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TECHNICAL MANUAL

FD25/FD40

Rectangular Fire damper

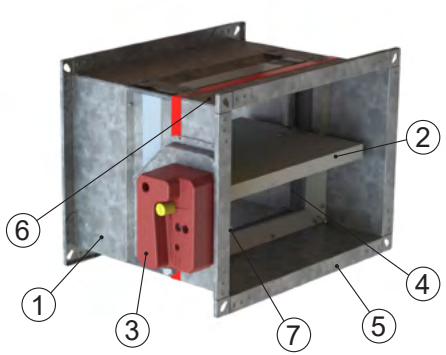
SUMMARY

1. PRODUCT PRESENTATION

Fire dampers FD25/FD40 are installed in ventilation ducts between fire compartments in order to stop the spread of fire and smoke trough the duct. They have a modular (manual or magnet) or motorized mechanism, entirely outside the wall.
Casing is made out of galvanized steel sheet, damper blade is made of special insulating material, and damper blade shaft and push rod are made of stainless steel. Bearings are made of brass, seals of polyurethane and elastomer.

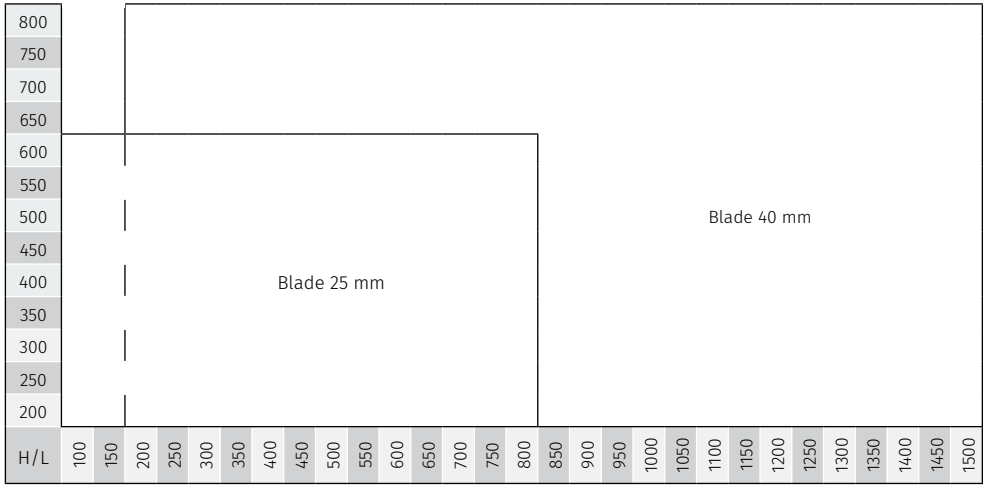
The fire damper can be equipped with a simple mechanism with thermal fuse, or with solenoid actuator mechanism or with electric actuator mechanism.

- Tested according to EN 1366-2 up to 500 Pa
- Airtightness according to standard EN 1751 class C
- Approved for installation in a concrete wall, a concrete slab, plasterboard wall and gypsum blocks wall
- Operating mechanism completely outside the wall
- Easy to install
- Maintenance free



1. Galvanized steel casing
2. Fire resistant damper blade
3. Control mechanism
4. Intumescent joint
5. Connection flanges
6. Product marking on the casing
7. Thermal fuse

2. DIMENSIONAL RANGE

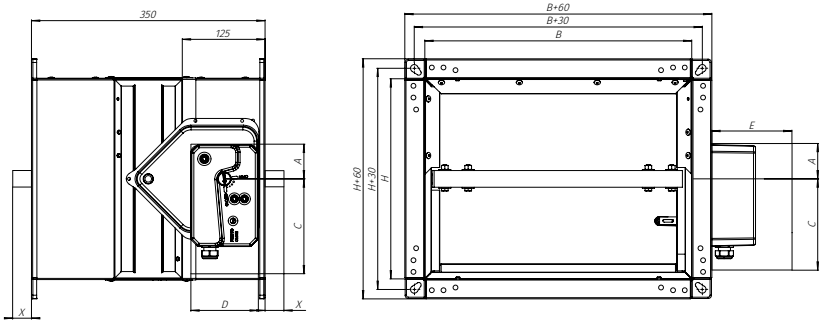


Free surface for FD25 (dm²) = (Width-40) * (Height/2 - 32,5) * 2 / 10 000
Free surface for FD40 (dm²) = (Width-40) * (Height/2 - 40) * 2 / 10 000

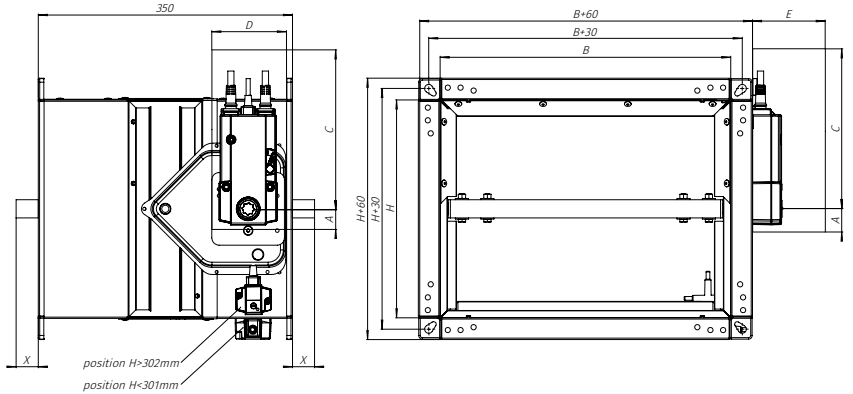
Width and height in mm
Overall length of the tunnel: 350 mm

3. DIMENSIONS

FD25 / FD40



FD25-M / FD40-M

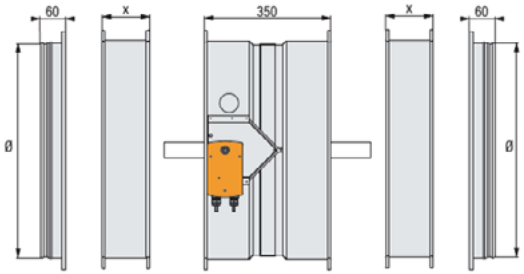


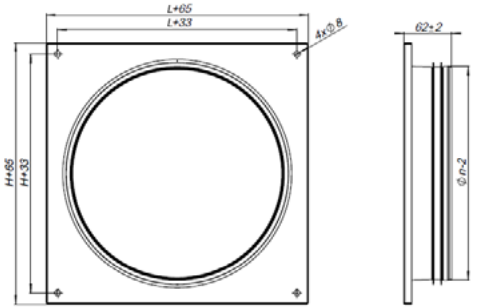
Lenght of damper blade outside of casing:
X=(Dn/2)-270 (mm)

Product		A	C	D	E
Belimo	BFL (M)	25	200	90	120
	BFN (M)	25	225	100	120
	BF (M)	50	250	100	120
Klimaoprema	-R (FD 25 & FDC 25)	55	150	105	150
	-R (FD 40 & FDC 40)	55	200	105	200
	-EMS/EMP (FD 25/40 & FDC 25/40)	55	200	105	200

Circular connections

The circular connections are used to connect the circular ventilation ducts to the rectangular fire dampers. When installing the connection plates, if the damper blade protrudes from the casing (check dimension X> 0 - chapter 4 - Dimensions), it is very important to install an extension piece of duct. The dimension X of the extension piece shall be calculated according to the equation X> (H-370) / 2 (mm). The connecting plate is provided with a lip seal.





