DiEM

The Art of Ventilation

Soler&Palau Ventilation Group

LPP-L

Installation manual

TABLE OF CONTENT

Installation technology 3

1. Installation technologu - ceiling 4
2. Installation technology – rigid wall 6
3. Installation technology – flexible wall 8
4. Installation technology – constructions of great thickness 11
5. Installation technology – montage away from wall construction 12

DIEM reserves the right to make changes to this document.

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 LPP-LE 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.

To opening fire dampers LPP-LS use a key, mounted on damper casing.

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.

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 LPP-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 x H+100, the dimensions of mounting support should be customized.

b. 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

c. 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.

d. 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.

e. 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.

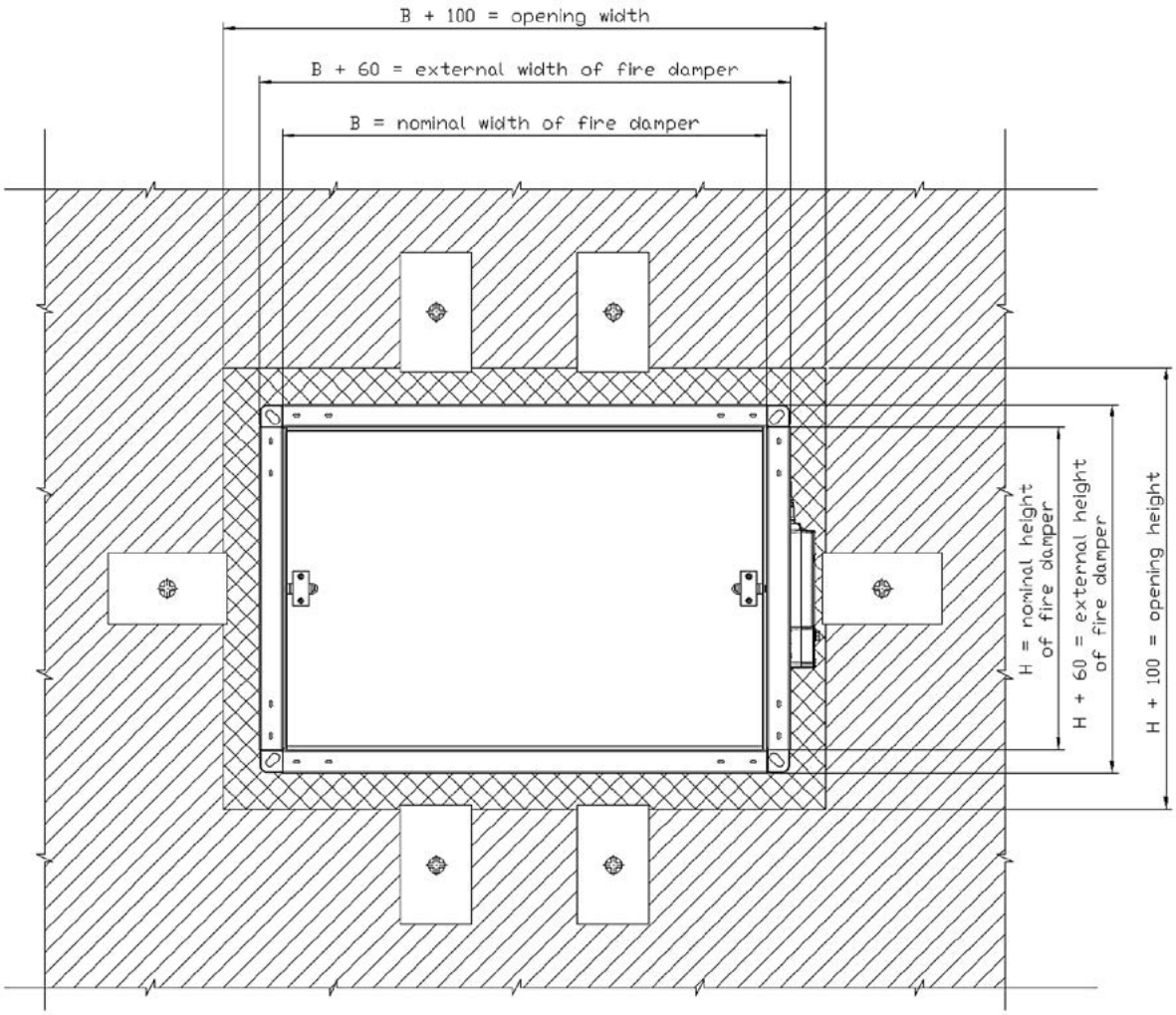

Figure 1. Installation method of LPP-L fire dampers in a ceiling.

