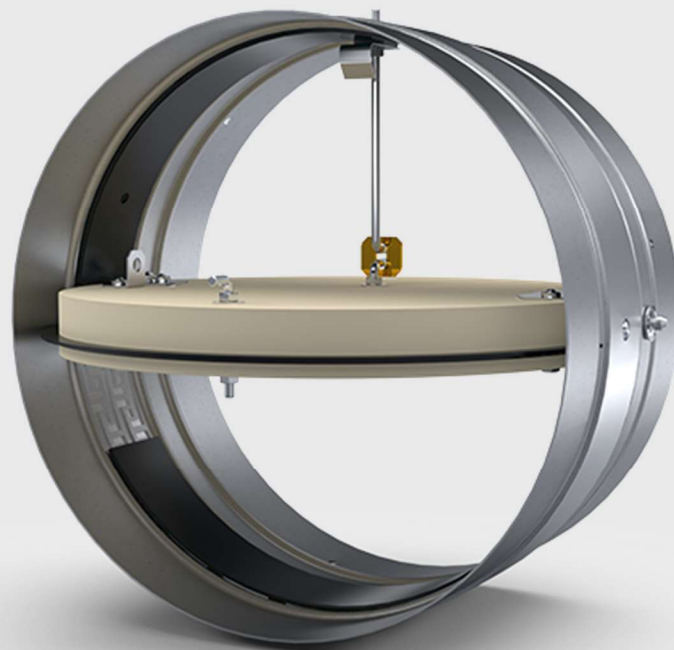


# KTM-O

Fire Damper – round

Technical  
*Documentation*



SMAY™



2434

 SMAY Sp. z o.o.  
 17  
 CSWU: 1438-CPR-0529  
 DWU: 020-CPR-2017

EN 15650:2010 Fire damper

**type: KTM-O-E, KTM-O-S**

<b>Nominal activation conditions/sensitivity:</b>	
<b>Closing/opening during the test at the right time</b>	Pass
<b>Response time/Closure time:</b>	Pass
<b>Reliability</b>	50 cycles <120S
Fire resistance:	
<b>Fire Integrity - E</b> <b>Fire Insulation - I</b> <b>Smoke leakage - S</b> <b>Mechanical stability (under E)</b> <b>Maintenance of the cross section (under E)</b>	EI 120 (ve h <sub>o</sub> i↔o) S EI 90 (ve i↔o) S EI 60 (ve i↔o) S EI 30 (ve i↔o) S
Durability:	
<b>Opening and closing cycle test</b>	KTM-O-E: 10 000 cycles <120S KTM-O-S: 100 cycles <120S

Version 6.2

SMAY reserves the right to make changes to this document.

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## 1. INTRODUCTION

The purpose of technical documentation is to familiarize the user with the intended use, design, operation principle, installation, periodic maintenance and operation of product.

## 2. LEGAL REGULATIONS

The KTM-O fire dampers are certified by the Scientific and Research Centre for Fire Protection – the National Research Institute, **Certificate of Constancy of Performance No. 1438-CPR-0529**.

The KTM-O fire dampers are designed for application in general ventilation systems as cut-off partitions separating the fire-engulfed zone from the remaining part of the building (normally open). The purpose of these dampers is to prevent the spread of fire, heat and smoke.

The dampers are designed, manufactured and tested in accordance with the following standards: **PN-EN 15650** "Ventilation for buildings – Fire dampers" and **PN-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."

The effectiveness of the dampers is confirmed by tests according to **PN-EN 1366-2** "Fire resistance tests for service installations – Part 2: Fire dampers."

The KTM-O fire damper is classified as tightness class B (housing tightness) on the basis of tests carried out according to **PN-EN 1751** "Ventilation for buildings. Air terminal devices. Aerodynamic testing of dampers and valves."

## 3. INTENDED USE

The KTM-O fire dampers are classified in the following fire resistance classes and may be installed in the following building partitions:

### a. EI 120 (ho ve i↔o) S

- floors with 150 mm in thickness or more, and a fire resistance class EI120 or higher
- rigid walls with 115 mm in thickness or more, and EI120 or a higher fire resistance class (e.g. concrete walls, solid brick walls, cellular concrete block walls, hollow masonry unit walls or concrete slab walls)
- flexible walls, 125 mm in thickness or more and EI 120 or a higher fire resistance class (thicker, higher density, more board layers)

### b. EI 90 (ve i↔o) S

- flexible standard walls, 100 mm in thickness or more and EI90 or a higher fire resistance (thicker, greater density, more board layers)
- rigid walls, 100 mm in thickness or more, and EI90 or a higher fire resistance class (e.g. concrete walls, non-hollow brick walls, cellular concrete block walls, hollow masonry unit walls or concrete slab walls).
- away from rigid walls with 120 mm in thickness or more, and EI90 or a higher fire resistance class (e.g. concrete walls, solid brick walls, cellular concrete block walls, hollow masonry unit walls or concrete slab walls)

### c. EI 60 (ve i↔o) S

- rigid walls, 100 mm in thickness or more, as well as EI60 or a higher fire resistance class (e.g. concrete walls, solid brick walls, cellular concrete block walls, hollow masonry unit walls or concrete slab walls)

### d. EI 30 (ve i↔o) S

- rigid walls, 75 mm in thickness or more, as well as EI60 or a higher fire resistance class (e.g. concrete walls, solid brick walls, cellular concrete block walls, hollow masonry unit walls or concrete slab walls)
- flexible standard walls, 75 mm in thickness or more and EI30 or a higher fire resistance (thicker, greater density, more board layers)

Table 1. Table of fire resistance

Construction type	Minimum thickness of building partition mm	Fire resistance class	Sealing type
Ceiling	≥150 mm	EI 120 (h <sub>o</sub> i↔o) S	MORTAR
Rigid wall	≥115 mm	EI 120 (v <sub>e</sub> i↔o) S	MORTAR
	≥100 mm	EI 60 (v <sub>e</sub> i↔o) S	MORTAR
Rigid wall	≥125 mm	EI 120 (v <sub>e</sub> i↔o) S	MINERAL WOOL
	≥100 mm	EI 90 (v <sub>e</sub> i↔o) S	MINERAL WOOL
	≥75 mm	EI 30 (v <sub>e</sub> i↔o) S	MINERAL WOOL
Flexible wall	≥125 mm	EI 120 (v <sub>e</sub> i↔o) S	MINERAL WOOL
	≥100 mm	EI 90 (v <sub>e</sub> i↔o) S	MINERAL WOOL
	≥75 mm	EI 30 (v <sub>e</sub> i↔o) S	MINERAL WOOL
Montage away from rigid wall construction (silicate boards)	≥120 mm	EI 90 (v <sub>e</sub> i↔o) S	MINERAL WOOL

Where:

**E** – fire integrity,

**I** – fire insulation,

**S** – smoke leakage,

**120/90/60/30** – duration of fulfilment of E, I and S criteria, expressed in minutes,

**v<sub>e</sub>** – damper installed directly in the wall,

**h<sub>o</sub>** – damper installed directly in the floor,

**i↔o** – operating effectiveness criteria are met from the inside to the outside (fire inside), and from the outside to the inside (fire outside).

The KTM-O fire dampers may also be installed in buildings partitions with a lower fire resistance rating. In this case, the damper fire resistance rating is equal to the partition fire resistance rating, subject to the smoke leakage criterion

The KTM-O fire dampers may be installed in vertical building partitions with either horizontal or vertical rotation axis, with any actuator position.

The KTM-O fire dampers may be installed in either inner or external buildings partitions, as also at a distance from them. In case of external wall installation, use of finishing element is required (intake or exhaust), which will protect from influence of atmospheric factors. Drive system (actuator or spring mechanism) should be installed inside facility. It is recommended to use dampers in special execution (impregnated fireproof boards, anti-corrosive steel elements).

## 4. TECHNICAL DESCRIPTION

The KTM-O-S dampers (with a spring mechanism) and the KTM-O-E dampers (with an electric spring-return actuator) consist of a housing of a round cross-section, a moving, single-axis isolating baffle and an actuating mechanism with a release device.

The damper housing and its interacting elements are made of galvanized steel sheet. Both ends of the housing are adapted for sleeve or nipple connection, allowing easy connection between the duct and the damper.

There are intumescent seals on the outer and inner surfaces of the housing, in the place of perforation, around the closed isolating baffle. Their characteristic feature is that their volume increases at high temperatures, tightly filling all leaks between the baffle and the body.

The isolating baffle of the damper is made of calcium-silicate board, and a rubber seal is installed on its perimeter, ensuring the damper integrity at ambient temperature.

The KTM-O damper is provided with actuating springs, which store energy when the baffle is being opened, which is then used to close the baffle. The open position of the baffle is ensured by a thermal fuse with nominal activation temperature  $70 \pm 5^\circ\text{C}$  (optional  $95 \pm 5^\circ\text{C}$ ), and which is placed in special bolted strikes. The baffle closes when the thermal fuse is activated after the actuating temperature is exceeded. Damage to the thermal fuse results in disconnection of bolted strikes, and rotation of the baffle into closed position, which is caused by the release of actuating springs. The movement of the baffle is limited by a buffer.

The KTM-O-E damper is provided with an electric spring return actuator BFL or BF series manufactured by BELIMO, and the BAT or BAE thermal fuse ( $72^\circ\text{C}$ ), constituting damper's drive system supplied by the 230 V AC or 24 V AC/DC voltage. After the voltage has been supplied, the actuator rotates the baffle to the open position. The baffle closes due to voltage loss or when the thermal fuse is activated (the return spring in the actuator closes the baffle by returning to the non-stressed position).

During normal operation of the system, the KTM-O dampers are in the open position. If a fire breaks out, the damper baffle rotates to the closed position.

The permissible flow rate in a connection duct for the KTM-O-E dampers with an actuator is 12 m/s and 8 m/s for the KTM-O-S dampers with a spring mechanism.

The range of dampers covers diameters from DN100 to DN250. The primary type series includes the following sizes: **DN100, DN125, DN160, DN200, DN250.**

The KTM-O dampers are designed for two connection types, i.e. sleeve and nipple

Depending on the operating range and type of the actuation system used, the dampers are marked as follows:

- a. **KTM-O-S** - dampers with a spring mechanism
- b. **KTM-O-E** - dampers with electric actuator and return spring

The length of the KTM-O-S dampers may be  $150 \div 350$  m for the sleeve version and  $195 \div 395$  m for the nipple version. The length of the KTM-O-E dampers may be  $262 \div 462$  mm for the sleeve version and  $307 \div 507$  for the nipple version.

The primary length type series comprises the following sizes:

- a. **150 mm** – sleeve version with spring mechanism,
- b. **195 mm** – nipple version with spring mechanism,
- c. **262 mm** – sleeve version with electric actuator,
- d. **307 mm** – nipple version with electric actuator.

The dampers may also be fitted with limit switches indicating open or closed position of the baffle.

In a special version, resistant to aggressive environments, all components of the damper are made of stainless steel, whereas the damper baffle is impregnated with a fire-resistant board impregnation.

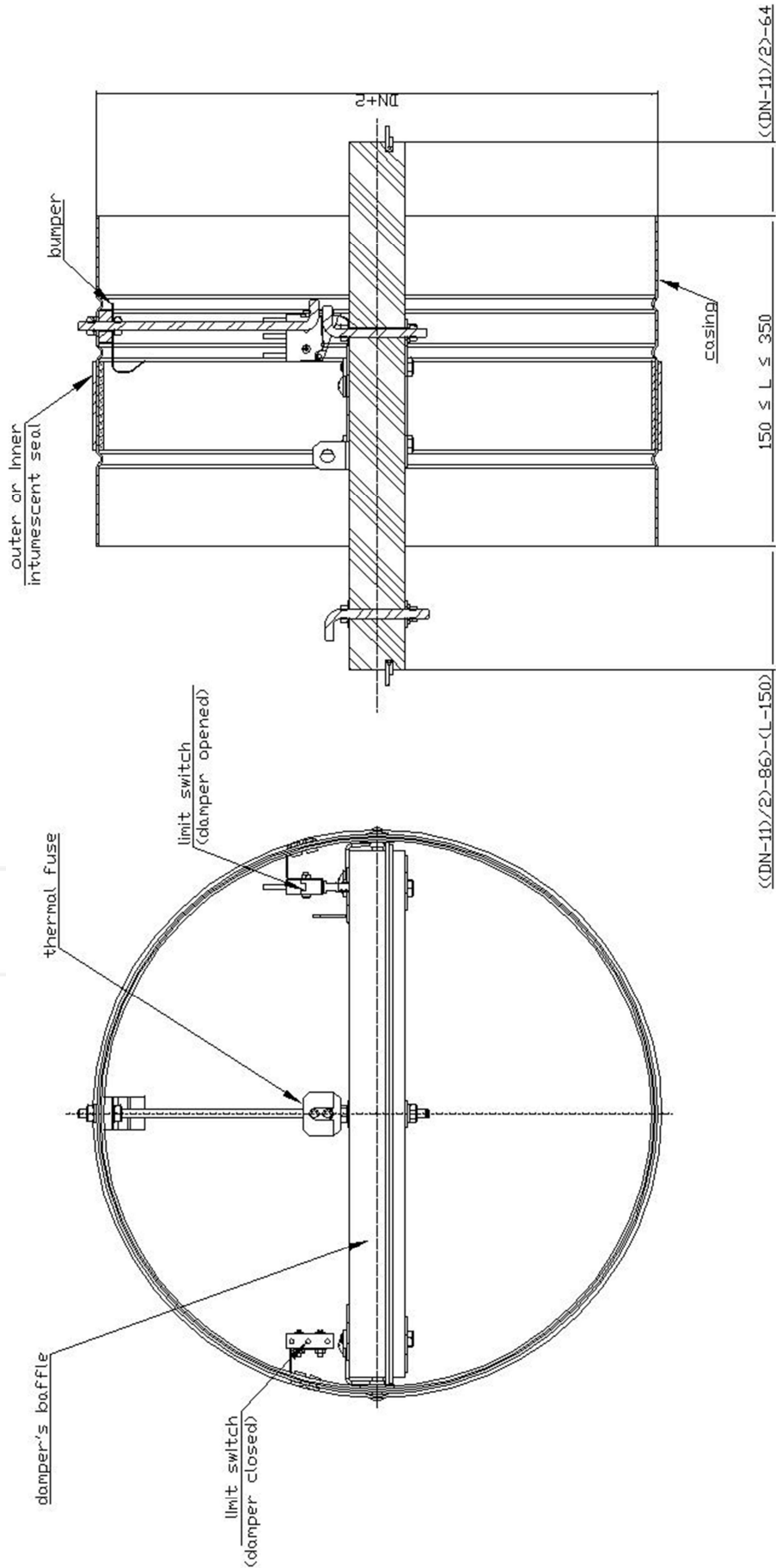


Figure 1. KTM-O-S damper (with spring mechanism, sleeve connections)

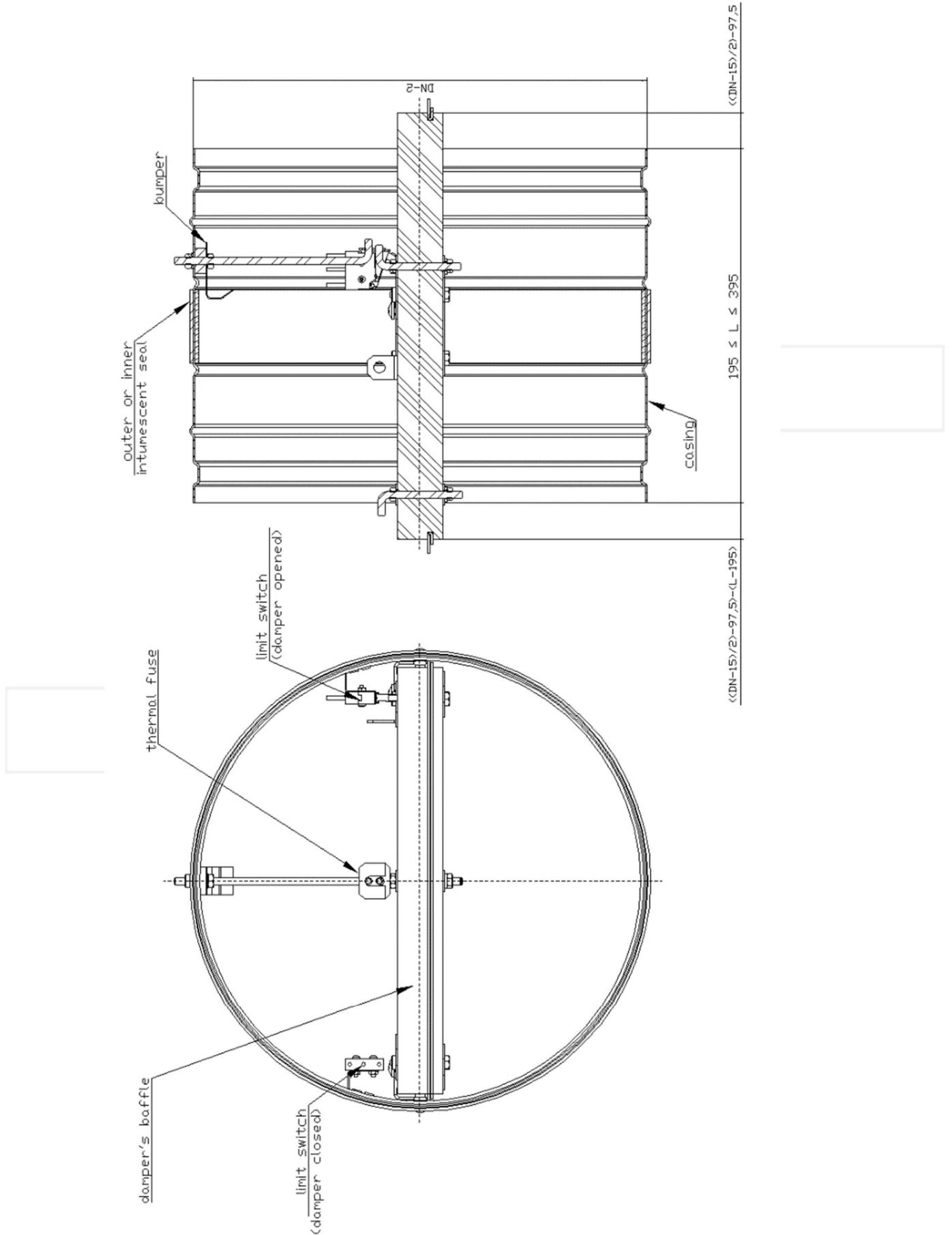


Figure 2. KTM-O-S damper (with spring mechanism, nipple connections)



