



Fig.: BSK-RPR-EU with B10 drive

## BSK-RPR-EU Fire damper

### USABILITY CERTIFICATES

- **Declaration of Performance**  
DoP-BSK-RPR-EU-2022-01-01

### CLASSIFICATION AND STANDARDS

- **Classification**  
according to EN 13501-3, depending on the mounting situation EI 120 ( $v_e i \leftrightarrow o$ ) 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

- Extensive uses and applications
- Housing leakage class C according to EN 1751
- 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

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## DESCRIPTION

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Fire dampers, installed in ventilation ducts (air conditioning systems), serve for the automatic locking of fire lobbies.

The fire damper BSK-RPR-EU corresponds to EN 15650, EN 13501-3 and EN 1366-2.

The BSK-RPR-EU has been tested according to EN 1366-2 in compliance with Declaration of Performance no. DoP-BSK-RPR-EU-2022-01-01. Its classification according to EN 13501-3 is EI 120 ( $v_e i \leftrightarrow o$ ) S.

The national standards and guidelines must be observed in connection with this technical documentation, installation, mounting and operating instructions.

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 (standard), optionally (at an extra charge):
  - Housing made of stainless steel material no. 1.4301 or material no. 1.4571
  - Housing with DD coating (two-component top coat based on polyurethane varnish) inside / outside
- Model with plug-in connection (-S) or flanged connection (-F) according to EN 12220 and DIN 24154-1, respectively.
- Damper leaf 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 complied with using circumferential rubber and intumescent seals.
- Horizontal or vertical position of the damper blade axle
- The installation position is independent of the air flow direction.
- Thermal trigger via fusible link 72°C; optionally (at an extra charge)
  - equipped with electrical release devices
- Use: max. operating pressure of 1000 Pa at  $v_{face} \leq 10$  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 release devices of the fire damper is possible; only release devices working by the "currentless closed" principle may be connected to the RMS system; the propagation of fire and smoke is effectively prevented. 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

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Building systems have to be arranged, installed, changed and maintained in such a way that they prevent fire and propagation of fire and smoke (fire propagation) and allow evacuation of people and animals as well as efficient fire extinguishing work.

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).

## GENERAL

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Data and requirements according to German standards (DIN) must be checked on site for compatibility with current standards and directives in the respective states/countries and adapted, if necessary. Whether the installation of flexible connection pieces is required, must be determined on site.

## MODELS AND DIMENSIONS

### BSK-RPR-EU

#### BSK-RPR-EU-S (plug-in connection)

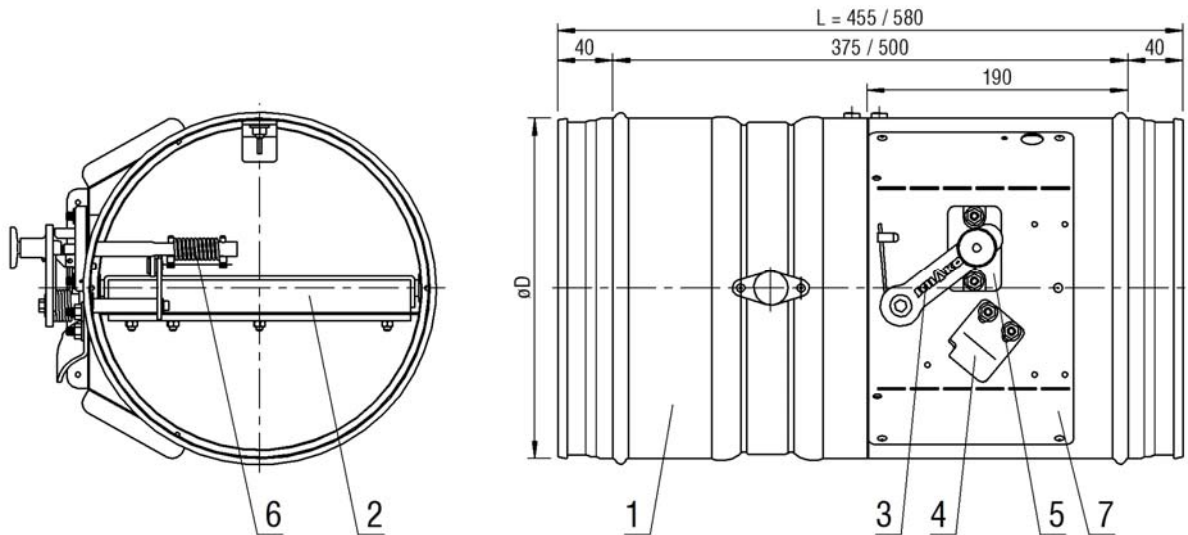


Figure 1: Dimensions BSK-RPR-EU-S

#### BSK-RPR-EU-F (flanged connection)

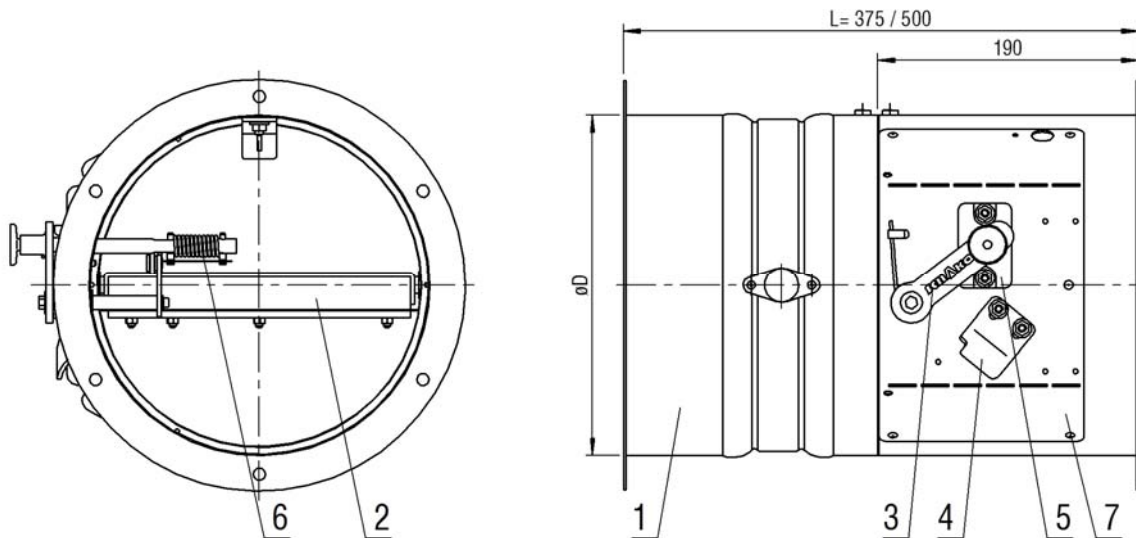


Figure 2: Dimensions BSK-RPR-EU-F

- 1 Fire damper BSK-RPR-EU
- 2 Damper blade
- 3 Hand lever
- 4 Locking profile
- 5 Release device
- 6 Fusible link
- 7 Actuator unit

### Available sizes

Nominal size	øD [mm]	L [mm]	
		BSK-RPR-EU-S	BSK-RPR-EU-F
100	98	455 or 580 (standard)	375 or 500 (standard)
125	123		
140	138		
160	158		
180	178		
200	198		
224	222		
250	248		
280	278		
315	313		
355	353		
400	398		
450	448		
500	498		

Table 1: Available sizes

### Rubber lip seal for BSK-RPR-EU-S

Model BSK-RPR-EU-S is delivered by default with a rubber lip seal.