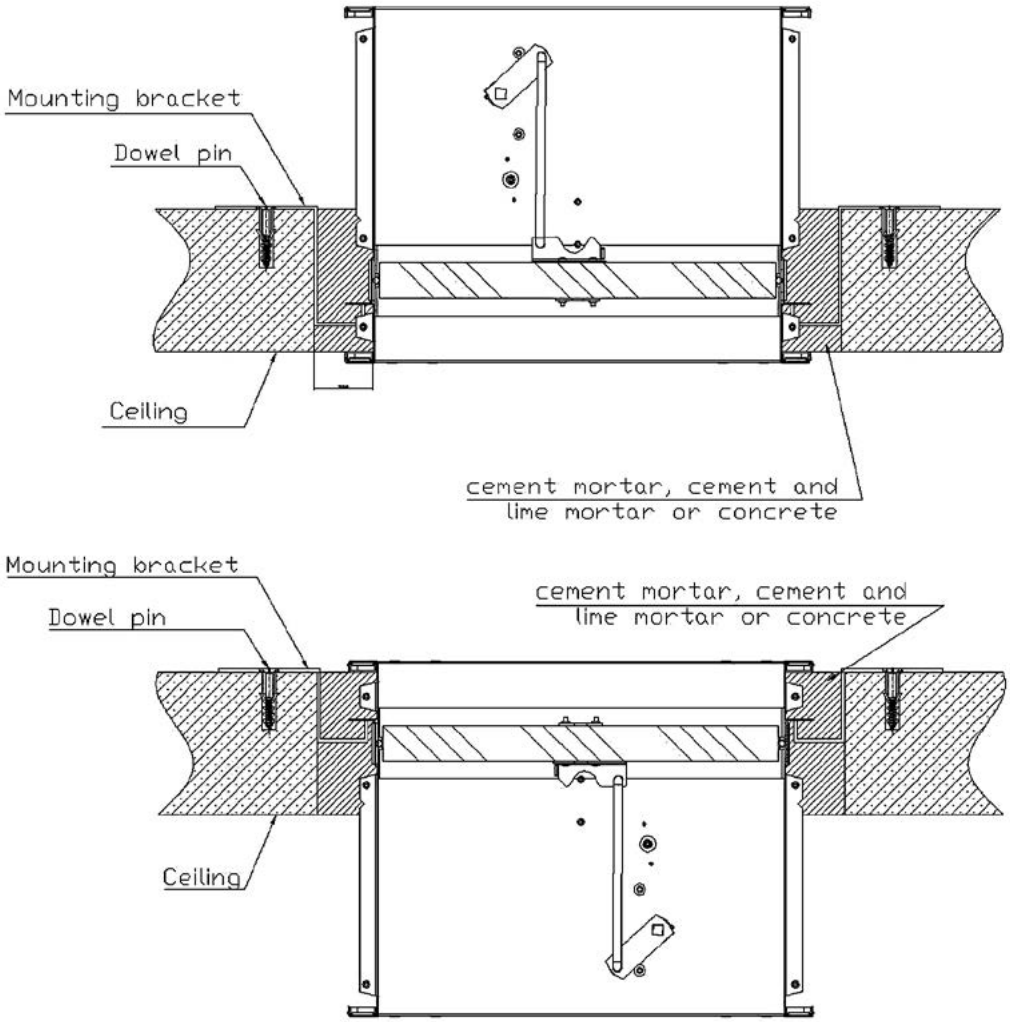

Figure 2. Installation method of LPP-L fire dampers in a ceiling.

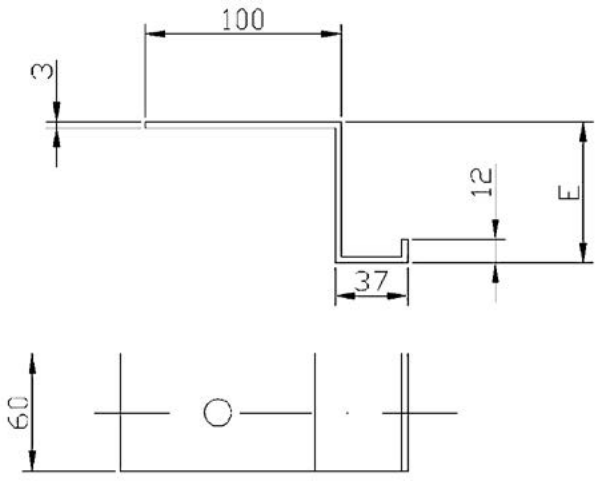

Figure 3. Proposed dimensions of mounting brackets for installation in a ceiling 140 mm thick.

	Actuator under ceiling	Actuator above ceiling
E mm	Thickness of ceiling - 69	96

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

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. 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.

c. After setting the fire damper as described, fill the gap between the fire damper and the wall 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.

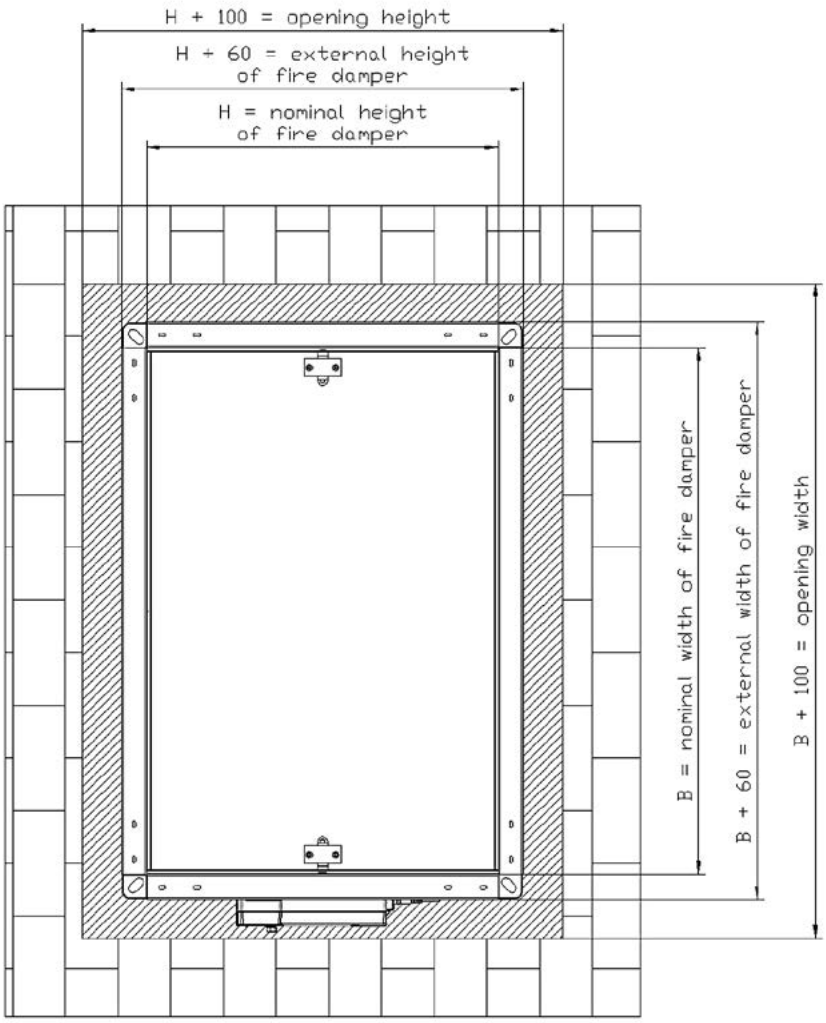

Figure 4. Installation method of LPP-L fire dampers in a rigid wall with vertical rotation axis of baffle.

