



## FBC 1-4-7

Installation booklet

This is a 13 page installation booklet.

English

FIRE DAMPER

CIRCULAR SERIES FBC1 - 4 - 7 - 300 Pa

Cert. N° 1812-CPR-1630 - 1812-CPR-1632 - 1812-CPR-1634



\*1MUBFBC1-4-7EN-LIND\* rev 20-10



[www.lindab.com](http://www.lindab.com) - Fire dampers are manufactured by MP3 Srl [www.mp3-italia.it](http://www.mp3-italia.it)  
For further information please refer to the Technical Manual.

As the manufacturer is constantly improving its products, the aesthetic or dimensional features, the technical data, the equipment and accessories indicated could be subject to variations.



# OVERVIEW

■ Fire resistance classification according to EN 13501-3-2009

		EI 120 S (300 Pa)	EI 90 S (300 Pa)	EI 60 S (300 Pa)	EI 30 S (300 Pa)
Rigid wall	Model FBC1: square hole, mortar or plaster putty sealing				
	Wall minimum thickness 100 mm Wall minimum density 550 kg/m <sup>3</sup> Mortar or plaster putty sealing ve (↔→)	W	-	-	FBC1 FBC1
	Model FBC1: square hole, mortar or plaster putty covered rock wool sealing				
	Wall minimum thickness 100 mm Wall minimum density 550 kg/m <sup>3</sup> Rock wool 40 kg/m <sup>3</sup> and mortar or plaster putty sealing ve (↔→)	D/W	-	-	FBC1 FBC1
	Model FBC1: square hole, plasterboard and rock wool sealing				
	Wall minimum thickness 100 mm Wall minimum density 550 kg/m <sup>3</sup> Plasterboard and rock wool 40 kg/m <sup>3</sup> sealing ve (↔→)	D	-	-	FBC1 FBC1
	Model FBC1 - FBC4 - FBC7: circular hole, mortar or plaster putty sealing				
	Wall minimum thickness 100 mm Wall minimum density 550 kg/m <sup>3</sup> Mortar or plaster putty sealing ve (↔→)	W	FBC7	FBC7 FBC4	FBC7 FBC4 FBC1 FBC1
	Model FBC4 - FBC7: square hole, mortar or plaster putty sealing				
	Wall minimum thickness 100 mm Wall minimum density 550 kg/m <sup>3</sup> Mortar or plaster putty sealing ve (↔→)	W	FBC7	FBC7 FBC4	FBC4 FBC1 FBC1
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		EI 120 S (300 Pa)	EI 90 S (300 Pa)	EI 60 S (300 Pa)	EI 30 S (300 Pa)
Flexible wall	Model FBC1: square hole, mortar or plaster putty sealing				
	Wall minimum thickness 100 mm Wall rock wool density according to the fire resistance class of the wall Mortar or plaster putty sealing ve (↔→)	W	-	-	FBC1 FBC1
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	Model FBC4: circular and square hole, mortar or plaster putty sealing				
	Wall minimum thickness 100 mm Wall rock wool density according to the fire resistance class of the wall Mortar or plaster putty sealing ve (↔→)	W	-	FBC4	FBC4 FBC1 FBC4 FBC1
	Model FBC4: circular and square hole, mortar or plaster putty covered rock wool sealing				
	Wall minimum thickness 100 mm Wall rock wool density according to fire resistance class of the wall Rock wool 40 kg/m <sup>3</sup> and mortar or plaster putty sealing ve (↔→)	D/W	-	FBC4	FBC4 FBC1 FBC4 FBC1
	Model FBC4: circular and square hole, plasterboard and rock wool sealing				
	Wall minimum thickness 100 mm Wall rock wool density depending on wall fire resistance class Plasterboard and rock wool 40 kg/m <sup>3</sup> sealing ve (↔→)	D	-	FBC4	FBC4 FBC1 FBC4 FBC1
	Model FBC4 - FBC7: square hole, mortar or plaster putty sealing				
	Wall minimum thickness 100 mm Wall rock wool density according to the fire resistance class of the wall Mortar or plaster putty sealing ve (↔→)	W	FBC7	FBC7 FBC4	FBC7 FBC4 FBC7 FBC1 FBC7 FBC1
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Model FBC1 - FBC4 - FBC7: circular hole, mortar or plaster putty sealing					
Floor	Floor minimum thickness 150 mm Floor minimum density 550 kg/m <sup>3</sup> Mortar or plaster putty sealing ho (↔→)	W	FBC7	FBC7 FBC4	FBC7 FBC4 FBC1
	Floor minimum thickness 100 mm Floor minimum density 550 kg/m <sup>3</sup> Mortar or plaster putty sealing ho (↔→)	W	FBC7	FBC7 FBC4	FBC7 FBC4 FBC1

W Wet method sealing  
D Dry method sealing  
ve Vertical installation  
ho Horizontal installation  
(↔→) Origin of fire irrelevant  
Pa Pascal of depression  
E Integrity  
I Thermal insulation  
S Smoke seal

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#### ■ Fire Batt (Weichschott) sealings

