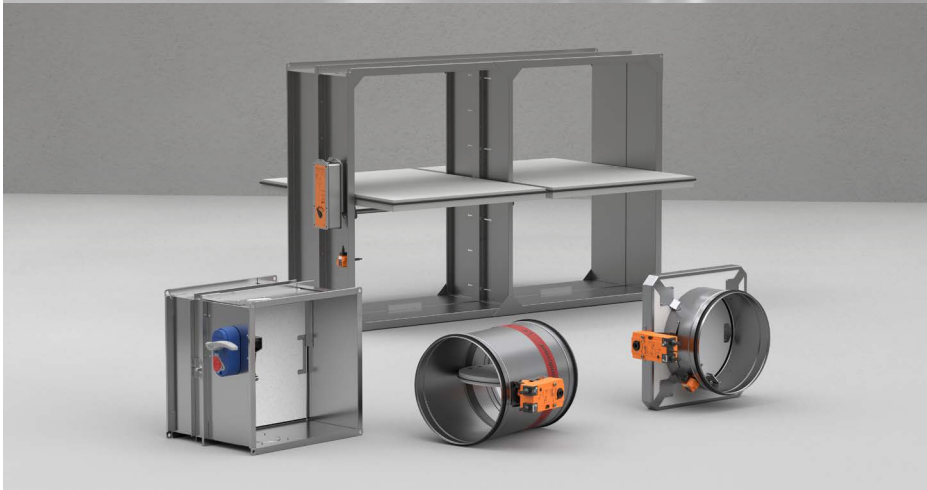


komfovent

FIRE DAMPERS

CE-Certified fire
protection solutions
for ventilation
systems



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About us

KOMFOVENT GROUP OF COMPANIES

KOMFOVENT unites a group of 11 companies operating in Lithuania and abroad, employing more than 900 specialists. KOMFOVENT concentrates on ventilation system equipment, both manufacturing and sales. Investing in the latest

technology allows KOMFOVENT to offer a wide range of products: equipment for large industrial plants and production facilities, offices, cafes and hotels, as well as residential housing to satisfy individual customer needs.



The company was established in 1997. It has been successfully operating and growing in Vilnius, Lithuania for over twenty five years.

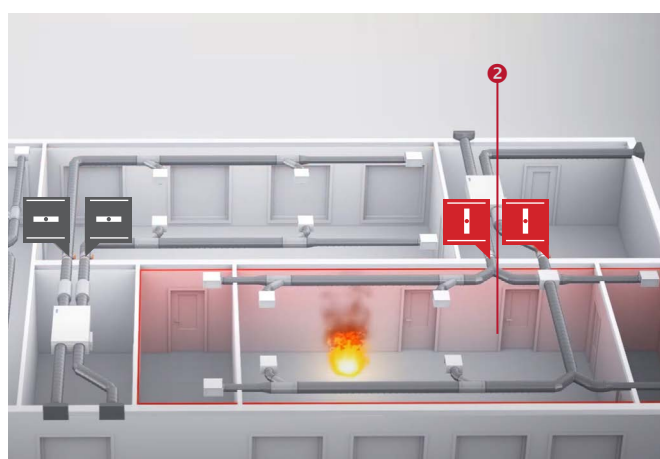
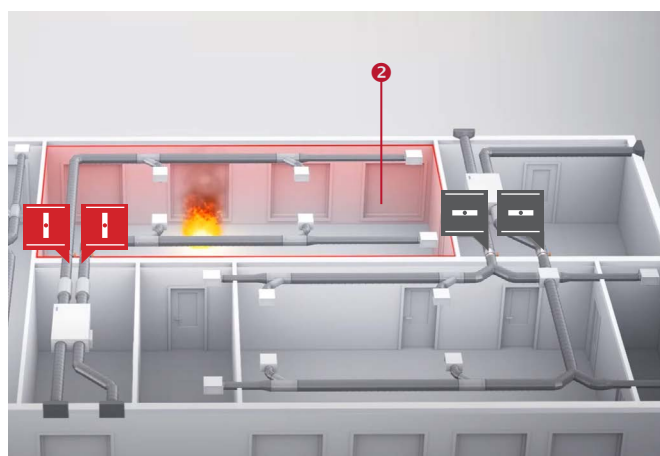
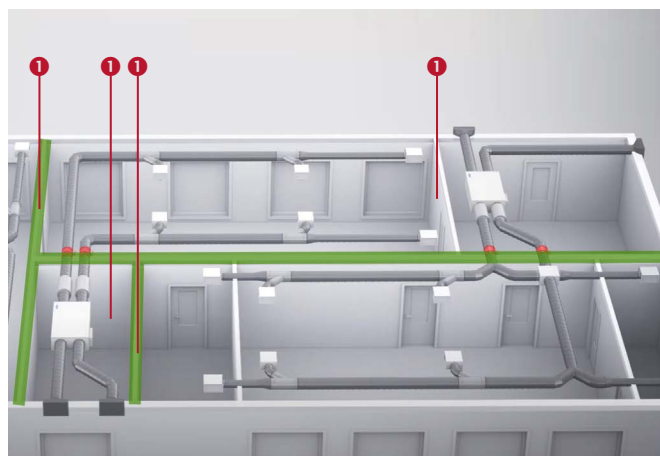
At the end of 2018, a new modern factory was built Riga, Latvia. The factory focuses on creating, testing, manufacturing and selling fire safety equipment and ventilation system accessories, including fire and smoke dampers, fire control ducts, VAV dampers, diffusers and other products.

Introduction

In accordance with fire safety guidelines one of the passive fire protection methods is fire compartmentation. Fire compartment is an enclosed space, comprising one or more separate spaces, bounded by elements of construction – walls and ceiling panels having a specified fire resistance and intended to prevent the spread of fire (in either direction) for a given period of time.

The fire wall or fire ceiling are intended to have specified fire-resistant properties – mechanical stability and thermal insulation. This compartmentation is disturbed by making a technological opening the fire compartment intended for airducts, cabling or other infrastructures of the building. To achieve the designed fire protection level, opening for the airducts are protected by using the fire dampers, ensuring the certified installation methods.

- ✓ *The installation of the damper must comply with the manufacturer's installation instructions. All other installation solutions are beyond the scope of certification. Only qualified staff is allowed to perform installation works.*
- ✓ *The fire resistance classification is applicable for supporting constructions and materials with fire resistance, thickness, and density equal to or greater than the solution shown in the installation instructions.*
- ✓ *The damper should be accessible for inspection and maintenance procedures during the whole period of operation at least twice per year (or even more often under local requirements) and shall be conducted in accordance with manufacturer's Inspection and Maintenance procedures.*
- ✓ *Modifying the fire damper is not permitted and will void the terms of guarantee.*
- ✓ *Fire damper cannot be used as a smoke control damper and in commercial kitchens' air exhaust systems.*



- ① Fire wall
- ② Closed fire compartmentation

Role of Fire compartmentations

APPLICABLE STANDARDS

- EN 15650 Ventilation for buildings – Fire dampers;
- EN 1366-2 Fire resistance tests for service installations – Fire dampers;
- EN 13501-3: Fire classification of construction products and building elements – Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers;
- EN 1751 Ventilation for buildings – Air terminal devices – Aerodynamic testing of damper and valves.

THE INTENDED USE OF THE FIRE DAMPER:

- to prevent the spread of toxic gases, fumes, and fire;
- to reduce property damage;
- to increase effectiveness of other fire protection systems.

OPERATION PRINCIPLES

Under normal conditions, ventilation system is running and blade of the damper is open. In the case of fire activation mechanism is triggered and blade of the damper is moved to a CLOSED position.



Operation of the fire damper

Closing tightness is ensured by sealing rubber, which is located around the blade of the damper. The inside perimeter of the blade is protected by expansion of the fire-stopping sealant. To prevent heat passage through the casing of the damper, the perforation is used as a thermal bridge. The result is prevented the possibility of spread of fire and smoke to other fire compartments or premises through a duct system.

TECHNICAL PARAMETERS

- CE certification: according to EN 15650;
- Fire tests: according to EN 1366-2;
- Fire classification: according to EN 13501-3;
- Fire resistance classes: EIS 60, EIS 90, EIS 120;
- Casing leakage measurement and classification: according to EN 1751 casing leakage class C;
- Closed damper leakage measurement and classification: according to EN 1751 blade leakage class 3;
- Operational reliability - cycling: 300 or 10 200 cycles according to EN 15650;
- Durability of operational reliability – opening closing cycle: 50 cycles prior the fire test according to EN 15650.

STANDARD VERSION OF THE DAMPER DESIGN:

All metal parts of the damper are made of DX51D+Z275 galvanized steel according to EN 10346.

STAINLESS STEEL VERSION OF THE DAMPER DESIGN:

All metal parts of the damper are made of AISI 304/304L/1.4301/1.4304: according to EN 10028-7.

Pressure under fire test	300 Pa
Maximum operating pressure	1200 Pa
Maximum air velocity	12 m/s
Operating temperature	-20 °C to +50 °C
Response temperature for fuse element	72 °C
Response temperature for electric tripping device	72 °C
Response time	damper with fuse element – 240 s for 25 °C initial temperature, damper with thermoelectric tripping device <60 s
Actuator types	for UVA-M d 100 ÷ 560 mm dampers: BFL24-T, BFL230-T, BFL24-T-ST; for UVA-M d 630 mm damper: BFN24-T, BFN230-T, BFN24-T-ST; for UVS-M dampers: BFL24-T, BFL230-T, BFL24-T-ST or BFN24-T, BFN230-T, BFN24-T-ST depending on size; for UVSL-M dampers: BFN24-T, BFN230-T, BFN24-T-ST or BF24-T, BF230-T, BF24-T-ST depending on size.

CONTROL OF THE POSITION OF THE BLADE:

- Dampers with electric actuators M24T, M230T, M24TST have integrated microswitches to identify the position of the blade.
- Dampers with fuse element in HEP version have 2 microswitches.
- Dampers with fuse element in HEC version have 1 microswitch for CLOSED position.
- Dampers with fuse element in HEO version have 1 microswitch for OPEN position.

The damper has one inspection hole, which is accessible by taking out button mechanism with fuse element (for UVA-H) or thermoelectric tripping device (for UVA-M). The diameter of free inspection hole is 20 mm.

UVS-H and UVS-M fire dampers are equipped with two large inspection hatches located at the top and bottom of the main mechanism.

Dampers are tested for both exposed and unexposed fire conditions (actuating mechanism is located on the exposed or unexposed fire side). Dampers can be used for both airflow directions. Position of the blade of the damper in the case of fire: the blade is closed. Damper with fuse element: spring mechanism is protected against damages and contamination with plastic cover.

PERFORMANCES




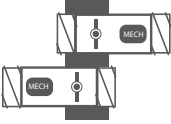
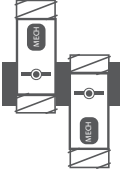
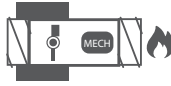

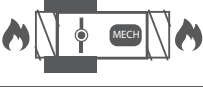

Fire dampers conform to the harmonized EN 15650 standard and meet all the requirements of its Annex ZA, i.e., have known fire resistance characteristics (E, I, S), tested operational reliability, sensing element load-bearing capacity and response temperature, and are cycle-tested.

All dampers have **CE certificate of conformity**, such that compliance with the above conditions is achieved. **Declaration of Performance**, signed by the manufacturer's repre-

sentative, indicates the performance of fire dampers in relation to the relevant technical specifications.

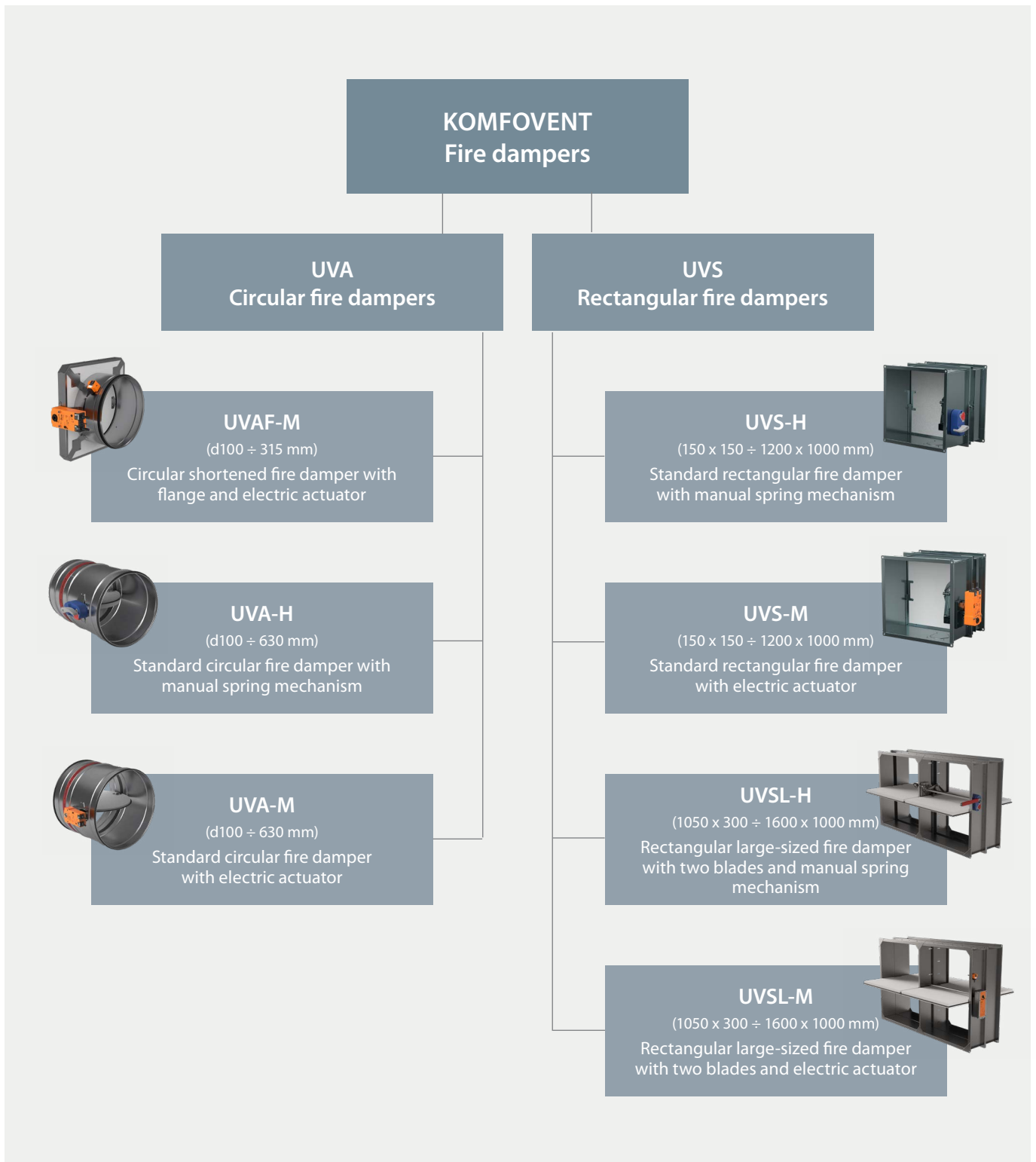
The fire damper manufacturer's **Installation Instructions** provide proof of the respective installation conditions. e.g., inside and remote from walls or ceilings, along with the basic characteristics such as size, support structure, design and installation type, and the respective classes of performance in accordance with the classification standard EN 13501-3.

Depending on the application, fire dampers are classified from: EI 60 (v_e $i \leftrightarrow o$) S to EI 120 (v_e , h_o $i \leftrightarrow o$) S. Meaning of the symbols stands for:

E		Mechanical integrity – indicates the ability to maintain mechanical characteristics with no flames and hot gases passing to the unexposed side
I		Heat insulation – indicates the temperature insulation properties of the fire damper
60		Time period for which E, I and S criteria are performed
v_e		Fire damper suitable for vertical (wall) installation
h_o		Fire damper suitable for horizontal (ceiling) installation
$i \rightarrow o$		Damper tested for fire spreading from the actuating mechanism (exposed) side
$i \leftarrow o$		Damper tested for fire spreading to the actuating mechanism (unexposed) side
$i \leftrightarrow o$		Damper tested for fire spreading from the both sides (exposed and unexposed)
S		Smoke leakage – indicates the ability to function as smoke and hot gases barrier, by the limits of leakage criteria

Range of Fire dampers

Komfovent fire damper range includes circular and rectangular fire damper options. Circular fire dampers are identified as "UVA", rectangular fire dampers are identified as "UVS". "H" identification refers to manual spring mechanism, "M" identification – to electric spring return actuator. Large-sized rectangular dampers in two-blades design have additional "L" mark and are identified as "UVSL".

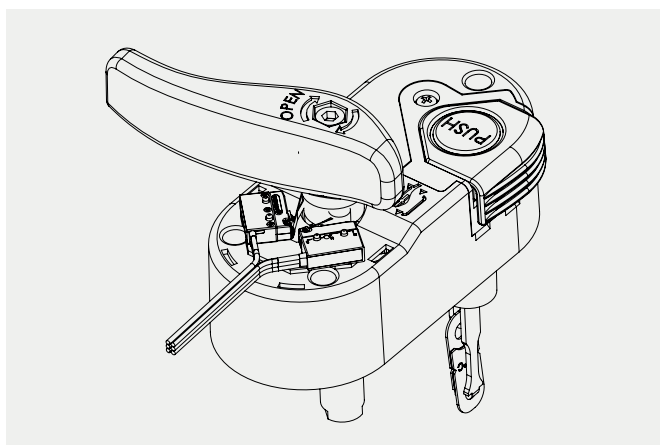


Actuating mechanisms

MANUAL SPRING-RETURN MECHANISM

Fire dampers UVA-H, UVS-H and UVSL-H are equipped with manual spring-return mechanism, designed in an ergonomic way not only to fully cover and protect all mechanical parts against dust or debris, but also to provide a space-saving design, at the same time ensuring fast and easy replacement of the fuse element.

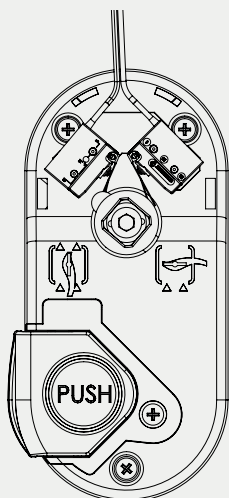
Main operational elements of the mechanism are “push” button and end position switches, covered with a protection cap.



