

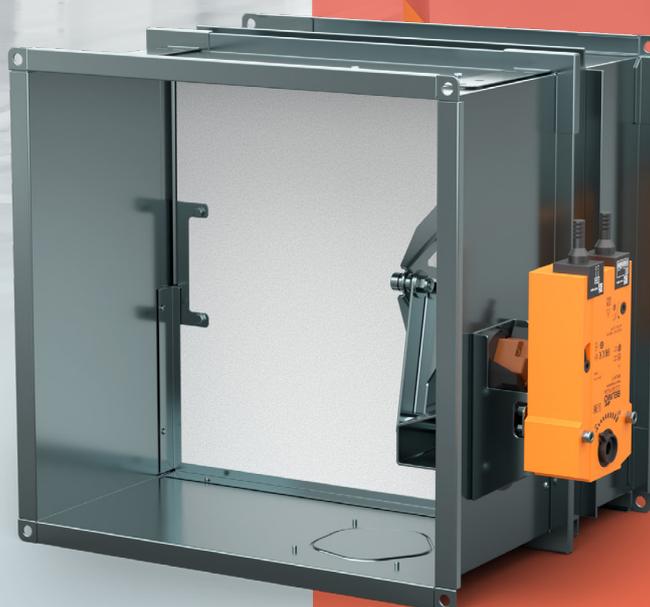
# UVS FIRE DAMPERS

CE-Certified fire  
protection solutions  
for ventilation  
systems

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TECHNICAL CATALOGUE  
No. TC-FD03

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# Main characteristics

New KOMFOVENT rectangular fire damper UVS is available in both motorized and manual versions in nominal sizes 150 x 150 mm to 1200 x 1000 mm, casing length – 370 mm.

<b>Nominal casing sizes B (width) x H (height):</b>	From 150 x 150 mm to 1200 x 1000 mm
<b>Length of the casing:</b>	370 mm
<b>Connecting flange:</b>	20 mm – integrated standard flange / 30 mm – separate flange
<b>Working temperature:</b>	From -20 to +50 °C
<b>Release (blade closing) temperature:</b>	72 °C
<b>Casing leakage classification:</b>	C
<b>Blade leakage classification:</b>	3
<b>Conformity to the EU standards:</b>	<p><b>Tested in accordance with EN 1366-2:</b> Fire resistance tests for service installations – Part 2: Fire dampers.</p> <p><b>Classified in accordance with EN 13501-3:</b> Classification – Part 3: Fire resisting ducts and fire dampers.</p> <p><b>Certificated in accordance with EN 15650:</b> Ventilation for buildings – Fire dampers.</p> <p><b>Declaration of Performance</b> issued in accordance with Construction Products Regulation (EU) no. 305/2011.</p> <p><b>Leakage classification defined in accordance with EN 1751</b> Ventilation for buildings – Air terminal devices.</p>

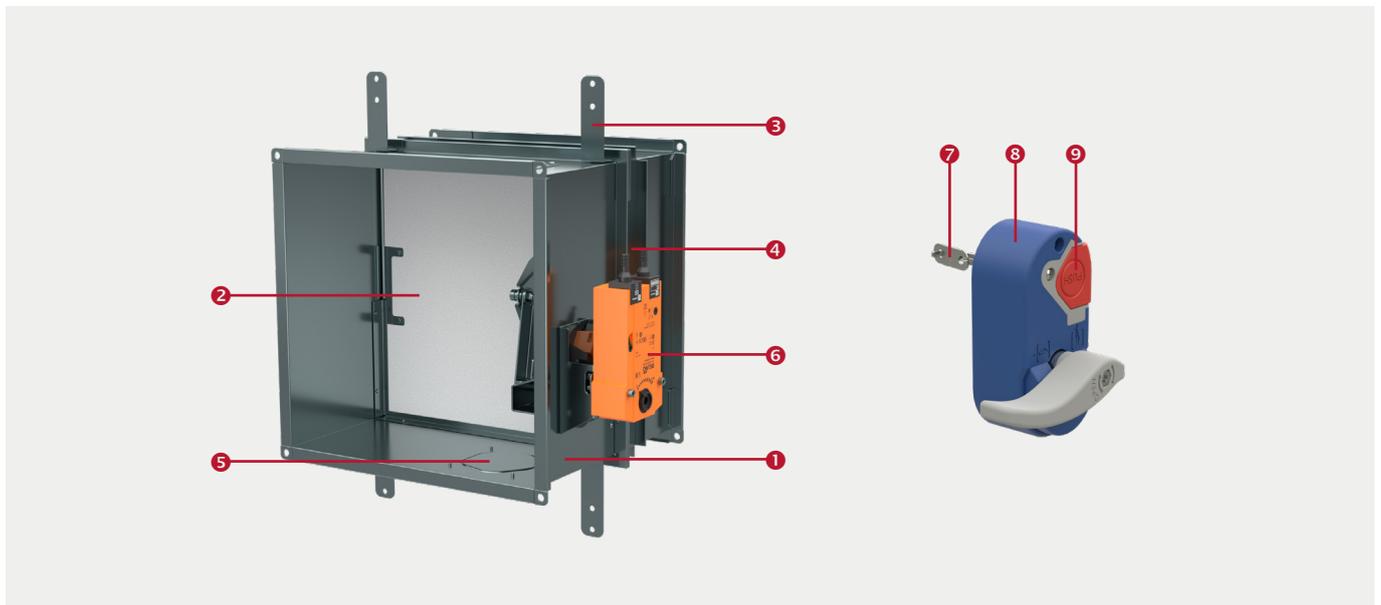
## DESIGN ADVANTAGES

- Single-sheet metal casing.
- Perforation used as a thermal bridge.
- Inspection hatch is integrated directly into the casing.
- C3 air-tightness class.
- Suitable for installation in flexible/solid wall and solid ceiling.
- Two flange sizes available.
- 24V or 230 V electric actuator for motorized dampers.
- 20 mm high integrated air duct connecting flange.

## OPTIONAL EQUIPPING:

- 30 mm high separate flange.
- Limit position switches available for a manual mechanism.
- Actuators can be equipped with ST connection plugs for simple integration in control and monitoring systems or bus networks via communication and power supply units.
- Circular integrated connections to have an option to install the damper into airduct systems in diameters 630, 710, 800, 900 and 1250 mm.
- Dampers can be supplied with BKN communication and power supply unit.

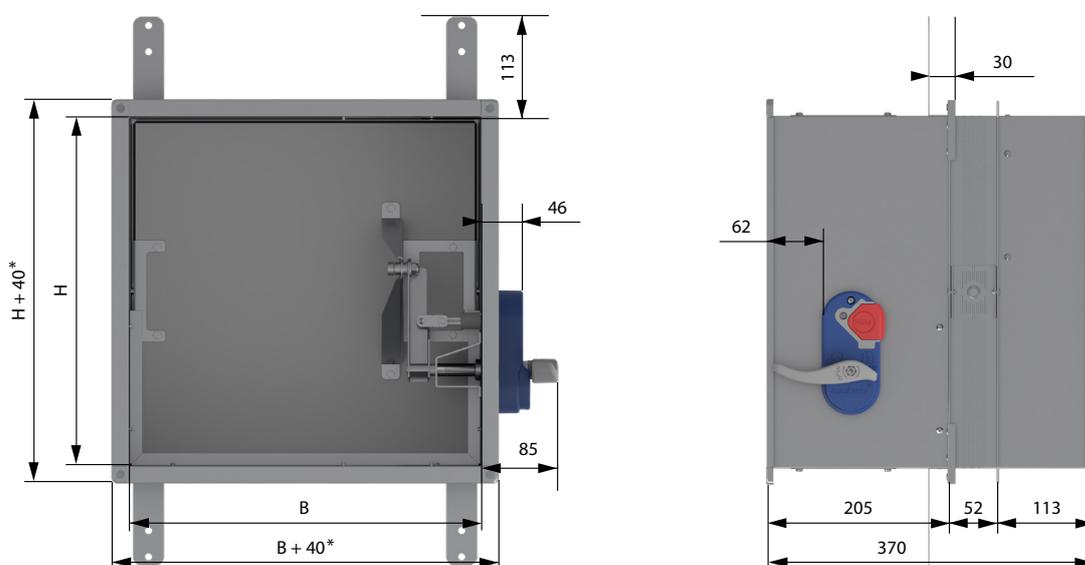
# Design and dimensions



- ① The casing of the damper
- ② Calcium silicate blade
- ③ Mounting brackets
- ④ Perforated thermal bridge
- ⑤ Inspection hatch
- ⑥ Actuator with thermosensor
- ⑦ Fuse element
- ⑧ Manual release mechanism
- ⑨ Test button

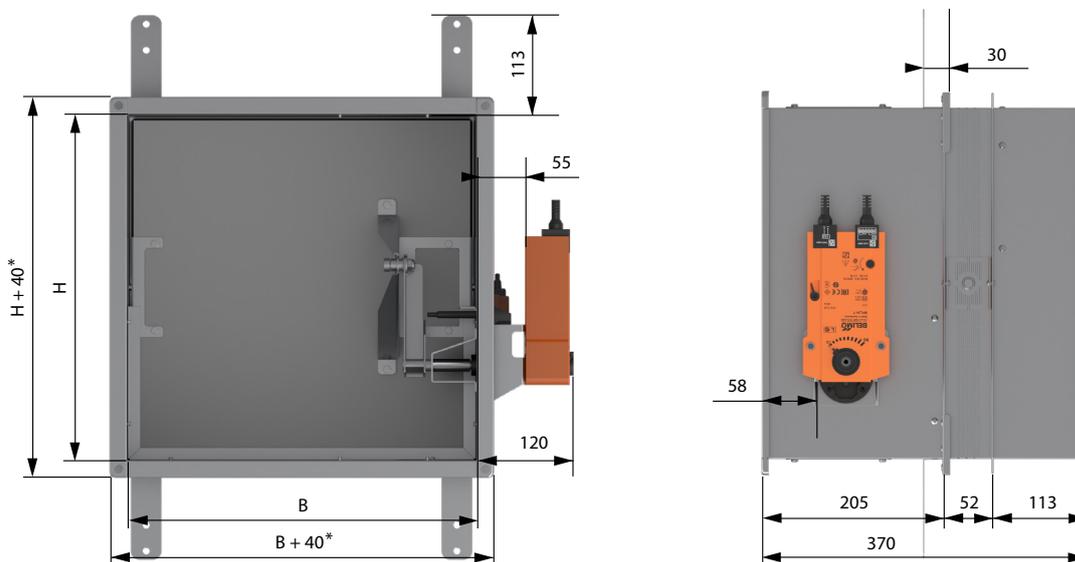
## MAIN DIMENSIONS OF THE DAMPER

### UVS-H



\* for dampers with 30 mm optional flange overall size is H+60 and B+60

## UVS-M

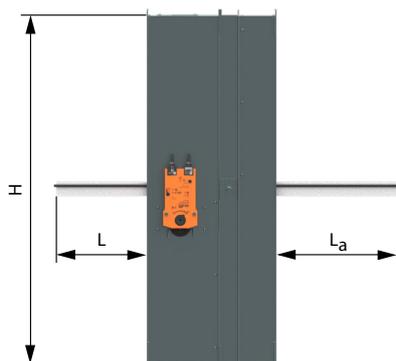


\* for dampers with 30 mm optional flange overall size is H+60 and B+60

## WEIGHTS, FREE-CROSS SECTIONAL AREA AND EXPOSITION OF THE BLADE

Blade of the UVS fire damper exposes asymmetrically due to its displaced position in the casing:

Dimensions, mm															
H, mm	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L, mm	-	-	-	-	9	34	59	84	109	134	159	184	209	234	259
L <sub>a</sub> , mm	7	32	57	82	107	132	157	182	207	232	257	282	307	332	357



**Weight of UVS-H (upper number) and UVS-M (bottom number), kg:**

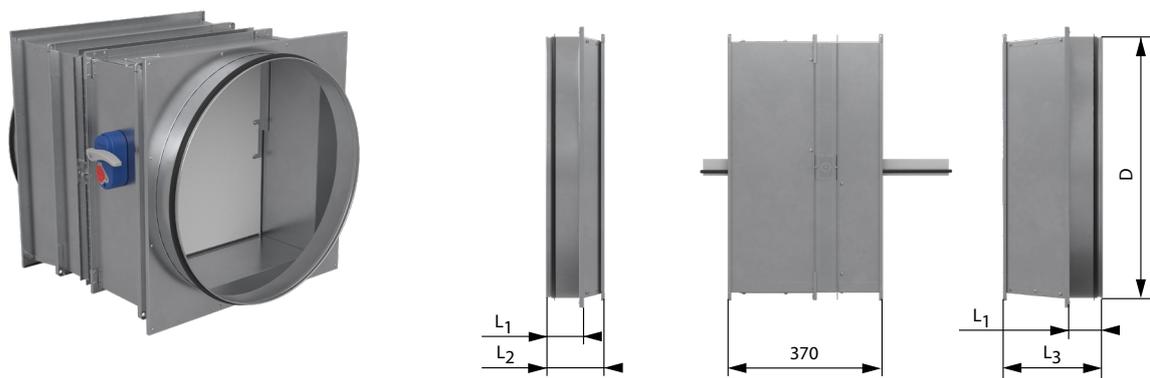
		Dimensions, mm																					
H \ B		150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
	150		3.5	4.5	5.5	6.5	7.2	8.0	8.7	9.1	9.7	10.0	10.9	12.0	12.1	12.2	12.8	13.4	13.8	14.2	14.3	14.5	15.0
		5.5	5.6	6.6	7.6	8.3	9.1	9.8	10.2	10.8	11.1	12.0	13.1	13.2	13.3	13.9	14.5	14.9	15.3	15.4	15.6	16.1	16.5
200		4.3	5.5	6.7	7.9	8.7	9.8	10.6	11.1	11.8	12.2	13.2	14.6	14.7	14.8	15.5	16.3	16.7	17.2	17.4	17.6	18.2	18.7
		5.4	6.6	7.8	9.0	9.8	10.9	11.7	12.2	12.9	13.3	14.3	15.7	15.8	15.9	16.6	17.4	17.8	18.3	18.5	18.7	19.3	19.8
250		5.1	6.5	8.0	9.4	10.4	11.6	12.6	13.2	14.0	14.5	15.8	17.4	17.5	17.7	18.5	19.4	19.9	20.6	20.7	21.0	21.7	22.3
		6.2	7.6	9.1	10.5	11.5	12.7	13.7	14.3	15.1	15.6	16.9	18.5	18.6	18.8	19.6	20.5	21.0	21.7	21.8	22.4	23.1	23.7
300		5.9	7.6	9.3	10.9	12.0	13.5	14.6	15.4	16.3	16.8	18.3	20.2	20.4	20.5	21.5	22.6	23.1	23.9	24.1	24.4	25.2	25.9
		7.0	8.7	10.4	12.0	13.1	14.6	15.7	16.5	17.4	17.9	19.4	21.3	21.5	21.6	22.9	24.0	24.5	25.3	25.5	25.8	26.6	27.3
350		6.7	8.6	10.5	12.4	13.7	15.4	16.6	17.5	18.5	19.2	20.9	23.0	23.2	23.4	24.4	25.7	26.3	27.2	27.4	27.8	28.7	29.5
		7.8	9.7	11.6	13.5	14.8	16.5	17.7	18.6	19.6	20.3	22.0	24.4	24.6	24.8	25.8	27.1	27.7	28.6	28.8	29.2	30.1	30.9
400		7.6	9.7	11.8	13.9	15.4	17.3	18.7	19.6	20.8	21.5	23.4	25.8	26.0	26.2	27.4	28.8	29.5	30.5	30.7	31.2	32.1	33.1
		8.7	10.8	12.9	15.0	16.5	18.4	19.8	20.7	22.2	22.9	24.8	27.2	27.4	27.6	28.8	30.2	30.9	31.9	32.1	32.6	33.5	34.5
450		8.4	10.7	13.1	15.5	17.0	19.1	20.7	21.7	23.1	23.8	25.9	28.6	28.8	29.1	30.4	32.0	32.8	33.8	34.1	34.6	35.6	36.7
		9.5	11.8	14.2	16.6	18.1	20.2	22.1	23.1	24.5	25.2	27.3	30.0	30.2	30.5	31.8	33.4	34.2	35.2	35.5	36.0	37.0	38.1
500		9.2	11.8	14.4	17.0	18.7	21.0	22.7	23.9	25.3	26.2	28.5	31.4	31.6	31.9	33.4	35.1	36.0	37.1	37.4	38.0	39.1	40.3
		10.3	12.9	15.5	18.1	19.8	22.4	24.1	25.3	26.7	27.6	29.9	32.8	33.0	33.3	34.8	36.5	37.4	38.5	38.8	39.4	40.5	41.7
550		10.0	12.8	15.7	18.5	20.4	22.9	24.8	26.0	27.6	28.5	31.0	34.2	34.5	34.8	36.3	38.2	39.2	40.4	40.7	41.4	42.6	43.9
		11.1	13.9	16.8	19.6	21.8	24.3	26.2	27.4	29.0	29.9	32.4	35.6	35.9	36.2	37.7	39.6	40.6	41.8	42.1	42.8	44.0	45.3
600		10.8	13.9	17.0	20.0	22.0	24.7	26.8	28.1	29.8	30.9	33.6	37.0	37.3	37.6	39.3	41.4	42.4	43.7	44.1	44.8	46.1	47.5
		11.9	15.0	18.1	21.4	23.4	26.1	28.2	29.5	31.2	32.3	35.0	38.4	38.7	39.0	40.7	42.8	43.8	45.1	45.5	46.2	47.5	48.9
650		11.7	15.0	18.2	21.5	23.7	26.6	28.8	30.3	32.1	33.2	36.1	39.8	40.1	40.5	42.3	44.5	45.6	47.0	47.4	48.1	49.6	51.1
		12.8	16.4	19.6	22.9	25.1	28.0	30.2	31.7	33.5	34.6	37.5	41.2	41.5	41.9	43.7	45.9	47.0	48.4	48.8	49.5	51.0	52.5
700		12.5	16.0	19.5	23.0	25.4	28.5	30.8	32.4	34.4	35.5	38.6	42.5	42.9	43.3	45.3	47.6	48.8	50.4	50.7	51.5	53.1	54.7
		13.9	17.4	20.9	24.4	26.8	29.9	32.2	33.8	35.8	36.9	40.0	43.9	44.3	44.7	46.7	49.0	50.2	51.8	52.1	52.9	54.5	56.1
750		13.3	17.1	20.8	24.5	27.0	30.4	32.9	34.5	36.6	37.9	41.2	45.3	45.8	46.2	48.3	50.8	52.0	53.7	54.1	54.9	56.6	58.2
		14.7	18.5	22.2	25.9	28.4	31.8	34.3	35.9	38.0	39.3	42.6	46.7	47.2	47.6	49.7	52.2	53.4	55.1	55.5	56.3	58.0	59.6
800		13.4	17.1	20.9	24.7	27.2	30.5	33.0	34.7	36.8	38.0	41.4	45.6	46.0	46.4	48.5	51.0	52.3	53.9	54.3	55.2	56.8	58.5
		14.8	18.5	22.3	26.1	28.6	31.9	34.4	36.1	38.2	39.4	42.8	47.0	47.4	47.8	49.9	52.4	53.7	55.3	55.7	56.6	58.2	59.9
850		14.1	18.1	22.1	26.1	28.7	32.2	34.9	36.7	38.9	40.2	43.7	48.1	48.6	49.0	51.2	53.9	55.2	57.0	57.4	58.3	60.1	61.8
		15.5	19.5	23.5	27.5	30.1	33.6	36.3	38.1	40.3	41.6	45.1	49.5	50.0	50.4	52.6	55.3	56.6	58.4	58.8	59.7	61.5	63.2
900		15.0	19.2	23.4	27.6	30.4	34.1	36.9	38.8	41.1	42.5	46.3	50.9	51.4	51.9	54.2	57.0	57.0	58.4	60.3	61.7	63.6	65.4
		16.4	20.6	24.8	29.0	31.8	35.5	38.3	40.2	42.5	43.9	47.7	52.3	52.8	53.3	55.6	58.4	59.8	61.7	62.2	63.1	65.0	66.8
950		15.8	20.2	24.7	29.1	32.0	36.0	38.9	40.9	43.4	44.9	48.8	53.7	54.2	54.7	57.2	60.1	61.6	63.6	64.1	65.1	67.1	69.0
		17.2	21.6	26.1	30.5	33.4	37.4	40.3	42.3	44.8	46.3	50.2	55.1	55.6	56.1	58.6	61.5	63.0	65.0	65.5	66.5	68.5	70.4
1000		16.6	21.3	25.9	30.6	33.7	37.9	41.0	43.1	45.6	47.2	51.4	56.5	57.1	57.6	60.2	63.3	64.8	66.9	67.4	68.5	70.5	73.4
		18.0	22.7	27.3	32.0	35.1	39.3	42.4	44.5	47.0	48.6	52.8	57.9	58.5	59.0	61.6	64.7	66.2	68.3	68.8	69.9	71.9	74.8

