

KWP-L

Fire Damper – rectangular

Installation manual



TM **SMAY**



Version 6.15

SMAY reserves the right to make changes to this document.

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INSTALLATION TECHNOLOGY

Before installing fire dampers, check whether the damper has been damaged during transport or storage. Place the damper straight on a flat surface and check that the damper opens and closes properly throughout its full range of motion. Opening and full closing must be smooth, and the movement of rotating elements must not be hindered. If the damper partition is blocked, further installation is not allowed. In the case of dampers with an actuator, open the damper with the key attached to the actuator. Do not pull the damper by its partition to open/close, this may cause permanent damage to the device which is not covered by the warranty.

Before installation, protect the damper with foil or other covering material to protect it against dirt and, consequently, damage to the damper components. Moreover, in rectangular dampers, it is necessary to use assembly wedges and a spacer to protect the body against compression during assembly. Be especially careful not to let metal objects (e.g. tools, loose fasteners) get into the damper and stay there after installing the ventilation ducts.

To be able to preserve the declared resistance, insulation and smoke leakage EIS120, EIS90, EIS60, EIS30, dampers should be installed on wall, which was classified as EIS120, EIS90, EIS60, EIS30.

The KWP-L 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. Ducts made of flammable and non-flammable materials can be connected to the damper. Ducts should be installed that they can not 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 compatible with standard 1366-2:

- a. Minimal 200 mm between fire damper, which are installed in different ventilating ducts,
- b. Minimal 75 mm between fire damper and construction element (wall/ceiling).

1. INSTALLATION TECHNOLOGY - CEILING

- a. Make an opening in the ceiling with the 100 [mm] (acceptable 80 ÷ 120 [mm]) greater than the nominal dimensions of the fire damper = $B+100$ and $H+100$. When the opening are different than $B+100 \times H+100$, the dimensions of mounting support should be customized.
- a. Put the closed fire damper into the installation opening and support or suspend, in this way that the minimum installation depth mark is on the plane of ceiling surface or inside the opening and that it is possible to install the mounting brackets
- b. Install the mounting brackets on each side.
 Quantity of mounting brackets:
 Side length up to 500 mm – 1 pcs.
 Side length from 500 to 800 mm – 2 pcs.
 Mount the mounting brackets to the ceiling using dowels.
- c. After setting the fire damper as described, mount the mounting brackets, fill the gap between the fire damper and the ceiling with cement, cement-lime mortar or concrete.
- d. 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.

