AMS
AIR MOVEMENT SUPPLIES

"Don't be afraid to give up the good to go for the great."
— John D. Rockefeller

TRUSTED PARTNER OF

Rf-t Rf-Technologies

FIRE DAMPERS

CU-LT

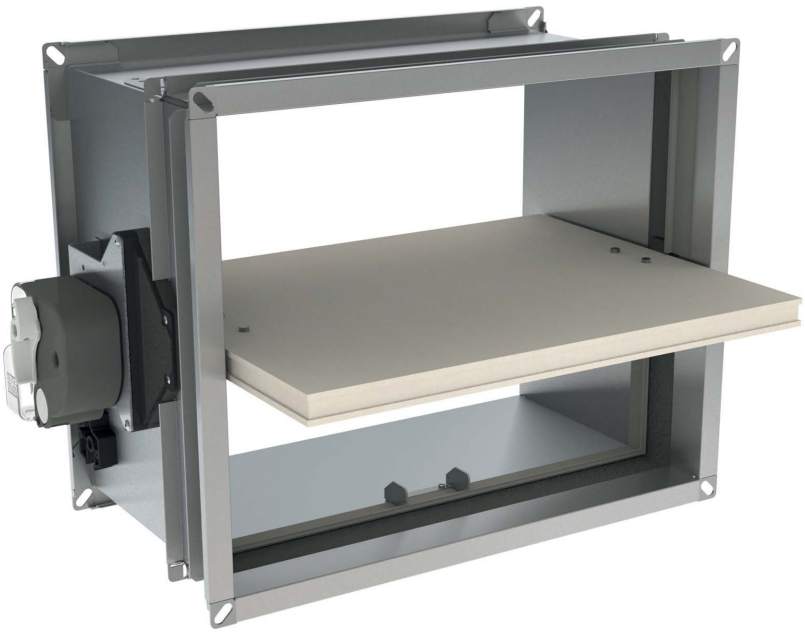
Up to 120 minutes.

Suitable for installation in solid wall/floor and flexible walls.

Manual handle or motorized.

From 200×100mm to 800×600mm.

Access port pre-fitted.



Conforms with:

- Standard EN 15650
- Tested to EN 1366-2 (500Pa)
- Classified under EN 13501-3
- Leakage to EN 1751 (Class C)

CE

AMS
AIR MOVEMENT SUPPLIES
Unit 23, Second Avenue, Cookstown Ind. Est., Tallaght, Dublin 24, D24 FP95.
Ph: +353 1 463 4300
www.amsventilation.com

Explanation of the abbreviations and pictograms

Wn = nominal width
Hn = nominal height
Dn = nominal diameter
E = integrity
I = thermal insulation
S = smoke leakage
Pa = pascal
ve = vertical wall penetration
ho = horizontal floor penetration
o -> i = meets the criteria from the outside (o) to the inside (i)
i <-> o = fire side not important
V AC = Volt alternating current
V DC = Volt direct current

E.TELE = power supply magnet
E.ALIM = power supply motor
V = volt
W = watt
Auto = automatic
Tele = remote controlled
Pnom = nominal capacity
Pmax = maximum capacity
GKB (type A) / GKF (type F): "GKB" stands for standard plasterboards (type A according to EN 520) while "GKF" plasterboards offer a higher fire resistance for a similar plate thickness (type F according to EN 520)
Cal-Sil = calcium silicate
OP = option (delivered with the product)
KIT = kit (delivered separately for repair or upgrade)
PG = connection flange to the duct

Sn = free air passage
ζ [-] = pressure loss coefficient
Q = airflow
ΔP = static pressure drop
v = air speed in the duct
Lwa = A-weighted sound power level
Lw oct = sound power level per octave midband
dB(A) = A-weighted decibel value
ΔL = correction factor

EN 1751 C	air-tightness class C according to EN1751		higher net building volume through compact size
	optimal acoustic performance	Sn ΔP	optimal free air passage and minimal pressure loss
	Hygiene certificate (www.HYG.de)		suitable for built-in installation
	suitable for installation remote from the wall		intermediate dimensions on request
	minimal distance allowed	BASTA OK	sealing with fire resistant stone wool boards allowed, also for asymmetric opening

" The secret to success is to know something nobody else knows. "
— Aristotle Onasis

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Rf-Technologies

FIRE DAMPERS

CU-LT

Optimised rectangular fire damper up to 120'

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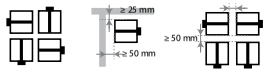
DECLARATION OF PERFORMANCE

CE_DoP_Rf-t_C3_EN ■ K-08/2021

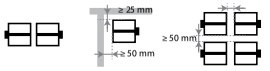
1. Unique identification code of the product-type:	**CU-LT**
2. Intended use/es:	Rectangular fire damper to be used in conjunction with partitions to maintain fire compartments in heating, ventilating and air conditioning installations.
3. Manufacturer:	Rf-Technologies NV, Lange Ambachtstraat 40, B-9860 Oosterzele
4. System/s of AVCP:	System 1
5. Harmonised standard / European Assessment Document; notified body / European Technical Assessment, Technical Assessment Body, notified body; certificate of constancy of performance:	EN 15650:2010, BCCA with identification number 0749; BCCA-0749-CPR-BC1-606-0464-15650.05-0464
6. Declared performance according to EN 15650:2010	(Fire resistance according to EN 1366-2 and classifications according to EN 13501-3)

Essential characteristics					Performance
Range	**Wall type**	**Wall**	**Sealing**	**Installation**	**Classification**
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Mortar	1	EI 90 (v_e i ↔ o) S - (500 Pa)
			Gypsum	1	EI 120 (v_e i ↔ o) S - (500 Pa)
			Stone wool + coating ≥ 140 kg/m³ + coated casing	1	EI 120 (v_e i ↔ o) S - (300 Pa)
			Stone wool + coating ≥ 140 kg/m³	1	EI 90 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + stone wool + coating ≥ 150 kg/m³ 1x60 mm + IFW installation kit	2	EI 60 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + stone wool + coating ≥ 140 kg/m³ 1x80 mm + IFW installation kit	2	EI 90 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + stone wool + coating ≥ 140 kg/m³ 2x50 mm + IFW installation kit	2	EI 90 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + GEOFLAM® F 45 mm + mortar	2	EI 120 (v_e i ↔ o) S - (500 Pa)
			Galvanised duct + GEOFLAM® Light 35 mm + mortar	2	EI 120 (v_e i ↔ o) S - (500 Pa)
	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) ≥ 100 mm	Installation kit	3	EI 60 (v_e i ↔ o) S - (500 Pa)
			Gypsum	1	EI 60 (v_e i ↔ o) S - (500 Pa)
			Stone wool + coating ≥ 140 kg/m³	1	EI 60 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + stone wool + coating ≥ 150 kg/m³ 1x60 mm + IFW installation kit	2	EI 60 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + stone wool + coating ≥ 140 kg/m³ 2x50 mm + IFW installation kit	2	EI 60 (v_e i ↔ o) S - (300 Pa)
		Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Installation kit	3	EI 90 (v_e i ↔ o) S - (500 Pa)
			Gypsum	1	EI 90 (v_e i ↔ o) S - (500 Pa)
			Mortar	2	EI 90 (v_e i ↔ o) S - (300 Pa)
			Stone wool + coating ≥ 140 kg/m³ + coated casing	1	EI 120 (v_e i ↔ o) S - (300 Pa)
			Stone wool + coating ≥ 140 kg/m³	1	EI 90 (v_e i ↔ o) S - (300 Pa)
			Galvanised duct + stone wool + coating ≥ 140 kg/m³ 2x50 mm + IFW installation kit	2	EI 90 (v_e i ↔ o) S - (300 Pa)
	Rigid floor	Reinforced concrete ≥ 110 mm	Mortar	1	EI 90 (h_o i ↔ o) S - (500 Pa)
		Reinforced concrete ≥ 150 mm	Gypsum	1	EI 120 (h_o i ↔ o) S - (500 Pa)
		Aerated concrete ≥ 150 mm	Gypsum	1	EI 120 (h_o i ↔ o) S - (500 Pa)
			Stone wool + coating ≥ 140 kg/m³ + coated casing	1	EI 120 (h_o i ↔ o) S - (300 Pa)
			Stone wool + coating ≥ 140 kg/m³	1	EI 90 (h_o i ↔ o) S - (300 Pa)

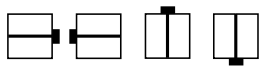
1 Type of installation: built-in 0/90/180/270°. Minimal distances authorised.