Diameter of the connection plate	Dimension of the damper	
	L	H
Ø100	200	200
Ø125	200	200
Ø160	200	200
Ø200	200	200
Ø250	250	250
Ø315	350	350
Ø355	350	350
Ø400	400	400
Ø450	450	450
Ø500	500	500
Ø560	550	550
Ø630	650	650
Ø710	700	700
Ø800	800	800

4. STORAGE AND HANDLING

As a safety element, the fire damper must be stored, handled and installed carefully.

Pay attention to:
- unload in a dry area
- avoid any shocks
- do not use the damper as a workbench or scaffolding
- do not fit the small dampers in the large one

The damper must be stored in a dry place, and kept out of water and frost.
It should not be stacked beyond the original packaging.
It must be properly stowed so as to prevent any damage or deformation resulting from an impact or high humidity.
It must not be exposed to direct sunlight to prevent premature aging of the thermal fuse.
Once the damper is installed, the mechanism should be kept away from any projections (cement, paint, flocking, water, dust) that may harm its operation.
The damper must be protected against the risk of heavy condensation.
The intumescent joints are essential for the fire resistance of the damper, all mechanical actions on the refractory parts are to be excluded.
All precautions shall be taken to ensure that premature aging of the damper does not occur before it is actually installed.
The actions of wedging and caulking during the sealing of the dampers must not cause deformations that will alter the good functioning of the damper and in particular the closing of the blade.

5. INSTALLATION AND IMPLEMENTATION

5.1 INSTALLATION:

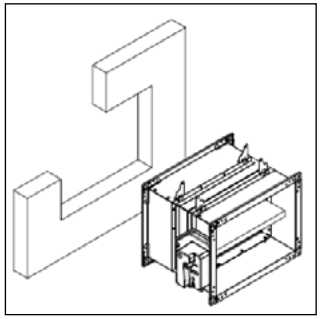
- Mounting is possible with the blade axis in horizontal or in vertical position
- The installation must comply with the tests that were performed during certification, s explained in 8.2.
- Avoid any obstruction of the moving blade by the connected ducts
- The class of air-tightness is maintained in case the installation of the damper is made in accordance with the tech nical manual
- Operating temperature: 50° C max
- For indoor use only

The FD25 / FD40 fire damper is always tested in standardized support frames (both in a concrete wall and in a flexible wall) in accordance with EN 1366-2: 1999 table 3/4/5. The results obtained are valid for all similar support frames which have a thickness and / or density and / or fire resistance similar or greater than the one of the test.

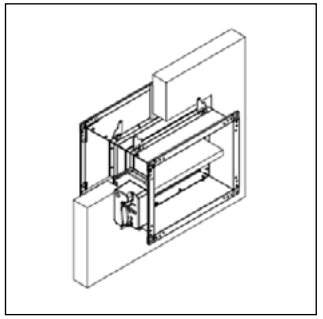
5.2 INSTALLATION AND SEALING:

5.2.1 Gypsum blocks wall mounting 70mm

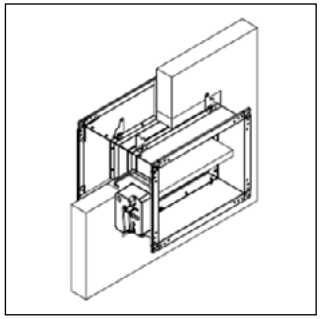
The wall is composed of gypsum blocks (minimum density of 995kg/m3), and with minimum thickness of 70mm.



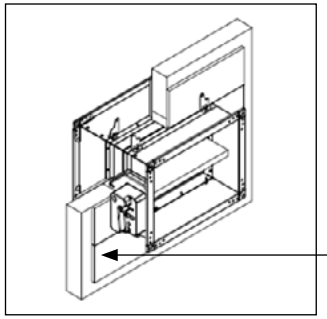
Place the damper in an opening of H + 80 mm and B + 80 mm or more



Fix the damper to the wall using screws



Fill the space between the damper and the wall with mortar



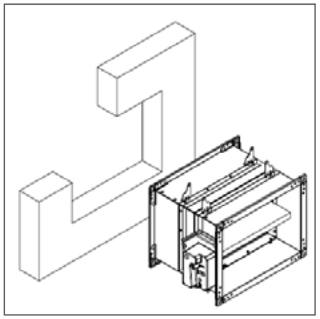
Cover the mortar with GFK gypsum boards (12,5 mm thick)

Dimensions (mm)	Mounting kit
All dimensions *	60061444

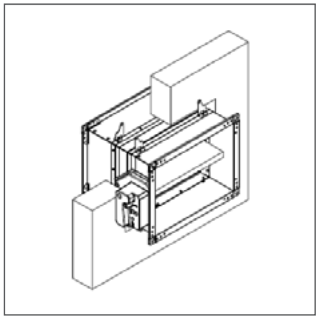
* The Kit is universal for all dimensions and must be cut to fit the specific dimensions of the damper

5.2.2 100 mm plaster blocks wall mounting

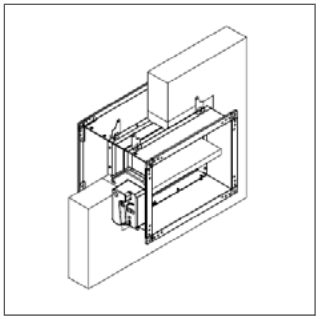
The wall is composed of gypsum blocks (minimum density of 995kg/m3), and with minimum thickness of 100mm.



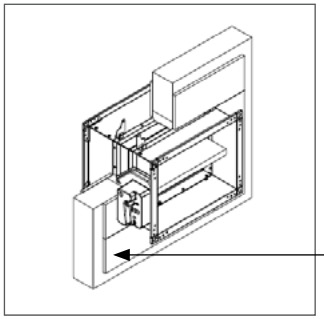
Place the damper in an opening of H + 80 mm and B + 80 mm or more



Fix the damper to the wall using screws



Fill the space between the damper and the wall with mortar



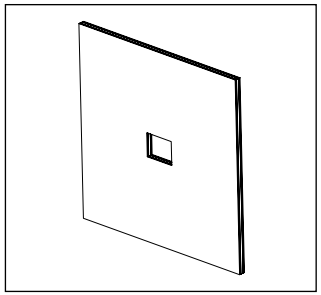
Cover the mortar with GFK gypsum boards (12,5 mm thick)

Dimensions (mm)	Mounting kit
All dimensions *	60061444

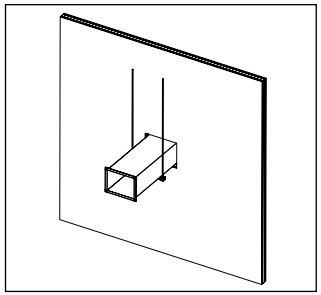
* The Kit is universal for all dimensions and must be cut to fit the specific dimensions of the damper

5.2.3 Installation remote from flexible/rigid wall

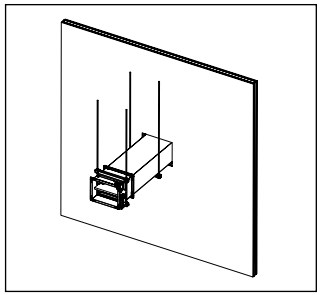
Installation in flexible/rigid wall.