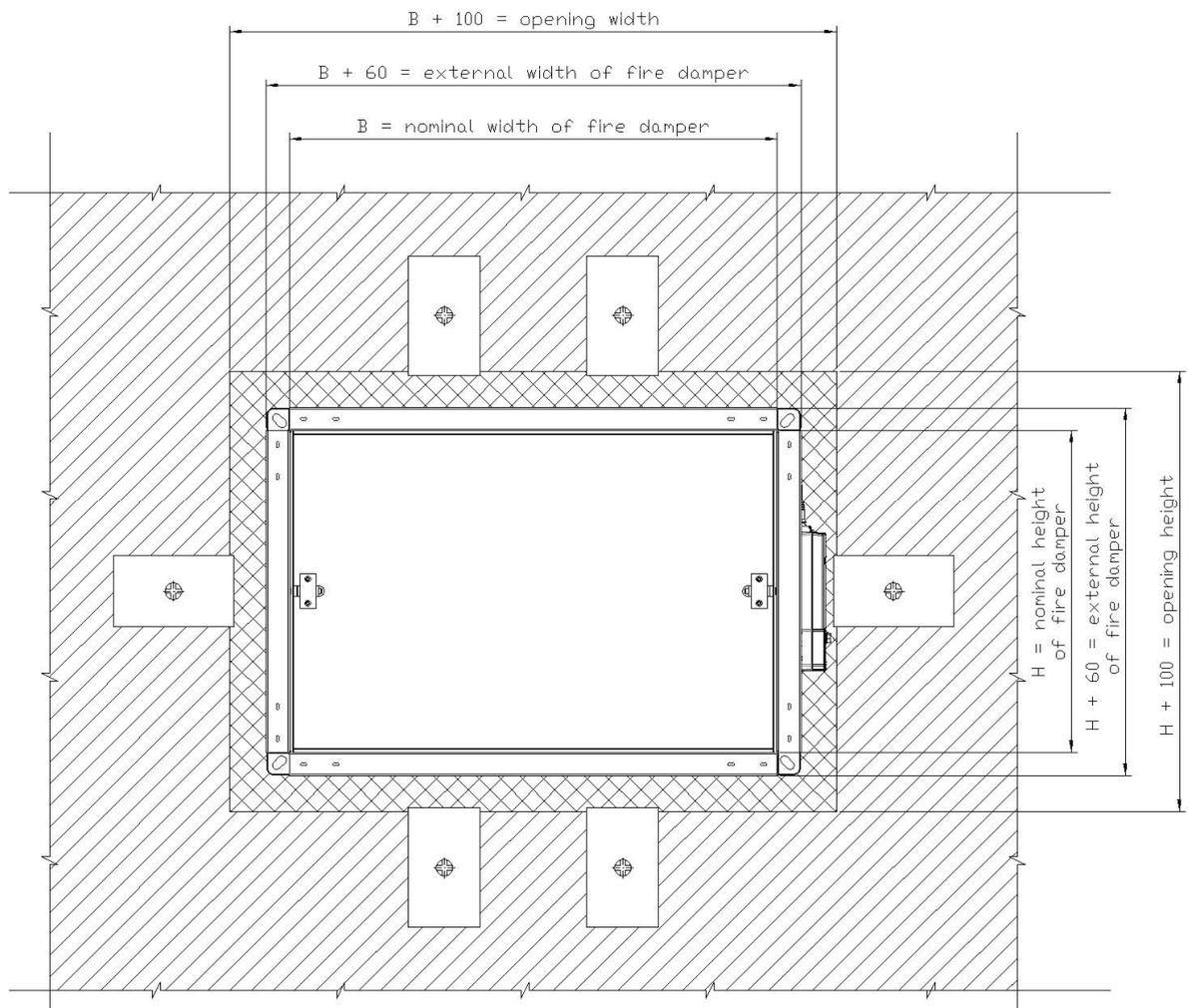


Figure 1. Installation method of fire dampers KWP-L in ceiling

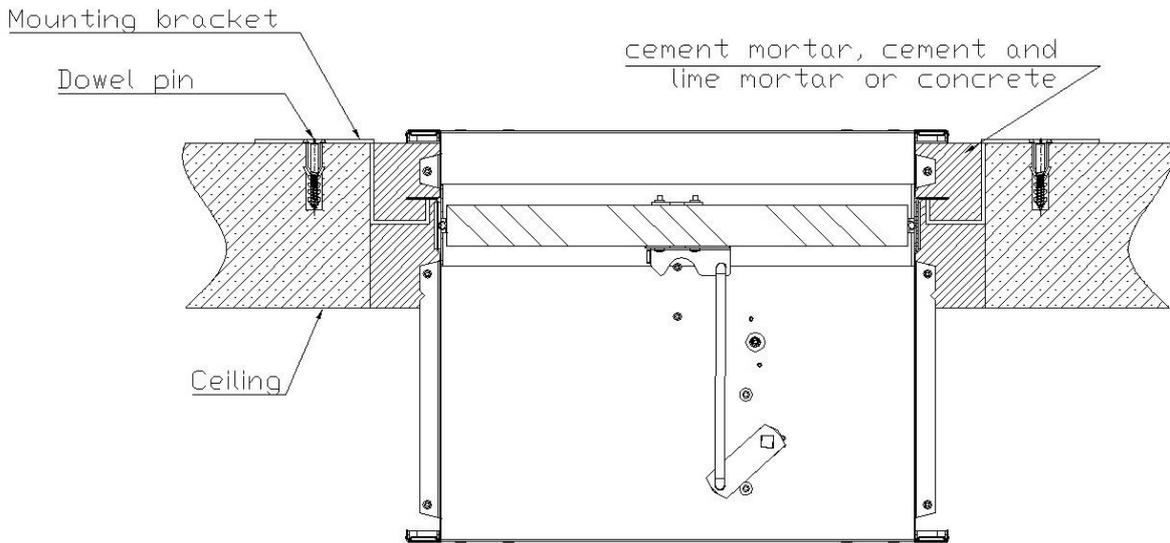
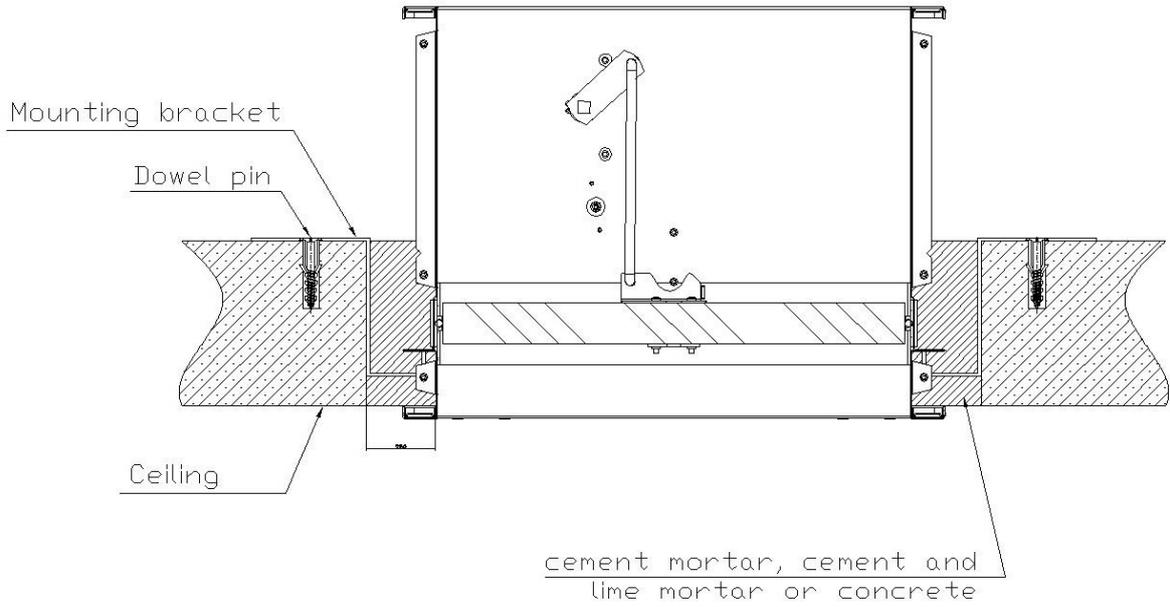


Figure 2. Installation method of fire dampers KWP-L in ceiling

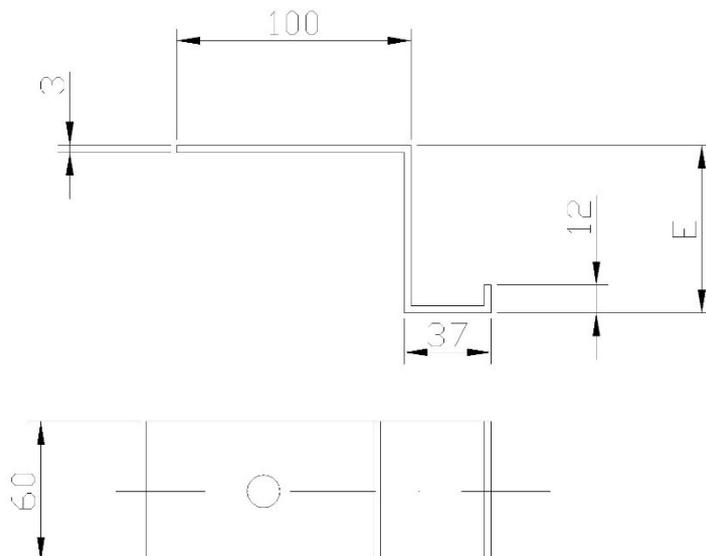


Figure 3. Proposed dimensions of mounting brackets for installation in a ceiling 140 mm thick;

	Actuator under ceiling	Actuator above ceiling
E [mm]	=Thickness of ceiling - 69	120

For ceiling with thickness greater than 150 [mm]: connect the damper to the duct before the damper isolation with cement mortar (the damper frame will be bricked up along with a part of the duct).

2. INSTALLATION TECHNOLOGY – RIGID WALL

2.1. INSTALLATION USING MORTAR

- Make an opening in the wall with the dimensions 100 [mm] (acceptable 80 ÷ 120 [mm]) greater than the nominal dimensions of the fire damper = B+100 and H+100.
- Put the closed fire damper into the installation opening and support or suspend, in this way that the minimum installation depth mark is on the plane of wall surface.
- 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.