2 Type of installation: remote from the wall, 0/180°. Minimal distances authorised.



3 Type of installation: built-in 0/90/180/270°



Harmonised standard EN 15650:2010

Nominal activation conditions/sensitivity:	Pass
Response delay (response time): closure time	Pass
Operational reliability: cycling	MFUSP - 50 cycles; MMAG - 300 cycles; B(L)F(T) - 10000 cycles; BFL(T) - 10000 cycles; ONE - 10000 cycles; ONE-X - 10000 cycles; UNIQ - 10000 cycles
Durability of response delay:	Pass
Durability of operational reliability:	Pass
Protection against corrosion according to EN 60068-2-52:	Pass
Damper casing leakage according to EN 1751:	≥ class C

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:
Mathieu Steenland, Technical Manager

Oosterzele, 08/2021

Product presentation CU-LT

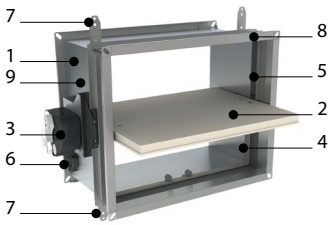
Optimised rectangular fire damper with a fire resistance up to 120 minutes. A minimal pressure loss is guaranteed thanks to the thin blade and the transmission located outside the tunnel. The damper is available in small dimensions (starting from 100 mm height). A galvanised steel tunnel contributes to the light weight of the damper.

Fire dampers are installed where air ducts penetrate fire-resistant compartment walls. Their role is to restore the fire resistance grade of the penetrated wall and to prevent smoke propagation. Fire dampers are distinguished by their degree of fire resistance, by their aeraulic properties as well as by their installation ease. Rf-Technologies' fire dampers are all CE marked. They can be equipped with various types of mechanisms depending on the specific needs linked to the project or to the local regulations.

- ☑ easy to install
- ☑ optimal free air passage and minimal pressure loss
- ☑ optimal acoustic performance
- ☑ higher net building volume through compact size
- ☑ air-tightness class C according to EN1751

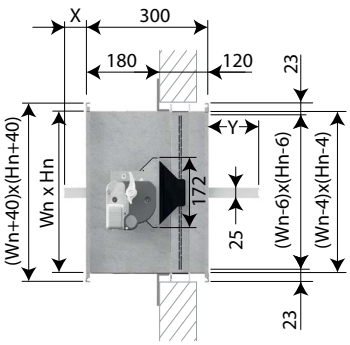
- Hygiene certificate (www.HYG.de)
- suitable for built-in installation
- suitable for installation remote from the wall
- minimal distance allowed
- suitable for rigid wall, rigid floor and light wall (metal stud gypsum plasterboard wall)
- sealing with fire resistant stone wool boards allowed, also for asymmetric opening
- tested according to EN 1366-2 up to 500 Pa
- operating mechanism outside the wall
- maintenance-free
- for indoor use
- intermediate dimensions on request
- operating temperature: max. 50°C

1. casing in galvanised steel
2. damper blade
3. operating mechanism
4. sealing cold smoke
5. intumescent strip
6. base plate for thermo-electrical fuse
7. positioning plate
8. connection flange PG20
9. product identification



Range and dimensions CU-LT

Transmission and mechanism exceed if Hn ≤ 150 mm
Exceeding blade: X = on the mechanism side, Y = on the wall side



	≥	≤
(W x H) mm	200x100	800x600

Hn [mm]	150	200	250	300	350	400	450	500	550	600
x	-	-	-	-	-	-	-	17	42	67
y	2	27	52	77	102	127	152	177	202	227

Variant CU-LT-L500

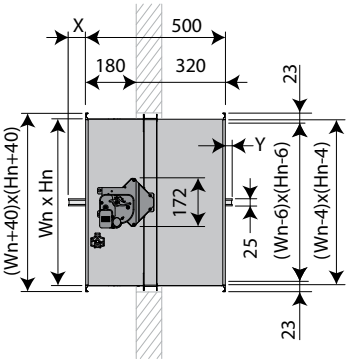
CU-LT damper with a tunnel casing extension at the wall side to facilitate the connection to the duct when the supporting construction is thicker than 100 mm. This version also ensures that the damper blade doesn't exceed the casing at the wall side (up to a height of 550 mm), which allows to connect a grill or a bend directly on the damper flange or to use a circular connection.

1. casing in galvanised steel
2. damper blade
3. operating mechanism
4. sealing cold smoke
5. intumescent strip
6. base plate for thermo-electrical fuse
7. positioning plate
8. connection flange PG20
9. product identification



Range and dimensions CU-LT-L500

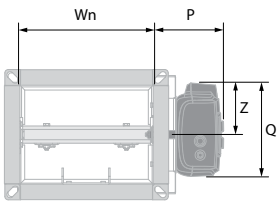
Transmission and mechanism exceed if Hn ≤ 150 mm
Exceeding blade: X = on the mechanism side, Y = on the wall side



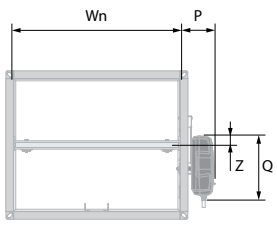
	≥	≤
(W x H) mm	200x100	800x600

Hn [mm]	500	550	600
x	17	42	67
y	-	2	27

Hn < 400 mm



Hn ≥ 400 mm



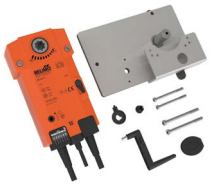
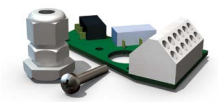
	MFUSP	ONE (X)	BFL(T)
P	101	97	81
Q	122	136	80
Z	61	75	40

	MFUSP	ONE (X)	BFL(T)
P	101	97	81
Q	123	191	80
Z	28	27	40

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Evolution - kits

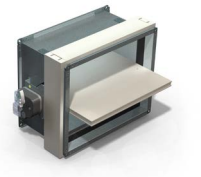
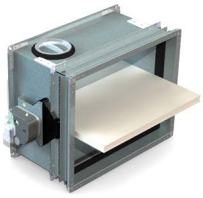
	KITS MFUSP	Automatic unlocking mechanism with fusible link
	KITS ONE T 24 FDCB	Spring return actuator ONE 24V (with fusible link T) + bipolar beginning- and end-of-range switch
	KITS ONE T 24 FDCU	Spring return actuator ONE 24V (with fusible link T) + unipolar beginning- and end-of-range switch
	KITS ONE T 230 FDCU	Spring return actuator ONE 230V (with fusible link T) + unipolar beginning- and end-of-range switch
	KITS ONE T 230 FDCB	Spring return actuator ONE 230V (with fusible link T) + bipolar beginning- and end-of-range switch
	KIT ONE-X 24	Spring return actuator ONE-X 24V (with fusible link T)
	KIT ONE-X 230	Spring return actuator ONE-X 230V (with fusible link T)
	KITS BFL24	Spring return actuator BFL 24V
	KITS BFL230	Spring return actuator BFL 230V

	**KITS BFL24-ST**	Spring return actuator BFL 24V with plug (ST)
	**KITS BFLT24**	Spring return actuator BFL 24V with thermo-electric fuse (T)
	**KITS BFLT230**	Spring return actuator BFL 230V with thermo-electric fuse (T)
	**KITS BFLT24-ST**	Spring return actuator BFL 24V with thermo-electric fuse (T) and plug (ST)
	**KITS BFN24**	Spring return actuator BFN 24V (BFN kits must be used instead of BFL kits for fire dampers produced before 1/7/2015)
	**KITS FDCU MFUS(P)**	Limit switch ‘open/closed’
	**KITS SN2 BFL/BFN**	Auxiliary limit switch ‘open/closed’
	**KITS ZBAT 72**	Black spare part for thermo-electric fuse for BFLT/BFNT
	**KITS FUS 72 MFUS(P)**	Fusible link 72°C
	**FUS72 ONE**	Fusible link 72°C

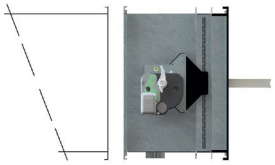
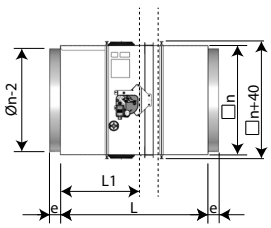
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	**MECT**	Testbox for mechanisms 24/48 V (magnet, motor, beginning and end of range switches)
	**CU-LT IFW**	Separate installation kit for flexible wall for CU-LT (800 x 600 mm, must be cut to size)

Options - at the time of order

	**IFW**	Pre-mounted installation kit for flexible wall
	**UL**	Inspection shutter (set of 2)
	**ONE-X CN**	Connectors for the bus cables and the power cable.