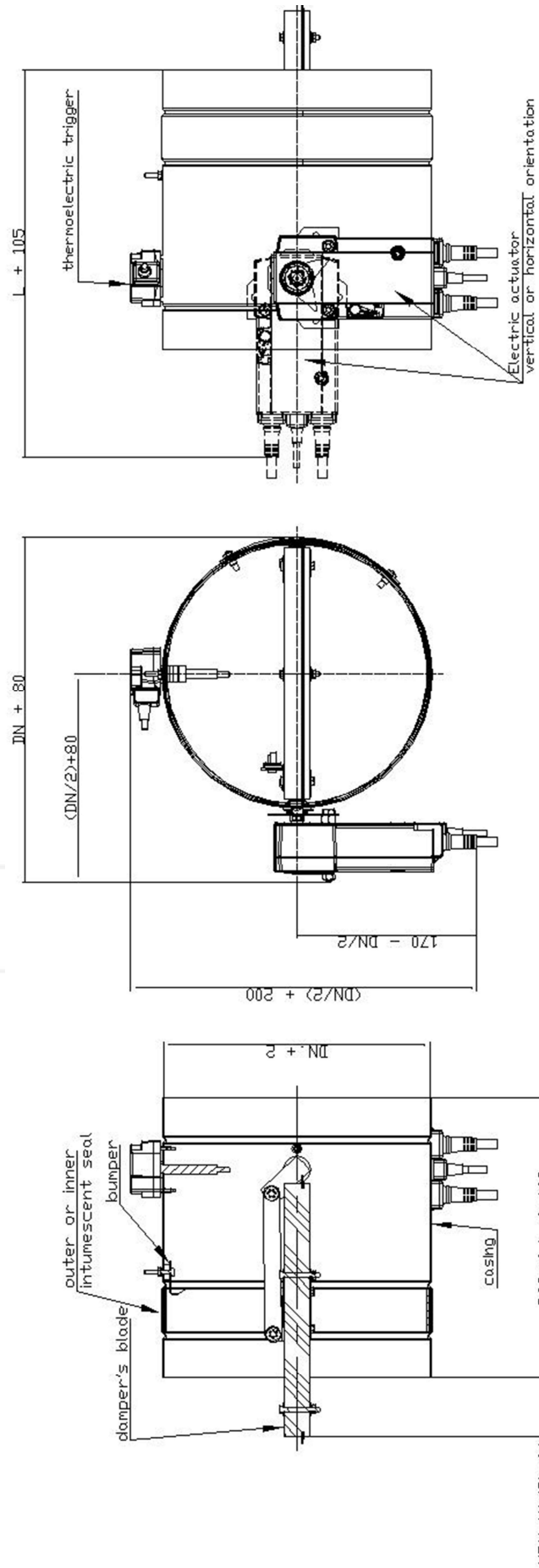


Figure 3. KTM-O-E damper (with electric actuator, sleeve connections)

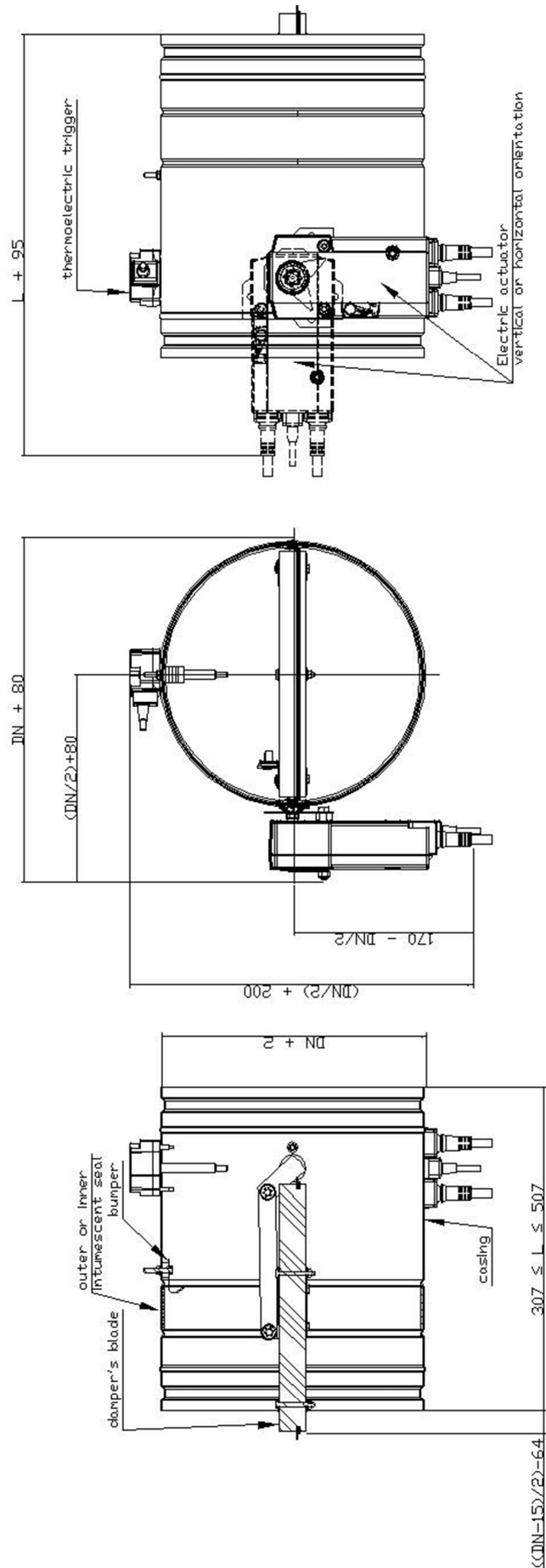


Figure 4. KTM-O-E damper (with electric actuator, nipple connections)

Table 2. KTM-O dampers weight [kg]

DN	KTM-O-S Sleeve	KTM-O-S Nipple	KTM-O-E Sleeve	KTM-O-E Nipple
100	0,8	0,9	3,1	3,2
125	0,9	1,0	3,3	3,4
160	1,1	1,3	3,7	3,9
200	1,4	1,6	4,1	4,3
250	1,7	2,0	4,6	4,9

## 5. BELIMO ELECTRIC ACTUATORS USED IN KTM-O

**Spring-return 90° actuator BFL series, combined with thermoelectric tripping device BAT:**

- BFL230-T,
- BFL24-T,
- BFL24-T-ST.

where:

ST – connection plug.



**Spring-return 90° actuator BF series, combined with thermoelectric tripping device BAE:**

- BF230-TN,
- BF24-TN,
- BF24-TN-ST,
- BF24-TL-TN-ST

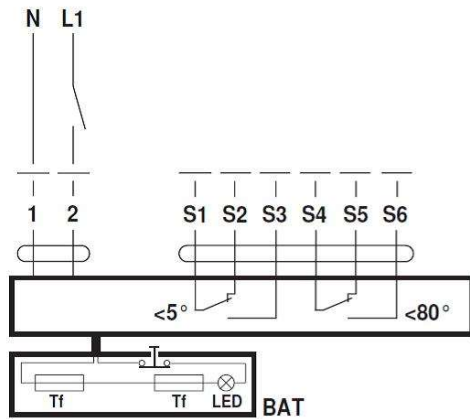
where:

ST – connection plug,  
 TL- communicative control.



**Wiring diagram BFL230-T**

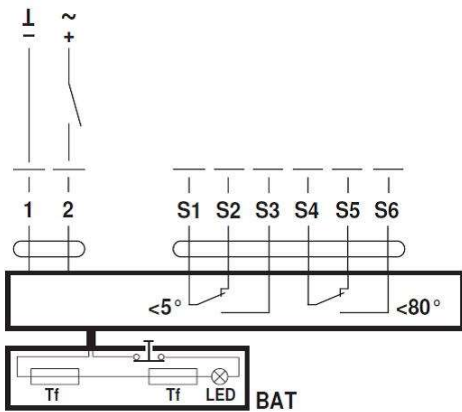
AC 230 V, open-close


**Cable colours:**

 1 = blue  
 2 = brown  
 S1 = violet  
 S2 = red  
 S3 = white  
 S4 = orange  
 S5 = pink  
 S6 = grey  
 Tf: Thermal fuse (see "Technical data")

**Wiring diagram BFL24-T**

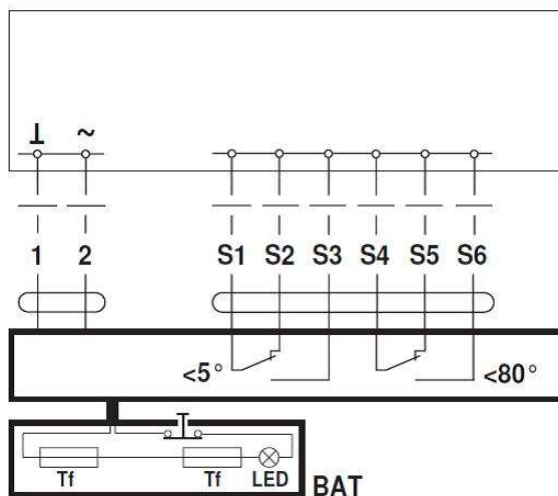
AC/DC 24 V, open-close


**Cable colours:**

 1 = black  
 2 = red  
 S1 = violet  
 S2 = red  
 S3 = white  
 S4 = orange  
 S5 = pink  
 S6 = grey  
 Tf: Thermal fuse (see "Technical data")

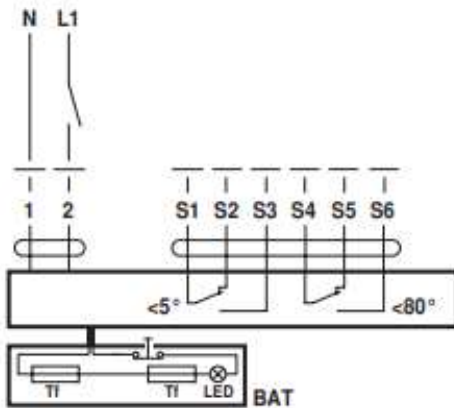
**Wiring diagram BFL24-T-ST**

AC/DC 24 V, open-close



**Wiring diagram BF230-TN**

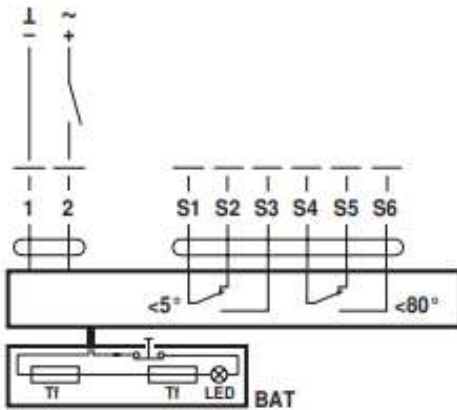
AC 230 V, open-close


**Cable colours:**

1 = blue  
 2 = brown  
 S1 = violet  
 S2 = red  
 S3 = white  
 S4 = orange  
 S5 = pink  
 S6 = grey  
 Tf: Thermal fuse (see "Technical data")

**Wiring diagram BF24-TN**

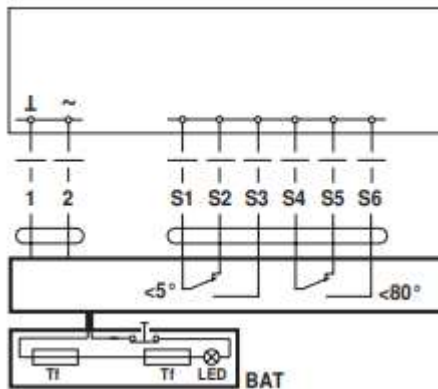
AC/DC 24 V, open-close


**Cable colours:**

1 = black  
 2 = white  
 S1 = violet  
 S2 = red  
 S3 = white  
 S4 = orange  
 S5 = pink  
 S6 = grey  
 Tf: Thermal fuse (see "Technical data")

**Wiring diagram BF24-TN-ST**

AC/DC 24 V, open-close


**Technical data:**

	<b>BFL230-T</b>	<b>BFL24-T (-ST)</b>
Nominal voltage	AC 230 V	AC/DC 24 V
Nominal voltage frequency	50/60 Hz	50/60 Hz
Nominal voltage range	AC 198...264 V	AC 19.2...28.8 V / DC 21.6...28.8 V
Power consumption in operation	3.5 W	2.5 W
Power consumption in rest position	1.1 W	0.8 W
Power consumption for wire sizing	6.5 VA	4 VA
Power consumption for wire sizing note	$I_{max}$ 4 A @ 5 ms	$I_{max}$ 8.3 A @ 5 ms
Auxiliary switch	2 x SPDT	2 x SPDT
Switching capacity auxiliary switch	1 mA...3 (0.5 inductive) A, AC 250 V	1 mA...3 (0.5 inductive) A, AC 250 V
Switching points auxiliary switch	$5^\circ / 80^\circ$	$5^\circ / 80^\circ$
Connection supply / control	Cable 1 m, 2 x 0.75 mm <sup>2</sup> (halogen-free)	Cable 1 m, 2 x 0.75 mm <sup>2</sup> (halogen-free)
Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm <sup>2</sup> (halogen-free)	Cable 1 m, 6 x 0.75 mm <sup>2</sup> (halogen-free)
Cable length thermoelectric tripping device	0.5 m	0.5 m
Torque motor	Min. 4 Nm	Min. 4 Nm
Torque spring return	Min. 3 Nm	Min. 3 Nm
Direction of rotation motor	Can be selected by mounting L/R	Can be selected by mounting L/R
Manual override	With position stop	With position stop
Angle of rotation	Max. 95°	Max. 95°
Running time motor	<60 s / 90°	<60 s / 90°
Running time spring-return	20 s @ -10...55°C / <60 s @ -30...-10°C	20 s @ -10...55°C / <60 s @ -30...-10°C
Sound power level motor	<43 dB(A)	<43 dB(A)
Sound power level spring-return	<62 dB(A)	<62 dB(A)
Spindle driver	Form fit 12x12 mm, Continuous hollow shaft	Form fit 12x12 mm, Continuous hollow shaft
Position indication	Mechanically, with pointer	Mechanically, with pointer
Service life	Min. 60,000 safety positions	Min. 60,000 safety positions
Response temperature thermal fuse	Duct outside temperature 72°C Duct inside temperature 72°C	Duct outside temperature 72°C Duct inside temperature 72°C
Protection class IEC/EN	II Protective insulated	III Safety extra-low voltage
Protection class auxiliary switch IEC/EN	II Protective insulated	II Protective insulated
Degree of protection IEC/EN	IP54 in all mounting positions	IP54 in all mounting positions
EMC	CE according to 2014/30/EU	CE according to 2014/30/EU
Low voltage directive	CE according to 2014/35/EU	CE according to 2014/35/EU
Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14	IEC/EN 60730-1 and IEC/EN 60730-2-14
Mode of operation	Type 1.AA.B	Type 1.AA.B
Rated impulse voltage supply / control	4 kV	0.8 kV
Control pollution degree	3	3
Ambient temperature normal operation	-30...55°C	-30...55°C
Ambient temperature safety operation	The safety position will be attained up to max. 75°C	The safety position will be attained up to max. 75°C
Non-operating temperature	-40...55°C	-40...55°C
Ambient humidity	95% r.h., non-condensing	95% r.h., non-condensing
Maintenance	Maintenance-free	Maintenance-free
Weight	1.2 kg	1.2 kg