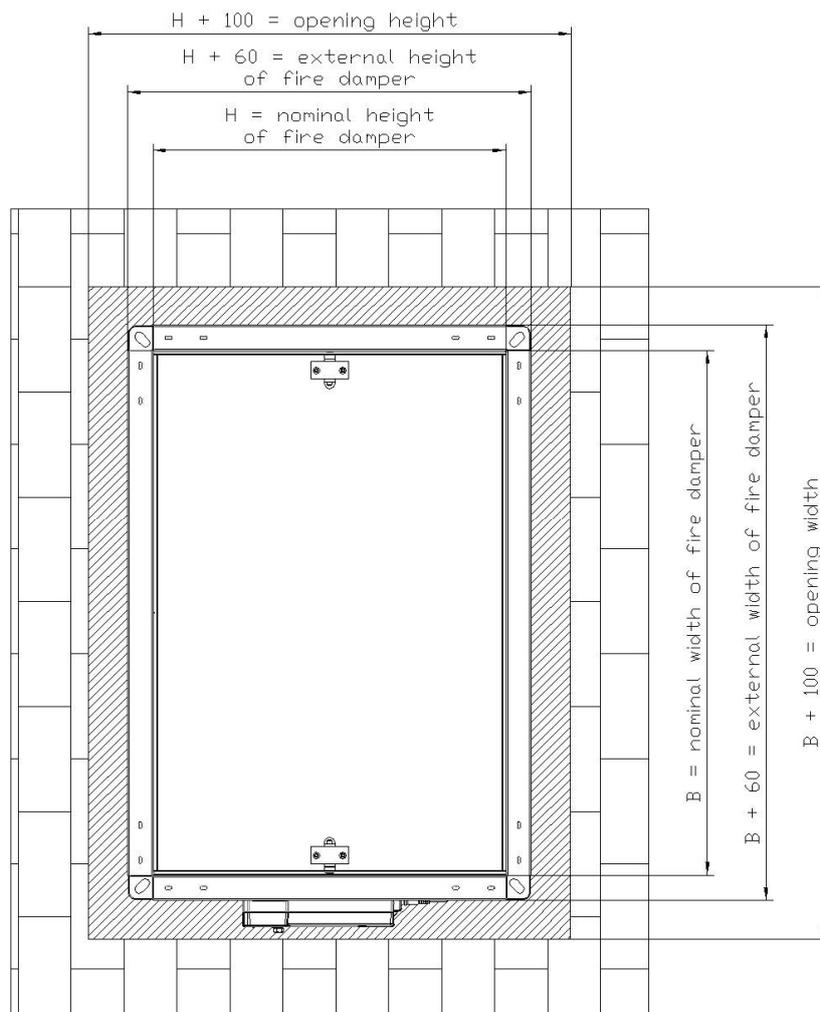


Figure 4. Installation method of fire dampers KWP-L in rigid wall with vertical rotation axis of baffle

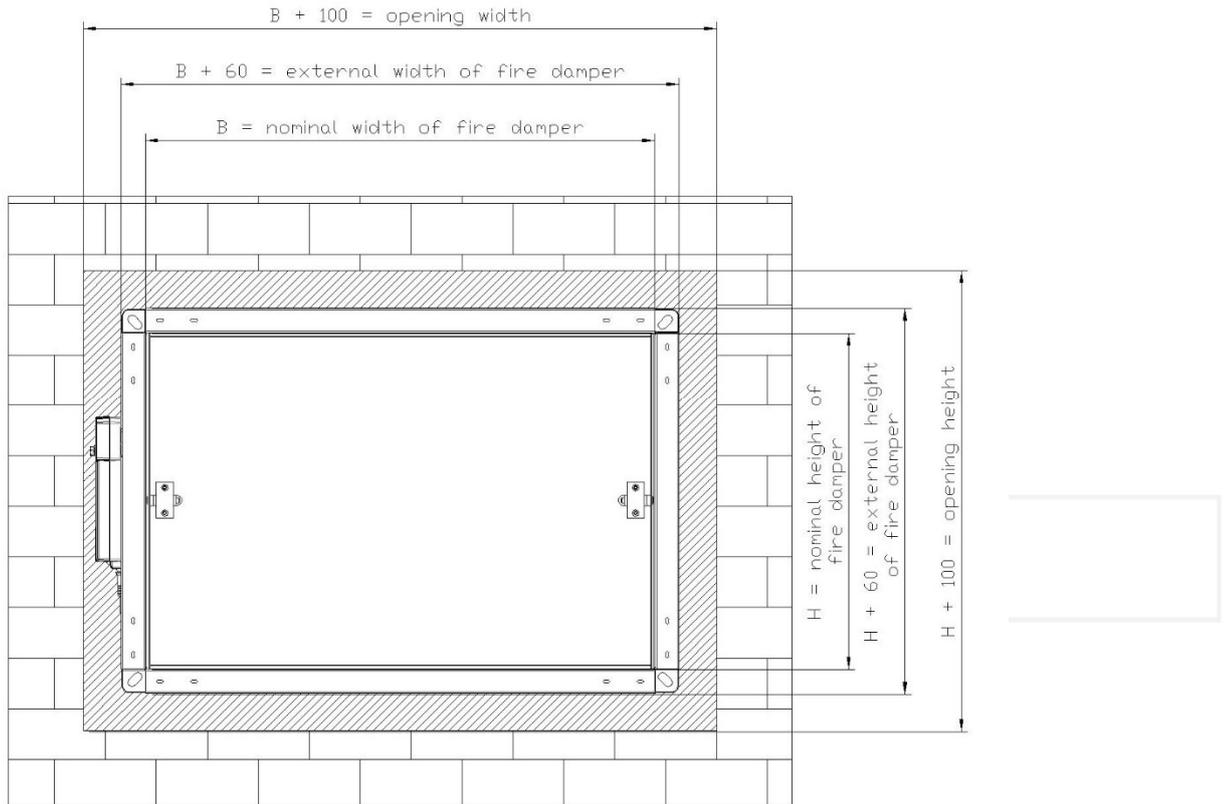


Figure 5. Installation method of fire dampers KWP-L in rigid wall with horizontal rotation axis of baffle