Flange types - at the time of order

	**PG20**	Connection to ducts with 20 mm flanges (either with sliding profile or with bolts). Elliptical holes Ø 9,5 x 16 mm.
	**PRJ**	Circular connection with rubber sealing ring on a rectangular damper with PG20 flange.

Storage and handling

As this product is a safety element, it should be stored and handled with care.

Avoid:

- any kind of impact or damage
- contact with water
- deformation of the casing

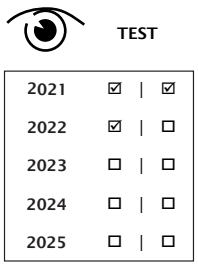
It is recommended:

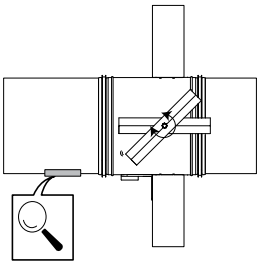
- to unload in a dry area
- not to flip or roll the product to move it
- not to use the damper as a scaffold, working table, etc.
- not to store smaller dampers inside larger ones

Installation

General points

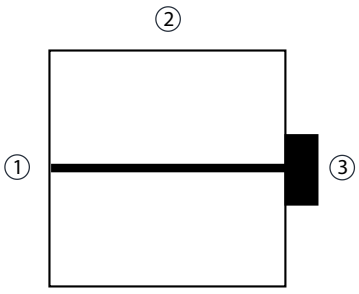
- The installation must comply with the installation manual and the classification report.
- Axis orientation: see the declaration of performance.
- Avoid obstruction of adjoining ducts.
- Product installation: always with closed damper blade.
- Verify if the blade can move freely.
- Please observe safety distances with respect to other construction elements. The operating mechanism must also remain accessible: allow for a clearance of 200 mm around the housing.
- The air tightness class will be maintained if the damper is installed according to the installation manual.
- Rf-t fire dampers are always tested in standardised constructions according to EN 1366-2. The achieved results are valid for similar supporting constructions with a fire resistance, thickness and density equal or superior to the supporting construction used during the test.
- The damper must remain accessible for inspection and maintenance.
- Schedule at least 2 visual checks each year.





Position of the thermo-electric fuse (spring-return actuator BFLT)

1



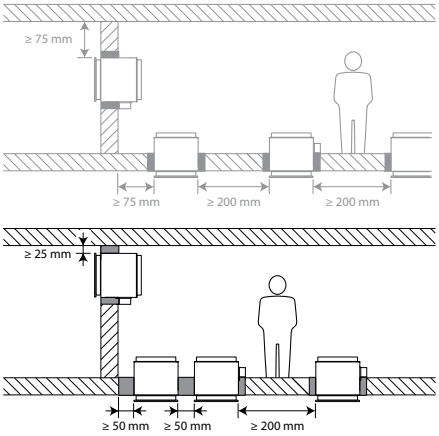
Position of the thermo-electric fuse on the damper casing:

1. on opposite side of mechanism if
H < 250 mm and W < 250 mm;
2. on top if H < 250 mm and W ≥ 250 mm;
3. on mechanism side if H ≥ 250 mm.

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Installation at a minimal distance from another damper or from an adjacent supporting construction

1



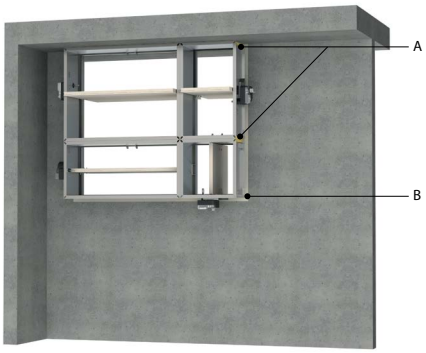
1. Principle

According to the European test standard, a fire damper must be installed at a minimum distance of 75 mm from an adjacent wall and 200 mm from another damper, unless the solution was tested at a shorter distance.

This range of Rf-t fire dampers has been successfully tested and can be installed in a vertical or horizontal supporting construction, at a distance below the minimum set by the standard.

For rectangular dampers, the minimal distance is set to 50 mm between 2 dampers or between a damper and a vertical wall, and to 25 mm between a damper and a floor/ceiling.

2



2. Certified solution

For the Rf-t fire dampers, the solution consists of the following elements: A: Universal sealing for minimal distance; B: Sealing compliant with existing classifications (Declaration of Performance).

A. Sealing of the opening at the side with minimal distances between damper and wall/ceiling or another fire damper: rigid stone wool panels (150 kg/m^3) are applied to a depth of min. 400 mm, of which 150 mm on the mechanism side of the wall. On the non-mechanism side of the wall, the stone wool panels must be at least flush with the wall.

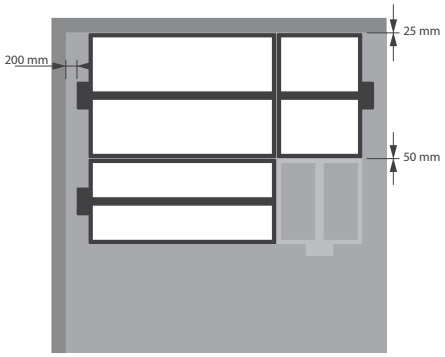
This sealing is applied over the whole width/height of the damper(s).

When the damper is installed at a distance of 25 mm from a floor/ceiling, the rigid high-density stone wool panels (A) may be replaced with standard 40 kg/m^3 stone wool, compressed by at least 40%.

B. Sealing of the rest of the opening according to the existing classifications for the fire damper (Declaration of Performance). Detailed information for each wall/sealing combination can be found in the respective installation methods.

The installer may choose the direction of the blade axis freely: horizontal or vertical axis.

3



3. Restrictions

A maximum of 2 rectangular dampers can be installed at a minimum distance from one another, both vertically and horizontally (maximum cluster of 4 dampers).

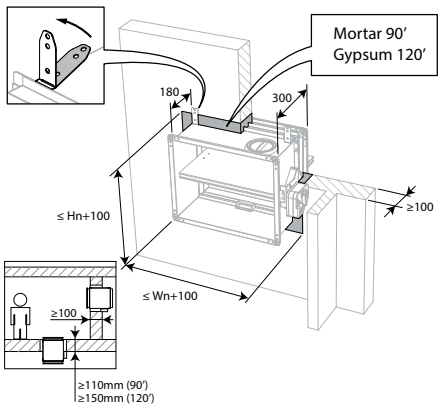
Note: when sealing the opening with panels of fire resistant stone wool, the maximum number of dampers also depends on the maximum “blank seal” allowed for the selected sealing material. Please refer to the manufacturer’s instructions for this information.