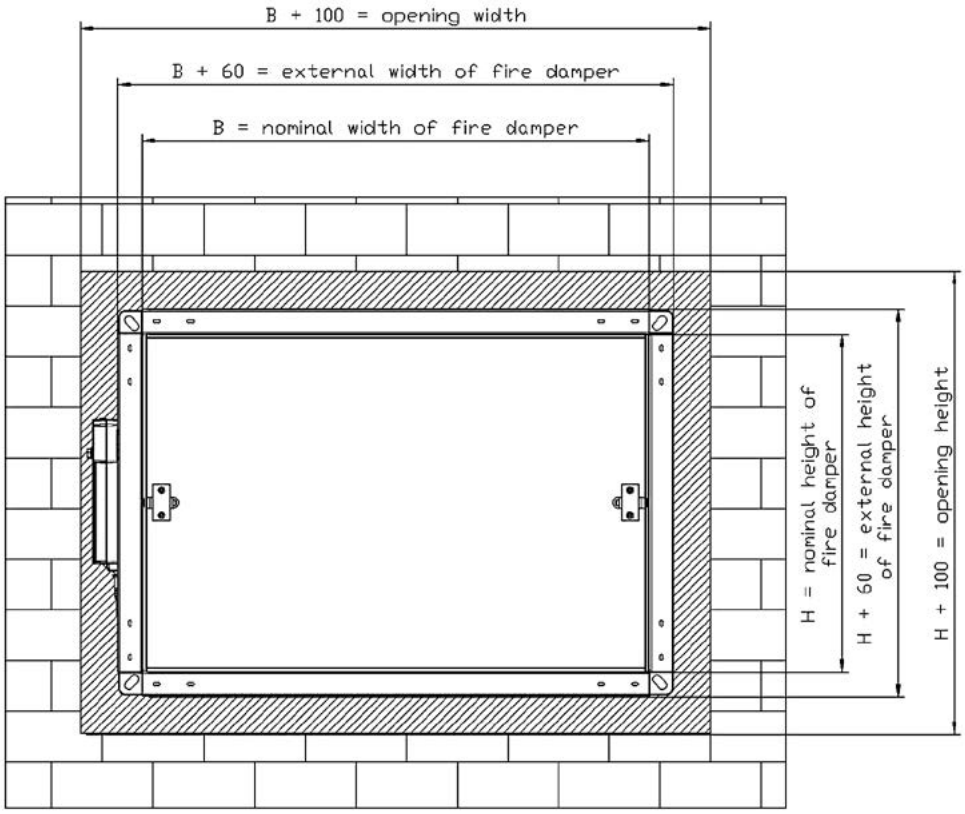

Figure 5. Installation method of fire dampers LPP-L in rigid wall with horizontal rotation axis of baffle.

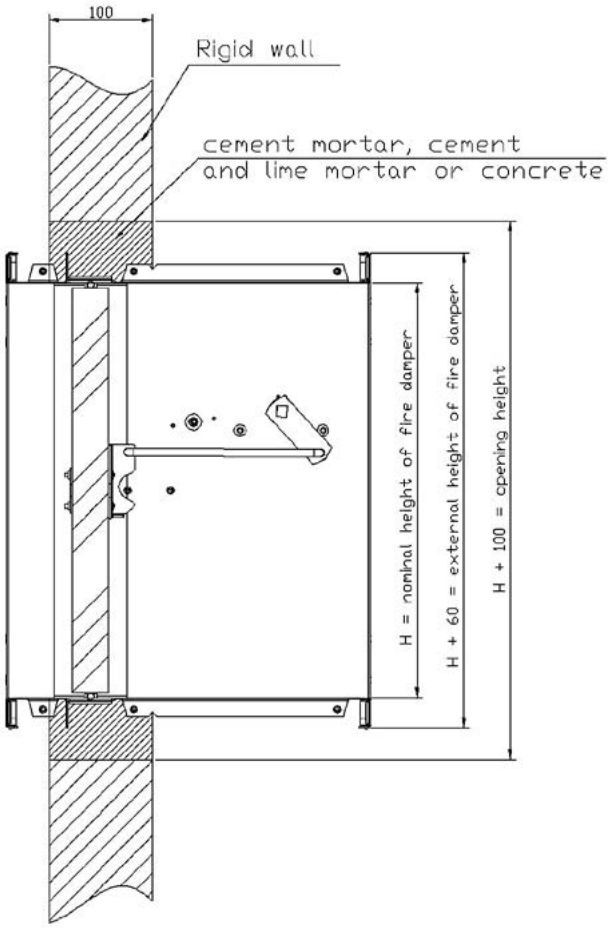

Figure 6. Installation method of fire dampers LPP-L in rigid wall.

3. INSTALLATION TECHNOLOGY – FLEXIBLE WALL

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.

b. Put the closed fire damper into the ceiling to the depth marked on housing (dimension 60mm).

c. After setting the fire damper as described, with using montage supports, fill the gap between the fire damper and the wall with cement, cement-lime mortar, concrete. Under difficult working conditions producer recommend PROMASTOP MG III mortar of production of the PROMAT company.

d. Mount the mounting brackets on each side.

   Number of mounting brackets:

   - Side length up to 500 mm – 1 pcs.
   - Side length from 500 to 800 mm – 2 pcs.

e. Housing install with actuator similarly as in the picture. Only the length of the supports changes. Install the mounting brackets to the ceiling by using dowels.