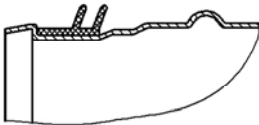


Figure 3: Rubber lip seal

### Flange bores BSK-RPR-EU-F

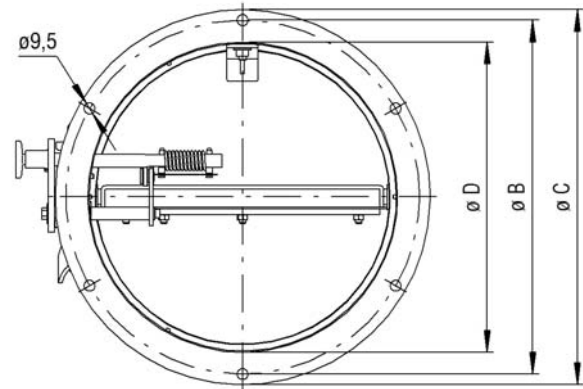


Figure 4: Flange bores

### Table to DIN EN 12220 or DIN 24154-1

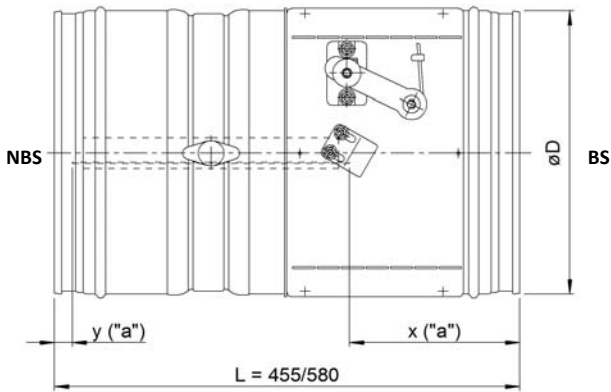
Nominal size	øD [mm]	øC [mm]	Bolt circle øB (± 0.5mm)	Number of bores ø9.5 (± 0.5mm)
100	98	150	132	4
125	123	175	157	4
140	138	190	172	6
160	158	210	192	6
180	178	230	212	6
200	198	250	233	6
224	222	274	257	6
250	248	300	283	6
280	278	340	317	8
315	313	375	352	8
355	353	415	392	8
400	398	460	438	8
450	448	510	488	8
500	498	560	538	8

Table 2: Flange bores

SCHAKO ASG-RF / VT-RF / FS-RF: Flange bores suitable for BSK-RPR-EU-F

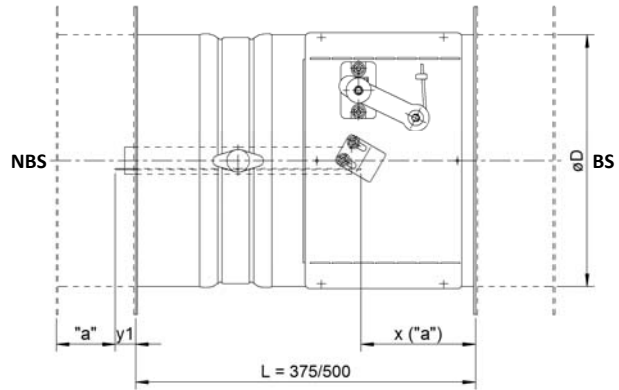
**Damper leaf projecting ends**

**BSK-RPR-EU-S**



**Figure 5: Damper blade projecting ends BSK-RPR-EU-S**

**BSK-RPR-EU-F**



**Figure 6: Damper blade projecting ends BSK-RPR-EU-F**

No- minal size	ØD	Operating side (BS)		Non-operating side (NBS)	
		L=455 / 580	L=455	L=580	
100	98	256	107	232	Y
125	123	244	95	220	
140	138	236	87	212	
160	158	226	77	202	
180	178	216	67	192	
200	198	206	57	182	
224	222	194	45 *	170	
250	248	181	32 *	157	
280	278	166	17 *	142	
315	313	149	0 *	125	
355	353	129	20 *	105	
400	398	106	43 *	82	
450	448	81	68 *	57	
500	498	56	93 *	32 *	

\* Extension piece (on site) necessary

**Table 3: Damper blade projecting ends BSK-RPR-EU-S**

No- minal size	ØD	Operating side (BS)		Non-operating side (NBS)	
		L=375 / 500	L=375	L=500	
100	98	216	67	192	Y
125	123	204	55	180	
140	138	196	47 *	172	
160	158	186	37 *	162	
180	178	176	27 *	152	
200	198	166	17 *	142	
224	222	154	5 *	130	
250	248	141	8 *	117	
280	278	126	23 *	102	
315	313	109	40 *	85	
355	353	89	60 *	65	
400	398	66	83 *	42 *	
450	448	41 *	108 *	17 *	
500	498	16 *	133 *	8 *	

\* Extension piece (VT-RF) necessary

**Table 5: Damper blade projecting ends BSK-RPR-EU-F**

"a"= 50 mm: Minimum distance between the front edge of the open damper blade and the finishing protective grating (ASG-RF/-RS)

**Use**

The fire damper type BSK-RPR-EU can be installed as shown in the following table

Use	Installation	Material/Model	Minimum thickness [mm]	Minimum distance [mm]	Fire resistance class	Notes Page °
WALL	in	Wet installation in, for example, concrete; masonry according to EN 1996 or DIN 1053; solid plaster wall boards according to EN 12859	150	next to each other: 50 <sup>1)</sup>	EI 120 (v <sub>e</sub> i<->o) S	8
				Wall: 75		
				Ceiling: 75		

1) The allowed minimum distance of the fire dampers to one another is at least 50 mm. However, due to the construction, the distance has to be adapted for BSK-RPR-EU-F, if necessary.

**Table 4: Usability**

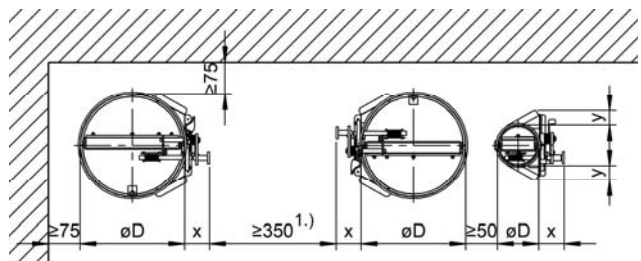
### General information

- 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 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 possibility to connect the ventilation ducts must be checked. Extension pieces (on site or as accessories SCHAKO type VT-RF) might be necessary, e.g. for large wall and ceiling thicknesses. When connecting duct components, a fastening type must be selected that causes no damage 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.
- 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.
- During 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  $-20\text{ }^{\circ}\text{C}$  or above  $50\text{ }^{\circ}\text{C}$ .
- 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 installation 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.
- 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 BSK-RPR-EU 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.

There are no inspection openings on the BSK-RPR-EU, which is why inspection openings in the connected ventilation ducts must be provided in the immediate proximity. Inspection openings must be freely accessible, which 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 7: Minimum distances to walls, ceilings and BSK-RPR-EU to one another**

- 1.) Minimum distances recommended by SCHAKO for sufficient accessibility

The dimension x is:

- approx. 80 mm with manual release
- Spring return actuators B10/B11 and S00/S01 max. approx. 90 mm

The dimension y is:

- Manual release max. approx. 50 mm / Manual release with limit switch max. approx. 100 mm
- Spring return actuators B10/B11 and S00/S01 max. approx. 50 mm

### Wet installation (mortar lining)

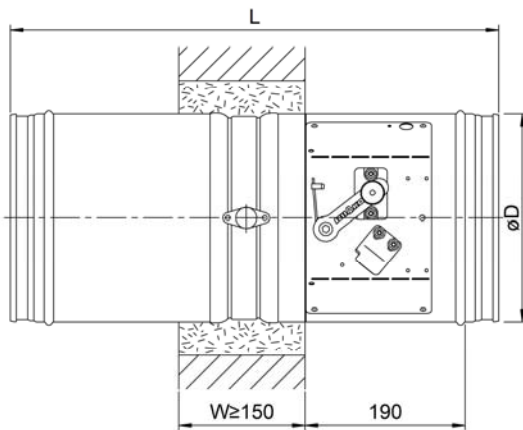
- The fire damper is installed by means of mortar lining. It must be completely filled with mortar of class M 10 to M 15 according to EN 998-2 or fire protection mortar of corresponding grades or with concrete or plaster mortar suitable for the wall or ceiling type.
- If the fire damper is installed during the assembly of the wall, the annular gap dimensions can be smaller than specified.
- The mortar bed depth must be designed according to the minimum wall thickness and may not be less than this thickness.
- 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  $\geq 450 \text{ kg/m}^3$  and wall thickness  $W \geq 150 \text{ mm}$ .

