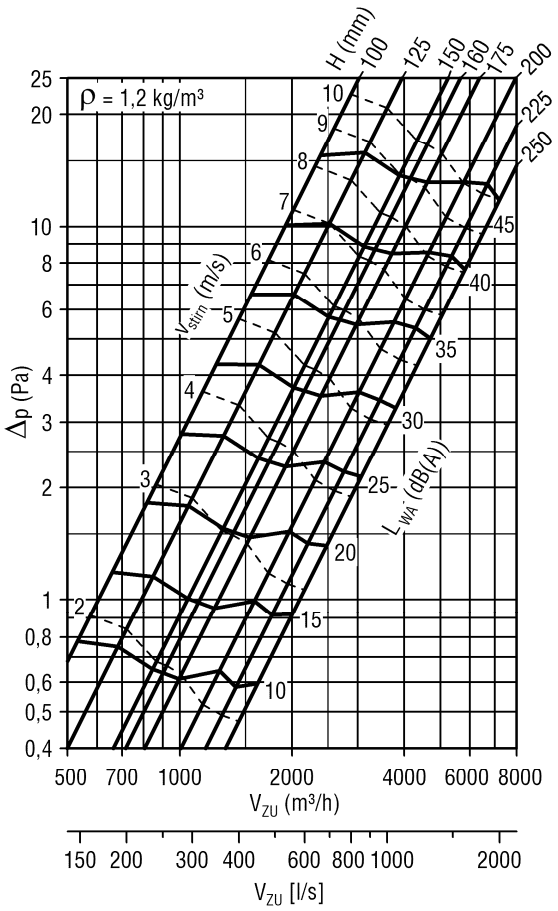


Diagram 10: Damper width B= 800 mm; pressure loss and noise level without finishing protective grating

Correction values B = 800 mm
with finishing protective grating (type ASG):
L_{WA} [dB(A)] x 1.16
Δp [Pa] x 2.94

Radiated noise:
L_{WA} -8 [dB(A)]

Application limits:
max. operating pressure of 1000 Pa at v_{face} ≤ 10 m/s.

Free cross-section [m²]

Height [mm] \ Width (mm)	100	150	200	250	300	400	500	600	700	800
100	0.006	0.010	0.013	0.017	0.021	0.028	0.036	0.043	0.051	0.058
125	0.008	0.013	0.018	0.023	0.028	0.038	0.048	0.058	0.068	0.078
150	0.011	0.017	0.023	0.030	0.036	0.048	0.061	0.073	0.086	0.098
160	0.012	0.019	0.025	0.032	0.039	0.052	0.066	0.079	0.093	0.106
175	0.015	0.021	0.028	0.036	0.043	0.058	0.073	0.088	0.103	0.118
200	0.016	0.025	0.033	0.042	0.051	0.068	0.086	0.103	0.121	0.138
225	0.018	0.028	0.038	0.048	0.058	0.078	0.098	0.118	0.138	0.158
250	0.021	0.032	0.043	0.055	0.066	0.088	0.111	0.133	0.156	0.178

Table 4: Free cross-section [m²]

Weight table [kg]

BKP-EN with mechanical-thermal trigger (manual trigger)
(added weight for drives, max. approx. 4.5 kg)

Height [mm] \ Width (mm)	100	150	200	250	300	400	500	600	700	800
100	3.3	3.6	4.1	4.4	4.9	5.5	6.5	7.4	8.2	9.0
125	3.4	3.8	4.3	4.8	5.2	6.1	7.1	7.7	8.8	9.6
150	3.6	4.1	4.6	5.0	5.4	6.4	7.3	8.3	9.1	9.8
160	3.7	4.2	4.7	5.1	5.5	6.6	7.6	8.7	9.4	10.1
175	3.9	4.3	4.8	5.2	5.6	6.8	7.8	8.9	9.6	10.4
200	4.1	4.6	5.0	5.6	6.0	7.2	8.2	9.2	10.2	11.0
225	4.3	4.8	5.2	5.9	6.3	7.5	8.3	9.4	10.5	11.8
250	4.4	4.9	5.3	6.1	6.4	7.6	8.4	9.7	10.8	12.7

Table 5: Weight table [kg]

ACCESSORIES

Available at an extra charge

- Model made of stainless steel material no. 1.4301 (V2A)
- Model with additional DD coating (solvent-containing two-component top coat based on polyurethane varnish - RAL 7035/light grey) inside/outside (replaceable, non-coated parts are made of stainless steel material no. 1.4301)
- thermal release via fusible link 98 °C (hot-air heating)
- Limit switch type ES, limit switch type ES-Ex, limit switch EasyF-ETX (EasyBus)
- Electric spring return actuators B10/B11, B42, S00/S01, X10/X11/X12/X13/X14/X15
- Smoke detection system type RMS with general building supervisory approval (abZ) no. Z-78.6-58. [3.)] Usability depends on damper dimension
- Assembly part type EBT for smoke detector RMSII-L of the smoke detection system type RMS
- Signalling and switching bus system type EasyBus. [3.)]
- Fire damper mini-controller BKSYS. [3.)]
- Extension piece type VT [1.)]
- Duct connection spigot type RS [1.)]
- Flexible spigot type FS; PVC (normally inflammable to EN 13501-1), connection profile made of sheet steel [2.)]
- Security grille type ASG [1.)]

[1.)] Standard design galvanised sheet steel, material No. 1.4301 and DD coating (RAL 7035 / light-grey) possible.
[2.)] Standard design galvanised sheet steel, design material no. 1.4301 possible.
[3.)] For technical descriptions and documents, see respective technical documentation

LIMIT SWITCH

Limit switch type ES

Electric limit switch for position indicators OPEN and/or CLOSED. Switching element including one NC and one NO contact each, 4 connections for M3.5 screw terminals for max. 2 mm². 250 V AC, I_e 6A, IP67 -using suitable cable glands M20 (on site).

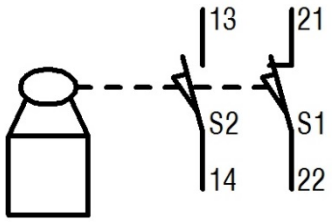


Figure 27: Circuit diagram limit switch type ES

Damper positions that can be displayed:
ESZ (type ES 1Z: "CLOSED")
ESA (type ES 1A: "OPEN")
EZA (type ES 2: "OPEN" and "CLOSED")

Limit switch type ES-Ex

Limit switch for application in areas subject to explosion hazards

II 2G Ex d IIC T6/T5 Gb,

II 2D Ex tb IIIC T 80°C/ 95°C Db

IP65; 250V / 6A AC15; 230V / 0.25A DC13; -20°C ≤ Ta ≤ +65°C

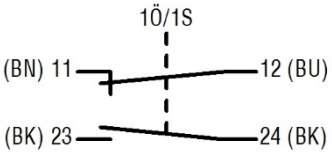


Figure 28: Circuit diagram limit switch type ES-Ex

Damper positions that can be displayed:
EXZ (type ES-Ex 1 Z: "CLOSED")
EXA (type ES-Ex 1A: "OPEN")
EX2 (type ES-Ex 2: "OPEN" and "CLOSED")

Limit switch type EasyF-ETX

For a technical description and documentation of the limit switch ETX (type EasyF-ETX): see technical documentation signalling and switching bus system EasyBus.