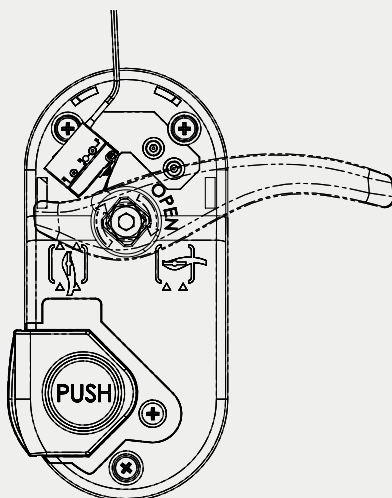
UVA-HEP fire damper with 2 end position switches

One or two end position switches can be used for indicating certain positions of the blade of damper depending on the purpose of use:

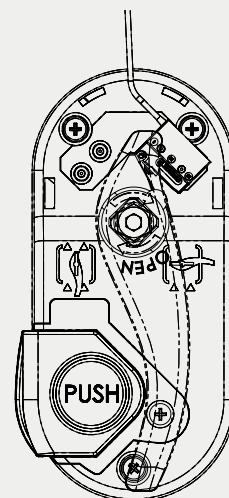
HEP with two end position switches for indicating both positions of the blade



HEC with one end position switch for indicating CLOSED position of the blade

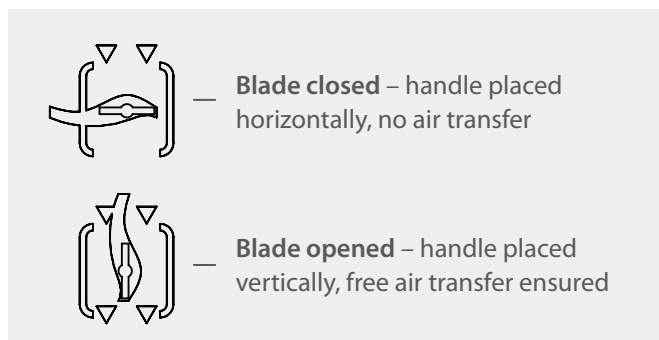


HEO with one end position switch for indicating OPEN position of the blade



UVA-H modifications

After the fuse element is triggered, it is not possible to lock the blade of manual fire damper damper in open state again. If false triggering – maintenance works are required in this case. Position of the blade can be indicated based on symbols on the plastic mechanism casing or based on the signals from the microswitches (for UVA, UVS and UVSL fire dampers in -HEP, -HEC and -HEO versions).



Indicating of the blade position for UVA-H damper

Spring mechanism casing contains red testing button with PUSH label. The button should be pressed to test if the spring mechanism is functional. PUSH button can be simply pulled out by unscrewing one screw for inspection and repair works. The opening in the mechanism casing can be used for internal inspection of the damper.



Replacing of the activated fuse element

Fire damper UVA-H, UVS-H and UVSL-H	Version with fuse element and spring return mechanism with manual winding. Triggering temperature – 72°C.
Fire damper UVA-HEP, UVS-HEP and UVSL-HEP	Version with fuse element and spring return mechanism with manual winding and two end position switches 250 VAC to indicate both OPEN and CLOSED blade positions. Triggering temperature – 72°C.
Fire damper UVA-HEC, UVS-HEC and UVSL-HEC	Version with fuse element and spring return mechanism with manual winding and one end position switch 250 VAC to indicate CLOSED blade position. Triggering temperature – 72°C.
Fire damper UVA-HEO, UVS-HEO and UVSL-HEO	Version with fuse element and spring return mechanism with manual winding and one end position switch 250 VAC to indicate OPEN blade position. Triggering temperature – 72°C.

BFL24-T (ST) / BFL230-T (ST) ELECTRIC ACTUATOR SPECIFICATION



Spring-return actuator, combined with thermoelectric tripping device BAT (72 °C), for fire and smoke dampers 90° in ventilation and air-conditioning systems.

Torque	4 Nm / 3 Nm
Nominal voltage	AC 230 V (BFL230-T) or AC/DC 24 V (BFL24-T)
Control	Open / close
Mechanical interface	Form fit 12 × 12 mm, continuous hollow shaft

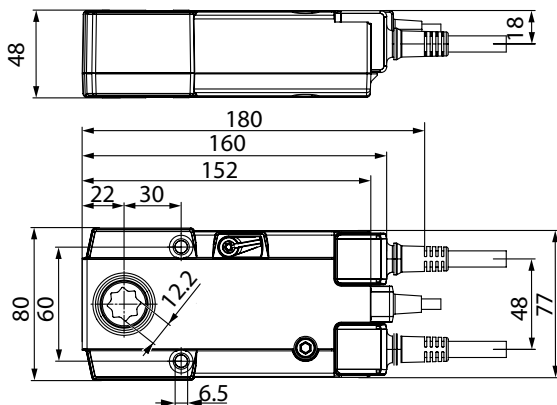
The actuator moves the damper to the operating position at the same time as tensioning the return spring. The damper is turned back to the safety position by spring energy when the supply voltage is interrupted. The Safety Position Lock™ reliably holds the fire damper in the safety position in case of fire therefore, ensuring maximum safety. Thermoelectric tripping device complies with the specific requirements of the standard ISO 10294-4.

The design of the actuator is based on the specific requirements from the European standards:

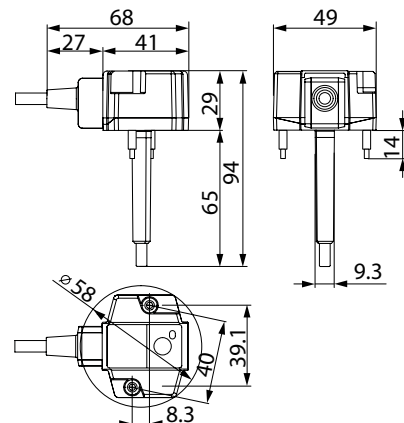
- EN 15650 Ventilation for buildings – Fire dampers.
- EN 1366-2 Fire resistance tests on service installations (Part 2: Fire dampers).
- EN 13501-3 Fire classification of construction products and building elements (Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers).

DESIGN AND DIMENSIONS

BFL actuator



Thermoelectric tripping device



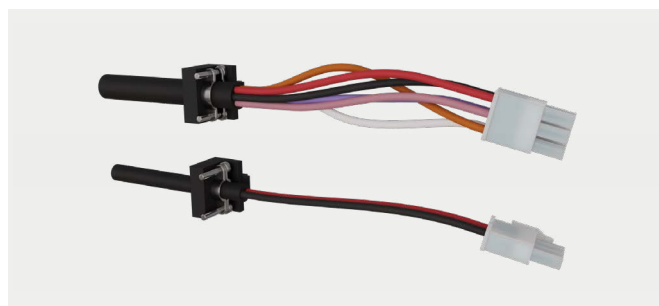
BFL actuator and TTD dimensions

Parameter	BFL24-T	BFL230-T
Electrical current	AC/DC 24 V 50/60 Hz	AC 230 V 50/60 Hz
Weight	1,1 kg	1,1 kg
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
Power consumption in operation	2,5 W	3,5 W
Servicing	Maintenance-free	Maintenance-free

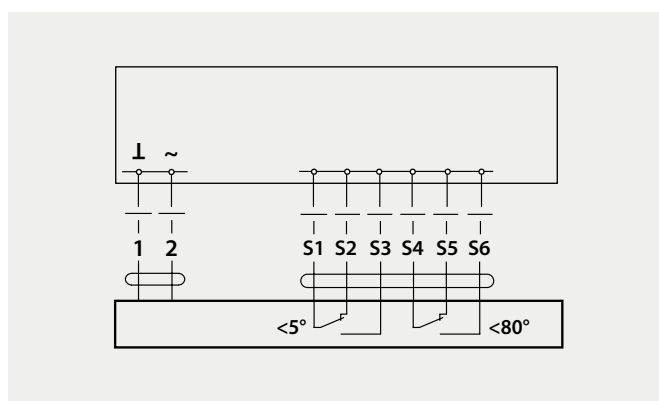
BFL24-T-ST actuator version is equipped with connection plugs. Connection supply / control Cable is fitted with connector plug 1 m, 2 x 0.75 mm². Connection auxiliary switch Cable is fitted with connector plug 1 m, 6 x 0.75 mm².

This allows it to be integrated into control and monitoring systems (e.g., SBS-Control) or bus networks (e.g., MP-Bus solutions) via communication and power supply units.

Connection plug Supply / control: 3-pole plug, suitable for communication and power supply units BKN. Auxiliary switch is 6-pole plug, suitable for communication and power supply units BKN.



Connection plugs



Wiring diagram of the BFL24-T-ST actuator

BFN24-T (ST) / BFN230-T (ST) ELECTRIC ACTUATOR SPECIFICATION



Spring-return actuator, combined with thermoelectric tripping device BAT (72°C), for fire and smoke dampers 90° in ventilation and air-conditioning systems.

Torque	9 Nm / 7 Nm
Nominal voltage	AC 230 V (BFN230-T) or AC/DC 24 V (BFN24-T)
Control	Open / close
Mechanical interface	Form fit 12 × 12 mm, continuous hollow shaft

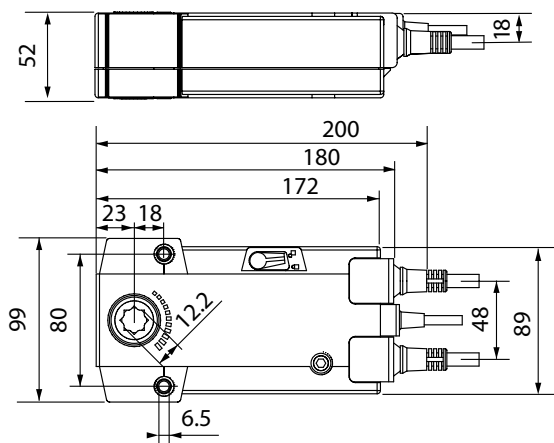
The actuator moves the damper to the operating position at the same time as tensioning the return spring. The damper is turned back to the safety position by spring energy when the supply voltage is interrupted. The Safety Position Lock™ reliably holds the fire damper in the safety position in case of fire therefore, ensuring maximum safety. Thermoelectric tripping device complies with the specific requirements of the standard ISO 10294-4.

The design of the actuator is based on the specific requirements from the European standards:

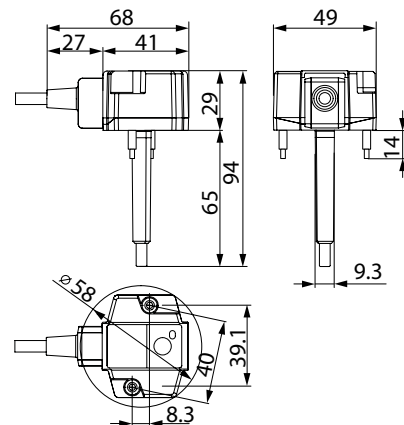
- EN 15650 Ventilation for buildings – Fire dampers.
- EN 1366-2 Fire resistance tests on service installations (Part 2: Fire dampers).
- EN 13501-3 Fire classification of construction products and building elements (Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers).

DESIGN AND DIMENSIONS

BFN actuator



Thermoelectric tripping device



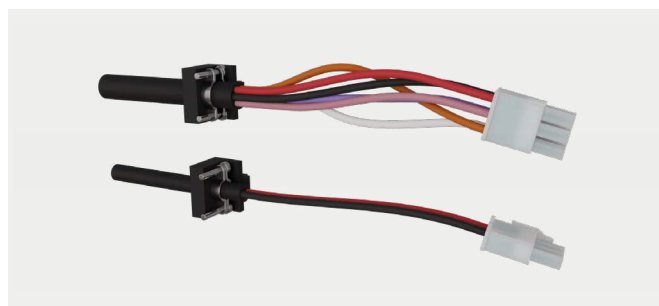
BFN actuator and TTD dimensions

Parameter	BFN24-T	BFN230-T
Electrical current	AC/DC 24 V 50/60 Hz	AC 230 V 50/60 Hz
Weight	1,4 kg	1,4 kg
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
Power consumption in operation	4 W	5 W
Servicing	Maintenance-free	Maintenance-free

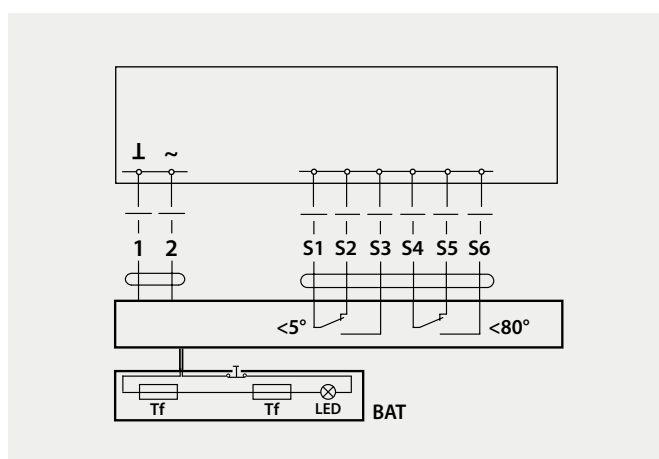
BFN24-T-ST actuator version is equipped with connection plugs. Connection supply / control Cable is fitted with connector plug 1 m, 2 x 0.75 mm². Connection auxiliary switch Cable is fitted with connector plug 1 m, 6 x 0.75 mm².

This allows it to be integrated into control and monitoring systems (e.g., SBS-Control) or bus networks (e.g., MP-Bus solutions) via communication and power supply units.

Connection plug Supply / control: 3-pole plug, suitable for communication and power supply units BKN. Auxiliary switch is 6-pole plug, suitable for communication and power supply units BKN.

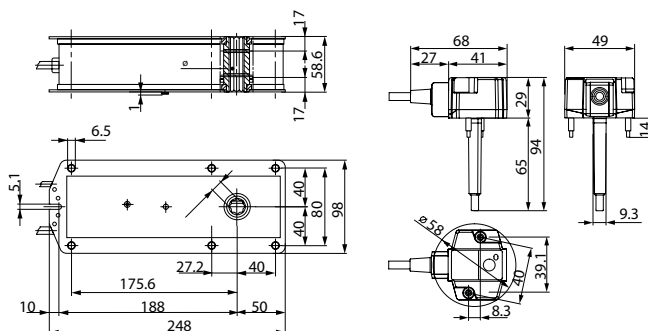


Connection plugs



Wiring diagram of the BFN24-T-ST actuator

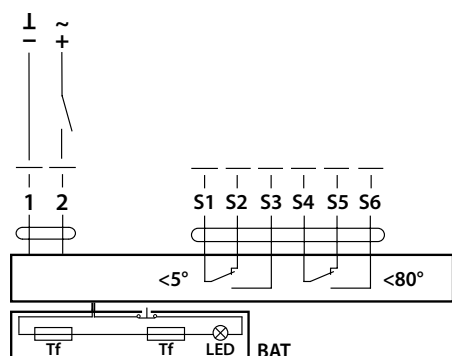
BF24-T / BF230-T ELECTRIC ACTUATOR SPECIFICATION



Technical specification	BF24-T	BF230-T
Electric current	AC/DC 24 V 50/60 Hz	AC 230 V 50/60 Hz
Weight	2800 g	3100 g
Torque: Motor Return spring	min. 18 Nm min. 12 Nm	min. 18 Nm min. 12 Nm
Angle of rotation	max. 95°	max. 95°
Ambient temperature normal operation	-30...50 °C	-30...50 °C
Protection class IEC/EN	III Safety extra low voltage	II Protective insulated

WIRING DIAGRAMS

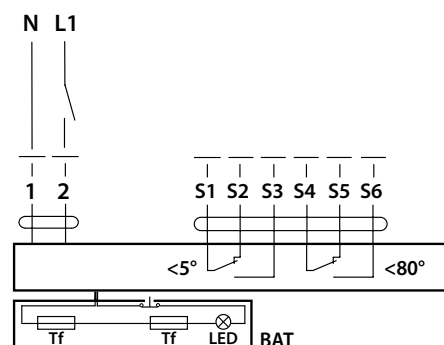
AC/DC 24 V, open/close



Cable colors:

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

AC 230 V, open/close



Cable colors:

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

Communicating and power supply unit

Dampers with T-ST actuators 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, or **BKN230-24-C-MP** via MP-BUS / SBS communication.

BKN230-24 unit

The BKN230-24, also functions as a distributed power unit for supplying the 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 plugged 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.



BKN230-24 unit

BKN230-24-MOD unit

BKN230-24-MOD unit is a decentralized power supply unit for 24 V fire damper actuators with local power supply AC 230 V. The unit has an integrated LED status indicator and plugging for a smoke detector contact and /or a thermoelectric tripping device.

The BKN230-24-MOD communication unit 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.



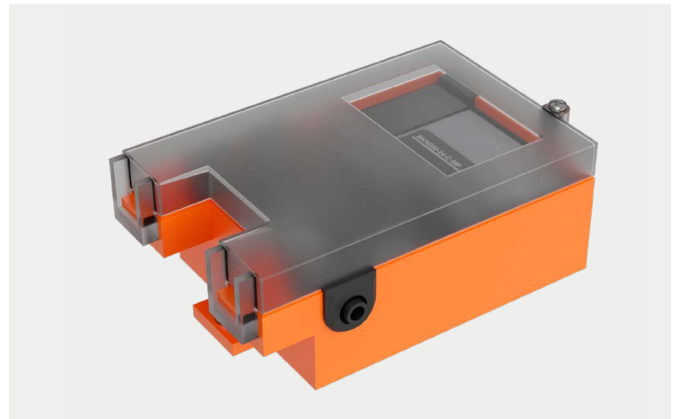
BKN230-24-MOD unit

- 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

BKN230-24-C-MP unit

Communication and power supply unit for motorized fire dampers. Power supply of the actuator via Plug contact (from safety transformer AC 24 V), supply and control are electrically isolated, simple integration of a smoke detector without additional power supply possible. Communicated optionally with analogue control modules BKS24..-1B, ..-9A (SBS Control) or digitally via Belimo MP bus.