### Installation positions

Mortar lining entire wall thickness



Mortar lining in minimum wall thickness

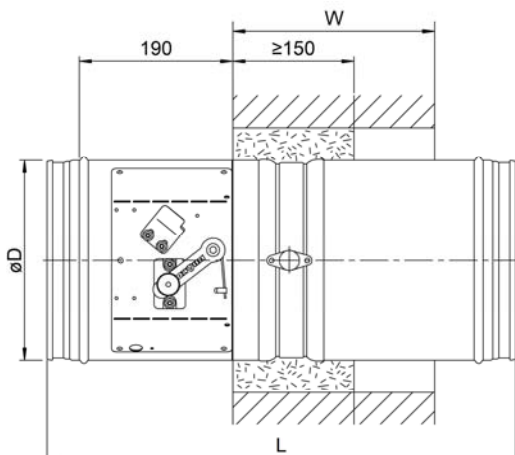


Figure 8: Wet installation in solid walls

Construction subject to change  
 No return possible

### Wet installation of a fire damper, complete mortar lining

- The minimum distance between the fire dampers must be at least 50 mm.
- The minimum distance from adjacent components (wall/ceiling) is at least 75 mm.

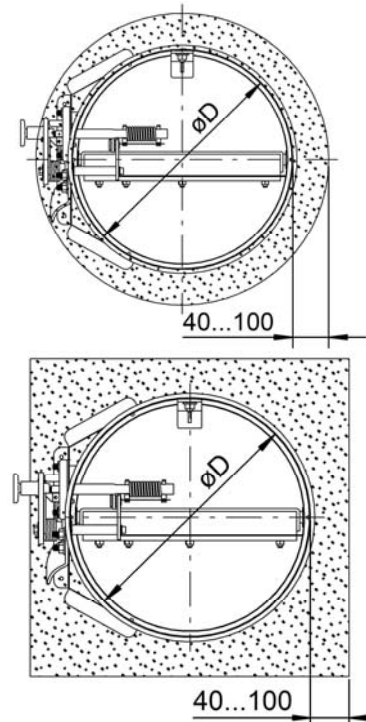


Figure 9: Annular gap dimensions for complete mortar lining in solid walls (round or rectangular recess)

### Wet installation at a reduced distance

Installation of no more than 2 BSK-RPR-EU in an installation opening in solid walls at a reduced distance next to or below each other. All annular gaps have to be filled with mortar.

- The distance between the fire dampers must be min. 50 mm.
- The distance to adjacent components (wall/solid ceiling) is at least 75 mm.

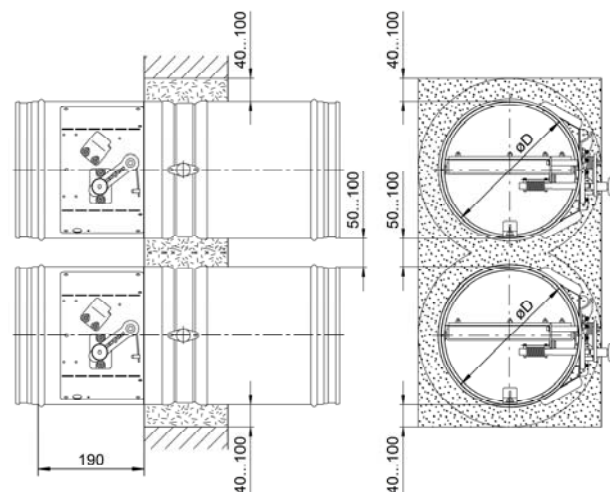


Figure 10: Installation in solid walls at a reduced distance (round or rectangular recess)



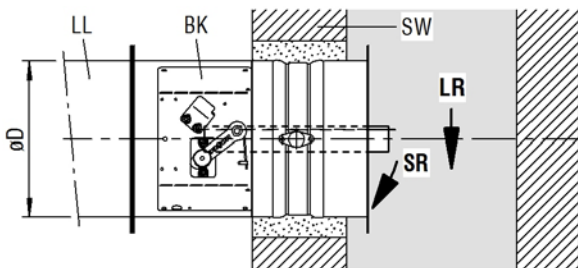
## INSTALLATION INFORMATION

### 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 as well as flammable ventilation ducts. Ventilation ducts must be suspended separately.

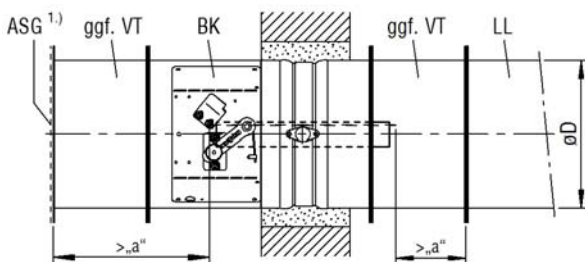
The local regulations or national standards on ventilation systems (in Germany e.g. LüAR) apply. It is important that ventilation ducts do not exert significant forces on walls, supports or ceilings and thus also on fire dampers as a result of thermal expansion (in case of fire). Appropriate compensation measures, such as the arrangement of flexible spigots or a suitable duct routing (duct angles and distortions), must be taken as required. National regulations must be observed and adhered to.

#### In solid shaft walls



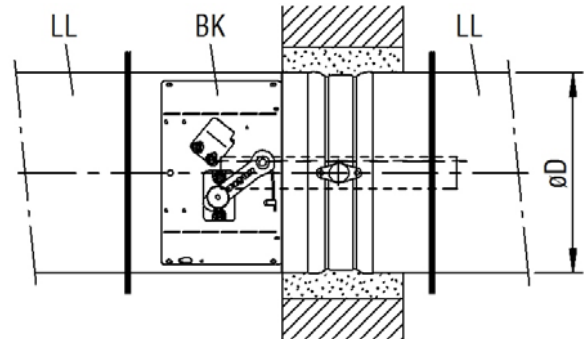
**Figure 11: Connection example of a ventilation duct in solid shaft walls**

#### With ventilation duct arranged on one side and security grille



**Figure 12: Connection example of a ventilation duct arranged on one side and security grille**

#### On both sides with ventilation ducts



**Figure 13: Connection example of ventilation ducts on both sides**

BK	Fire damper BSK-RPR-EU
ASG	Security grille, type ASG-RF/ASG-RS
VT	Extension piece type VT-RF
LL	Ventilation duct
SW	Shaft wall
SR	Closing direction
LR	Air flow direction
BS	Operating side
NBS	Non-operating side

1.) made of non-combustible building materials (EN 13501-1)

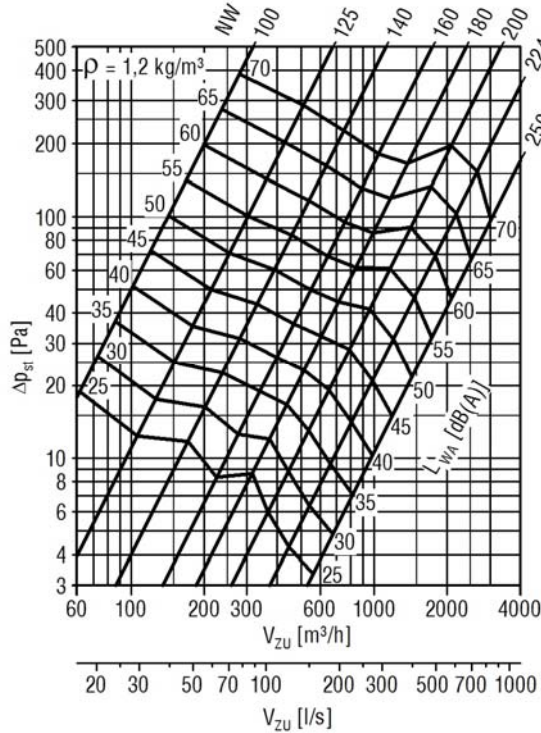
„a“ =50mm Minimum distance between the front edge of the open damper blade and the finishing protective grating (ASG-RF/RS)