Free area of the UVS fire dampers calculated for fully opened blade, m<sup>2</sup>:

Dimensions, mm																						
B H	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
150	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.12	0.12	0.13	0.13
200	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.17	0.18	0.18	0.19
250	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25
300	0.04	0.05	0.07	0.08	0.09	0.10	0.12	0.13	0.14	0.16	0.17	0.18	0.20	0.21	0.22	0.23	0.25	0.26	0.27	0.29	0.30	0.31
350	0.05	0.06	0.08	0.09	0.11	0.12	0.14	0.16	0.17	0.19	0.20	0.22	0.23	0.25	0.26	0.28	0.29	0.31	0.33	0.34	0.36	0.37
400	0.05	0.07	0.09	0.11	0.13	0.14	0.16	0.18	0.20	0.22	0.23	0.25	0.27	0.29	0.31	0.32	0.34	0.36	0.38	0.40	0.41	0.43
450	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.21	0.23	0.25	0.27	0.29	0.31	0.33	0.35	0.37	0.39	0.41	0.43	0.45	0.47	0.49
500	0.07	0.09	0.12	0.14	0.16	0.18	0.21	0.23	0.25	0.28	0.30	0.32	0.35	0.37	0.39	0.41	0.44	0.46	0.48	0.51	0.53	0.55
550	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.28	0.31	0.33	0.36	0.38	0.41	0.43	0.46	0.48	0.51	0.54	0.56	0.59	0.61
600	0.08	0.11	0.14	0.17	0.20	0.22	0.25	0.28	0.31	0.34	0.36	0.39	0.42	0.45	0.48	0.50	0.53	0.56	0.59	0.62	0.64	0.67
650	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.31	0.34	0.37	0.40	0.43	0.46	0.49	0.52	0.55	0.58	0.61	0.64	0.67	0.70	0.73
700	0.10	0.13	0.17	0.20	0.23	0.26	0.30	0.33	0.36	0.40	0.43	0.46	0.50	0.53	0.56	0.59	0.63	0.66	0.69	0.73	0.76	0.79
750	0.11	0.14	0.18	0.21	0.25	0.28	0.32	0.36	0.39	0.43	0.46	0.50	0.53	0.57	0.60	0.64	0.67	0.71	0.75	0.78	0.82	0.85
800	0.11	0.15	0.19	0.23	0.27	0.30	0.34	0.38	0.42	0.46	0.49	0.53	0.57	0.61	0.65	0.68	0.72	0.76	0.80	0.84	0.87	0.91
850	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.41	0.45	0.49	0.53	0.57	0.61	0.65	0.69	0.73	0.77	0.81	0.85	0.89	0.93	0.97
900	0.13	0.17	0.22	0.26	0.30	0.34	0.39	0.43	0.47	0.52	0.56	0.60	0.65	0.69	0.73	0.77	0.82	0.86	0.90	0.95	0.99	1.03
950	0.14	0.18	0.23	0.27	0.32	0.36	0.41	0.46	0.50	0.55	0.59	0.64	0.68	0.73	0.77	0.82	0.86	0.91	0.96	1.00	1.05	1.09
1000	0.14	0.19	0.24	0.29	0.34	0.38	0.43	0.48	0.53	0.58	0.62	0.67	0.72	0.77	0.82	0.86	0.91	0.96	1.01	1.06	1.10	1.15

## CIRCULAR CONNECTIONS TO THE DAMPERS

For integration in duct systems with diameters 630, 710, 800, 900, 1000 and 1250 mm fire damper models with factory installed two asymmetrical circular connections are available. *Please refer to p. 25 for detailed installation instructions.*



Nominal size B x H, mm	Diameter D, mm	L <sub>1</sub> , mm	L <sub>2</sub> , mm	L <sub>3</sub> , mm	The total length of the damper, mm	m, kg
600 x 600	630	100	140	237	747	38
700 x 700	710	100	207	310	887	44
800 x 800	800	135	261	360	991	51
900 x 900	900	135	309	408	1087	59
1000 x 800	1000	135	280	377	1027	62
1200 x 1000	1250	135	366	465	1201	68

# Technical data

## ACTUATING SYSTEM

Fire dampers UVS-H are equipped with a manual spring-return mechanism with 72 °C fuse element, but UVS-M fire dampers are equipped with electrical BFL/BFN T24V or 230V actuators with a spring return mechanism and integrated end position switch. In case of power failure, fire dampers will close automatically.

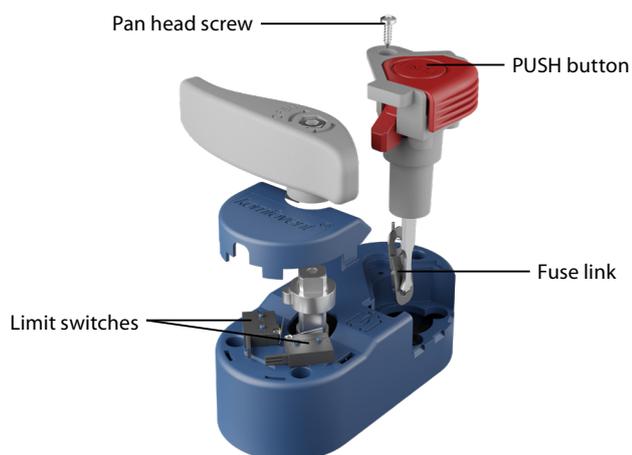


UVS-M equipped with an electric actuator and thermosensor



UVS-H equipped with spring-return mechanism and fuse link

## FIRE DAMPERS WITH FUSE LINK UVS-H



- Manual spring–return mechanism
- Release temperature of the fuse link - 72 °C
- Fuse link replacing by unscrewing one cross-recessed pan head screw and taking out the PUSH button
- Limit position switches available as an option

Limit position switches can also be ordered separately - see next page for detailed Installation instructions.

Switch series	EN 61058 Rating	UL1054 Rating	Min. operation acc. to EN	Min. operation acc. to UL
DC1	6A, 250V~	5A, 125/250VAC	10 000	6 000



Switch cam – 1 pc.



Microswitch – 1 or 2 pcs.

**INSTALLATION STEPS:**

1

Unscrew damper's handle holding screw DIN 912, then remove handle and cap:

Screw:  
DIN 912 M6x10

2

Place switch cam to the axis and one or two microswitches to the indicated positions. Make sure that the cam ledge pushes the microswitches' metal plate.

**ACTION SHOULD BE TAKEN IF THE CAM DOESN'T PUSH THE METAL PLATE:**

Using an appropriate tool (e.g. pliers), GENTLY fold the metal plate as shown:

3-5°

**Avoid to fold the plate too hard so it can be broken!**

3

Place switch cam and handle back and screw in DIN 912 screw:

4

Connect microswitches to designed way. Each microswitch has NC (normally closed), NO (normally open) and C (common) poles. Connection scheme using signaling device is shown below:

Each microswitch has NC (normally closed), NO (normally open), and C (common) poles. The connection scheme using a signaling device is shown below:

## FIRE DAMPERS WITH ELECTRIC SPRING-RETURN ACTUATOR UVS-M

Two actuator types – BFL24 -T/ BFL230-T and BFN24-T/ BFN230-T are used in UVS-M dampers in acc. to size table.

When an electric current is supplied to the actuator, the fire damper is in an open position. When the electricity supply to the actuator is interrupted, the return spring triggers and closes the damper. The actuator can also be controlled manually and fixed in any position. BFL / BFN actuators control fire dampers after receiving signals from a centralized control system, or in response to a thermoelectric tripping device, which is an integral part of UVS-M...T, UVS-M...TST dampers.

Once the air temperature reaches +72 °C, temperature sensors will respond and permanently terminate the power supply to the actuator. After each actuation, temperature sensors must be replaced.

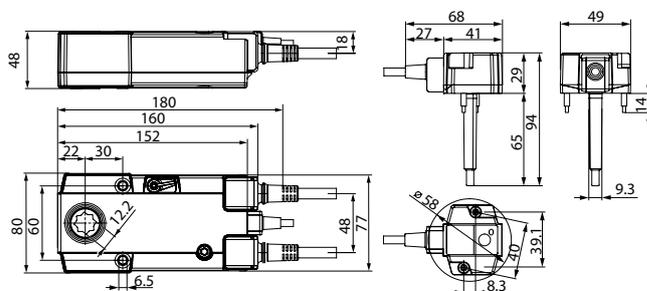
TST damper model is equipped with connection plugs for simple integration in control and monitoring systems or bus networks via communication and power supply units (BKN230... models).