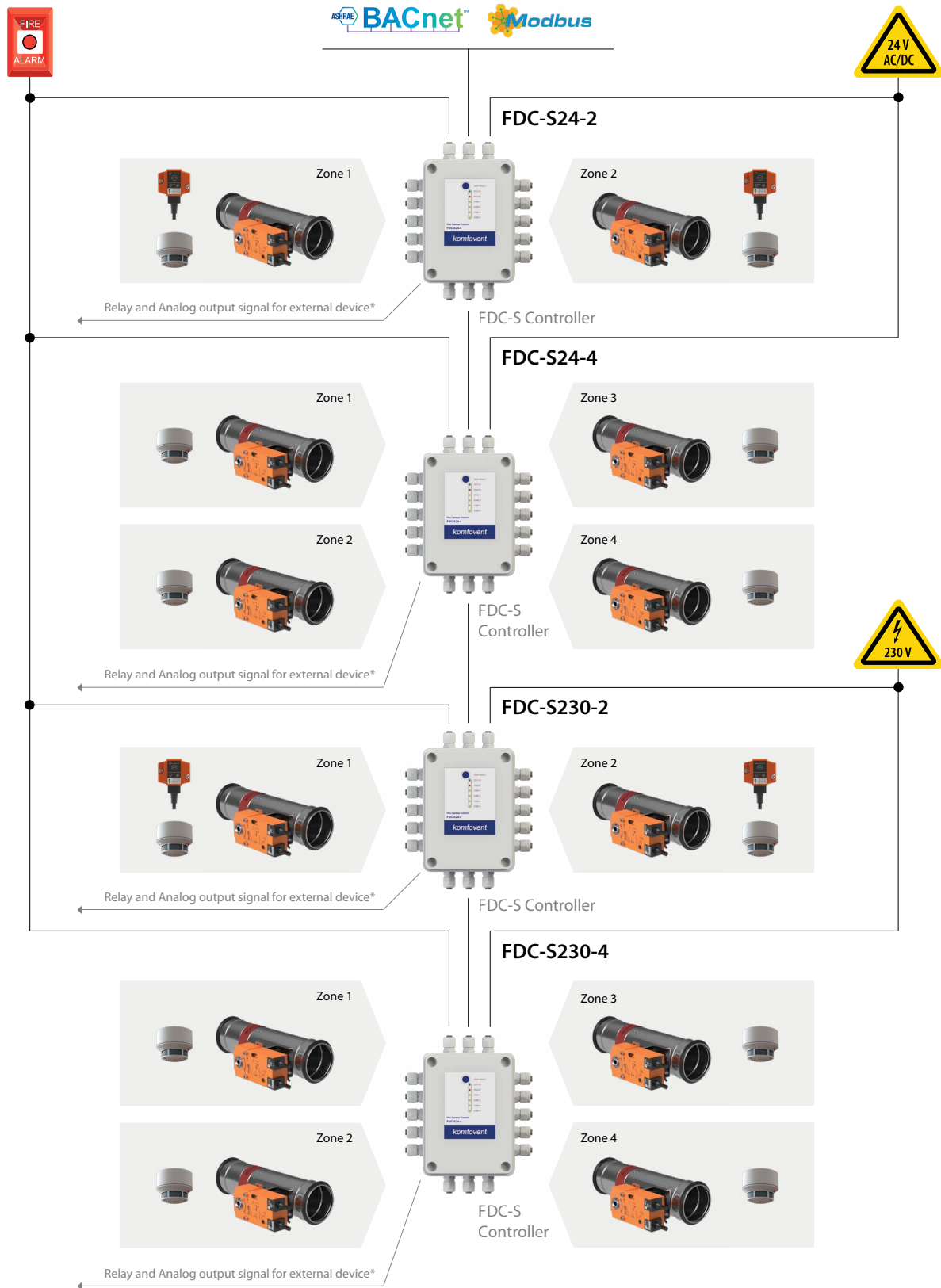
- AC 230 V is supplied to the actuators via Euro plug contact (AC 24 V from safety isolation transformer). Nominal voltage: AC 230 V, 50/60 Hz
- Operation: approx. 3.5 W @ nominal torque
- Supply and control are electrically isolated, Safety Class: II
- Simple integration of a smoke detector with no additional power supply
- A range of suitable actuators is available: BF24..-ST, BLF24..-ST
- Connection: Terminals and AMP plug connections
- EMC: CE in accordance with 2014/30/EU
- Low-voltage directive: CE in accordance with 2014/35/EU
- Humidity testing: 95 % r.H., not condensing (EN 60730-1)



BKN230-24-C-MP unit

Additional control options

FDC-S SERIES FUNCTIONALITY WITH BMS CONTROL



* FDC-S controllers are suitable also for systems without BMS control to indicate system failure or failing the work test.

KOMFOVENT FDC-S24-2, FDC-S24-4, FDC-S230-2, FDC-S230-4

In order to reach the highest level of fire safety, the most suitable and advanced automatization solutions should be used to control fire and smoke dampers. KOMFOVENT offers a fire and smoke dampers **FDC-S automatization unit** that allows reducing project costs significantly while improving performance at the same time.

The FDC-S is used together with a fire or smoke extraction damper actuator to control and monitor the fire or smoke extraction damper. The controller is designed for integration into a superior system via Modbus, BACnet, or the analog connection due to the high level of functionality.

	FDC-S24-2	FDC-S230-2	FDC-S24-4	FDC-S230-4
Selection between fire or smoke dampers	+	+	+	+
Zones	2	2	4	4
Dampers per zone	1	1	1	1
Smoke detectors per zone	1	1	1	1
Thermoelectric tripping device per zone	1	1	-	-
Power supply	24V	230V	24V	230V
Communication protocol	Modbus RTU / BACnet MS/T	Modbus RTU / BACnet MS/T	Modbus RTU / BACnet MS/T	Modbus RTU / BACnet MS/T
Manual test	+	+	+	+
Output signal	Relay output	Relay output	Relay output	Relay output
External fire alarm input	1	1	1	1

ADVANTAGES:

- 2 or 4 zone control – one motorized fire or smoke damper per zone.
- Smoke detector and thermal electro tripping device per zone.
- Independent fire or smoke application for each zone.
- Relay signal for external device control – AHU or smoke extraction fan.
- Periodic self-testing in real-time.
- Unit control with Modbus RTU or BACnet MS/T.



Smoke detector

OPTICAL SMOKE DETECTOR FOR CEILING MOUNTING SSDC

- Optical-type smoke detector.
- Protection against RFI influence (radio interference).
- Compact plastic casing and base with bayonet grip simplifies service and maintenance.
- Multiple detectors can be connected to a single FDC control unit.
- Has been tested and approved to the following standards:
 - EN54-7:2000 - Optical and ionizing smoke detectors
 - EN54-5:2000 - Heat detectors
 - BS-EN 61000-6-3:2001
 - RoHS: This product conforms with the Directive 2011/65/EU of the European Parliament and of the Council.



SSDC in the optical smoke detectors for mounting in all types of premises. It reacts to visible smoke particles (products of combustion). The detector consists of a detector head and a base. The SSDC65-OE model has all the necessary functions for fire supervision.

WORKING PRINCIPLE

The detector works according to the reflection principle and consists of a measuring chamber that has air-inlets via a labyrinth which keeps out light.

An infrared LED and a photo transistor are placed in the measuring chamber. They are located so the light from the LED doesn't shine on the light sensitive transistor.

If smoke particles enter the measuring chamber some of the light from the LED will be reflected by the particles and hit the photo transistor which activates the alarm.

ALARM INDICATION

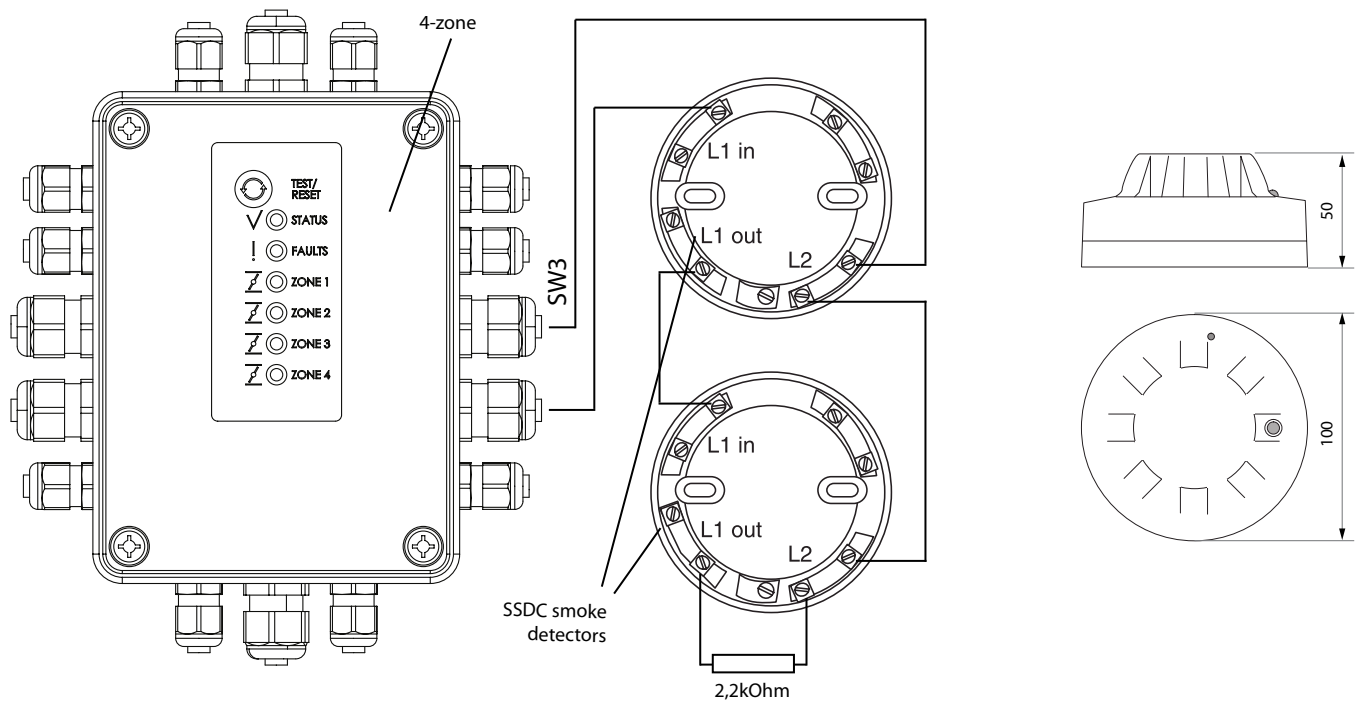
In normal operating conditions the alarm LED is not lit. When the smoke alarm is given the LED gives off a red light.

MOUNTING

The detector is to be mounted in a representative ceiling position to give a good room supervision.

The detector is connected to the FDC 4-zones unit with a two-wire loop. The last detector in the loop is connected to the end resistor supplied together with the smoke detector to provide a closed signal loop.

TECHNICAL DATA



NB: The end resistor must be connected to the last detector in the loop

FDC Fire damper Controller

Supply voltage	15...30 V DC (via control unit)
Power consumption under normal operation	0,14 mA at 24 V DC
Power consumption at smoke alarm	50 mA at 24 V DC
Operating temperature	10...+50 °C (non condensing)
Humidity	Max 95 % RH
Max. air velocity	Non-wind sensitive
Detection principle	Photoelectric, reflecting type
Protection class	IP43

Range of fire damper

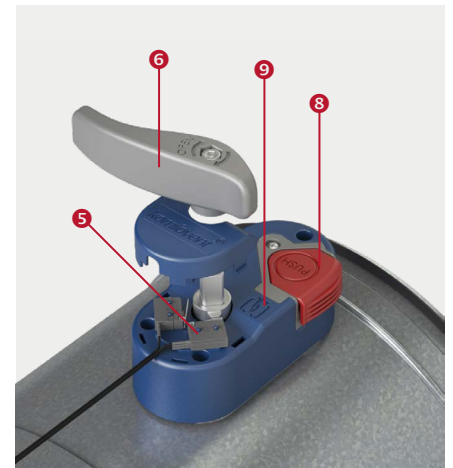
CIRCULAR FIRE DAMPERS UVA



Circular UVA fire dampers are available in 2 main configurations: dampers with fuse element (UVA-H) and dampers with an electric actuator with spring return mechanism (UVA-M). When it is necessary UVA-H dampers can additionally be equipped with end position switches, but UVA-M dampers – with electric power supply and communication unit. UVA dampers can be delivered in hygienic version that meets the VDI 6022 Sheet 1 standard requirements.



Circular fire damper with fuse element UVA-H

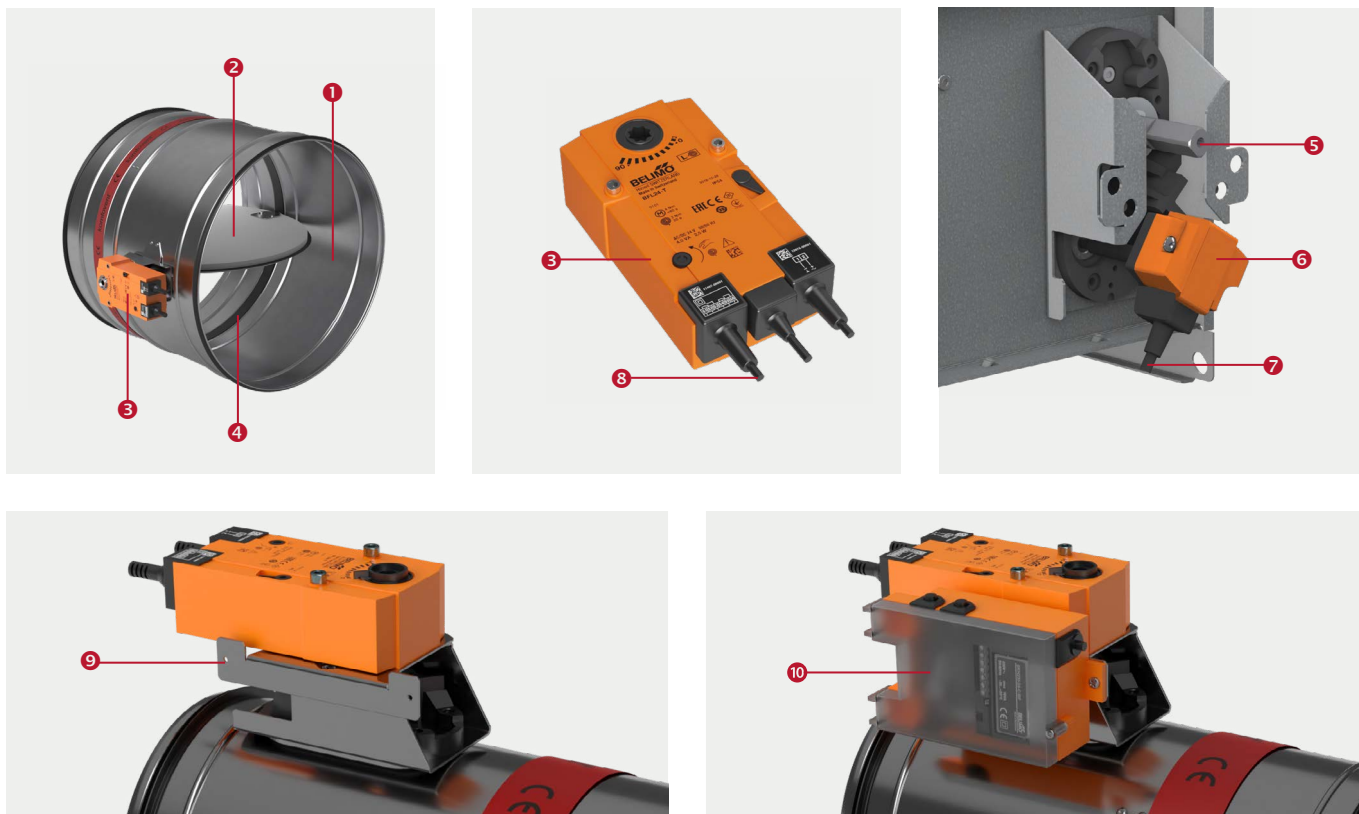


- 1 Casing
- 2 Blade
- 3 Opening device with spring
- 4 Intumescent gasket
- 5 End position switches (optional)

- 6 Opening handle
- 7 Fuse element
- 8 Test button
- 9 Marking of blade position

Components of the UVA-H dampers

Circular fire damper with electric actuator UVA-M



Components of the UVA-M dampers

- 1 Casing
- 2 Blade
- 3 Actuator BFL 24 / 230 / T / ST
- 4 Intumescent seal
- 5 Axle of the blade
- 6 Thermoelectric tripping device 72°
- 7 Connection cable
- 8 Actuator's connection cables
- 9 Bracket B for BK (BKD, BKP) communication unit
- 10 BK (BKD, BKP) communication unit

Closing of the blade in UVA-M fire damper with electric actuator occurs as a result of the release of spring mechanism through the system of levers. Electric actuator is equipped with thermoelectric tripping device, containing two separate fuse elements placed inside and outside of the airduct for two-sided temperature measuring.

a – TEST button.

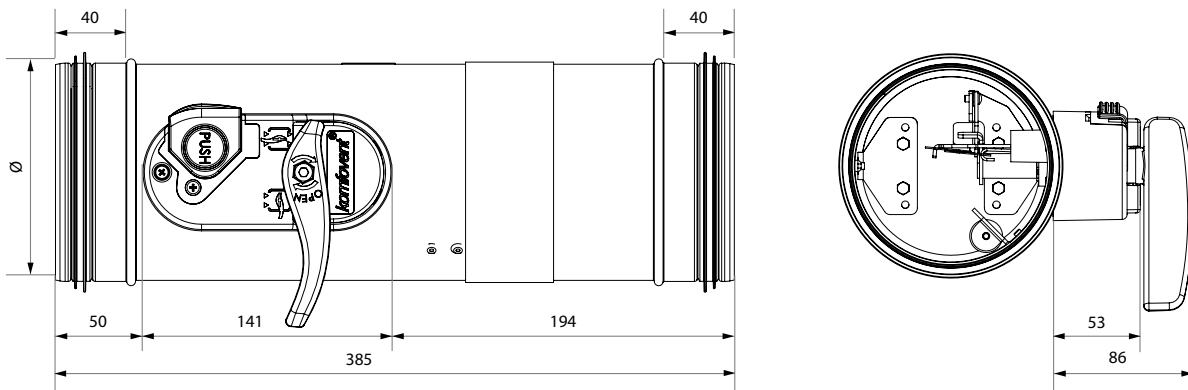
b – Inner fuse – placed inside the damper.