SPRING RETURN ACTUATORS

Spring return actuators B10/B11

B10 (BFL24-T-ST SO)/**B11** (BFL230-T SO)

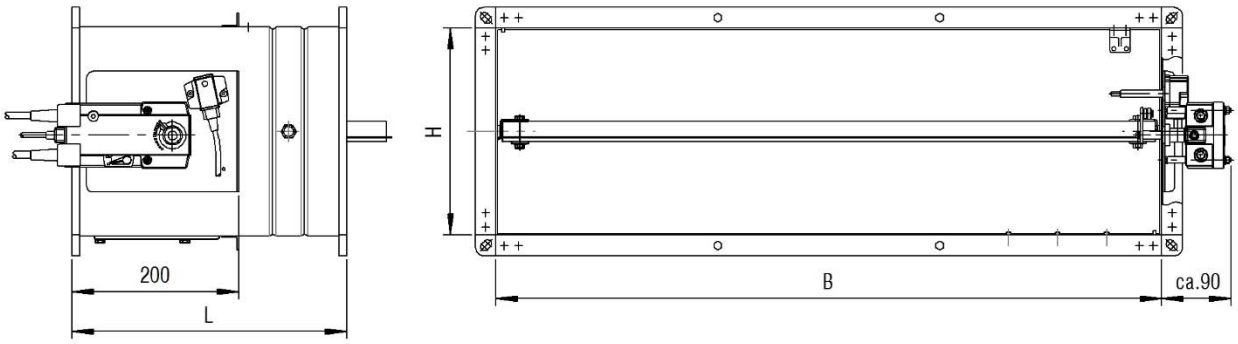


Figure 29: BKP-EN with spring return actuator B10/11

Electric spring return actuator with thermoelectric release device BAT.

- Trigger temperatures: room temperature 72°C and internal duct temperature 72°C optionally 95°C (for hot air heating).
- Operating position (damper "OPEN") and tensioning of the return spring by applying the supply voltage.
- 24V actuators with connectors that can be removed on site if required.
- Safety position (damper "CLOSED") through spring force when supply voltage is interrupted or the temperature fuses (room temperature; 72° or internal duct temperature; 72 °C optionally 95 °C) respond. Reaction of the thermal fuses interrupts the supply voltage permanently.
- Display of the damper end positions is possible by means of integrated micro switches via potential-free changeover contacts (S1 – S3 "CLOSED" indicates the closed position; S4 – S6 "OPEN" indicates the opened position).
- Manual actuation and fixing in any position is possible in the de-energised state. It is unlocked manually.
- On-site function control is possible by means of the control key of BAT.
- Spare parts: Temperature fuse for internal duct temperature (ZBAT72 or ZBAT95).
  Replacement takes place by unscrewing both screws at the thermoelectric release device. Remove the thermoelectric release device from the actuator unit. Remove the internal duct temperature fuse from the thermoelectric release device and replace it with a new internal duct temperature fuse (ZBAT...). Screw the thermo-electrical release device back onto the actuator unit.
  For any other damage etc., the entire "actuator/thermal release device" must be replaced completely.

Connection diagram
Spring return actuators B10/B11

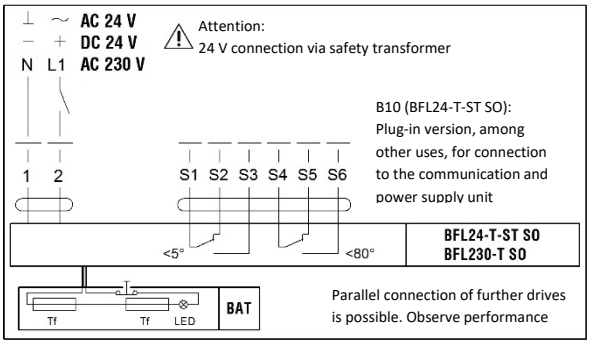


Figure 30: Connecting diagram B10/B11

ATTENTION!
Safety function is only guaranteed if the actuator has been connected to the supply voltage in accordance with regulations and unlocked mechanically.

Technical data of spring return actuators B10/B11

B10 (BFL24-T-ST SO)/**B11** (BFL230-T SO)

Actuator type	**B10** (BFL24-T-ST SO)	**B11** (BFL230-T SO)
Rated voltage [V]	AC/DC 24	AC 230
Rated voltage frequency [Hz]	50/60	
Functional range [V]	AC 19.2…28.8 / DC 21.6…28.8	AC 198…264
Power consumption during operation [W]	2.5	3.5
Power consumption in idle position [W]	0.8	1.1
Power consumption/dimensioning	4 VA / I_{max} 8.3 A @ 5 ms	6.5 VA / I_{max} 4 A @ 5 ms
Auxiliary switch	2 x EPU	
Switching capacity of auxiliary switch	1 mA…3 (0.5 inductive) A, AC 250 V	
Connection of supply / control	Cable 1 m, 2 x 0.75 mm² (halogen-free) + 3-pin connector	
Auxiliary switch connection	Cable 1 m, 6 x 0.75 mm² (halogen-free) + 6-pin connector	
Motor runtime	<60 s /90°	<60 s /90°
Spring return runtime	20 s @ -10…55 °C / <60 s @ -30…-10 °C	
Protection class IEC/EN	Safety extra low voltage III	II protective insulation
Protection class auxiliary switch IEC/EN	II protective insulation	
Degree of protection IEC/EN	IP54	
Ambient temperature Normal operation	-30…55 °C	
Storage temperature	-40…55 °C	
Ambient humidity	95% r.H., non-condensing	

Table 6: Technical data B10/B11

Spring return actuators S00/S01

S00 (GRA126.1E/SO3)/**S01** (GRA326.1E/SO2)

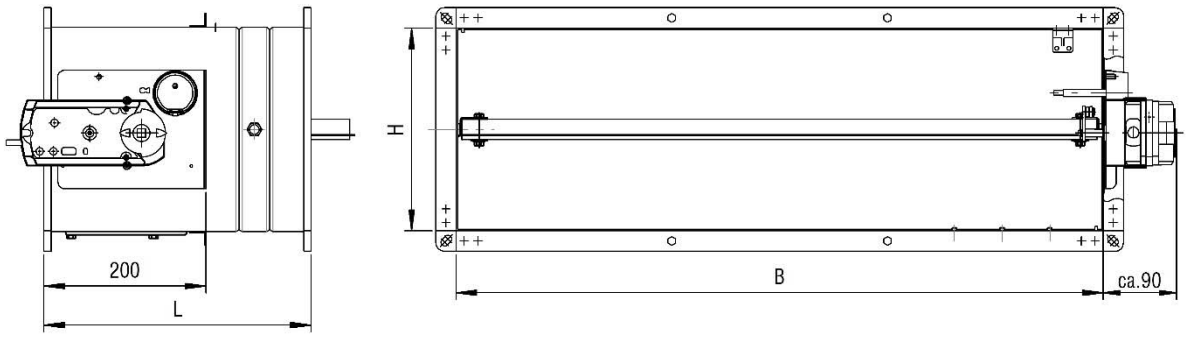
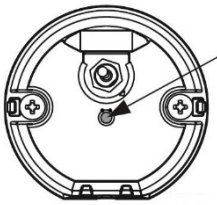


Figure 31: BKP-EN with spring return actuator S00/S01

LED functions



○ red = operating voltage OK
Thermal sensor defective
○ green = operating voltage OK
Thermal sensor OK
● dark = no operating voltage

Figure 32: LED functions of spring return actuators S00/S01

ATTENTION!
Safety function is only guaranteed if the actuator has been connected to the supply voltage in accordance with regulations and unlocked mechanically.