### Use of the actuator types

		Dimensions, mm																	
H B	H	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
	150																		
200																			
250																			
300																			
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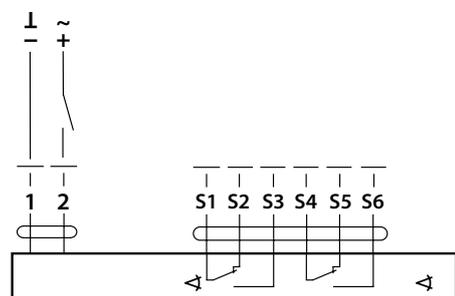
BFL (4/3 Nm)
  BFN (9/7 Nm)

**WIRING DIAGRAMS AND SPECIFICATION OF BFL24 -T/ BFL230-T ACTUATOR**



Technical specification	BFL24-T	BFL230-T
Electrical current	AC/DC 24 V 50/60 Hz	AC 230 V 50/60 Hz
Weight	1200 g	1200 g
Torque: Motor Return spring	min. 4 Nm min. 3 Nm	min. 4 Nm min. 3 Nm
Rotation angle	max. 95°	max. 95°
Normal operating temperature	-30...55 °C	-30...55 °C
Protection class IEC/EN	III Safety extra-low voltage	III Safety extra-low voltage
Protection class auxiliary switch IEC/EN	III Safety extra-low voltage	III Safety extra-low voltage

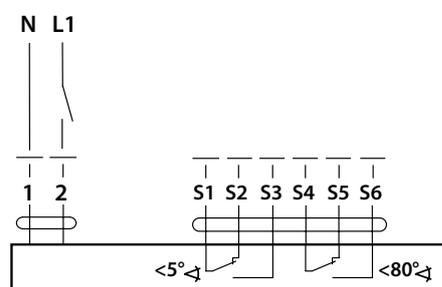
**AC/DC 24V open/close**



**Cable colors:**

- 1 = black
- 2 = red
- S1 = violet
- S2 = red
- S3 = white
- S4 = orange
- S5 = pink
- S6 = grey
- Tf: Thermal fuse

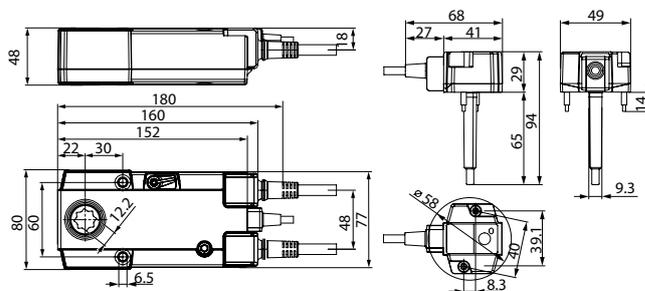
**AC 230 V open/close**



**Cable colors:**

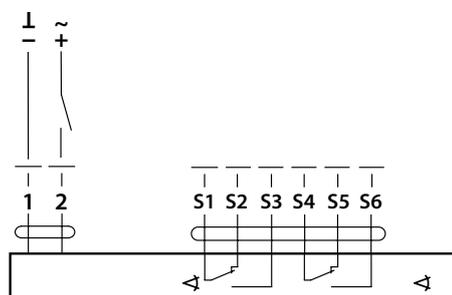
- 1 = blue
- 2 = brown
- S1 = violet
- S2 = red
- S3 = white
- S4 = orange
- S5 = pink
- S6 = grey
- Tf: Thermal fuse

## WIRING DIAGRAMS AND SPECIFICATION OF BFN24 -T/ BFN230-T ACTUATOR



Technical specification	BFN24-T	BFN230-T
Electrical current	AC/DC 24 V 50/60 Hz	AC 230 V 50/60 Hz
Weight	1400 g	1500 g
Torque: Motor Return spring	min. 9 Nm min. 7 Nm	min. 9 Nm min. 7 Nm
Rotation angle	Max. 95°	Max. 95°
Normal operating temperature	-30...55 °C	-30...55 °C
Protection class IEC/EN	III Safety Extra-Low Voltage	II reinforced insulation
Protection class auxiliary switch IEC/EN	II reinforced insulation	II reinforced insulation

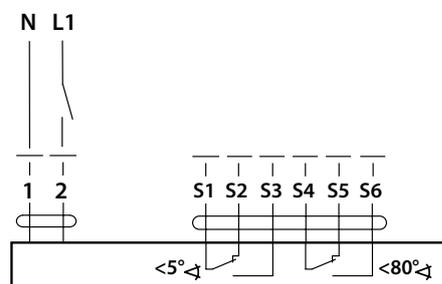
### AC/DC 24 V open/close



#### Cable colors:

1 = black  
2 = red  
S1 = violet  
S2 = red  
S3 = white  
S4 = orange  
S5 = pink  
S6 = grey  
Tf: Thermal fuse

### AC 230 V open/close



#### Cable colors:

1 = blue  
2 = brown  
S1 = violet  
S2 = red  
S3 = white  
S4 = orange  
S5 = pink  
S6 = grey  
Tf: Thermal fuse

## COMMUNICATION AND POWER SUPPLY UNIT

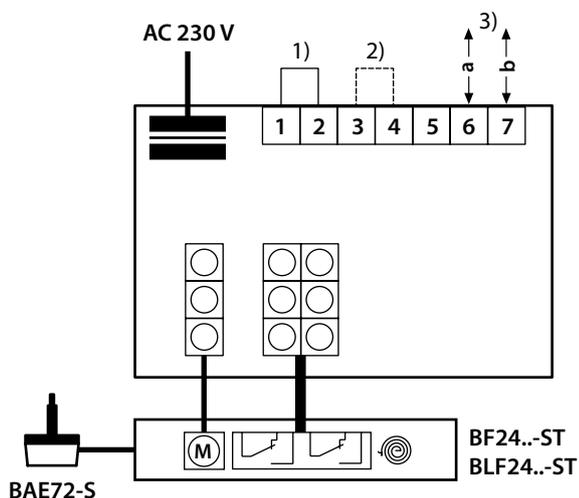
UVS-M dampers could optionally be equipped with a Communication and power supply unit for fire damper actuators 24 V with connector **BKN230-24** or a Communication and power supply unit for fire damper actuators 24 V with connector **BKN230-24-MOD** for communication via BACnet MS/TP and Modbus RTU.

### BKN230-24 unit

The BKN230-24 also functions as a distributed power unit for supplying the BF..24..-ST, BLF24(-T)-ST spring-return actuator that is connected to it. Another of its functions is to signal the NORMAL and SAFE positions of the damper (from the switches in the spring-return actuators) to the central control panel over a 2-wire conductor. The same conductor is used for transmitting the ON/OFF control command from the control panel to the damper actuator via the BKN230-24.



The ST spring-return actuator is fitted with connectors that plug directly into the BKN230-24 unit. The 2-wire conductor is connected to terminals 6 and 7. Terminals 1 and 2 are for the direct connection of thermal trips or smoke detectors.



- 1) Jumper factory-fitted. Can be removed if necessary to be replaced by a thermoelectric trip (the safety function will be triggered if terminals 1 and 2 are not linked).
- 2) Jumper only used for commissioning purposes and without BKS24-.. !
- 3) 2-wire conductor to BKS24-..

## BKN230-24-MOD unit

- Communication via BACnet MS/TP and Modbus RTU (RS-485)
- AC 230 V supply via Euro plug
- Power is supplied to the actuators via a plug contact (galvanically isolated, DC 24 V)
- Simple integration of a smoke detector with no additional power supply is possible
- Suitable actuators: BF24...-ST, BFN24...-ST, BFL24...-ST

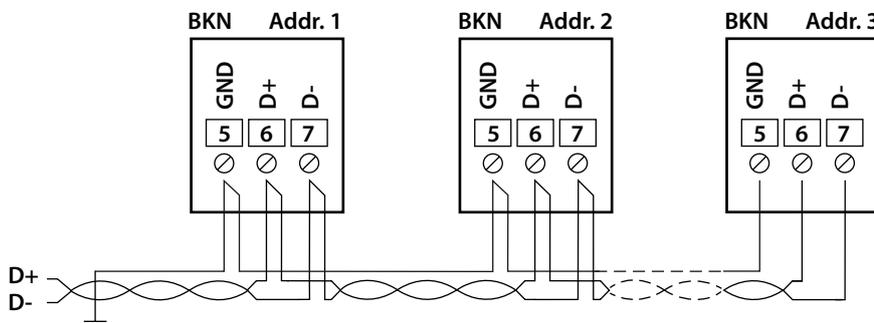


The BKN230-24-MOD is installed with the motorized fire damper. This unit sets up the communication connection with higher-level systems while the built-in safety isolating transformer supplies DC 24 V voltage to the damper actuator.



- 1 Power supply cable and plug, AC 230 V
- 2 Tab connection for damper actuator (motor DC 24 V)
- 3 Tab connection for damper actuator (limit switch)
- 4 USB mini socket for – BKN-MOD-BAC Update Tool
- 5 Connecting terminals for:
  1. External smoke detector, +24 V, max. 50 mA
  2. External smoke detector, control input
  3. GND
  4. BKN Direct Control, override control input
  5. Modbus GND
  6. Modbus D+
  7. Modbus D–

## BACnet / Modbus wiring



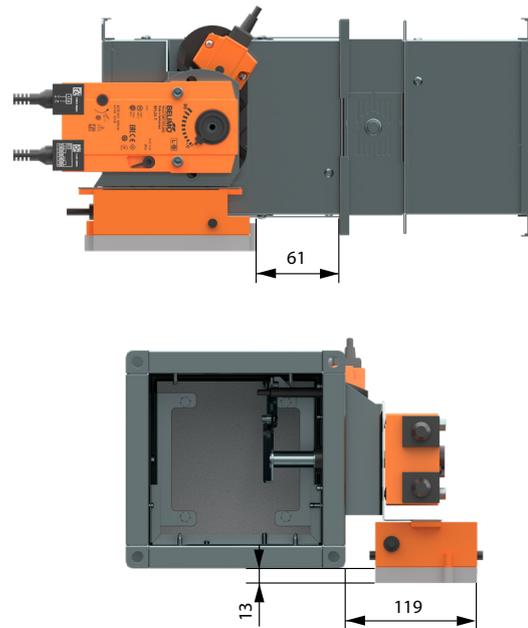
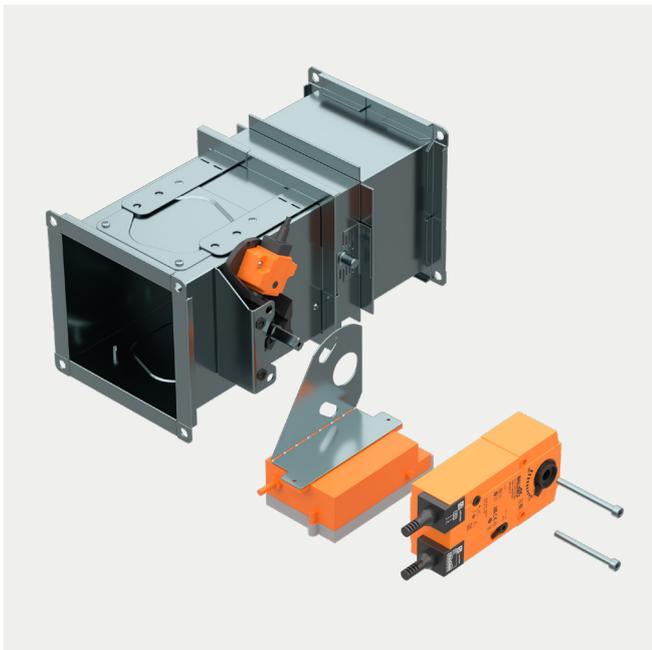
### BACnet / Modbus-GND

Implementation of the bus wiring in a 3-wire format is mandatory. The GND must be connected to the protective earth of the control cabinet.