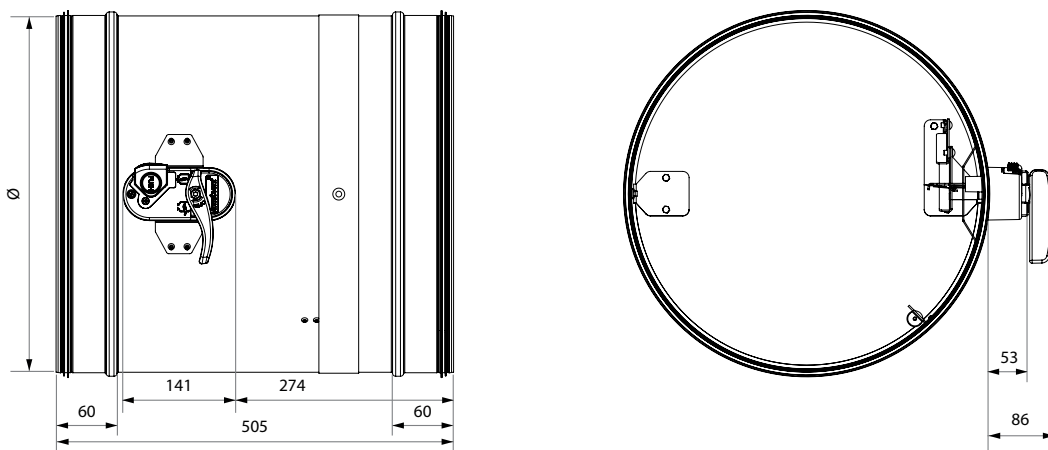
Fuse of thermoelectric tripping device

Dimensions

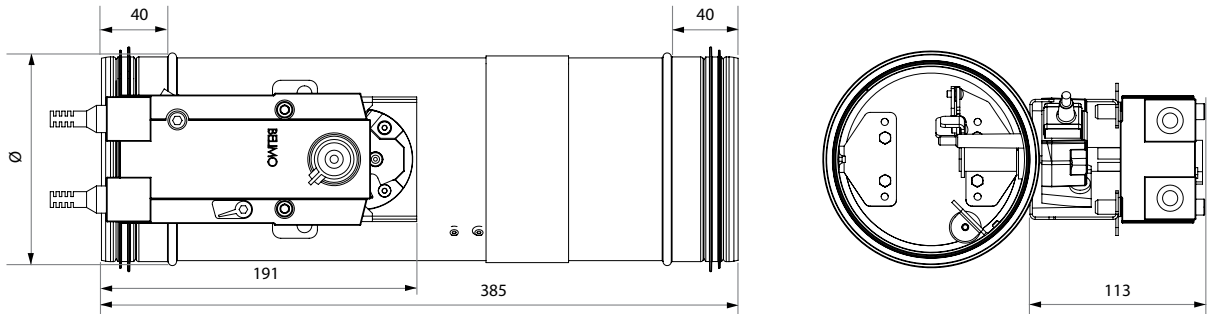
Circular UVA dampers are available in size range Ø100, Ø125, Ø160, Ø200, Ø315, Ø355, Ø400, Ø450, Ø500, Ø560 and Ø630 mm. Transitional sizes are available on request. Dimensions of the damper for size ranges Ø100 ÷ 315 mm and Ø355 ÷ 630 mm differ significantly - see figures below:



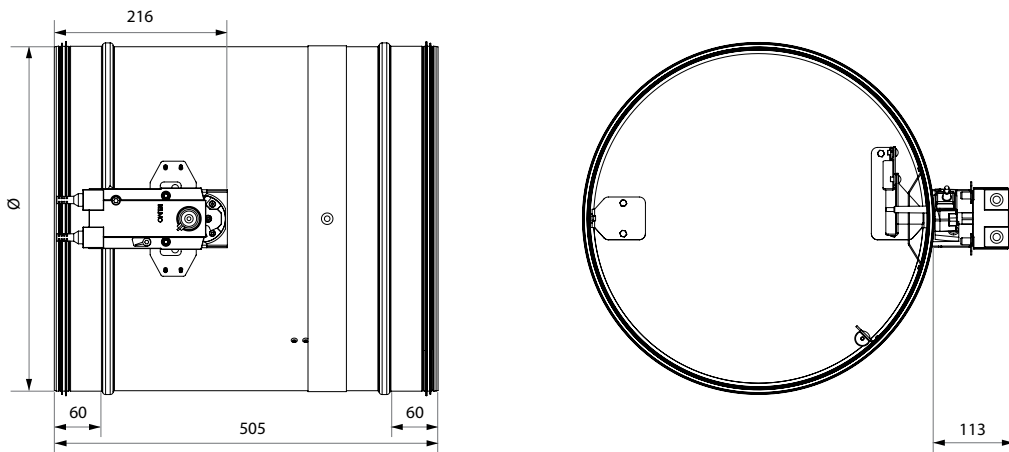
UVA-H dimensions for size range Ø100 ÷ 315 mm



UVA-H dimensions for size range Ø355 ÷ 630 mm

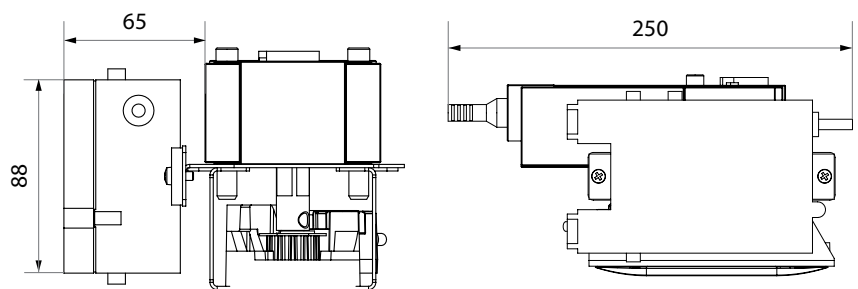


UVA-M dimensions for size range Ø100 ÷ 315 mm



UVA-M dimensions for size range Ø355 ÷ 630 mm

UVA-M ... BK fire dampers combined with communication extend beyond the casing:

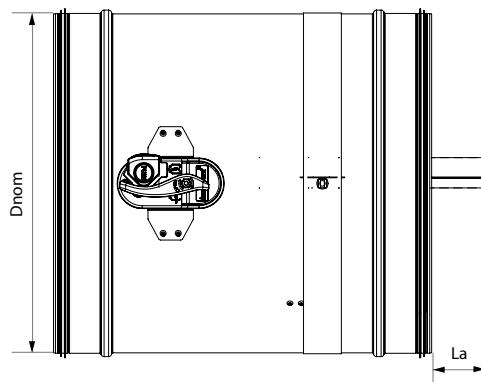


Installation of the communication unit on the damper

Extend beyond the blade

UVA-H and UVA-M fire dampers starting with Ø315 mm have exposition of the blade into the duct within a certain distance:

Ø, mm	315	355	400	450	500	560	630
L _a , mm	28	34	56	81	106	136	171



Blade one-side overlaps

Weight of the dampers

Ø, mm	100	125	160	200	250	315	355	400	450	500	560	630
UVA-H, kg	1,7	2,1	2,5	2,9	3,7	4,7	9,6	11,3	13,3	15,4	18,2	21,7
UVA-M .. T, kg	2,4	2,8	3,2	3,7	4,4	5,5	10,4	12,0	14,0	16,1	18,9	22,4
UVA-M .. TST-BK, kg	2,6	3,4	3,8	4,3	5,0	6,1	11,0	12,6	14,6	16,7	19,5	23,0

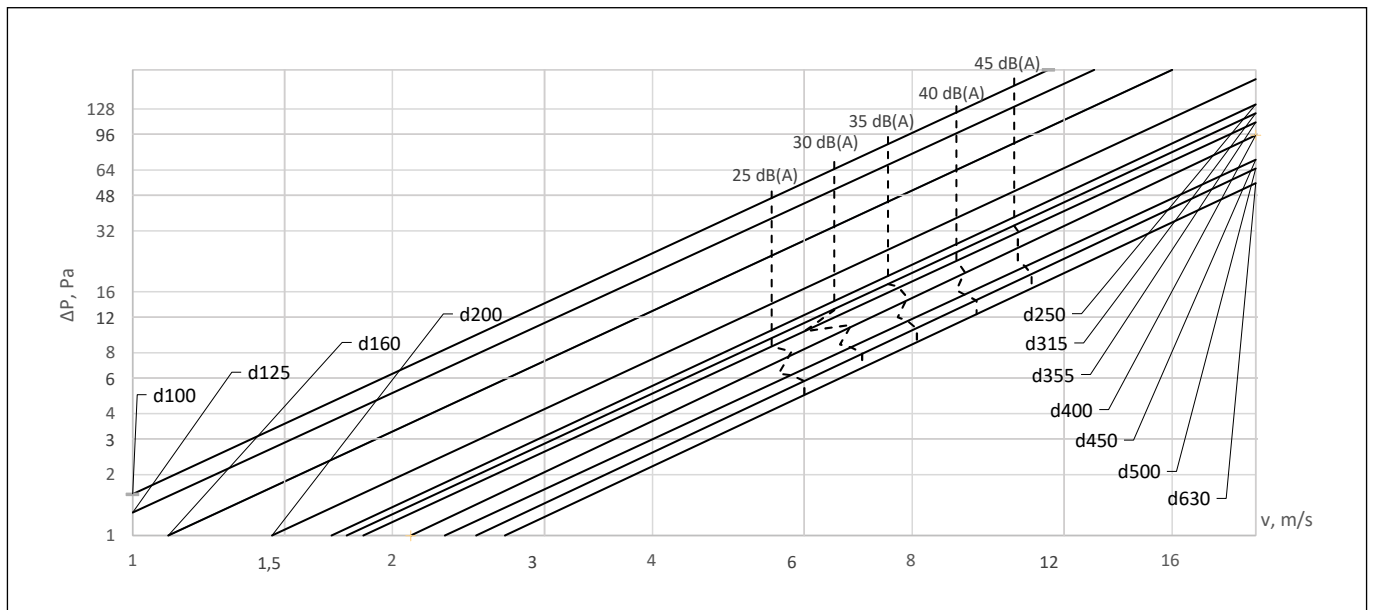
Free area of the damper

Free area for completely open blade of UVA damper, m²:

Ø, mm	100	125	160	200	250	315	355	400	450	500	560	630
Free area, m ²	0,0059	0,0098	0,0169	0,0274	0,0441	0,0716	0,0847	0,1096	0,1410	0,1763	0,2238	0,2852

Pressure drop and sound power level for UVA fire dampers

Pressure drop graph on completely open blade of the UVA damper for every dimension - see below:

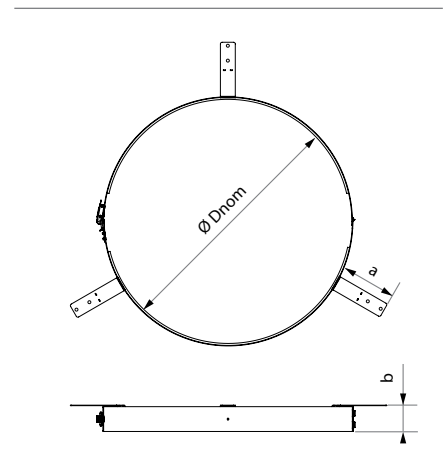


Accessories for UVA dampers

US WALL MONTAGE TOOL

Simple collar-type montage tool with 3 plates (6 x Ø6 mm holes) – designed for wall installation, for the best alignment of the fire damper in cut-out opening.

For each fire damper diameter (100, 125, 160, 200, 250, 315, 355, 400, 450, 500, 560, 630 mm) relevant size of installation holder is required. The installation holder is re-usable, it is possible not to order the mounting accessories for each fire damper that should be installed on the site.



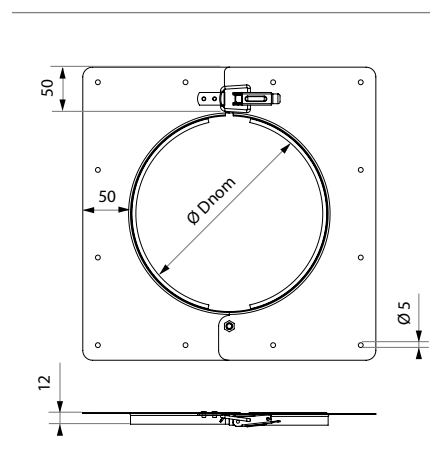
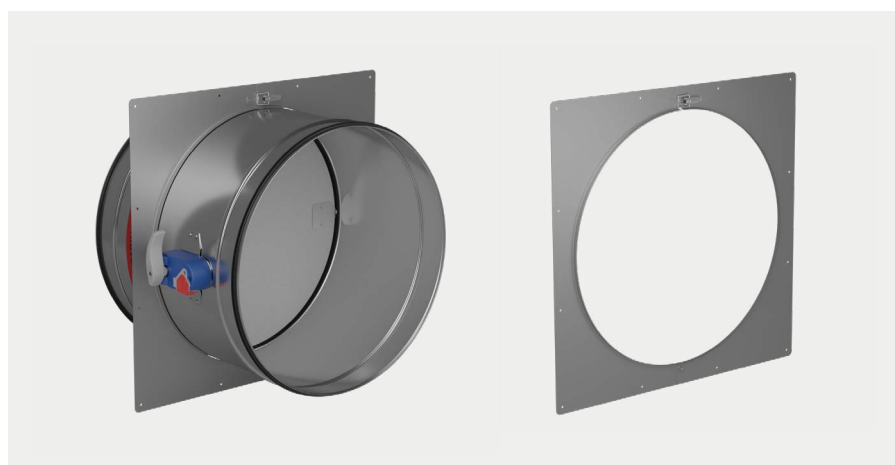
US mounting accessory dimensions

D_{nom}, mm	100	125	160	200	250	315	355	400	450	560	630
a, mm	78	78	78	78	78	78	109	109	109	109	109
b, mm	14,5	14,5	14,5	14,5	14,5	14,5	53	53	53	53	53
m, kg	0,09	0,11	0,11	0,12	0,17	0,56	0,62	0,69	0,75	0,83	0,92

UL CEILING MONTAGE TOOL

Simple overlay-type montage tool with montage plate (12 x Ø5 mm holes) – designed for ceiling installation, for the best alignment of the fire damper in cut-out opening.

For each fire damper diameter (100, 125, 160, 200, 250, 315, 355, 400, 450, 500, 560, 630 mm) relevant size of installation holder is required. The installation holder is re-usable, it is possible not to order the mounting accessories for each fire damper that should be installed on the site.



UL mounting accessory dimensions

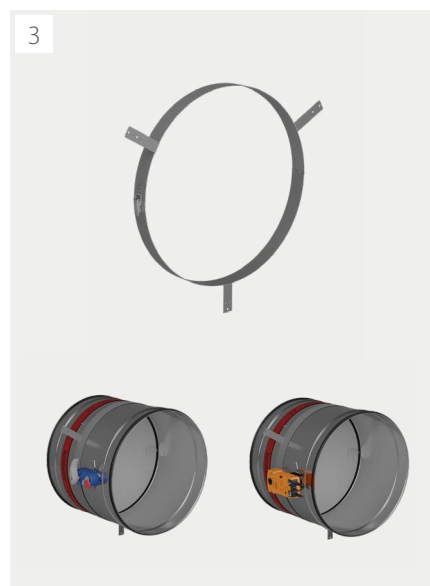
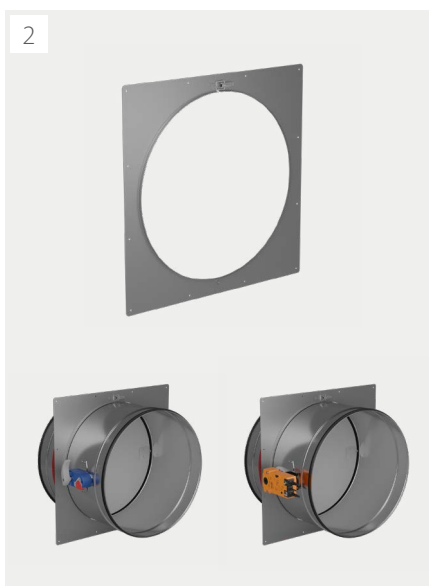
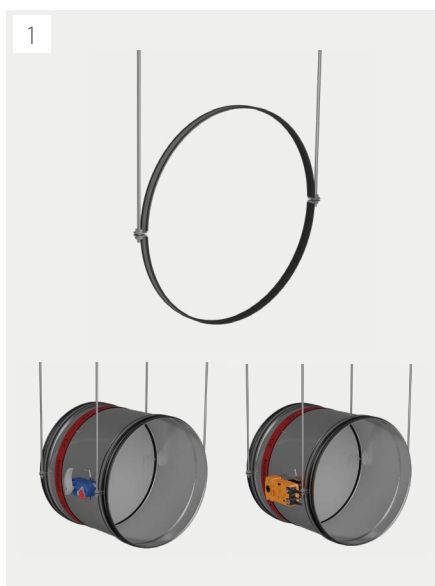
D_{nom}, mm	100	125	160	200	250	315	355	400	450	500	560	630
m, kg	0,28	0,34	0,38	0,42	0,52	0,64	0,82	0,94	1,08	1,24	1,40	1,56
Outer size □, mm	200 × 200	225 × 225	260 × 260	300 × 300	350 × 350	415 × 415	455 × 455	500 × 500	550 × 550	600 × 600	660 × 660	730 × 730

USAGE OF MOUNTING ACCESSORIES

Depending on the installation type suspension clamp [1] are used for tight holding of fire damper when wall mounting brackets cannot be used.

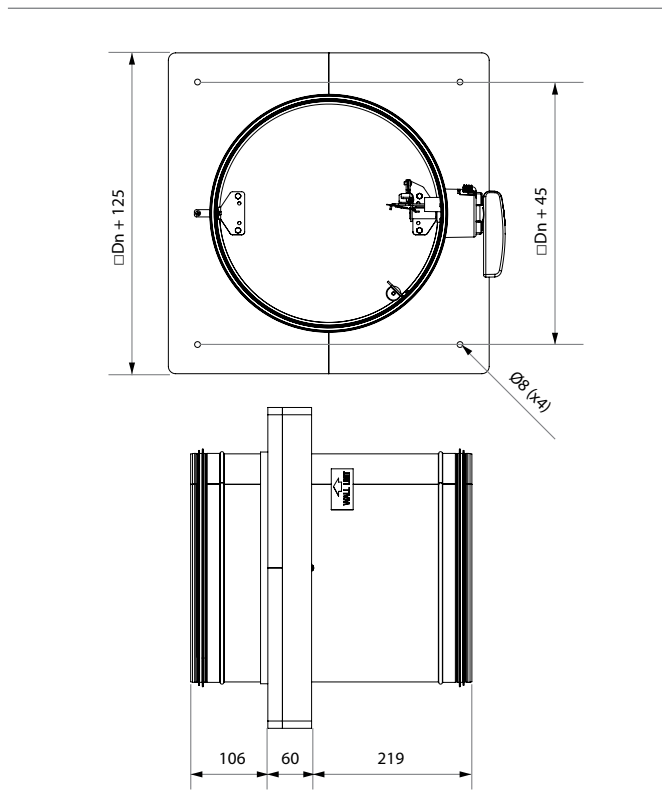
Steel overlay-type montage accessory UL [2] can be used for positioning the fire damper in the cut-out and holding fire resistant insulation on the ceiling.

Steel collar-type montage accessory US [3] can be used to align the fire damper in the cut-out by tightening it on the fire damper's casing and installing metal plates on a wall.



SMR DRY MONTAGE KIT

Dry montage kit SMR is available for UVA dampers in dimensions Ø100, 125, 160, 200, 315 mm. The kit can be factory-pre-installed or be mounted separately on-site. Using of the kit significantly facilitates the installation procedure making it mortarless and less labor-intensive.