		EI 120 S (300 Pa)	EI 90 S (300 Pa)	EI 60 S (300 Pa)	EI 30 S (300 Pa)
Rigid wall	Model FBC1, FBC4, FBC7: square hole, Weichschott sealing Wall minimum thickness 100 mm Wall minimum density 550 kg/m <sup>3</sup> Rock wool 140 kg/m <sup>3</sup> and endothermic varnish sealing ve (↔→)	W	FBC7	FBC7 FBC4 FBC1	FBC7 FBC4 FBC1
	Model FBC1, FBC4, FBC7: square hole, Weichschott sealing Wall minimum thickness 100 mm Wall rock wool density according to fire resistance class of the wall Rock wool 140 kg/m <sup>3</sup> and endothermic varnish sealing ve (↔→)	W	FBC7	FBC7 FBC4	FBC7 FBC4 FBC1
Floor	Model FBC1, FBC4, FBC7: square hole, Weichschott sealing Floor minimum thickness 150 mm Floor minimum density 550 kg/m <sup>3</sup> Rock wool 140 kg/m <sup>3</sup> and endothermic varnish sealing ho (↔→)	W	FBC7	FBC7 FBC4 FBC1	FBC7 FBC4 FBC1
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W Wet method sealing  
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ve Vertical installation  
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Pa Pascal of depression  
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I Thermal insulation  
S Smoke seal

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#### ■ Mechanism type

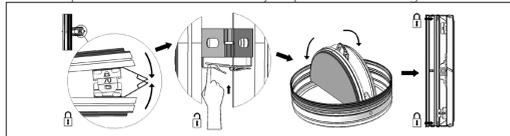
##### □ Manual

#### Blade closing mode

Automatic closing with thermal fuse.

The control mechanism has a thermosensitive element that automatically closes the blade when the temperature in the duct exceeds 70°C.

The damper can be closed manually as per the following instructions.



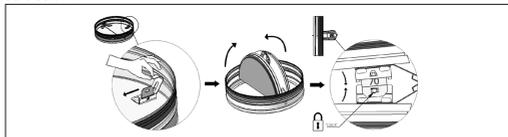
The fire damper is equipped with a spring for closing the blade: pay attention to the hands.

#### Blade opening mode

Make sure that the damper is open before the ventilation system start-up, otherwise there is a risk of product malfunction.

In case of closed damper as a result of the action of the thermosensitive element, it is possible to manually reopen the damper once the thermosensitive element has been replaced.

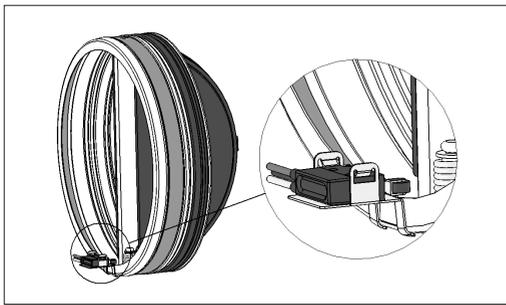
The fire damper can be opened manually as per the following instructions.



The fire damper is equipped with a spring for closing the blade: pay attention to the hands.

#### Position indication microswitch

On request, the fire damper can be supplied with position microswitch (S1 optional) that signal the closed position of the blade. Refer to the section Electrical connections for more details.



### Temperature calibration of thermosensitive element for automatic damper closing

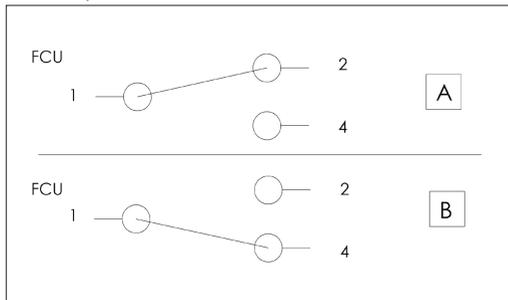
70 °C±7 °C

- Closing by remote control  
Not available
- Motorized version  
Not available

## ELECTRICAL CONNECTIONS

- Electrical wiring  
Electrical connections must be done by qualified and trained people. Switch off the power supply before starting any work on the electric elements. Never switch on the power supply during electrical connections.
- Wiring diagram for position microswitches  
**FCU: Closed damper contact**

- A The fire damper's blade is open (the air flow is allowed)
- B The fire damper's blade is closed (the air flow is not allowed)
- 4 Normally opened (BLUE)
- 1 Common/neutral (BLACK)
- 2 Normally closed (GREY)

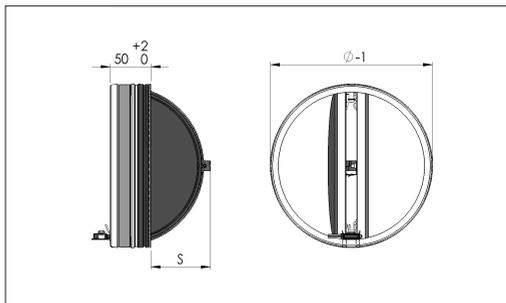


1mA4V AC min  
6A 250V AC max

## TECHNICAL DATA

The sizes shown are in mm.

### ■ Dimension



Ø	mm	100	125	160	200
S blade exposition	mm	21	34	51	72

## MAINTENANCE AND INSPECTIONS

Fire dampers and control mechanisms do not require routine maintenance. Extraordinary maintenance (repairs) and periodic inspection operations are the responsibility of the ventilation system operator. It is recommended to provide inspection hatches on both sides of the ducts connected to the fire damper. The implementation of a periodic inspection plan allows to guarantee the efficiency and functionality of the fire dampers for the fire safety of the building.