**Technical data:**
**BF230-TN**

<b>Electrical data</b>	Nominal voltage	AC 230 V	
	Nominal voltage frequency	50/60 Hz	
	Nominal voltage range	AC 198...264 V	
	Power consumption in operation	8.5 W	
	Power consumption in rest position	3 W	
	Power consumption for wire sizing	11 VA	
	Power consumption for wire sizing note	I <sub>max</sub> 0.5 A @ 5 ms	
	Auxiliary switch	2 x SPDT	
	Switching capacity auxiliary switch	1 mA...6 A (3 A inductive), DC 5 V...AC 250 V (II reinforced insulation)	
	Switching points auxiliary switch	5° / 80°	
<b>Functional data</b>	Connection supply / control	Cable 1 m, 2 x 0.75 mm <sup>2</sup> (halogen-free)	
	Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm <sup>2</sup> (halogen-free)	
	Torque motor	18 Nm	
	Torque fail-safe	12 Nm	
	Direction of rotation motor	Can be selected by mounting L/R	
	Manual override	with position stop	
	Angle of rotation	Max. 95°	
	Running time motor	<120 s / 90°	
	Running time fail-safe	16 s @ -10...55°C / <60 s @ -30...-10°C	
	Running time fail-safe note	@ -10...55°C / <60 s @ -30...-10°C	
	Sound power level, motor	45 dB(A)	
	Sound power level, fail-safe	63 dB(A)	
	Mechanical interface	Form fit 12x12 mm, Non-continuous hollow shaft	
	Position indication	Mechanically, with pointer	
	Service life	Min. 60'000 safety positions	
	<b>Safety</b>	Protection class IEC/EN	II reinforced insulation
		Protection class auxiliary switch IEC/EN	II reinforced insulation
		Degree of protection IEC/EN	IP54 in all mounting positions
		EMC	CE according to 2014/30/EU
Low voltage directive		CE according to 2014/35/EU	
Certification IEC/EN		IEC/EN 60730-1 and IEC/EN 60730-2-14	
Mode of operation		Type 1.AA.B	
Rated impulse voltage supply / control		4 kV	
Control pollution degree		3	
Ambient temperature normal operation		-30...50°C	
Ambient temperature safety operation		The safety position will be attained up to max. 75°C	
Storage temperature		-40...50°C	
Ambient humidity		Max. 95% r.H., non-condensing	
Servicing		maintenance-free	
<b>Weight</b>	Weight	3.1 kg	

**Technical data:**
**BF24-TN**

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	7 W
	Power consumption in rest position	2 W
	Power consumption for wire sizing	10 VA
	Power consumption for wire sizing note	$I_{max}$ 8.3 A @ 5 ms
	Auxiliary switch	2 x SPDT
	Switching capacity auxiliary switch	1 mA...6 A (3 A inductive), DC 5 V...AC 250 V (II reinforced insulation)
	Switching points auxiliary switch	5° / 80°
	Connection supply / control	Cable 1 m, 2 x 0.75 mm <sup>2</sup> (halogen-free)
	Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm <sup>2</sup> (halogen-free)
<b>Functional data</b>	Torque motor	18 Nm
	Torque fail-safe	12 Nm
	Direction of rotation motor	Can be selected by mounting L/R
	Manual override	with position stop
	Angle of rotation	Max. 95°
	Running time motor	<120 s / 90°
	Running time fail-safe	16 s $t_{amb} = 20^{\circ}C$
	Running time fail-safe note	$t_{amb} = 20^{\circ}C$
	Sound power level, motor	45 dB(A)
	Sound power level, fail-safe	63 dB(A)
	Mechanical interface	Form fit 12x12 mm, Non-continuous hollow shaft
	Position indication	Mechanically, with pointer
Service life	Min. 60'000 safety positions	
<b>Safety</b>	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Protection class auxiliary switch IEC/EN	II reinforced insulation
	Degree of protection IEC/EN	IP54 in all mounting positions
	EMC	CE according to 2014/30/EU
	Low voltage directive	CE according to 2014/35/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation	Type 1.AA.B
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature normal operation	-30...50 °C
	Ambient temperature safety operation	The safety position will be attained up to max. 75 °C
	Storage temperature	-40...50 °C
Ambient humidity	Max. 95% r.H., non-condensing	
Servicing	maintenance-free	
<b>Weight</b>	Weight	2.8 kg



## 6. CONDITIONS OF TRANSPORT AND STORAGE

Fire dampers KTM-O should be stored in cardboard boxes and/or on pallets. Fire dampers should be stored indoors, providing protection against atmospheric agents, at a minimum temperature of +5°C.

Do not allow mechanical damage of damper, that may be caused e.g. blows or dropping.

After each transport, visual inspection of each fire damper must be carried out.

## 7. INSTALLATION TECHNOLOGY

Before installing the fire dampers, make sure that there are no damage, during transport or storage, that could block the baffle.

Check that the baffle can be opened and closed (full opening and closing position). To open fire dampers KTM-O-E use the actuator key.

The opening and closing must proceed smoothly (not stepwise).

Do not pull by baffle to open or close fire damper, it may cause permanent damage, not covered by the warranty.

During KTM-O-S damper test, with size DN>125, while opening baffle, fold back the bumper (as shown on the fig. 5) so as to unlock the bolt caught on it, allowing free rotation of the baffle.

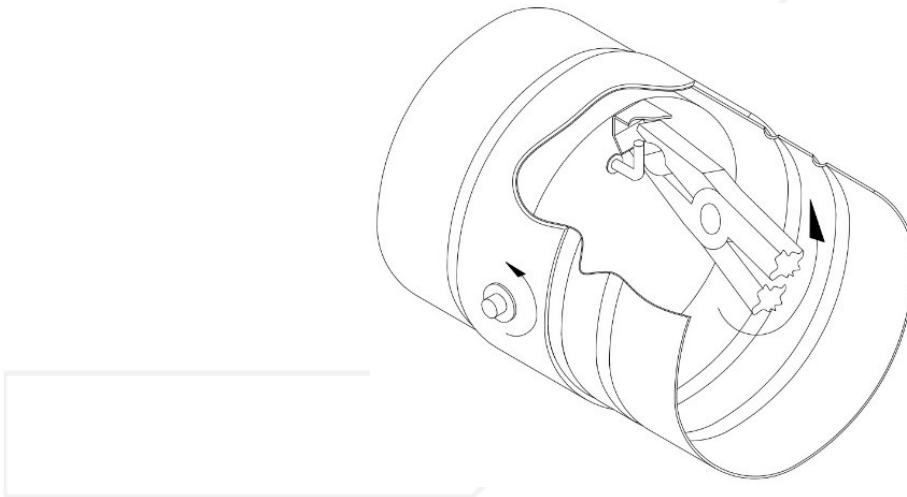


Figure 5. KTM-O-S baffle opening method

Before installing, secure the fire damper, by dust and dirt, using a foil or other screening material. It can prevent components of fire damper by damage.

Dampers to preserve of the declared resistance, insulation and smoke leakage EIS120, EIS90, EIS60, EIS30, should be installed on wall, which was classified as EIS120, EIS90, EIS60, EIS30. It is allowed to install KTM-O dampers in wall with other fire-resistance, should be remembered that fire-resistance in this situation is resistance of lowest classified (in this regard) element in this system.

Ducts made of flammable and non-flammable materials can be connected to the damper. Ducts should be installed that they cannot load the damper during fire. Ducts lengthening during fire can be compensated by support and knee.

ATTENTION: Distance between fire dampers or fire damper and construction elements must be:

- a) min. 10 mm between fire damper, which are installed in different ventilating wires,
- b) min. 10 mm between fire damper and construction element (wall/ceiling).

During the installation of dampers, if the spacing between them is less than 200 mm and/or the distance from the adjacent building partition is less than 75 mm, it is necessary to use a one-sided flange made of 15 mm gypsum fiberboard (GKF) in accordance with the subsection 7.7.

This requirement does not apply to building partitions that have a thickness at least 15 mm greater than the required minimum wall thickness.

## 7.1. INSTALLATION TECHNOLOGY - CEILING

- Make an opening in the ceiling with the 40 mm (acceptable  $40 \div 80$  mm) greater than the nominal dimensions of the fire damper: DN+40.
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the ceiling, and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the ceiling with cement, cement-lime mortar or concrete.
- After the mortar has dried (about 48 hours), remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).

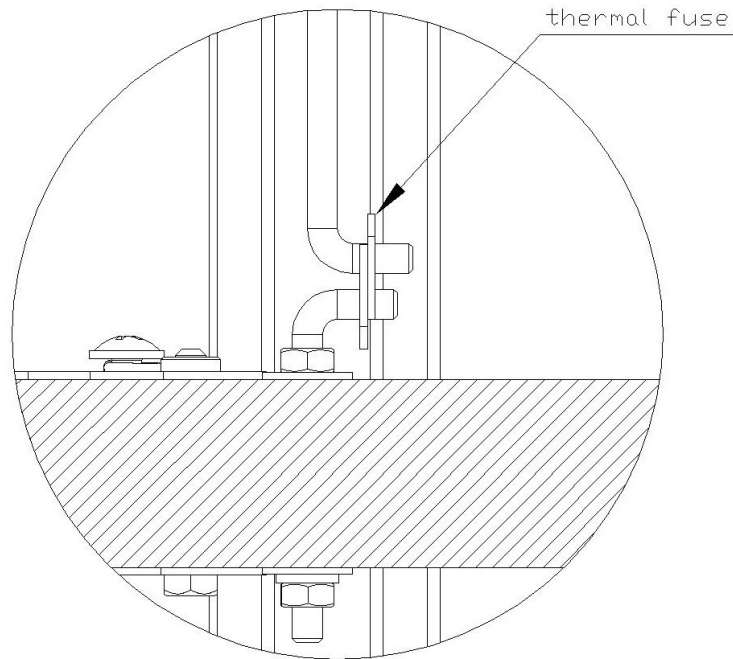


Figure 6. Thermal fuse installation method

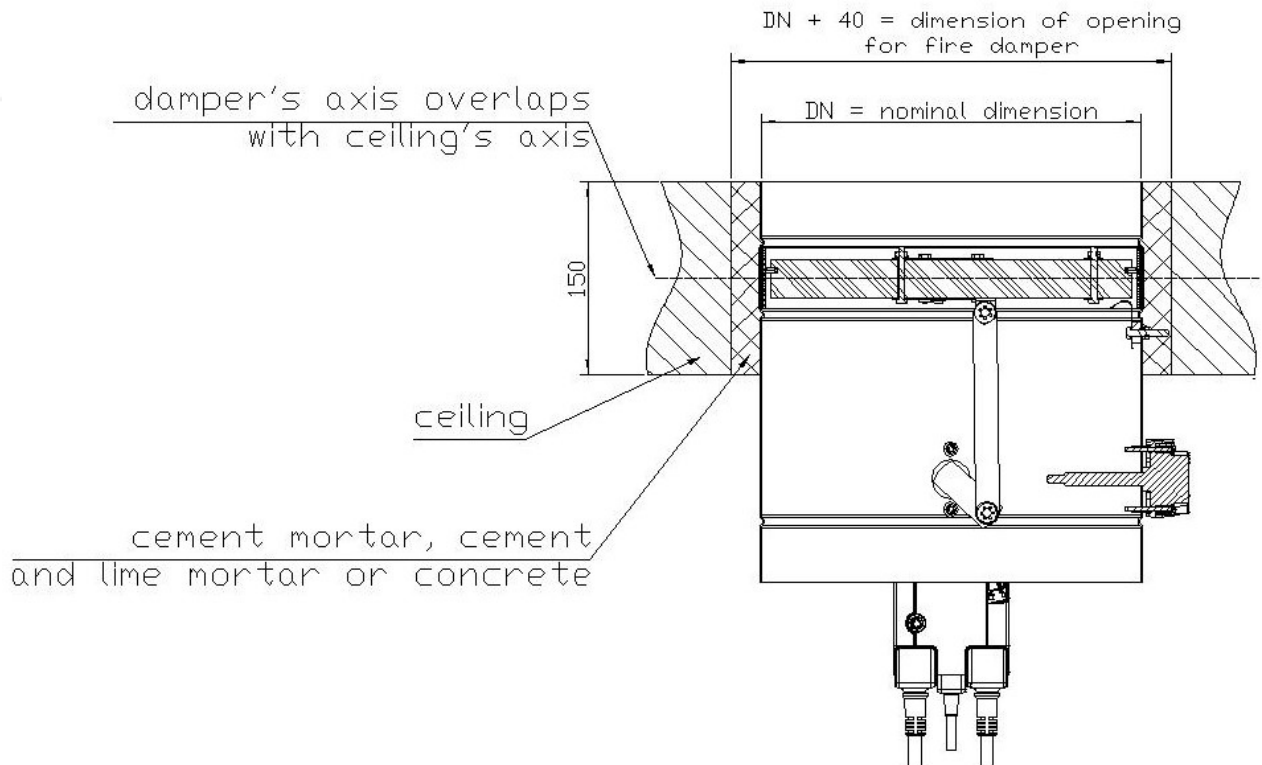
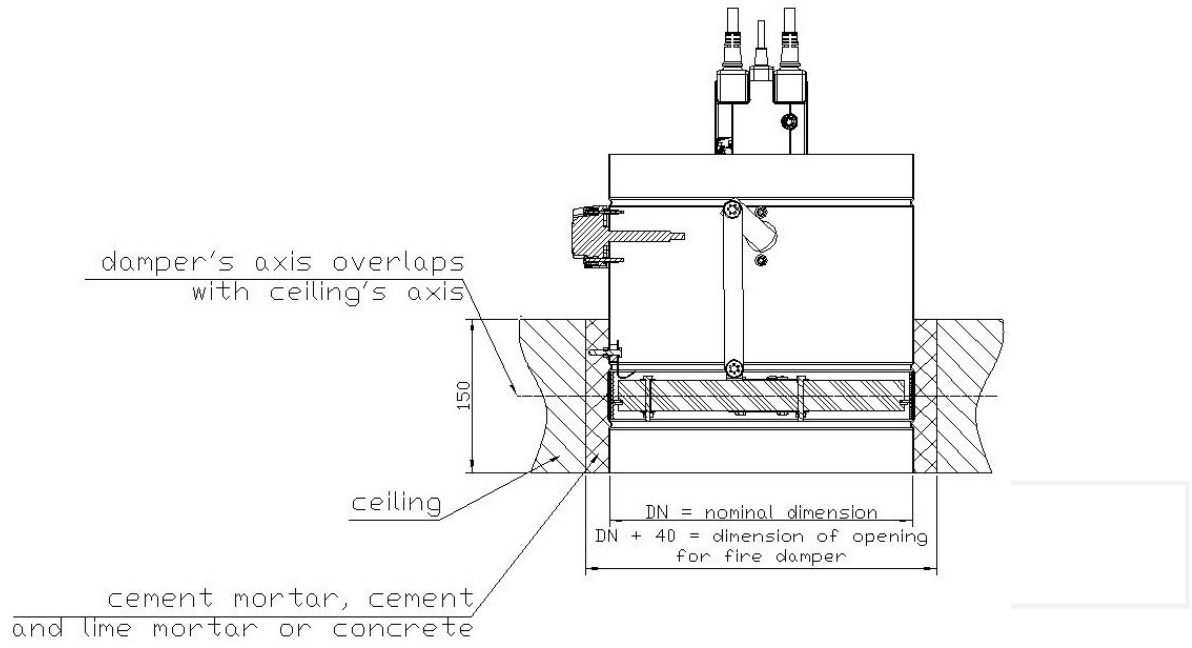


Figure 7. Installation of KTM-O fire dampers in ceiling



**Figure 8. Installation of KTM-O fire dampers in ceiling**

## 7.2. INSTALLATION TECHNOLOGY – RIGID WALL

### 7.2.1. INSTALLATION USING MORTAR

- Make an opening in the wall with the 40 mm (acceptable  $40 \div 80$  mm) greater than the nominal dimensions of the fire damper:  $DN+40$ .
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall, and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the wall with cement, cement-lime mortar or concrete.
- After the mortar has dried (about 48 hours), remove the supports or suspensions, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).