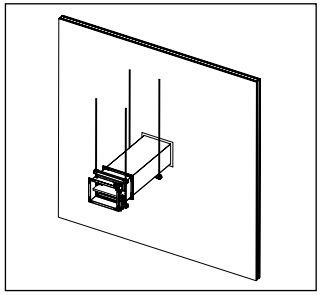
Recommended wall opening is B,H+70 mm



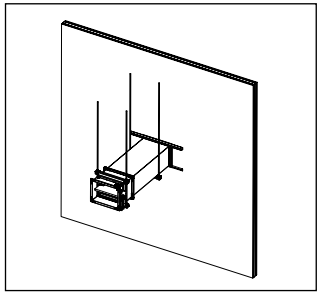
Place ventilation duct trough wall



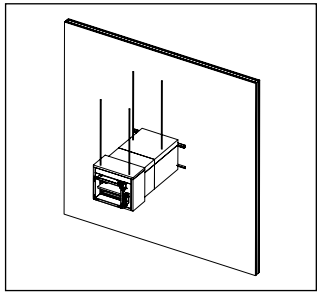
Install fire damper and secure it to ventilation duct



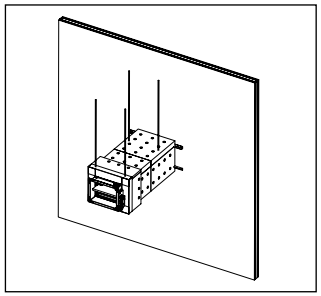
Fill space between duct and wall with mineral wool (Isover U protect). Additionally paint wool with Isover BSF in thickness of 1mm.



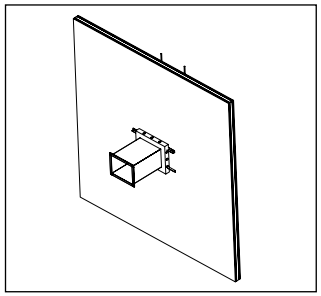
Close installation with L profiles 30x30x3mm. Additionally fix profiles to duct with self-tapping screws, and screw them to wall with 4,5x50 screws. Repeat the same procedure on the other side.



Install wool (Isover U protect). Wool should be glued to the wall with Isover BSK glue. Glue is applied in thickness 2mm. For details please see Isover U-protect brochure page 28.



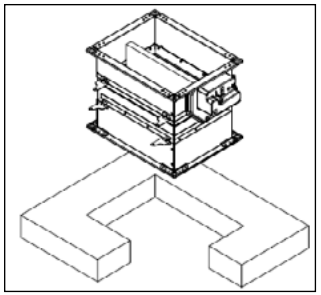
Secure the wool with welding nails. Nails are placed 60mm from the end of the plate and 150mm between each other. In the corner are aditionaly used IsoveFire-ProtectScrew screws on every 150mm. Additionally place steel protection on place where insulation on damper ends.



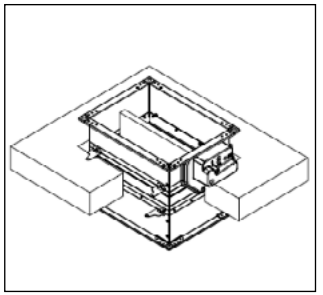
Place the wool on ventilation duct in lenght of 80m and secure it with-welding nails.

5.2.4 Aerated concrete ceiling installation and reinforced concrete ceiling installation

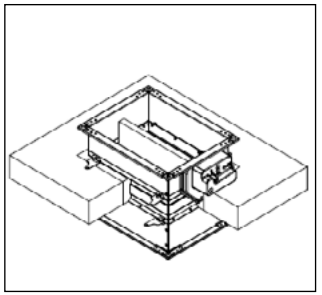
The ceiling is made of aerated concrete with a minimum density of 550 kg/m3 and a minimum thickness of 100 mm.



Place the damper in an opening of H + 80 mm and B + 80 mm or more



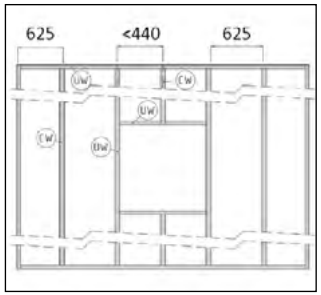
Fix the damper to the slab using screws



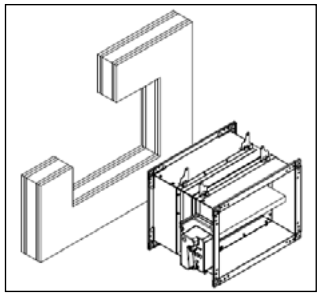
Fill the space between the damper and the slab with mortar

5.2.5 Flexible wall mounting

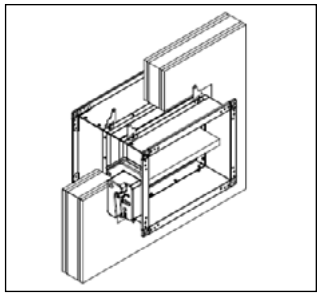
The wall is composed of 2x2 GKF plates (example PROMATECT 100, 12,5 mm thick), installed on a steel construction of 48 mm width.



