

INSTALLATION MANUAL



WKP-P

Fire Dampers



2434

SMAY

Sp. z o.o.

17

2434-CPR-0015

PN-EN 12101-8:2012

Smoke control damper

Multi and single compartment

Type: WKP-P

**Nominal activation conditions /
sensitivity:**

Automatic activation - passed

Closure/opening during test at
correct time and in allowable time

Response delay/closure time:

Automatic activation - passed

Operational reliability:

WKP-P-E-J	300 cycles – pass
WKP-P-E-W	10 000 cycles – pass

Fire resistance:

- Fire integrity – E
- Fire insulation – I
- Smoke leakage – S
- Mechanical stability (under E)
- Maintenance of cross section (under E)

E₆₀₀ 120 (v_{ed} i<->o) S 1000 C₃₀₀ AA single
EI 120 (v_{ew} i<->o) S 1000 C_{10 000} AA multi
EI 90 (v_{ew} i<->o) S 1500 C_{10 000} AA multi

Durability:

- | | |
|------------------------------|------|
| - of response delay | Pass |
| - of operational reliability | Pass |

Version: 2.4

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1. Device installation instructions

Before installing the fire damper check it for damage caused during transport or storage.

Check if the damper is able to open and close (full open and close position). In the case of WKP dampers open the damper with an actuator key. Full opening and closing shall be smooth (not irregular). Do not pull the damper baffle in order to open/close the damper. Doing so can cause permanent damage to the device, which is not covered by the warranty.

Before installation, verify the gap between the bottom blade and the inside part of the body under the blade and between upper blade and the inside of the body over the blade. The gap size can not be less than 4 mm.

Before installation secure the damper with film or other covering material to protect it against dirt and damage to the damper elements.

To maintain EIS120, EIS90 declared resistance, insulation and smoke leakage, the dampers should be mounted in walls, which were tested and rated as EI120 or EI90.

It is acceptable to use WKP-P dampers in walls with other fire resistance rating, but in this case it should be kept in mind that EI fire resistance rating of the whole WKP-P damper installation is equal to the fire resistance rating of the lowest rated element of the system.

The WKP-P fire dampers may be installed in vertical space dividers with both horizontal and vertical axis of rotation of blades. In vertical mounting the recommended position of the actuator is above the damper.

1.1 Installation Technology – Rigid Wall Structure

1. Make a hole in the wall – 246 mm greater than the dimension B and 120 greater than dimension H, i.e. $B+246$ and $H+120$.
2. Insert the closed damper into the mounting hole and support it or suspend in such a way that the axis of the damper baffle coincides with the wall axis, and to maintain the coaxiality of the damper and the mounting hole.
3. Once the damper is set as described above, fill in the slot between the damper and the wall fully with mortar, cement mortar, lime-cement mortar or concrete.
4. When the mortar is dry (after about 48 hours), remove the supports or suspension used for mounting the damper, check if the damper operates properly and leave it in the open position.