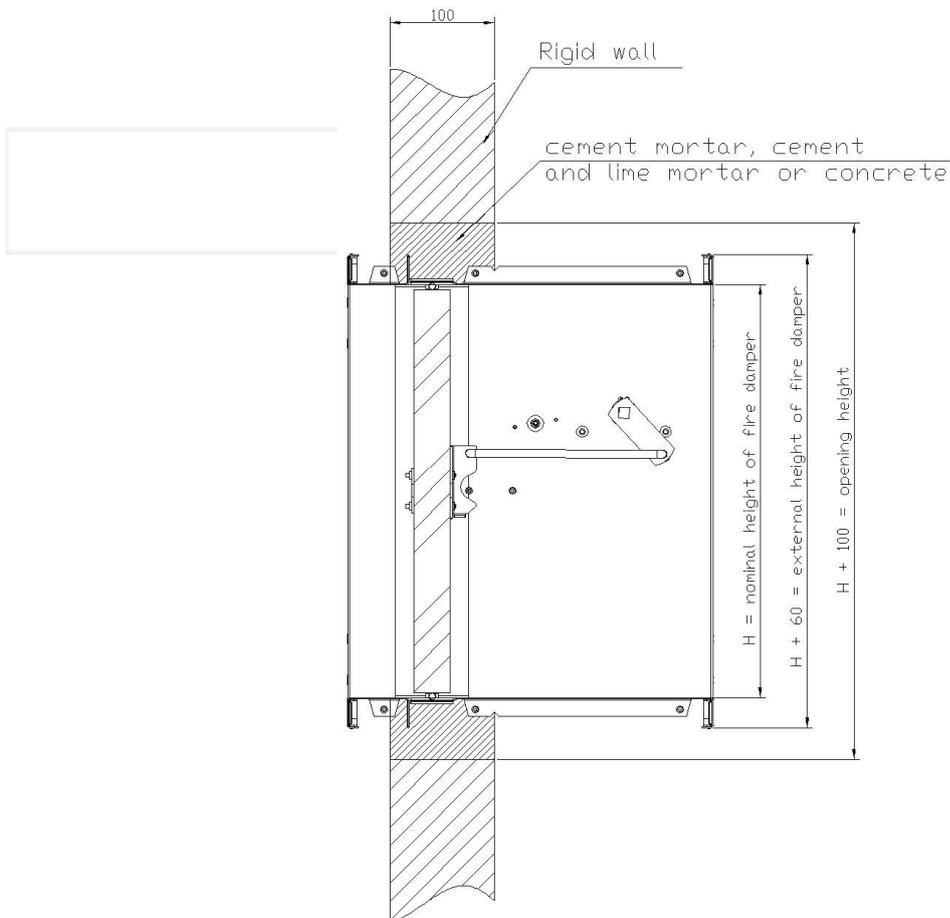
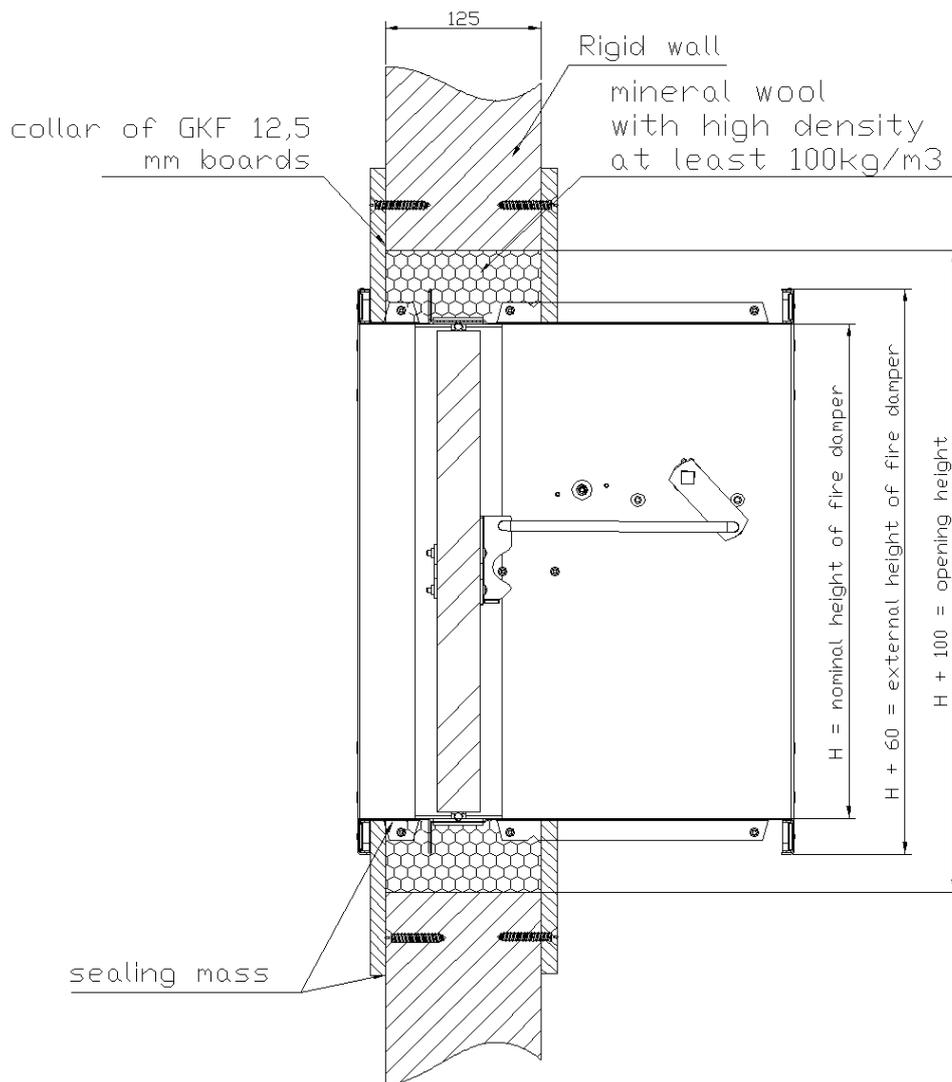


Figure 6 Installation method of fire dampers KWP-L in rigid wall

2.2. INSTALLATION USING MINERAL WOOL

- Make an opening in the wall with the dimensions 100 [mm] (acceptable 80 ÷ 120 [mm]) greater than the nominal dimensions of the fire damper = $B+100$ and $H+100$.
- Put the closed fire damper into the installation opening and support or suspend, in this way that the minimum installation depth mark is on the plane of wall surface.
- 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/m³ 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 150 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.



3. INSTALLATION TECHNOLOGY –FLEXIBLE WALL

- a. Make an opening in the wall with the dimensions 100 [mm] (acceptable 80 ÷ 120 [mm]) greater than the nominal dimensions of the fire damper = B+100 and H+100.
- 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 Soudal Firesilicone B1 FR.
- c. Put the closed fire damper into the installation opening and support or suspend, in this way that the minimum installation depth mark is on the plane of the flange surface.
- 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/m³ or more.
- e. Seal the place of filling with mineral wool using the sealing compounds given in pts.2
- f. Mount collar, both side of wall, made of GKF boards, 12,5 mm thick and 150 mm wide, using screws.
- g. After mounting the collar, remove the supports or suspensions, check the fire damper correct operation and leave it in open position.