Realization of the steel construction

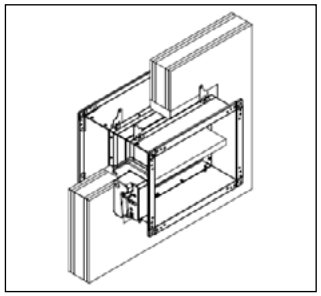


Place the damper in an opening of H + 80 mm and B + 80 mm or more

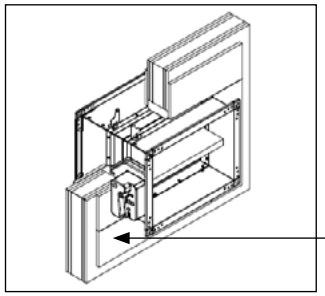


Fix the damper to the wall using screws

Mounting with mortar



Fill the space between the damper and the wall with mortar

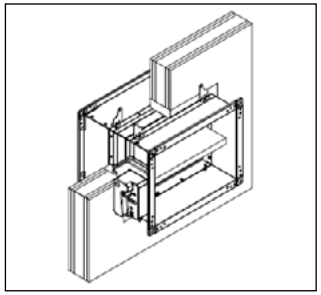


Cover the mortar with GFK gypsum boards (12,5 mm thick)

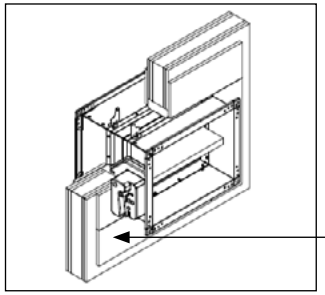
Dimensions (mm)	Mounting kit
All dimensions *	60061444

* The Kit is universal for all dimensions and must be cut to fit the specific dimensions of the damper

Mounting with mineral wool



Fill the space between the damper and the wall with mineral wool (100 kg/m3 of density)



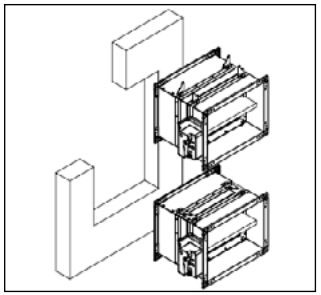
Cover the mortar with GFK gypsum boards (12,5 mm thick)

Dimensions (mm)	Mounting kit
All dimensions *	60061444

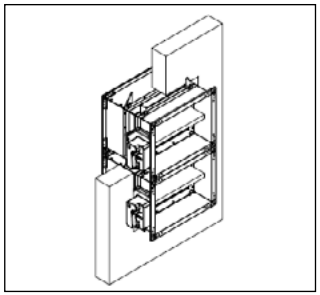
* The Kit is universal for all dimensions and must be cut to fit the specific dimensions of the damper

5.2.7 Battery installation

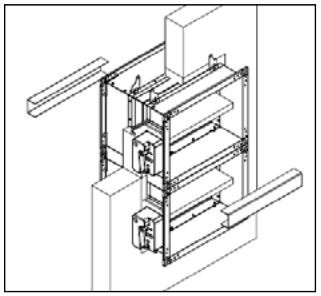
The wall is composed of blocks of aerated concrete (minimum density 550 kg/m3) and with a minimum thickness of 100 mm.



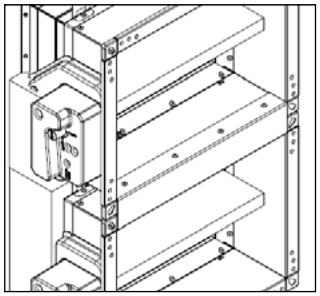
Place the damper in an opening of B + 80 mm and 2xH + 140mm



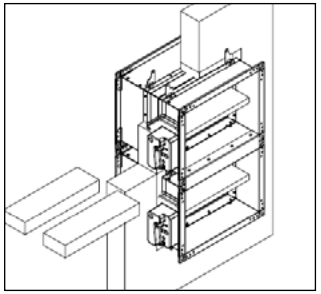
Fix the dampers to the wall using the screws and fill the space between the dampers and the wall with mortar



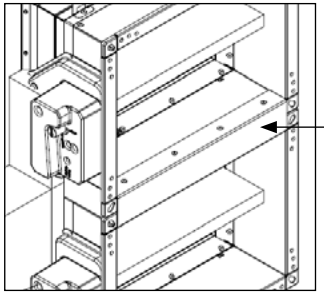
Place the installation kit to the dampers



Attach the installation kit to the dampers using the self-tapping screws (provided in the kit) every 350 mm



Fill the space between the dampers with mineral wool (100 kg/m3 of density)

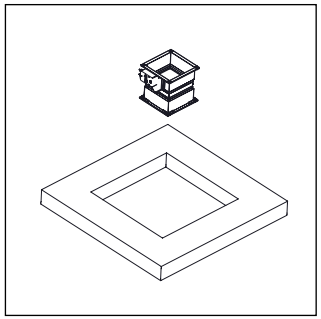


Installation completed

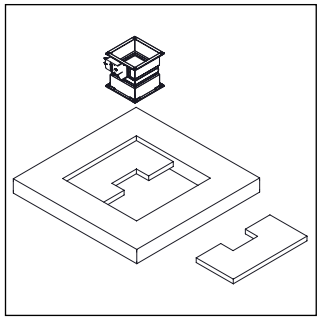
Width of the damper B (mm)	Mounting kit
850	60061445
900	60061446
950	60061447
1000	60061448
1050	60061449
1100	60061450
1150	60061451
1200	60061452
1250	60061453
1300	60061454
1350	60061455
1400	60061456
1450	60061457
1500	60061458

5.2.8 Installation in ceiling (Weichschott)

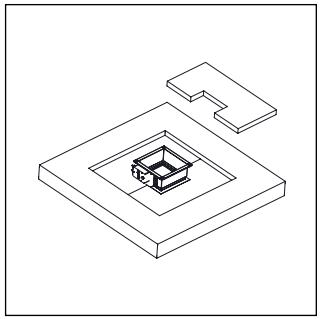
Installation material: Fire damper FD, Mineral wool >140kg/m3, Fire protection coating, (HILTI weichschott system)



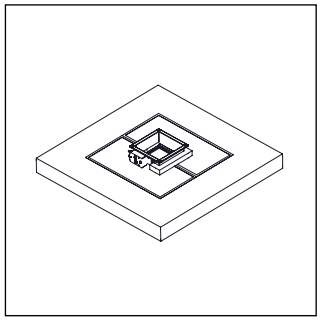
Recommended ceiling opening for fire damper installation is B(H) + 400mm, but openings from B(H) +80...600 mm can also be used



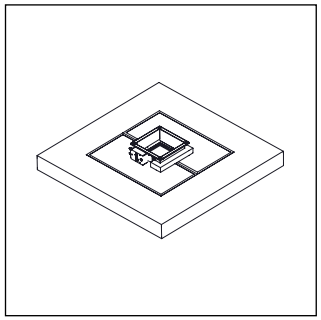
Insert fire damper into ceiling. Damper blade must be closed during installation!



