KTB-O

Fire Damper – round

Installation manual

https: // www.smay.eu

Version 6.25

SMAY reserves the right to make changes to this document.

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1. INSTALLATION TECHNOLOGY

Before installing KTB-O fire dampers cartridge type, it is essential to check if any damage occurred during transport or storage, such as crushing of the damper housing or loss of the thermal trigger (which is located in a zip-lock bag attached to the damper housing). The correct operation of the damper must be verified by ensuring it closes properly from a fully open position.

The damper housing is equipped with an external seal for a male connection – once inserted into a standard duct, the damper remains stationary. Dampers should be installed (inserted into the ventilation duct) only after the duct has been processed through the wall and all construction work is complete. Otherwise, until these works are completed, dampers installed in the duct should be protected with foil or another covering material to prevent contamination, which could lead to damage to the damper components.

Dampers to preserve of the declared resistance, insulation and smoke leakage EIS60 or EIS90should be installed on wall, which was classified as EIS60 or EIS90.

It is allowed to install KTB-O fire damper cartridge in wall with other fire-resistance, should be remembered that fire-resistance in this situation is resistance of lowest classified 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. 200 mm between fire dampers installed in separate ventilation ducts,
b) min. 75 mm between fire damper and construction element (wall/ceiling).

ATTENTION!

Due to their design, KTB-O fire dampers close gustily. The guaranteed reliability of the damper is specified at 50 cycles.

KTB-O fire damper is designed to operate in a fixed position inside the duct. Do not test the damper in your hands or lying loosely on a table. You can test its operation by placing the damper on a flat surface, pressing the body firmly to the ground while holding the outer surface and simultaneously closing the halves of the blades from the fully open position in the fixed damper. Reopening is possible after pressing the flat springs that block the opening of the blades.

ATTENTION!

KTB-O fire dampers must be installed into the ventilation duct in the open position, ensuring that the rotation axis of the damper blade is in a horizontal position. If the damper closes during installation, it can only be reopened by removing it from the duct.

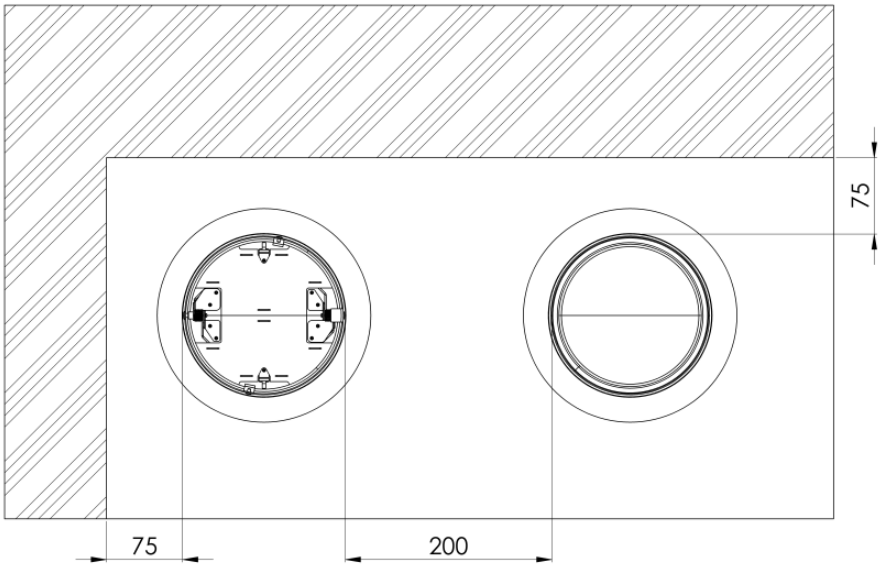

Figure 1. Spacing required between the dampers

2. INSTALLATION TECHNOLOGY – WALL CONSTRUCTION, DUCT INSTALLATION WITH MORTAR

a. The installation of KTB-O dampers is permissible in ventilation ducts passing through rigid walls where the duct passing through the wall has been sealed with mortar (masonry, cement, cement-lime, or concrete). The recommended size of the opening before processing ranges from DN+20mm to DN+50mm.
b. From the side of the damper installation, the pipe passing through the wall should be cut flush with the wall surface.
c. Open the damper and equip it with the thermal trigger. To open the damper, press the plate springs that serve as the locking mechanism for the damper blade.