Connection diagram
Spring return actuator S00 (24 V AC/ 24…48V DC)

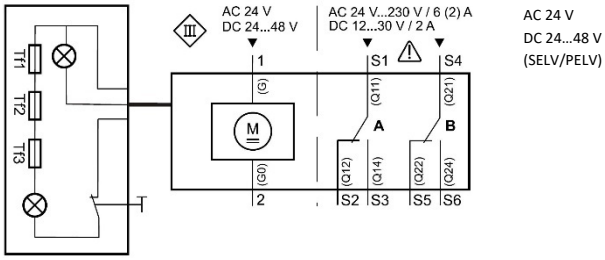


Figure 33: Connection diagram S00

Connection diagram
Spring return actuator S01 (230V AC)

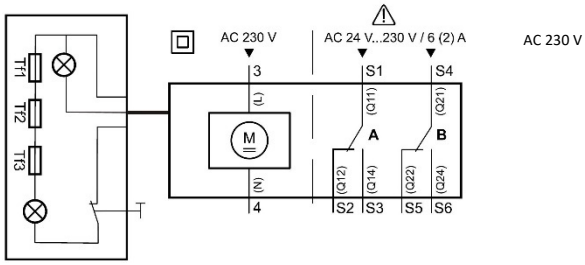


Figure 34: Connection diagram S01

Cable designation
The wires are colour-coded and labelled.

Connection	Cable				Meaning
	Code	No.	Colour	Abbreviation	
Drives AC 24 V DC 24…48 V	G G0	1 2	red black	RD BK	System potential AC 24 V/DC 24…48 V System zero
Drives AC 230 V	L N	3 4	brown blue	BN BU	Phase AC 230 V Zero conductor
Auxiliary switch	Q11 Q12 Q14 Q21 Q22 Q24	S1 S2 S3 S4 S5 S6	grey/red grey/blue grey/pink black/red black/blue black/pink	GYRD GYBU GYPK BKRD BKBU BKPK	Switch A (CLOSED) input Switch A (CLOSED) rest contact Switch A (CLOSED) NO contact Switch B (OPEN) input Switch B (OPEN) rest contact Switch B (OPEN) NO contact

Table 7: Cable designation spring return actuator S00/S01

Electric spring return actuator with temperature monitoring unit

- Trigger temperatures: room temperature 72 °C and internal duct temperature 72 °C optionally 95 °C (for hot air heating).
- Operating position (damper "OPEN") and tensioning of the return spring by applying the supply voltage.
- 24V actuators with connectors that can be removed on site if required.
- Safety position (damper CLOSED) through spring force when supply voltage is interrupted or the temperature fuses (room temperature; 72 °C or internal duct temperature; 72 °C optionally 95 °C) respond. The response of the thermal fuses interrupts the supply voltage permanently and irrevocably.
- Display of the damper end positions is possible by means of integrated auxiliary switches via potential-free changeover contacts
  (S1 - S3 CLOSED indicates the CLOSED position;
  S4 - S6 OPEN indicates the OPEN position).
- Manual actuation and fixing in any position is possible in the de-energised state. It is unlocked manually.
- An on-site functional check is possible by means of a pushbutton or temperature monitoring unit permanently connected to the actuator.
- Spare parts: Duct tip for temperature monitoring unit with internal duct temperature of 72 °C (ASK79.4) or 95 °C (ASK79.5).
  The replacement takes place by unscrewing both screws at the temperature monitoring unit and removing the actuator unit. Pull duct tip (internal duct temperature fuse) off the temperature monitoring unit and replace it with a new duct tip with internal duct temperature of 72 °C (ASK79.4) or 95 °C (ASK79.5). Reinsert temperature monitoring unit into actuator unit and screw it down.
  For damage other than to the duct tip (internal duct temperature fuse), the entire actuator/temperature monitoring unit set must be completely replaced.

Technical data S00/S01

S00 (GRA126.1E/SO3)/**S01** (GRA326.1E/SO2)

Actuator type	**S00** (GRA126.1E/SO3)	**S01** (GRA326.1E/SO2)
Supply [V]	AC 24 / DC 24…48 (SELV/PELV)	AC 230
Operating voltage [V]	AC 24 ±20% / DC 24…48 ±20%	AC 230 ±15%
Frequency [Hz]	50/60	
Power consumption during operation	AC: 5 VA / 3.5 W DC: 3.5 W	7 VA / 4.5 W
Power consumption in idle position	AC/DC: 2 W	3.5 W
Auxiliary switch *)	Integrated, fixed switching point at 5° or 80°	
Auxiliary switch switching voltage [V]	AC 24…230 / DC 12…30	
Auxiliary switch rated current [A]	AC: 6 (ohmic) or. 2 (inductive) / DC: 2	
Supply cable AC 24 V: (wires 1-2)/ AC 230 V: (wires 3-4)	Cable 0.9 m, 2 x 0.75 mm² (halogen-free) + 3-pin connector	
Auxiliary switch cable (wires S1…S6)	Cable 0.9 m, 6 x 0.75 mm² (halogen-free) + 6-pin connector	
Motor runtime (angle of rotation 90°) [s]	90	
Spring return runtime [s]	15	
Protection class	III according to EN 60 730	II according to EN 60 730
Degree of protection according to EN 60 529	IP54	
Ambient temperature Normal operation	-32…+50 °C (actuator) -20…+50 °C (temperature monitoring unit)	
Storage temperature	-32…+50 °C (actuator) -20…+50 °C (temperature monitoring unit)	
Ambient humidity	<95% r.h. / no dewing (actuator) CL D according to DIN 40040 (temperature monitoring unit)	

*) Either only mains voltage or only safety extra low voltage may be applied to the auxiliary switches. Mixed operation is not allowed. Operation with different phases is not allowed.

Table 8: Technical data S00/S01

Spring return actuator B42

B42 (BF24TL-TN-ST SO; Top Line)

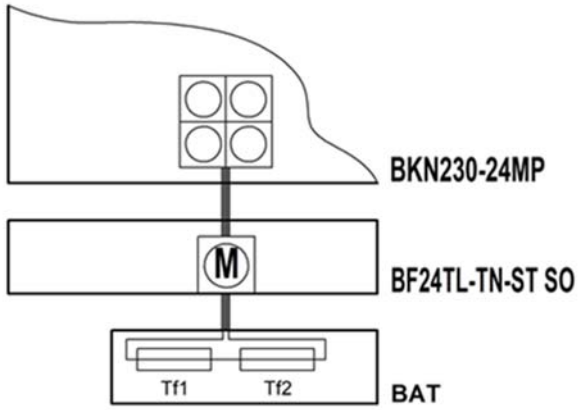


Figure 35: Connection diagram B42

Electric spring return actuator with thermoelectric release device BAT72TL.

- Trigger temperature (duct inside temperature) 72 °C optionally 95 °C (for hot-air heating).
- Supply voltage 24 V AC/DC including connector.
- Connection to Belimo MP bus systems is possible via communication and power supply unit BKN230-24MP.

Further technical information available upon request.

Spring return actuator ExMax-5.10-BF

ExMax-5.10-BF (**X10 - X15**)

Explosion-protected electric spring return actuator with safety temperature limiter (FireSafe or ExPro-TT).

- Trigger temperature (duct inside temperature) 72 °C optionally 95 °C (for hot-air heating).
- Operating position (damper OPEN) and tensioning of the return spring by applying the supply voltage (universal power supply 24 - 240 VAC/DC).
- Safety position (damper CLOSED) through spring force when supply voltage is interrupted or the temperature fuses (ambient temperature or internal duct temperature) respond. A response of the thermal fuses will interrupt the sensor circuit permanently and irrevocably.
- End position signalling by integrated auxiliary switches, switching at an angle of rotation of 5° and 85°.
- An on-site functional check is possible by means of the control key of of the safety temperature limiter

ATTENTION!
Safety function is only guaranteed if the actuator has been connected to the supply voltage in accordance with regulations and unlocked mechanically.