Space between casing and ceiling must be closed with three layers of mineral wool (density 140 kg/m3 or more, coated on one side)



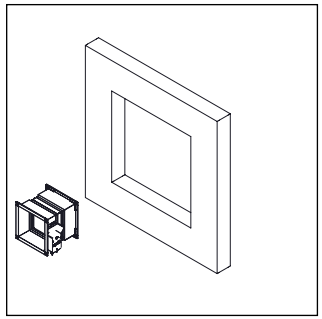
Connections of mineral wool must be sealed with intumescent fire resistant sealant. Mineral wool and damper casing must be coated with 2 mm thick fire protection coating



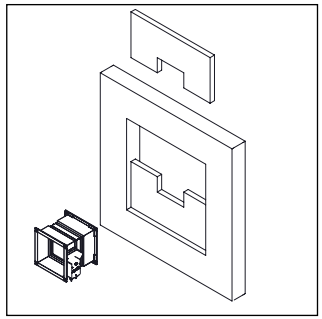
Cut additional 50 mm straps to cover perimeter of damper and ceiling

5.2.9 Installation in Flexible wall (Weichschott)

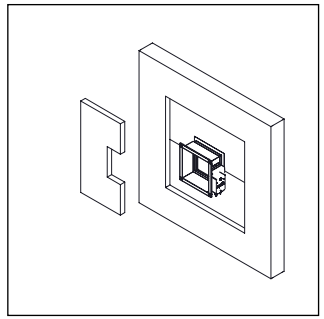
Installation material: Fire damper FD, Mineral wool >140kg/m3, Fire protection coating, (HILTI weichschott system)



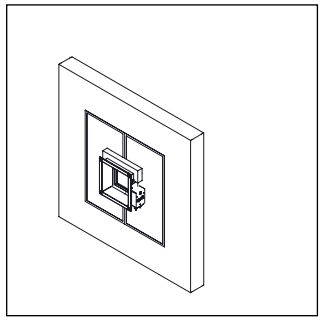
Recommended wall opening for fire damper installation is B(H) + 400mm, but openings from B(H) +80...600 mm can also be used



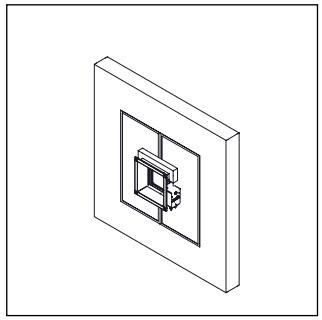
Insert fire damper into wall. Damper blade must be closed during installation!



Space between casing and wall must be closed with three layers of mineral wool (density 140 kg/m3 or more, coated on one side)



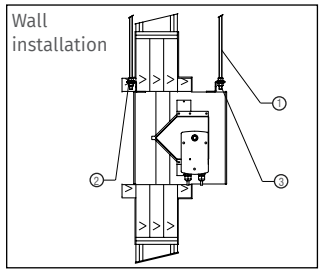
Connections of mineral wool must be sealed with intumescent fire resistant sealant. Mineral wool and damper casing must be coated with 2 mm thick fire protection coating

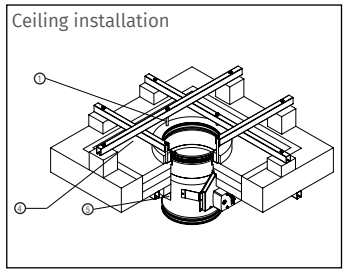


Cut additional 50 mm straps to cover perimeter of damper and wall from three sides (bottom one is not needed)

Suspension for mortarless installation

Suspension systems are required for the dry mortarless installation of the fire damper with mineral wool in solid walls, flexible walls and ceiling slabs. Fire dampers can be suspended from solid ceiling slabs using adequately sized threaded rods. Load the suspension system only with the weight of the fire damper. Ducts must be suspended separately. Suspension systems longer than 1.5 m require fire-resistant insulation.

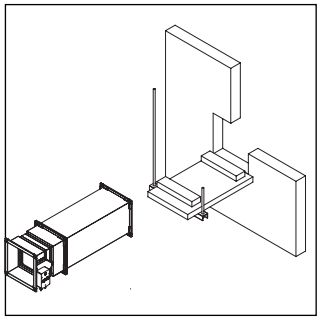




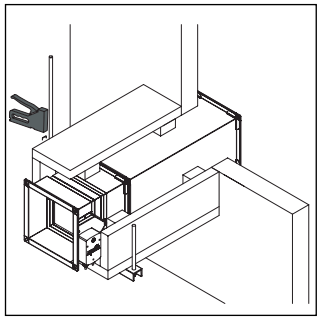
1. Threaded rod (M10), galvanized steel
2. Washer, galvanized steel
3. Nut, galvanized steel
4. Bracket, 45x30x1,5 mm, galvanized steel
5. Screw (M10)
6. L shaped profile (50x50x1) secured with self tapping screw to damper housing, every 400mm

5.2.10 Remote from rigid wall (Promat)

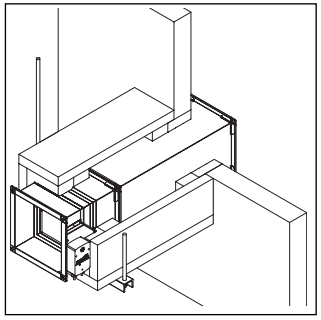
Prepare wall opening B (H) + 100 mm. Place fire damper on pre-cut calcium silicate 52mm (Promat L500). 100mm wide supports from same material need to be used to support the duct as well as the damper.



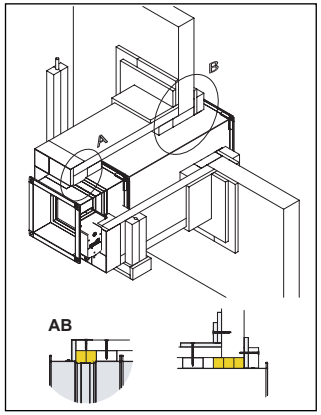
Fit the duct and the damper through the wall, and cover them with 52 mm calcium silicate (Promat L500). Board corner joints must be glued with glue PROMAT K84 and connected with staples every 100mm.



The gap between the damper and the wall must be filled with mineral wool (density 140 kg / m3 or more).



Close the mineral wool with Promatect H plates 20mm thick. Duct and damper supporting brackets have to be insulated with 52 and 20mm calcium silicate boards (Promatect H and L500).



More detail drawing of installation will be send upon request!

6. CONTROL MECANISMS

MANUAL FUSE ONLY MECHANISM

Self-operating mechanism equipped with a thermal fuse.

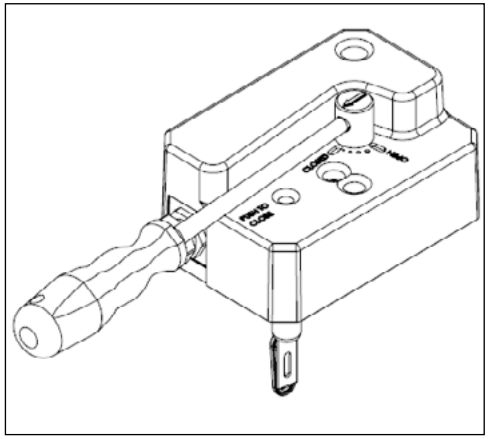
The Manual fuse only control mechanism closes the damper blade automatically if the temperature in the duct exceeds 72 °C. The damper is reset manually by means of a screwdriver.

