

Fire damper BSK-RPR Ø 100 mm before Aug 17, 2015
Conversion instruction for conversion on site for self-installation
From manual trigger to Belimo spring return actuator BFN



1. Required information for offer / customer order

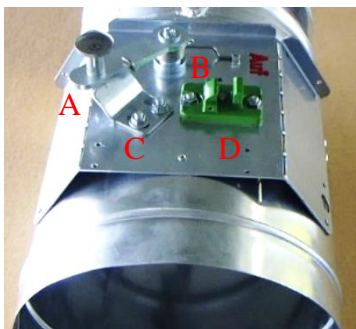
BSK type	.....	Model (R/L)	.....
Date of manufacture	.....	Material (SV/V2)	.....
Height of operating side (mm)	.....	Rated voltage (V)	.....
Width/diameter (mm)	.....	Customer order no. (KA no.)	.....

2. Scope of delivery

Pos.	Quantity	Assembly group	Designation 1	Designation 2
1*)	1	Spring return actuator	Spring return actuator B20 (24V AC/DC)	B20 (BFN24-T-ST SO)
2*)	1		Spring return actuator B21 (230V AC)	B21 (BFN230-T SO)
3	1	Small parts	Stud bolt-01 (partial thread)	M5 L=85mm
4	1		Stud bolt-02 (partial thread)	M5 L=95mm
5	2		Screw sleeve	Øa8/Øi5.5 x 23.5
6	1		Screw sleeve stud bolt-02	Øa8/Øi5.5 x 8.5
7	2		Hexagon nut	M5 (ISO 4032)
8	2		Hexagon thin nut	M5 (ISO 4035)
9	2		U-washer	M5 (ISO 7092)
10	1		Stop lever	Drive
11	1		Drive shaft adapter	Actuator
12	1		Hexagon bolt	M5x65mm (DIN 933)
13	1		U-washer	M5 (DIN 440)
14	1		Serrated lock washer	M5 (DIN 6798)
15	1		Tapping screw	3,9x25 (DIN 7981)
16	1		Cover plate seal	62x39x2mm
17	1		Cover plate	SV / V2
18	1		Sealing ring	Ø 25mm/10mm/2mm
19	1		Conversion instructions	-

*) Delivery of spring return actuator 24 V or 230 V according the order

3. Actual state



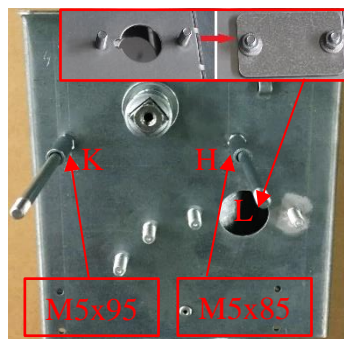
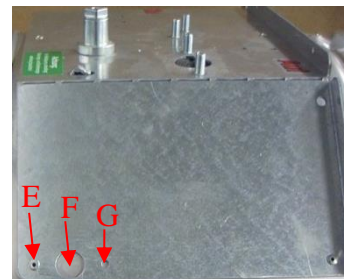
Working steps to be carried out

Dismounting

Note: Set the fire damper to the "CLOSED" ("ZU") position!

- Hand lever (A)
- Torsion spring (B)
- Locking profile (C)
- Release device (D)
- Electrical limit switch, if necessary

4. Conversion (BSK-RPR Ø 100 mm before Aug. 17, 2015)



- Remove the mounting plate fixing rivet with a Ø 3.3mm drill bit (E)
- Drill the hole Ø 12mm for the temperature fuse ZBAT (F)
- Drill the mounting plate hole Ø 2.6mm (G)
- Mount the stud bolt-01 (pos. 3) with the screw sleeve (pos. 5) to the mounting plate of the housing (H)
- Mount the stud bolt-02 (pos. 4) with the screw sleeve to the mounting plate of the housing (K)
- Mount the cover plate (pos.17) with cover plate seal (pos.16) to the mounting plate of the housing (L)
- Place the spring return actuator (pos. 1/2) onto the drive shaft

Note: Observe the rotation direction (R/L) of the spring return actuator! If necessary, use the hand lever to bring it to the correct position (2-3 revolutions)

- Fasten the spring return actuator with screw sleeve (pos. 6) (M) and hexagon nuts (pos. 7) (M/O) onto the stud bolts
- Mount the drive shaft adapter (pos. 11) and the stop lever (pos. 10) with hexagon nut (pos. 12; 13; 14) (max. torque 5 Nm) (N)
- Mount the release device BAT (on the side) and the signalling/limit switches

5. Target state



Perform a functional test. Safety function of the actuator is only guaranteed if the actuator has been connected to the rated voltage in accordance with regulations and unlocked mechanically.