- Periodic inspection and cleaning  
Periodic inspection shall be performed in accordance with the requirements of the law or by the building regulations or other local regulations.  
In the absence of specific regulations (or to their complement), in accordance with point 8.3 of the EN 1560 standard, it is recommended to carry out the following control activities at intervals of no more than 12 months:
  - Check the servomotor electrical wiring for damage (where applicable);
  - Check end-switch wiring for damage (where applicable);
  - Check damper cleanliness and clean where necessary;
  - Check the condition of blades and seals, rectify and report where necessary;
  - Check the correct opening and closing of the fire damper by manual operation according to the instructions in the technical manual of the fire damper;
  - Check the opening and closing operation of the damper controlled by the fire alarm system (if present);
  - Check the operation of the end switches in open and closed state, adjust and report if necessary;
  - Confirm that the damper fulfils its function as part of the control system (where necessary);
  - Check that the damper is left in its normal operating position, which usually corresponds to the open position.

- Repair  
For safety reasons, repair activities involving fire-fighting components must be carried out only by qualified personnel. Only original spare parts supplied by the fire damper manufacturer must be used. A functional test must be performed after each repair.

At the end of the inspection, cleaning or repair operations, check that the fire damper is in the normal operating position. Keep records of all inspections, repair activities, any problems encountered and their resolution. This practice, even when not mandatory, is very useful in practice.

## ■ Disposal

Disposal in case of destruction must be carried out in accordance with national legislation. For electrical and electronic parts also refer to EU Directive 2011/65.

# INSTALLATION

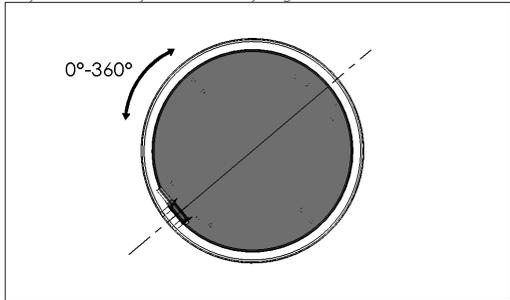
The sizes shown are in mm.

It is recommended to perform a functional test before Installation to exclude possible damage during transport.

The fire dampers FBC must be accessible for maintenance and inspections.

## ■ Blade rotation axis positioning

The fire damper can be installed with the blade axis positioned vertically or horizontally or tilted at any angle.



## ■ Installation of flexible connectors in order to balance out the ventilation ducts expansion

**ATTENTION: the following indications must be considered binding only if legislation or local regulation where the fire dampers are installed require the use of flexible connectors.**

Flexible connectors compensate any duct thermal expansion and wall bending in case of fire.

Flexible connectors are used to limit fire damper stresses due to external forces in case of fire and to preserve fire resistance class.

In general it is always appropriate the use of flexible connectors for the followings installations:

- light walls;
- Plasterboard and rock wool or Fire Batt (Weichschott) sealing;
- Applique fixing system.

Flexible connector must be normal flammability and in case of fire the grounding bonding should disconnet to guarantee the complete separation between fire damper and connected air duct.

When flexible connectors made of conductive material (e.g. aluminum) are used, no additional grounding bonding is required.

Despite flexible connector installation, the fire damper must be installed in the construction support so that its weight does not affect damper's installation position both during normal operation and in case of fire.

It is recommended not to compress flexible connectors in the installation phase.

Flexible connector must be at least 100mm long and in order that possible duct thermal expansions are balanced.

Take care that the flexible connector does not interfere with opening / closing movement of the blade.

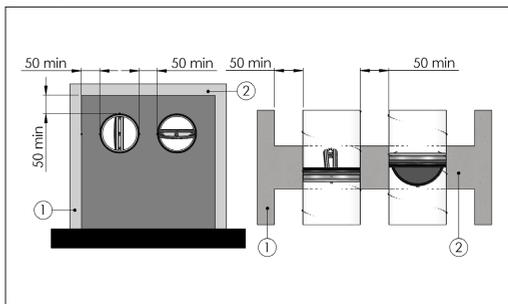
Refer to the section Technical data for blade exposition values.

## ■ Minimum distances

In accordance with Articles 7 and 13 of EN 1366-2 respect the minimum distances indicated below.

## Minimum distances

1. Vertical lateral wall
2. Floor



## ■ Construction supports characteristics

The European standard for fire dampers foresees a precise correlation between the wall/floor characteristics and the fire resistance class obtained, as well as the correlation between wall/floor used for the test and wall/floor used for the actual installation.

The test results obtained on a type of wall/floor are valid also for walls/floor of the same type but with greater thickness and/or density than those used in the test.

For plasterboard walls, the test results are also valid for walls with a greater number of plasterboard layers on each side.

As a result, the indicated thickness and density characteristics are to be considered as minimum values.

The wall/floor in which the fire dampers are installed must be fire class certified according to the standards foreseen for the structure.

## ■ Rigid walls

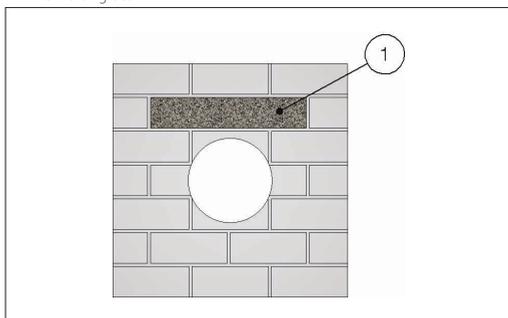
Can be made with aerated concrete blocks, poured concrete, concrete panels, perforated cell elements in concrete or brick in accordance with the following characteristics:

- minimum thickness 100 mm;
- minimum density 550 kg/m<sup>3</sup>.

The use of a reinforcing beam above the opening is recommended for walls made from concrete blocks, bricks or in concrete cell elements.

For walls built with perforated elements, it is also recommended that the area of the opening be made from full elements (for example aerated concrete blocks) to guarantee the correct adhesion of the mortar.