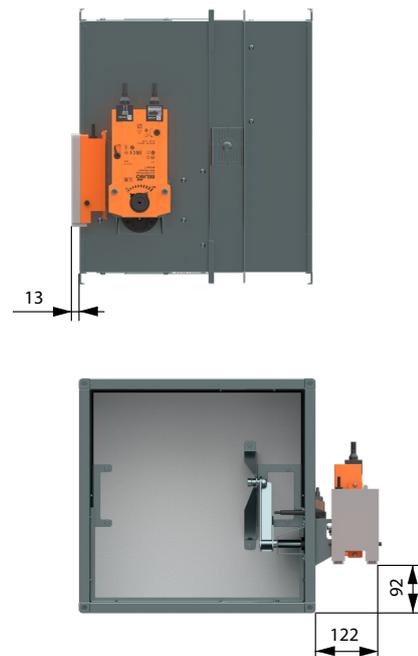
The wiring of the line for BACnet (MS/TP) / Modbus (RTU) is to be carried out in accordance with applicable RS485 regulations.

**POSITIONING OF THE COMMUNICATION UNIT**

For the UVS-M damper, in height up to 250 mm the Communication unit is positioned under the actuator:



For the dampers starting with 300 mm in height, the Communicating unit is positioned in front of actuator:



# Installation

## FIRE RESISTANCE PERFORMANCES

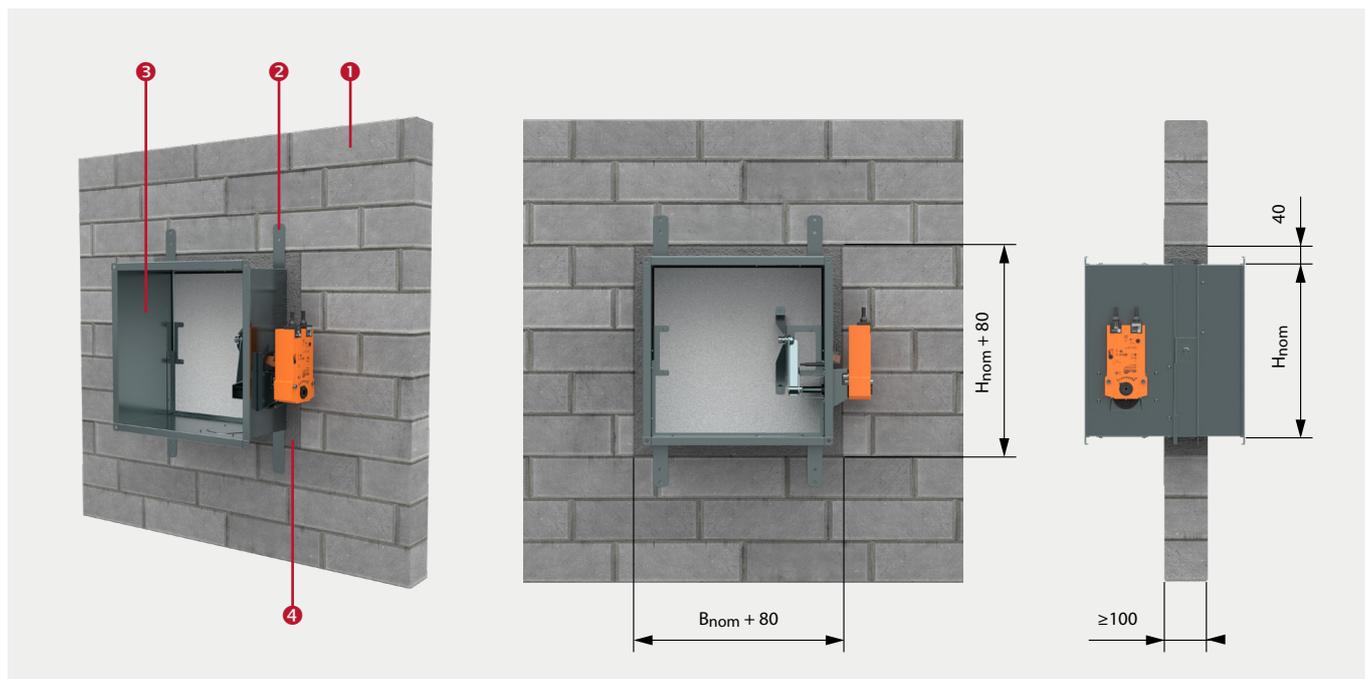
The EIS performance classes of the UVS fire damper may vary depending on the wall or ceiling type and installation type.

Supporting construction	Construction details	Installation type	Size of the damper	Installation details*	Class of performance	Page
<b>Solid wall</b>	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks) $\geq 100$ mm	Plaster or mortar	150x150 mm to 1200x1000 mm	1, 3, 4, 5	EI120 ( $v_e i \leftrightarrow o$ )S 300 Pa	19
<b>Solid wall</b>	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks) $\geq 100$ mm	Fire batt (mineral wool min. density 160 kg/m <sup>3</sup> )	150x150 mm to 1200x800 mm	1, 3, 4, 5	EI90 ( $v_e i \leftrightarrow o$ )S 300 Pa	20
<b>Flexible wall</b>	Metal stud gypsum plasterboard type F (EN 520) $\geq 100$ mm	Plaster or mortar	150x150 mm to 1200x1000 mm	1, 3, 4, 5	EI90 ( $v_e i \leftrightarrow o$ )S 300 Pa	21
<b>Flexible wall</b>	Metal stud gypsum plasterboard type F (EN 520) $\geq 100$ mm	Fire batt (mineral wool min. density 160 kg/m <sup>3</sup> )	150x150 mm to 1200x800 mm	1, 3, 4, 5	EI90 ( $v_e i \leftrightarrow o$ )S 300 Pa	22
<b>Flexible wall</b>	Metal stud gypsum plasterboard type F (EN 520) $\geq 125$ mm	Plaster or mortar	150x150 mm to 1200x1000 mm	1, 3, 4, 5	EI120 ( $v_e i \leftrightarrow o$ )S 300 Pa	23
<b>Solid ceiling</b>	Solid reinforced hollowed / non-hollowed ceiling panel $\geq 150$ mm	Plaster or mortar	150x150 mm to 1200x1000 mm	2, 4, 5	EI120 ( $h_o i \leftrightarrow o$ )S 300 Pa	24

- \* 1 – positioning of the damper: vertical
- 2 – positioning of the damper: horizontal
- 3 – axis position: horizontal
- 4 – min. distance between casings: 200 mm
- 5 – min. distance to load-bearing structural elements: 75 mm

## MORTAR-BASED INSTALLATION IN A SOLID WALL

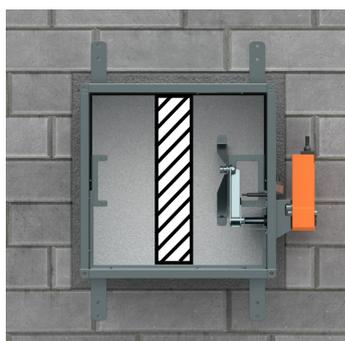
### EIS 120



- ① Solid wall  $\geq 100$  mm
- ② Mounting brackets
- ③ UVS-H / UVS-M fire damper
- ④ Plaster or mortar

### Installation process

1. Prepare an installation opening  $B_{nom}+80$  mm x  $H_{nom}+80$  mm. *The dimensions of the gap could be increased in acc. with EN 15882-2. Decrease is permitted where there is sufficient premise for installation.*
2. Mounting brackets can be used to secure the damper in the opening.
3. Fill the gap between casing of the damper and supporting construction with plaster or mortar.



For mortar-based installation it is recommended to protect the geometry of the fire damper casing against deformations and skewness, using suitable strut. Leave the strut until the mortar is completely hardened.