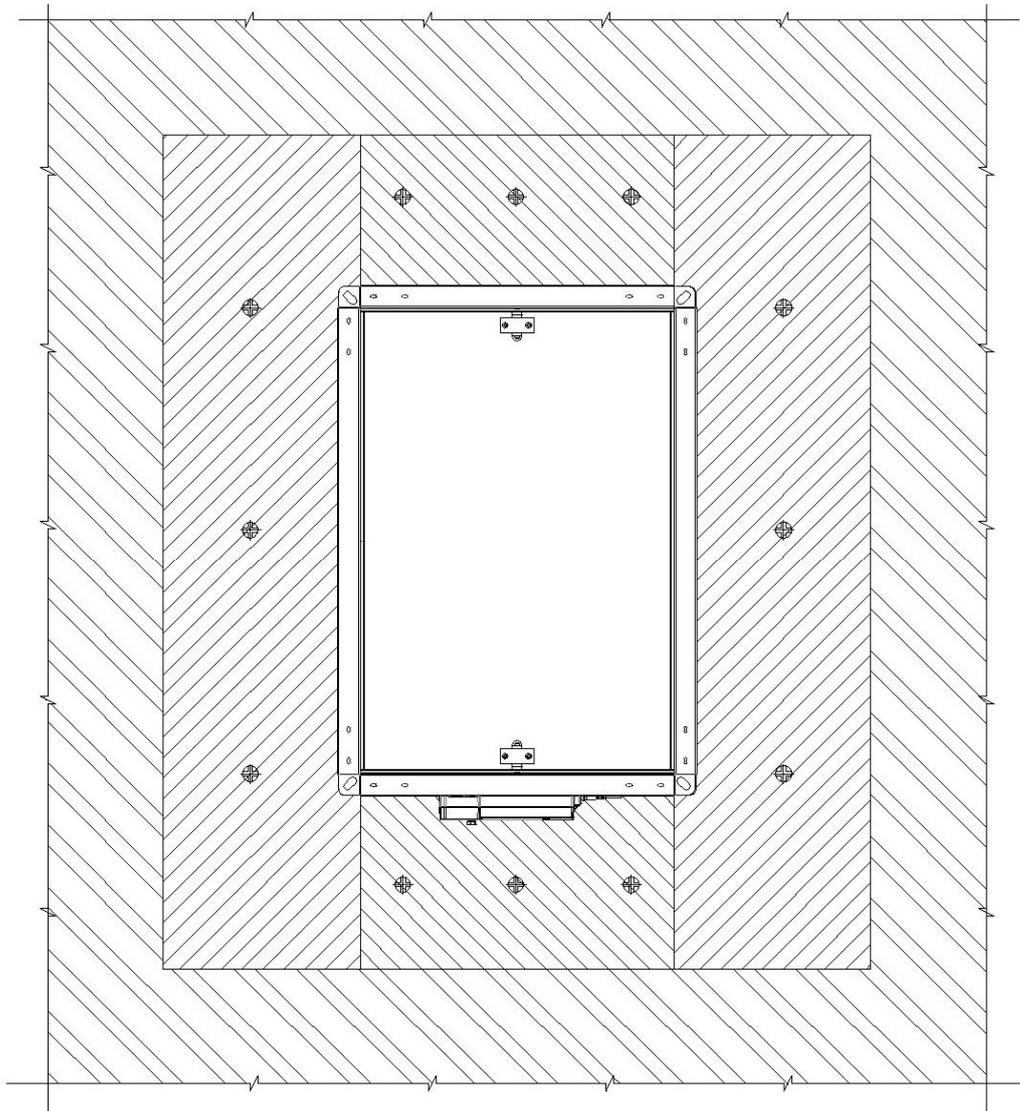


Figure 7. Installation method of fire dampers KWP-L in flexible wall with vertical rotation axis of baffle

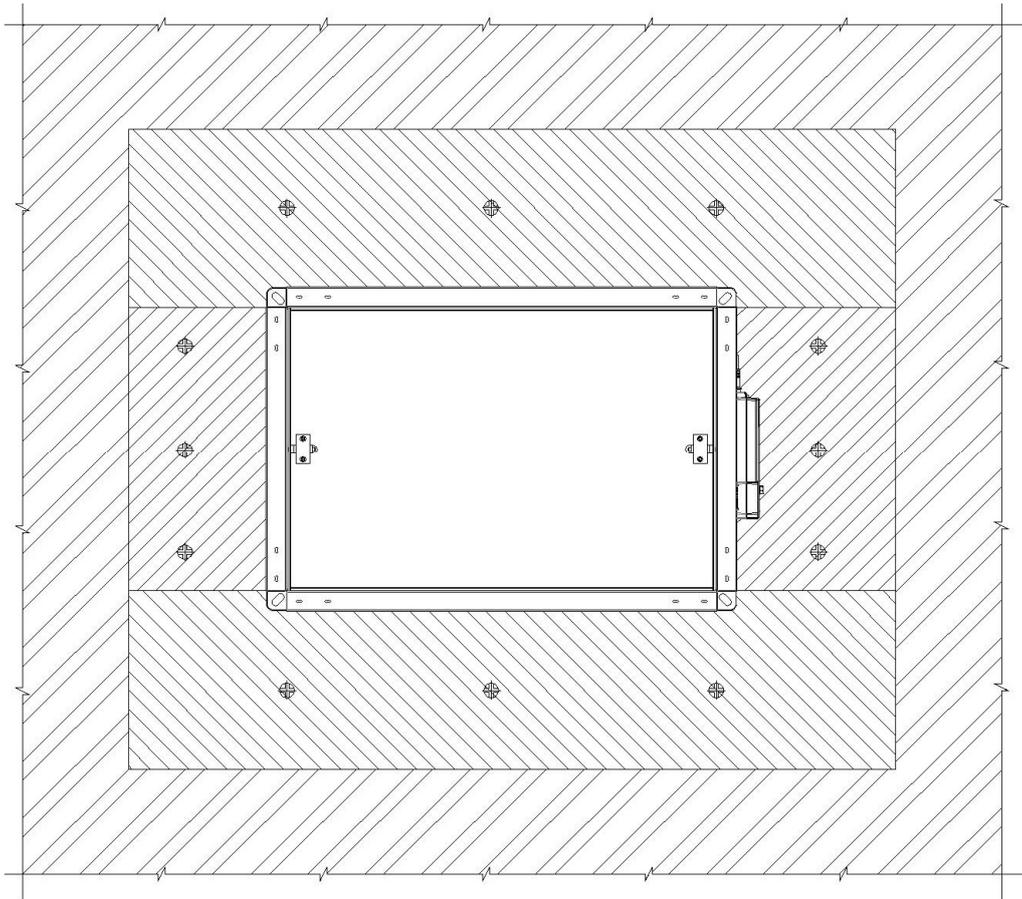


Figure 8. Installation method of fire dampers KWP-L in flexible wall with horizontal rotation axis of baffle