Further information can be found in the additional BKP-EN operating instructions according to ATEX 2014/34/EU.

ADD-ON PARTS

Flexible spigot type FS

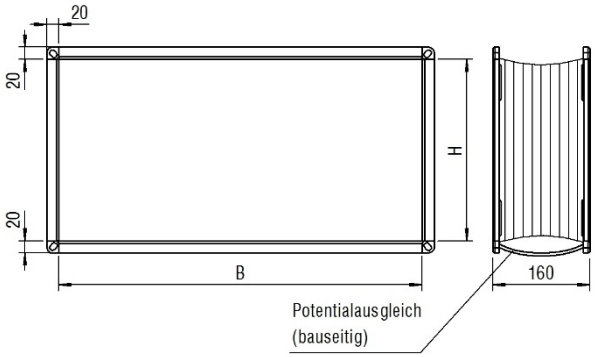


Figure 36: Flexible spigot type FS

- Ventilation ducts must not exert significant forces on walls, supports or ceilings and thus also on fire dampers as a result of thermal expansion (in case of fire). Appropriate compensation measures, such as the arrangement of flexible spigots (SCHAKO type FS) or a suitable duct routing (duct angles and distortions), must be taken as required. Alternatively, flexible ventilation ducts can be used. National regulations must be observed and adhered to.
- Flexible spigot consisting of profiled connection flanges (made of galvanised sheet steel) with elastic intermediate piece made of polyester fabric PVC-coated on both sides, standard flammable according to EN 13501-1, with welded lip seals (sealing degree C according to EN 13180/EN 1507; temperature-resistant from -20° to +80°C). The flexible part of the spigot (polyester fabric) must have a length of L_{min} = 100 mm when mounted, resulting in an installation dimension of approx. L = 160 mm. This may reduce the free cross-section.
- The required equipotential bonding must be carried out on-site according to VDE regulations. The fire dampers must not be subject to mechanical stress under any circumstances

Extension piece type VT

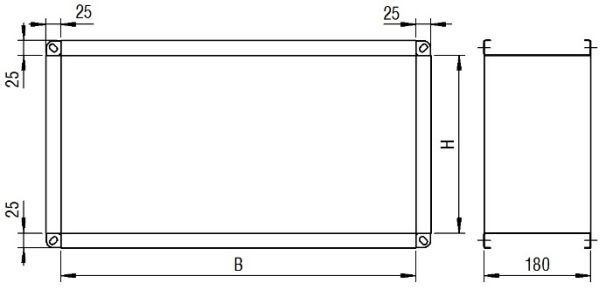
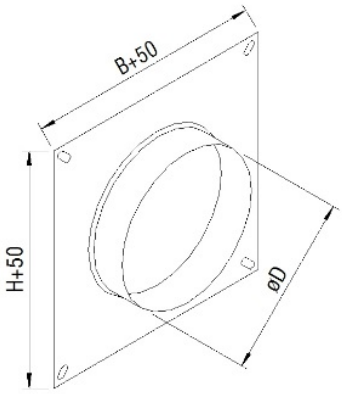


Figure 37: Extension piece type VT

- Extension piece made of profiled sheet steel fitted with connecting flanges
- Intended use:
  for large wall/ceiling thickness, in order to maintain a minimum distance a_{min} = 50 mm from the open damper blade when fitting finishing protective grating type ASG, flexible spigot type FS or duct connection spigot type RS

Duct connection spigot type RS



B x H	øD
100x 100	98
150 x 100	98
150 x 150	148
200 x 150	148
200 x 200	198
250 x 200	198
250 x 250	248
300 x 250	248

The spigot diameter øD must be smaller then the smallest side dimension (width(B)/height(H)). Further dimensions are available upon request.

Figure 38: Duct connection spigot type RS

- Duct connection spigot with galvanised sheet steel joining plate
- Intended use:
  connection/transition from fire damper to round ventilation ducts

Security grille type ASG

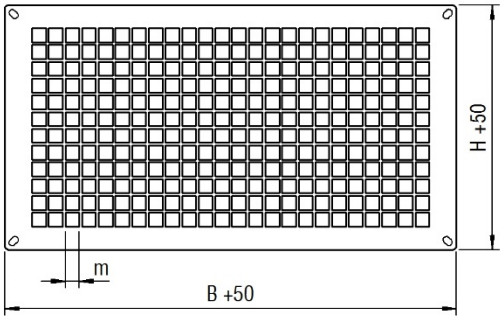


Figure 39: Security grille type ASG

- Wire or punch grille with a mesh size of ≤ 20 mm
- Intended use:
  to be fitted for one-sided connection
- Minimum distance a_{min} = 50 mm from open damper blade must be taken into account, if necessary, use extension piece type VT .

Mounting frame type ER-P1

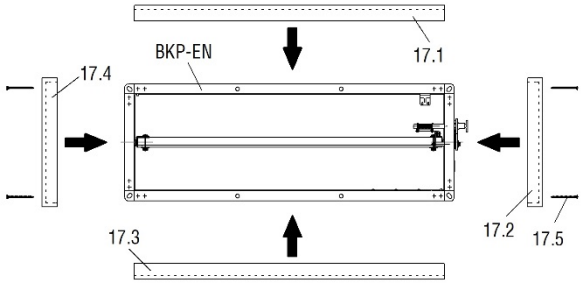


Figure 40: BKP-EN with installation frame type ER-P1 (loose)

- Installation frame type ER-P1 made of silicate boards, incl. fixing lugs, a circumferential intumescent seal being located in the centre of the installation frame type ER-P1.
- Intended use:
  For installation of the BKP-EN in lightweight partition walls with metal posts and panelling on one or both sides as classified according to EN 13501-2 or comparable national standards.
  The mounting frame type ER-P1 can be delivered loose as mounting kit or mounted ex works at an extra charge. If the mounting frame type ER-P1 was already mounted ex works to the BKP-EN, the installation can take place immediately.

If the mounting frame type ER-P1 was ordered or delivered loose as mounting kit, it must be mounted to the BKP-EN (Figure 40) following the instructions shown below. Moreover, on the non-operating side, fastening materials (e.g. screws, press-in nuts, etc.) must be provided and attached for mounting duct components prior to installation of the mounting frame type ER-P1. Alternatively, extension pieces (on site or as accessories, e.g. SCHAKO type VT) can be mounted.

To avoid damage to components when mounting the mounting frame type ER-P1, the fire damper must be placed on a suitable surface (e.g. cardboard, pallet, etc.). All holes required for screw mounting have been predrilled on the mounting frame type ER-P1 ex works, so that no further holes must be drilled. The mounting frame type ER-P1 may not be screw-connected directly to the housing of the fire damper. The individual parts of the mounting frame type ER-P1 are positioned circumferentially at 200 mm (measured from flange BS).

Mounting procedure

- Place the fire damper on the flange of the operator side (BS).
- Place first B part (pos. 17.1) against the housing of the BKP-EN.
- Place first H part (pos. 17.2) likewise against the BKP-EN and screw it to the first B part (pos. 17.1) in the overlap area using the delivered drywall screws (pos. 17.5).
- Place second B part (pos. 17.3) against the BKP-EN and screw it to the first H part (pos. 17.2).
- Finally, place second H part (pos. 17.4) against the BKP-EN (pos. 1) and screw it to both the first (pos. 17.1) and the second B parts (pos. 17.3).