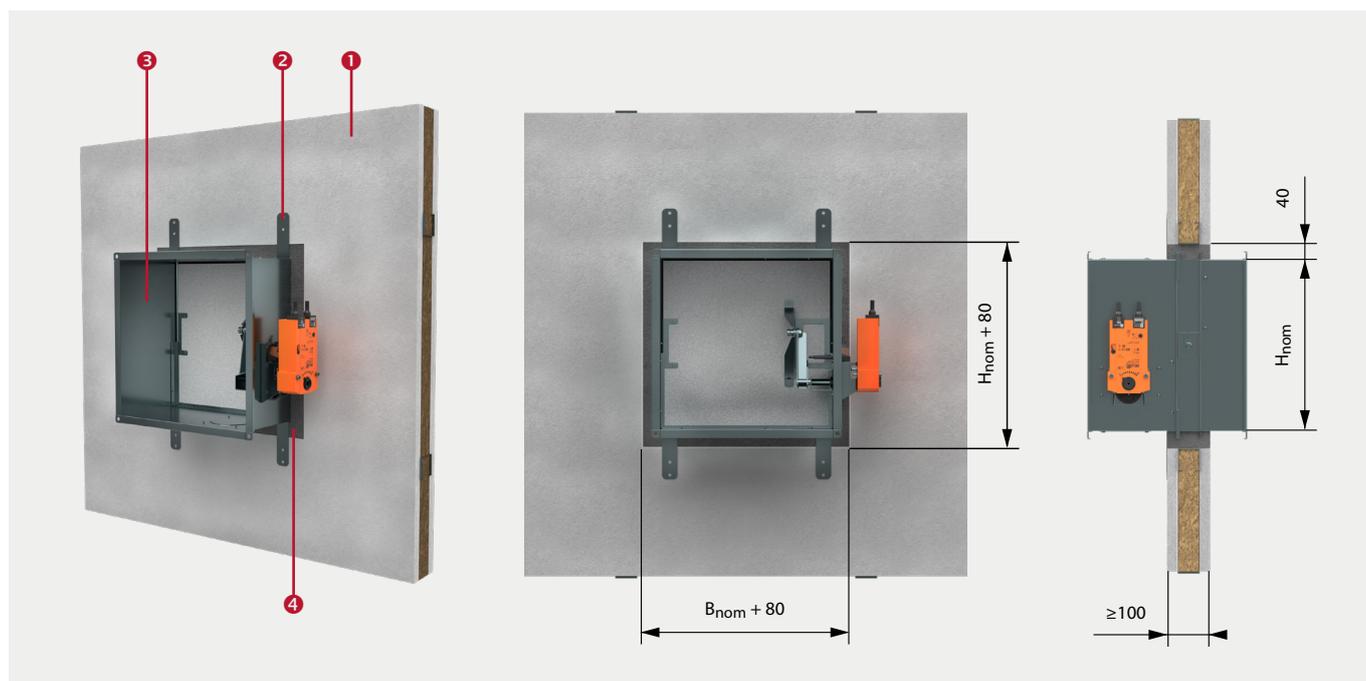
#### Mortar used for gap filling

- A1 reaction to fire
- Max. thermal conductivity – 0.34 W/m-K



## MORTAR-BASED INSTALLATION IN A 100 MM FLEXIBLE WALL

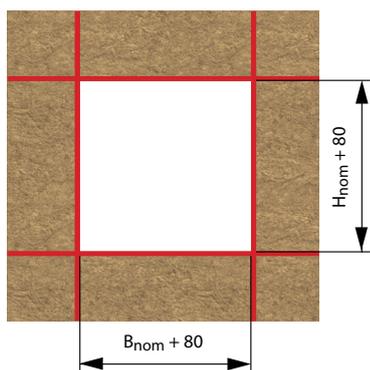
### EIS 90



- ❶ Lightweight partition wall with metal stud frame  $\geq 100$  mm
- ❷ Mounting brackets
- ❸ UVS-H / UVS-M fire damper
- ❹ Plaster or mortar

### Installation process

1. Prepare an installation opening  $B_{nom}+80$  mm x  $H_{nom}+80$  mm. *The dimensions of the gap could be increased in acc. with EN 15882-2. Decrease is permitted where there is sufficient premise for installation.*
2. Mounting brackets can be used to secure the damper in the opening.
3. Fill the gap between casing of the damper and supporting construction with plaster or mortar.

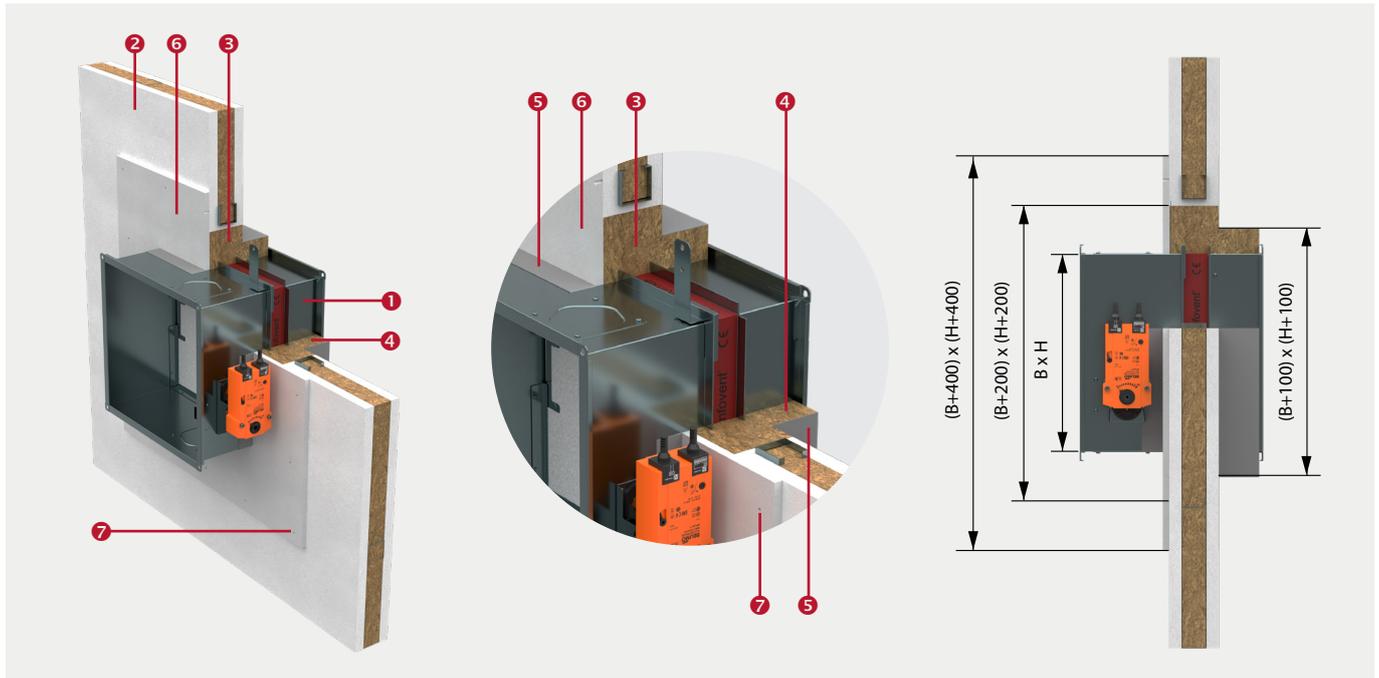


Standard lightweight 100 mm thick partition wall, constructed of 50 mm thick metal stud profiles frame, covered on both sides with 2 layers of F type gypsum boards in min. thickness of 12.5 mm.

Around the installation opening additional reinforcing steel stud frame should be mounted by providing the required size of the gap. Area inside the metal frame should be filled with 50 mm stone wool (minimal density  $100 \text{ kg/m}^3$ ).

## FIRE-BATT - BASED INSTALLATION IN A FLEXIBLE WALL (METAL STUD DRYWALL)

EIS 90 (for size range 150x150 to 1200x800 mm)



- ❶ Fire damper UVS-M / UVS-H (150x150 to 1200x800 mm)
- ❷ Flexible wall (standard metal stud drywall, min. 100 mm thick)
- ❸ Mineral wool slabs, total thickness of min. 100 mm, min. density 100 kg/m<sup>3</sup> (ROCKWOOL Frontrock S)\*
- ❹ Additional mineral wool collar from the opposite side of the actuating mechanism, min. density 100 kg/m<sup>3</sup> (ROCKWOOL Frontrock S)\*
- ❺ Min. 2 mm thick layer of ablative coating (PROMAT Promastop-CC paste)\*
- ❻ Additional gypsum 12.5 mm thick board on the actuating mechanism side
- ❼ Drywall screws 3.5x50 mm

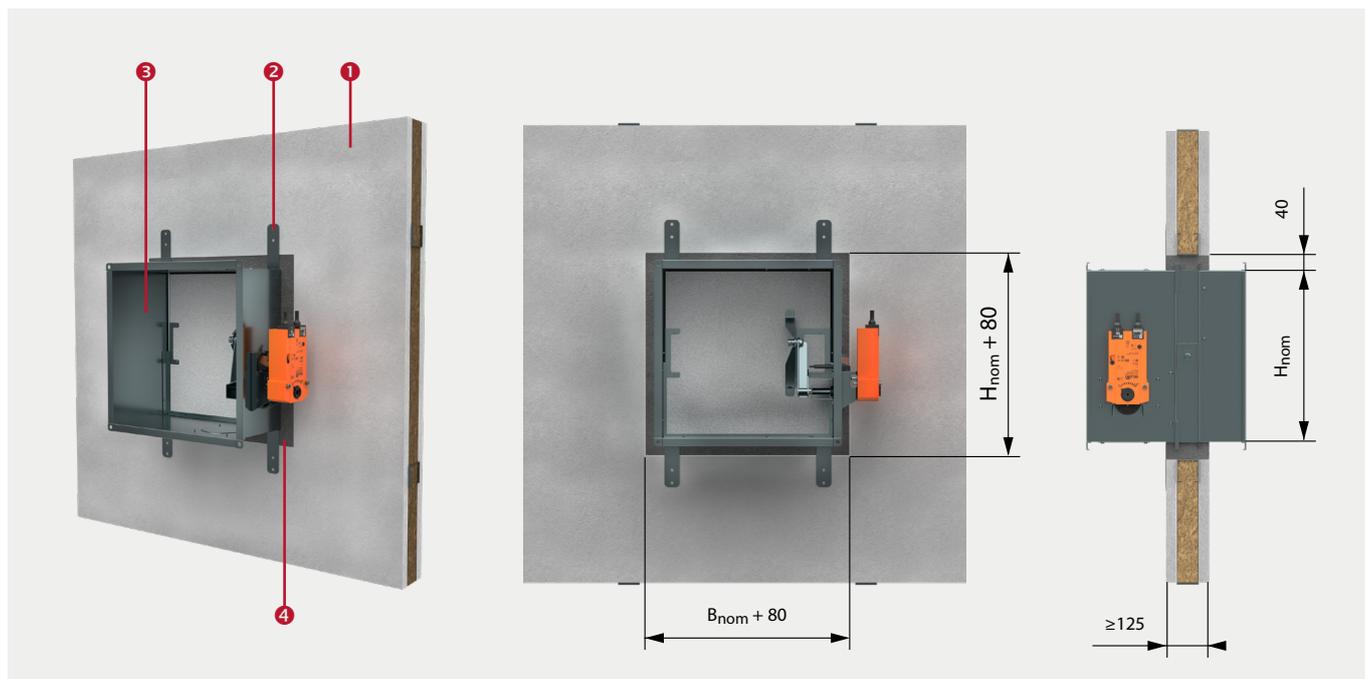
### Installation process

1. Prepare rectangular installation opening  $B_{nom}+225 \times H_{nom}+225$  mm and cover the internal perimeter with min. 12.5 mm thick gypsum board and 2 mm thick ablative coating (resulting dimensions of the installation opening -  $B_{nom}+200 \times H_{nom}+200$  mm)
2. Cover the central part of the casing of the damper with min. 2 mm layer of ablative coating from actuating mechanism up to the opposite flange. Build the damper on the installation opening and fill the gap between wall and casing of the damper with mineral wool slabs
3. From the opposite side of the actuating mechanism attach a mineral wool slabs 80x50 mm around the casing of the damper. All gaps between wool and casing should be filled with ablative coating. The mineral wool collar can be tightened with clamp if required until ablative coating is dried out.
4. Apply the ablative coating on to the wall on the actuating mechanism side in size at least  $B_{nom}+400 \times H_{nom}+400$  mm and cover with min. 12.5 mm gypsum board around the perimeter of the damper in size  $B_{nom}+400 \times H_{nom}+400$  mm. All gaps between gypsum boards should be filled with ablative coating. Fasten the gypsum boards on the wall using appropriate drywall screws in 200 mm increments.