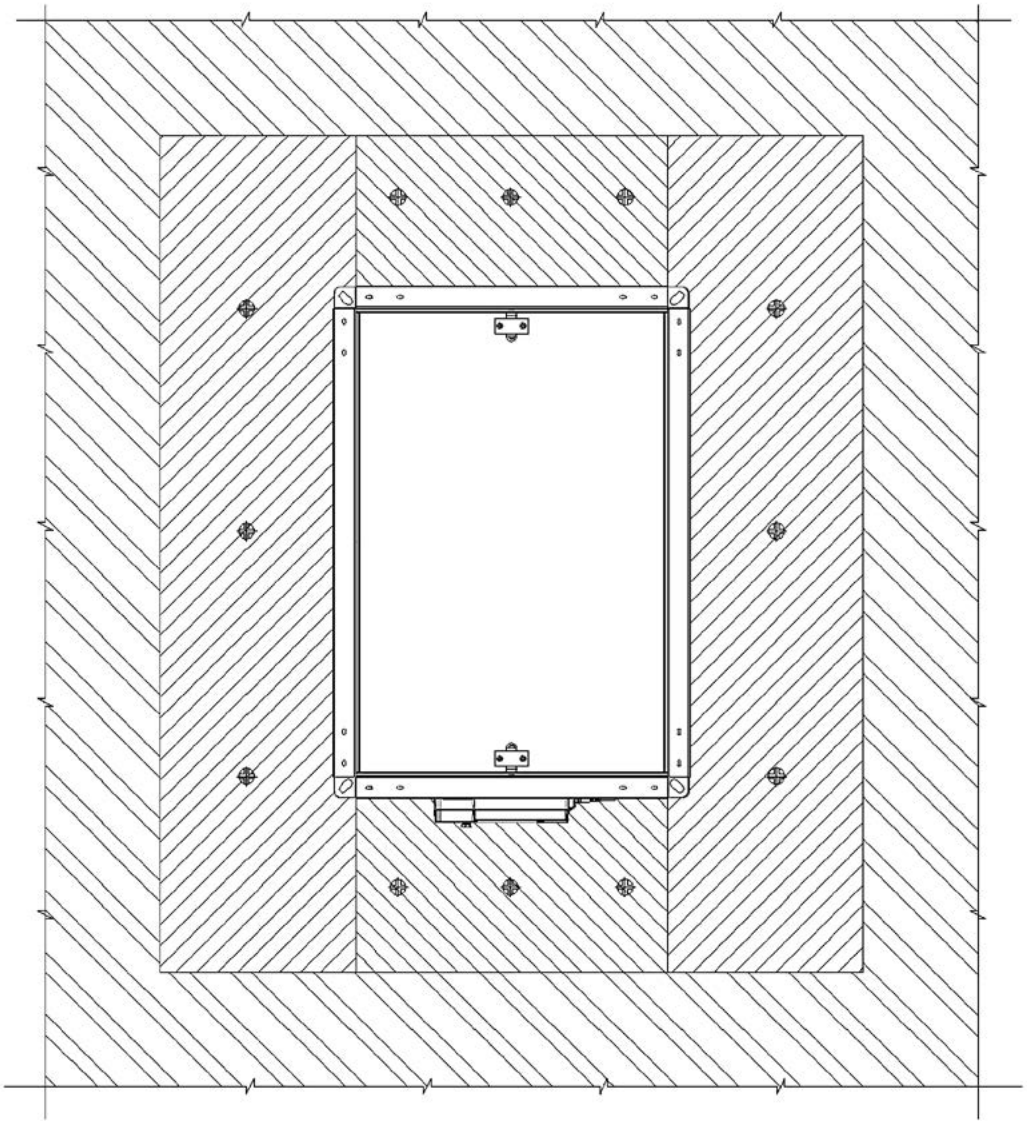

Figure 7. Installation method of fire dampers LPP-L in flexible wall with vertical rotation axis of baffle.

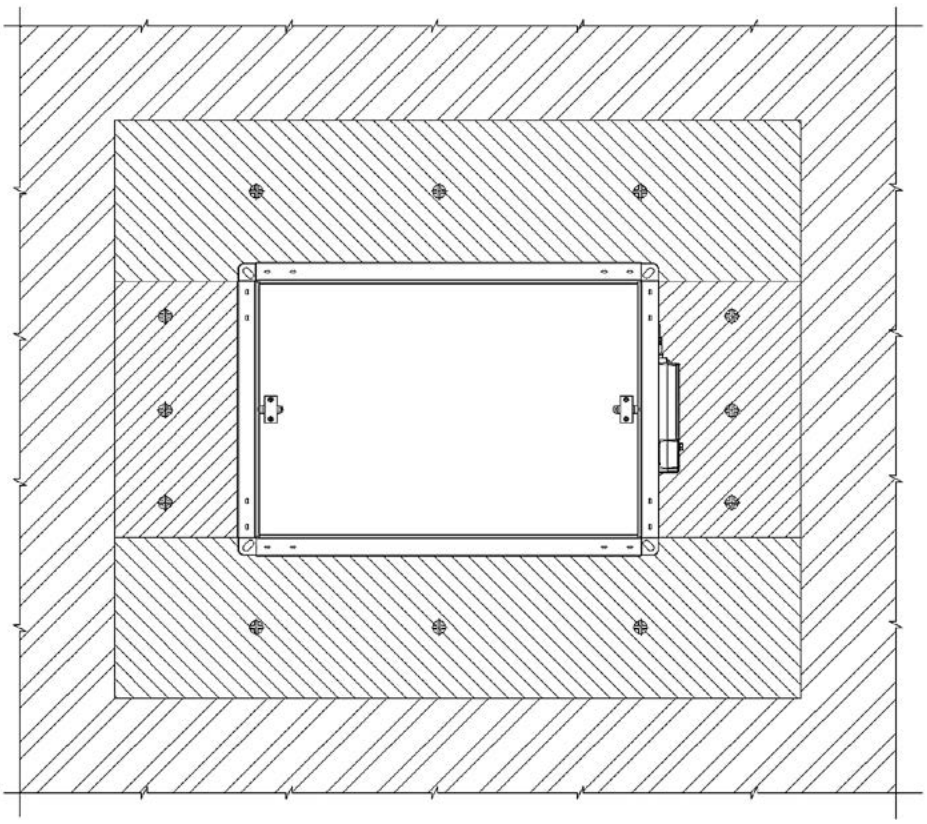

Figure 8. Installation method of fire dampers LPP-L in flexible wall with horizontal rotation axis of baffle.