SMR Dry montage kit installation and dimensions

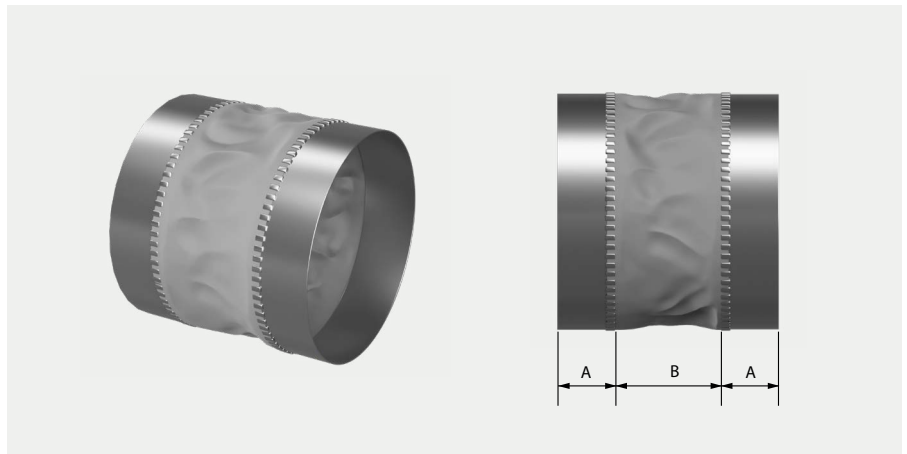
D_{nom} , mm	100	125	160	200	250	315
SMR weight, kg	2,48	2,92	3,55	4,31	5,32	6,72
Outer dimensions of the SMR □, mm	225 × 225	250 × 250	285 × 285	325 × 325	375 × 375	440 × 440
Distance between mounting holes □, mm	145 × 145	170 × 170	205 × 205	245 × 245	295 × 295	360 × 360

Dry montage kit consists of four parts, when installed they form integrated shield flange around the UVA damper. Shield flange is made of heat-resistant plates, that simulate section of the wall pre-mounted on the casing of the damper.

FLEXIBLE CONNECTION JLA

Connecting airducts have to be installed in such a way as to not transfer their own load on the fire damper and ensure the integrity of the airduct system if the supporting construction collapses. Flexible connection should be installed on both sides of the supporting construction to compensate all extensions or compressions. Flexible connections can be fixed with collars or another type of clamps (type of fastening should not damage the casing of a damper).

Flexible connection is made of galvanized steel and PVC coated fabric tape. The tape is welded into required diameter lengthwise. Width of the galvanized steel stripe A is 45 mm, width of the central PVC stripe B is 60 mm, total length of the flexible connection is 150 mm.



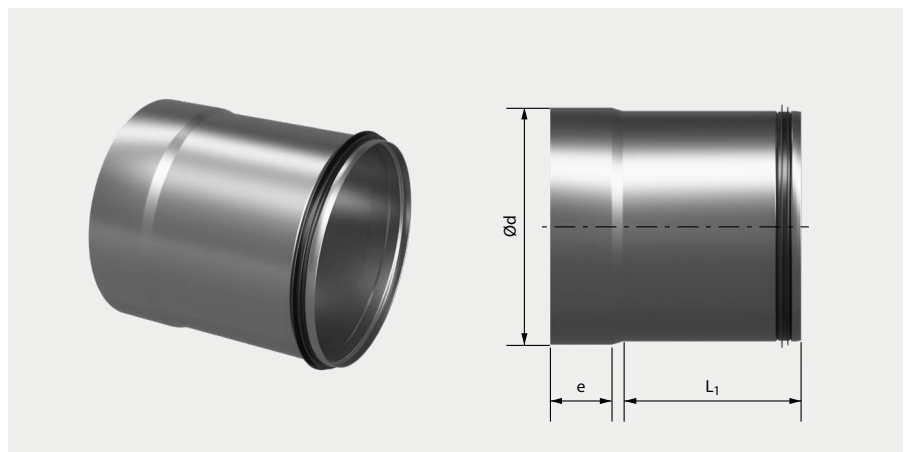
JLA flexible connection

Diameter, mm	100	125	160	200	250	315	355	400	450	500	560	630
JLA weight, kg	0,3	0,4	0,5	0,6	0,7	0,9	1,0	1,1	1,3	1,4	1,4	1,5

In conjunction with flexible connectors JLA, an extension connector MYTIF should be installed on the long side of the damper.

EXTENSION CONNECTION MYTIF

An extension connection MYTIF is installed on the maintenance side of the fire damper to have the possibility to check and clean the damper, or to build up the length of the damper for large wall or ceiling thicknesses. Length of the extension connection is 250 mm.



MYTIF extension connection

d, mm	100	125	160	200	250	315
MYTIF weight, kg	0,25	0,30	0,38	0,47	0,72	0,90
e, mm	30 – 36	30 – 36	30 – 36	30 – 36	30 – 36	30 – 36
mm L1, mm	127	127	127	127	192	182

In combination with flexible connector JLA usage of extension connection allows to freely remove the connection airduct part by shrinking the JLA connection:


















- ❶ JLA connector
- ❷ MYTIF connector

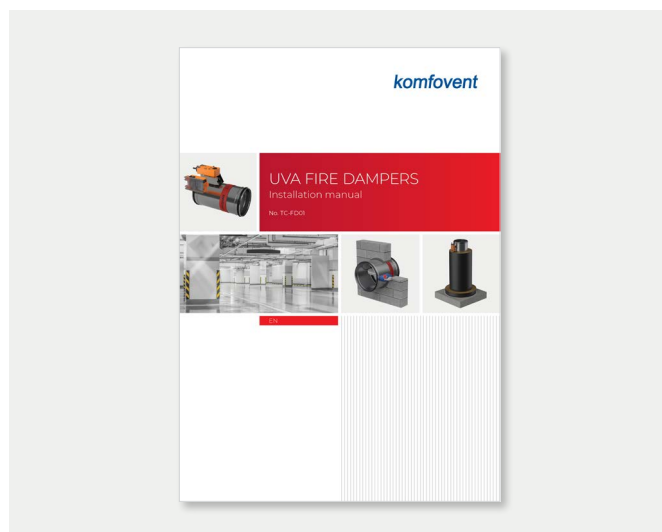
JLA and MYTIF connection to the damper

Installation types for UVA dampers

Installation methods and fire resistance for UVA dampers are summarized in the table below:

	Details of the supporting construction	Sealing details	Size of the damper	Axis position	Min. distance between casings	Class of performance
SOLID WALL	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 115 mm	Mortar filling 	100 ÷ 560 mm	Horizontal	200 mm	EI120(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 100 mm	Mineral wool min. 165 kg/m ³ with fire resistant coating 	100 ÷ 315 mm	Any angle	200 mm	EI90(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 100 mm	Mortar filling 	100 ÷ 315 mm	Any angle	200 mm	EI120(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 100 mm	Mortar filling 	100 ÷ 315 mm	Any angle	40 mm	EI60(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 100 mm	Mortar filling 	630 mm	Horizontal	200 mm	EI90(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 125 mm	Mineral wool min. 165 kg/m ³ with fire resistant coating and additional plasterboard pads 	355 ÷ 560 mm	Horizontal	200 mm	EI60(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 115 mm	Calcium silicate "Dry montage" kit SRM 	100 ÷ 315 mm	Any angle	200 mm	EI60(ve i↔o)S 300 Pa
	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 100 mm	Remote installation with min. 80 kg/m ³ mineral wool insulation 	100 ÷ 315 mm	Any angle	200 mm	EI60(ve i↔o)S 300 Pa
FLEXIBLE WALL	Metal stud gypsum plasterboard F (EN 520) ≥ 100 mm	Mineral wool min. 165 kg/m ³ with fire resistant coating 	100 ÷ 315 mm	Any angle	200 mm	EI90(ve i↔o)S 300 Pa
	Metal stud gypsum plasterboard F (EN 520) ≥ 100 mm	Mortar filling 	100 ÷ 315 mm	Any angle	200 mm	EI90(ve i↔o)S 300 Pa
	Metal stud gypsum plasterboard F (EN 520) ≥ 100 mm	Mortar filling 	355 ÷ 630 mm	Horizontal	200 mm	EI90(ve i↔o)S 300 Pa
	Metal stud gypsum plasterboard F (EN 520) ≥ 100 mm	Mortar filling 	100 ÷ 315 mm	Any angle	40 mm	EI60(ve i↔o)S 300 Pa
	Metal stud gypsum plasterboard F (EN 520) ≥ 125 mm	Mineral wool min. 165 kg/m ³ with fire resistant coating and additional plasterboard pads 	355 ÷ 560 mm	Horizontal	200 mm	EI60(ve i↔o)S 300 Pa
	Metal stud gypsum plasterboard F (EN 520) ≥ 100 mm	Remote installation with min. 80 kg/m ³ mineral wool insulation 	100 ÷ 315 mm	Any angle	200 mm	EI60(ve i↔o)S 300 Pa
CEILING SLAB	Monolithic or hollow core slab ≥ 150 mm	Mortar filling 	100 ÷ 560 mm	Any angle	200 mm	EI120(ho i↔o)S 300 Pa
	Monolithic or hollow core slab ≥ 150 mm	Mortar filling 	630 mm	Any angle	200 mm	EI90(ho i↔o)S 300 Pa
	Monolithic or hollow core slab ≥ 150 mm	Remote installation with min. 80 kg/m ³ mineral wool insulation 	100 ÷ 315 mm	Any angle	200 mm	EI60(ho i↔o)S 300 Pa

Detailed installation information for UVA damper certified installation procedures, types of supporting constructions and sealing materials to be used is provided in manufacturer's Installation manual, available at www.komfovent.com or by following the link:



Order code for UVA dampers

UVA - M24T - 200 - BK - AISI304 - HY

① ② ③ ④ ⑤ ⑥

-
- ① **Product type:** Circular fire damper UVA

 - ② **Activation type:** H – manual spring-return mechanism with fusible link
 - HEP – manual spring-return mechanism with fusible link and two end position switches
 - HEC – manual spring-return mechanism with fusible link and one CLOSED end position switch
 - HEO – manual spring-return mechanism with fusible link and one OPEN end position switch
 - M24T – 24 V AC/DC spring-return actuator with thermoelectric tripping device
 - M230T – 230 V AC spring-return actuator with thermoelectric tripping device
 - M24TST – 24 V AC/DC spring-return actuator with thermoelectric tripping device and connection plugs for Communication and power supply unit BKN230-...

 - ③ **Dimensions:** d – nominal diameter in mm

 - ④ **Pre-installed accessories:** No entry – no preinstalled accessories
 - B – bracket for Communication and power supply unit BKN230...
 - BK – bracket with Communication and power supply unit BKN230-24
 - BKD – bracket with Communication and power supply unit BKN230-24-MOD
 - BKP – bracket with Communication and power supply unit BKN230-24-C-MP

 - ⑤ **Material of metal parts:** No entry – zinc-coated sheet steel
 - AISI304 – stainless steel grade AISI304

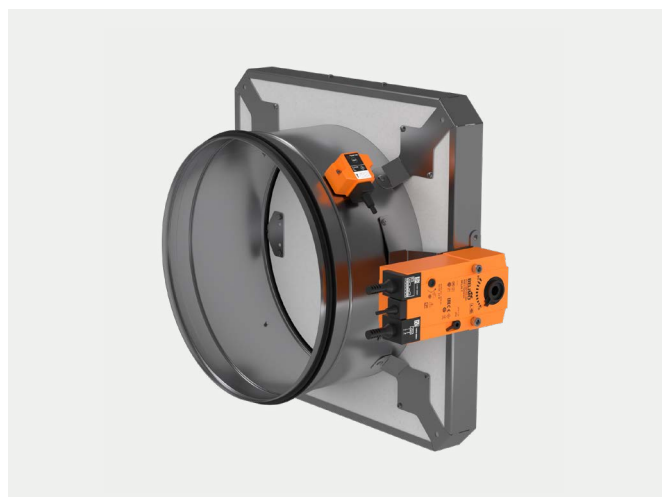
 - ⑥ **Hygiene requirements:** No entry – no specific requirements to hygiene standards
 - HY – fire damper meets the VDI 6022 Sheet 1 requirements

CIRCULAR FIRE DAMPERS UVAF

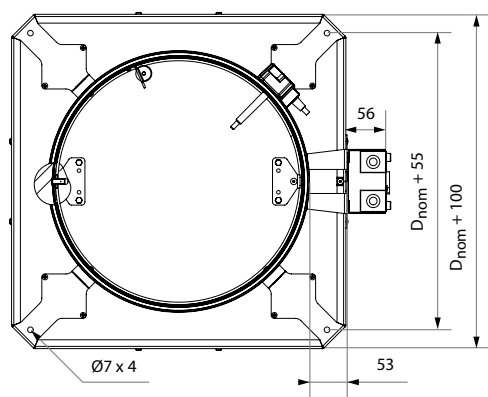
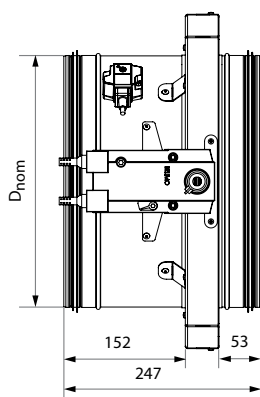
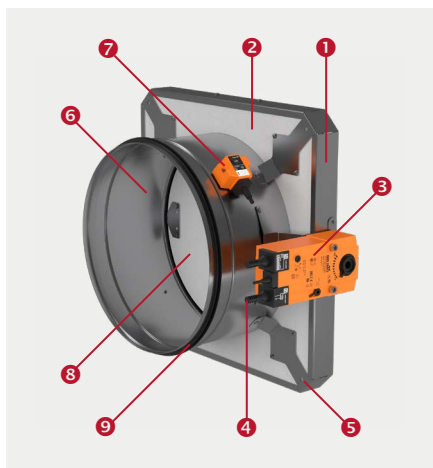
Circular fire damper UVAF-M is available in diameters 100, 125, 160, 200, 250 and 315 mm. UVAF-M damper comes with electric actuator. The fire damper is designed for at-the-surface mounting, using a "dry montage" technique. For this purpose, UVAF-M fire equipped with dry installation fire-resistant flange.

DESIGN AND ADVANTAGES:

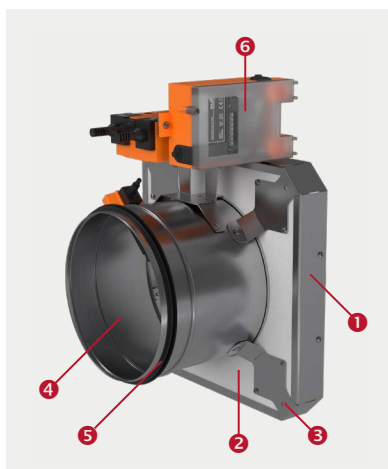
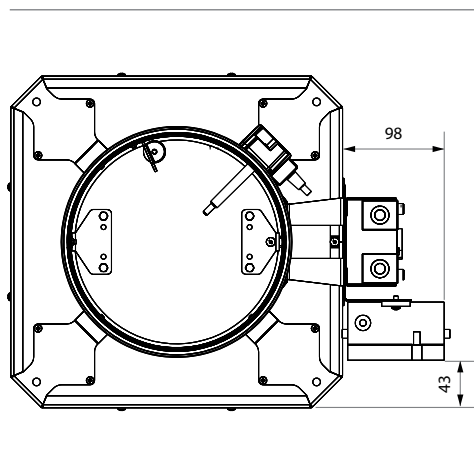
- Fast and easy installation
- Extra-short 247 mm casing length
- Air tightness class C3
- Suitable for installation in flexible or solid walls and ceilings
- Operating temperature -30...55 °C



DESIGN AND DIMENSIONS



- | | |
|--|----------------------------|
| 1 Metal collar | 6 Metal casing |
| 2 Calcium-silicate fire-resistant flange | 7 72 °C thermosensor |
| 3 24V / 230V actuator | 8 Calcium-silicate blade |
| 4 Connecting wires | 9 Casing insulating rubber |
| 5 Installation holes | |



- ❶ Metal collar
- ❷ Calcium-silicate fire-resistant flange
- ❸ Installation holes
- ❹ Metal casing
- ❺ Casing insulating rubber
- ❻ BKN

Extend beyond the blade

UVAF fire dampers starting with Ø200 mm have exposition of the blade into the duct within a certain distance:

Ø, mm	100	125	160	200	250	315
L_a, mm	0	0	0	13	38	71

Weight of the dampers

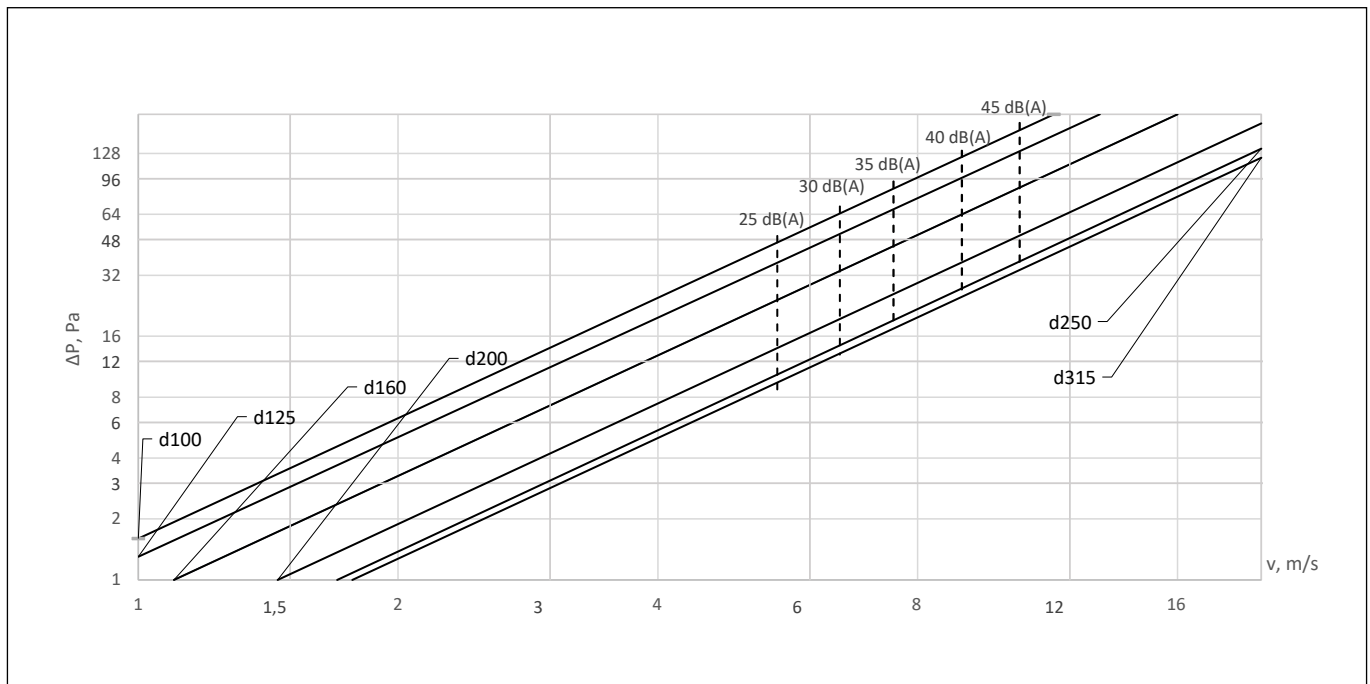
Ø, mm	100	125	160	200	250	315
Weight, kg	3,3	3,7	4,3	5,0	6,0	7,4

Free area of the damper

Free area, m²	100	120	160	200	250	315
Ø, mm	0,004	0,0075	0,015	0,025	0,04	0,068







Pressure drop and sound power level for UVAF fire dampers

Pressure drop graph on completely open blade of the UVAF damper for every dimension - see below:



Installation types for UVAF fire dampers

Installation methods and fire resistance for UVAF dampers are summarized in the table below:

	Details of the supporting construction	Sealing details	Size of the damper	Axis position	Min. distance between casings	Class of performance
Supporting construction	SOLID WALL  Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks with min. density 650 kg/m ³), min. thickness 100 mm	Dry montage and fire-resistant coating	 100 ÷ 315 mm	Horizontal	200 mm	EI 60 (ve i↔o) S 300 Pa
	FLEXIBLE WALL  Metal stud gypsum plasterboard F (EN 520) ≥ 100 mm	Dry montage and fire-resistant coating	 100 ÷ 315 mm	Horizontal	200 mm	EI 60 (ve i↔o) S 300 Pa
	CEILING SLAB  Monolithic or hollow core slab ≥ 150 mm	Dry montage and fire-resistant coating	 100 ÷ 315 mm	Any angle	200 mm	EI 60 (ve i↔o) S 300 Pa

Detailed installation information for UVAF-M damper certified installation procedures, types of supporting constructions and sealing materials to be used is provided in manufacturer's Installation manual, available at www.komfovent.com or by following the link:



Order code for UVAF dampers

UVAF - M24T - 315 - BK - AISI304

① ② ③ ④ ⑤

① **Product type:** Circular fire damper UVAF

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

M24T – 24 V AC/DC spring return actuator with thermoelectric tripping device

M230T – 230 V spring return actuator with thermoelectric tripping device

M24TST – 24 V AC/DC spring return actuator with thermoelectric tripping device and connection plugs for Communication and power supply unit BKN230-...