\* Insulation materials can be replaced by equivalent sealants with at least same density, thickness and reaction to fire class.

## MORTAR-BASED INSTALLATION IN 125 MM FLEXIBLE WALL

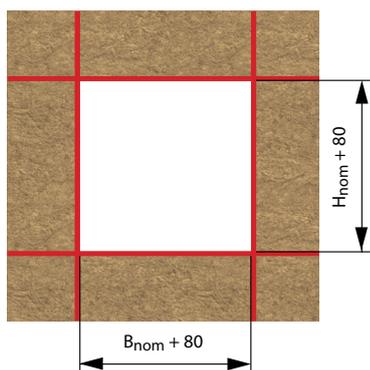
### EIS 120



- ① Lightweight partition wall with metal stud frame  $\geq 125$  mm
- ② Mounting brackets
- ③ UVS-H / UVS-M fire damper
- ④ Plaster or mortar

### Installation process

1. Prepare an installation opening  $B_{nom}+80$  mm x  $H_{nom}+80$  mm. *The dimensions of the gap could be increased in acc. with EN 15882-2. Decrease is permitted where there is sufficient premise for installation.*
2. Mounting brackets can be used to secure the damper in the opening.
3. Fill the gap between casing of the damper and supporting construction with plaster or mortar.



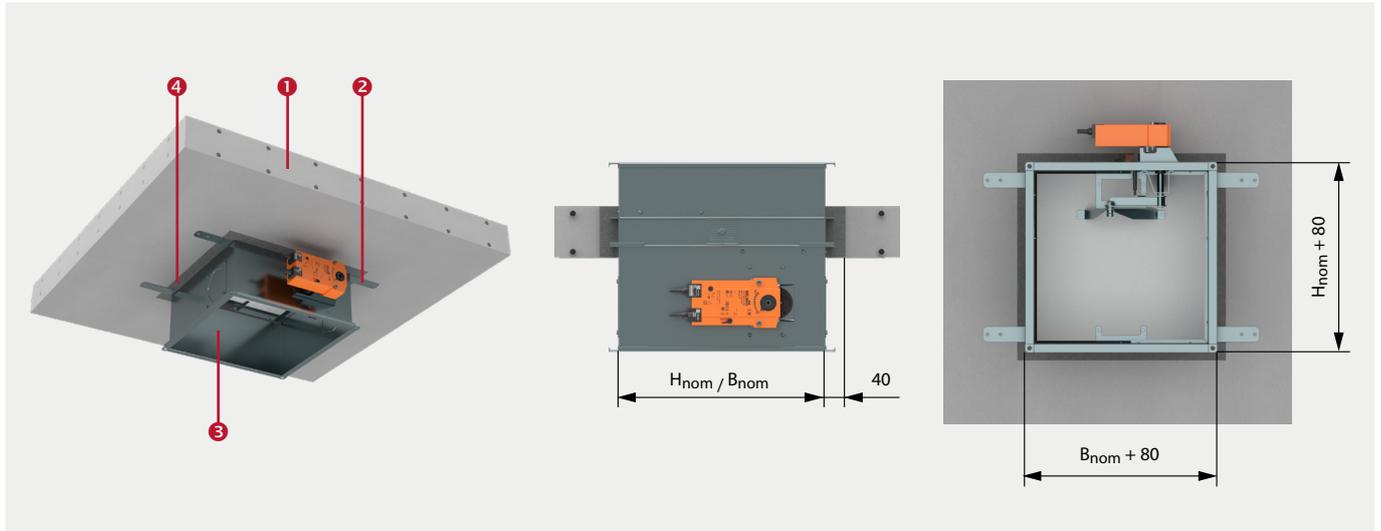
Standard lightweight 125 mm thick partition wall, constructed of 65 mm thick metal stud profiles frame, covered on both sides with 2 layers of F type gypsum boards in min. thickness of 15 mm.

Around the installation opening additional reinforcing steel stud frame should be mounted by providing the required size of the gap. Area inside the metal frame should be filled with 60 mm stone wool (minimal density  $100 \text{ kg/m}^3$ ).

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## MORTAR-BASED INSTALLATION IN A 150 MM CEILING PANELS

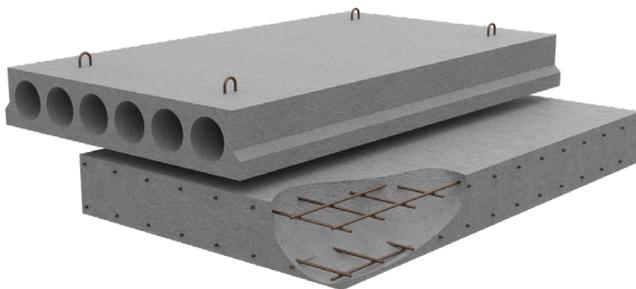
### EIS 120



- 1 Solid reinforced ceiling slab  $\geq 150$  mm
- 2 Mounting brackets
- 3 UVS-H / UVS-M fire damper
- 4 Plaster or mortar

#### Installation process

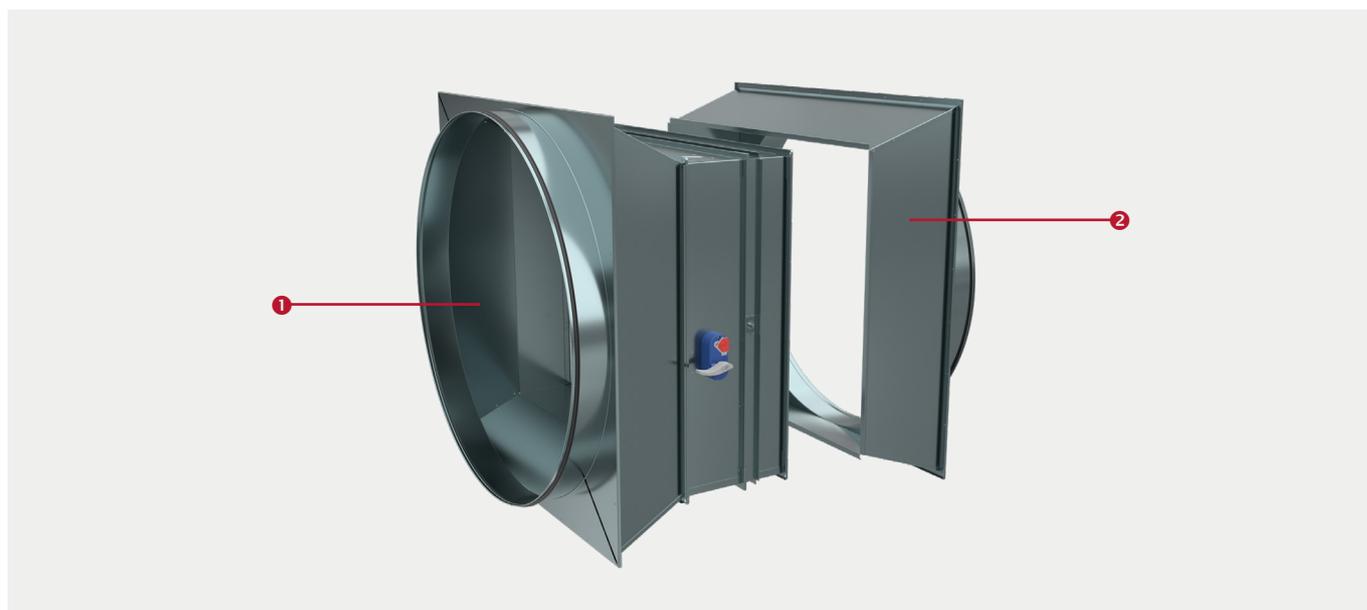
1. Prepare an installation opening  $B_{nom}+80$  mm x  $H_{nom}+80$  mm. *The dimensions of the gap could be increased in acc. with EN 15882-2. Decrease is permitted where there is sufficient premise for installation.*
2. Using mounting brackets secure the damper in the installation opening.
3. Fill the gap between casing of the damper and supporting construction with plaster or mortar.



Standard solid 150 mm thick monolithic reinforced ceiling slab in min. fire resistance of EI 120 normally used for the horizontal installation type.

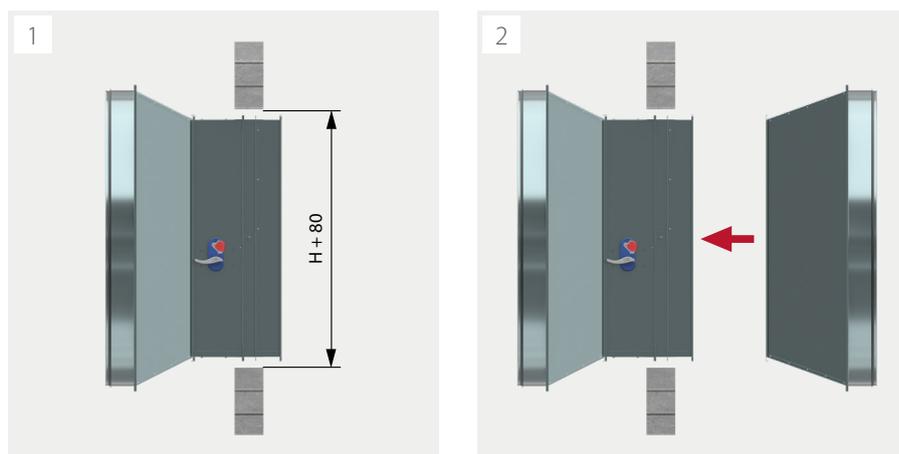
In acc. to EN 1366-2 the installation can be also used for cellular or hollow masonry blocks or slabs that have a min. fire resistance of EI 120.