Position indicator type MSZ

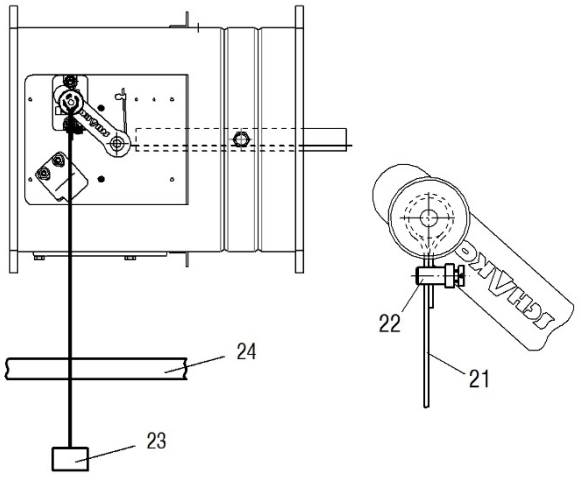


Figure 41: Position indicator type MSZ

- Steel cable - galvanised - (pos. 21) with clamping nipple (pos. 22) and position indicator (pos. 23) made of plastic material; the steel cable and the position indicator must be mounted perpendicularly.
- Intended use:
  Mechanical position indicator for false ceilings (pos. 24). Usable for each mechanically operated BKP-EN with hand lever.

21 Steel cable -galvanised- 23 Position indicator
22 Clamping nipple 24 False ceiling

Legend

V_{ZU}	[m³/h] [l/s]	= Supply air volume
Δp_{st}	[Pa]	= Static pressure
L_{WA}	[dB(A)]	= A-weighted sound power level
v_{stirn}	[m/s]	= Face velocity
ρ	[kg/m³]	= Density
B	[mm]	= Width
H	[mm]	= Height
min.		= at least
bzw.		= or
approx.		= approximately
NBS		= Non-operating side
BS		= Operating side

CE marking

13

CE

0761

SCHAKO Klima-Luft
Ferdinand Schad KG
Weidenäcker 9
D-88605 Meßkirch

2020

DoP-BKP-EN-2020-09-01

EN 15650:2010

Fire Damper

Type/version

BKP-EN

Nominal conditions of activation / sensitivity: - Load bearing capacity of the temperature-sensitive measuring sensor - Response temperature of the temperature-sensitive measuring sensor	passed
Response delay (Response time): - Closing time	passed
Operational safety: - Cyclic testing (50 cycles)	passed
Fire resistance: - Cross-section maintained	
- Integrity E - Heat insulation I - Smoke leakage S - Mechanical strength (under E) - Cross-section (under E)	EI 90(120) (v_e, h_o, i↔o) S
Durability of the response delay: - temperature-sensitive measuring sensor Response temperature and load bearing capacity	passed
Durability of the operational safety: - Test of the opening and closing cycle	passed

ORDER CODE

01	02	03	04	05	06
Type	Width	Height	Length	Material (housing)	Coating (housing)
Example					
BKPEN	-800	-250	-330	-V2	-1

07	08	09	10	11	12
Damper blade version	Release temperature	Actuator type	Accessories	Additional frame	Field modules
-2	-72	-B10	-Z00	-R05	-22

EXAMPLE
BKPEN-800-250-330-V2-1-2-72-B10-Z00-R05-22
Type **BKPEN** = Fire damper BKP-EN | Width = **800** mm | Height = **250** mm | Length = **330** mm | Material (housing) **V2** = Stainless steel 1.4301 (V2A) | Coating (housing) **1** = DD coating inside | Damper blade **2** = coated with DD paint | Release temperature **72** = 72 °C | Type of drive **B10** = type BFL24-T-ST SO | Accessories **Z00** = without accessories | Additional frame **R05** = Mounting frame ER-P1 mounted | Field module **22** = EasyF-ADC-MASD-01 (corresponds to the module mounted to BSK incl. connection to the drive unit, with flat cable connection, with addressing)

ORDER DETAILS

01 - TYPE

BKPEN = BKP-EN

02 - WIDTH

100 - 150 - 200 - 250 - 300 - 400 - 500 - 600 - 700 - 800
in mm - always three digits

03 - HEIGHT

100 - 125 - 150 - 160 - 175 - 200 - 225 - 250
in mm - always three digits

04 - LENGTH

330
in mm - always three digits

05 - MATERIAL (HOUSING)

SV = Galvanised sheet steel
V2 = Stainless steel material no. 1.4301 (V2A)

06 - COATING (HOUSING)

0 = Without coating
1 = DD coating, inside (RAL7035)
3 = DD coating inside and outside (RAL7035)

07 – DAMPER BLADE VERSION

0 = Without coating
2 = DD coating

08 - RELEASE TEMPERATURE

72 = 72 °C
98 = 98 (95) °C

09 - ACTUATOR TYPE

HAN = thermo-mechanical manual release*
B10 = BFL24-T-ST SO*
B11 = BFL230-T SO*
B42 = BF24TL-TN-ST SO*
S00 = GRA126.1E/SO3*
S01 = GRA326.1E/SO2*

10 - ACCESSORIES

Z00 = without accessories
ZB0 = BKN230-24 ** (suitable for B10)
ZB3 = BKN230-24-C-MP (suitable for B10)
ZB4 = BKN230-24-MOD (suitable for B10)
ZB5 = BKN230-MOD (suitable for B11)
ZB6 = BKN230-24MP (suitable for B42)
ESZ = ES-1Z (limit switch CLOSED; suitable for HAN)
ESA = ES-1A (limit switch OPEN; suitable for HAN)
EZA = ES-2Z/A (limit switch OPEN/CLOSED; suitable for HAN)
ETZ = EasyF-ETX (radio limit switch, position CLOSED; (suitable for field modules 40-43 and 50-53) ***
ETA = EasyF-ETX (radio limit switch, position OPEN; (suitable for field modules 40-43 and 50-53) ***
ETX = EasyF-ETX (radio limit switch, position OPEN + CLOSED; (suitable for field modules 40-43 and 50-53) ***

** suitable for all dimension combinations*
*** Function available only in connection with the communication and control devices BKS24-1B or BKS24-9A*
**** Additional radio receiver EasyF-RXE required.*

11 – ADDITIONAL FRAME

R00 = without additional frame
R05 = installation frame ER-P1 [II)]
R06 = installation frame ER-P1 [I)]

[I)] Additional frame supplied loose
[II)] Additional frame mounted ex works

12 – FIELD MODULES

00 = without field module
01 = Preparation of mounting console for field module (only mounting plate mounted to BKP-EN, but without field module!)