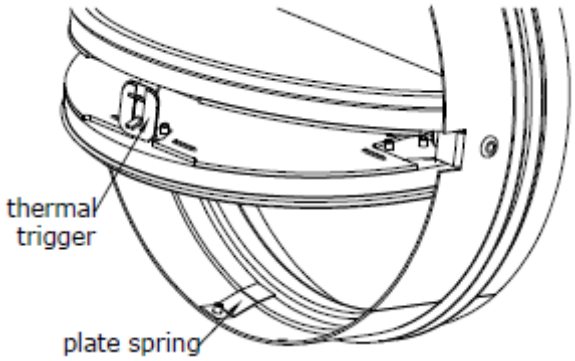

Figure 2. Installation method of the thermal trigger for the KTB-O damper

d. Insert the open damper into the ventilation duct to the appropriate depth (the distance of the body from the wall surface is shown in the diagram). It is recommended to install the thermal release facing the wall (so that the blades do not protrude towards the installation direction); however, both directions are permissible. Set the damper blade's axis of rotation horizontally

e. If the damper is equipped with a closed position indicator, also known as a limit switch, it should be connected electrically. When installing the subsequent part of the duct system, a coupling should be used in a way that does not alter the position of the damper within the wall.

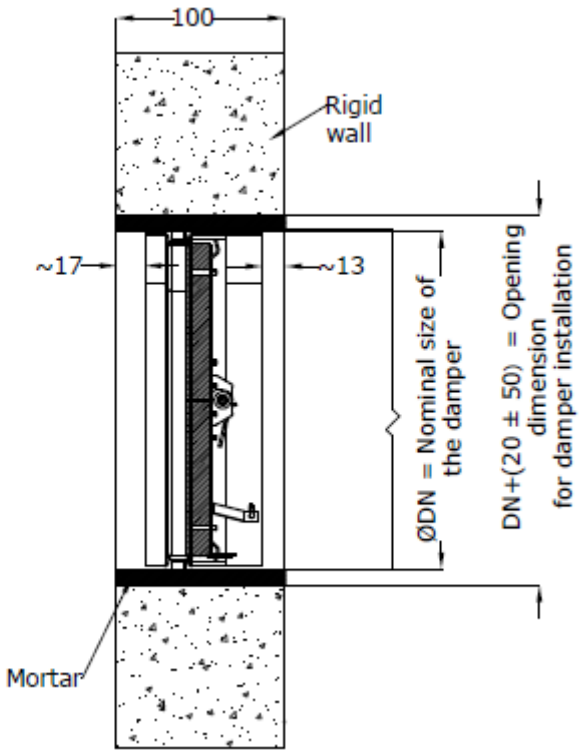

Figure 3. Method of installing KTB-O fire damper cartridge type in 100 mm thick walls in a duct treated with mortar

3. INSTALLATION TECHNOLOGY – WALL CONSTRUCTION, INSTALLATION OF THE DUCT WITH MINERAL WOOL

a. Installation of KTB-O dampers is permissible in ventilation ducts passing through rigid walls or flexible wall made of gypsum board attached to a steel structure. The ventilation duct passing through the wall should be treated with mineral wool and enclosed with gypsum board collars. For square openings in lightweight walls, the wall profiles around the opening should be covered with strips of gypsum board. The installation opening size before treatment should be DN+75 mm/DN+75 mm. For rigid walls, the round opening should have a diameter from DN+20 mm to DN+50 mm, while the square opening should range from DN+20 mm/DN+20 mm to DN+50 mm/DN+50 mm.

Surround the duct with mineral wool of density 100 kg/m³, and then seal both sides with gypsum board collars, 25 mm thick and dimensions DN+150 mm/DN+150 mm. The flange can consist of one or more parts. Any gaps should be filled with fire-resistant sealant. Attach the collars to the wall using screws.