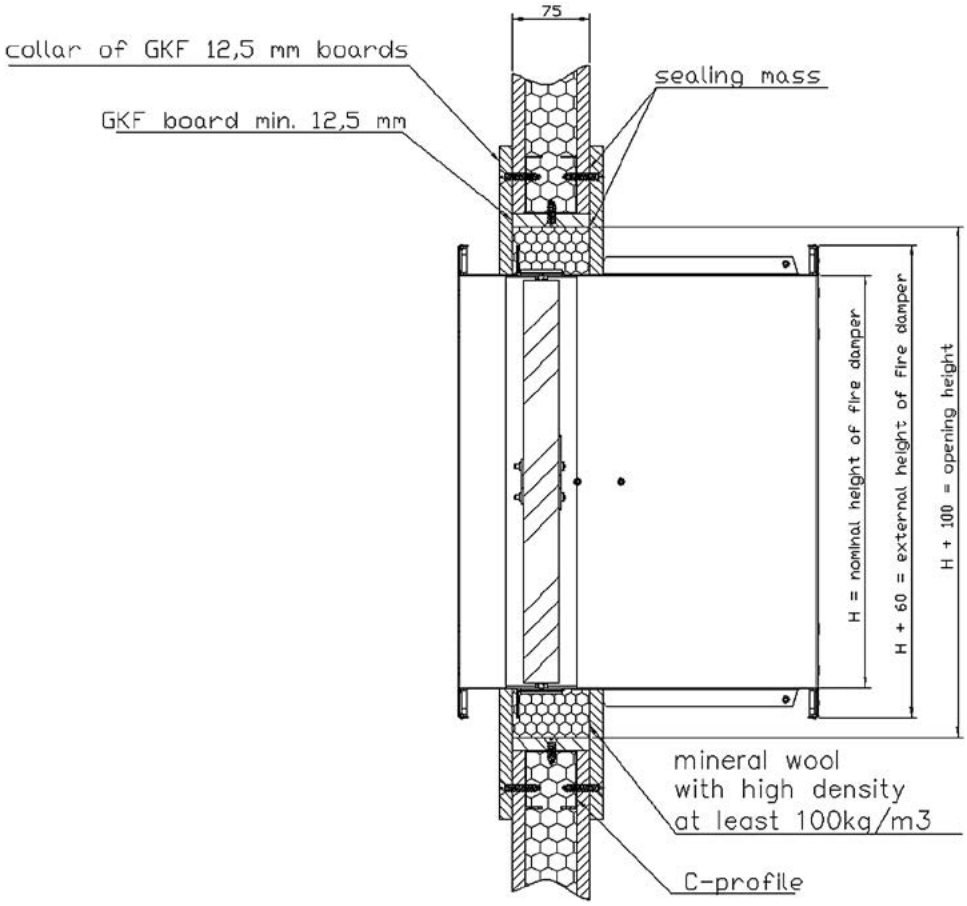

Figure 9. Installation method of fire dampers LPP-L in flexible wall 75 mm thick

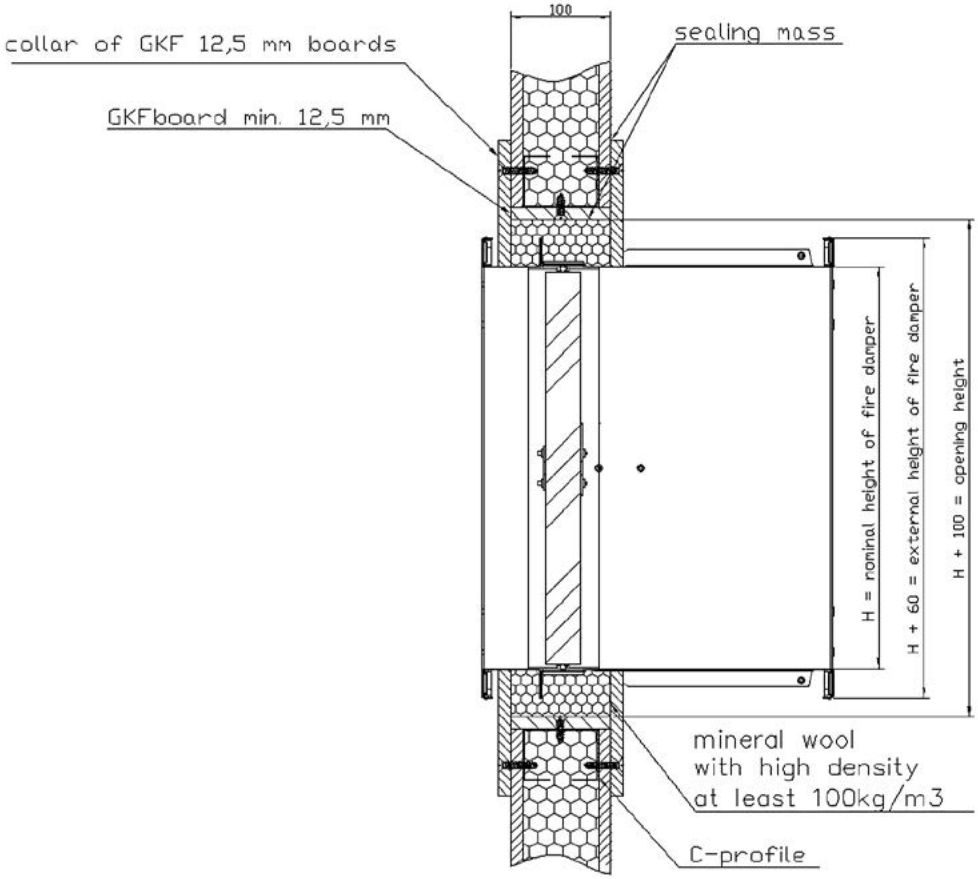

Figure 10. Installation method of LPP-L fire dampers in a flexible wall 100 mm thick.

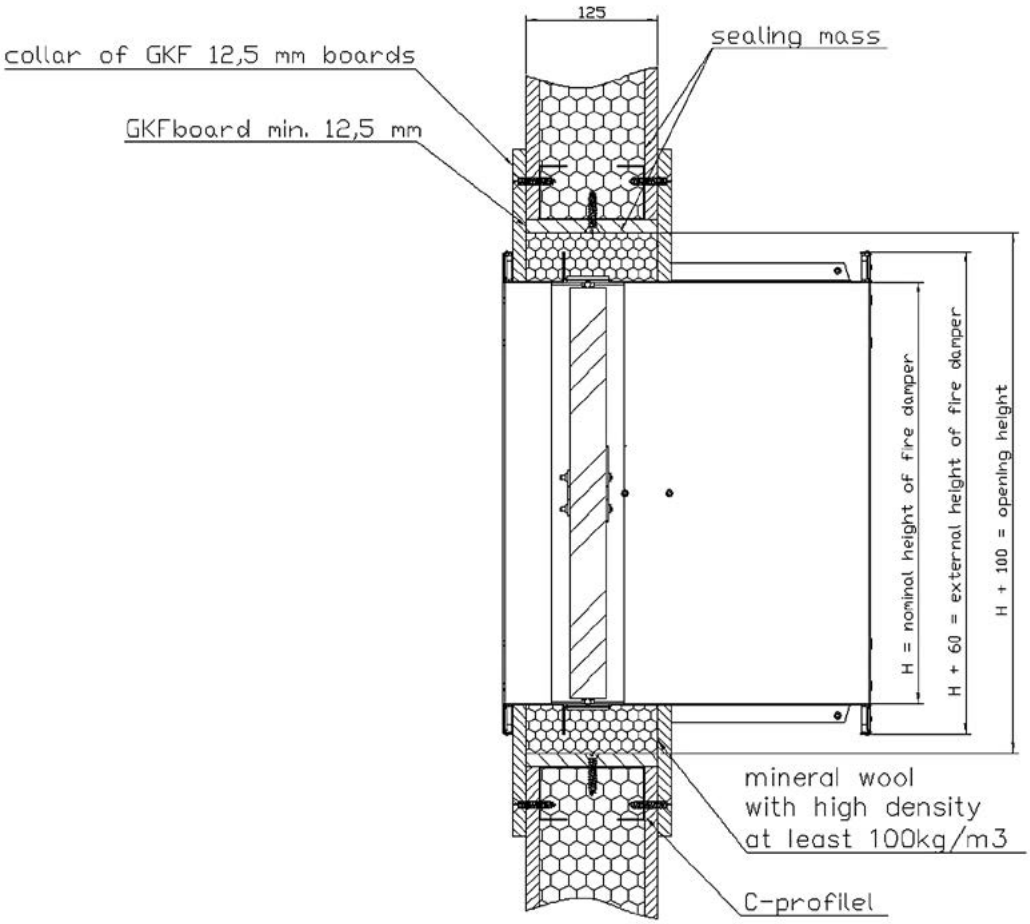

Figure 11. Installation method of LPP-L fire dampers in a flexible wall 125 mm thick