10 = BKSYS-ADM (module mounted to BKP-EN incl. connection to drive unit)

24V drive module
20 = EasyF-ADC-MASD-00 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, without addressing)
21 = EasyF-ADC-OASD-00 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, without addressing)
22 = EasyF-ADC-MASD--01 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, with addressing)
23 = EasyF-ADC-OASD--01 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, with addressing)

230V drive module
30 = EasyF-AAC-MASD-00 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, without addressing)
31 = EasyF-AAC-OASD-00 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, without addressing)
32 = EasyF-AAC-MASD--01 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, with addressing)
33 = EasyF-AAC-OASD--01 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, with addressing)

Input/output modules for up to 4 limit switches
40 = EasyF-IOM-MASD-00 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, without addressing)
41 = EasyF-IOM-OASD-00 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, without addressing)
42 = EasyF-IOM-MASD-01 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, with addressing)
43 = EasyF-IOM-OASD-01 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, with addressing)

Input modules for up to 8 limit switches
50 = EasyF-I8M-MASD-00 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, without addressing)
51 = EasyF-I8M-OASD-00 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, without addressing)
52 = EasyF-I8M-MASD-01 (module mounted to BKP-EN incl. connection to drive unit, with flat cable connection, with addressing)
53 = EasyF-I8M-OASD-01 (module mounted to BKP-EN incl. connection to drive unit, without flat cable connection, with addressing)

SPECIFICATION TEXTS

The fire damper BKP-EN conforms to the product standard EN 15650.
The BKP-EN has been tested according to EN 1366-2. CE marking and Declaration of Performance (DoP) in accordance with the German Construction Products Regulation.
Its classification according to EN 13501-3 is EI90 (v_e, h_o i↔o) S to EI90120 (v_e, h_o i↔o) S.
According to Directive 2014/34/EU, EC Certificate of Conformity Number EPS 13 ATEX 2 610 X, its use in areas subject to explosion hazards is permitted, not only with spring return actuator ExMax-5.10-BF (X10 - X15), including safety temperature limiter (FireSafe or ExPro-TT), but also with mechanical trigger via fusible link (manual actuation with or without ATEX limit switch ES-Ex). The fire damper is marked as follows according to ATEX:

II 2 G Ex h IIC T6 Gb
II 2 D Ex h IIIC T80°C Db
II 3 D Ex h IIIC T80°C Dc*)

EPS 13 ATEX 2 610 X

*) when using the safety temperature limiter FireSafe.

Housing made of galvanised sheet steel without circumferential stop profiles for maximum possible free cross-section and an inspection opening on the B side (bottom), from B ≥ 200 mm.
Exchangeable damper blade made of abrasion-resistant mineral silicate board. Wear-resistant elastomer seal on the damper blade and intumescent seal on the housing to meet the cold and hot leakage requirements according to EN 1366-2.
Any accessories that may be required for the respective mounting situation (flexible spigots) are listed in separate positions of the bill of quantities.
For connection to ventilation ducts (one- or two-sided), air flow direction optional.
Connection to smoke detectors with general building supervisory approval possible.
When using the smoke alarm system type RMS, the additional information in the Technical documentation must be observed.

Installation:

- In solid walls, solid ceilings and lightweight partition walls with metal posts and panelling on one or both sides as classified according to EN 13501-2 or comparable national standards.
- With concrete base on solid ceilings.
- With installation frame type ER-P1 in lightweight partition walls with metal posts and panelling on one or both sides as classified according to EN 13501-2 or comparable national standards.

Product: SCHAKO **type BKP-EN**
Declaration of Performance No. **DoP-BKP-EN-2020-09-01**

Dimensions:
Width (B): ..... mm
Height (H): ..... mm
Length (L): ……330 mm

(Unless stated otherwise, the mechanical model, via fusible link and release temperature 72 °C will be delivered)

Alternative models or accessories (at an extra charge) ("Select as desired")

- Model made of stainless steel material no. 1.4301 (V2A), incl. DD-coated damper blade
- Housing with DD coating (solvent-containing two-component top coat based on polyurethane varnish - RAL 7035 / light-grey)
  - DD coating inside (incl. DD-coated damper blade) /outside (replaceable, non-coated parts are made of stainless steel material no. 1.4301)
- Thermal trigger with thermo-mechanical fusible link trigger temperature 98 °C (for hot-air heating)
- Model marked according to ATEX

- Electric limit switch type ES for "OPEN" and/or "CLOSED" position indicators, switching element containing one NC and one NO contact:
  - ESZ (type ES 1Z: "CLOSED")
  - ESA (type ES 1A: "OPEN")
  - EZA (type ES 2: "OPEN" and "CLOSED")
- Limit switch type ES-Ex for "OPEN" or/and "CLOSED" position indicators, application in areas subject to explosion hazards:
  - EXZ (type ES EX 1Z: "CLOSED")
  - EXA (type ES EX 1A: "OPEN")
  - EX2 (type ES EX 2: "OPEN" and "CLOSED")
- Limit switch type EasyF-ETX, for connection to SCHAKO signalling and switching bus system EasyBus, the status of the damper position being transferred by radio signal. Additional radio receiver EasyF-RXE required.
  - ETZ (type EasyF-ETX: "CLOSED")
  - ETA (type EasyF-ETX: "OPEN")
  - ETX (type EasyF-ETX: "OPEN" and "CLOSED")

- Spring return actuator with thermoelectric release device BAT (B10/B11) or temperature monitoring unit (S00/S01)
  - Releases at a room temperature of 72 °C and an internal duct temperature of 72 °C (optionally: 95 °C) containing integrated micro switches/auxiliary switches for indication of damper end positions (24 V drive, including connector):
    - Type B10 (BFL24-T-ST SO) or B11 (BFL230-T SO)
    - Type S00 (GRA126.1E/SO3) or S01 (GRA326.1E/SO2)

- Spring return actuator with thermoelectric release device BAT72TL
  - Releases at an ambient temperature of 72 °C and an internal duct temperature of 72 °C (optionally: 95 °C) and integrated micro switches for indication of damper positions, connection to Belimo MP bus systems possible via a communication device. Available for all dimensions.
    - Type B42 (BF24TL-TN-ST SO; 24 V AC/DC)
    - Communication device ZB6 (BKN230-24MP) for connection to Belimo MP bus system
- Explosion-protected electric spring return actuator with safety temperature limiter (FireSafe or ExPro-TT)
  - Releases at a room temperature of 72°C and an internal duct temperature of 72°C (optionally: 95°C), end position signalling by integrated auxiliary switches:
    - Type ExMax-5.10-BF (X10 - X15; universal power supply 24 - 240 V AC/DC).

Extension piece type VT, for installation with large wall/ceiling thicknesses; to maintain the minimum distance a_{min} = 50 mm from the open damper blade when fitting finishing protective grating type ASG, flexible spigot type FS or duct connection spigot type RS. Extension piece made of profiled galvanised sheet steel with connection flanges, L=180 mm.
Product: SCHAKO **type VT**

Dimensions:
Width (B): ..... mm
Height (H): ..... mm

- Extra charge for anticorrosive paint - inside/outside -
  - DD coating (two-component top coat based on polyurethane varnish - RAL 7035 / light-grey)
- Extra charge for model:
  -Material no. 1.4301 (V2A)

Flexible spigot type FS, consisting of profiled connection flanges made of galvanised sheet steel with elastic intermediate piece made of polyester fabric PVC-coated on both sides, building material class B13501 to DIN 1, with welded lip seals (tightness class C to EN 13180 / EN 1507; temperature-resistant from -20° to +80 °C). Flexible part of the spigot (polyester fabric) must have a minimum length l_{min} of 100 mm when mounted, resulting in an installation dimension of approx L = 160 mm.
The required equipotential bonding must be carried out on-site according to VDE regulations. The fire dampers must not be subject to mechanical stress under any circumstances.
Product: SCHAKO **type FS**

Dimensions:
Width (B): ..... mm
Height (H): ..... mm

- Extra charge for model with connection flanges:
  -Material no. 1.4301 (V2A)

Duct connection spigot type RS, for connecting round ventilation ducts to BKP-EN, consisting of connection plate with bores and duct connection pipes, galvanised sheet steel.
Product: SCHAKO **type RS**