③ **Dimension:** nominal diameter in mm

④ **Pre-installed accessories:** No entry – no preinstalled accessories

B – bracket for Communication and power supply unit BKN230...

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

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

BKP – bracket with Communication and power supply unit BKN230-24-C-MP

⑤ **Metal type:** No entry – Zn-coated steel

AISI304 – stainless steel grade AISI304

RECTANGULAR FIRE DAMPERS UVS

UVS fire dampers are available in both motorized and manual versions in nominal sizes 150 x 150 mm to 1200 x 1000 mm, casing length – 370 mm.

UVS dampers can be delivered in hygienic version that meets the VDI 6022 Sheet 1 standard requirements.



Nominal casing sizes B (width) x H (height):	From 150 x 150 mm to 1200 x 1000 mm
Length of the casing:	370 mm
Connecting flange:	20 mm – integrated standard flange / 30 mm – separate flange
Working temperature:	From -20 to +50 °C
Release (blade closing) temperature:	72 °C
Casing leakage classification:	C
Blade leakage classification:	3

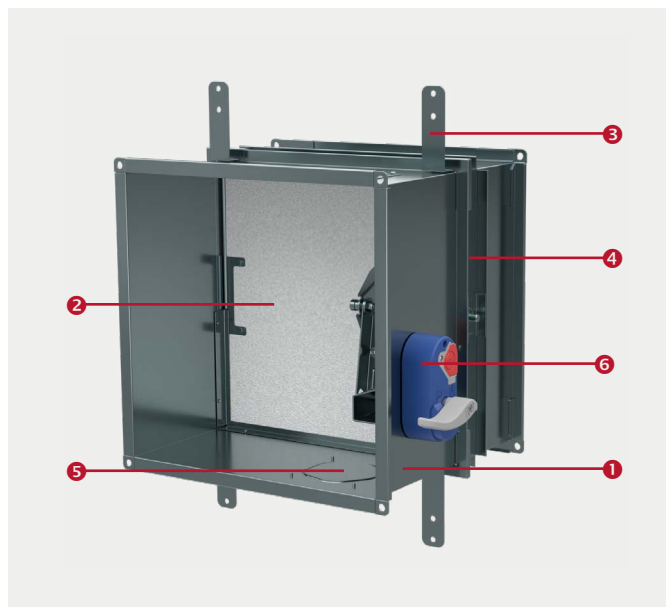
DESIGN ADVANTAGES

- 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:

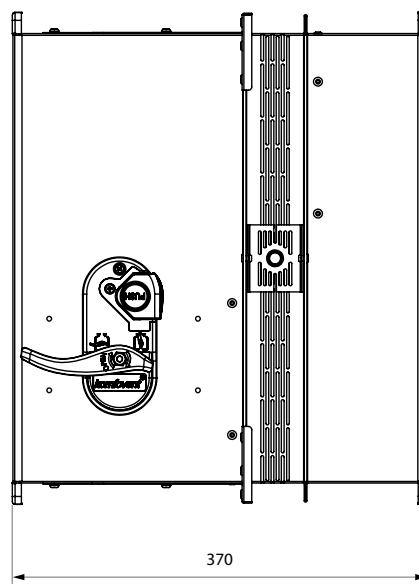
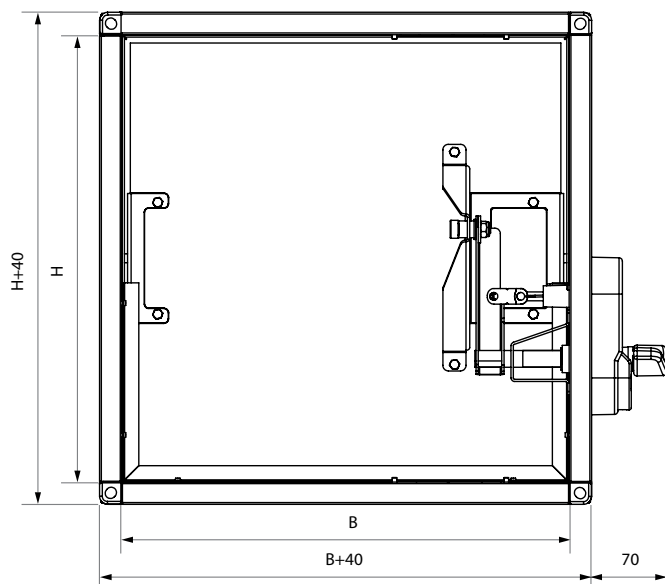
- 30 mm high separate flange.
- Limit position switches available for a manual mechanism.
- Actuators can be equipped with ST connection plugs for simple integration in control and monitoring systems or bus networks via communication and power supply units.
- Circular integrated connections to have an 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.

Rectangular fire damper with fuse element UVS-H

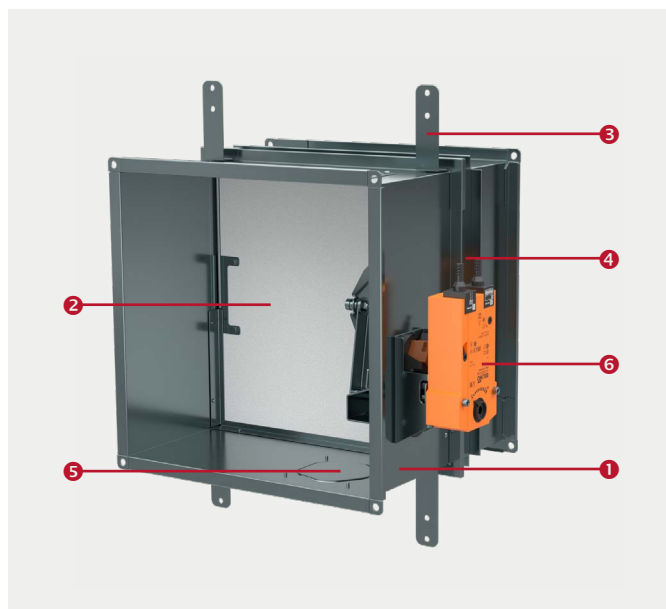


UVS-H damper mechanisms additionally can be equipped with one or two end position switches – please refer to page 22.

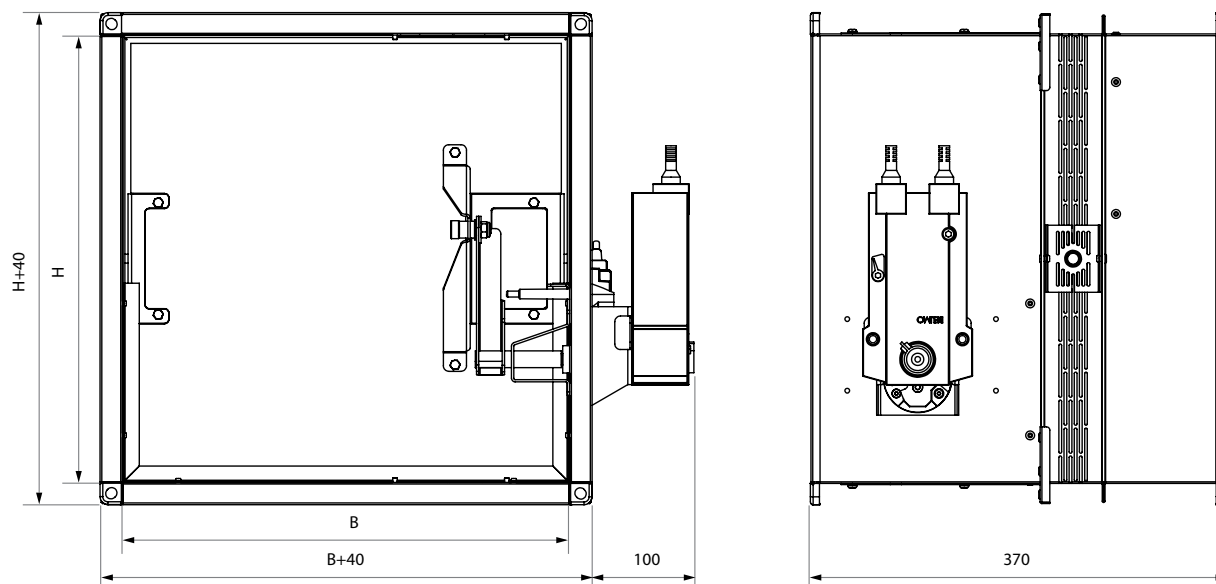
- ❶ The casing of the damper
- ❷ Calcium silicate blade
- ❸ Mounting brackets
- ❹ Perforated thermal bridge
- ❺ Inspection hatch
- ❻ Spring return mechanism



Rectangular fire damper with electric actuator UVS-M

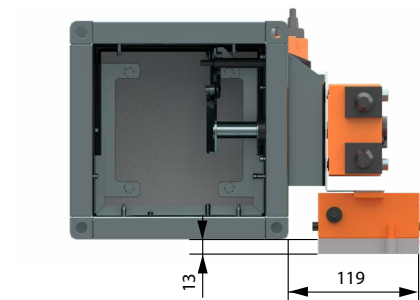
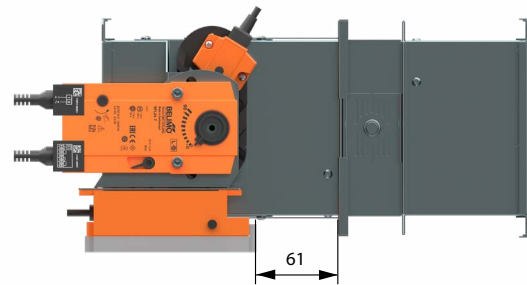
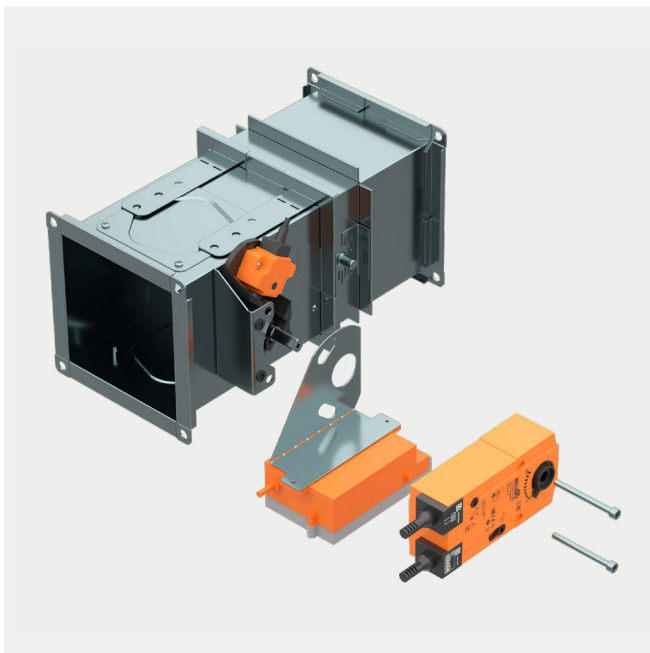


- 1 The casing of the damper
- 2 Calcium silicate blade
- 3 Mounting brackets
- 4 Perforated thermal bridge
- 5 Inspection hatch
- 6 Actuator with thermosensor

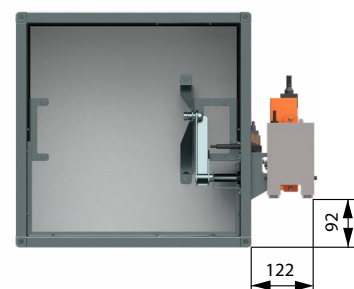
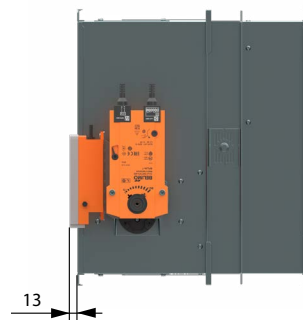
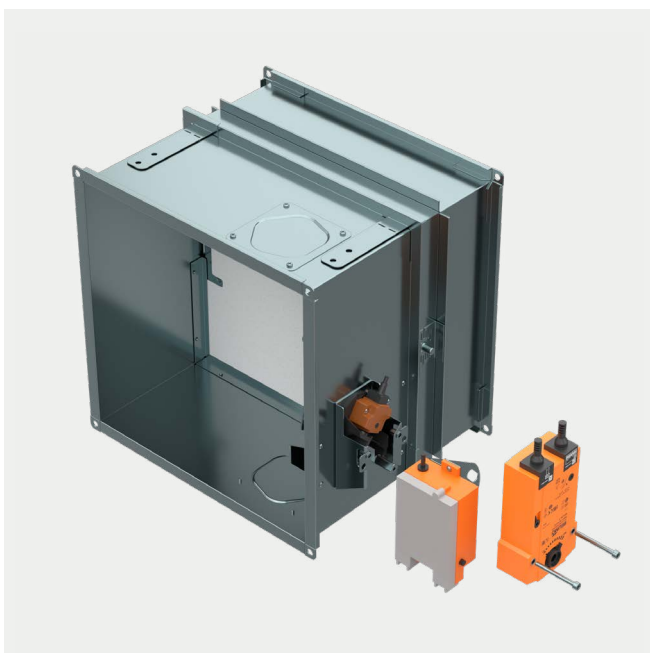


Positioning of the communication unit

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



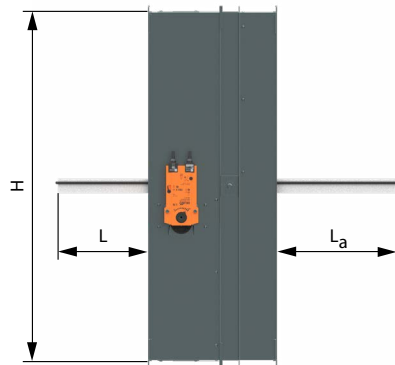
For the dampers starting with 300 mm in height, the Communicating unit is positioned in front of actuator:



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 _a , 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																				
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	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	15,4
	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, m²:

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	0,2	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	0,2	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	0,5	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	0,2	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

USAGE OF THE ELECTRIC ACTUATORS IN UVS-M DAMPERS:

		Dimensions, mm																	
H B	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
	150																		
200																			
250																			
300																			
350																			
400																			
450																			
500																			
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650																			
700																			
750																			
800																			
850																			
900																			
950																			
1000																			
1050																			
1100																			
1150																			
1200																			

BFL24-T, BFL230-T
 BFN24-T, BFN230-T

Pressure drop and sound power level for UVS fire dampers

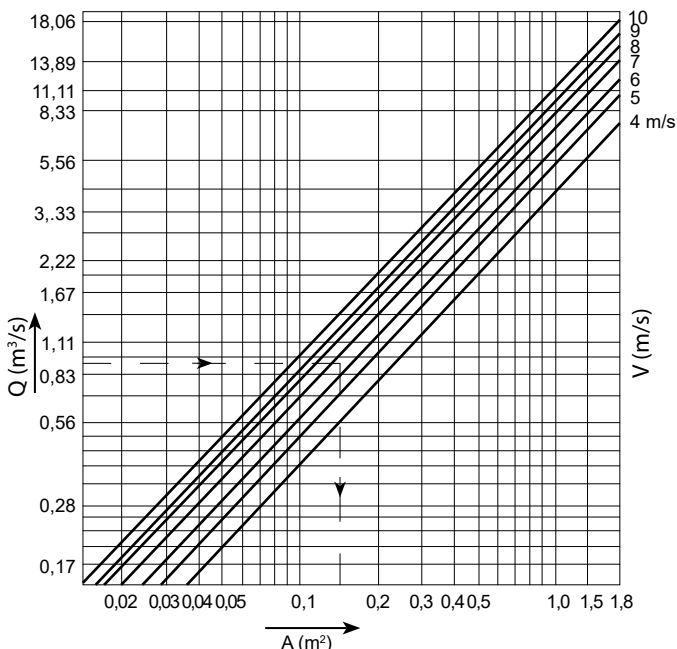
Pressure drop and sound power level calculation for the certain B x H dimensions of the UVS damper is based on resistance degree ζ , which can be identified from the table:

		Dimensions, mm											
B H	150	200	250	300	400	500	600	700	800	900	1000	1100	1200
150	0,99	0,99	0,99	0,89	0,96	0,95	0,78	0,76	0,74	0,72	0,69	0,69	0,68
200	0,99	0,99	0,98	0,87	0,85	0,84	0,75	0,73	0,71	0,69	0,66	0,65	0,64
250	0,99	0,95	0,89	0,85	0,74	0,73	0,71	0,66	0,65	0,64	0,61	0,59	0,55
300	0,99	0,93	0,85	0,8	0,73	0,71	0,68	0,65	0,63	0,62	0,59	0,56	0,54
400	0,99	0,92	0,87	0,79	0,72	0,7	0,66	0,64	0,62	0,61	0,58	0,55	0,53
500	0,98	0,91	0,85	0,78	0,71	0,69	0,67	0,63	0,61	0,59	0,57	0,54	0,52
600	0,97	0,9	0,83	0,76	0,7	0,68	0,66	0,62	0,6	0,58	0,56	0,53	0,51
700	0,96	0,89	0,81	0,75	0,69	0,67	0,65	0,61	0,58	0,55	0,53	0,5	0,49
800	0,95	0,88	0,8	0,73	0,68	0,66	0,64	0,6	0,57	0,54	0,52	0,49	0,48
900												0,47	0,46
1000												0,45	0,45

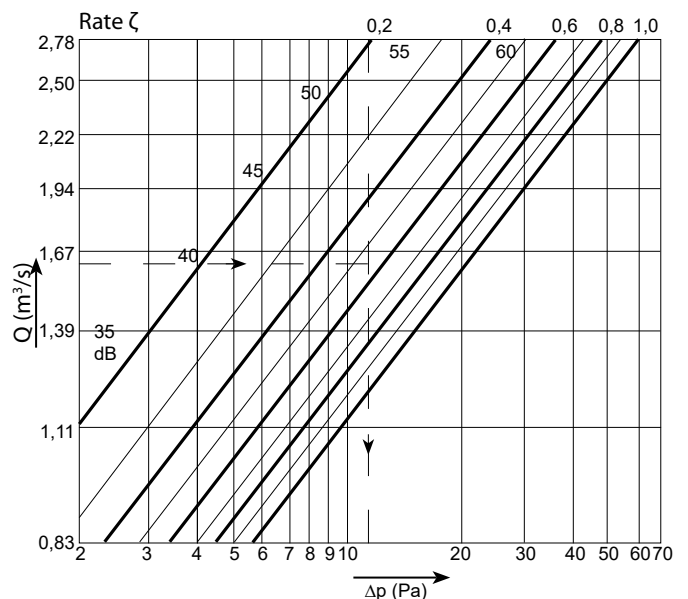
For example, for UVS damper 800 x 200 found resistance degree ζ is 0.71 and effective cross-section area is 1.15 m². If the projected air velocity is 8 m/s, therefore using the graph on the left, an air volume could be determined – 0.83 m³/s. Based on this this value and already know resistance rate, pressure loss and generated sound power level could be determined using the graph on the right – it is 4 Pa pressure drop and sound power level is significantly less than 35 dB(A).