4. INSTALLATION TECHNOLOGY – CONSTRUCTIONS OF GREAT THICKNESS

In rigid and flexible wall construction and in ceiling with thickness less or equal to 140 mm, LPP-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 LPP-L fire dampers are mounted in such a way, that the damper building boundary i.e. 210 mm, is maintained (as in figure 12).

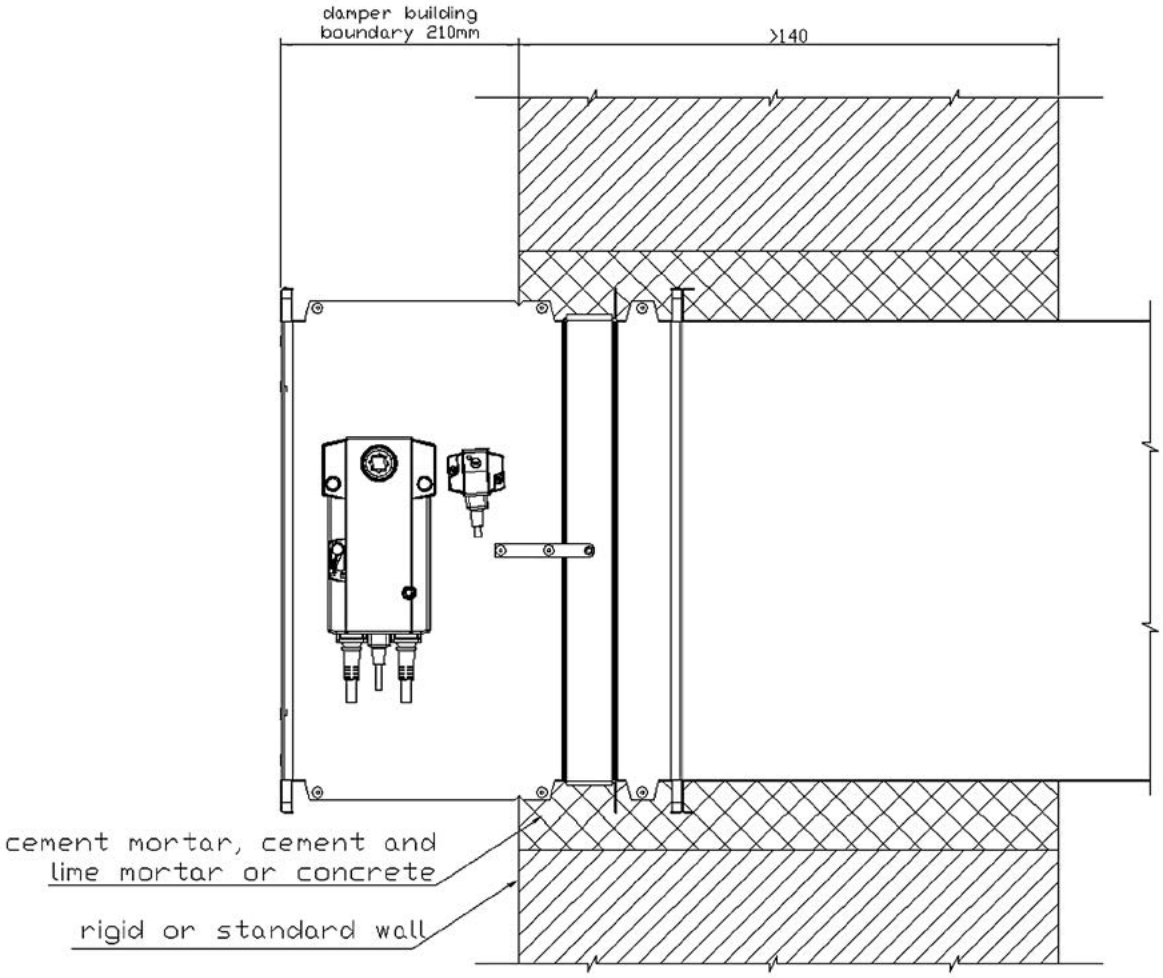

Figure 12. Installation method of fire dampers LPP-L in constructions of great thickness.

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/m^3 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 Coating 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/m^3 or more) with a profile of 46 x 30.
- 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 6.0 x 90. 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.