1. Reinforcing beam



## ■ Light plasterboard vertical walls

During testing, light plasterboard walls have been used with the following characteristics:

- U-shaped horizontal metal frame (50 mm) and C-shaped vertical frame (49 mm) made from 0,6 mm thick sheet metal;
- vertical profiles placed with a maximum spacing of 1000 mm;
- Filling made of rock wool;

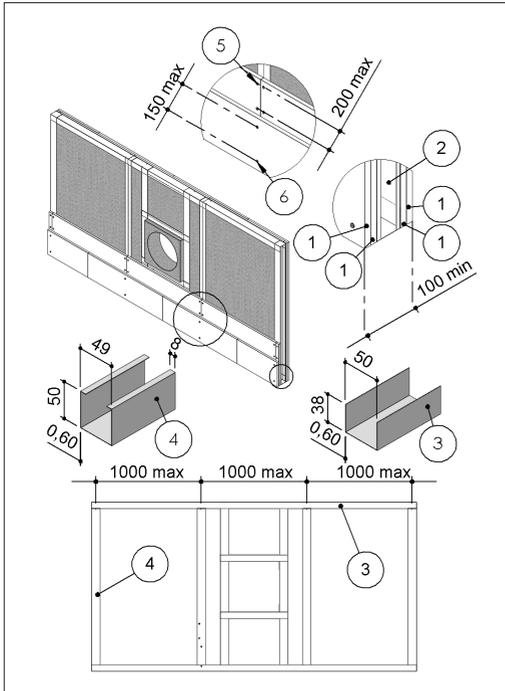
- Each side is made from two plasterboard layers 12,5 mm thick, unaligned to avoid alignment between the joints of the layer above and below.

The following indications are given for the installation walls:

- metal profiles minimum width: 49 mm;
- metal profiles minimum thickness: 0,6 mm;
- vertical profiles placed with a maximum spacing of 1000 mm between each other;
- vertical profile fixing with selfthreading screws or by clinching to the bottom horizontal profile and insertion in the top horizontal profile;
- profiles fixed using self-threading screws or by clinching on every intersection.
- installation of a frame around the damper with base and height where shown in the installation instructions;
- Filling made of rock wool;
- each side is made from two plasterboard layers 12,5 mm minimum thick, unaligned to avoid alignment between the joints of the layer above and below.
- the front plasterboards layers are fixed using long enough screws to pass through the lower plasterboard and attach to the steel profile underneath.

#### Light plasterboard vertical walls

1. Plasterboard thickness 12,5 mm
2. Rock wool
3. Horizontal U-shaped profile
4. Vertical C-shaped profile
5. Self-drilling screw  $\varnothing$  3,5 X 25 mm
6. Self-drilling screw  $\varnothing$  3,5 X 35 mm



#### Concrete floors

Concrete floors can be built during installation or with preformed slabs with interlocking shaped edges according to the following characteristics:

- minimum thickness 100 or 150 mm according to the type and resistance class required;
- minimum density 550 kg/m<sup>3</sup>.

#### Installations within vertical rigid wall

Refer to the section Construction supports characteristics for further information.

Comply with the minimum distances indicated on section Minimum distances.

#### Wall opening

An opening must be provided in the wall as indicated in the drawing.

#### Damper positioning

Install the fire damper in the ventilation duct as shown in the drawing.

#### Filling

Fill the space between ventilation duct and wall as indicated in the drawing. Sealing with concrete is not allowed.

#### Insulation

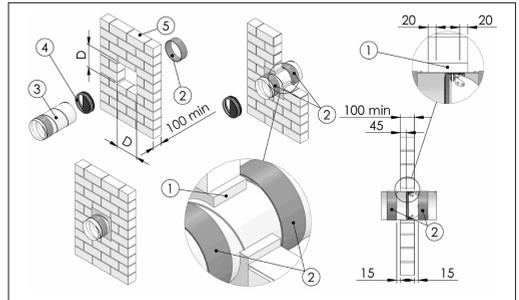
Apply the adhesive gaskets supplied with the damper at a distance of 15 mm from the sealing.

When the fire damper is installed in shafts exit (technical compartments where continuous presence or transit of people is not foreseen) it is not necessary to apply the adhesive gasket supplied with the fire damper on the duct side inside the shaft.

The shafts walls shall have fire resistance equal or higher to the one of the fire damper.

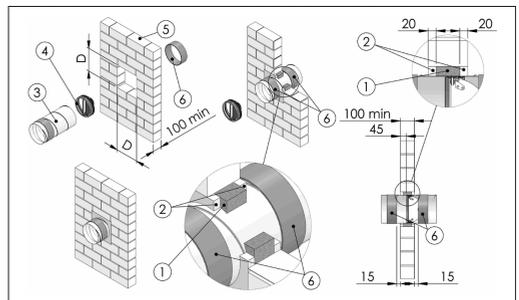
#### Model FBC1: square hole, mortar or plaster putty sealing

1. Mortar or plaster putty
  2. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
  3. Ventilation duct
  4. Fire damper
  5. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



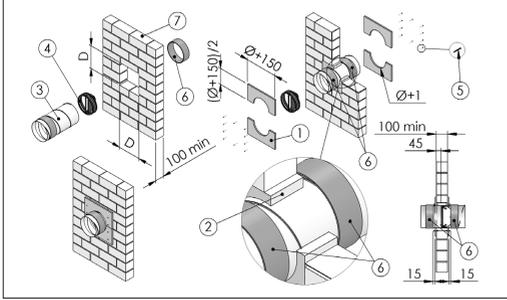
#### Model FBC1: square hole, mortar or plaster putty covered rock wool sealing