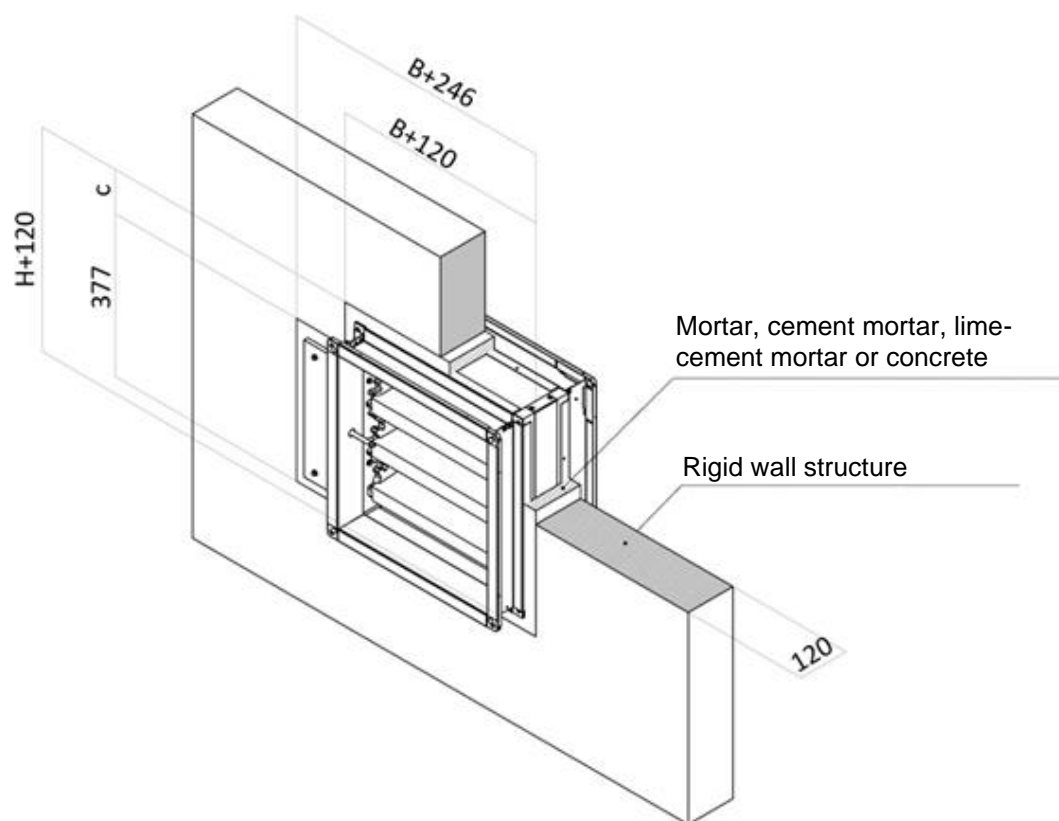


Fig. 1. Dimensions of the mounting hole for WKP fire dampers in rigid wall structures with horizontal and vertical axis of rotation of the baffle. C parameter is presented in the Table.

N	C
2	0
3	100
4	100
5	200
6	200
7	300
8	300

Note:

N – number of damper blades;

C – parameter selected according to the Table.