Fire dampers with circular connection UVS-D for connection diameters  $D=1000$  and  $D=1250$  mm, one of the circular adapters is delivered separately due to the installation features (installation opening is smaller than the overall dimensions of the adapter):



- ❶ A pre-mounted adapter on the damper
- ❷ A separately supplied adapter

For mortar-based installation of the damper (when installation opening is  $B_{nom}+80 \times H_{nom}+80$ ) the damper should be primarily installed into the supporting construction without the separate adapter [1] and then the second adapter can be joined [2]:



The connected adapter can be secured using standard ventilation fixings such as G-clamps for rectangular airduct flange or bolts with slide C-type channels.



G-lamp



C-type channel

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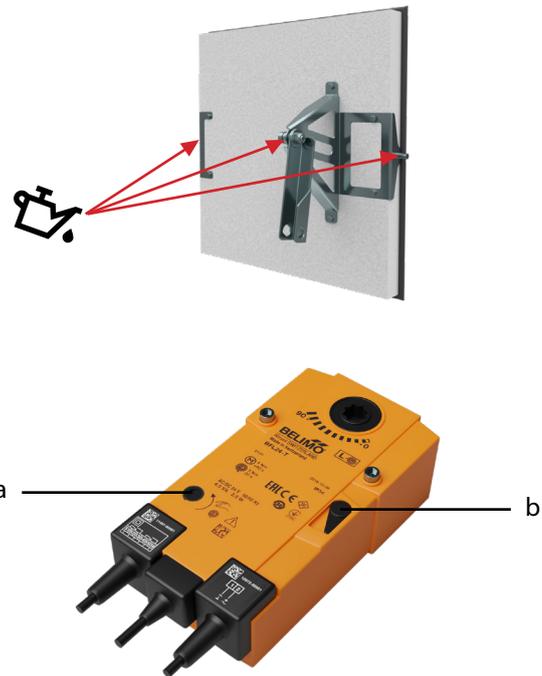
## INSTALLATION FEATURES

Installation of the fire damper may be carried out only by qualified staff and should be implemented according to the following instructions

1. Check if the blade is closing and opening without additional resistance. If sticking occurs, lubricate rotation points as shown below using a suitable amount of lubricating agent.
2. Fire dampers are originally delivered with a closed blade. If a fire damper has been installed with an open blade, this may cause incomplete closing of the blade or even damage. Blade position can be controlled by referring to marks located on the actuator's casing: 0° is equivalent to Closed position, 90° is equivalent to Open position:

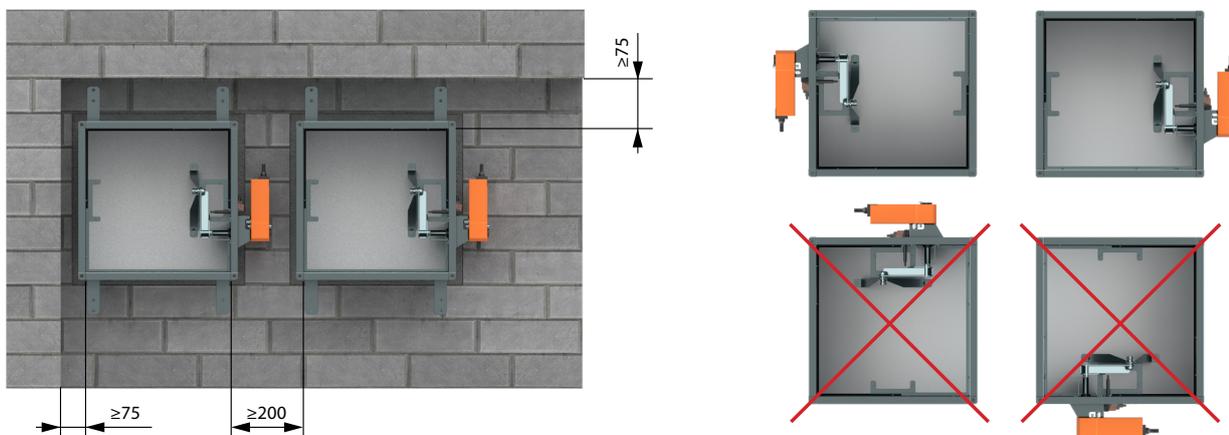
*a – Without a power supply, the actuating mechanism can be operated manually by compressing the spring using an included hand crank and fixing it in the required position. It can be unlocked manually or automatically by applying the supply voltage.*

*b – Striker to lock the position of the blade.*



3. Cover the actuating mechanism (if delivered uncovered) in the process of damper installation with plastic film or another material to protect it against clogging with construction dust and materials.
4. Prepare installation openings in the wall or in the ceiling in accordance with the projected type of installation.
5. The distance between multiple fire dampers installed close to each other shall not exceed 200 mm\*, as well a damper must not be installed closer than 75 mm\* to the walls, ceiling or other partitions, but it is recommended to leave the access space to the actuator at least 300 mm. The axle of the damper blade may be located only horizontally!

\* distance between casing of the damper (not flanges or other parts)



6. It is important to position the blade of the damper into the supporting construction if possible closer to center.

It is also recommended to provide a minimum distance of 10 mm between the supporting construction (wall or ceiling) edge and actuating mechanism of the fire damper.



7. Fill in the gap between the casing and supporting construction with a prescribed type of the filler and if required let the filler dry out completely before removing the decking.

8. Visually check that the fire damper is securely installed into the supporting construction, check if the lever system is undamaged and if the blade is closing and opening properly. The blade must be fully closed and no seizing should be observed.

9. When the fire damper is fully installed and verified, make sure it is left in its normal working position (open blade).

10. Please consider that all EU working safety and Fire safety standards must be observed during the installation process.

## **SELF-TEST AFTER THE COMPLETION OF THE FIRE DAMPER INSTALLATION:**

- Inspection hatch (where incorporated into the casing of the damper or into the connecting duct) is accessible;
- Blade of the fire damper is not locked in open position (backed by something);
- Casing of the fire damper has been not damaged during the installation process;
- The fire damper is installed by observing the requirements of the instructions;
- Fasteners used during the installation process do not prevent the closing of the blade;
- All gaps between the casing of the fire damper and the supporting construction are filled;
- The damper is not installed remotely from the wall or ceiling;
- Construction waste or dust do not remain on the surfaces of the damper;
- Actuator is not disconnected or mounted loose on shaft;
- Wires do not pass through the fire damper.

# Periodical inspections

It is a mandatory requirement of EN 15650 that all fire dampers must be checked at least twice a year. Below is KOMFOVENT recommended maintenance inspection checklist.

Year of inspection	Year 1		Year 2		Year 3		Year 4		Year 5	
Date of inspection	01.01.21									
Inspected by										

Installation date: \_\_\_\_\_

Checked by / date: \_\_\_\_\_

Accepted by / date: \_\_\_\_\_

## RECORDS OF THE FIRE DAMPER PERIODICAL INSPECTIONS

Fire damper ref. No.	FD 25			
Location	Server room 121			
Damper type and size	UVS-M 1200x1000			
Mounted in wall (w) or slab (s) thickness	W100			
Access to the damper compliant	Yes			
Installation in acc. to manufacturer's instructions	Yes			
Correct operation of the fire damper	Yes			
Damper cleanness (accumulated dust, grease)	No			
Lubricate all moving Parts (done/not done)	Yes			
Damper condition (corrosion, rust)	No			
The fusible link or thermosensor was replaced	No			
Damages or modifications	No			
Blade and sealing material is undamaged	Yes			
The wiring of the end switches is undamaged and connected	Yes			
The wiring of the actuator is undamaged and connected	NA			
Pass/fail blade drop test	Pass			
End switches indicate blade closing	Yes			
Fire damper left in OPEN position	Yes			
Year of inspection	1	x		
	2			
	3			
	4			
	5			
Comments				

# Safety requirements

 <p><b>Protective gloves must be worn</b></p> <p>Protective gloves protect hands against abrasion, oily environment, sharp metal parts and contact with hot surfaces.</p>	 <p><b>Protective industrial helmet must be worn</b></p> <p>Industrial helmets protect the head against impact from objects falling from above, by resisting and deflecting blows to the head.</p>	 <p><b>Protective boots must be worn</b></p> <p>Protective boots protect the foot from falling objects or compression and prevent slipping on a slippery floor.</p>	 <p><b>Incorrect use might cause dangerous situations.</b></p>
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The local regulations for health and safety at work and general safety regulations to be applied.

**Personal protective equipment must be worn for such types of work: fire damper electrical installation, fire damper mechanical connection to the air duct system (ductwork) and any type of service or maintenance works.**

## It is important to correctly use the fire damper in prescribed way only:

- Fire damper is permitted to use in exhaust or supply air systems.
- Not allowed to operate the fire damper if it do not comply with manufacturer's installation requirements specified in this instruction.
- Any changes or modifications of the fire damper are strictly prohibited, except for using manufacturer's provided replacement parts.
- Qualified staff only are allowed to replace parts or service the fire damper.

# Storage, delivery and transport

All delivered UVS fire dampers must be checked by the responsible person right after arrival for possible transportation damages, parts missing, etc.

If any type of non-conformity is identified, please take it up with the logistics/shipping company and product supplier.

## Standard UVS damper delivery contains:

- UVS rectangular fire damper.
- Accompanying document in acc. with EN 15650 standard requirements – *one per each damper*.

## Packaging and storage:

- It is recommended to leave all original packaging in order to protect the damper against contamination.
- Damper shall be stored in a dry sheltered place protected from direct sunlight and weather effects.
- Storage temperature of the dampers: -20 to +50 °C.

## Order code example

UVS - M24T ST - BKD - 1200 x 1000

①                      ②                      ③                      ④                      ⑤

UVS - HEP - 800 x 800 - 800

①                      ②                      ④                      ⑤                      ⑥

① **Fire damper:** UVS

② **Mechanism type:** M – automatic actuation

24T – 24V with thermo tripping device

24T ST – 24V with thermo tripping device and connecting plugs

230T – 230V with thermo tripping device

H – manual actuation

No entry – without end position switches

EP – with end position switches

③ **Communication unit:** B – Bracket for Communication and power supply unit only

BK – Bracket with Communication and power supply unit BKN230-24

BKD – Bracket with Communication and power supply unit BKN230-24-MOD

④ **Width:** nominal width in mm

⑤ **Height:** nominal height in mm

⑥ **Circular connection:** No entry – without a circular connection

Nominal circular connection diameter in mm



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