1. Rock wool 40 kg/m<sup>3</sup>
  2. Mortar or plaster putty
  3. Ventilation duct
  4. Fire damper
  5. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
  6. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
- D from nominal diameter min + 50 to nominal diameter max + 70



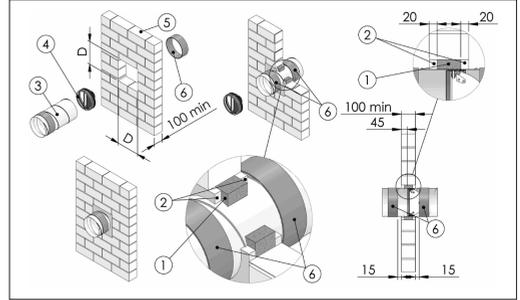
### Model FBC1: square hole, plasterboard and rock wool sealing

1. Plasterboard arch infill, thickness 12,5 mm
  2. Rock wool, 100 kg/m<sup>3</sup> or mortar or plaster putty
  3. Ventilation duct
  4. Fire damper
  5. Self-drilling screw  $\varnothing$  3,5 X 45 mm
  6. Adhesive gasket (supplied with the damper). Refer to the section  
Insulation if necessary
  7. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



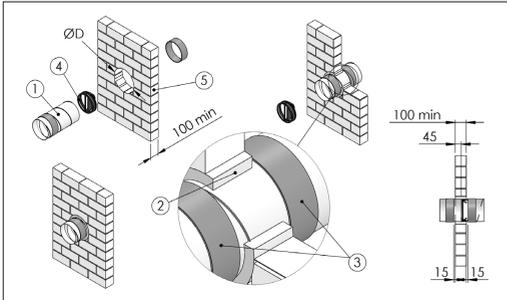
### Model FBC4 - FBC7: square hole, mortar or plaster putty covered rock wool sealing

1. Rock wool 40 kg/m<sup>3</sup>
  2. Mortar or plaster putty
  3. Ventilation duct
  4. Fire damper
  5. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
  6. Adhesive gasket (supplied with the damper). Refer to the section  
Insulation if necessary
- D from nominal diameter min + 50 to nominal diameter max + 70



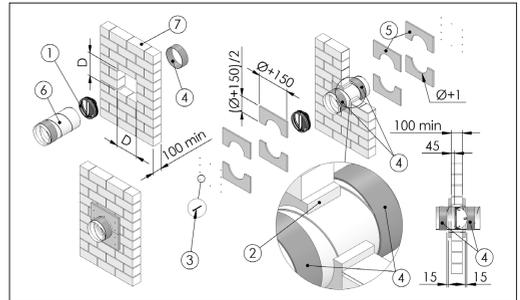
### Model FBC1 - FBC4 - FBC7: circular hole, mortar or plaster putty sealing

1. Ventilation duct
  2. Mortar or plaster putty
  3. Adhesive gasket (supplied with the damper). Refer to the section  
Insulation if necessary
  4. Fire damper
  5. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



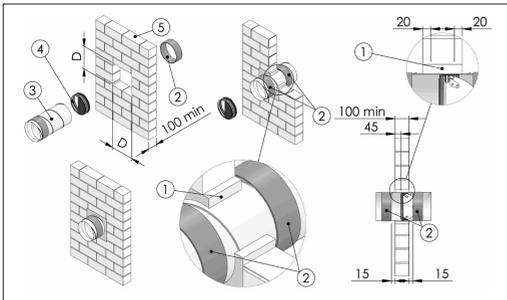
### Model FBC4 - FBC7: square hole, plasterboard and rock wool sealing

1. Fire damper
  2. Rock wool, 100 kg/m<sup>3</sup> or mortar or plaster putty
  3. Self-drilling screw  $\varnothing$  3,5 X 45 mm
  4. Adhesive gasket (supplied with the damper). Refer to the section  
Insulation if necessary
  5. Plasterboard arch infill, thickness 12,5 mm
  6. Ventilation duct
  7. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



### Model FBC4 - FBC7: square hole, mortar or plaster putty sealing

1. Mortar or plaster putty
  2. Adhesive gasket (supplied with the damper). Refer to the section  
Insulation if necessary
  3. Ventilation duct
  4. Fire damper
  5. Vertical rigid wall, minimum density 550 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



■ Installations within vertical light wall (plasterboard)

Refer to the section Construction supports characteristics for further information.

Comply with the minimum distances indicated on section Minimum distances .

■ Wall opening

A opening must be provided in the wall as indicated in the drawing.

■ Damper positioning

Install the fire damper in the ventilation duct as shown in the drawing.

■ Filling

Fill the space between ventilation duct and wall as indicated in the drawing. Sealing with concrete is not allowed.

■ Insulation

Apply the adhesive gaskets supplied with the damper at a distance of 15 mm from the sealing.

When the fire damper is installed in shafts exit (technical compartments where continuous presence or transit of people is not foreseen) it is not necessary to apply the adhesive gasket supplied with the fire damper on the duct side inside the shaft.

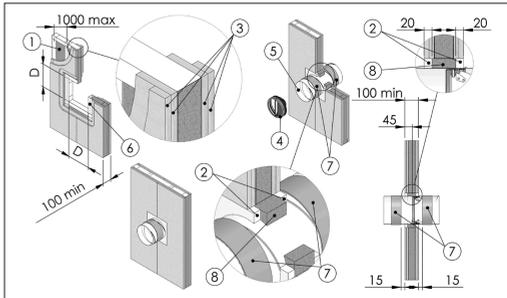
The shafts walls shall have fire resistance equal or higher to the one of the fire damper.