Installation in rigid wall and floor

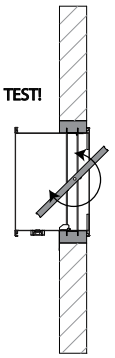
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Mortar	EI 90 (v_e i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Gypsum	EI 120 (v_e i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid floor	Reinforced concrete ≥ 110 mm	Mortar	EI 90 (h_o i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid floor	Reinforced concrete ≥ 150 mm	Gypsum	EI 120 (h_o i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid floor	Aerated concrete ≥ 150 mm	Gypsum	EI 120 (h_o i ↔ o) S - (500 Pa)

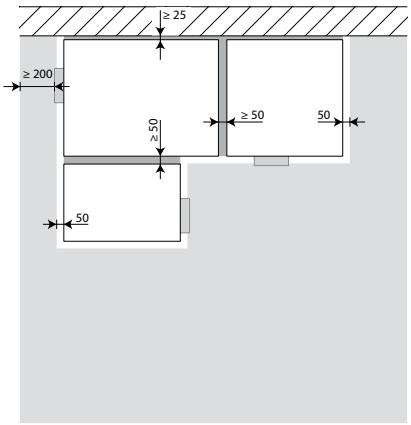
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2

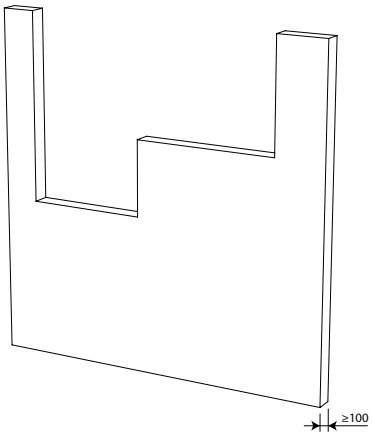


3



3. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

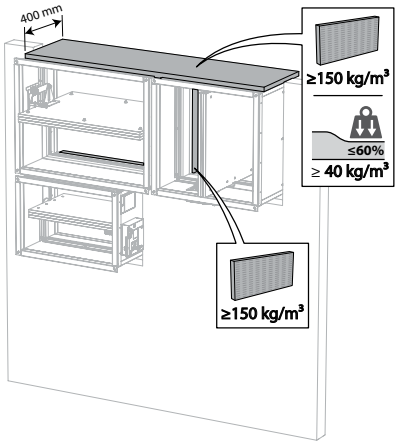
4



4. Make the necessary openings (Wn + 100 mm) x (Hn + 100 mm) in the wall.

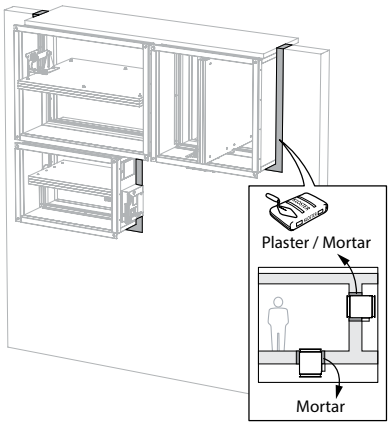
Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

5



5. Mount the dampers in the opening.
Apply rigid stone wool panels (≥ 150 kg/m^3) to a depth of 400 mm (150 mm on the mechanism side of the wall) to seal the opening at the side with minimal distances.
This sealing is applied over the whole width/height of the damper(s).
When the damper is installed at a distance of 25 mm from a floor/ceiling, the rigid high-density stone wool panels may be replaced with standard ≥ 40 kg/m^3 stone wool (e.g. Rockfit 431), compressed by at least 40%.

6



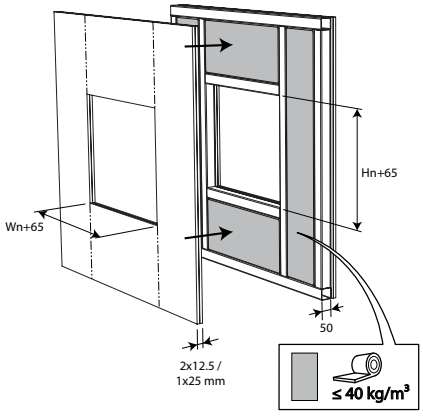
6. Seal the rest of the opening with standard mortar or gypsum.

Installation in flexible wall (metal stud gypsum plasterboard wall)

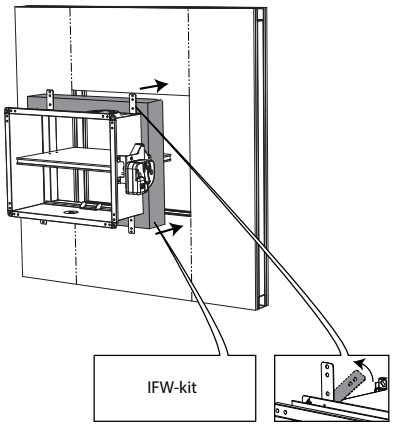
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) ≥ 100 mm	Installation kit	EI 60 (v_e i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Installation kit	EI 90 (v_e i ↔ o) S - (500 Pa)

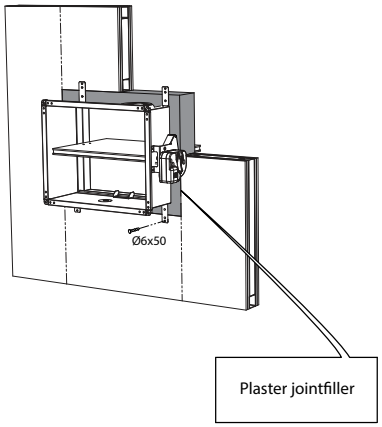
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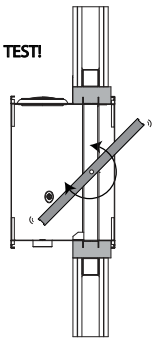
2



3



4



Rf-Technologies

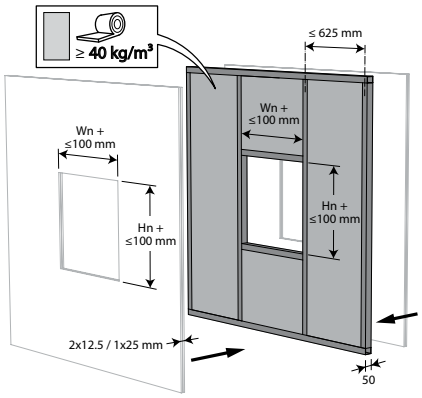
AMS AIR MOVEMENT SUPPLIES

Installation in flexible wall (metal stud gypsum plasterboard wall), sealing with gypsum

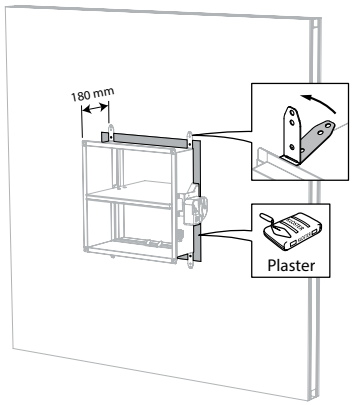
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) ≥ 100 mm	Gypsum	EI 60 (v_e i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Gypsum	EI 90 (v_e i ↔ o) S - (500 Pa)

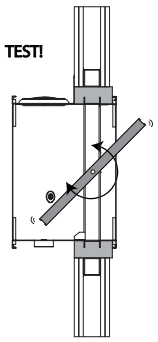
1



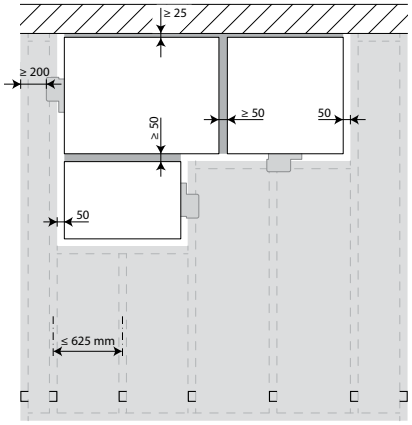
2



3

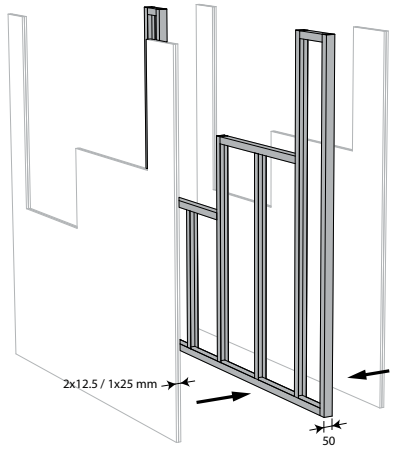


4



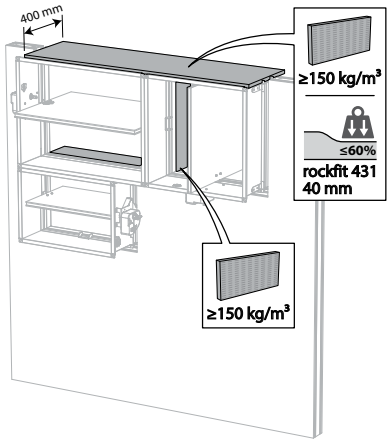
4. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