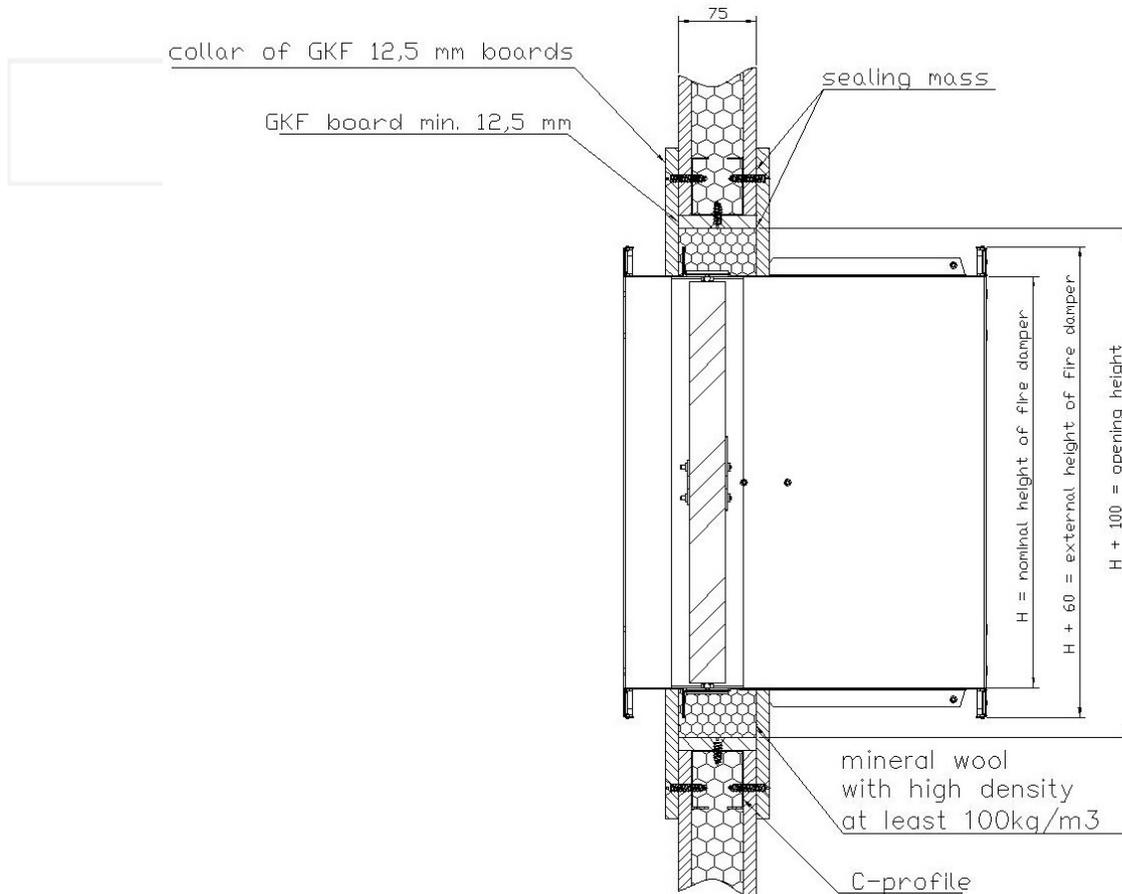


Figure 9. Installation method of fire dampers KWP-L in flexible wall 75 mm thick

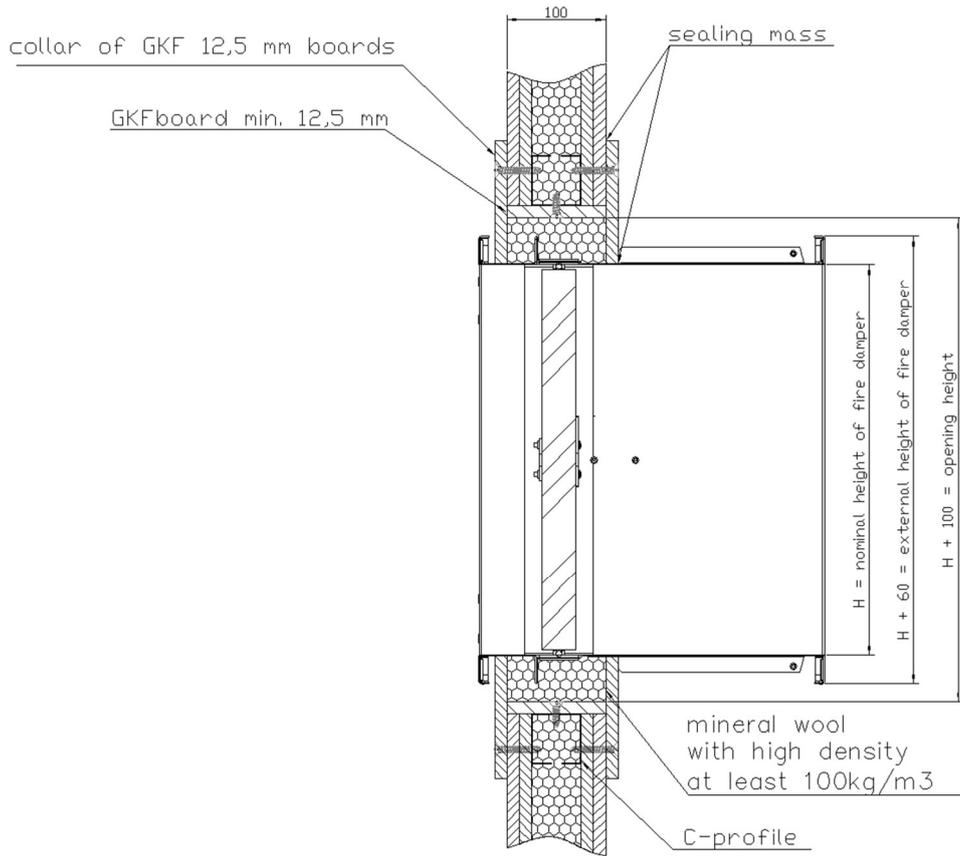


Figure 10. Installation method of fire dampers KWP-L in flexible wall 100 mm thick