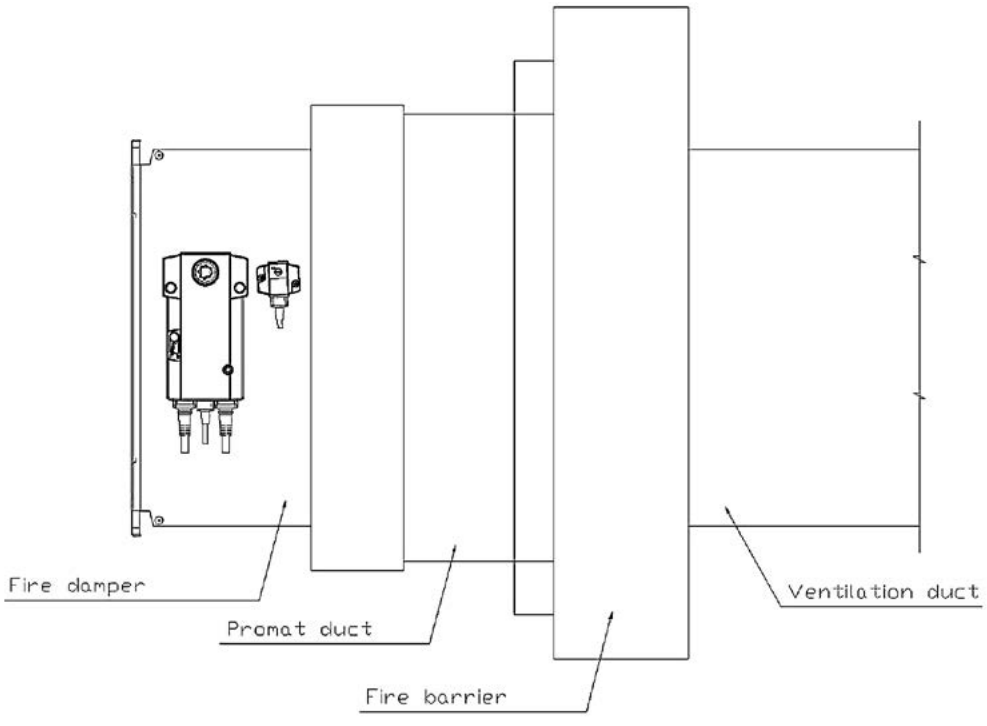

Figure 13. Installation of LPP-L fire dampers away from wall construction according to point 2.

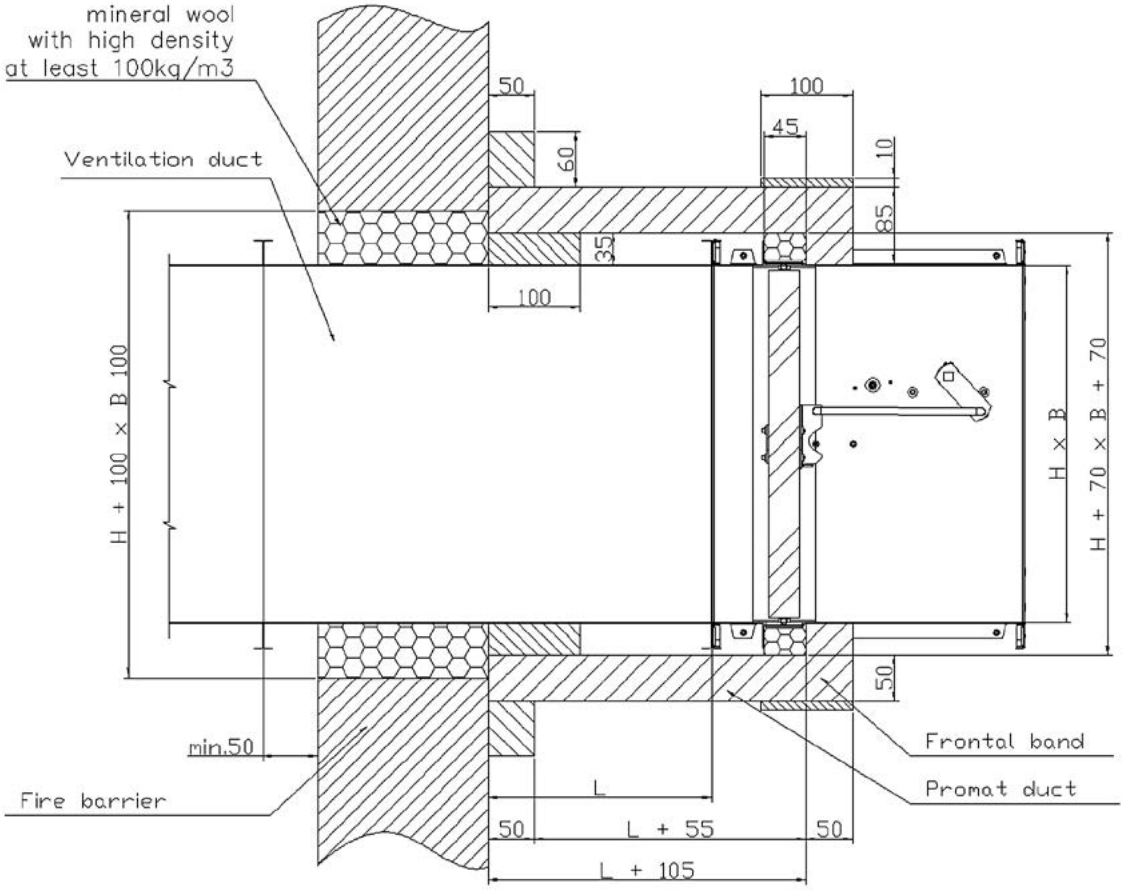

Figure 14. Installation of fire dampers LPP-L away from wall construction.