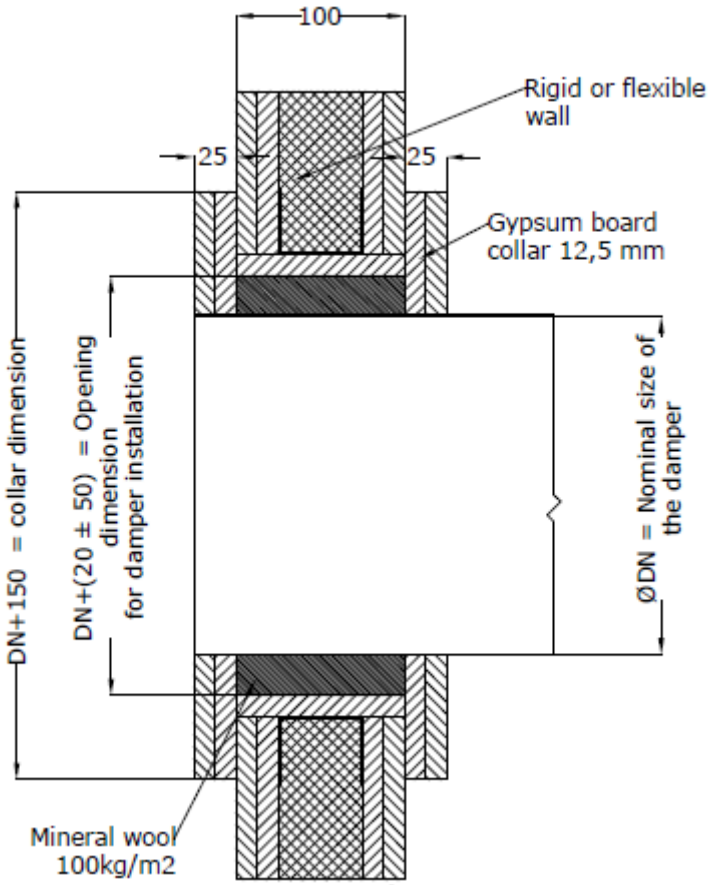

Figure 4. Method of duct passing through a wall

a. From the side of the damper installation, the pipe passing through the wall should be cut flush with the wall surface.
b. Open the damper and equip it with the thermal trigger. To open the damper, press the plate springs that serve as the locking mechanism for the damper blade.

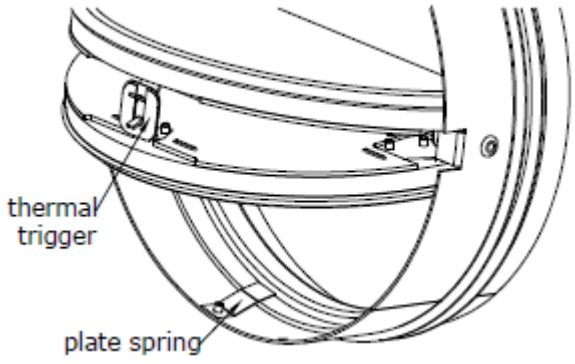

Figure 5. Installation method of the thermal trigger for the KTB-O damper

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b. If the damper is equipped with a closed position indicator, also known as a limit switch, it should be connected electrically. When installing the subsequent part of the duct system, a coupling should be used in a way that does not alter the position of the damper within the wall.

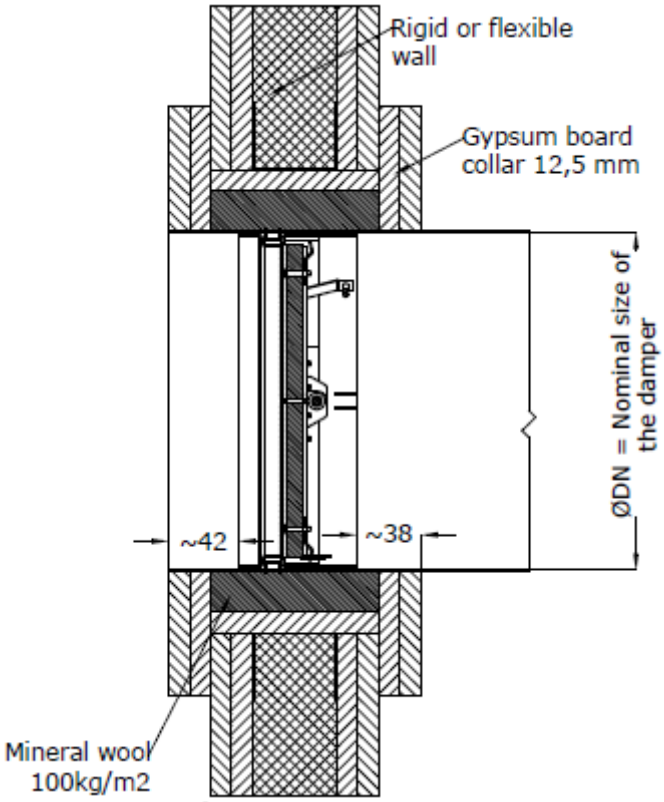

Figure 6. Method of installing KTB-O fire damper cartridge type in 100 mm thick walls in a duct treated with mineral wool