**Model FBC1: square hole, mortar or plaster putty covered rock wool sealing**

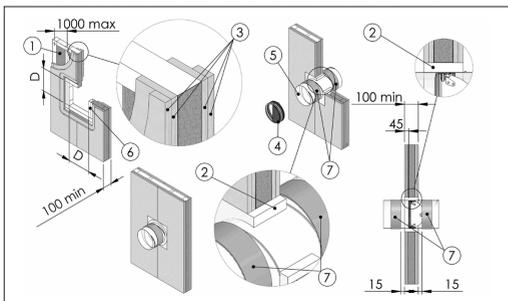
1. Wall rock wool density according to fire resistance class of the wall
  2. Mortar or plaster putty
  3. Type A (EN 520) plasterboard thickness 12,5 mm
  4. Fire damper
  5. Ventilation duct
  6. Metal frame
  7. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
- D from nominal diameter min + 50 to nominal diameter max + 70

**Model FBC1: square hole, mortar or plaster putty covered rock wool sealing**

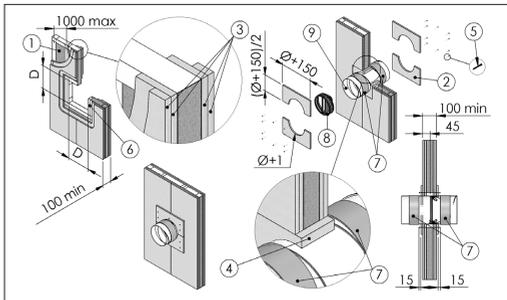
1. Wall rock wool density according to fire resistance class of the wall
  2. Mortar or plaster putty
  3. Type A (EN 520) plasterboard thickness 12,5 mm
  4. Fire damper
  5. Ventilation duct
  6. Metal frame
  7. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
  8. Rock wool 40 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



**Model FBC1: square hole, plasterboard and rock wool sealing**

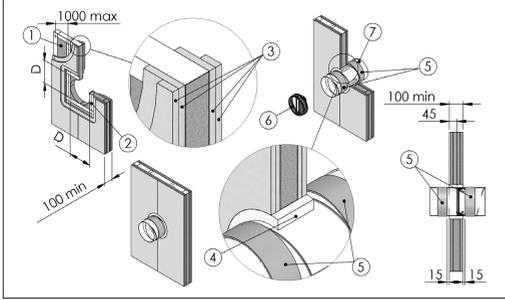


1. Wall rock wool density according to fire resistance class of the wall
  2. Plasterboard arch infill, thickness 12,5 mm
  3. Type A (EN 520) plasterboard thickness 12,5 mm
  4. Sealing: rock wool 40 kg/m<sup>3</sup> or mortar or plaster putty
  5. Self-drilling screw  $\varnothing 3,5 \times 45$  mm
  6. Metal frame
  7. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
  8. Fire damper
  9. Ventilation duct
- D from nominal diameter min + 50 to nominal diameter max + 70



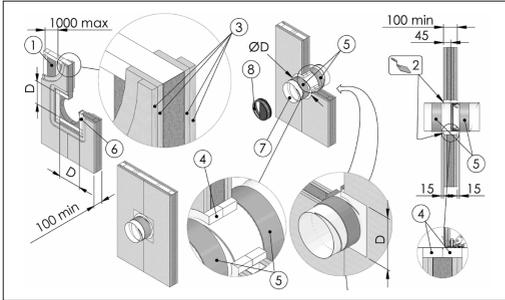
### Model FBC1: circular hole, mortar or plaster putty sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Type A (EN 520) plasterboard thickness 12,5 mm
4. Mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Fire damper
7. Ventilation duct
- D from nominal diameter min + 50 to nominal diameter max + 70



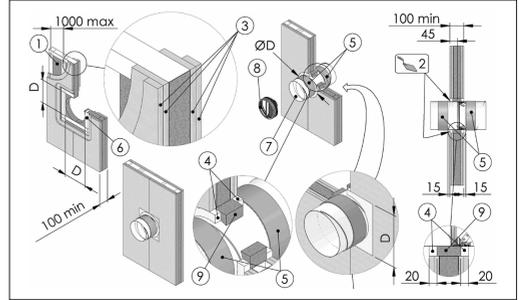
### Model FBC4: circular and square hole, mortar or plaster putty sealing

1. Wall rock wool density according to fire resistance class of the wall
2. PROMASTOP E PASTE or HILTI CFS-S ACR type sealant
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Metal frame
7. Ventilation duct
8. Fire damper
- D from nominal diameter min + 50 to nominal diameter max + 70



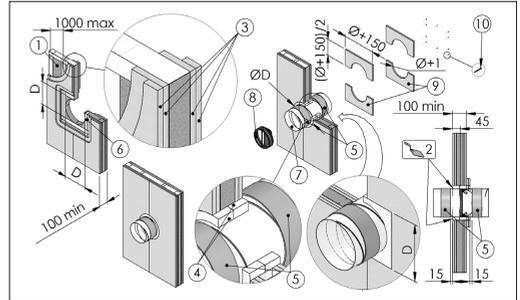
### Model FBC4: circular and square hole, mortar or plaster putty covered rock wool sealing

1. Wall rock wool density according to fire resistance class of the wall
2. PROMASTOP E PASTE or HILTI CFS-S ACR type sealant
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Metal frame
7. Ventilation duct
8. Fire damper
9. Rock wool, 40 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