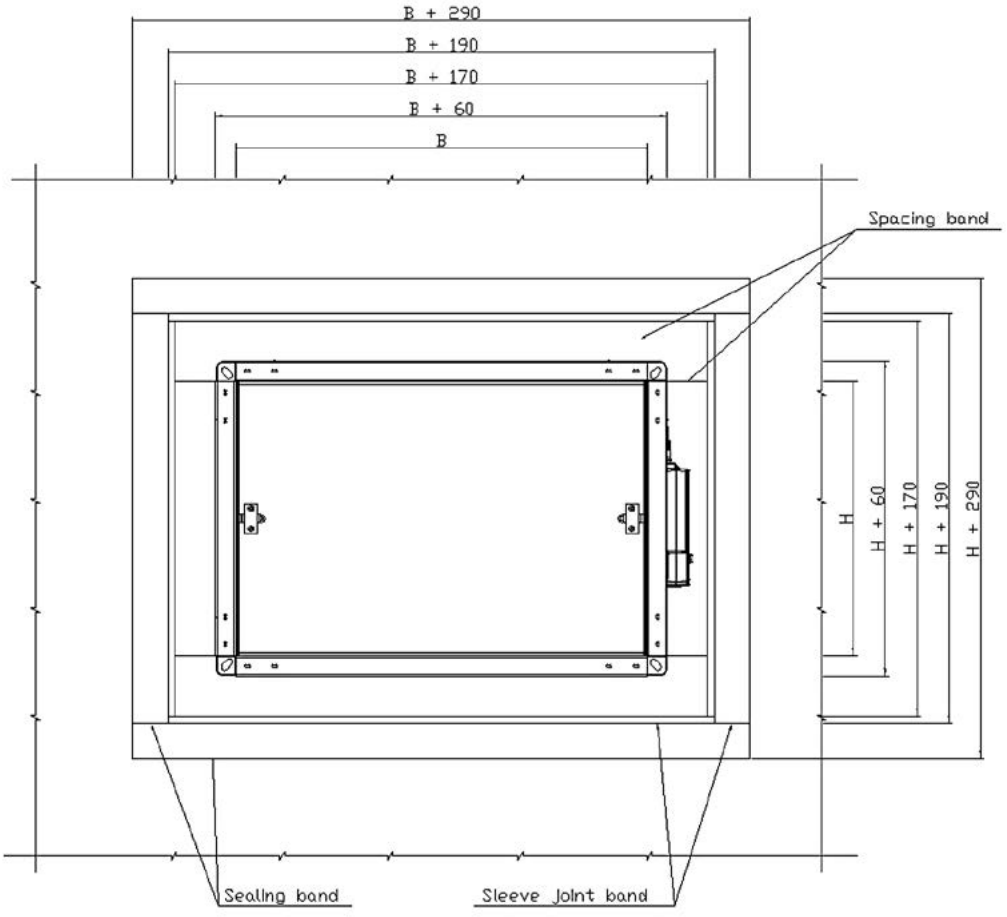

Figure 15. Installation of LPP-L fire dampers away from wall construction.

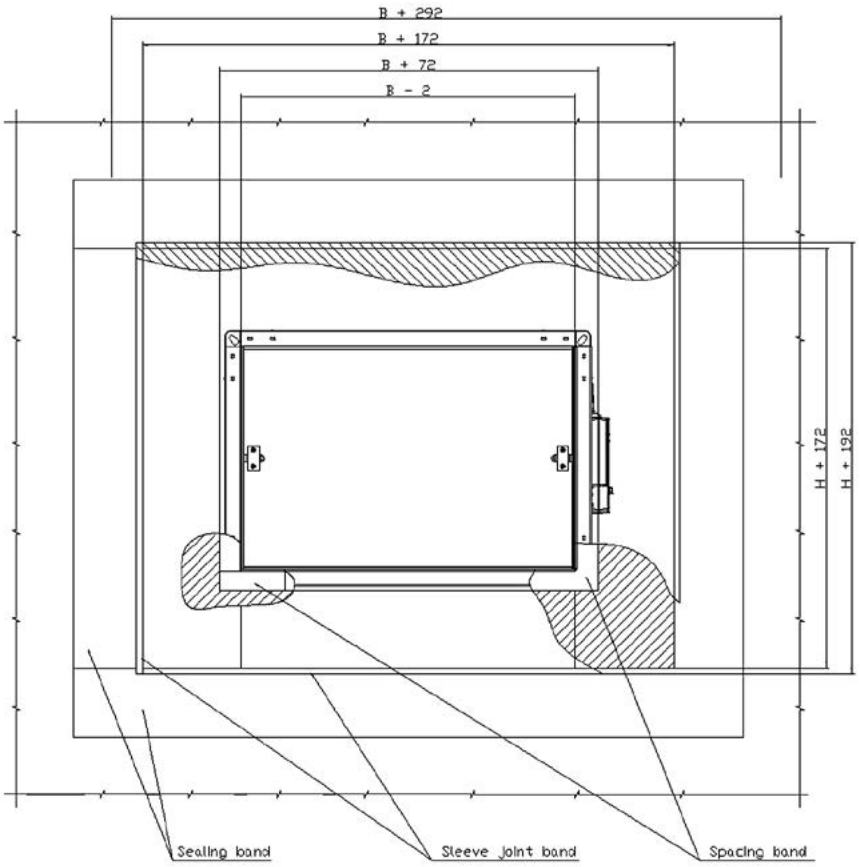

Figure 18. Installation method of the LPP-L cut-off dampers away from wall structure (silicate panels).

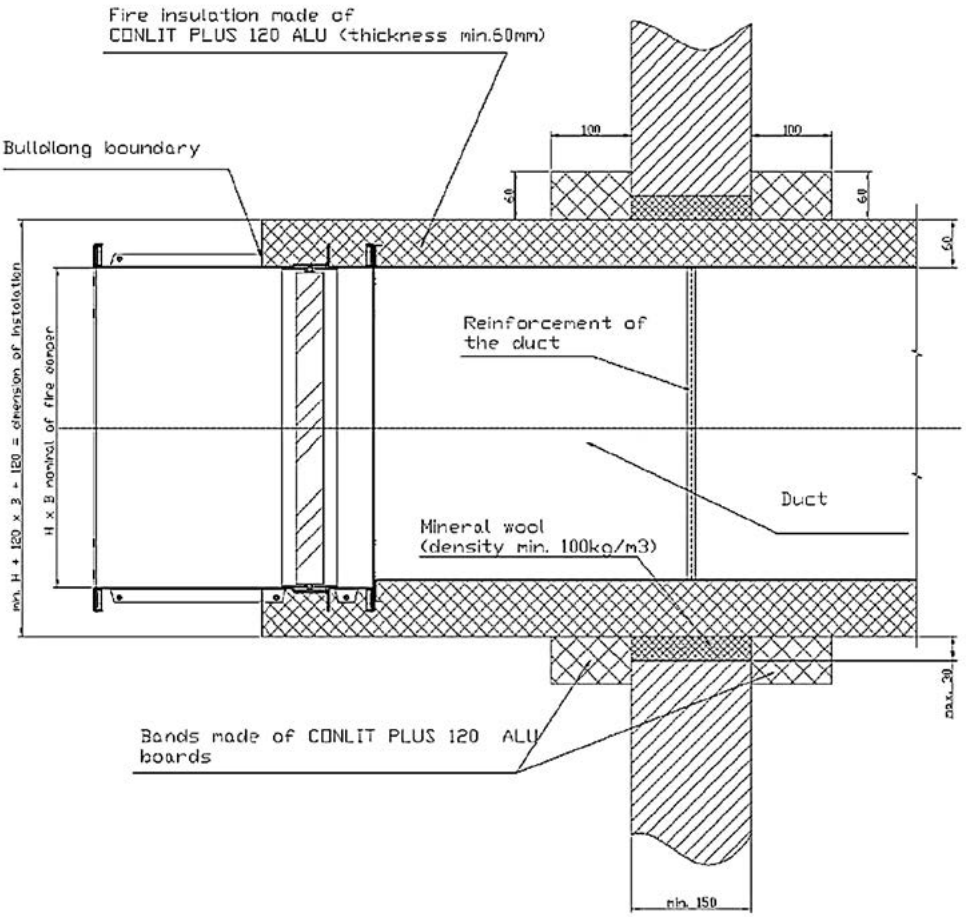

Figure 19. Installation method of the LPP-L cut-off dampers away from wall structure (mineral wool).