PRESSURE LOSS AND NOISE LEVEL

Determination of effective cross area A (m²)



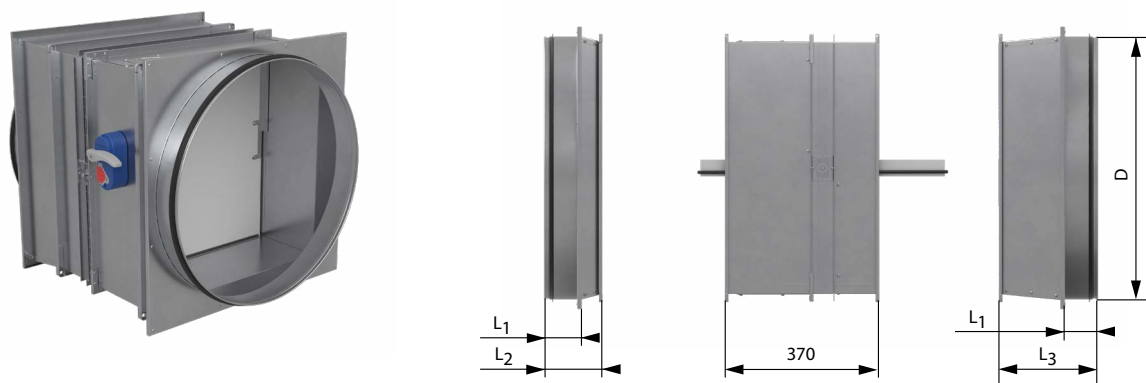
Pressure loss and noise level



Accessories for UVS dampers

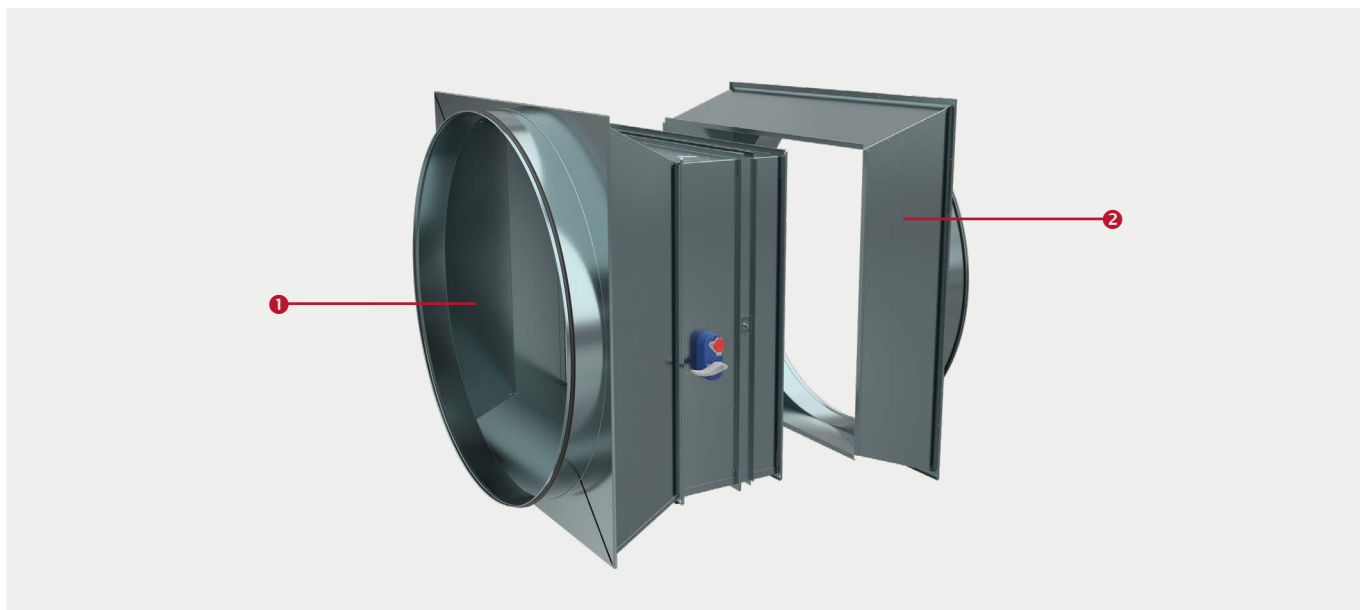
CIRCULAR CONNECTIONS TO THE DAMPERS

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. 50 for detailed installation instructions.*



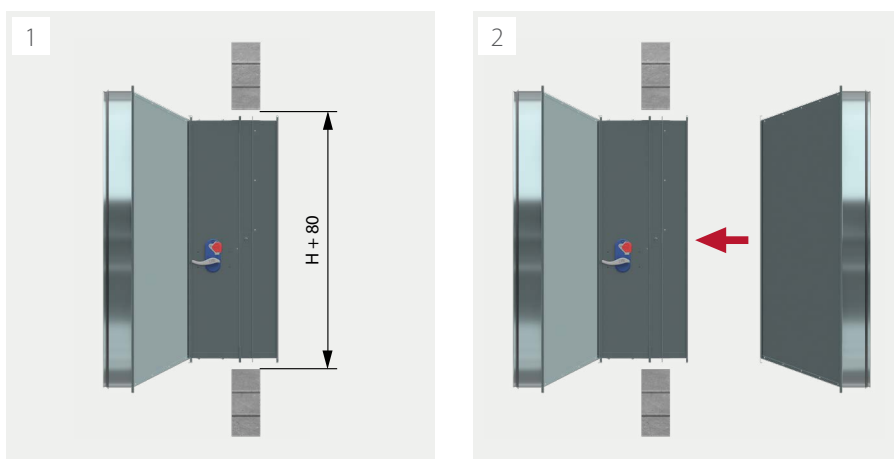
Nominal size B x H, mm	Diameter D, mm	L ₁ , mm	L ₂ , mm	L ₃ , mm	The total length of the damper, mm	m, kg
700 x 700	710	100	207	310	887	44
800 x 800	800	135	261	360	991	51
900 x 900	900	135	309	408	1087	59
1000 x 800	1000	135	280	377	1027	62
1200 x 1000	1250	135	366	465	1201	68

Fire dampers with circular connection UVS-D for connection diameters $D = 1000$ and $D = 1250$ mm, one of the circular adapters should be disconnected due to the installation features (installation opening is smaller than the overall dimensions of the adapter and it is impossible to fit through the installation opening with pre-installed adapter):



- ❶ The connected adapter
- ❷ The adapter that should be disconnected before the installation

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

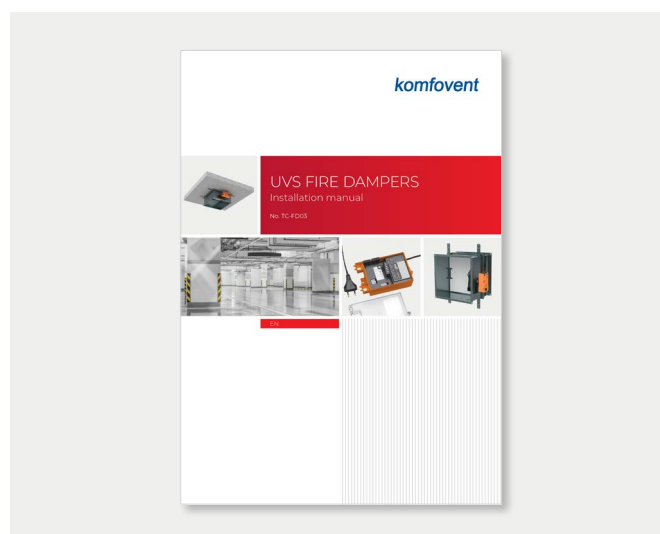
Installation types for UVS dampers

Installation methods and fire resistance for UVS dampers are summarized in the table below:

INSTALLATION METHODS FOR UVS FIRE DAMPERS

	Details of the supporting construction	Sealing details		Size of the damper	Axis position	Min. distance between casings	Class of performance
Supporting construction	Solid wall 	Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks) ≥100 mm	Plaster or mortar 	150 × 150 mm to 1200 × 1000 mm	Horizontal	200 mm	EI120 (ve i↔o)S 300 Pa
		Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks) ≥100 mm	Fire batt (mineral wool min. density 165 kg/m ³) 	150 × 150 mm to 1200 × 800 mm	Horizontal	200 mm	EI90 (ve i↔o)S 300 Pa
	Flexible wall 	Metal stud gypsum plasterboard type F (EN 520) ≥ 100 mm	Plaster or mortar 	150 × 150 mm to 1200 × 1000 mm	Horizontal	200 mm	EI90 (ve i↔o)S 300 Pa
		Metal stud gypsum plasterboard type F (EN 520) ≥ 100 mm	Fire batt (mineral wool min. density 165 kg/m ³) 	150 × 150 mm to 1200 × 800 mm	Horizontal	200 mm	EI90 (ve i↔o)S 300 Pa
		Metal stud gypsum plasterboard type F (EN 520) ≥ 125 mm	Plaster or mortar 	150 × 150 mm to 1200 × 1000 mm	Horizontal	200 mm	EI120 (ve i↔o)S 300 Pa
	Solid ceiling 	Monolithic or hollow core slab ≥ 150 mm	Mortar filling 	150 × 150 mm to 1200 × 1000 mm	Any angle	200 mm	EI120 (ho i↔o)S 300 Pa

Detailed installation information for UVS damper certified installation procedures, types of supporting constructions and sealing materials to be used is provided in manufacturer's Installation manual, available at www.komfovent.com or by following the link:



Order code for UVS dampers

UVS - M24T - BKD - 1200 x 1000 - AISI304 - HY

① ② ③ ④ ⑤ ⑦ ⑧

UVS - HEP - 1000 x 1000 - 1000

① ② ④ ⑤ ⑥

① **Fire damper:** rectangular fire damper UVS

② **Mechanism type:** H – manual mechanism

No entry – without end position switches

HEP – manual spring-return mechanism with fusible link and two end position switches

HEC – manual spring-return mechanism with fusible link and one CLOSED end position switch

HEO – manual spring-return mechanism with fusible link and one OPEN end position switch

M – automatic actuation

M24T – 24 V AC/DC spring return actuator with thermoelectric tripping device

M230T – 230 V spring return actuator with thermoelectric tripping device

M24TST – 24 V AC/DC spring return actuator with thermoelectric tripping device and connection plugs for Communication and power supply unit BKN230-...

③ **Pre-installed accessories:** No entry – no preinstalled accessories

B – bracket for Communication and power supply unit BKN230...

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

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

BKP – bracket with Communication and power supply unit BKN230-24-C-MP

④ **Width of the damper:** nominal width in mm

⑤ **Height of the damper:** nominal height in mm

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

Diameter of the circular connection, mm

⑦ **Metal type:** No entry – Zn-coated steel

AISI304 – stainless steel grade AISI304

⑧ **Hygiene requirements:** No entry – no specific requirements to hygiene standards

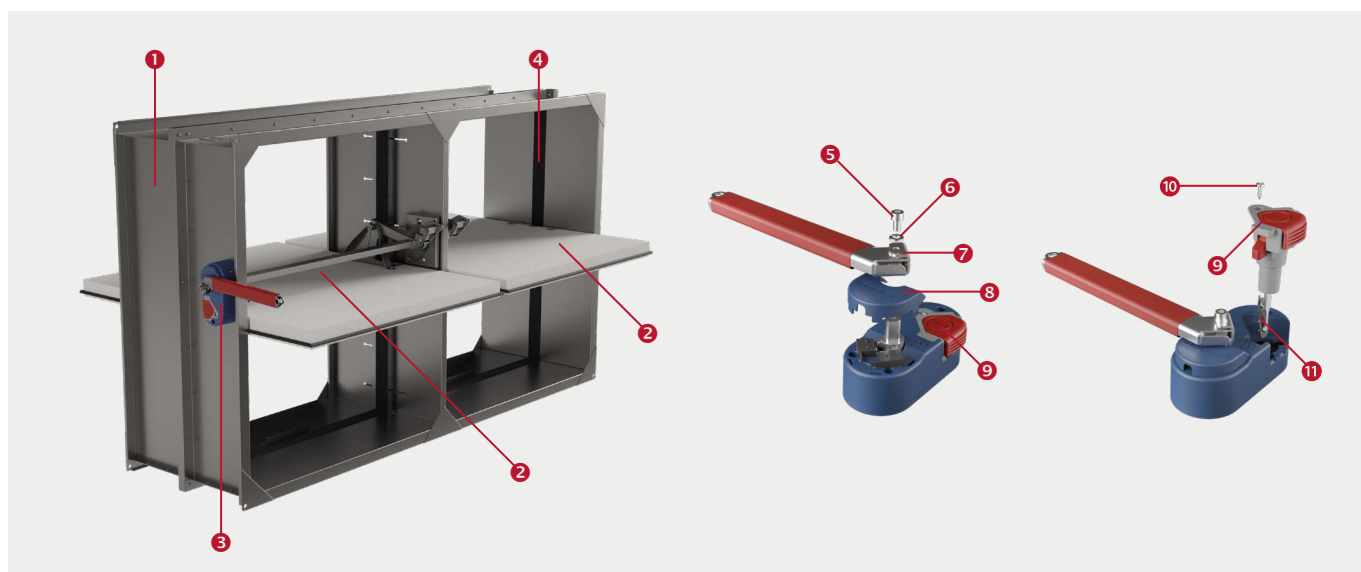
HY – fire damper meets the VDI 6022 Sheet 1 requirements

RECTANGULAR FIRE DAMPERS UVSL

Double-blade design for large dimensions

UVSL fire dampers are available in both motorized and manual versions in nominal sizes 1050 x 300 mm to 1600 x 1000 mm, casing length – 400 mm.

UVSL-H damper is equipped with two synchronously moving blades and manual spring mechanism:

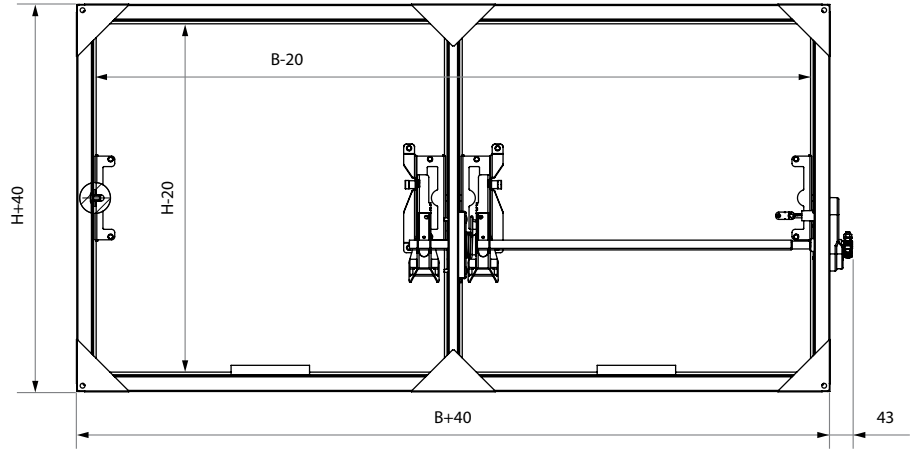
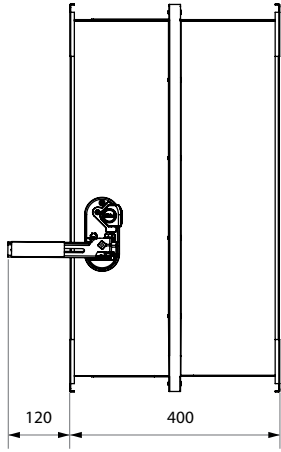


- | | | |
|------------------------------|--------------------------------|--|
| 1 Casing | 5 Handle attaching screw | 9 PUSH button mechanism (replacing part) |
| 2 Blade | 6 Spring washer | 10 Screw |
| 3 Opening device with spring | 7 Handle of the opening device | 11 Fuse element 72° |
| 4 Intumescent seal | 8 Microswitch cap | |

UVSL-M damper is equipped with two synchronously moving blades and spring return actuator:

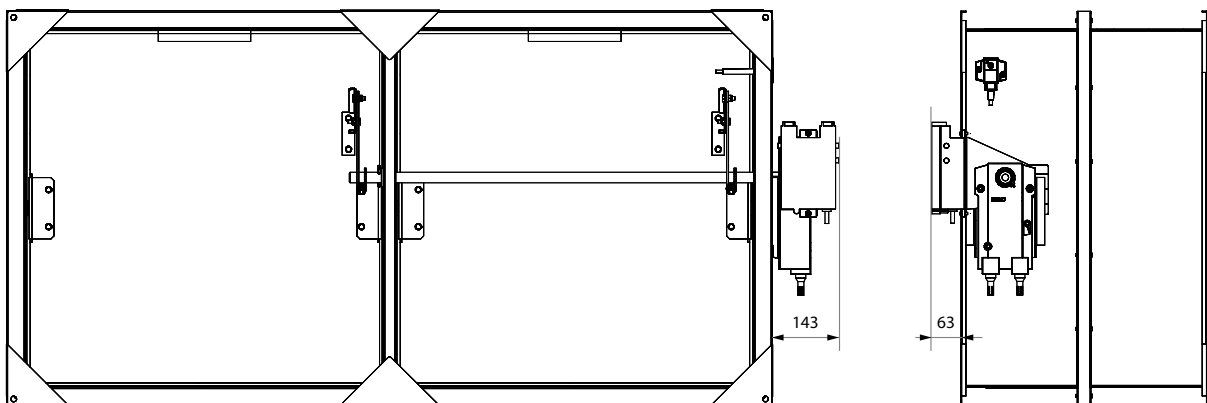


- | |
|--------------------------|
| 1 Casing |
| 2 Blade |
| 3 Spring return actuator |
| 4 Intumescent seal |
| 5 Thermal bridge |
| 6 Blade rotation axle |
| 7 Connecting flange |





Positioning of the communication unit

For UVSL-M dampers the Communication unit is connected close to the actuator.