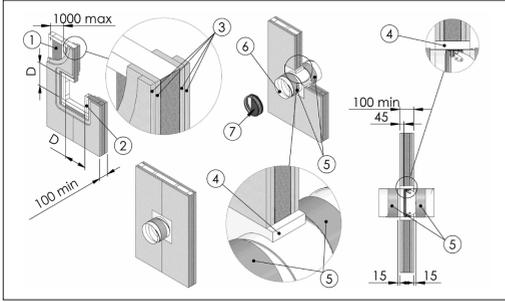
### Model FBC4: circular and square hole, plasterboard and rock wool sealing

1. Wall rock wool density according to fire resistance class of the wall
2. PROMASTOP E PASTE or HILTI CFS-S ACR type sealant
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Rock wool, 40 kg/m<sup>3</sup> or mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Metal frame
7. Ventilation duct
8. Fire damper
9. Plasterboard arch infill, thickness 12,5 mm
10. Self-drilling screw  $\varnothing 3,5 \times 45$  mm
- D from nominal diameter min + 50 to nominal diameter max + 70



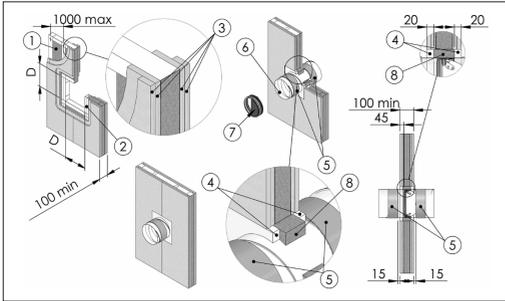
### Model FBC4 - FBC7: square hole, mortar or plaster putty sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Ventilation duct
7. Fire damper
- D from nominal diameter min + 50 to nominal diameter max + 70



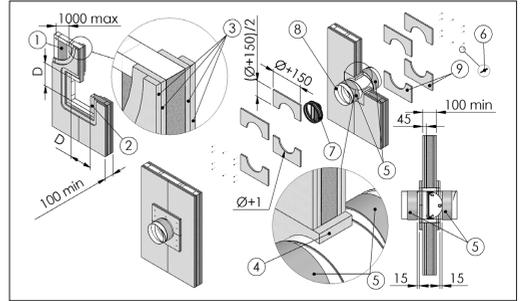
### Model FBC4 - FBC7: square hole, mortar or plaster putty covered rock wool sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Ventilation duct
7. Fire damper
8. Rock wool, 40 kg/m<sup>3</sup>
- D from nominal diameter min + 50 to nominal diameter max + 70



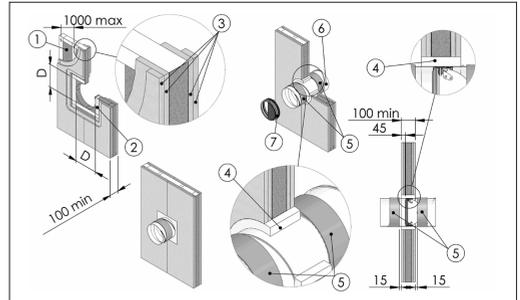
### Model FBC4 - FBC7: square hole, plasterboard and rock wool sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Rock wool, 100 kg/m<sup>3</sup> or mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Self-drilling screw  $\varnothing$  3,5 X 45 mm
7. Fire damper
8. Ventilation duct
9. Plasterboard arch infill, thickness 12,5 mm
- D from nominal diameter min + 50 to nominal diameter max + 70



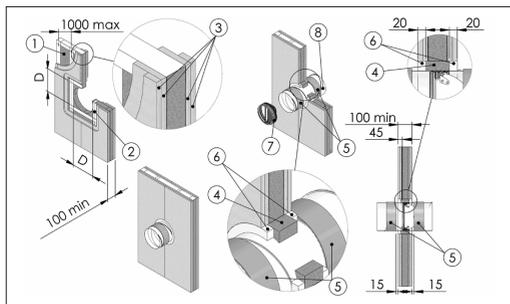
### Model FBC4 - FBC7: circular hole, mortar or plaster putty sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Ventilation duct
7. Fire damper
- D from nominal diameter min + 50 to nominal diameter max + 70



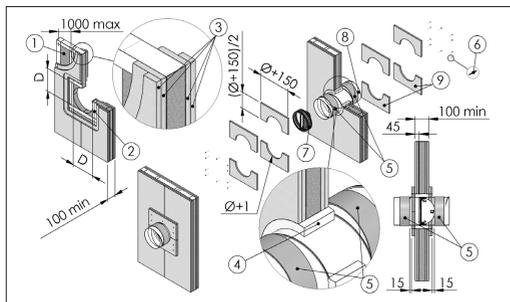
### Model FBC4 - FBC7: circular hole, mortar or plaster putty covered rock wool sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Rock wool, 40 kg/m<sup>3</sup>
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Mortar or plaster putty
7. Fire damper
8. Ventilation duct
- D from nominal diameter min + 50 to nominal diameter max + 70



### Model FBC4 - FBC7: circular hole, plasterboard and rock wool sealing

1. Wall rock wool density according to fire resistance class of the wall
2. Metal frame
3. Plasterboard, thickness 12,5 mm F type (EN 520)
4. Rock wool, 100 kg/m<sup>3</sup> or mortar or plaster putty
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Self-drilling screw  $\varnothing$  3,5 X 45 mm
7. Fire damper
8. Ventilation duct
9. Plasterboard arch infill, thickness 12,5 mm
- D from nominal diameter min + 50 to nominal diameter max + 70



#### ■ Installations within floor

Refer to the section Construction supports characteristics for further information.  
Comply with the minimum distances indicated on section Minimum distances .