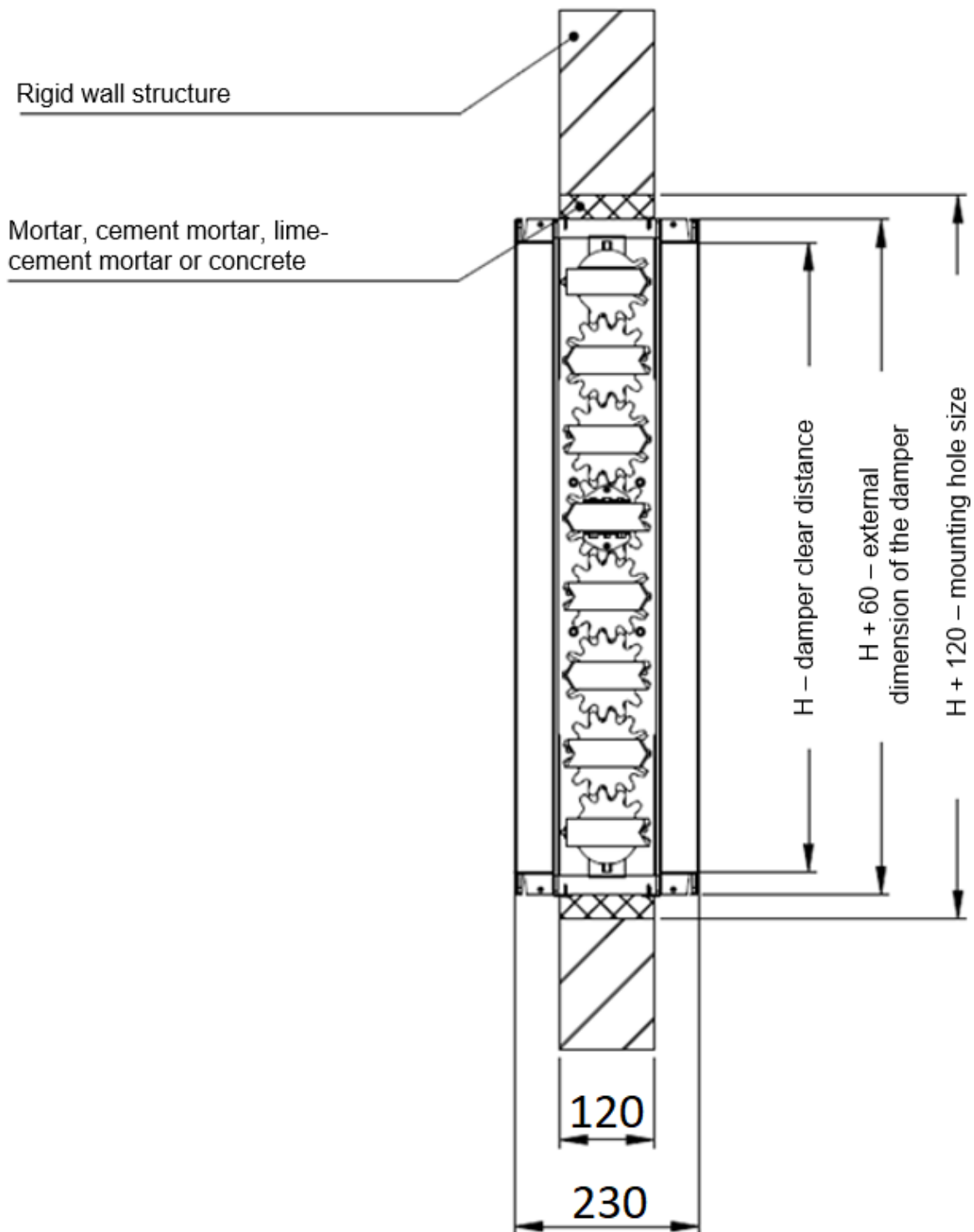


Fig. 2. The way of installing WKP-P fire dampers in rigid wall structures. Axis of the baffle shall coincide with the axis of the wall.