5



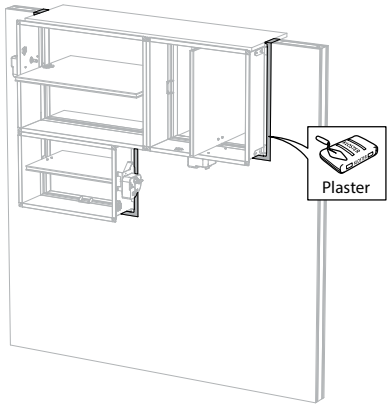
5. Build the drywall and foresee horizontal and vertical studs around the opening.

6



6. Mount the dampers in the opening.
Apply rigid stone wool panels (≥ 150 kg/m^3) to a depth of 400 mm (150 mm on the mechanism side of the wall) to seal the opening at the side with minimal distances.
This sealing is applied over the whole width/height of the damper(s).
When the damper is installed at a distance of 25 mm from a floor/ceiling, the rigid high-density stone wool panels may be replaced with standard ≥ 40 kg/m^3 stone wool (e.g. Rockfit 431), compressed by at least 40%.

7



7. Seal the rest of the opening (50 mm) with standard gypsum across the entire wall thickness.

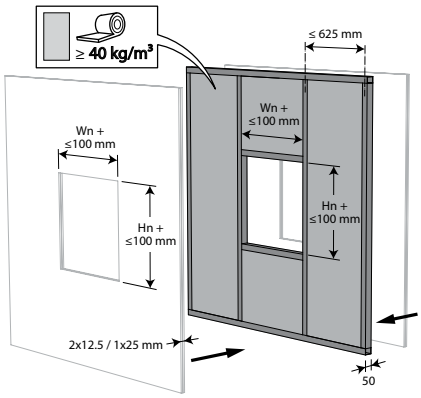
Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

Installation in flexible wall (metal stud gypsum plasterboard wall), sealing with mortar

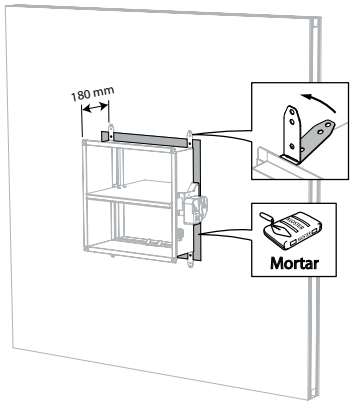
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Mortar	EI 90 (v_e i ↔ o) S - (300 Pa)

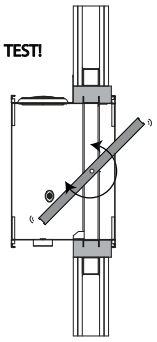
1



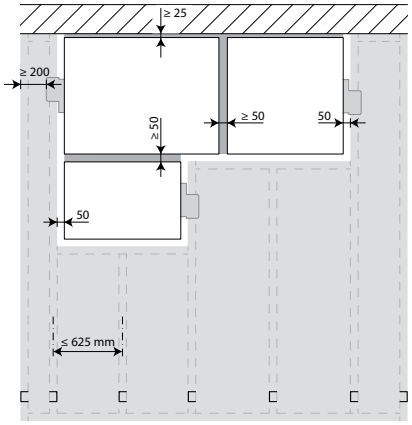
2



3

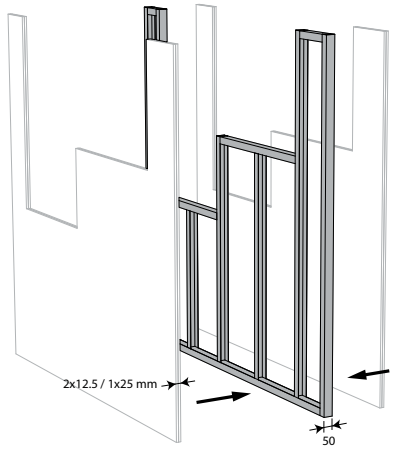


4



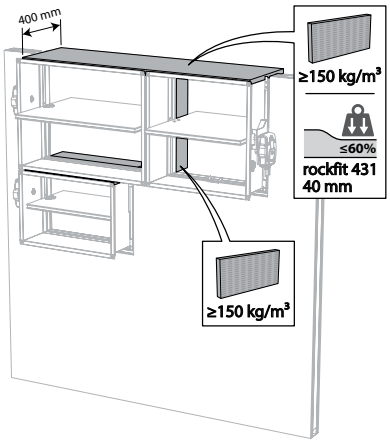
4. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

5



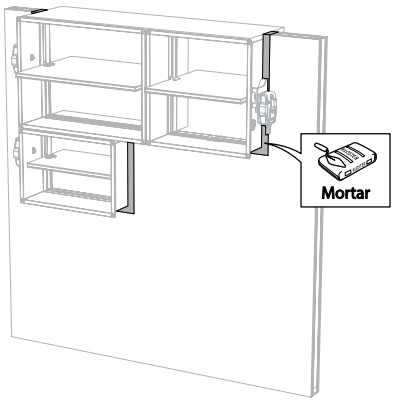
5. Build the drywall and foresee horizontal and vertical studs around the opening.

6



6. Mount the dampers in the opening.
Apply rigid stone wool panels (≥ 150 kg/m^3) to a depth of 400 mm (150 mm on the mechanism side of the wall) to seal the opening at the side with minimal distances.
This sealing is applied over the whole width/height of the damper(s).
When the damper is installed at a distance of 25 mm from a floor/ceiling, the rigid high-density stone wool panels may be replaced with standard ≥ 40 kg/m^3 stone wool (e.g. Rockfit 431), compressed by at least 40%.

7



7. Seal the rest of the opening (50 mm) with standard mortar across the entire wall thickness.

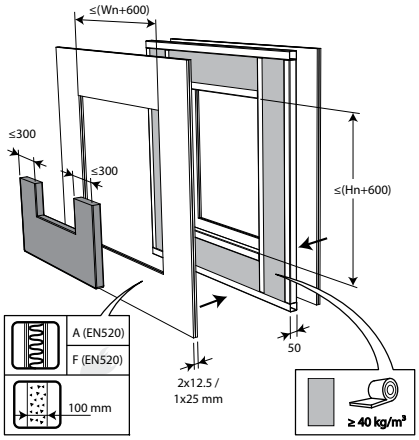
Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

Installation in flexible and rigid wall, sealing with rigid rock wool boards with coating

The product was tested and approved in:

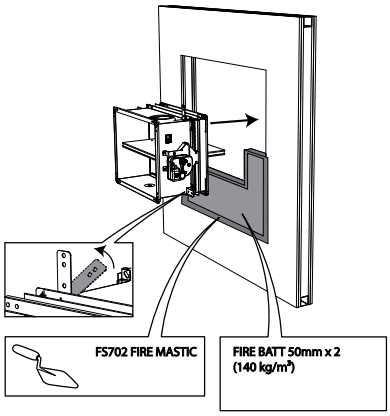
Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Stone wool + coating ≥ 140 kg/m^3 + coated casing	EI 120 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Stone wool + coating ≥ 140 kg/m^3	EI 90 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) ≥ 100 mm	Stone wool + coating ≥ 140 kg/m^3	EI 60 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Stone wool + coating ≥ 140 kg/m^3 + coated casing	EI 120 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Stone wool + coating ≥ 140 kg/m^3	EI 90 (v_e i ↔ o) S - (300 Pa)

1

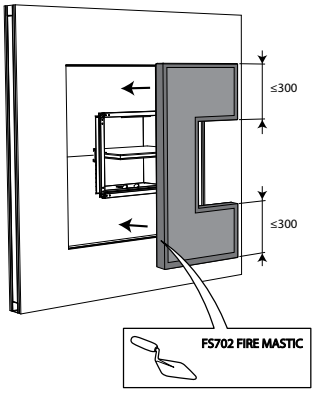


1. The opening around the damper is sealed with 2 layers of 50 mm-thick mineral wool panels with fire resistant coating on one side (Fire batt 50mm x2 (140kg/m3)).