USAGE OF THE ELECTRIC ACTUATORS IN UVSL-M DAMPERS:

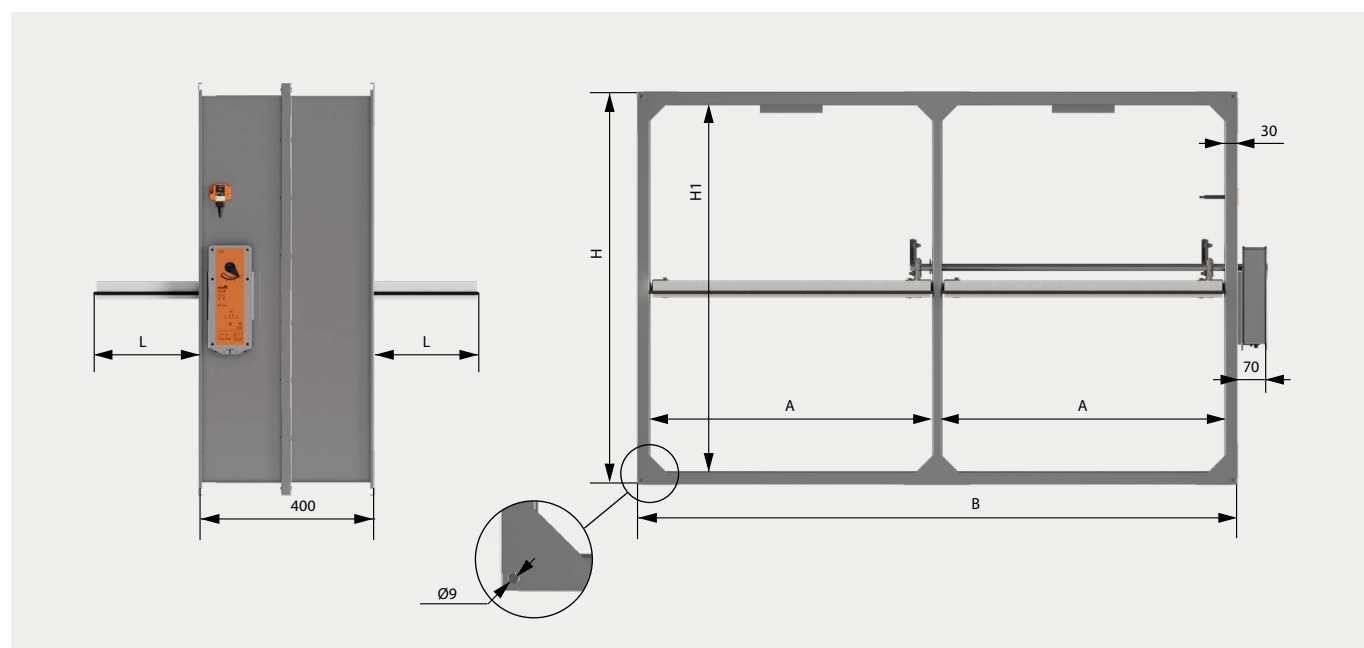
		Dimensions, mm													
H \ B	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
1050															
1100															
1150															
1200															
1250															
1300															
1350															
1400															
1450															
1500															
1550															
1600															

	BFN24-T, BFN230-T		BF24-T, BF230-T
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Extend beyond the blade

UVSL fire dampers starting with H=490 mm have exposition of the blade into the duct within a certain distance:

H_{nom}, mm	H, mm	H1, mm	L, mm
200	240	180	0
250	290	230	0
300	340	280	0
350	390	330	0
400	440	380	0
450	490	430	15
500	540	480	40
550	590	530	65
600	640	580	90
650	690	630	115
700	740	680	140
750	790	730	165
800	840	780	190
850	890	830	215
900	940	880	240
950	990	930	265
1000	1040	980	290



Weight of the dampers

Weights for UVSL-H fire damper:

Weight, kg												
H \ B	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
300	25,8	26,7	27,4	28,1	29,1	30,3	30,8	33,7	34,6	35,4	36,2	37
350	27,8	28,7	29,5	32,7	33,6	34,5	35,4	36,2	37,1	38	38,9	39,8
400	31,9	32,9	33,8	34,8	35,7	36,8	37,7	38,7	39,6	40,6	41,5	42,5
450	33,9	35	35,9	37	38	39,1	40,1	41,1	42,1	43,2	44,1	45,2
500	35,8	37	38	39,2	40,2	41,3	42,4	43,5	44,6	45,7	46,7	47,9
550	37,8	39	40,1	41,3	42,4	43,6	44,7	45,8	47	51,4	52,6	53,7
600	39,7	40,9	42,1	43,4	44,5	45,8	50,2	51,5	52,6	52,3	53,5	54,7
650	41,7	42,9	44,2	45,6	50,5	51,8	50,9	52,3	53,5	54,8	56,1	57,3
700	43,6	44,9	49,5	50,9	50,6	52	53,2	54,7	55,9	57,3	58,6	60
750	45,6	48,5	49,9	51,3	52,7	54,1	55,5	57	58,4	59,8	61,2	62,6
800	50,6	50,5	51,9	53,4	54,9	56,4	57,8	59,4	60,8	62,3	63,7	65,2
850	50,7	52,3	53,9	55,4	57	58,4	60,1	61,8	63,3	64,8	66,3	67,9
900	52,4	54,1	55,7	57,3	59	60,4	62,4	64,2	65,7	67,3	68,8	70,5
950	54,2	55,9	57,6	59,4	61,1	62,5	64,7	66,5	68,2	69,8	71,4	73,2
1000	55,9	57,8	59,6	61,4	63,2	64,6	67	68,9	70,6	72,3	73,9	75,8

Weights for UVSL-M fire damper:

Weight, kg												
H \ B	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
200	22,6	23,4	24,0	24,8	25,4	26,2	26,8	27,6	28,2	29,0	29,6	30,3
250	24,6	25,4	26,1	26,8	27,6	28,6	29,2	30,0	30,8	31,5	32,3	33,1
300	26,5	27,4	28,1	28,8	29,8	31,0	31,5	34,4	35,3	36,1	36,9	37,7
350	28,5	29,4	30,2	33,4	34,3	35,2	36,1	36,9	37,8	38,7	39,6	40,5
400	32,6	33,6	34,5	35,5	36,4	37,5	38,4	39,4	40,3	41,3	42,2	43,2
450	34,6	35,7	36,6	37,7	38,7	39,8	40,8	41,8	42,8	43,9	44,8	45,9
500	36,5	37,7	38,7	39,9	40,9	42,0	43,1	44,2	45,3	46,4	47,4	48,6
550	38,5	39,7	40,8	42,0	43,1	44,3	45,4	46,5	47,7	52,1	53,3	54,4
600	40,4	41,6	42,8	44,1	45,2	46,5	50,9	52,2	53,3	54,6	55,8	57,0
650	42,4	43,6	44,9	46,3	51,2	52,5	53,2	54,6	55,8	57,1	58,4	59,6
700	44,3	45,6	50,2	51,6	52,9	54,3	55,5	57,0	58,2	59,6	60,9	62,3
750	46,3	50,8	52,2	53,6	55,0	56,4	57,8	59,3	60,7	62,1	63,5	64,9
800	51,3	52,8	54,2	55,7	57,2	58,7	60,1	61,7	63,1	64,6	66,0	67,5
850	53,0	54,6	56,2	57,7	59,3	60,7	62,4	64,1	65,6	67,1	68,6	70,2
900	54,7	56,4	58,0	59,6	61,3	62,7	64,7	66,5	68,0	69,6	71,1	72,8
950	56,5	58,2	59,9	61,7	63,4	64,8	67,0	68,8	70,5	72,1	73,7	75,5
1000	58,2	60,1	61,9	63,7	65,5	66,9	69,3	71,2	72,9	74,6	76,2	78,1

Effective cross-section area of the dampers:

Effective cross-section area for fully opened blades of the damper:

Cross – section area A, m ²												
H \ B	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
200	0,14	0,15	0,15	0,16	0,17	0,18	0,18	0,19	0,20	0,20	0,21	0,22
250	0,19	0,20	0,21	0,22	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,30
300	0,24	0,25	0,27	0,28	0,29	0,30	0,31	0,33	0,34	0,35	0,36	0,37
350	0,29	0,31	0,32	0,34	0,35	0,36	0,38	0,39	0,41	0,42	0,44	0,45
400	0,34	0,36	0,38	0,39	0,41	0,43	0,44	0,46	0,48	0,50	0,51	0,53
450	0,39	0,41	0,43	0,45	0,47	0,49	0,51	0,53	0,55	0,57	0,59	0,61
500	0,44	0,47	0,49	0,51	0,53	0,55	0,58	0,60	0,62	0,64	0,66	0,69
550	0,49	0,52	0,54	0,57	0,59	0,62	0,64	0,67	0,69	0,71	0,74	0,76
600	0,54	0,57	0,60	0,63	0,65	0,68	0,71	0,73	0,76	0,79	0,81	0,84
650	0,60	0,62	0,65	0,68	0,71	0,74	0,77	0,80	0,83	0,86	0,89	0,92
700	0,65	0,68	0,71	0,74	0,77	0,81	0,84	0,87	0,90	0,93	0,97	1,00
750	0,70	0,73	0,77	0,80	0,83	0,87	0,90	0,94	0,97	1,01	1,04	1,08
800	0,75	0,78	0,82	0,86	0,89	0,93	0,97	1,01	1,04	1,08	1,12	1,15
850	0,80	0,84	0,88	0,92	0,96	0,99	1,03	1,07	1,11	1,15	1,19	1,23
900	0,85	0,89	0,93	0,97	1,02	1,06	1,10	1,14	1,18	1,23	1,27	1,31
950	0,90	0,94	0,99	1,03	1,08	1,12	1,17	1,21	1,25	1,30	1,34	1,39
1000	0,95	1,00	1,04	1,09	1,14	1,18	1,23	1,28	1,32	1,37	1,42	1,47

Pressure drop and sound power level for UVSL fire dampers

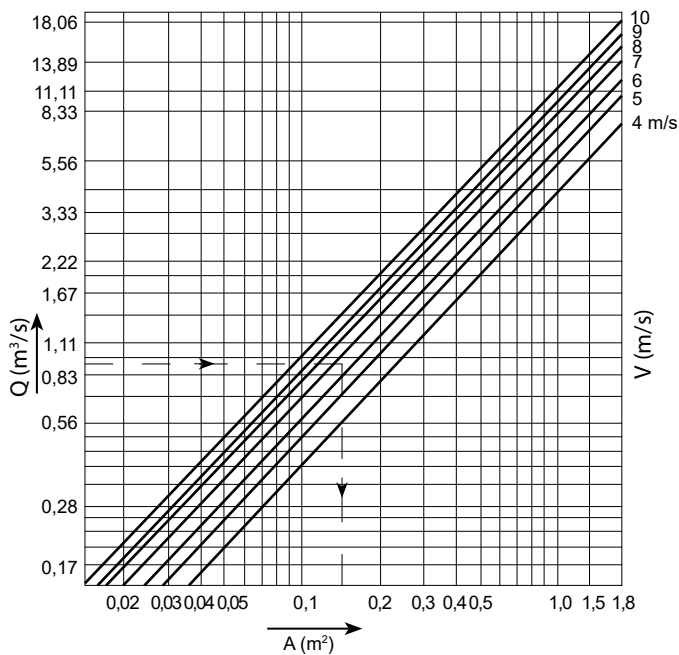
Pressure drop and sound power level calculation for the certain BxH dimensions of the UVSL damper is based on resistance degree ζ , which can be identified from the table:

Dimensions, mm							
H \ B	1050	1100	1200	1300	1400	1500	1600
150	0,66	0,69	0,68	0,65	0,63	0,59	0,57
200	0,60	0,65	0,64	0,61	0,58	0,55	0,53
250	0,53	0,59	0,55	0,54	0,53	0,52	0,51
300	0,51	0,56	0,54	0,52	0,48	0,47	0,46
400	0,50	0,55	0,53	0,51	0,47	0,46	0,45
500	0,49	0,54	0,52	0,5	0,45	0,43	0,42
600	0,48	0,53	0,51	0,49	0,44	0,42	0,41
700	0,45	0,5	0,49	0,47	0,43	0,4	0,39
800	0,44	0,49	0,48	0,46	0,42	0,39	0,38
900	0,40	0,47	0,46	0,45	0,41	0,38	0,37
1000	0,37	0,45	0,45	0,44	0,4	0,37	0,36

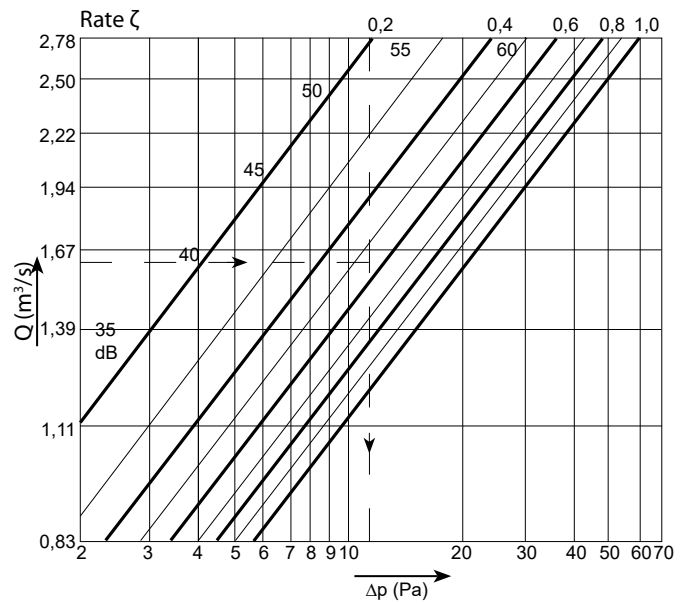
For example, for UVSL damper 1100x400 found resistance degree ζ is 0.55 and effective cross-section area is 0.4 m². If the projected air velocity is 7 m/s, therefore using the graph on the left, an air volume could be determined – 2.78 m³/s. Based on this this value and already know resistance rate, pressure loss and generated sound power level could be determined using the graph on the right – it is 30 Pa pressure drop and sound power level is 60 dB(A).

PRESSURE LOSS AND NOISE LEVEL

Determination of effective cross area A (m²)







Pressure loss and noise level



Installation types for UVSL dampers

Installation methods and fire resistance for UVSL dampers are summarized in the table below:

	Details of the supporting construction	Sealing details	Size of the damper	Axis position	Min. distance between casings	Class of performance
Supporting construction	 SOLID WALL Solid homogeneous wall (aerated concrete blocks, masonry, concrete blocks) ≥115 mm	Plaster or mortar 	1050 × 300 mm to 1600 × 1000 mm	Horizontal	200 mm	EI 120 (ve i↔o)S 300 Pa
	 CEILING SLAB Solid reinforced hollowed / non-hollowed ceiling panel ≥150 mm	Plaster or mortar 	1050 × 300 mm to 1600 × 1000 mm	Any angle	200 mm	EI120 (h _o i↔o)S 300 Pa

Detailed installation information for UVSL damper certified installation procedures, types of supporting constructions and sealing materials to be used is provided in manufacturer's Installation manual, available at www.komfovent.com or by following the link:



Order code for UVSL dampers

UVSL - M24T - BKD - 1600 x 1000 - AISI304

1

2

3

4

5

6

UVSL - HEC - 1600 x 1000

1

2

4

5

① **Fire damper:** rectangular fire damper UVSL

② **Mechanism type:** H – manual mechanism

No entry – without end position switches

HEP – manual spring-return mechanism with fusible link and two end position switches

HEC – manual spring-return mechanism with fusible link and one CLOSED end position switch

HEO – manual spring-return mechanism with fusible link and one OPEN end position switch

M – automatic actuation

M24T – 24C AC/VC spring return actuator with thermoelectric tripping device

M230T – 230V spring return actuator with thermoelectric tripping device

M24TST – 24C AC/VC spring return actuator with thermoelectric tripping device and connection plugs for Communication and power supply unit BKN230-...

③ **Pre-installed accessories:** No entry – no preinstalled accessories

B – bracket for Communication and power supply unit BKN230...

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

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

BKP – bracket with Communication and power supply unit BKN230-24-C-MP

④ **Width of the damper:** nominal width in mm

⑤ **Height of the damper:** nominal height in mm

⑥ **Metal type:** No entry – Zn-coated steel

AISI304 – stainless steel grade AISI304

KOMFOVENT SIA

Bukaišu iela 1,
LV-1004 Riga, Latvia
+371 24 664 433
info.lv@komfovent.com

KOMFOVENT GMBH

Konrad-Zuse-Str. 2a,
42551 Velbert
+49 0 2051 605 1180
info@komfovent.de

KOMFOVENT UAB

Lentvario str. 146,
25132 Vilnius, Lithuania
+370 5 2300585
info@komfovent.com

KOMFOVENT AB

Ögärdesvägen 12A,
433 30 Partille, Sweden
+46 31 487 752
info_se@komfovent.com

KOMFOVENT OY

Muuntotie 1 C1,
01510 Vantaa, Finland
+358 20 730 6190
toimisto@komfovent.com

KOMFOVENT LTD

Newcastle
Newburn Riverside, Newcastle upon Tyne, NE15 8NZ, UK
0191 429 4503
info_uk@komfovent.com