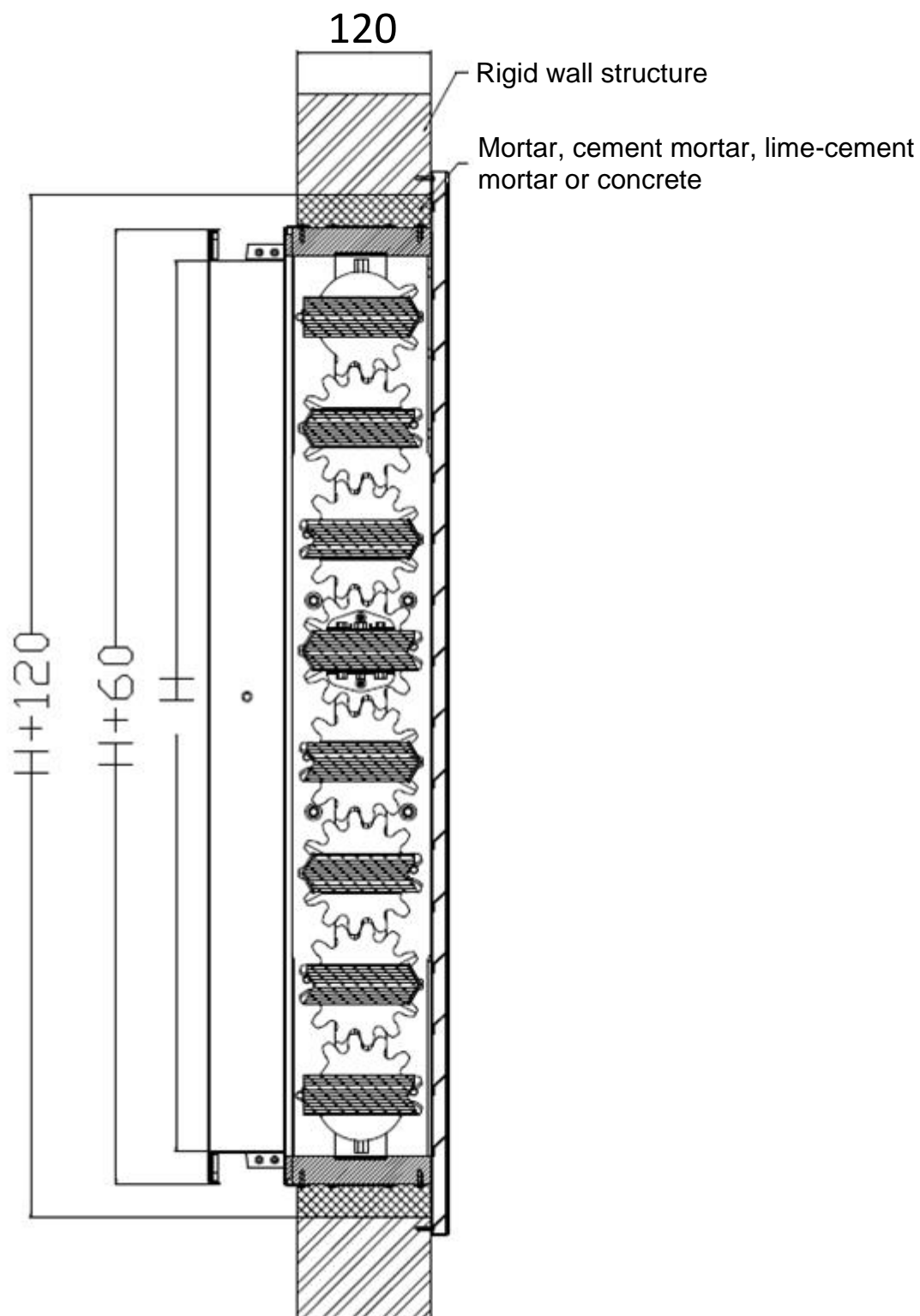


Fig. 3. The way of installing WKP fire dampers with KST grilles in rigid wall structures.

1.2 Installation Technology – Light wall structures

1. Make a hole in the wall – 310 mm greater than the dimension B and 180 greater than dimension H, i.e. $B+310$ and $H+180$.
2. Make a frame of two layers of GKF boards with 15 mm thick and a width corresponding to the mounting hole screwed tightly, bearing in mind the exact sealing at their joints by using Hilti Firestop Coating CP 673, Promastop-Coating, Promaseal-Mastic or Soudal Firesilicone B1 FR.
3. Put the closed damper into mounting hole and support or suspend it so that the damper blade axis coincides roughly with the wall axis and that the alignment of the damper and mounting hole is maintained.
4. After setting the flap as described, the gap between the flap and the wall should be carefully filled with non-flammable high density mineral wool, 100 kg/m³ or more.
5. Seal the place of filling with mineral wool by using the sealing mass given in point 2.
6. Mount the collar of GKF boards on both sides with a thickness of 15 mm and a width of 150 mm, with the screws.
7. After mounting a collar, remove supports or hangings that were used to mounting the flap, check the correct functioning of a flap, and then leave a flap in the open position.