**TECHNICAL DATA**

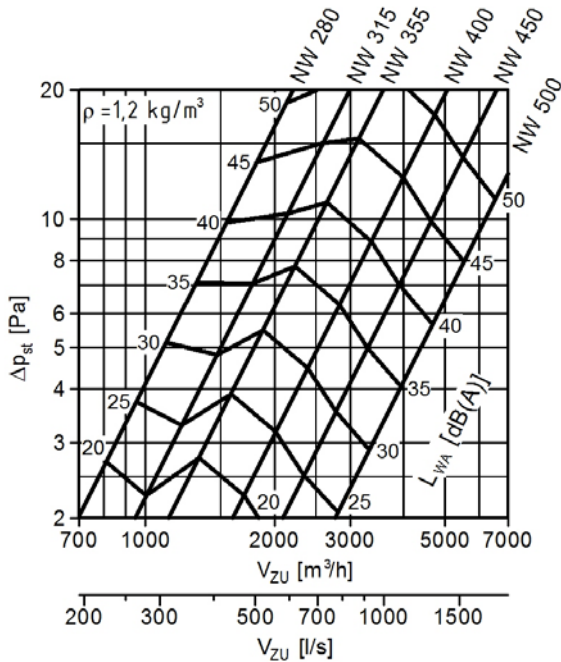
**Pressure loss and noise level**

**Pressure loss and flow generated noise  
 BSK-RPR-EU (without finishing protective grating)**

Nominal sizes 100 to ≤ 250



Nominal sizes > 250 to 500



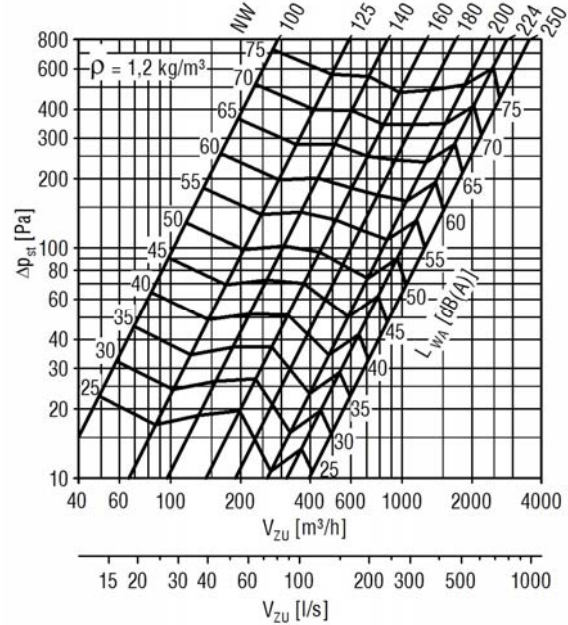
**Diagram 1: Pressure loss and flow generated noise without security grille**

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

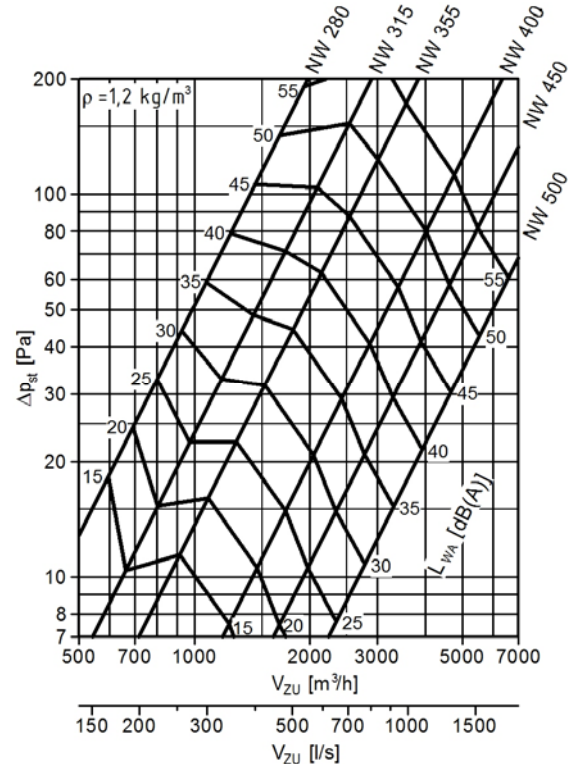
Construction subject to change  
 No return possible

**Pressure loss and flow generated noise  
 BSK-RPR-EU (with finishing protective grating type ASG, on one side)**

Nominal sizes 100 to ≤ 250



Nominal sizes > 250 to 500

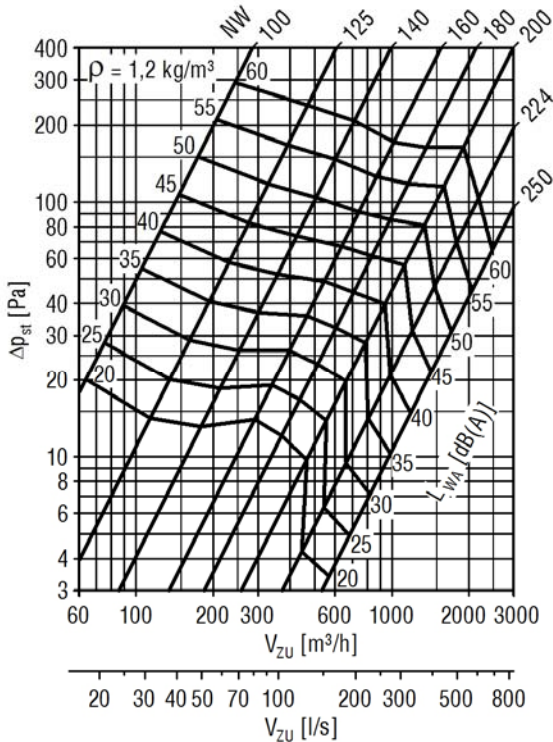


**Diagram 2: Pressure loss and flow generated noise without security grille on one side**

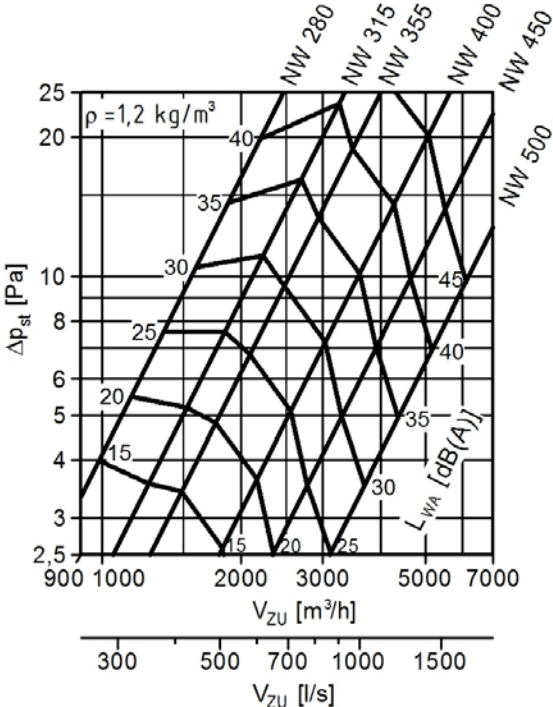
Application limits:  
 max. operating pressure of 1000 Pa at  $v_{face} \leq 10$  m/s.