Dimensions: (W, H according to damper size)
Width (B): ..... mm
Height (H): ..... mm
Connection pipe ø (øD): ..... mm

- Extra charge for anticorrosive paint
  - DD coating (two-component top coat based on polyurethane varnish - RAL 7035 / light-grey)
- Extra charge for model:
  -Material no. 1.4301 (V2A)

Security grille type ASG, for mounting with ventilation duct connection on only one side, wire or punch grille, galvanised sheet steel, mesh width ≤ 20 mm, minimum distance a_{min} = 50 mm from the open damper blade must be taken into account, if necessary, use extension piece type VT.
Product: SCHAKO **type ASG**

Dimensions:
Width (B): ..... mm
Height (H): ..... mm

- Extra charge for anticorrosive paint
  - DD coating (two-component top coat based on polyurethane varnish - RAL 7035 / light-grey)
- Extra charge for model:
  -Material no. 1.4301 (V2A)

Position indicator type MSZ, consisting of a steel cable
- galvanised - with clamping nipple and position indicator made of plastic material.
The mechanical position indicator for false ceilings is usable for each mechanically operated BKP-EN with hand lever.
Product: SCHAKO **type MSZ**

Installation frame type ER-P1, consisting of silicate boards incl. fixing lugs, for installation of the BKP-EN in lightweight partition walls with metal posts and panelling on one or both sides as classified according to EN 13501-2 or comparable national standards. The mounting frame type ER-P1 can be delivered loose as mounting kit (R06) or mounted ex works at an extra charge (R05).

Product: SCHAKO **type ER-P1**

Dimensions: (W, H according to damper size)
Width (B): ..... mm
Height (H): ..... mm

(Unless stated otherwise, the mounting frame type ER-P1 will be delivered loose as mounting kit (R06)).

SERVICE

FUNCTIONAL CHECKING, CLEANING, REPAIR

Polluted and damp air can impair the continuous operational safety. Therefore, after commissioning of the ventilation installation, the function of all fire dampers must be checked semiannually. If two consecutive functional checks do not show any defects, the fire dampers only have to be tested once a year. If maintenance are made for ventilation systems, it is recommended including the functional checks of the fire dampers in these agreements.
Information on explosion-protected release devices can be found in the additional operating instructions according to ATEX 2014/34/EU.

1. Manual trigger device

1.1. Visual inspection

- Check the fire damper for damage and contamination (e.g. housing, damper blade, seals).
- Perform necessary cleaning work

1.2 Manual release - Closing the fire damper

- Pull manual unlocking disc (pos. 25) at the hand lever (pos. 3), this removes the locking (in the open position) of the locking bolt (pos. 27) in the trigger device (pos. 5).
- Hand lever has been released and is moved toward the CLOSED position by spring force.

ATTENTION!
Do not reach into the pivoting range of the damper blade and of the manual lever. There is a significant risk of injury.

- The fire damper must close and lock automatically (locking of the damper blade in the CLOSED position).

1.3 Opening the fire damper

- Pull manual unlocking disc (pos. 25) at the hand lever (pos. 3) and move it toward the trigger device (pos. 5)
- Locking bolt (pos. 27) must snap into the release device (pos. 5).
- The fire damper is ready for operation again (damper blade is locked in the OPEN position).

S = Lubricate moving parts (bearing) only if they are not running smoothly (lubricant: free of resin and acid).

When the fusible link becomes damaged, its replacement must be carried out as follows.

- If, for example, the fusible link is damaged or corroded, it is must be replaced.
- Perform manual release as described in section 1.2.
- Unscrew the fastening screws (2 pieces, pos.26), pull the release device out by turning it 90° and remove it from the housing.
- Compress the locating pins of the fusible link holder (pos. 28) using a suitable tool (e.g. pliers) and replace the fusible link with a replacement fusible link (pos. 6).
- Insert the release device and fasten it with screws (make sure that the position of the coding screw with regard to the coding hole is correct).
- Finally a functional check has to be carried out.

BKP-EN with manual trigger

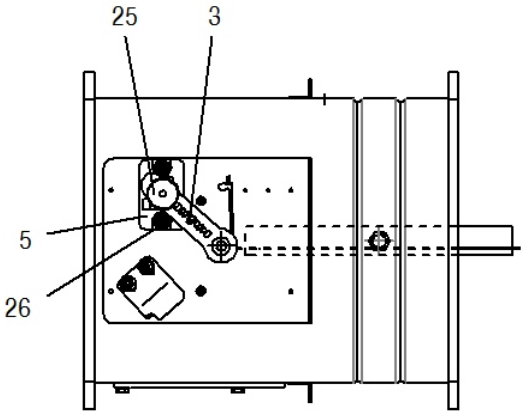


Figure 42: Side view BKP-EN (manual release)

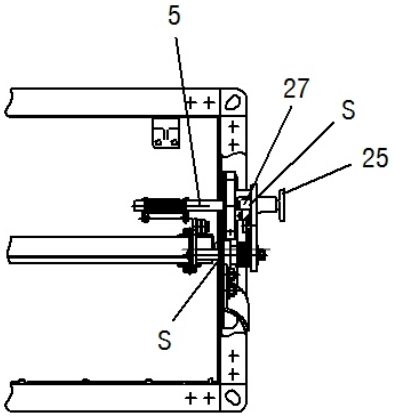


Figure 43: Front view BKP-EN (manual release)

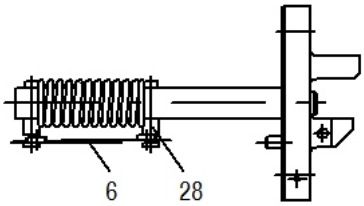


Figure 44: Release device BKP-EN (fusible link)

2. Trigger device with electric spring return actuator

2.1. Visual inspection

- Check the fire damper for damage and contamination.
- Perform necessary cleaning work.

2.2 Thermoelectric release – Closing the fire damper

- Press switch (pos. 30) on the thermoelectric release device (pos. 31), thus removing the electric power from the spring return actuator (pos. 29) (alternatively: interrupt on-site power supply).
- Fire damper must close automatically, locking is performed by blocking the spring return actuator.

When the fusible link becomes damaged, its replacement must be carried out as follows.

- Replacement takes place by unscrewing both screws of the thermoelectric release device/temperature monitoring unit (pos. 31).
  Remove the thermoelectric release device from the actuator unit. Pull the internal duct temperature fuse/duct tip (pos. 32) off the thermoelectric release device/temperature monitoring unit and replace it with a new internal duct temperature fuse (ZBAT72 or ZBAT95) or duct tip (ASK79.4 or ASK79.5), depending on the type of the actuator.
  Reinsert the thermo-electric release device/temperature monitoring unit into actuator unit and screw it down.
  Carry out a functional check.