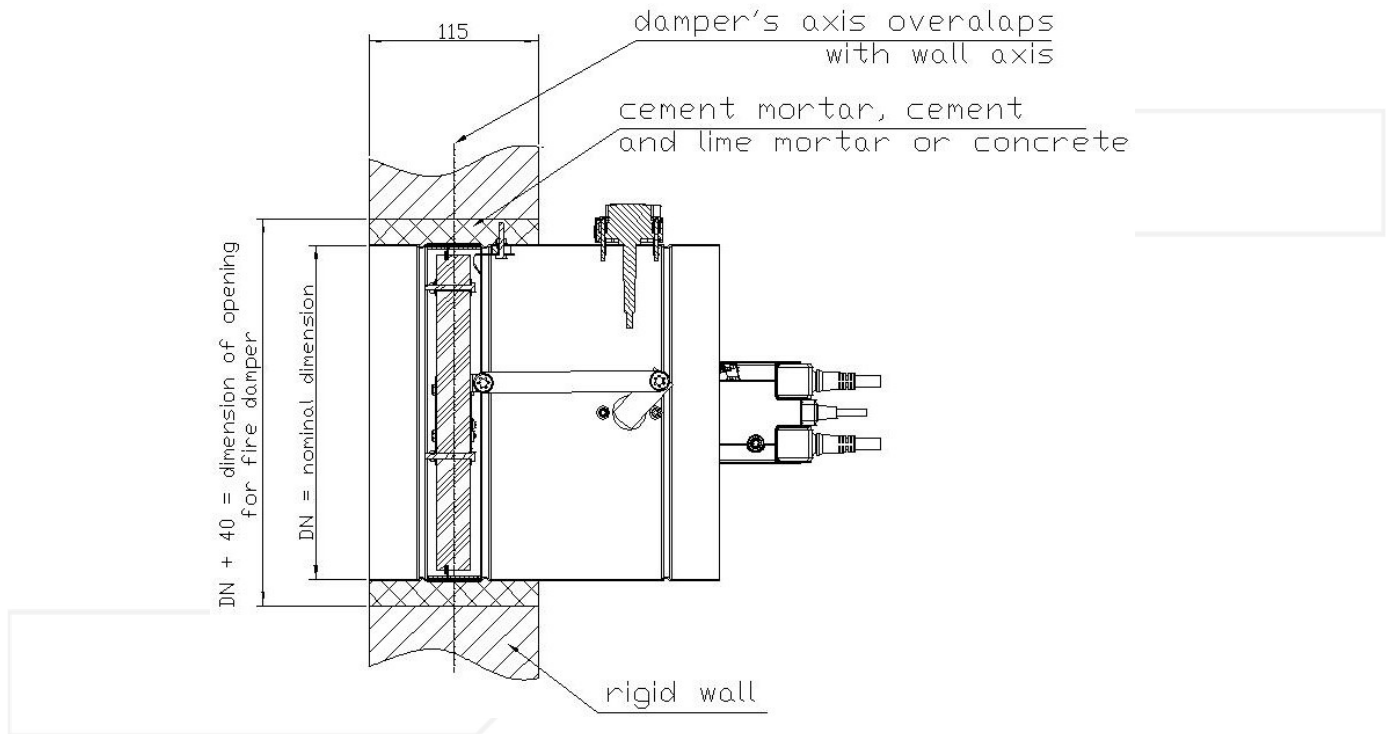


Figure 9. Installation of KTM-O fire dampers in rigid wall with 115 mm thickness

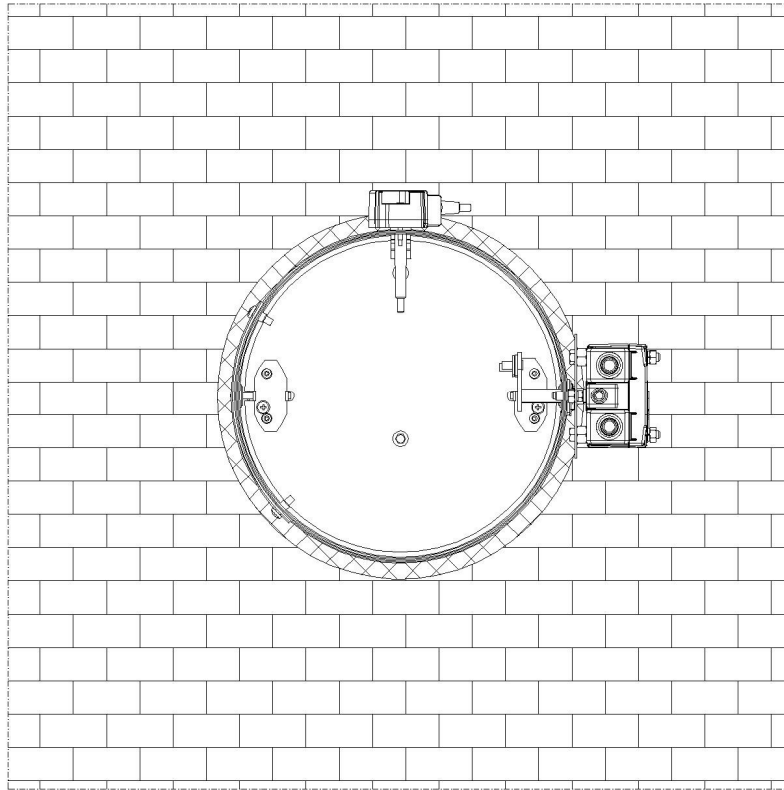


Figure 10. Installation of KTM-O fire dampers in rigid wall with horizontal rotation axis of baffle

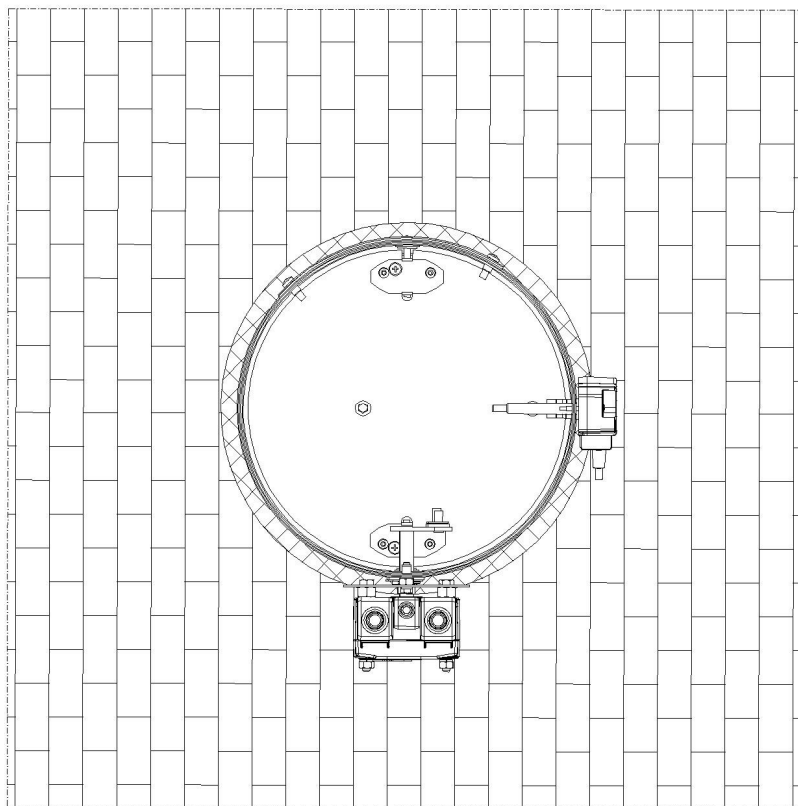


Figure 11. Installation of KTM-O fire dampers in rigid wall with vertical rotation axis of baffle

### 7.2.2. INSTALLATION USING MINERAL WOOL

- Make an opening in the wall with the 40 mm (acceptable  $40 \div 80$  mm) greater than the nominal dimensions of the fire damper:  $B=DN+40$  and  $H=DN+40$ .
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall, and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the wall with non-flammable mineral wool of high density, 100 kg/m<sup>3</sup> or more.
- Seal the place of filling with mineral wool using the sealing compounds Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- Mount collar, both side of wall, made of GKF boards, 12,5 mm thick and  $DN+ 320$  mm wide, using screws (with a cut hole for the damper). For easy assembly, the collar can be made of two parts.
- After mounting the collar, remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O-S damper thermal fuse as shown on the fig. 6).

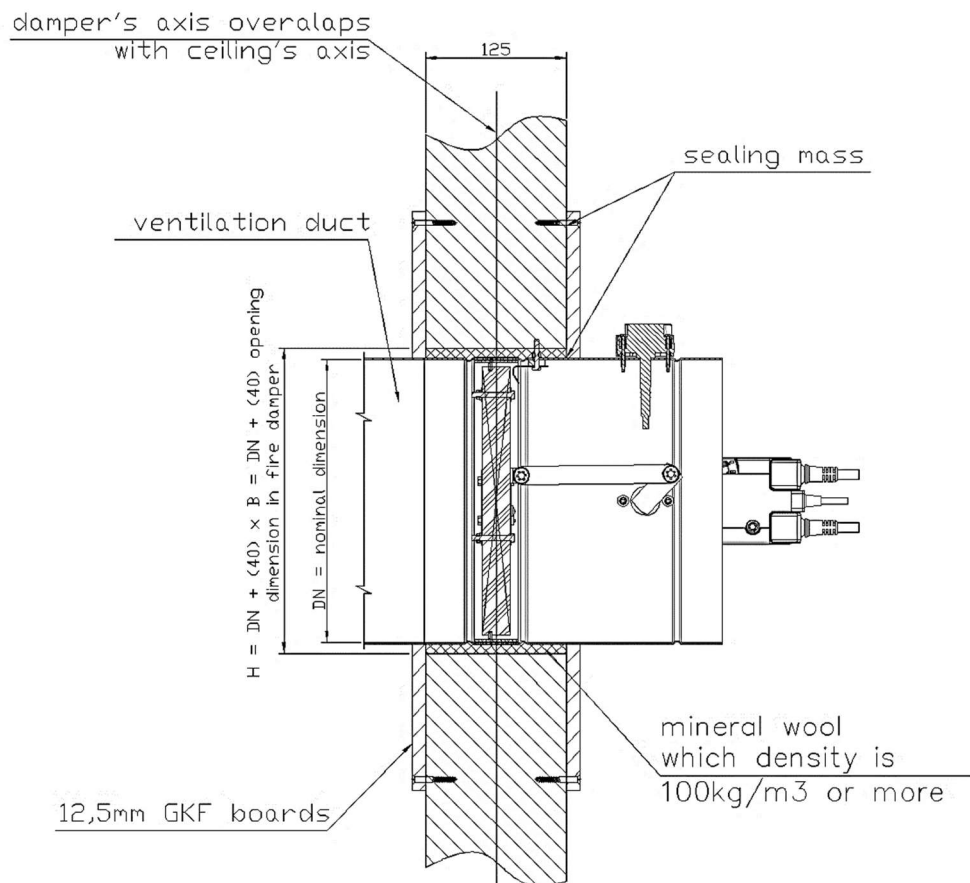


Figure 12. Installation of KTM-O fire dampers in rigid wall with vertical rotation axis of baffle

### 7.3. INSTALLATION TECHNOLOGY – FLEXIBLE WALL

- Make an opening in the wall with the 40 mm (acceptable  $40 \div 80$  mm) greater than the nominal dimensions of the fire damper:  $B=DN+40$  and  $H=DN+40$ .
- Make a frame of two layers of GKF boards, 12,5 mm thick and the width relative to the width of opening, mounting by screws remembering to carefully seal the contact edges with a mastic: Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall, and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the wall with non-flammable mineral wool of high density, 100 kg/m<sup>3</sup> or more.
- Seal the place of filling with mineral wool using the sealing compounds Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- Mount collar, both side of wall, made of GKF boards, 12,5 mm thick and  $DN+ 320$  mm wide, using screws (with a cut hole for the damper). For easy assembly, the collar can be made of two parts.
- After mounting the collar, remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).

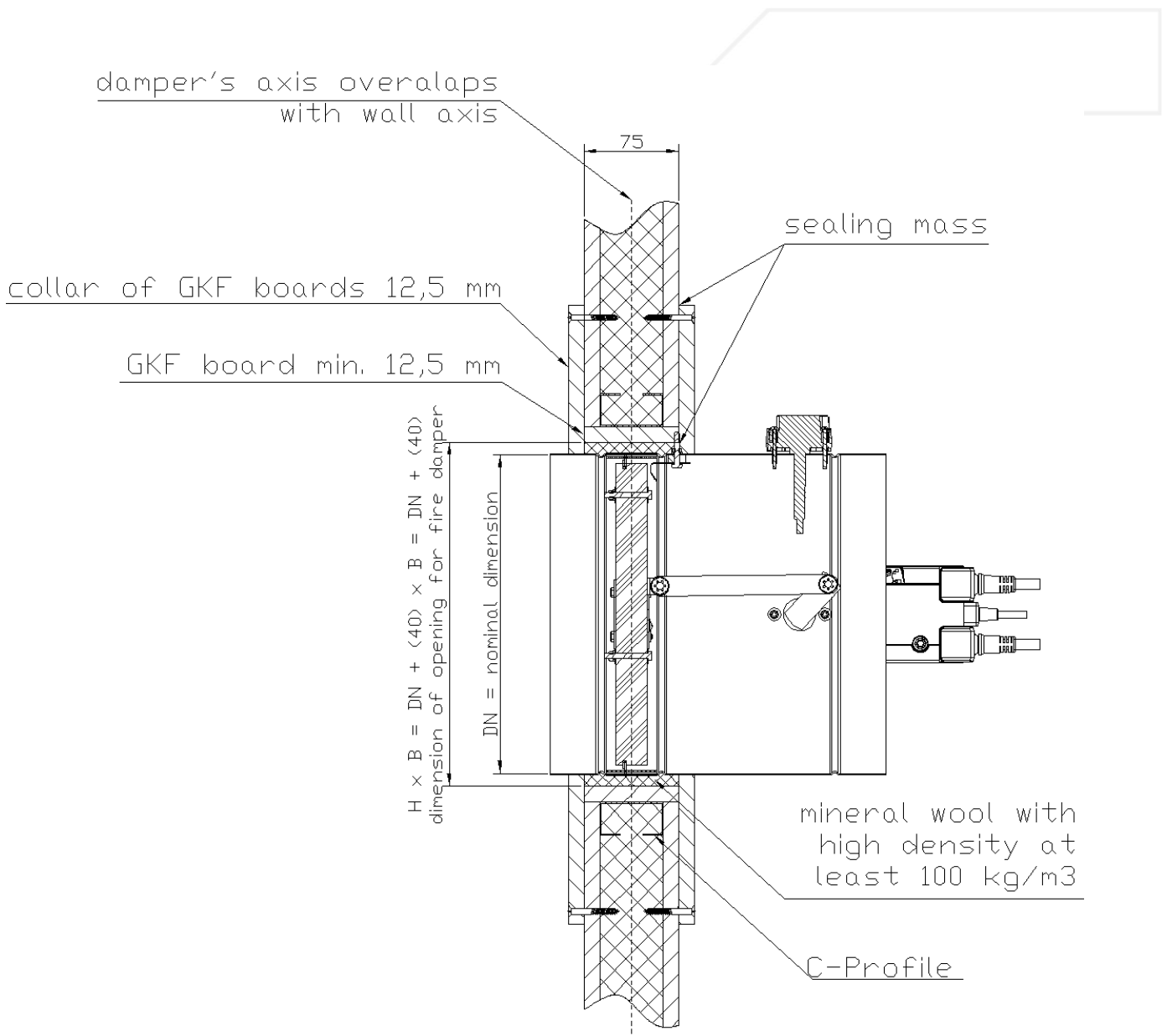


Figure 13. Installation method of fire dampers KTM-O in flexible wall with 75 mm thickness

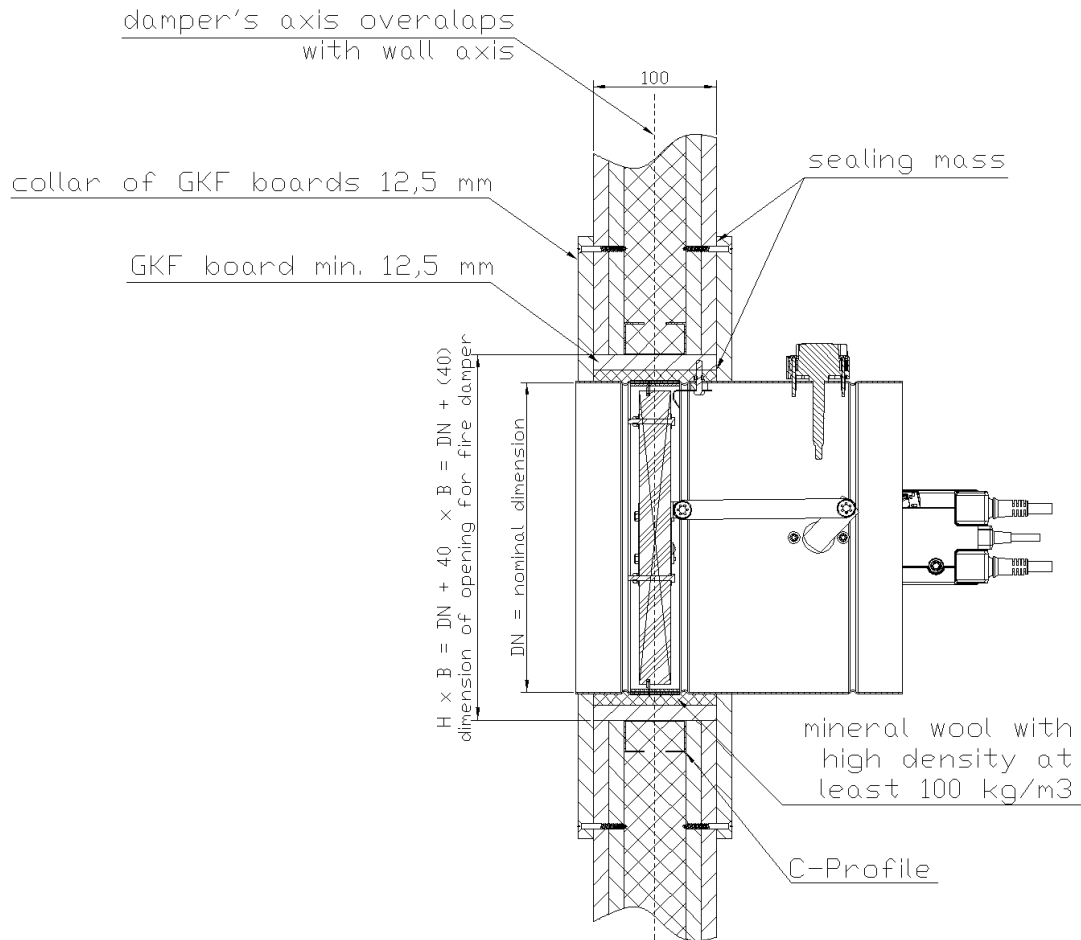


Figure 14. Installation method of fire dampers KTM-O in flexible wall with 100 mm thickness