**Pressure loss and radiated noise**

Nominal sizes 100 to ≤ 250



Nominal sizes > 250 to 500



**Diagram 3: Pressure loss and radiated noise**

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

**Free cross-section [m<sup>2</sup>]**

Nominal size	ØD [mm]	Free cross-section [m <sup>2</sup> ]
100	98	0.0046
125	123	0.0081
140	138	0.0107
160	158	0.0147
180	178	0.0193
200	198	0.0246
224	222	0.0317
250	248	0.0404
280	278	0.0492
315	313	0.0641
355	353	0.0836
400	398	0.1086
450	448	0.1401
500	498	0.1755

**Table 6: Free cross-section [m<sup>2</sup>]**

**Weight table [kg]**

No-nominal size	ØD [mm]	Manual release			
		BSK-RPR-EU-S		BSK-RPR-EU-F	
		L=455	L=580	L=375	L=500
100	98	2.44	2.74	2.49	2.80
125	123	2.83	3.21	2.89	3.29
140	138	3.06	3.49	3.13	3.57
160	158	3.35	3.84	3.43	3.93
180	178	3.65	4.20	3.74	4.31
200	198	3.97	4.59	4.07	4.70
224	222	4.37	5.07	4.48	5.19
250	248	4.80	5.58	4.93	5.71
280	278	6.31	7.17	6.45	7.33
315	313	7.14	8.13	7.30	8.29
355	353	8.08	9.19	8.26	9.37
400	398	9.09	10.34	9.29	10.55
450	448	10.50	11.91	10.73	12.14
500	498	11.85	13.42	12.10	13.67

No-nominal size	ØD [mm]	Spring return actuator			
		BSK-RPR-EU-S		BSK-RPR-EU-F	
		L=455	L=580	L=375	L=500
100	98	3.89	4.19	3.94	4.25
125	123	4.28	4.66	4.34	4.74
140	138	4.51	4.94	4.58	5.02
160	158	4.80	5.29	4.88	5.38
180	178	5.10	5.65	5.19	5.76
200	198	5.42	6.04	5.52	6.15
224	222	5.82	6.52	5.93	6.64
250	248	6.25	7.03	6.38	7.16
280	278	7.79	8.65	7.93	8.81
315	313	8.62	9.61	8.78	9.77
355	353	9.56	10.67	9.74	10.85
400	398	10.57	11.82	10.77	12.03
450	448	11.98	13.39	12.21	13.62
500	498	13.33	14.90	13.58	15.15

**Table 7: Weight table [kg]**

All data given are approximate

## ACCESSORIES

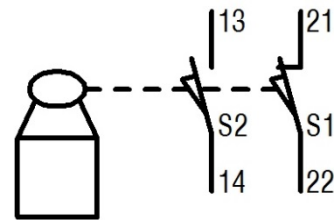
### Available at an extra charge

- Model made of stainless steel material no. 1.4301 (V2A) or 1.4571 (V4A; replaceable, non-coated parts are made of stainless steel material no. 1.4301)
  - 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)
  - Limit switch type ES, limit switch EasyF-ETX (EasyBus)
  - Spring return actuators B10/B11 or S00/S01
  - Smoke detection system type RMS with general building supervisory approval (abZ) No. Z-78.6-58 <sup>2.)</sup>
  - Assembly part type REBT <sup>1.)</sup> for smoke detector RMSII-L of the smoke detection system type RMS
  - Signaling and switching bus system type EasyBus <sup>2.)</sup>
  - Fire damper mini-controller BKSYS <sup>2.)</sup>
  - Extension piece type VT-RF <sup>1.)</sup>
  - Duct connection spigot type RS <sup>1.)</sup>
  - Security grille type ASG-RF/ASG-RS <sup>1.)</sup>
- <sup>1.)</sup> Standard design galvanised sheet steel, material No. 1.4301 or 1.4571, DD coating (RAL 7035 / light-grey) possible.
- <sup>2.)</sup> 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 mm<sup>2</sup>. 250 V AC, I<sub>e</sub> 6A, IP67 -using suitable cable glands M20 (on site).



**Figure 14: 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 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)

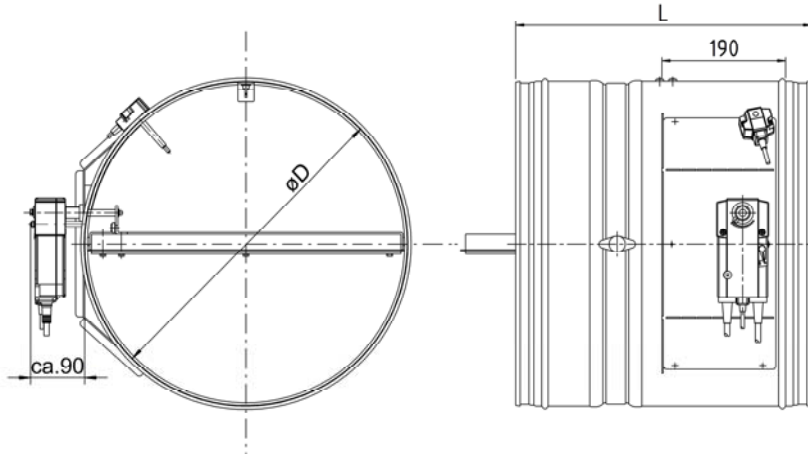


Figure 15: BSK-RPR-EU with spring return actuator B10/B11

### Connection diagram B10/B11

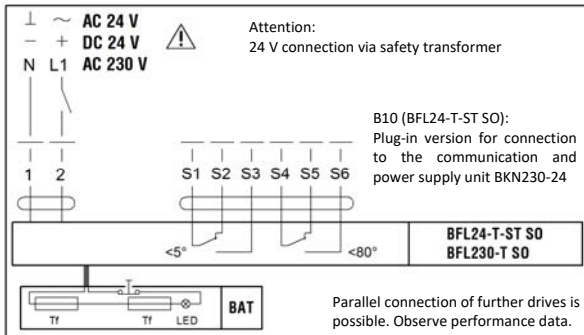


Figure 16: Connecting diagram B10/B11

### Attention!

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

Electric spring return actuator with thermoelectric release device BAT.

- Release temperatures: ambient temperature 72 °C and internal duct temperature 72 °C.
- 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 (ambient temperature: 72°C or internal duct temperature: 72°C) respond. Reaction of the thermal fuses interrupts the supply voltage permanently.
- Indication of damper end positions by integrated microswitches via potential-free changeover contacts (S1 - S3 "CLOSED" indicates "CLOSED" position; S4 - S6 "OPEN" indicates "OPEN" 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).  
 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 (ZBAT72). 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.

**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 <sub>max</sub> 8.3 A @ 5 ms	6.5 VA / I <sub>max</sub> 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 mm <sup>2</sup> (halogen-free) + 3-pin connector	
Auxiliary switch connection	Cable 1 m, 6 x 0.75 mm <sup>2</sup> (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	III Safety extra low voltage	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 8: Technical data B10/B11**

**Spring return actuators S00/S01**

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

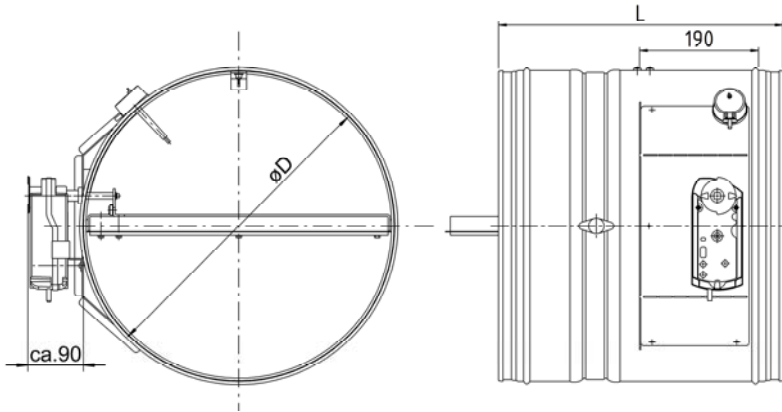
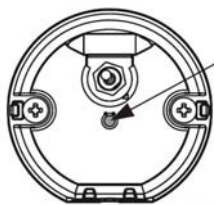


Figure 17: BSK-RPR-EU with spring return actuator S00/S01

**LED functions**



- red = operating voltage OK  
Thermal sensor defective
- green = operating voltage OK  
Thermal sensor OK
- dark = no operating voltage

Figure 18: 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.