#### ■ Floor opening

A opening must be provided in the floor as indicated in the drawing.

#### ■ Damper positioning

Install the fire damper in the ventilation duct as shown in the drawing.

#### ■ Filling

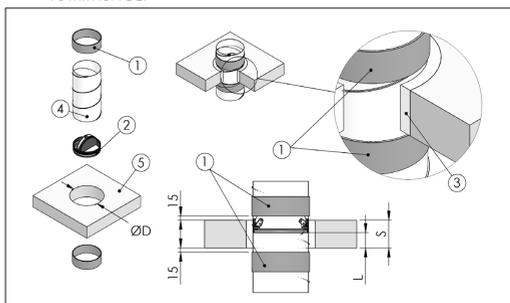
Fill the space between ventilation duct and wall as indicated in the drawing. Sealing with concrete is not allowed.

#### ■ Insulation

Apply the adhesive gaskets supplied with the damper at a distance of 15 mm from the sealing.

### Model FBC1 - FBC4 - FBC7: circular hole, mortar or plaster putty sealing

1. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
2. Fire damper
3. Mortar
4. Ventilation duct
5. Floor, minimum density 550 kg/m<sup>3</sup>
- D From nominal diameter min + 0 to nominal diameter max + 70
- S = min 100 mm for FBC1, FBC4  
= min 150 mm for FBC7
- L = 45 mm for FBC1, FBC4  
= 70 mm for FBC7



#### ■ Installations within vertical wall with Fire Batt (Weichschott) sealing

Refer to the section Construction supports characteristics for further information.  
Comply with the minimum distances indicated on section Minimum distances .

#### ■ Wall opening

A opening must be provided in the wall as indicated in the drawing.

#### ■ Damper positioning

Install the fire damper in the ventilation duct as shown in the drawing.

The fire damper has to be fixed at the bottom and suspended from the ceiling.

#### ■ Filling

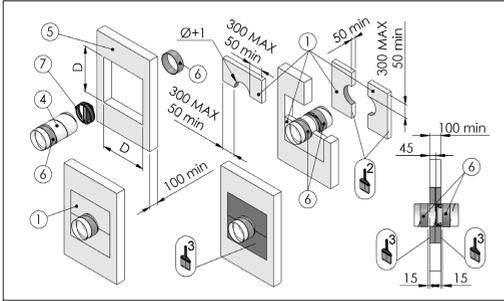
Fill the space between the damper and the wall using Fire Batt (Weichschott) sealing made from two rock wool panels with minimum thickness of 50 mm and minimum density of 140 kg/m<sup>3</sup>. The panels must be covered on both faces of the wall with endothermic varnish type PROMASTOP E PASTE or HILTI CFS-CT (minimum thickness of 1 mm) and with an internal perimeter sealant type PROMASTOP E PASTE or HILTI CFS-S ACR (minimum thickness of 1 mm).

#### ■ Insulation

Apply the adhesive gaskets supplied with the damper at a distance of 15 mm from the sealing.

### Model FBC1, FBC4, FBC7: square hole, Weichschott sealing

1. Rock wool panel 50 mm thick with 140 kg/m<sup>3</sup> density.
2. PROMASTOP E PASTE or HILTI CFS-S ACR type sealant
3. PROMASTOP E PASTE or HILTI CFS-CT endothermic varnish
4. Ventilation duct
5. Wall minimum density  $\geq 550$  kg / m<sup>3</sup> or light wall (plasterboard): type A (FBC1) / type F (FBC4, FBC7) (EN 520)
6. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
7. Fire damper
- D nominal diameter + 600 max



- Installation within floor with Fire Batt (Weichschott) sealing  
Refer to the section Construction supports characteristics for further information.  
Comply with the minimum distances indicated on section Minimum distances .

- Floor opening

A opening must be provided in the floor as indicated in the drawing.

- Damper positioning

Position the damper in the opening so that the side of the closing mechanism extends as indicated in the drawing.  
The mechanism can be located both above and below the floor.

- Filling

Fill the space between the damper and the floor using Fire Batt (Weichschott) sealing made from two rock wool panels with minimum thickness of 50 mm and minimum density of 140 kg/m<sup>3</sup>.

The panels must be covered on both faces of the wall with endothermic varnish type PROMASTOP E PASTE or HILTI CFS-CT (minimum thickness of 1 mm) and with an internal perimeter sealant type PROMASTOP E PASTE or HILTI CFS-S ACR (minimum thickness of 1 mm).

- Insulation

Apply the adhesive gaskets supplied with the damper at a distance of 15 mm from the sealing.

### Model FBC1, FBC4, FBC7: square hole, Weichschott sealing

1. Fire damper
2. PROMASTOP E PASTE or HILTI CFS-S ACR type sealant
3. PROMASTOP E PASTE or HILTI CFS-CT endothermic varnish
4. Ventilation duct
5. Adhesive gasket (supplied with the damper). Refer to the section Insulation if necessary
6. Rock wool panel 50 mm thick with 140 kg/m<sup>3</sup> density.
7. Floor, minimum density 550 kg/m<sup>3</sup>
- D Nominal diameter + 600 max
- S = min 100 mm for FBC1, FBC4  
= min 150 mm for FBC7
- L = 45 mm for FBC1, FBC4  
= 70 mm for FBC7