The conversion on site is in the sole responsibility of the companies executing the work.
The conversion on site must be performed by a qualified person.

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From manual trigger to Belimo spring return actuator BFN



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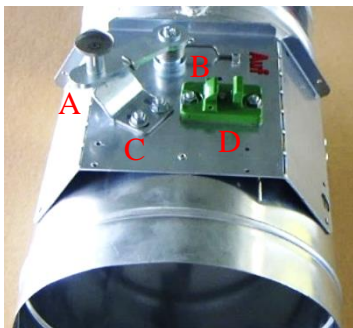
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2*)	1		Spring return actuator B21 (230V AC)	B21 (BFN230-T SO)
3	1	Small parts	Stud bolt-01 (partial thread)	M5 L=85mm
4	1		Stud bolt-02 (partial thread)	M5 L=95mm
5	2		Screw sleeve	Øa8/Øi5.5 x 23.5
6	1		Screw sleeve stud bolt-02	Øa8/Øi5.5 x 8.5
7	2		Hexagon nut	M5 (ISO 4032)
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10	1		Stop lever	Drive
11	1		Drive shaft adapter	Actuator
12	1		Hexagon bolt	M5x65mm (DIN 933)
13	1		U-washer	M5 (DIN 440)
14	1		Serrated lock washer	M5 (DIN 6798)
15	1		Drill template	Galvanised sheet steel
16	1		Tapping screw	3,9x25 (DIN 7981)
17	1		Cover plate seal	62x39x2mm
18	1		Cover plate	SV / V2
19	1		Sealing ring	Ø 25mm/10mm/2mm
20	1		Conversion instructions	-

*) Delivery of spring return actuator 24 V or 230 V according the order

3. Actual state



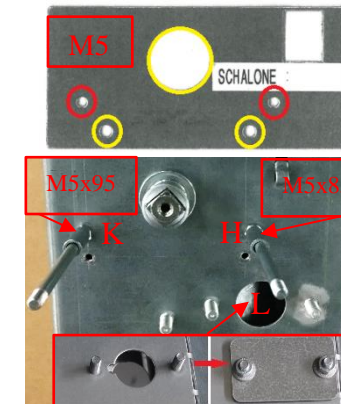
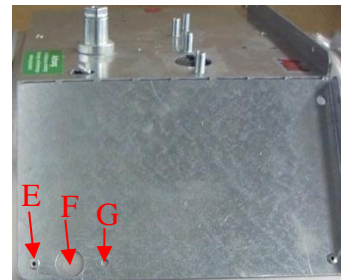
Working steps to be carried out

Dismounting

Note: Set the fire damper to the "CLOSED" ("ZU") position!

- Hand lever (A)
- Torsion spring (B)
- Locking profile (C)
- Release device (D)
- Electrical limit switch, if necessary

4. Conversion (BSK-RPR Ø 100 mm as of Aug. 17, 2015)



- Remove the mounting plate fixing rivet with a Ø 3.3mm drill bit (E)
- Drill the hole Ø 12mm for the temperature fuse ZBAT (F)
- Drill the mounting plate hole Ø 2.6mm (G)
- Position the drilling template (yellow); drill 2 holes Ø4.2mm and cut the threads M5 (red); → distance between the holes must be 60 mm and 80 mm!
- Mount the stud bolt-01 (pos. 3) with the screw sleeve (pos. 5) to the mounting plate of the housing (H)
- Mount the stud bolt-02 (pos. 4) with the screw sleeve to the mounting plate of the housing (K)
- Mount the cover plate (pos.18) with cover plate seal (pos.17) to the mounting plate of the housing (L)
- Place the spring return actuator (pos. 1/2) onto the drive shaft