**Cable designation**

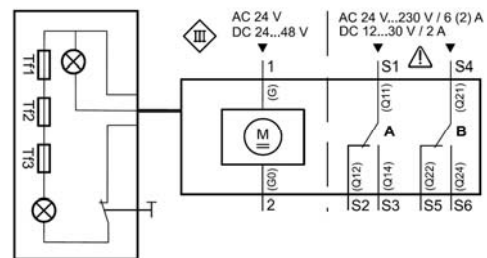
The wires are colour-coded and labelled.

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

Table 9: Cable designation S00/S01

**Connection diagram**

Spring return actuator S00 (24V AC/ 24...48V DC)

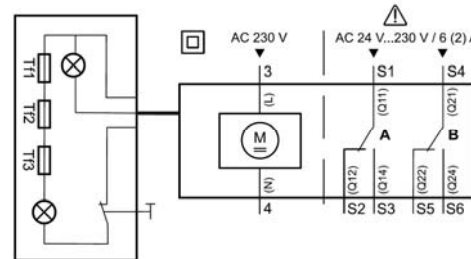


AC 24 V  
 DC 24...48 V  
 (SELV/PELV)

Figure 19: Connection diagram S00

**Connection diagram**

Spring return actuator S01 (230V AC)



AC 230 V

Figure 20: Connection diagram S01

Electric spring return actuator with temperature monitoring unit

- Release temperatures: ambient temperature 72 °C and internal duct temperature 72 °C.
- 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 monitoring unit (ambient temperature 72 °C or internal duct temperature 72 °C) responds. The response of the temperature monitoring unit interrupts the supply voltage permanently and irrevocably.
- Indication of damper end positions by integrated auxiliary switches via potential-free changeover contacts (S1 to S3 "CLOSED" indicates "CLOSED" position; S4 to S6 "OPEN" indicates "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). The replacement takes place by unscrewing both screws at the temperature monitoring unit and removing the actuator unit. Pull the 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). 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 24V: (wires 1-2)/ AC 230V: (wires 3-4)	Cable 0.9 m, 2 x 0.75 mm <sup>2</sup> (halogen-free) + 3-pin connector	
Auxiliary switch cable (wires S1...S6)	Cable 0.9 m, 6 x 0.75 mm <sup>2</sup> (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 10: Technical data S00/S01**



## ADD-ON PARTS

### Extension piece type VT-RF

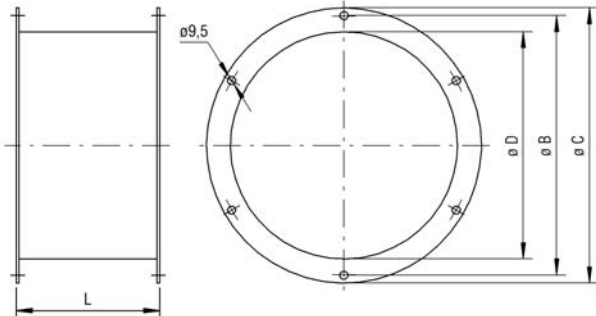


Figure 21: Extension piece type VT-RF

- Extension part made of profiled sheet steel fitted with connecting flanges.
- Intended use:  
for large wall/ceiling thicknesses; in order to maintain a minimum distance  $a_{min} = 50 \text{ mm}$  from the open damper leaf when fitting a security grille type ASG-RF.

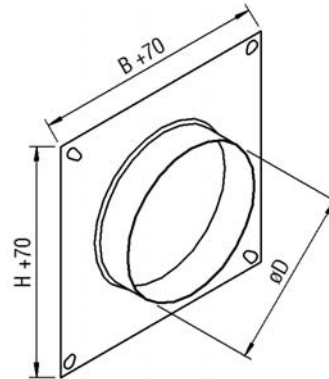
For information on the flange bores (BSK-RPR-EU-F) see Figure 4 / Table 2 page 5.

Nominal size	$\phi D$ [mm]	L [mm]	The dimension depends on the nominal size.
100	98	160	
125	123		
140	138		
160	158		
180	178		
200	198		
224	222		
250	248		
280	378		
315	313		
355	353		
400	398		
450	448		
500	498	190	

Table 11: Length of the extension piece type VT-RF as a function of the nominal size of the fire damper

An extension piece for the BSK-RPR-EU-S must be provided **on site** (e.g. duct piece).

### Duct connection spigot type RS



B x H	$\phi D$
200x200	98 - 198
225x225	223
250x250	248
325x325	278 - 313
375x375	353
400x400	398
450x450	448
500x500	498

The spigot diameter  $\phi D$  must be smaller than the smallest side dimension (width(B)/height(H)). Further dimensions are available upon request.

Figure 22: Duct connection spigot type RS

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

### Security grille type ASG-RS/-RF

ASG-RS for BSK-RPR-EU-S

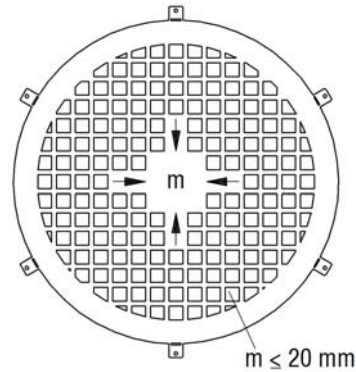


Figure 23: Security grille type ASG-RS

ASG-RF for BSK-RPR-EU-F

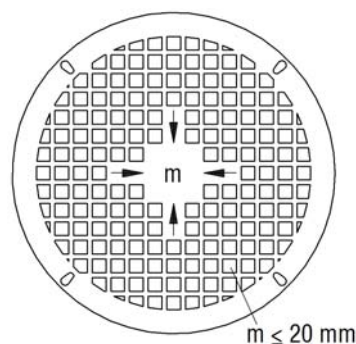
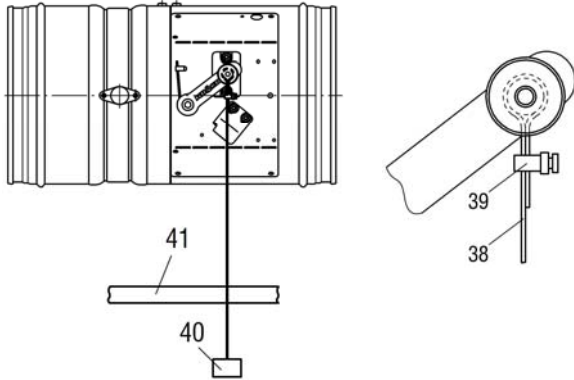


Figure 24: Security grille type ASG-RF

- Wire or punch grille with a mesh size of  $\leq 20$  mm
- Intended use:  
to be fitted for one-sided connection
- Remember that the minimum distance to the open damper leaf  $a_{min}$  is 50 mm, if necessary, use extension piece

### Position indicator type MSZ



**Figure 25: Position indicator type MSZ**


- 38 Galvanised steel cable
- 39 Clamping nipple
- 40 Position indicator
- 41 False ceiling

- Steel cable -galvanized- (pos. 38) with clamping nipple (pos. 39) and position indicator (pos. 40); steel cable and position indicator must be arranged perpendicularly.
- Intended use:  
Mechanical position indicator (article 3019870) for false ceilings (pos. 41). Usable for each mechanically operated BSK-RPR-EU with hand lever.