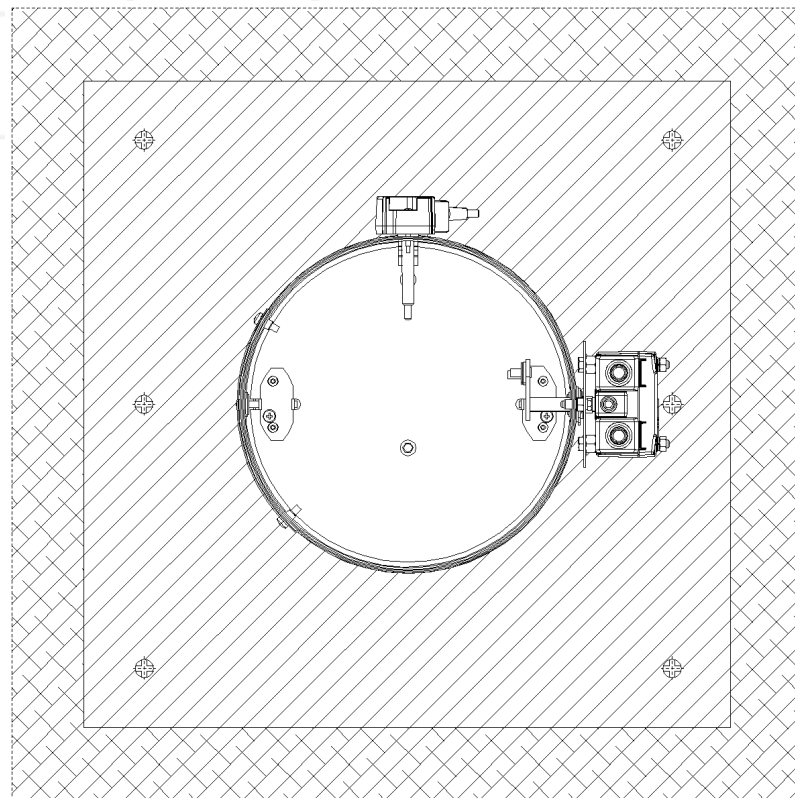


Figure 15. Installation method of fire dampers KTM-O in flexible wall with horizontal rotation axis of baffle



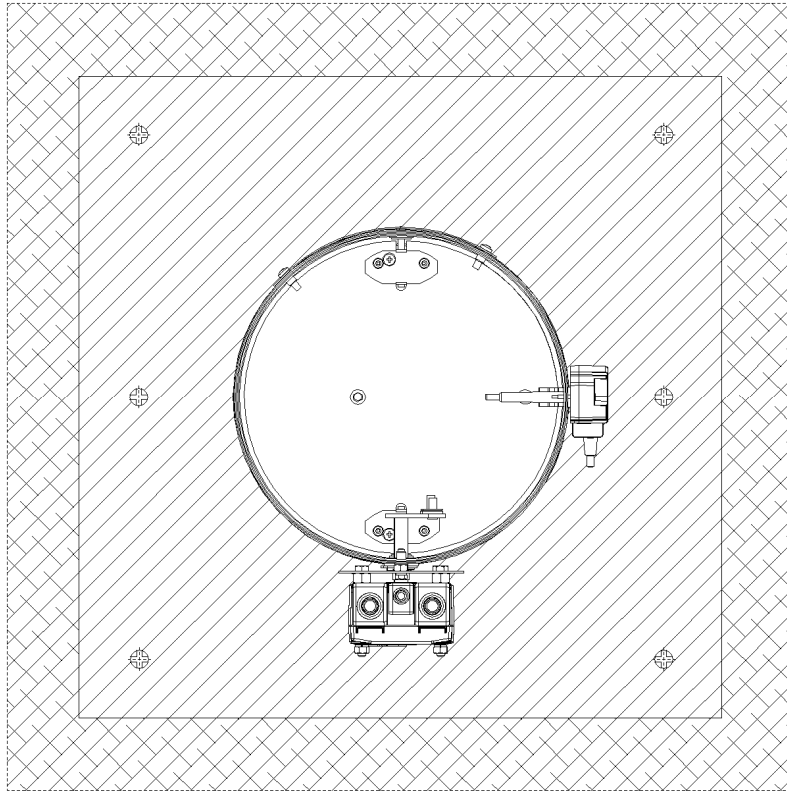


Figure 16. Installation method of fire dampers KTM-O in flexible wall with vertical rotation axis of baffle

damper's axis overlaps  
with wall axis

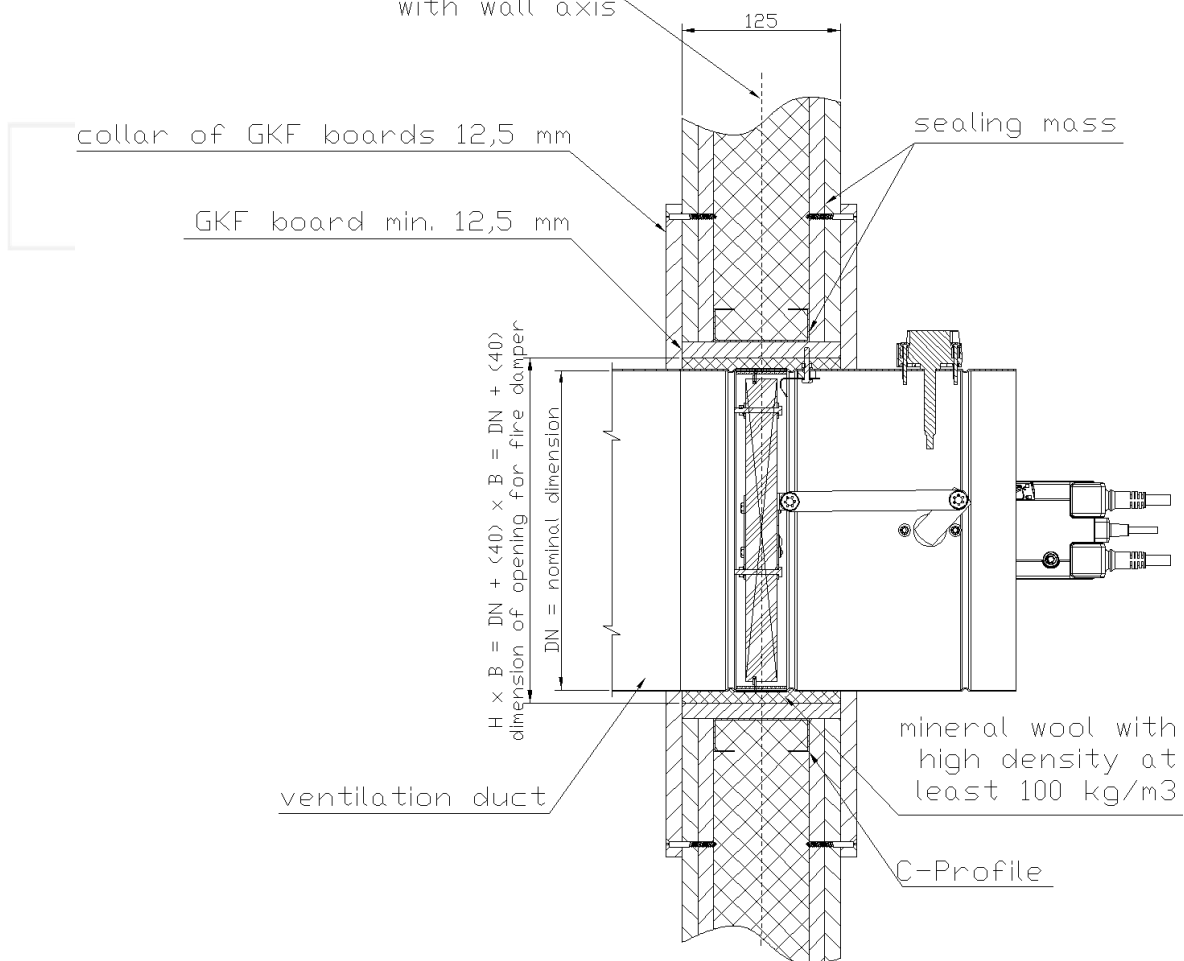


Figure 17. Installation method of fire dampers KTM-O in flexible wall with 125 mm thickness

## 7.4. INSTALLATION TECHNOLOGY – FLEXIBLE WALL WITH ONE-SIDED ACCESS

- Make an opening in the wall with the 40 mm (acceptable  $40 \div 80$  mm) greater than the nominal dimensions of the fire damper:  $B=DN+40$  and  $H=DN+40$ . The opening of the external GKF board on the side without access should have a dimension equal to the nominal dimension DN of the damper.
- Make a frame of two layers of GKF boards, 12,5 mm thick and the width relative to the width of opening, mounting by screws remembering to carefully seal the contact edges with a mastic: Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall (Fig. 18), and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the wall with non-flammable mineral wool of high density, 100 kg/m<sup>3</sup> or more.
- Seal the place of filling with mineral wool using the sealing compounds Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- Mount collar, both side of wall, made of GKF boards, 12,5 mm thick and  $DN+ 320$  mm wide, using screws (with a cut hole for the damper). For easy assembly, the collar can be made of two parts.
- After mounting the collar, remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).

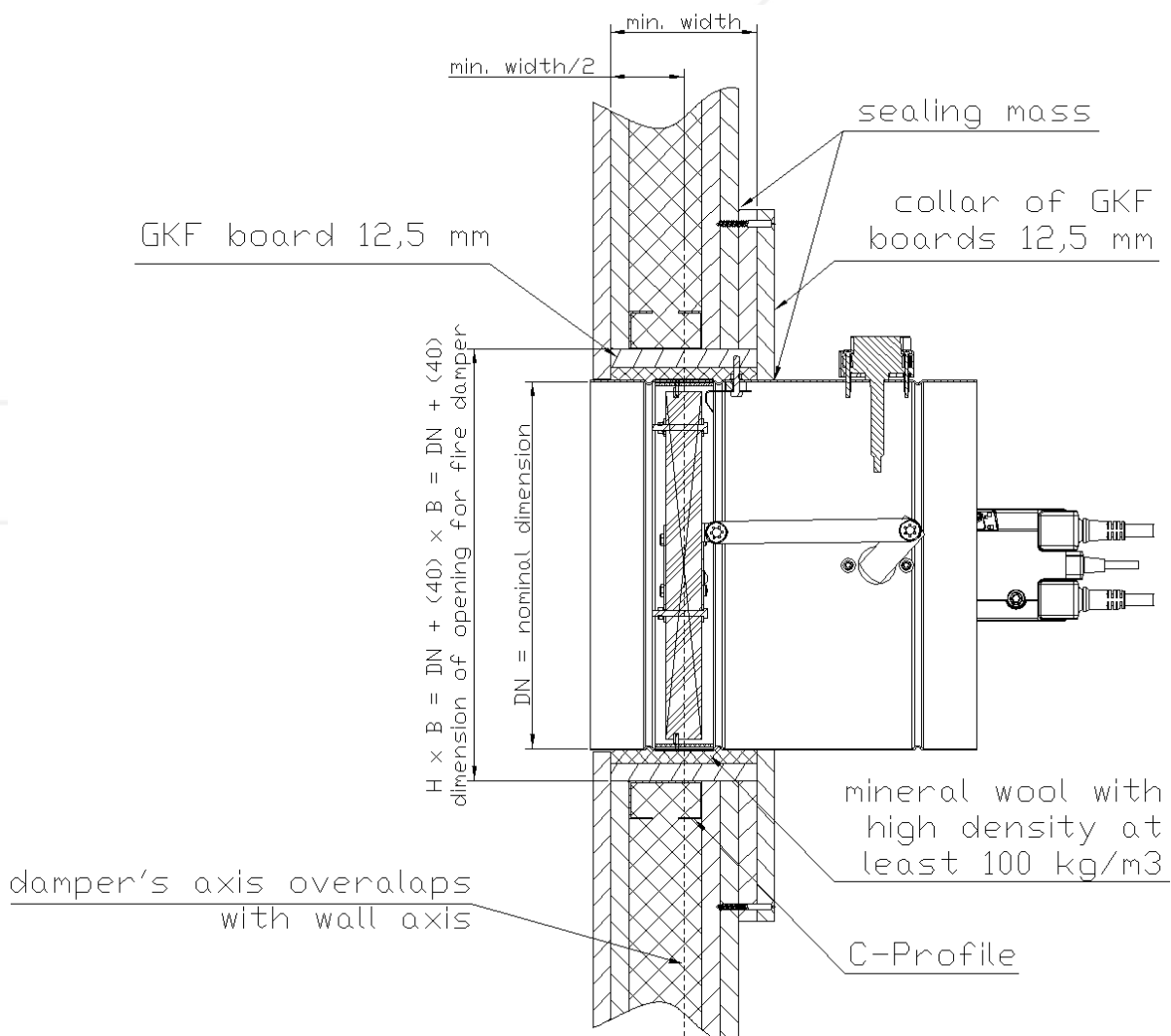


Figure 18. Installation method of fire dampers KTM-O in flexible walls structures one-sided access

## 7.5. INSTALLATION TECHNOLOGY – WALL AND CEILING STRUCTURES OF GREAT THICKNESS

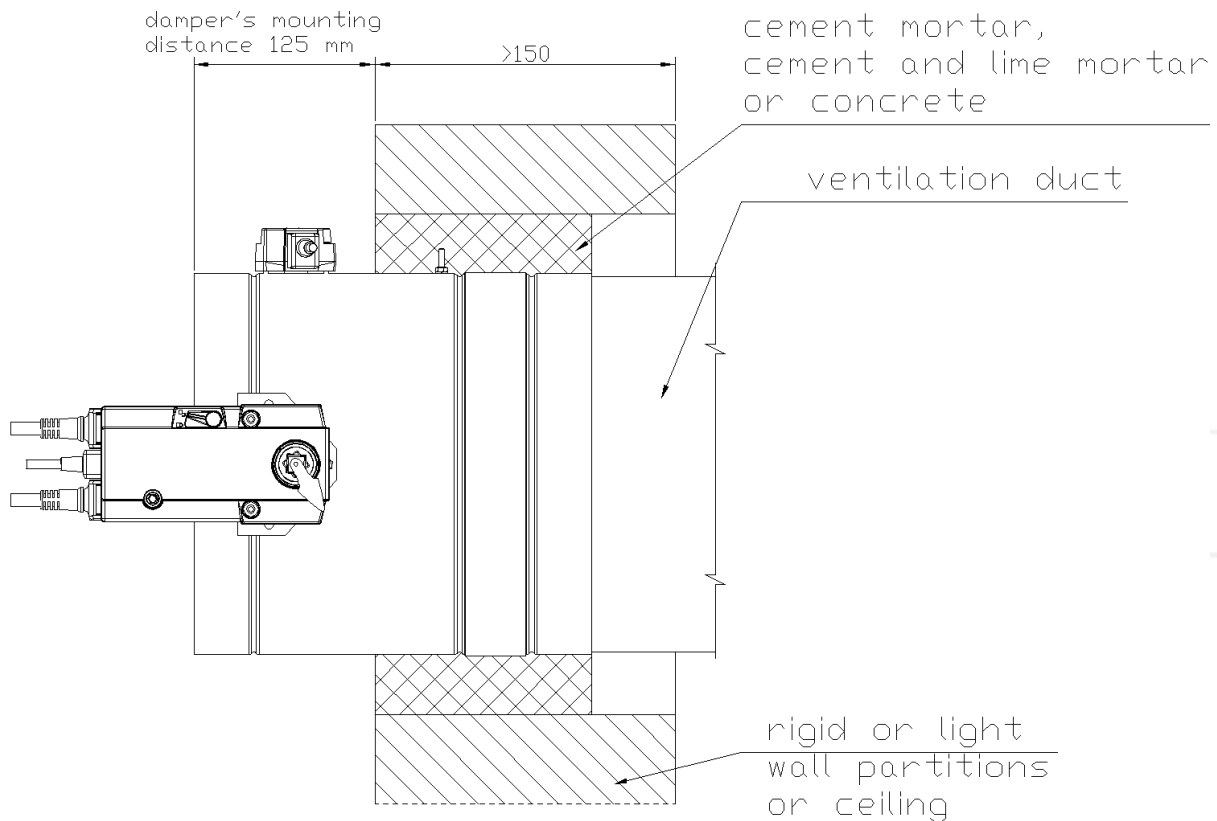


Figure 19. Installation method of fire dampers KTM-O in structures thicker than 150 mm

In rigid and flexible wall construction and in ceiling with thickness less or equal to 150 mm, KTM-O fire dampers are mounted in such a way that the damper baffle axis coincides with the axis of the wall or ceiling.

Whereas in case of walls and ceilings with thickness higher than 150 mm: the KTM-O fire dampers are mounted in such a way, that the damper installation limit i.e. 125 mm, is maintained (as in figure 19).