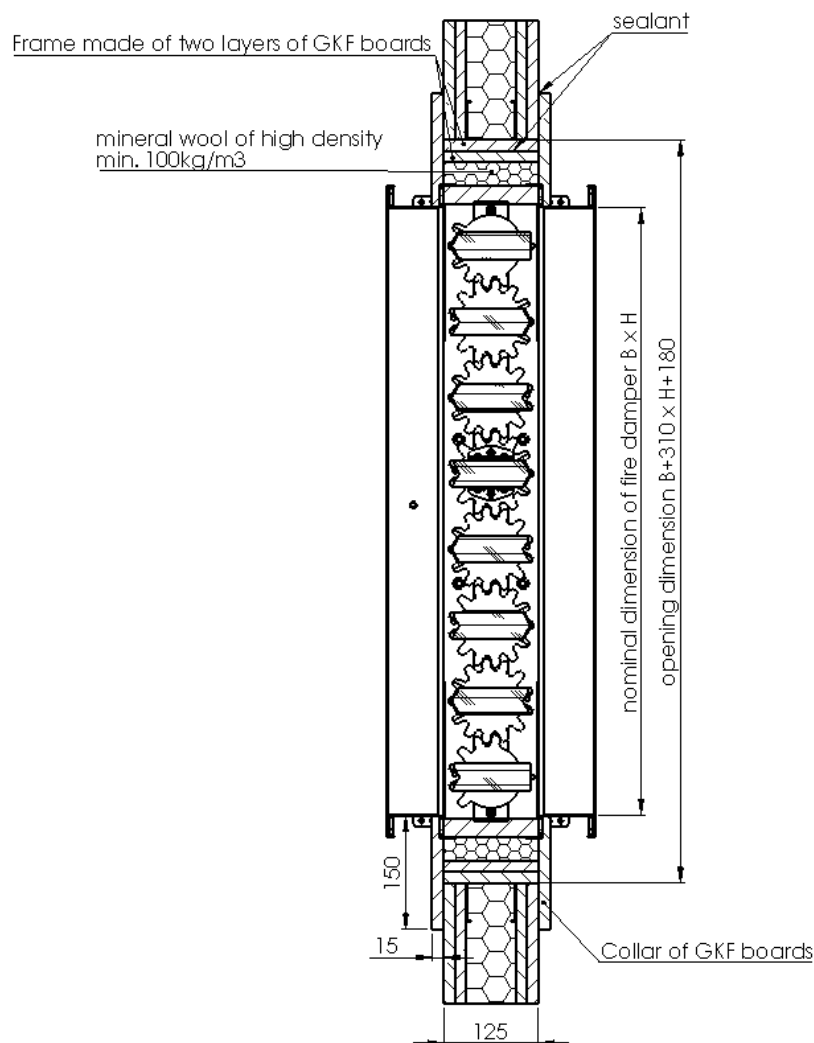


Fig. 4: Installation technology of WKP-O-O fire damper in light wall structure

1.3 Installation Technology – Wall Structures of High Thickness

In rigid wall structures of 125 mm or lower thickness, WKP-P fire dampers are mounted in such a way that the axis of the damper body approximately coincides with the axis of the wall.

Whereas in the case of walls thicker than 125 mm, WKP-P fire dampers are mounted in such a way that the boundary of the damper is aligned to the wall surface (Fig. 5).