### Legend

$V_{ZU}$	[m <sup>3</sup> /h] [l/s]	=	Supply air volume
$\Delta p_{st}$	[Pa]	=	Static pressure
$L_{WA}$	[dB(A)]	=	A-weighted sound power level
$v_{stirn}$	[m/s]	=	Face velocity
$\rho$	[kg/m <sup>3</sup> ]	=	Density
B	[mm]	=	Width
H	[mm]	=	Height
L	[mm]	=	Length
min.		=	at least
or		=	or
ap- prox.		=	approximately
BS		=	Operating side
NBS		=	Non-operating side
OK		=	OKAY

### CE MARKING

 0761	12
<b>SCHAKO KG</b> <b>Weidenäcker 9</b> <b>D-88605 Meßkirch</b>  2021  DoP-BSK-RPR-EU-2022-01-01	
<b>EN 15650:2010</b>  Fire Damper  Type/version  <b>BSK-RPR-EU</b>	
<b>Nominal conditions of activation / sensitivity:</b> - Load bearing capacity of the temperature-sensitive measuring sensor <span style="float: right;">passed</span> - Response temperature of the temperature-sensitive measuring sensor	
<b>Response delay (Response time):</b> <span style="float: right;">passed</span> - Closing time	
<b>Operational safety:</b> <span style="float: right;">passed</span> - Cyclic testing (50 cycles)	
<b>Fire resistance:</b> - Cross-section maintained - Integrity E - Heat insulation I <span style="float: right;">EI 120</span> - Smoke leakage S <span style="float: right;">(v<sub>e</sub> i↔o) S</span> - Mechanical strength (under E) - Cross-section (under E)	
<b>Durability of the Response delay:</b> <span style="float: right;">passed</span> - temperature-sensitive measuring sensor Response temperature and load bearing capacity	
<b>Durability of the operational safety:</b> <span style="float: right;">passed</span> - Test of the opening and closing cycle	

## ORDER CODE

01	02	03	04	05	06
Type	Model	Nominal size	Length	Material (housing)	Coating (housing)
<b>Example</b>					
BSKRPREU	-S	-200	-580	-SV	-1

07	08	09	10	11	12
Damper blade version	Release temperature	Actuator type	Accessories	Additional frame	Field modules
-2	-72	-B10	-Z00	-R00	-22

### EXAMPLE

#### BSKRPREU-S-200-580-SV-1-2-72-B10-Z00-R00-22

Type **BSKRPREU** = Fire damper BSK-RPR-EU | Model = **S** (plug-in connection) | Nominal size = **200** mm | Length = **580** mm | Material (housing) **SV** = Galvanised sheet steel | Paint (housing) **1** = DD coating inside | Damper leaf version **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 **R00** = without additional frame | 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

BSKRPREU = BSK-RPR-EU

#### 02 - MODEL

S = Plug-in connection  
 F = Flanged connection

#### 03 - NOMINAL SIZE

100 - 125 - 140 - 160 - 180 - 200 - 224 - 250 - 280 - 315 - 355 -  
 400 - 450 - 500  
 in mm - always three digits

#### 04 - LENGTH

580 or. 455 (-S model)  
 500 or. 375 (-F model)  
 in mm - always three digits

#### 05 – MATERIAL (HOUSING)

SV = Galvanised sheet steel  
 V2 = Stainless steel material no. 1.4301 (V2A)  
 V4 = Stainless steel material no. 1.4571 (V4A)

#### 06 – COATING (HOUSING)

0 = Without paint  
 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

#### 09 - ACTUATOR TYPE

HAN = thermo-mechanical manual release \*  
 B10 = BFL24-T-ST SO \*  
 B11 = BFL230-T SO \*  
 S00 = GRA126.1E/SO3 (24V) \*  
 S01 = GRA326.1E/SO2 (230V) \*

\* suitable for all dimension combinations

#### 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)  
 ESZ = ES-1Z (limit switch CLOSED; suitable for HAN)  
 ESA = ES-1A (limit switch OPEN; suitable for HAN)  
 EZA = ES-2Z/A (limit switch CLOSED/OPEN; 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 = Radio limit switch EasyF-ETX (suitable for field mod-  
 ules 40-43 u. 50-53) \*\*\*

\*\* Function available only in connection with the commu-  
 nication and control devices BKS24-1B or BKS24-9A

\*\*\* Additional radio receiver EasyF-RXE required.

#### 11 – ADDITIONAL FRAME

R00 = without additional frame

## 12 – FIELD MODULES

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00 = without field module

01 = Preparation of mounting console for field module (only mounting plate mounted to BSK-RPR-EU; but without field module!)

10 = BKSYS-ADM (module mounted to BSK-RPR-EU, incl. connection to drive unit)

### 24V drive module

20 = EasyF-ADC-MASD-00 (module mounted to BSK-RPR-EU, incl. connection to drive unit; with flat cable connection, without addressing)

21 = EasyF-ADC-OASD-00 (module mounted to BSK-RPR-EU, incl. connection to drive unit; without flat cable connection, without addressing)

22 = EasyF-ADC-MASD-01 (module mounted to BSK-RPR-EU, incl. connection to drive unit; with flat cable connection, with addressing)

23 = EasyF-ADC-OASD-01 (module mounted to BSK-RPR-EU, incl. connection to drive unit; without flat cable connection, with addressing)

### 230V drive module

30 = EasyF-AAC-MASD-00 (module mounted to BSK-RPR-EU, incl. connection to drive unit; with flat cable connection, without addressing)

31 = EasyF-AAC-OASD-00 (module mounted to BSK-RPR-EU, incl. connection to drive unit; without flat cable connection, without addressing)

32 = EasyF-AAC-MASD-01 (module mounted to BSK-RPR-EU, incl. connection to drive unit; with flat cable connection, with addressing)

33 = EasyF-AAC-OASD-01 (module mounted to BSK-RPR-EU, 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 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; with flat cable connection, without addressing)

41 = EasyF-IOM-OASD-00 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; without flat cable connection, without addressing)

42 = EasyF-IOM-MASD-01 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZ; with flat cable connection, with addressing)

43 = EasyF-IOM-OASD-01 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; without flat cable connection, with addressing)

### Input modules for up to 8 limit switches

50 = EasyF-I8M-MASD-00 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; with flat cable connection, without addressing)

51 = EasyF-I8M-OASD-00 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; without flat cable connection, without addressing)

52 = EasyF-I8M-MASD-01 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; with flat cable connection, with addressing)

53 = EasyF-I8M-OASD-01 (mounted to BSK-RPR-EU, incl. connection to ESZ, ESA or EZA; without flat cable connection, with addressing)

## SPECIFICATION TEXTS

The fire damper BSK-RPR-EU conforms to the product standard EN 15650.

The BSK-RPR-EU has been tested according to EN 1366-2. CE marking and Declaration of Performance (DoP) in accordance with the German Construction Products Regulation.

Category according to EN 13501-3 is EI 120 (v<sub>e</sub> i↔o) S.

Housing made of galvanised sheet steel, with moulded-on plug connections (S model) or with connection flanges according to EN 12220 or DIN 24154-1 (F model).

Damper blade made of abrasion-resistant, mineral silicate boards  
 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 (suspensions, pole braces, etc.) are listed in separate positions of the specification.

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 detection system type RMS, the additional information in the technical documentation must be observed.

### Installation:

- 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  $\geq 450 \text{ kg/m}^3$  and wall thickness  $W \geq 150 \text{ mm}$ .

Product: SCHAKO **type BSK-RPR-EU**

Declaration of Performance No. DoP-BSK-RPR-EU-2022-01-01

### Dimensions:

Diameter: ..... mm  
 Length (L): 455/**580** mm (-S model)  
 375/500 mm (-F model)

(Unless stated otherwise, the mechanical -S model (plug-in connection), length 580 mm and fusible link release temperature 72°C (thermo-mechanical) will be delivered)

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

- Model made of stainless steel material no. 1.4301 (V2A)
- Model made of stainless steel material no. 1.4571 (V4A; replaceable, non-coated parts are made of stainless steel material no. 1.4301)
- Housing with DD coating (solvent-containing two-component top coat based on polyurethane varnish - RAL 7035 / light-grey)
  - DD coating inside/outside (replaceable, non-coated parts are made of stainless steel material no. 1.4301)
- 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 ETX (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 and 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)

**Extension piece type VT-RF** (flange connection), for installation with large wall thicknesses; to maintain the minimum distance  $a_{min} = 50$  mm from the open damper blade when fitting finishing protective grating type ASG-RF. Extension piece made of profiled galvanised sheet steel with connection flanges, L=160 mm (nominal sizes 100 - 450), L=190 mm (nominal size 500).