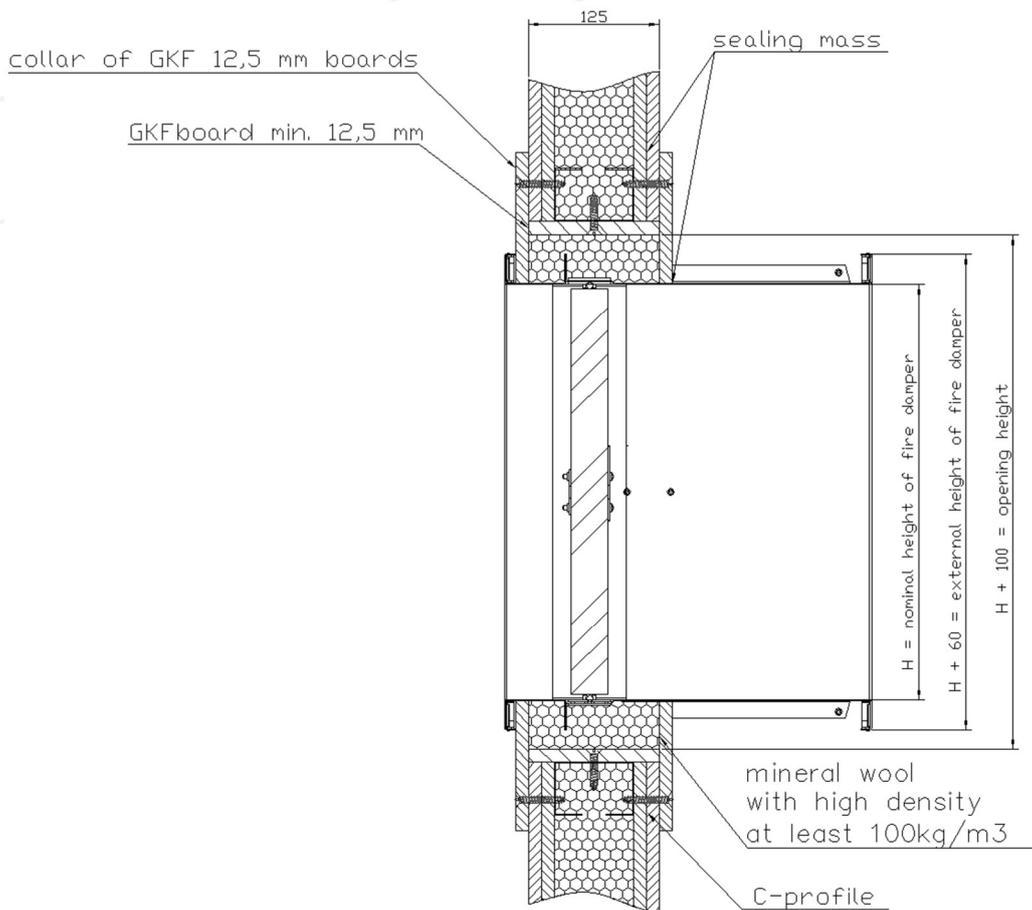


Figure 11. Installation method of fire dampers KWP-L in flexible wall 125 mm thick

4. INSTALLATION TECHNOLOGY – CONSTRUCTIONS OF GREAT THICKNESS

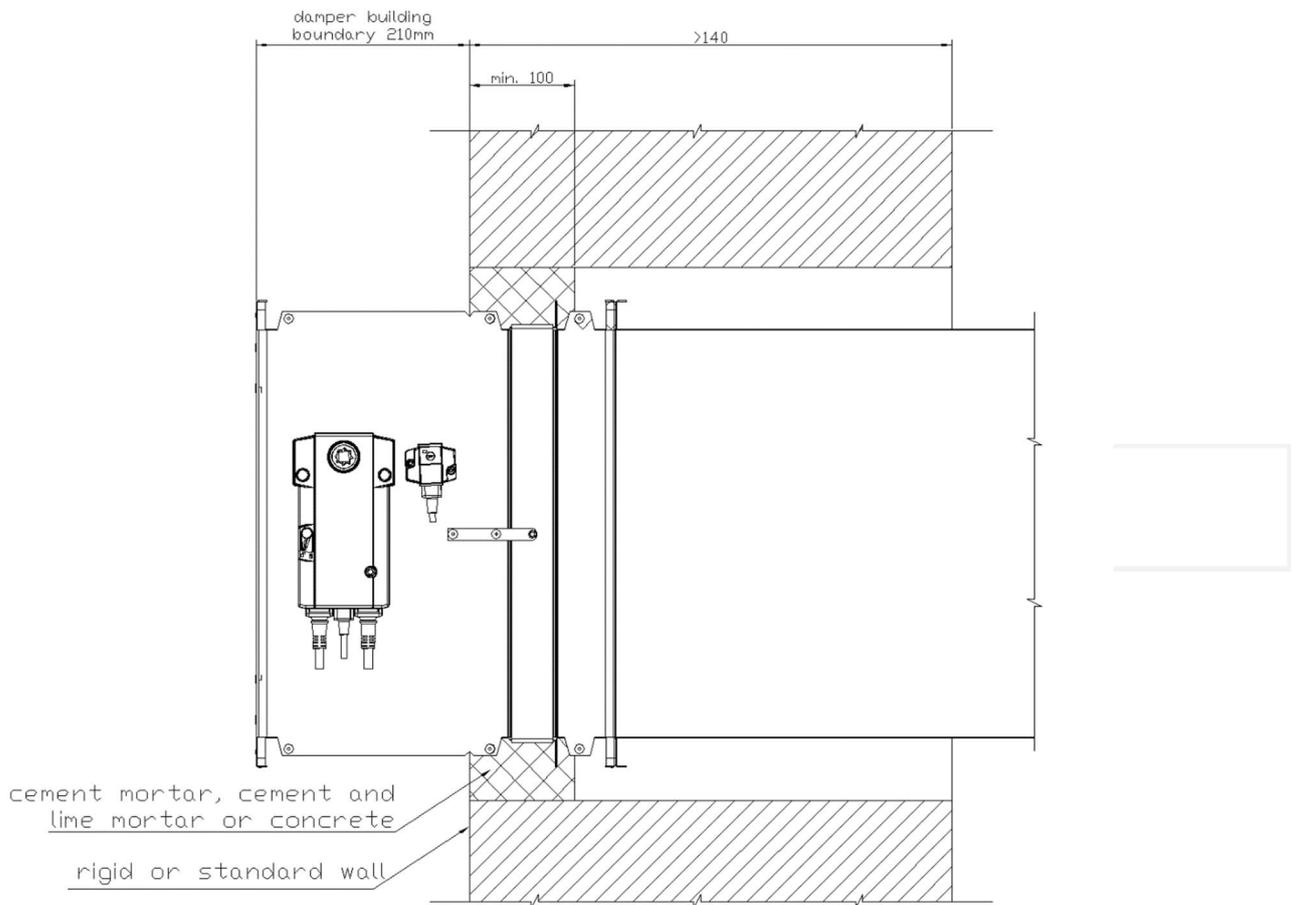


Figure 12. Installation method of fire dampers KWP-L in constructions of great thickness

In rigid and flexible wall construction and in ceiling with thickness less or equal to 140 mm, KWP-L fire dampers are mounted in such a way that the damper baffle axis matches the axis of the structure. Whereas in case of walls and ceilings with thickness higher than 140 mm: the KWP-L fire dampers are mounted in such a way, that the damper building boundary i.e. 210 mm, is maintained (as in figure 14).