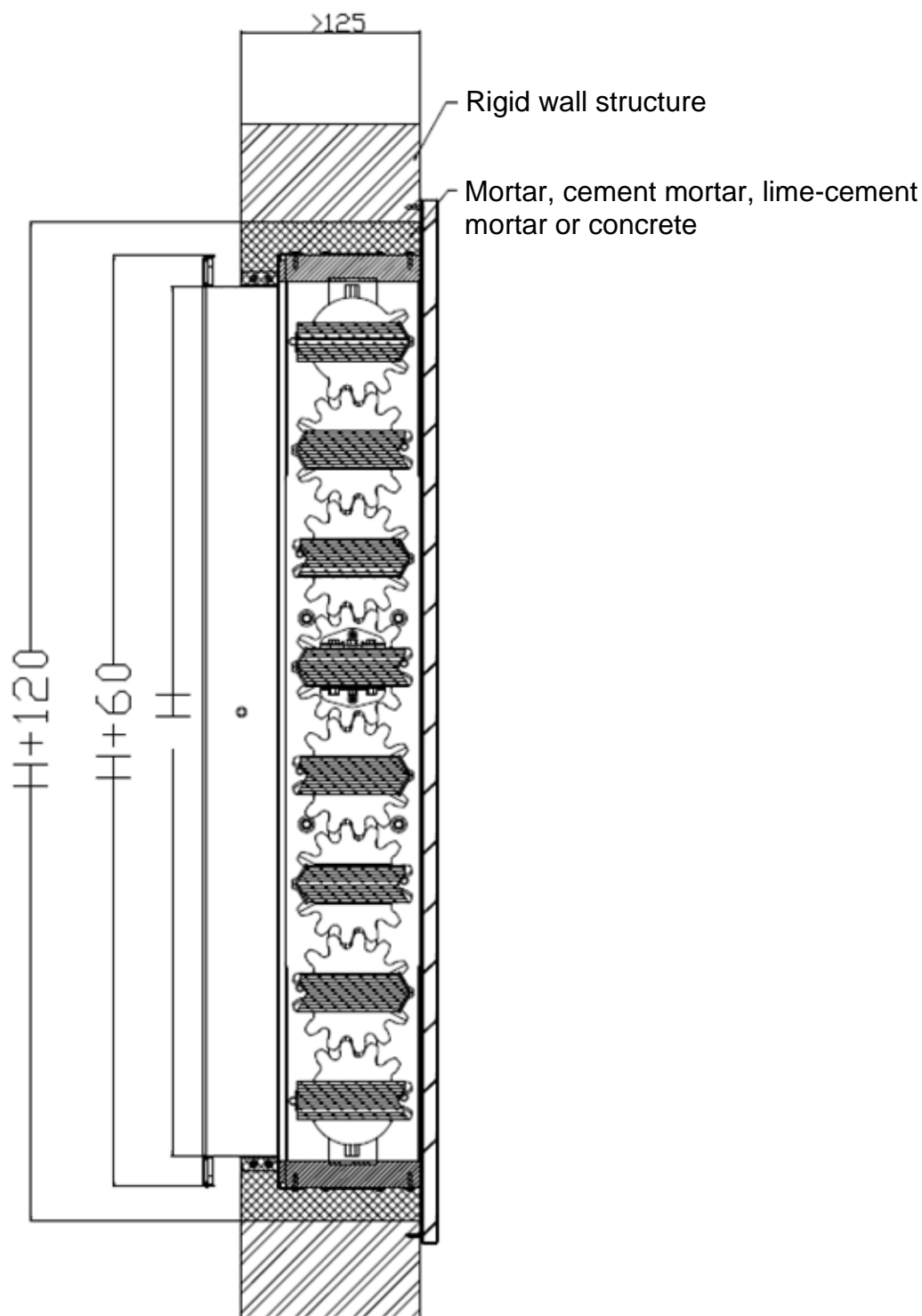


Fig. 5. The way of installing WKP fire dampers in structures thicker than 125 mm

1.4 Installation technology – Masking grille

1. Before mounting the grille, it is necessary to stick 5x10 self-adhesive ceramic gasket, on the inside surface of the grille, along the deflection, all around the circumference.
2. Mount the grid to the wall with metal pins for aerated concrete 6x32 and 5x40 screws.
3. Mount the grill in the manner shown in the drawing below. That is, the outer edges of the openings on the left side of the grate, as well as on the top and on the dikes coincide with the inside edges of the damper.

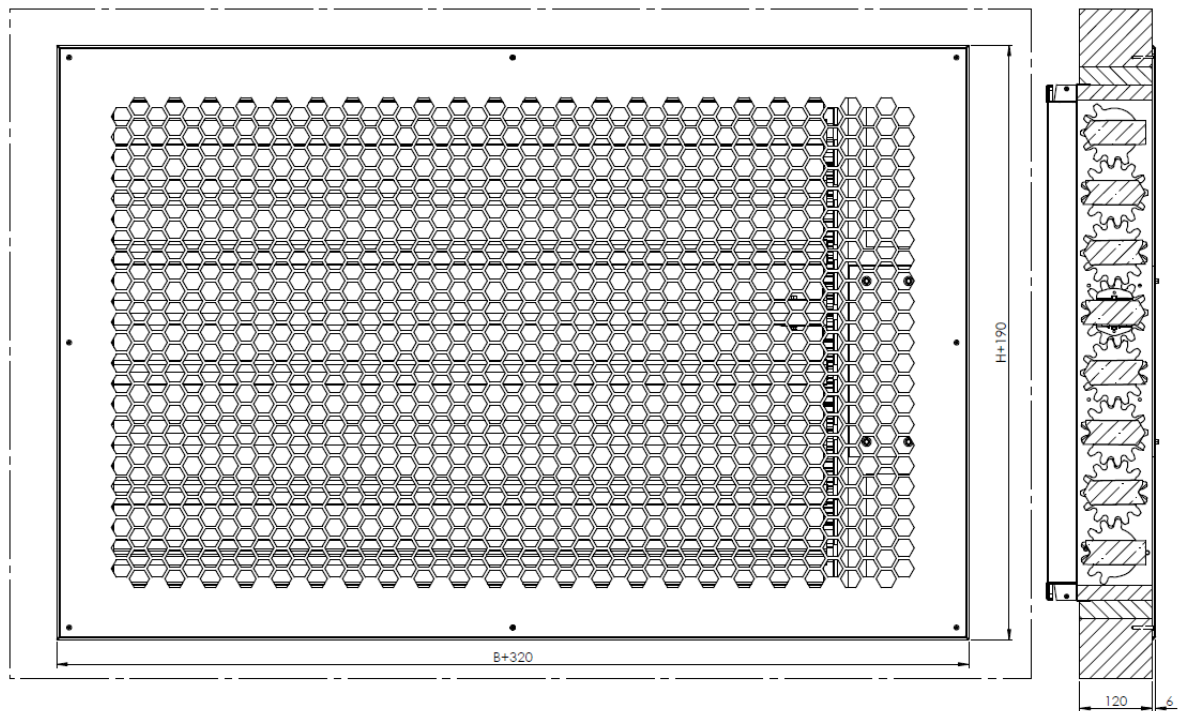


Fig. 6. Installation technology of masking grille for WKP-P