Product: SCHAKO **type VT-RF**

Dimensions:

Diameter: ..... 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 design:
  - Material no. 1.4301 (V2A)
  - Material no. 1.4571 (V4A)

**Duct connection spigot type RS**, for connecting the assembly part type EBT to BSK-RPR-EU or to round ventilation ducts, consisting of a joining plate with bores and duct connection spigot, galvanised sheet steel.

Product: SCHAKO **type RS**

Dimensions: (W/H according to size of assembly part):

Width (W): ..... mm

Height (H): ..... mm

Duct connection spigot  $\varnothing$  ( $\varnothing$ D): ..... 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 design:
  - Material no. 1.4301 (V2A)
  - Material no. 1.4571 (V4A)

**Security grille type ASG-RF (-RS)** (flange connection) for connection with ventilation duct connection on only one side, wire or punch grille, galvanised sheet steel, mesh width  $\leq 20$  mm, minimum distance  $a_{min} = 50$  mm from the open damper leaf must be taken into account, if necessary, use extension part type VT-RF or duct piece.

Product: SCHAKO **type ASG-RF**

Dimensions:

Diameter: ..... 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 design:
  - Material no. 1.4301 (V2A)
  - Material no. 1.4571 (V4A)

**Security grille type ASG-RS** (plug-in connection), for installation with ventilation duct connection on only one side, wire or punch grille, galvanised sheet steel, mesh width  $\leq 20$  mm, minimum distance  $a_{min} = 50$  mm from the open damper leaf must be taken into account, if necessary, use extension piece (on site).

Product: SCHAKO **type ASG-RS**

Dimensions:

Diameter: ..... 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 design:
  - Material no. 1.4301 (V2A)
  - Material no. 1.4571 (V4A)

**Position indicator type MSZ**, consisting of a galvanised steel cable with clamping nipple and position indicator. The mechanical position indicator for false ceilings is usable for each mechanically operated BSK-RPR-EU with hand lever.

Product: SCHAKO **type MSZ**

## COMMISSIONING AND MAINTENANCE

### COMMISSIONING

Before the ventilation and air-conditioning system and thus also the fire dampers are put into operation for the first time, they must undergo an inspection in order to determine and assess the installation and function (see model protocol, page 25).

### FUNCTIONAL CHECKING, CLEANING, REPAIR

The owner or operator of a ventilation and air-conditioning system must arrange for its function to be checked. The inspection must be carried out at least every six months. If two successive functional tests at intervals of half a year do not reveal any defects, the interval may be increased to one year.

The following standards describe the basic maintenance measures and are generally to be taken into account:

- EN 13306
- DIN 31051
- EN 15423

In addition, any possible national or building code regulations regarding the safe operation of ventilation and air-conditioning systems must be observed.

#### 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 the manual unlocking disc (pos. 42) at the hand lever (pos. 3), thus releasing the lock (in the "OPEN" position) of the locking bolt (pos. 44) in the trigger (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 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. 42) at the hand lever (pos. 3) and move it toward the trigger device (pos. 5)
- Locking bolt (pos. 44) must snap into the trigger device (pos. 5)
- The fire damper is ready for operation again. (Damper blade is locked in the "OPEN" position).

**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 (pos. 43; 2 pieces), pull the release device out by turning it 90° and remove it from the housing.
- Compress the retainer screws of the fusible link holder (pos. 45) using a suitable tool (e.g. pliers) and replace the fusible link by 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.

#### BSK-RPR-EU with manual trigger

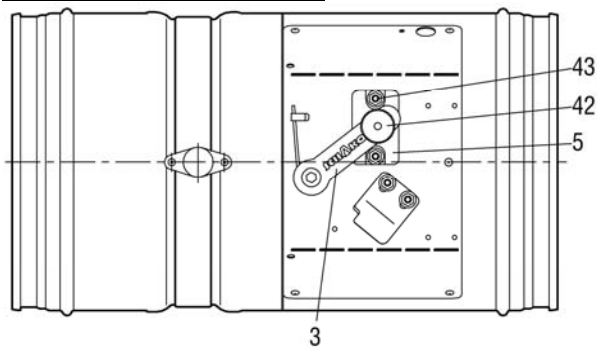


Figure 26: Side view BSK-RPR-EU (manual trigger)

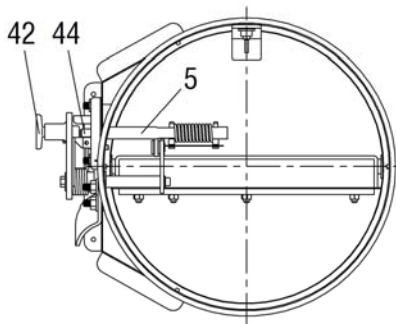


Figure 27: Front view BSK-RPR-EU (manual trigger)

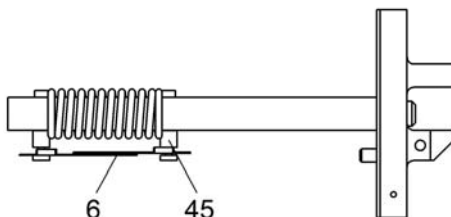


Figure 28: Release device BSK-RPR-EU (fusible link)

## 2. Release device with 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 the button (pos. 48) on the thermoelectric release device/temperature monitoring unit (pos. 47), thus removing the electric power from the spring return actuator (pos. 46) (alternatively: interrupt on-site power supply).
- Fire damper must close automatically, locking is performed by blocking the spring return actuator.

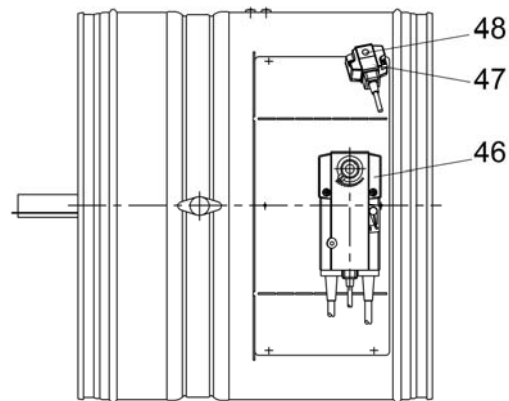
**When the fusible link becomes damaged, its replacement must be carried out as follows.**

- Replacement takes place by unscrewing both screws of the thermoelectric release device/temperature monitoring unit (pos. 47).

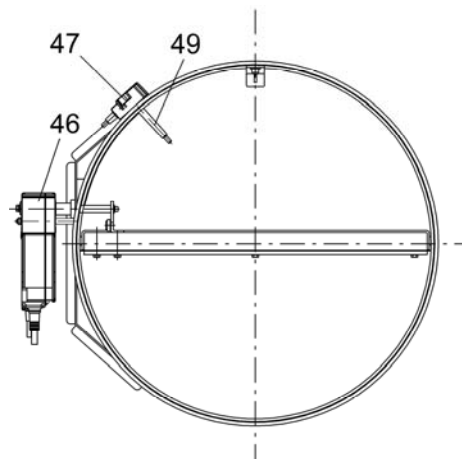
Remove the thermoelectric release device from the drive unit. Pull the internal duct temperature fuse/duct tip (pos. 49) off the thermoelectric release device/temperature monitoring unit and replace it with a new internal duct temperature fuse (ZBAT72) or duct tip (ASK79.4), depending on the type of the actuator.

Insert the thermoelectric release device/temperature monitoring unit back into the drive unit and screw it down.

### BSK-RPR-EU with spring return actuator



**Figure 29: Side view BSK-RPR-EU (spring return actuator B10/B11)**



**Figure 30: Front view BSK-RPR-EU (spring return actuator B10/B11)**



**SAMPLE OF FUNCTIONAL TEST PROTOCOL**

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 Fax: +49- (0)7463 / 980-200  
 E-mail: [info@schako.de](mailto:info@schako.de)  
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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	Prior to 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					

SAMPLE

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Fax: +49- (0)7463 / 980-200  
E-mail: [info@schako.de](mailto:info@schako.de)  
Web: [schako.com](http://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: \_\_\_\_\_

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