BKP-EN with spring return actuator

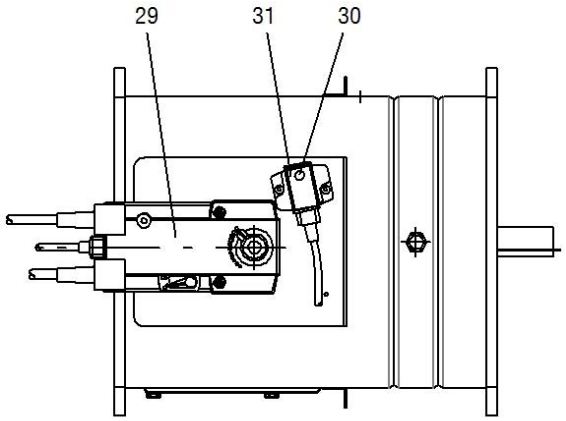


Figure 45: Side view BKP-EN (spring return actuator)

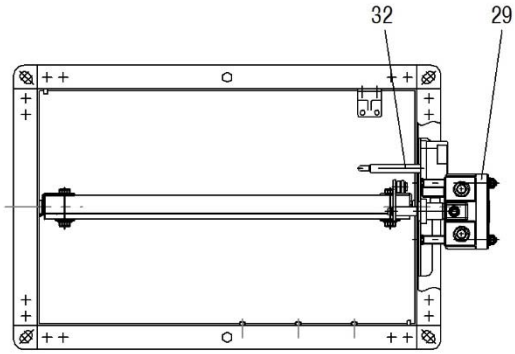


Figure 46: Front view BKP-EN (spring return actuator)

SAMPLE OF FUNCTIONAL TEST PROTOCOL

SCHAKO
Ferdinand Schad KG
Steigstrasse 25-27
D-78600 Kolbingen
Phone: +49- (0)7463 / 980-0
Fax: +49- (0)7463 / 980-200
E-mail: info@schako.de
Web: schako.com

Sample
Functional check protocol for fire dampers
Cons. No. _____

Fire damper no.: _____
Declaration of performance no.: _____
Series: _____
Release device: _____

The following functional steps have been carried out according to the documents installation, mounting and operating instructions	before commissioning	next functional check in: _____	next functional test in: _____	next functional test in: _____	next functional test in: _____
External check: System: _____ Item: _____					
Internal check: System: _____ Item: _____					
Additional check: System: _____ Item: _____					
without defects Date / tester					
with defects (see back) Date / tester					
without defects Date / tester					

SCHAKO
Ferdinand Schad KG
Steigstrasse 25-27
D-78600 Kolbingen
Phone: +49- (0)7463 / 980-0
Fax: +49- (0)7463 / 980-200
E-mail: info@schako.de
Web: schako.com

Sample
Functional check protocol for fire dampers
Cons. No. _____

Defects found during the test on: _____

Sluggishness due to soiling.
Any remaining mortar must be removed.

Defects found during the test on: _____

Defects found during the test on: _____

Defects found during the test on: _____

FOREIGN BRANCH OFFICES

Belgium SCHAKO S.A.R.L. 165, rue des Pommiers L-2343 Luxembourg Phone: +352 / 403 157 1 Fax: +352 / 403 157 66 info@schako.be www.schako.be	**Denmark** Venti AS Banevænget 3 8362 Hørning Phone: +45 / 86 92 22 66 Fax: +45 / 86 92 22 26 info@venti.dk www.venti.dk	**England** SCHAKO Ltd. Index House St Georges Lane, Ascot SL5 7EU Berkshire Phone: +44 / 13 44 63 63 89 Fax: +44 / 13 44 87 46 58 admin@schako.uk.com www.schako.co.uk	**France** SCHAKO s.a.r.l. 16 Boulevard de la Croix Rousse F-69001 Lyon Phone: +33 / 4 / 78 34 97 34 Fax: +33 / 4 / 78 34 97 31 contact@schako.fr www.schako.fr
Greece EUROPERSIS Odisea Androutsou 2 GR-56224 Evosmos/Tessaloniki Phone: +30 / 310 / 68 57 79 Fax: +30 / 310 / 75 76 13 info@europersis.gr www.europersis.gr	**Israel** Insupco Industrial Supply Ltd. 40 Hayarkon St. Yavne 811 00 Phone: +972 / 8 / 94 20 080 Fax: +972 / 8 / 94 20 311 insupco@netvision.net.il www.insupco.com	**Italy** SCHAKO Italia S.r.l. Via XXV Aprile, 17 20097 S.Donato Milanese-MI Phone: +39 / 02 / 51 64 02 01 Fax: +39 / 02 / 51 62 09 46 info@schako.it www.schako.it	**Croatia** Intel Trade Dr. Ante Mandica 10 HR-51410 Opatija Phone: +385 / 51 741 100 Fax: +385 / 51 701 470 ri@intel-trade.hr www.intel-trade.hr
Luxembourg SCHAKO S.A.R.L. 165, rue des Pommiers L-2343 Luxembourg Phone: +352 / 403 157 1 Fax: +352 / 403 157 66 info@schako.lu www.schako.lu	**Netherlands** SCHAKO S.A.R.L. 165, rue des Pommiers L-2343 Luxembourg Phone: +352 / 403 157 1 Fax: +352 / 403 157 66 Info@schako-nederland.nl www.schako-nederland.nl	**Austria** SCHAKO Vertriebs GmbH Mariahilfer Straße 103/1/TOP 12 A-1060 Wien Phone: +43 / 1 / 890 24 62 Fax: +43 / 1 / 890 24 62 50 info@schako.at www.schako.at	**Poland** SCHAKO Polska Sp. z o.o ul. Pulawska 38 PL-05-500 Piaseczno Phone: +48 / 22 / 7263570 Fax: +48 / 22 / 7263571 info@schako.pl www.schako.pl
Romania SCHAKO Klima Luft SRL Str. Elena Caragiani nr.21 014212 Bucuresti, Phone: +40 / 0 / 21 / 232 13 75 Fax: +40 / 0 / 21 / 232 13 75 info@schakoromania.ro www.schako.ro	**Sweden** EXOTHERM AB Box 60036 21610 Limhamn Phone: +46 / 40 / 631 61 16 Fax: +46 / 40 / 15 60 95 info@exotherm.se www.exotherm.se	**Switzerland** SCHAKO Suisse SA Rue Jean-Prouvé 28 1762 Givisiez Phone: +41 / 26 / 460 88 00 Fax: +41 / 26 / 460 88 05 schako@schako.ch www.schako.ch	**Serbia & Montenegro** TERMOMEHANIKA d.o.o. Koste Glavinica 2 RS-11000 BEOGRAD Phone: +381 / 11 / 369 99 93 Fax: +381 / 11 / 369 09 93 termomehanika@sbb.rs www.termomehanika.rs
Slovakia SCHAKO SK s.r.o. Modrová 187 91635 Modrová Phone: +421 / 337 / 774 1843 Fax: +421 / 337 / 774 1843 schako@schako.sk www.schako.sk	**Spain** SCHAKO IBERIA S.L. Departamento de Ventas Pol. Ind. Río Gállego, Calle B, nave 3 50840 San Mateo de Gállego / Zaragoza Phone: +34 / 976 / 531 999 Fax: +34 / 976 / 690 709 ventas@schako.es www.schako.es	**Czech Republic** SCHAKO s.r.o. Pred Skalkami II. 184/5 CZ-10600 Praha 10-Zabehlice Phone: +42 / 02 / 727 680 43 Fax: +42 / 02 / 727 693 94 info@schako.cz www.schako.cz	**Turkey** EMO-SCHAKO Klima Havalandirma San. ve Tic. Ltd. Sti. Pursaklar Sanayi Sitesi, Karacaören Mah.1638.Cad. No:98 06145 Altindag - Ankara Phone: +90 / 312 527 16 05 Fax: +90 / 312 527 16 08 emo@emo-schako.com.tr www.emo-schako.com.tr
Hungary SCHAKO Kft. Tó Park 6 H-2045 Törökbálint Phone: +36 / 23 / 445670 Fax: +36 / 23 / 445679 e-mail@schako.hu www.schako.hu			

LIST OF FIGURES/TABLES/DIAGRAMS

List of figures

List of tables

List of diagrams