2

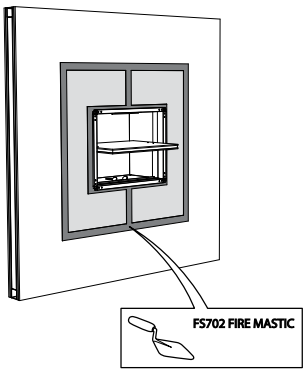


3

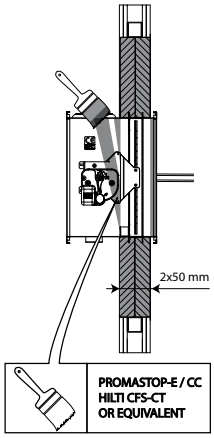


3. The joints on these 2 layers must be installed staggered and covered all around the edge with coating (FS702 Fire Mastic).

4

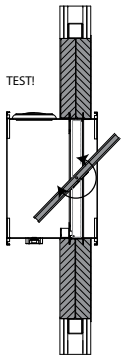


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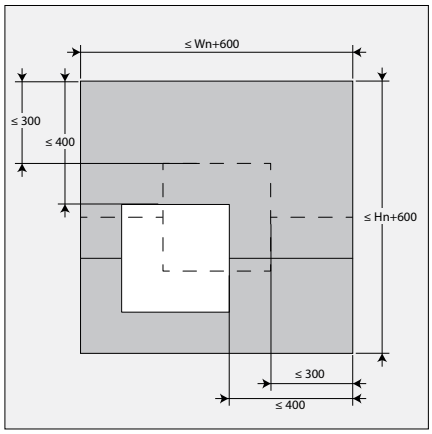


5. For EI 120 S, the casing of the fire damper must be covered with a layer (> 1 mm) of coating (FS702 Fire Mastic).

6

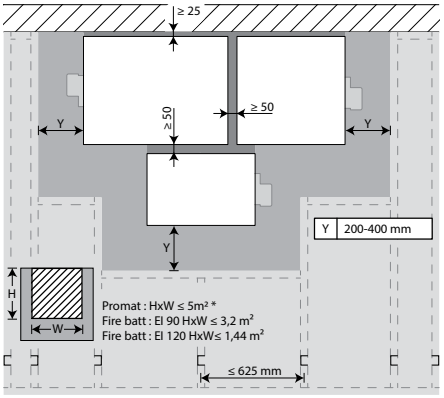


7



7. The damper does not need to be centered in the opening (with max dimensions fire damper + 600 mm). The maximal distance between the damper and the edge of the opening is 400 mm.

8

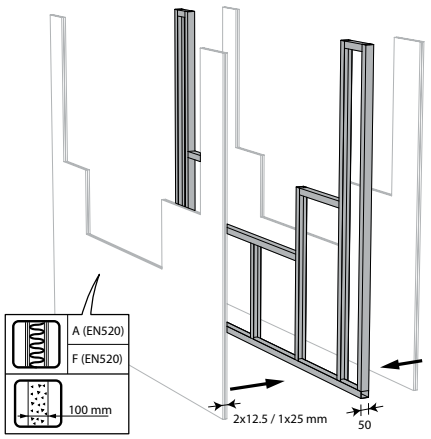


* Only used for ≤ 5m²

8. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

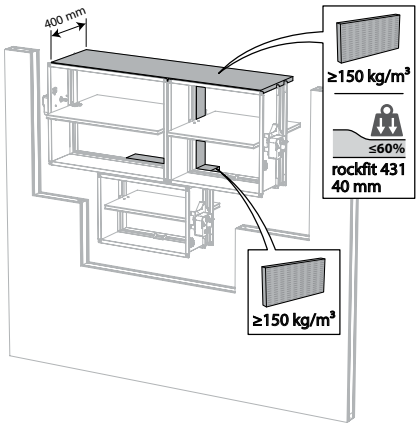
Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

9



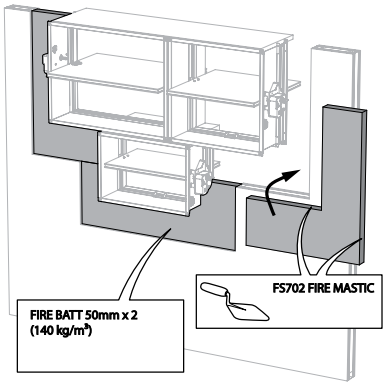
9. Build the drywall and foresee horizontal and vertical studs around the opening.

10



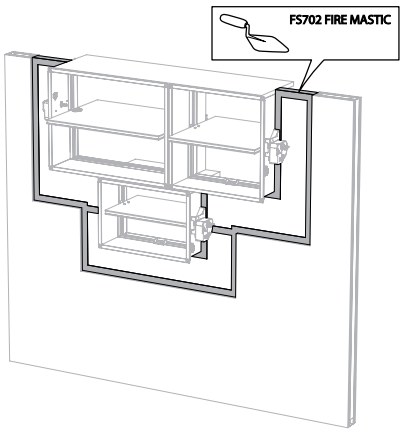
10. Mount the dampers in the opening.
Apply rigid stone wool panels (≥ 150 kg/m^3) to a depth of 400 mm (150 mm on the mechanism side of the wall) to seal the opening at the side with minimal distances.
This sealing is applied over the whole width/height of the damper(s).
When the damper is installed at a distance of 25 mm from a floor/ceiling, the rigid high-density stone wool panels may be replaced with standard ≥ 40 kg/m^3 stone wool (e.g. Rockfit 431), compressed by at least 40%.

11



11. Seal the rest of the opening with 2 layers of 50 mm-thick coated rigid mineral wool panels (see above).

12

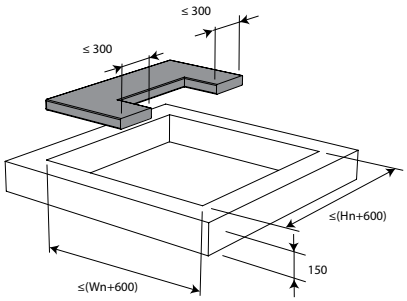


Installation in rigid floor, sealing with rigid rock wool boards with coating

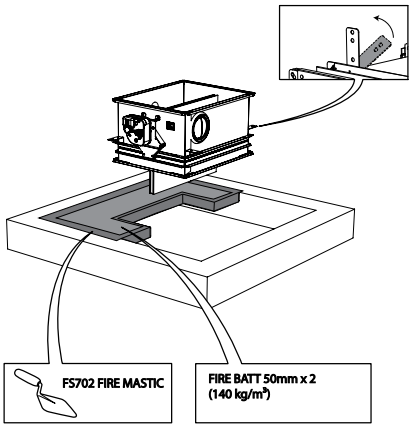
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid floor	Aerated concrete ≥ 150 mm	Stone wool + coating ≥ 140 kg/m^3 + coated casing	EI 120 (h_o i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid floor	Aerated concrete ≥ 150 mm	Stone wool + coating ≥ 140 kg/m^3	EI 90 (h_o i ↔ o) S - (300 Pa)

1

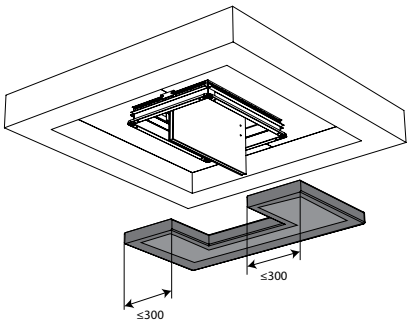


2

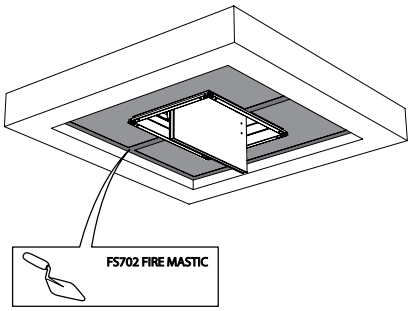


1. The opening around the damper is sealed with 2 layers of 50 mm-thick mineral wool panels with fire resistant coating on one side (Fire batt 50mm x2 (140kg/m3)).