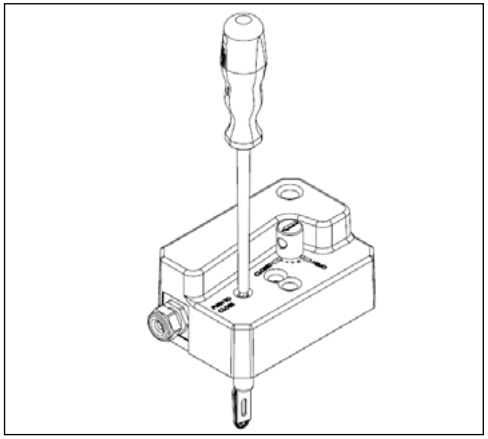
Standard equipment:

- Thermal fuse 72 °C
- Manual triggering is possible
- Manual reset, use the screwdriver (turn counterclockwise)

To open the damper, insert the screwdriver into the shaft (parallel to the ventilation duct axis) and turn counterclockwise

To close the damper, press the thermal fuse head with a screwdriver





Options :

For this self-operating version, the double contact – S - is available as an option (factory option or after-sales kit):
The double contact S (OPEN / CLOSED) consists of:
- electric limit switch indicating CLOSED position
- electric limit switch indicating OPEN position

MANUAL FUSE ONLY MECHANISM UPGRADABLE TO SOLENOID ACTUATOR

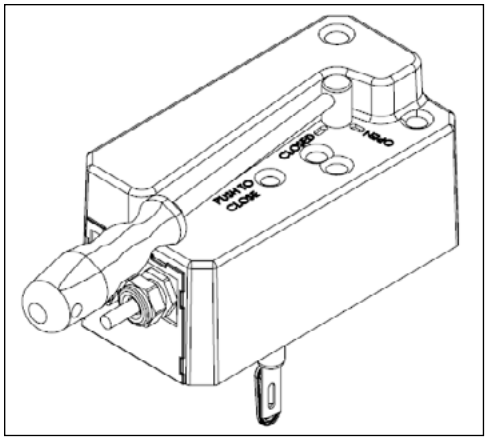
FD25/FD40 in self-operating version

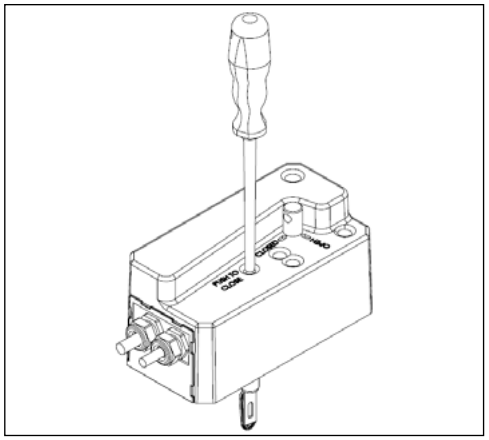
Activation :
- Manual activation: Push the release button.
- Self-operating activation: With a fuse at 72 ºC

Resetting :
- Manual reset: Turn the screwdriver counter clockwise

To open the damper, insert the screwdriver into the shaft (parallel to the ventilation duct axis) and turn counterclockwise

To close the damper, press the thermal fuse head with a screwdriver





Options:
· For this self-operating version, the double contact – S and the 4-contacts – S2 - are available as an option (factory option or after-sales kit):

The 4-contact – S2 - consists of:
· electric limit switch indicating CLOSED position
· electric limit switch indicating OPEN position
· additional electric limit switch indicating CLOSED position
· additional electric limit switch indicating OPEN

FD25/FD40 solenoid actuator version: EVO T

Activation:
· Manual activation: Push the release button.
· Self-operating activation: With a fuse at 72 ºC
· Remote activation: By emission or break of current (solenoid with 24/48 V automatic voltage)

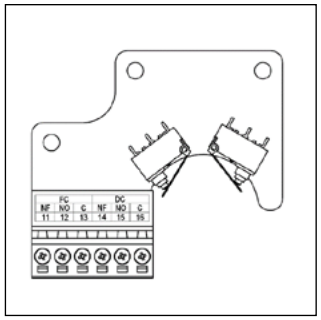
Resetting:
· Réarmement manuel : Tourner le levier dans le sens anti horaire

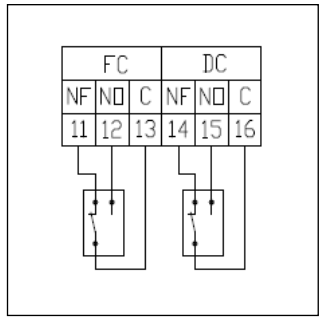
Reminder:
· For this version with remote activation, the double contact S (OPEN / CLOSED) are mounted as standard equipment
· The 4-contact – S2 - are available as an option (factory option or after-sales kit).

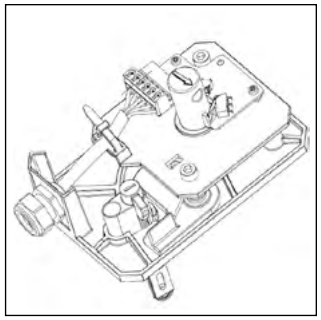
7. ELECTRICAL CONNECTIONS

FD25 MANUAL FUSE ONLY MECHANISM

· Electrical wiring of the S option
Electronic control board



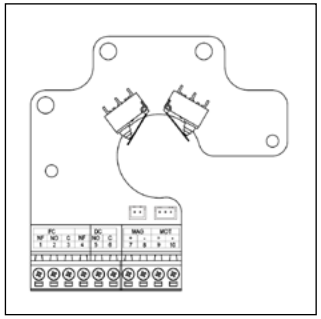


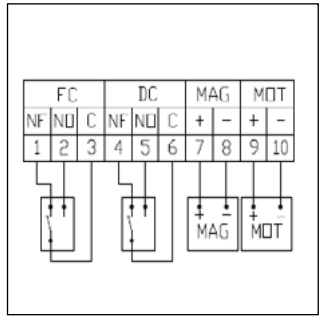


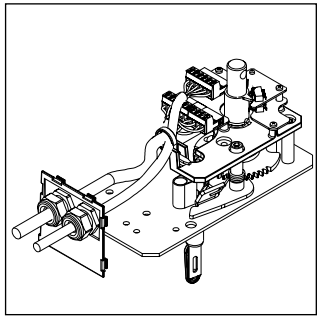
FC = Limit switch - end
DC = Limit switch - start
C = common
NO = normally open
NF = normally closed

MANUAL FUSE ONLY MECHANISM UPGRADABLE TO SOLENOID ACTUATOR

· Electrical wiring of solenoid option
Main electronic control board of coil supply





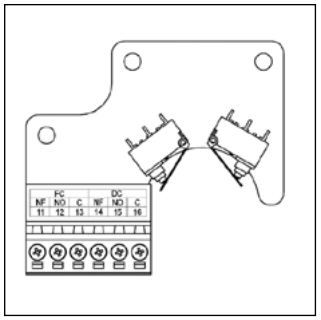


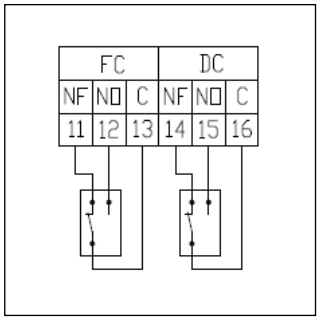
MOT = not in use
MAG = solenoid power supply terminals (24 or 48 VDC)