## 7.6. INSTALLATION TECHNOLOGY – MONTAGE AWAY FROM RIGID WALL

- Make an opening in the wall with the dimensions 100 mm greater than the nominal dimensions of the fire damper DN+100.
- Push the ventilation duct into the installation opening and support or suspend it so that the channel and opening alignment are maintained.
- Install the closed damper to the ventilation duct, additionally support or suspend it.
- On the mineral wool coverage section, apply 1mm PROMASTOP CC (made by PROMAT) layer.
- The PROMASTOP CC layer has to be applied on fire barrier in the place where the wool was sealed on both sides, with a size about DN + 320.
- Wrap the ventilation duct and the damper at the appropriate length of mineral wool with high density at least 100 kg/m<sup>3</sup>.
- When the mineral wool is mounted, check correct functionality of the damper, then leave it in the open position.
- The maximum length of the duct is L=1000 mm.

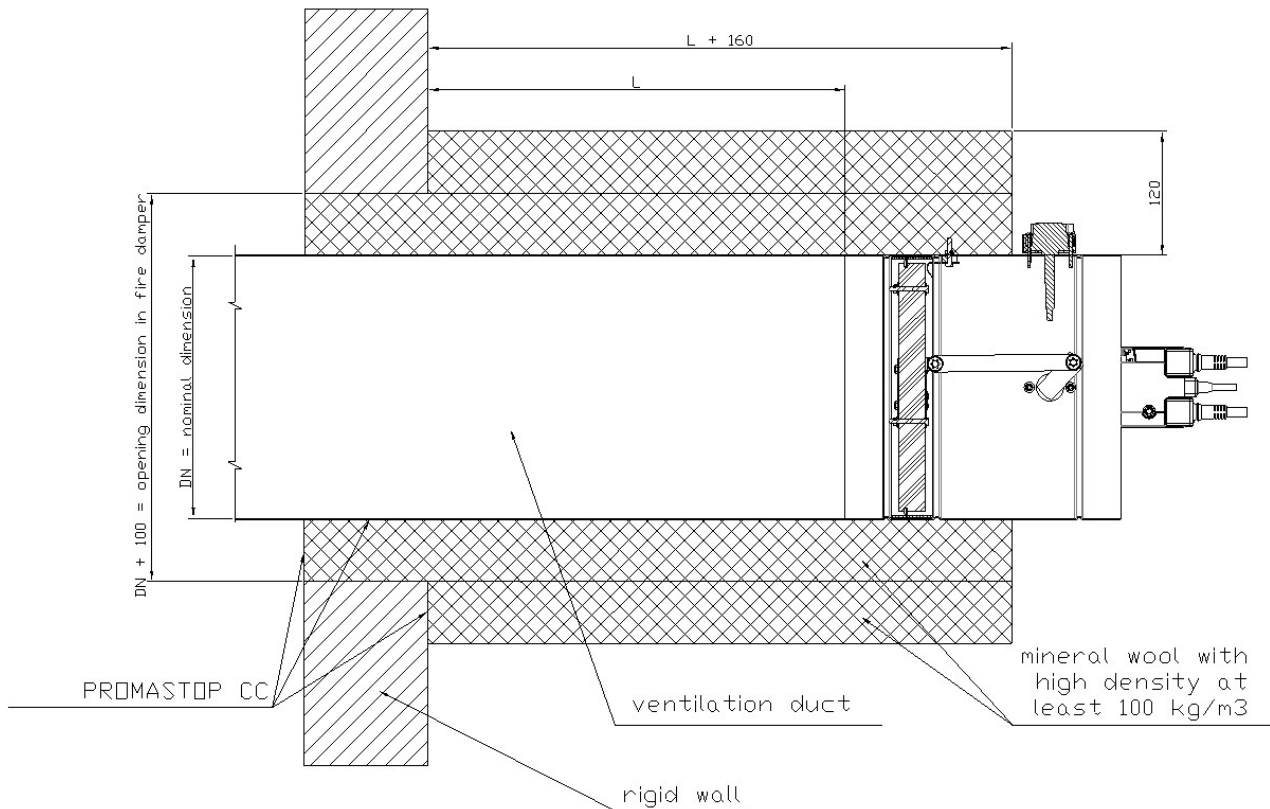


Figure 20. Installation method of KTM-O fire dampers away from wall construction.

## 7.7. INSTALLATION TECHNOLOGY – INSTALLATION WITH MINIMUM DISTANCES

### 7.7.1. RIGID WALL – INSTALLATION USING MORTAR

- Select the size of the mounting hole in the wall taking into account the arrangement, dimensions and number of flaps, remember that proper sealing requires a gap of 10÷40 mm.
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall, and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the wall with cement, cement-lime mortar or concrete.
- Install using screws, on the actuator side a collar made of GKF boards 15 mm thick with the resulting dimensions (Fig. 22, 24, 26, 28) depending on the number of fire dampers and the distance from the ceiling and/or wall (with the opening for the fire dampers). For simple assembly, the frame can be made of two parts.
- After mounting the collar, remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).
- After the mortar has dried, apply a 1 mm thick layer of Promastop CC fireproofing compound to the other side of the building partition.

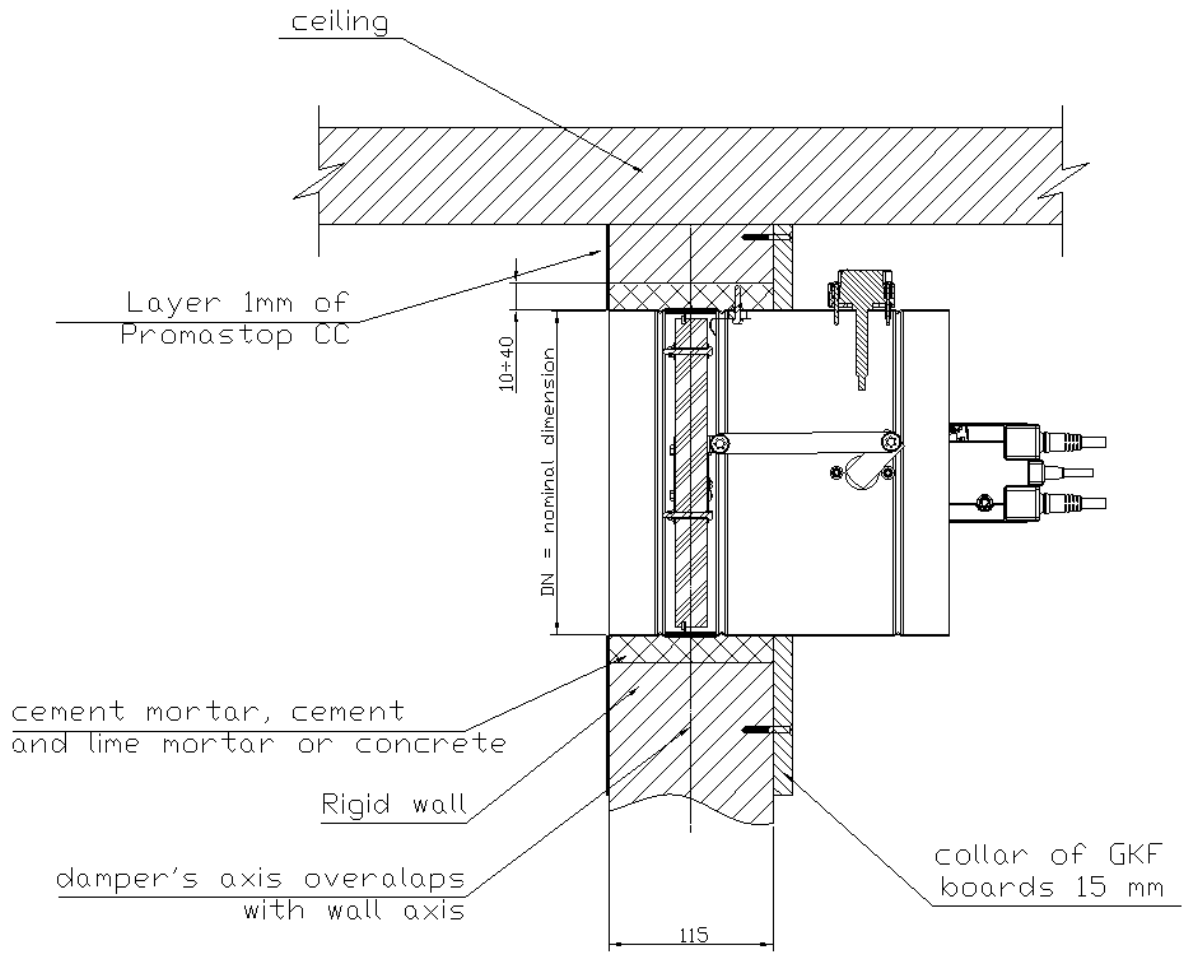


Figure 21. Installation method of KTM-O with minimum distances from adjacent fire dampers and from the ceiling.

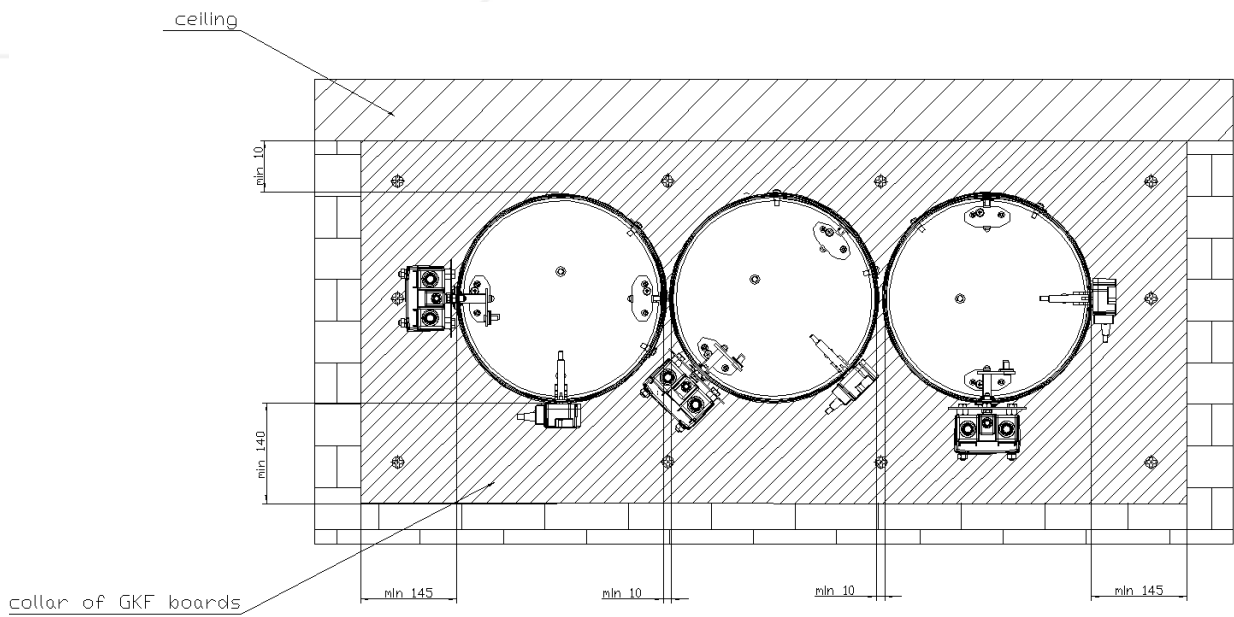


Figure 22. Installation method of KTM-O with minimum distances from adjacent fire dampers and from the ceiling.

### 7.7.2. RIGID WALL – INSTALLATION USING MINERAL WOOL

- Select the size of the mounting hole in the wall taking into account the arrangement, dimensions and number of flaps, remember that proper sealing requires a gap of 10÷40 mm.
- Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall, and ensure a concentricity of fire damper and installation opening.
- After setting the fire damper as described, fill the gap between the fire damper and the wall with non-flammable mineral wool of high density, 100 kg/m<sup>3</sup> or more.
- Seal the place of filling with mineral wool using the sealing compounds Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- Mount collar, both side of wall, made of GKF boards, 12,5 mm thick and DN+ 320 mm wide, using screws (with a cut hole for the damper). For easy assembly, the collar can be made of two parts.
- Install using screws, on the actuator side a collar made of GKF boards 15 mm thick with the resulting dimensions (Fig. 22, 24, 26, 28) depending on the number of fire dampers and the distance from the ceiling and/or wall (with the opening for the fire dampers. For simple assembly, the frame can be made of two parts.
- After mounting the collar, remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).
- After the mortar has dried, apply a 1 mm thick layer of Promastop CC fireproofing compound to the other side of the building partition.

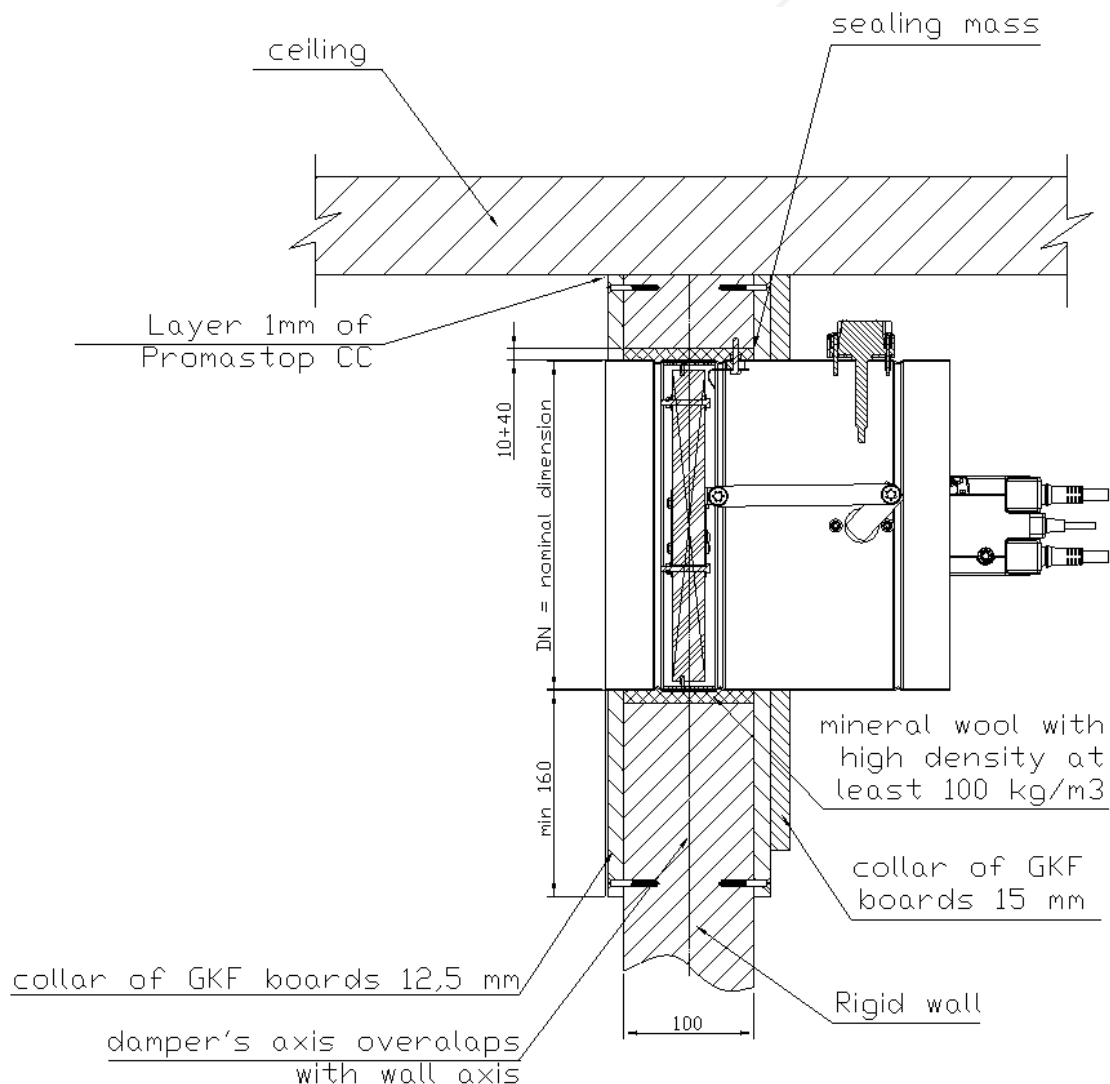


Figure 23. Installation method of KTM-O with minimum distances from adjacent building partition.