3



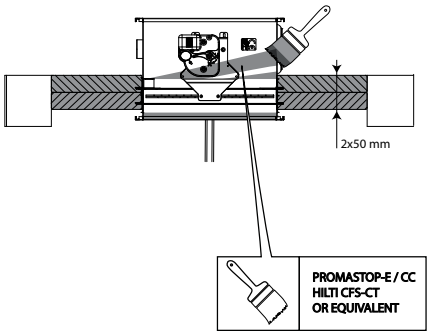
4



3. The joints on these 2 layers must be installed staggered and covered all around the edge with coating (Fire batt 50mm x2 (140kg/m3)).

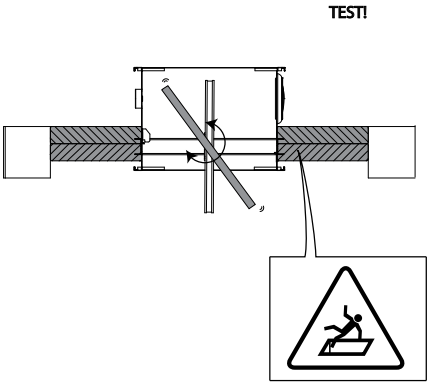
Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

5

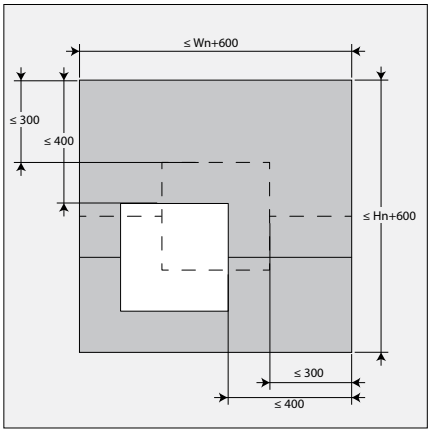


5. For EI 120 S, the casing of the fire damper must be covered with a layer (> 1 mm) of coating (FS702 Fire Mastic).
(only for 120 minutes)

6

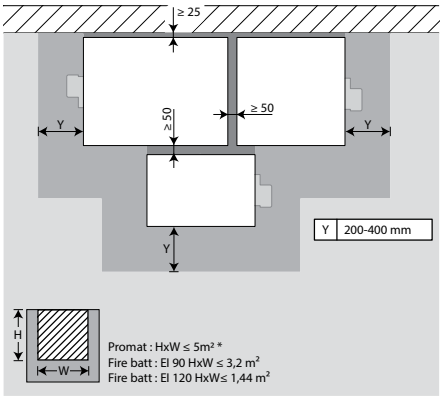


7



7. The damper does not need to be centered in the opening (with max dimensions fire damper + 600 mm). The maximal distance between the damper and the edge of the opening is 400 mm.

8



* Only used for ≤ 5m²

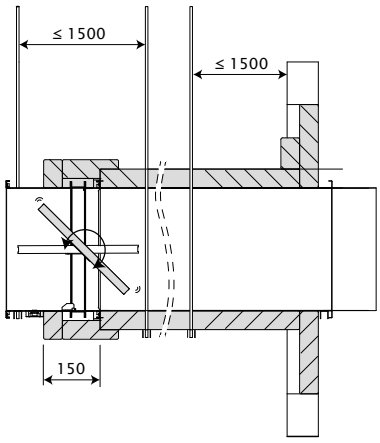
8. The dampers can be installed at a minimum distance from an adjacent wall or from another damper (≥ 50 mm).
For details, please refer to 'Installation in flexible and rigid wall, sealing with rigid rock wool boards with coating'

Installation remote from the wall, sealing and insulation with rigid rock wool boards with coating

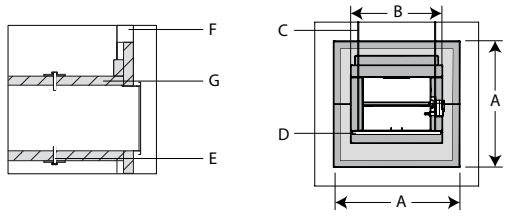
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Galvanised duct + stone wool + coating ≥ 150 kg/m³ 1x60 mm + IFW installation kit	EI 60 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Galvanised duct + stone wool + coating ≥ 140 kg/m³ 1x80 mm + IFW installation kit	EI 90 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Galvanised duct + stone wool + coating ≥ 140 kg/m³ 2x50 mm + IFW installation kit	EI 90 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) ≥ 100 mm	Galvanised duct + stone wool + coating ≥ 150 kg/m³ 1x60 mm + IFW installation kit	EI 60 (v_e i ↔ o) S - (300 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) ≥ 100 mm	Galvanised duct + stone wool + coating ≥ 140 kg/m³ 2x50 mm + IFW installation kit	EI 90 (v_e i ↔ o) S - (300 Pa)

1

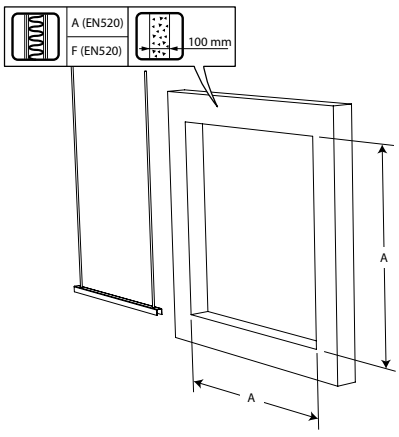


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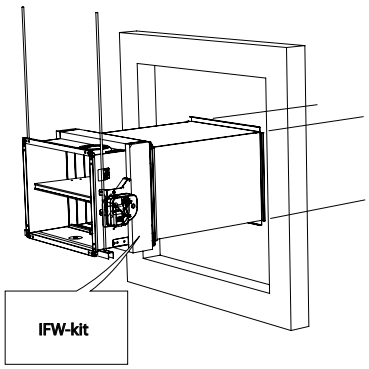
	EI60S	EI90S	EI90S
A	≤(Hn+600)x(Wn+600)	≤(Hn+600)x(Wn+600)	≤(Hn+600)x(Wn+600)
B	(Hn+120)x(Wn+120)	(Hn+200)x(Wn+200)	(Hn+160)x(Wn+160)
C	M8	M8	M8
D	35x35x2 mm	50x38x5 mm	50x38x5 mm
E	9x(Ø5x90 + M6x44)/m²	9x(Ø5x120 + M6x44)/m²	9x(Ø5x100 + M6x44)/m²
F	100 mm A (EN520)	100 mm F (EN520)	100 mm F (EN520)
G	FIRE BATT 60mm x 1 (140kg/m³)	FIRE BATT 50mm x 2 (140kg/m³)	FIRE BATT 80mm x 1 (140kg/m³)

3



3. An opening with maximal dimensions “A” is made in the wall. For a light partition wall, follow the wall assembly under “Installation in flexible or rigid wall - Sealing with fire resistant rigid panels of stone wool“.

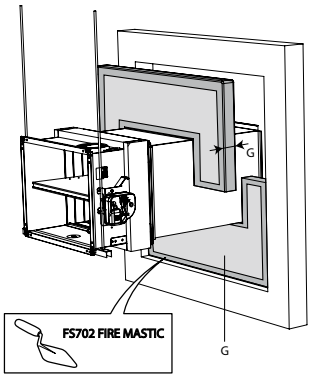
4



4. The fire damper is equipped with the IFW kit and mounted remote from the wall at the end of a metal duct. The duct is supported every 1500 mm as well as underneath the damper. The suspensions consist of threaded rods “C” and U-shaped steel profiles “D”. A free space of maximum 25 mm is left between the threaded rods and the vertical walls of the stone wool casing “B”.