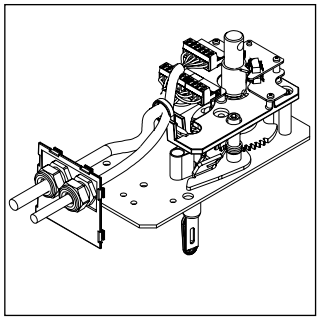
· Electrical wiring of the S option
Main electronic control board of coil supply

FC = Limit switch - end
DC = Limit switch - start
C = common
NO = normally open
NF = normally closed

• Electrical wiring of the S2 option (4 contactors).
Electronic control board







FC = Limit switch - end
DC = Limit switch - start

C = common
NO = normally open

NF = normally closed

ELECTRICAL SPECIFICATIONS	FD25 FUSE ONLY	FD25/FD40 FUSE ONLY UPGRADABLE TO SOLENOID ACTUATOR
Nominal voltage	N/A	Solenoid: 24/48 VDC (automatic change on the electronic card)
Power	N/A	Dual voltage SOLENOID: • Break of current: Pnom = 1.6W • Emission of current: Pmax = 3.5 W
Switching capacity of the FDCU and FDCB contactors	1mA...500mA, 5VDC...48VDC	1mA...500mA, 5VDC...48VDC
Blade closure time Blade opening time	Spring: 1 second Manual	Spring: 1 second
Degree of protection	IP 42	IP 42

8. OTHER MECANISMS

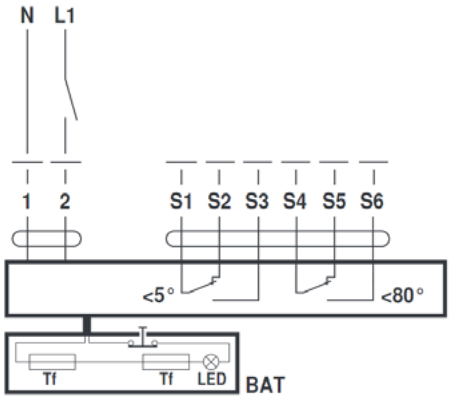
Belimo

Operation

Damper is delivered in closed position. When electric actuator is connected to the power supply damper will open. When the damper reaches the end position (damper open), in which is it blocked, the electromotor will stop. Closing fire damper takes place automati¬cally when a power failure occurs. Thermal tripping device that comes with fire damper causes power circuit break at a temperature of 72 °C (inside or outside duct). If checking is needed for proper functioning of fire damper, pushing the switch on the thermal tripping device will close damper. When switch on tripping device is released, the damper will open.

Damper can be opened without connecting to a voltage with enclosed handle turning in the direction of the arrow on electric actuator (clockwise). Damper can be locked in the desired position by fast turning back handle a quarter of a turn (counterclockwise) for Belimo BF, and by puling brake on Belimo BFL and BFN.
To unlock the electromotor, turn handle clockwise for a quarter of a turn for Belimo BF, or release brake for Belimo BFL and BFN. After release, damper will be closed by return spring. When damper is opened manually, electric actuator will not move the damper into closed position after power failure (ther¬moelectric fuse).

Wiring diagram



Type of Belimo actuator		BFL24-T	BFN24-T	BFL230-T	BFN230-T	BF24-T	BF230-T
Nominal voltage / power consumption	voltage	AC/DC 24V, 50/60Hz	AC 24V, 50/60Hz	AC 230V, 50/60Hz	AC 230V, 50/60Hz	AC/DC 24V, 50/60Hz	AC 230V, 50/60Hz
	opening	2,5 W	4 W	3,5 W	5 W	7 W	8.5 W
	holding	0,8 W	1,4 W	1,1 W	2,1 W	2 W	3 W
	for wire sizing	4 VA	6 VA	6,5 VA	10 VA	10 VA	11 VA
End switch		1 mA...3 A (0,5 A), DC 5 V...AC 250V	1 mA...3 A (0.5 A), DC 5 V...AC 250 V	1 mA...3 A (0.5 A), DC 5 V...AC 250 V	1 mA...3 A (0.5 A), DC 5 V...AC 250 V	1 mA...6 A (3 A), DC 5 V... AC 250 V	1 mA...3 A (0.5 A), DC 5 V...AC 250 V
Running time	motor	<60 s	<60 s	<60 s	<60 s	<120 s	<120 s
	spring-return	~20 s	~20 s	~20 s	~20 s	~16 s	~16 s
Ambient temperature range		min. -30°C, max. 50°C					

1	negative (direct-current) or neutral (alternating current)
2	positive (direct-current) or faze (alternating current)
S1	common micro switch closed damper
S2	normally closed micro switch closed damper
S3	normally open micro switch closed damper
S4	common micro switch open damper
S5	normally closed micro switch open damper
S6	normally open micro switch open damper
Tf1	temperature sensor on the outer side of the duct (ambienttemperature) max. 72°C
Tf2	temperature sensor on the inner side of the duct (temperature in the duct) max. 72°C
Tf3	temperature sensor on the inner side of the duct (temperature in the duct) max. 72°C

SCHISCHEK ExMax

Operation

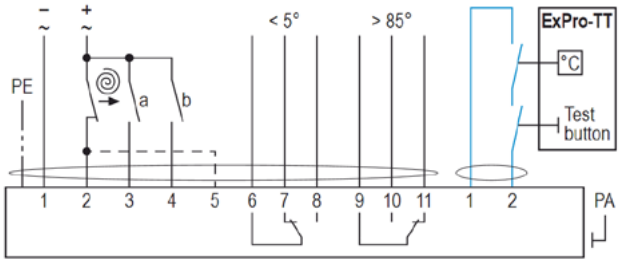
Damper is delivered in closed position. When electric actuator is connected to the power supply damper will open. When the damper reaches the end position (damper open), in which is it blocked, the electromotor will stop. Closing fire damper takes place automati¬cally when a power failure occurs. Thermal tripping device that comes with fire damper causes power circuit break at a temperature of 72 °C (inside or outside duct). If checking is needed for proper functioning of fire damper, pushing the switch on the thermal tripping device will close damper. When switch on tripping device is released, the damper will open.

Damper can be opened without connecting to a voltage with enclosed Allen key, by turning in the direction of the arrow on electric actuator (clockwise). After release of Allen key, damper will go to closed position.
Type Examination Certificate Number:
EXA 14 ATEX0064X
Equippment complies with the essential health and safety requirements relating to the design and construction of equippment intended to use in potentially explosive atmospheres given in annex II of the directive 94/9/EC.