Note: Observe the rotation direction (R/L) of the spring return actuator! If necessary, use the hand lever to bring it to the correct position (2-3 revolutions)

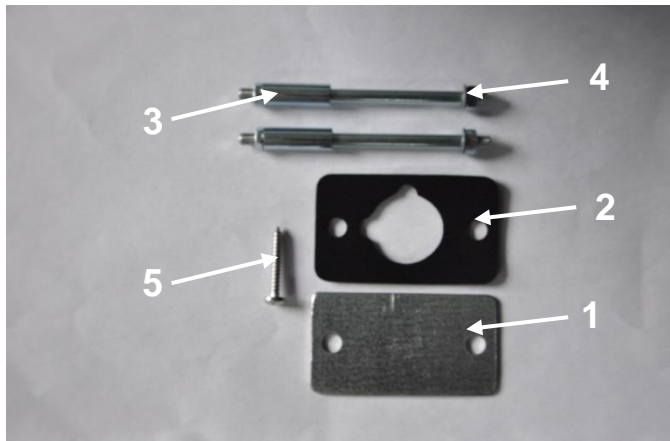
5. Target state



- Fasten the spring return actuator with screw sleeve (pos. 6) (M) and hexagon nuts (pos. 7) (M/O) onto the stud bolts
- Mount the drive shaft adapter (pos. 11) and the stop lever (pos. 10) with hexagon nut (pos. 12; 13; 14) (max. torque 5 Nm) (N)
- Mount the release device BAT (on the side) and the signalling/limit switches

Perform a functional test. Safety function of the actuator is only guaranteed if the actuator has been connected to the rated voltage in accordance with regulations and unlocked mechanically.

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Scope of delivery:

Checking the delivered parts

Note: The thermo-electric release device and spring return actuator are not shown on the photo.

- (1) Cover plate
- (2) Cover plate seal
- (3) Spacer sleeves
- (4) Stud bolts M5 x 85
- (5) Tapping screw ST4.2 x 25
- (6) Seal of the release device

Dimension [mm]	Spring return actuator
All sizes	B10 (BFL 24-T-ST SO) B11 (BFL 230-T SO)
	B20 (BFN 24-T-ST SO) * B21 (BFN 230-T SO) *

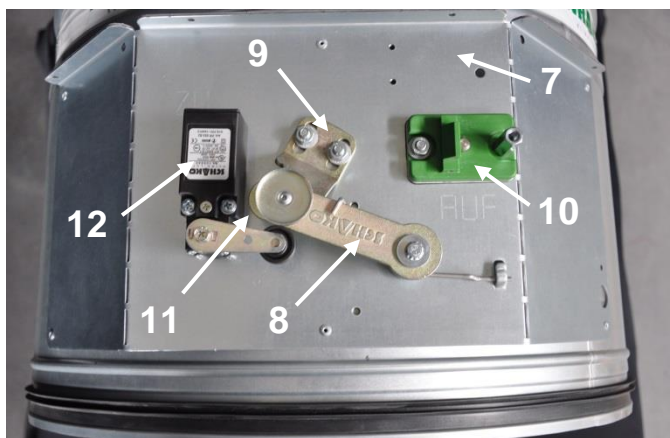
Table: Spring return actuators

Note: The spring return actuator is independent of the BSK dimensions!

* When the date of manufacture is before Aug 17, 2015, the spring return actuator BFN must be used for conversion!

Recommended tools - to be provided by the customer!

- 2 combination wrenches 10 mm
- Battery-powered screwdriver
- Drill bit sizes (Ø 2.6 mm; Ø 3.3 mm; Ø 12.0 mm)
- Screwdriver
- Pipe wrench



Actual state:

- (7) Mounting plate
- (8) Hand lever
- (9) Locking profile
- (10) Release device
- (11) Torsion spring
- (12) Limit switch, if required

Important: Before starting the dismantling work, unhook the torsion spring!