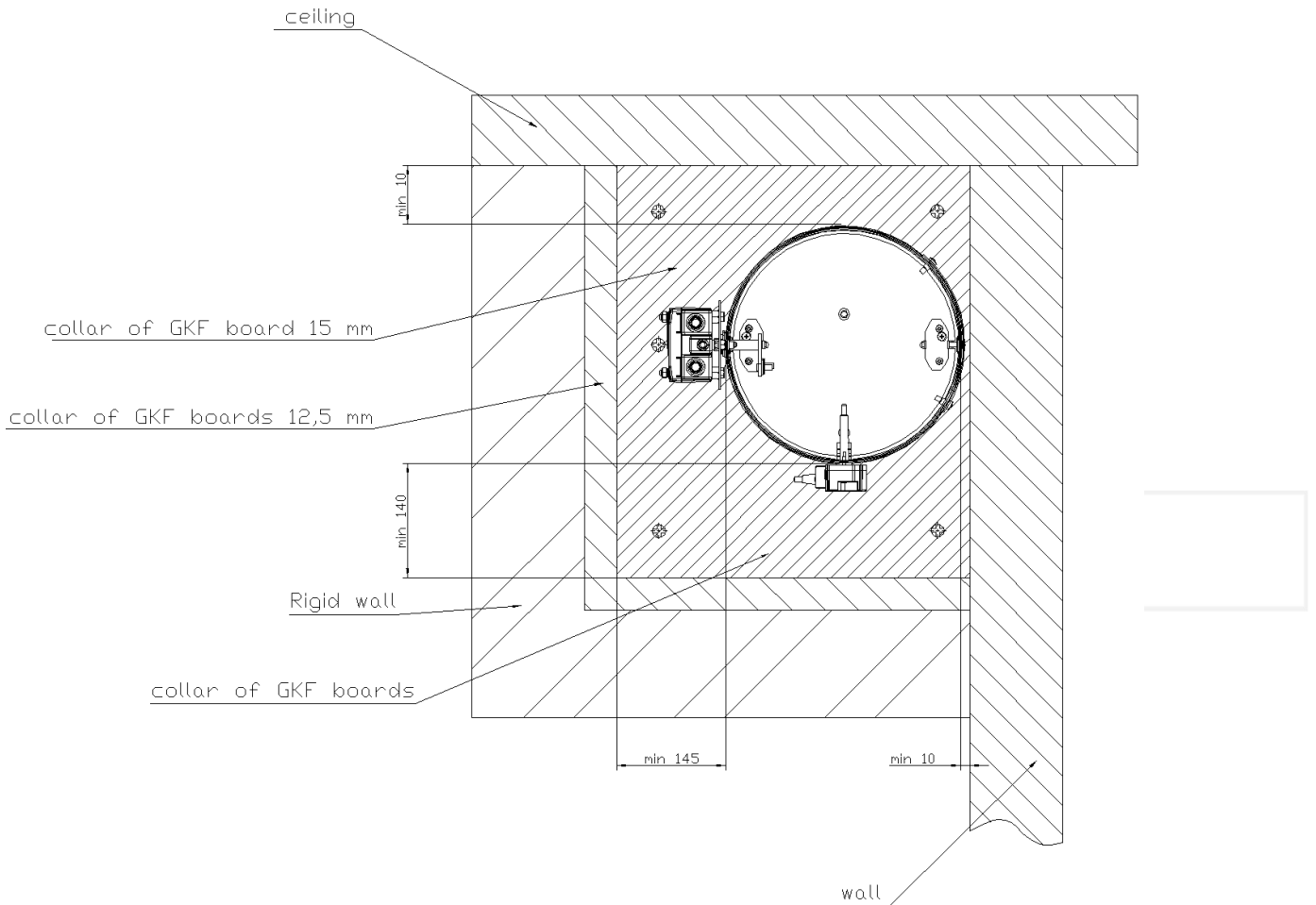


Figure 24. Installation method of KTM-O with minimum distances from adjacent building partition.

### 7.7.3 FLEXIBLE WALL

- a. Select the size of the mounting hole in the wall taking into account the arrangement, dimensions and number of flaps, remember that proper sealing requires a gap of 10÷40 mm.
- b. Make a frame of two layers of GKF boards, 12,5 mm thick and the width relative to the width of opening, mounting by screws remembering to carefully seal the contact edges with a mastic: Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- c. Put the closed fire damper into the installation opening and support or suspend, in this way that an axis of the fire baffle matches the axis of the wall, and ensure a concentricity of fire damper and installation opening.
- d. After setting the fire damper as described, fill the gap between the fire damper and the wall with non-flammable mineral wool of high density, 100 kg/m<sup>3</sup> or more.
- e. Seal the place of filling with mineral wool using the sealing compounds Hilti Firestop Coating CP 673, Promastop-CC, Promaseal-Mastic or Soudal Firesilicone B1 FR.
- f. Mount collar, both side of wall, made of GKF boards, 12,5 mm thick and DN+ 320 mm wide, using screws (with a cut hole for the damper). For easy assembly, the collar can be made of two parts.
- g. Install using screws, on the actuator side a collar made of GKF boards 15 mm thick with the resulting dimensions (Fig. 22, 24, 26, 28) depending on the number of fire dampers and the distance from the ceiling and/or wall (with the opening for the fire dampers. For simple assembly, the frame can be made of two parts.
- h. After mounting the collar, remove the supports or suspension, check the fire damper correct operation and leave it in open position (installing in KTM-O damper thermal fuse as shown on the fig. 6).
- i. After the mortar has dried, apply a 1 mm thick layer of Promastop CC fireproofing compound to the other side of the building partition.

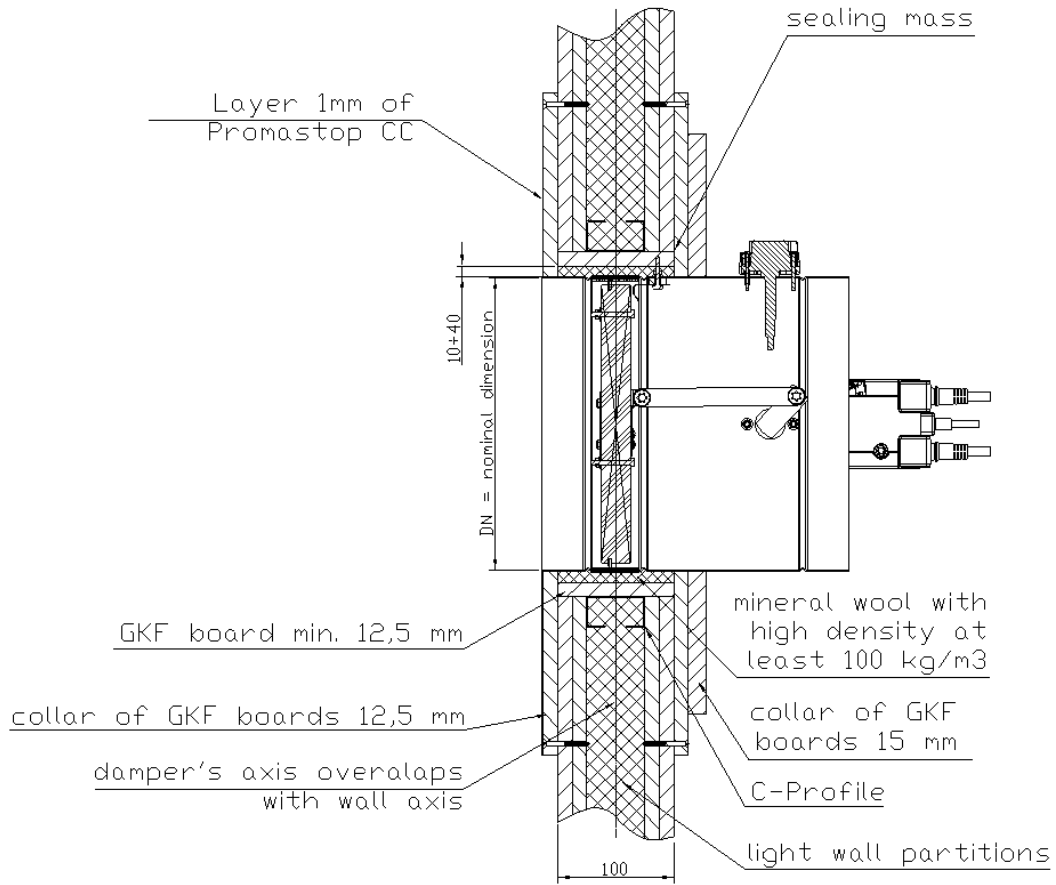


Figure 25. Installation method of KTM-O with minimum distances from wall.

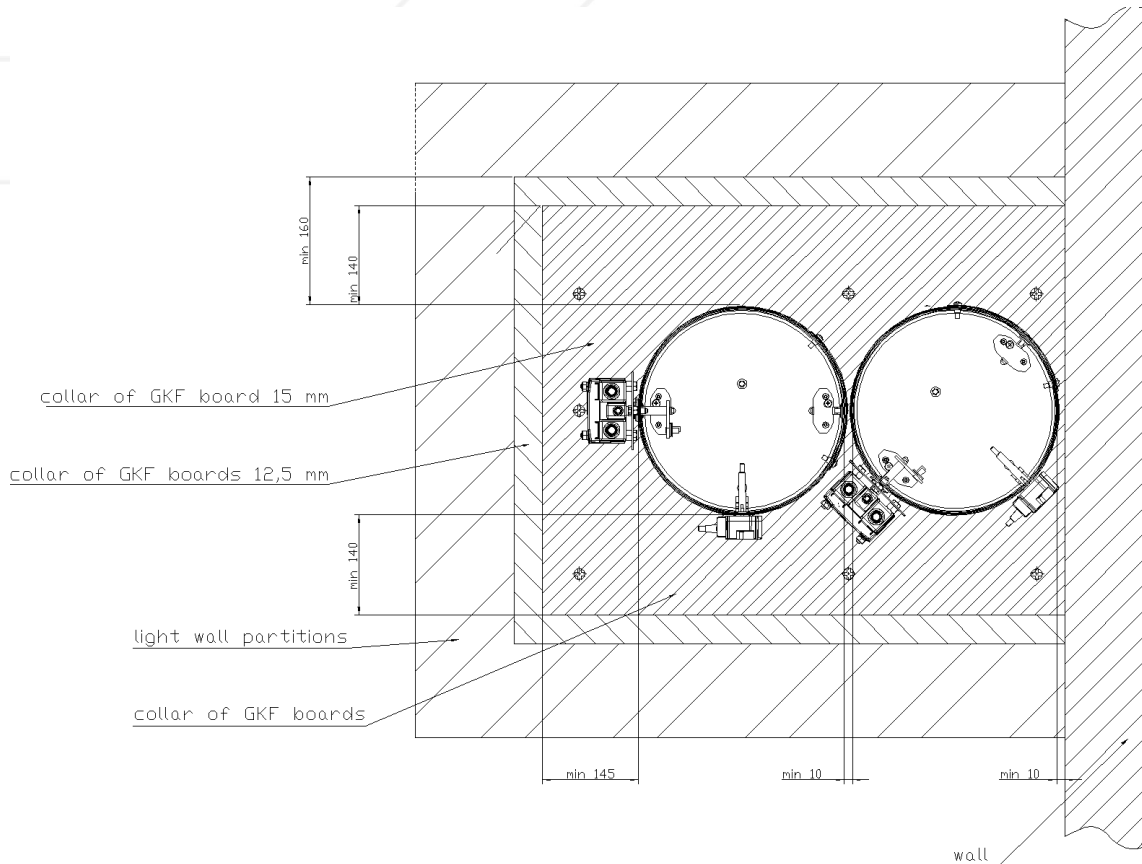


Figure 26. Installation method of KTM-O with minimum distances from wall.



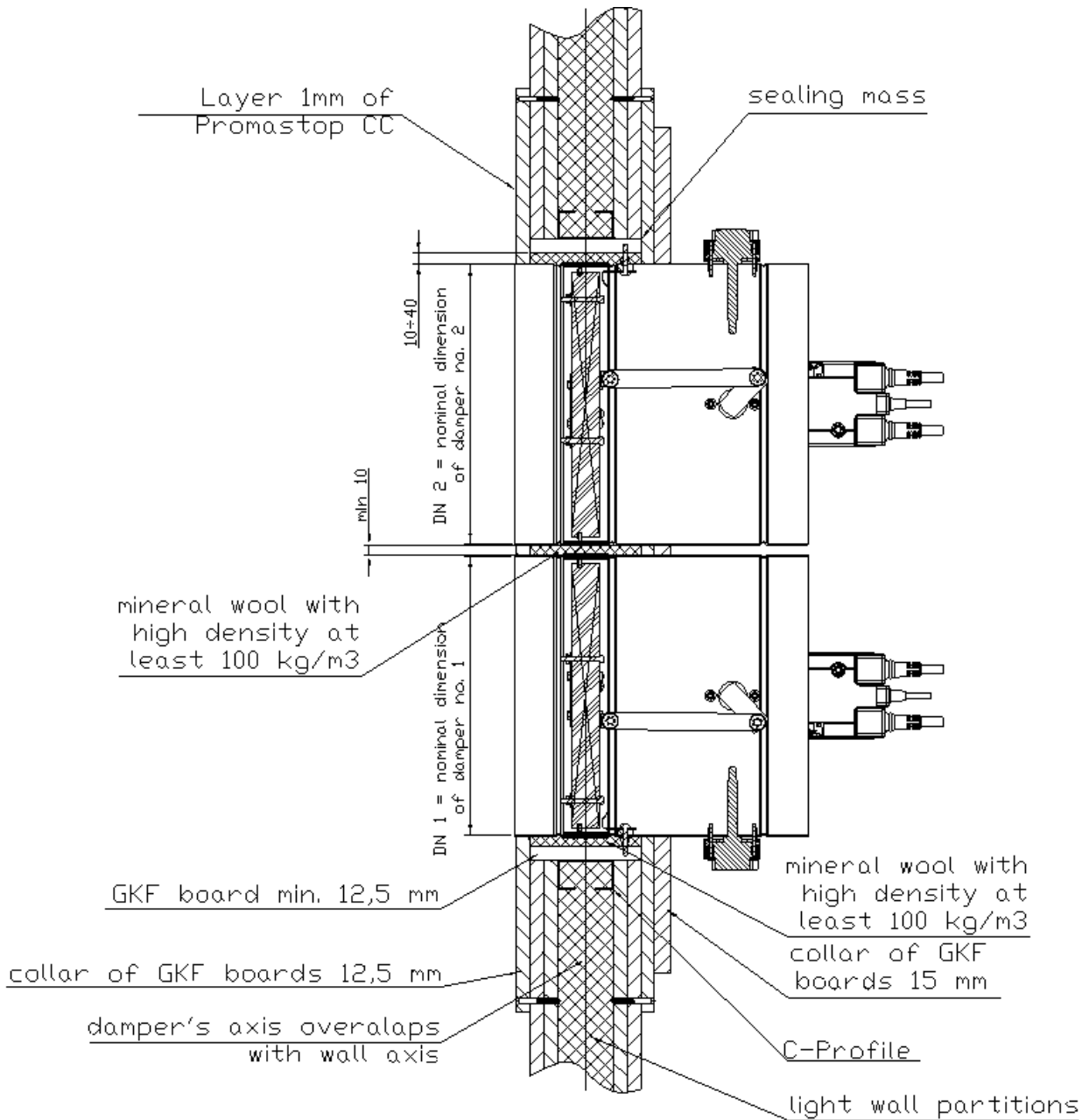


Figure 27. Installation method of KTM-O with minimum distances from adjacent fire dampers.

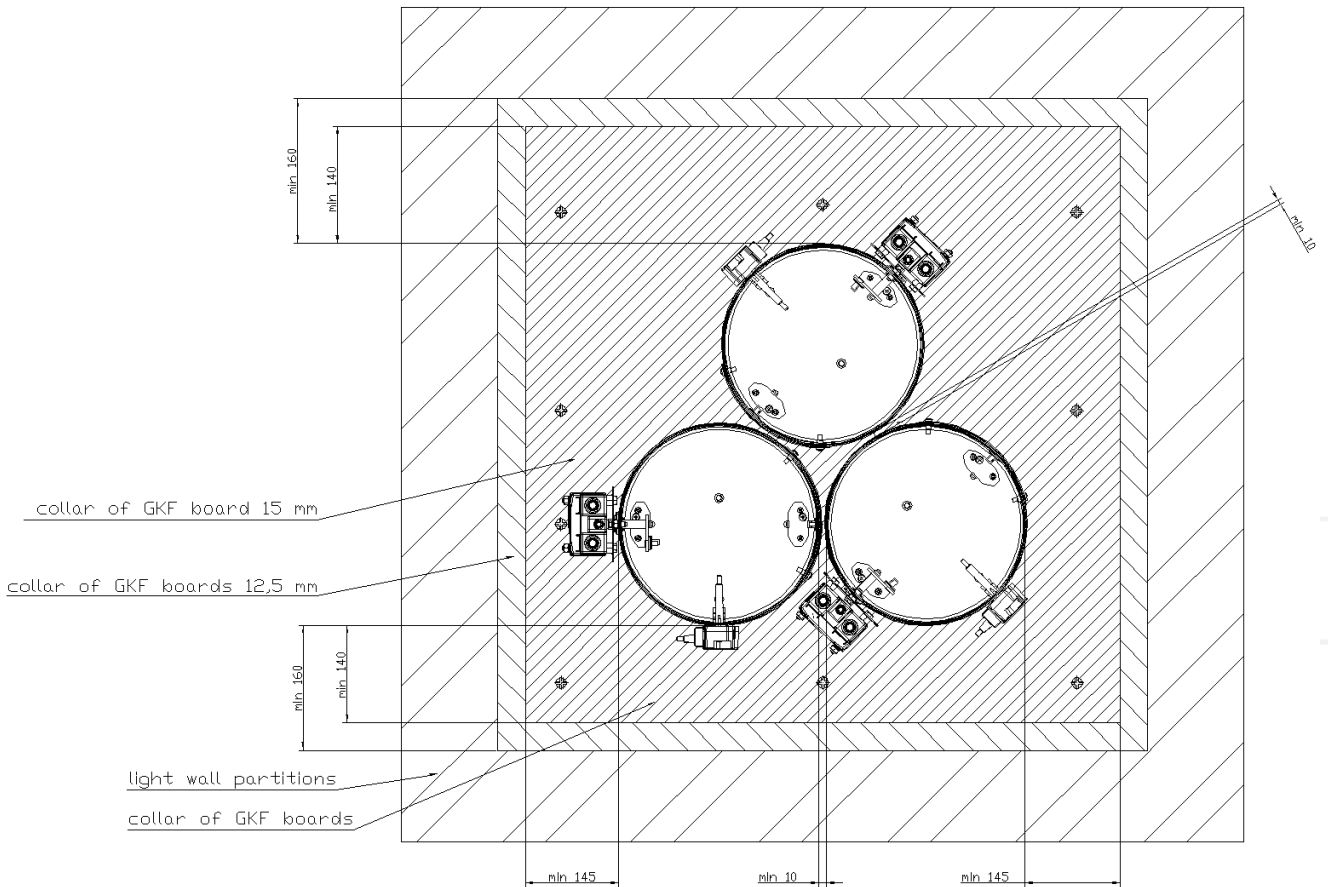


Figure 28. Installation method of KTM-O with minimum distances from adjacent fire dampers.