Ex II - 2G - IIC - T6

Ex II - 2D - IIC - T80°

Wiring diagram



9. EVOLUTION OR SERVICE KITS

	Designation	Code	
Fuse only mechanism	**Fuse kit**	FD-JHERM-72	
	Double contact S kit	FD-S-KIT	
Upgradeable to solenoid	**4-contacts S2 kit**	FD-DS-KIT	
	Solenoid current emission kit	FD-EMS-KIT	
	Solenoid current break kit	FD-EMP-KIT	

10. MAINTENANCE

- Observe the requirements specified in the NF S 61-933.
- Provide at least one annual check of the damper
- After each intervention, provide a systematic cleaning of dust and especially the solenoid and its movable plate
- Check the if the electrical terminals are tightened

Efectis

EFECTIS France
Espace Technologique
Bâtiment Apollo
Route de l'Orme des Merisiers
F-91193 Saint-Aubin
www.efectis.com

CERTIFICAT DE CONSTANCE DES PERFORMANCES
CERTIFICATE OF CONSTANCY OF PERFORMANCE

CERTIFICAT DE CONSTANCE DES PERFORMANCES — N° 1812-CPR-1162

CERTIFICATE OF CONSTANCY OF PERFORMANCE

Conformément au Règlement 305/2011/EU du Parlement européen et du Conseil du 9 mars 2011 (Règlement Produits de Construction - RPC), il a été établi que le produit de construction :
In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), it was established that the construction product

Produit / *Product* : **CLAPETS COUPE-FEU** / *FIRE DAMPERS*

Référence du produit / *Reference of the product* : **Rectangular fire dampers FD 25 & FD 40**

mis sur le marché par ou pour / *placed on the market by or for* : **KLIMAOPREMA d.d.
Gradna 78A
10430 SAMOBOR - Croatia**

et produit dans l'usine de fabrication de / *and produced in the manufacturing plant located in* : **Nova Gradiska (Croatia)**

est soumis par le fabricant à un contrôle de production en usine, et que EFECTIS France, organisme de certification notifié, a réalisé les essais/calculs de type initiaux relatifs aux caractéristiques concernées du produit, l'inspection initiale de l'usine et du contrôle de la production en usine, et réalise la surveillance continue, l'évaluation et l'acceptation du contrôle de la production en usine.
is submitted by the manufacturer to a factory production control , and that the notified certification body EFECTIS France, has performed the initial type-testing for the relevant characteristics of the product, the initial inspection of the factory and of the factory production control and performs the continuous surveillance, assessment and approval of factory production control

Ce certificat atteste que toutes les dispositions concernant l'évaluation et la vérification de la constance des performances et les performances décrites dans l'annexe ZA de la norme de référence **EN 15650 : 2010** pour le **système 1** sont appliquées, et que le ou les produits satisfont toutes les exigences prescrites.
This certificate attests that all provisions concerning the assessment and verification of constancy of performance and the performance, described in Annex ZA of the standard EN 15650 : 2010 under system 1 are applied, and that the product(s) fulfill(s) all the prescribed requirements set out above

Ce certificat, délivré pour la première fois le **30 janvier 2017**, demeure valide tant que les exigences relatives aux méthodes d'essai et au contrôle de production en usine incluses dans la norme harmonisée et utilisées pour évaluer les caractéristiques déclarées restent inchangées, et que le produit et les conditions de fabrication dans l'usine ne sont pas modifiés de manière significative.
This certificate, first issued on January 30th 2017, remains valid as long as the test methods and/or factory production control requirements included in the harmonised standard, used to assess the performance of the declared characteristics, do not change, and the product and the manufacturing conditions in the plant are not modified significantly.

Ce certificat permet au fabricant, ses mandataires ou ses distributeurs, établis dans l'Espace Economique Européen, d'apposer le marquage CE.
This certificate allows the manufacturer, its mandatories or its distributors, stated in the European Economic Area, to affix the CE marking.

Certificat établi à Saint-Aubin le / *Certificate established at Saint-Aubin on* : **30/01/2017.**

Par délégation du Directeur technique Certification / *By delegation of the technical Certification director.*

Yannick LE TALLEC
Directrice Certification / *Certification director*

cofrac

Organisme notifié / *Notified body*
n° 1812

DECLARATION OF PERFORMANCE

No: DoP 710/207_1_EN

1. Unique identification code of the product-type: Rectangular fire damper
2. Identification of the construction product: FD25/40
3. Intended use(s) of the construction product: Rectangular fire damper to be used in conjunction with fire separating elements to maintain fire compartments in HVAC installations.
4. Name and contact address of the manufacturer: Klimaoprema d.d., Gradna 78A, 10430 Samobor
5. Not applicable
6. System of assessment and verification of constancy of performance of the construction prouddt: System 1
7. In case of the declaration of performance concerning a construction product covered by a harmonised standard: The notified body 1396 carried out the initial inspection of the manufacturing plant and of the factory production control as well as the continous surveillance, assessment and evaluation of factory production control under system 1 and issued the Certificate of constancy of performance 1812 - CPR - 1162
8. Not applicable
9. Declared performance according to EN 15650: (Fire resistance according to EN 1366-2 and classifications according to EN 13501-3)

Harmonised standard EN 15650:2010					
Essential characteristics					**Performance**
Range	**Supporting construction**	**Supporting construction details**	**Type of installation**		**Classification**
100x200 mm up to 1500x800 mm	Rigid wall	Aerated concrete (≥550kg/m3) ≥100mm/battery	Gypsum plaster/Mortar		EI 120 (ve i↔o)S (500Pa)
		Reinforced concrete (≥2200kg/m3) ≥100mm/battery	Gypsum plaster/Mortar		EI 120 (ve i↔o)S (500Pa)
		Gypsum blocks (≥995kg/m3) ≥70mm	Gypsum plaster/Mortar		EI 120 (ve i↔o)S (500Pa)
	Flexible wall	Plasterboard type 98/48 ≥100mm	Gypsum plaster/Mortar		EI 120 (ve i↔o)S (500 Pa)
		Plasterboard type 98/48 ≥100mm	Mineral wool + covet boards		EI 90 (ve i↔o)S (500 Pa)
	Floor/ceiling	Aerated concrete (≥550kg/m3) ≥100mm	Gypsum plaster/Mortar		EI 120 (ho i↔o)S (500Pa)
		Reinforced concrete (≥2200kg/m3) ≥100mm	Gypsum plaster/Mortar		EI 120 (ho i↔o)S (500Pa)
Type of installation: built in, 0-90-180-270°					
Nominal activation conditions/sensitivity according to ISO 10294-4: - sensing element load bearing capacity - sensing element response temperature					Passed
Response delay (closing time) according to EN 1366-2:					Passed
Operational reliability (opening, closing) according to EN 1366-2:					Passed
Durability of response delay according to ISO 10294-4: - sensing element response to temperature and load bearing capacity					Passed
Durability of operational reliability (opening and closing cycle) according to EN 15650: - Belimo, Schischek, Siemens - 10 000 cycles - Fuse only, Fuse + electromagnet (Klimaoprema) - 300 cycles					Passed
Protection against corrosion according to EN 60068-2-52:					NPD
Damper blade and casing leakage according to EN 1751:					Class ≥ C

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 7.
This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.
Signed for on behalf of the manufacturer by:

Sergio Galošić, General manager

Samobor, 3. February 2017

klimaoprema HVAC SOLUTIONS

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