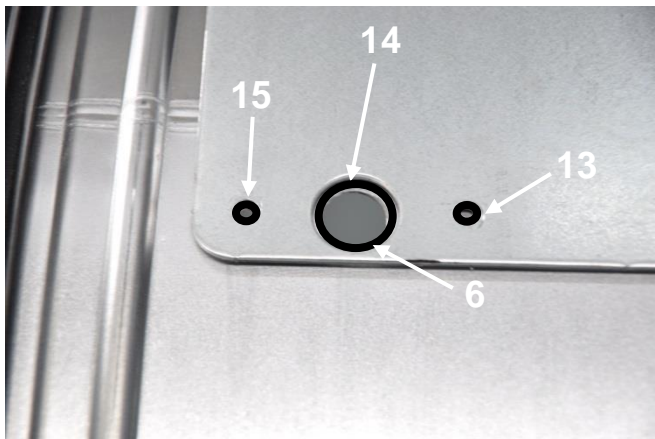
Working steps to be carried out:

Dismounting:

- (11) Torsion spring
- (10) Release device
- (9) Locking profile
- (8) Hand lever
- (12) Limit switch, if required



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Mounting preparation:

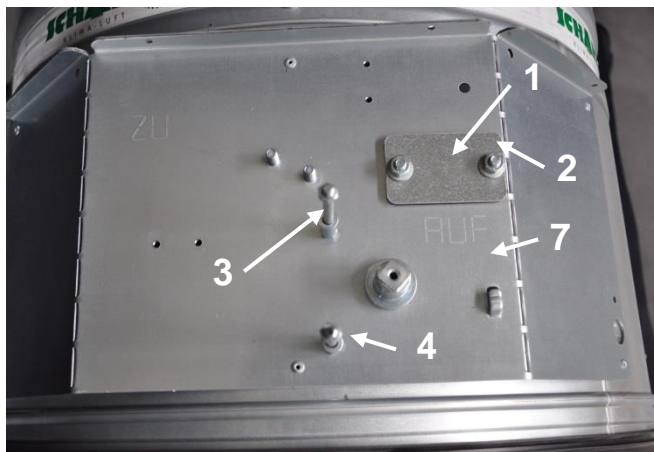
- (13) Enlarge the bore to Ø 2.6 mm
- (14) Enlarge the bore to Ø 12.0 mm
- (15) Enlarge the bore to Ø 3.3 mm

Place the seal for the release device (6) between housing and mounting plate (7) at position 14.

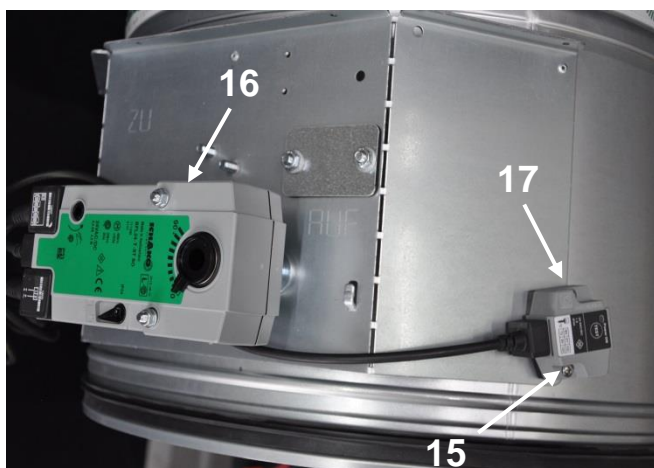
Mounting:

- Mount the new cover plate seal (2) with cover plate (1) and M6 nuts to the mounting plate (7).
- Screw the stud bolts (4) M5 x 85 included in the delivery into the threads in the mounting plate (7) and secure them with M5 hexagon nuts.
- Slide 2 spacer sleeves (3) over the stud bolts.
- Attach the spring return actuator (16) on both stud bolts (4) and fasten it with washers and M5 nuts.

Note: Observe the rotation direction (R/L) of the spring return actuator! If necessary, use the hand lever to bring it to the correct position.



- Fasten the thermo-electric release device (17) on the housing.
- For this, the screw included in the delivery and mounted on the release device must be replaced by the tapping screw (5) ST4.2 x 25 on position (15).



Perform a functional test.

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

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