5. INSTALLATION TECHNOLOGY – MONTAGE AWAY FROM WALL CONSTRUCTION

- a. Make an opening in the wall with the dimensions 100 [mm] (acceptable 80 ÷ 120 [mm]) greater than the nominal dimensions of the fire damper = B+100 i H+100.
- b. Push the ventilation duct into the installation opening and seal it with high density mineral wool, 100 kg / m³ or more.
- c. Install the closed damper to the duct and support or suspend it so that the damper and duct coaxially is maintained. Install the damper so that its drive is located outside the Promat duct.
- d. Coat the mineral wool placed in the installation opening on both sides with PROMASTOP CC layer, approx. 1 mm thick and approx. 100 mm wide.
- e. After installing the damper, and establishing its target position at a distance L from the fire barrier, proceed with the montage of the Promat duct according to the drawing and the following guidelines:
 - Make spacing band using PROMATECT-L500 panels with a thickness of 35 mm and dimensions 150x100 mm. For the width B ≤ 300 mm, make two bands, for a width B > 300 mm, make four bands. For an L ≥ 1000 mm distance, make an additional four bands.
 - Make individual sections of the promat duct made of PROMATECT-L500 panels with a thickness of 50 mm as in the drawing.
 - Suspend the promat duct along with the spacing strips in the spacing L + 55 using rails and threaded rods. Connect the duct with the wall using PROMAT K84 adhesive.
 - Connect the sides of the duct together using adhesive and 6.0x90 screws, spacing about 200 mm.
 - On the circumference of the damper, in place of the swelling gasket, place strips of mineral wool (density 100 kg / m³ or more) with a profile of 46x30.
 - Make frontal bands of PROMATECT-L500 panels with a thickness of 50 mm and dimensions as shown in the drawing. Connect them to the duct using adhesive and screws.
 - In the place where the duct connects to the frontal band, make a sleeve joint band made of PROMATECT-H board, 20 mm thick and 100 mm wide. Remaining dimensions should be selected according to the drawing. Connect the band to the duct using adhesive and 4.5x50 screws.
 - Place the sealing band made of PROMATECT-L500 panels with a thickness of 50 mm and dimensions according to the figure at the connection of the promat duct with the fire barrier.
 - Connect the band with the duct using adhesive and screws 6.0x90. The band must be connected the wall using the M8 anchors in a spacing of approx. 200 mm

ATTENTION: In case of lack of information regarding the damper installation, the assembly of the duct made of PROMAT boards should be carried out in accordance with the PROMADUCT-500 System, based on the technical approval AT-15-3550 / 2015. The maximum distance from the building partition is 1000 mm.

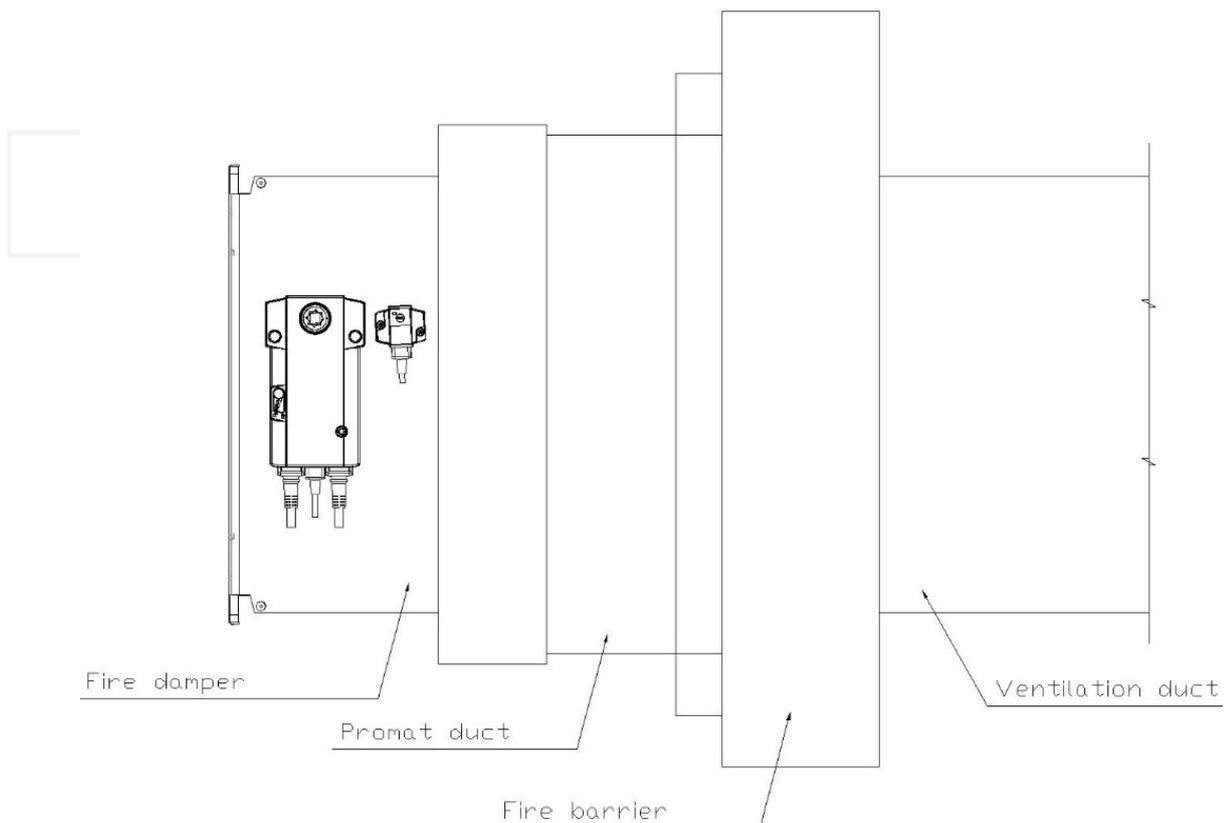


Figure 13. Installation of fire dampers KWP-L away from wall construction according to point 2