The examples provided in subsection 7.7 are applicable to both rigid and flexible walls. When considering individual solutions, attention should be paid to the construction method specific to each wall. A common element for every standard thickness construction is an additional flange made of 15 mm thick GKF board.

## 8. CONNECTION DIAGRAM OF LIMIT SWITCHES IN THE KTM-O DAMPER

Microswitches D2SW-3L2M ( OMRON ) are used in KTM-O fire dampers as limit switches to signal the baffle position. By the microswitch it is possible to connect two circuits, normally closed and normally open (closing only at the moment of contact with baffle),

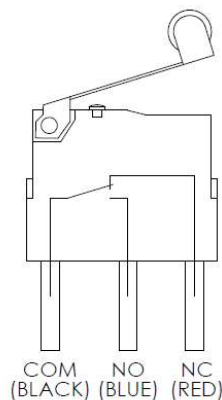


Figure 29. Connection diagram of D2SW-3L2M limit switches

## 9. COMMISSIONING

After assembling the device and installation into the control system, before putting the smoke control damper into operation, the following actions should be carried out and recorded:

- verify the correct assembly of the damper according to this Technical Documentation;
- check the correctness of the electrical installation in terms of power supply parameters and quality of execution;
- ensure that the damper has not been mechanically damaged during installation;
- verify the correct opening/closing of the damper, with the opening/closing time being maintained below 60 seconds;
- check the cleanliness of the device and ensure that there are no foreign elements present that could damage the device;
- ensure proper accessibility to the drive mechanism and thermal trigger mechanism - required for service and maintenance purposes;
- check the availability and legibility of labeling stickers.

After the installation of the KTM-O damper, before putting it into operation, a document must be prepared: 'Installation and Commissioning Protocol - Smoke control dampers'. This protocol should be signed by a person holding a current, personalized certificate or certificate issued by Smay Sp. z o. o. authorizing the installation of KTM-O dampers. A copy of this document should be sent electronically to the manufacturer ([www.smay.pl](http://www.smay.pl) → SERVICE AND WARRANTY tab → ADD START-UP PROTOCOL) within 30 days from the commissioning date (date indicated in the Installation and Commissioning Protocol for the KTM-O damper). Failure to comply with this formality will result in the loss of warranty for the device.

Installation and Commissioning Protocol - Smoke control dampers (universal for all dampers in the SMAY offer) is outlined below:



**INSTALLATION AND COMMISSIONING PROTOCOL - SMOKE CONTROL DAMPERS**

<p><u>Data of the company performing the installation and commissioning (seal)</u></p>	<p><u>Device manufacturer</u></p>
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OBJECT / INSTALLATION LOCATION	INSTALLATION AND COMMISSIONING EXECUTION																
Object Name: ..... ..... ..... ..... ..... Object Address:..... ..... ..... .....	<table style="width:100%;"> <tr> <td rowspan="5" style="width:15%; vertical-align: middle;">Damper Type:</td> <td><input type="checkbox"/> KTM-O</td> <td><input type="checkbox"/> KTS-O</td> <td><input type="checkbox"/> WP-O</td> </tr> <tr> <td><input type="checkbox"/> KWP-P</td> <td><input type="checkbox"/> KWP-Ex</td> <td><input type="checkbox"/> KWP-L</td> </tr> <tr> <td><input type="checkbox"/> WKP-O</td> <td><input type="checkbox"/> WKP-P</td> <td><input type="checkbox"/> WKZ-O</td> </tr> <tr> <td><input type="checkbox"/> WKS-P</td> <td></td> <td></td> </tr> <tr> <td colspan="3">Commissioning Date</td> </tr> </table>	Damper Type:	<input type="checkbox"/> KTM-O	<input type="checkbox"/> KTS-O	<input type="checkbox"/> WP-O	<input type="checkbox"/> KWP-P	<input type="checkbox"/> KWP-Ex	<input type="checkbox"/> KWP-L	<input type="checkbox"/> WKP-O	<input type="checkbox"/> WKP-P	<input type="checkbox"/> WKZ-O	<input type="checkbox"/> WKS-P			Commissioning Date		
Damper Type:	<input type="checkbox"/> KTM-O		<input type="checkbox"/> KTS-O	<input type="checkbox"/> WP-O													
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	<input type="checkbox"/> WKP-O		<input type="checkbox"/> WKP-P	<input type="checkbox"/> WKZ-O													
	<input type="checkbox"/> WKS-P																
	Commissioning Date																

**SCOPE OF CONTROL AFTER INSTALLATION AND COMMISSIONING**

**A** - Correctness of damper assembly according to the Technical Documentation Record (DTR);  
**B** - Correctness of the electrical installation in terms of power supply parameters and quality of execution;  
**C** - Damper has not been mechanically damaged during installation;  
**D** - Correct opening/closing of the damper, with the opening/closing time being maintained below 60 seconds;  
**E** - Cleanliness of the device, and absence of foreign elements that could lead to device damage;  
**F** - Maintenance of proper accessibility to the drive mechanism and thermal trigger - required for service and maintenance purposes;  
**G** - Availability and legibility of labeling stickers.

**N** - negative result  
**P** - positive result

DAMPERS				CHECKLIST OF ACTIVITIES													
No.	Identification	Type	Serial Number	A		B		C		D		E		F		G	
				P	N	P	N	P	N	P	N	P	N	P	N	P	N
1																	
2																	
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**Remarks:**

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**Contractor's Declaration**

We confirm the execution of the protocol in accordance with the guidelines and Technical Documentation of the manufacturer and the manufacturer's instructions from the assembly manual.

Control Result: **Positive / Negative**

Recommendations: None / as per the remarks above

Review Contractor		Authorization Number <small>(issued by Smay company)</small>	Signature	Client Confirmation:
1.				
2.				

## 10. PERIODIC MAINTENANCE AND SERVICING RULES

Before starting any operational and maintenance work, you must familiarize yourself with this documentation. This obligation particularly falls on individuals responsible for operating the device or equipment within the scope of operation, maintenance, and service. In the absence of technical personnel with qualifications specified by the manufacturer, the inspection/maintenance of current devices should be carried out by the SMAY Manufacturer's Service or an Authorized SMAY Service/SMAY Service Partner.

Damage to the KTM-O damper resulting from failure to comply with the guidelines contained in the documentation will not be covered by warranty repairs.

After installing KTM-O smoke control dampers and with the system activated, it is necessary to conduct regular inspections and record them as presented in the Annual Inspection Protocol - Smoke control dampers (included below) **no less frequently than every 12 months or in periods resulting from local legislation. If necessary, inspections should be conducted more frequently.**

The fact of inspecting the technical condition and servicing of the device should be documented by an inspection protocol, the template of which has been included in this documentation.

Failure to implement the above guidelines regarding periodic inspection results in the device not being allowed for further operation. Simultaneously such a device loses the manufacturer's warranty protection in accordance with the OWG

All activities related to the replacement or modification of device components can only be carried out by the SMAY Manufacturer's Service or an Authorized SMAY Service/SMAY Service Partner. Elements that have been factory sealed should have intact original seals applied by the SMAY Manufacturer's Service or an Authorized SMAY Service/SMAY Service Partner.

The KTM-O damper does not require any protective measures other than regular maintenance/technical inspections and proper care, including keeping the damper elements clean. The damper can be cleaned using a dry cloth or brush. Dirt and other contaminants can be removed using commonly available cleaning agents. Do not use aggressive, corrosive, or sharp tools.

In the housing of fire damper there is an inspection opening, which enables making an inspection and checking the condition of the drive system. Inspection opening is sealed by ceramic gasket and it is installed by M5x16 screws.



Figure 30. Inspection opening in KTM-O damper

Below is a list of recommended periodic inspection activities along with possible faults (universal for all dampers in the SMAY offer).

<b>ANNUAL INSPECTION PROTOCOL - SMOKE CONTROL DAMPERS</b>			
<b>Company performing the inspection (seal)</b>			
OBJECT / INSTALLATION LOCATION		INSPECTION EXECUTION	
Nazwa obiektu: .....		Date of execution: .....	.....
Adres obiektu: .....		Subject of review / Damper type:	<input type="checkbox"/> KTM-O <input type="checkbox"/> KTS-O <input type="checkbox"/> KWP-O <input type="checkbox"/> KWP-P <input type="checkbox"/> KWP-Ex <input type="checkbox"/> KWP-L <input type="checkbox"/> WKP-O <input type="checkbox"/> WKP-P <input type="checkbox"/> WKZ-O <input type="checkbox"/> WKS-P
		Total number of devices:	.....
SCOPE OF THE REVIEW PERFORMED			
Inspection activities <small>(in accordance with the attachment)</small>		Status of inspection activities	
		Performed <small>(Yes/No)</small>	Evaluation <small>(Positive/Negative)</small>
1	Visual inspection of dampers		
2	Control of damper actuator		
3	Trigger inspection		
4	Inspection of smoke control damper operation		
5	Leaving dampers in operational position		
<b>A detailed list of devices subjected to inspection is presented in Attachment No. 1: 'List of Devices,' which is an integral part of this inspection protocol.</b>			
REMARKS / RECOMMENDATIONS <small>(enumerate from consecutive numbers)</small>			
..... ..... ..... ..... ..... ..... ..... ..... ..... .....			





Checklist of activities:		Legend for remarks: Remarks with the symbol (K) denote critical remarks that result in a negative control outcome for the damper.
<b>A.</b>	Reading data from the nameplate sticker of the damper	<b>1. (K)</b> lack of access to the damper for inspection; <b>2.</b> absence of a visible nameplate sticker; <b>3.</b> illegible data on the sticker;
<b>B.</b>	Assessment of the condition of the damper enclosure	<b>4. (K)</b> absence or severely damaged enclosure of the damper in the wall; absence or severely damaged fire insulation of the damper installed on the duct; <b>5.</b> minor damage to the damper enclosure or suspicion of enclosure not compliant with manufacturer's guidelines;
<b>C.</b>	Visual inspection of the damper	<b>6.</b> damage to casing, perforation, bending, corrosion;
<b>D.</b>	Assessment of the condition of the damper casing	<b>7. (K)</b> lack of access to inspect the inside of the damper; <b>8. (K)</b> damage to the partition or gears*, cracking, delamination; <b>9. (K)</b> damage to the partition bearings or drive transmission mechanisms;
<b>E.</b>	Assessment of the condition of the partition and drive transmission	<b>10. (K)</b> damage to the swelling seal, noticeable loss, lack of continuity around the partition; <b>11.</b> damage to the ventilation seal, noticeable loss, detachment from the mounting location;
<b>F.</b>	Assessment of the condition of the swelling seal and ventilation	<b>12. (K)</b> severe soiling of damper components impossible to remove;
<b>G.</b>	Assessment of damper cleanliness, cleaning	<b>13. (K)</b> damage to manual mechanism (e.g., rotating or loose spring); <b>14.</b> lack of indication of damper position status;
<b>H.</b>	Assessment of manual mechanism*	<b>15. (K)</b> lack of actuator response to power supply; <b>16. (K)</b> actuator spring damage; <b>17. (K)</b> actuator symbol not matching the nameplate; <b>18.</b> warranty seal broken; <b>19.</b> noticeable mechanical damage to actuator; <b>20.</b> lack of service access to actuator; <b>21.</b> improper manual actuation of the actuator;
<b>I.</b>	Assessment of the actuator* (compliance of the symbol with the nameplate, warranty seal)	<b>22. (K)</b> damage to power supply cable; <b>23.</b> lack of access to junction box;
<b>J.</b>	Assessment of damper electrical connection*	<b>24. (K)</b> lack of a fusible link element; <b>25. (K)</b> non-factory method of holding the damper in the open position; <b>26. (K)</b> trigger embedded in the wall;
<b>K.</b>	Inspection of mechanical trigger*	<b>27. (K)</b> lack of response to pressing the test button on the trigger; <b>28. (K)</b> unscrewed or improperly mounted trigger; <b>29.</b> trigger embedded in the wall;
<b>L.</b>	Inspection of electrical trigger*	<b>30. (K)</b> inability to fully transition the partition from closed to open position and vice versa; <b>31. (K)</b> rubbing of the partition against the enclosure during position change;
<b>M.</b>	Opening and closing of the damper	<b>32.</b> lack of damper retention in the open position;
<b>N.</b>	Assessment of maintaining the open position	<b>33. (K)</b> lack of full closure of the partition;
<b>O.</b>	Assessment of proper closure of the damper	<b>34.</b> lack of or improper response to control signal; <b>35. (K)</b> no response to power loss (applies to shut-off dampers); <b>36. (K)</b> operation not in accordance with control matrix (applies to fire ventilation dampers); <b>37.</b> lack of feedback on damper status to SAP;
<b>O.</b>	Assessment of proper response to control signal from SAP or voltage loss	<b>99.</b> Other

\* If they occur in the controlled type of damper



## 11. CLASSIFICATION OF DAMPERS FOR REPAIR

The authorized service personnel of the manufacturer or trained companies authorized by them are responsible for removing any detected damages during the periodic inspection. In case of malfunction or damage, the user is obliged to notify the manufacturer or an authorized service company.

After each activation of the damper as a result of a fire action at the facility, it is necessary to assess its technical condition, and consequently qualify it for repair or replacement with a new one. The assessment can only be carried out by the manufacturer's service personnel. Repair work or replacement of the damper after activation due to a fire action at the facility is not covered by the warranty.

## 12. WARRANTY CONDITIONS

The manufacturer provides a warranty for the delivered products, on the terms set forth in the Agreement or the General Warranty Conditions of Smay, Sp. z o.o. The warranty does not cover defects resulting from improper storage, transportation, installation, and commissioning, operation, periodic maintenance, service, especially mechanical damage and damage to anti-corrosive coatings.

The manufacturer is exempt from warranty obligations if the user introduces structural changes independently, installs the product by the purchaser contrary to the Installation Instructions and Technical Conditions of Sale (DTR), exceeds the declared durability of the damper, defects due to improper periodic maintenance, and when there is permanent removal of the product nameplate or lack of legibility and verification of the device type.

The General Warranty Conditions (OWG) and General Sales Conditions (OWS) documents are available on the website [www.smay.pl](http://www.smay.pl)



### ATTENTION!

#### Installation and Commissioning Protocol - Fire Dampers:

- The protocol should be signed by a person holding a valid, personalized certificate or authorization issued by Smay Sp. z o. o., authorizing the installation of fire dampers.
- A copy of this document must be sent to the manufacturer electronically ([www.smay.pl](http://www.smay.pl) → SERVICE AND WARRANTY tab → ADD COMMISSIONING PROTOCOL).
- A copy of this document must be sent within 30 days from the date of commissioning (date specified in the Installation and Commissioning Protocol - Fire Dampers).

The template of the Installation and Commissioning Protocol - Fire Dampers is available in the Technical Documentation



### ATTENTION!

#### Annual Inspection Protocol - Fire Dampers:

- The protocol should be signed by a person holding a valid, personalized certificate or authorization issued by Smay Sp. z o. o., authorizing inspections of fire dampers.
- In order to maintain the warranty, the employee conducting inspections of SMAY fire dampers is required, upon completion of such inspection, to submit the Annual Inspection Protocol to the manufacturer electronically ([www.smay.pl](http://www.smay.pl) → SERVICE AND WARRANTY tab → ADD COMMISSIONING PROTOCOL)

The template of the Annual Inspection Protocol - Fire Dampers is located at the end of the Technical Documentation.

**ATTENTION!**

**The templates of forms attached to this Technical Documentation (related to installation, commissioning, inspections) are the intellectual property of Smay sp. z o.o. Copying, duplicating, and using them for purposes other than those specified in this Technical and Operating Documentation is prohibited. To maintain the warranty, it is required to fill them out and deliver them to SMAY sp. z o.o. within 30 days from the date of installation/commissioning and inspection (other forms will not be accepted).**