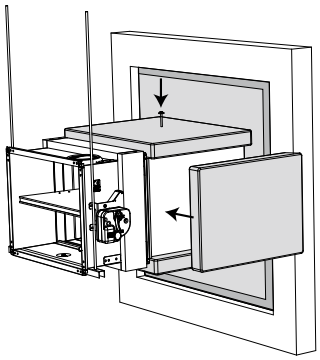
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5



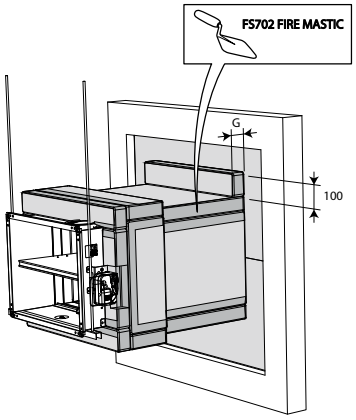
5. The opening around the duct is sealed with stone wool plates (Fire batt 50mm x2 (140kg/m^3)). The edges are sealed and maintained in place with FS702 Fire Mastic.

6



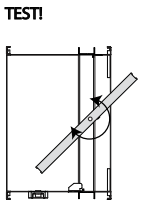
6. The duct is covered over its entire length with stone wool plates “G”. To adhere to the duct, the plates are completely coated on one side with fire resitant coating and affixed to the duct with steel screws and washers “E”.
The damper casing is covered with stone wool plates “G” for 150 mm. A free space is left around the mechanism to allow access.
The joints between the plates, between the wall and the plates as well as the screws and washers are filled with coating FS702 Fire Mastic.

7

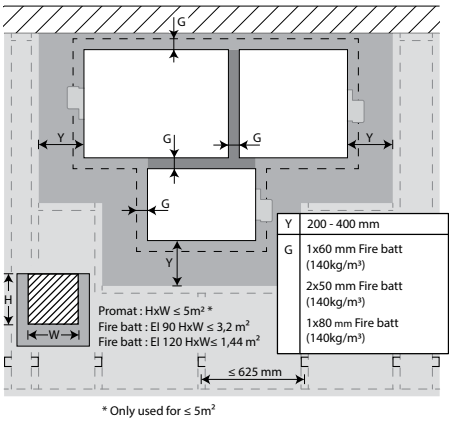


7. An additional mineral wool panel with width “B” and height 100 mm, coated with FS702 Fire Mastic, is applied where the stone wool casing meets the sealing of the wall opening.

8



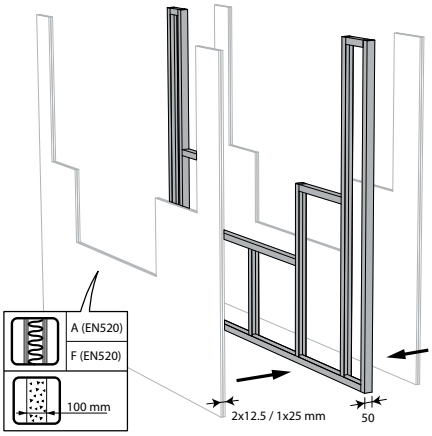
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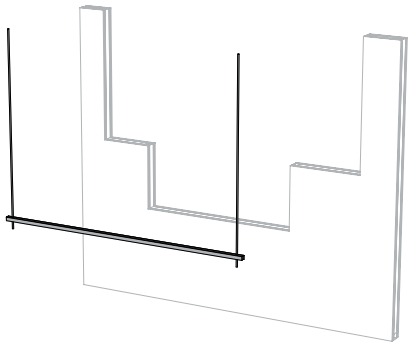
* Only used for ≤ 5m²

9. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

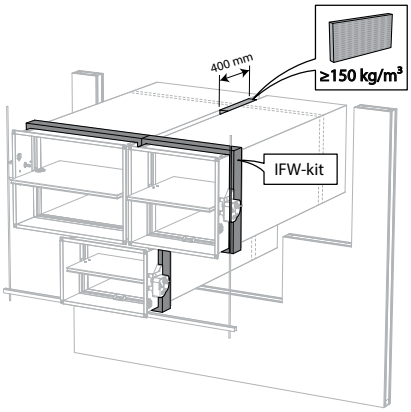
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11

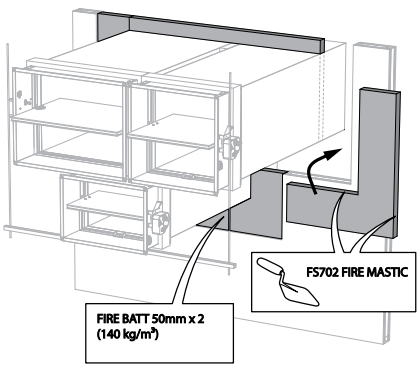


12

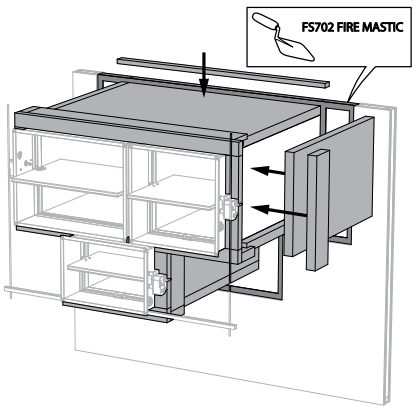


12. Apply rigid stone wool panels (≥ 150 kg/m^3) to a depth of 400 mm (150 mm on the mechanism side of the wall) to seal the opening at the side with minimal distances.
When the distance between the damper and the wall is greater than 75 mm, the sealing of the opening between the damper and the wall is carried out according to the pre-existing classification.

13

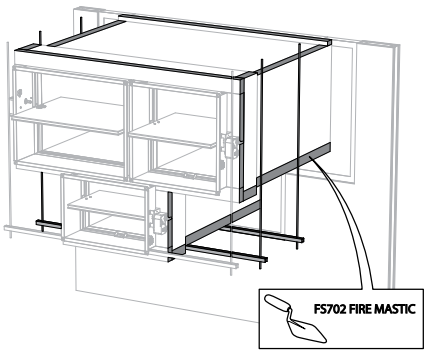


14



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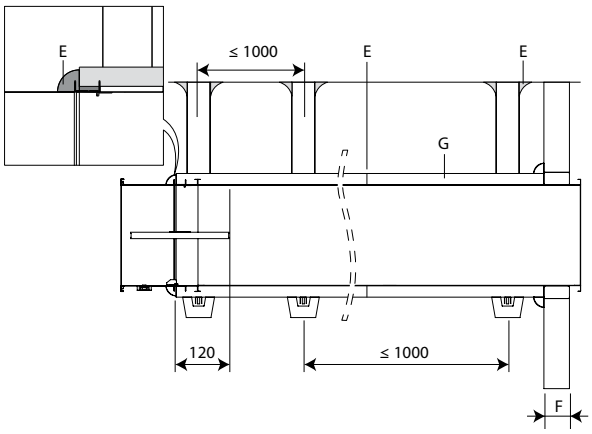


Installation remote from the wall + GEOFLAM

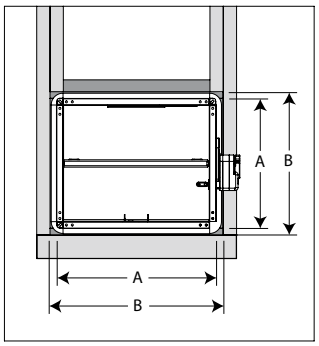
The product was tested and approved in:

Range	Wall type		Sealing	Classification
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Galvanised duct + GEOFLAM® F 45 mm + mortar	EI 120 (v_e i ↔ o) S - (500 Pa)
200x100 mm ≤ CU-LT ≤ 800x600 mm	Rigid wall	Aerated concrete ≥ 100 mm	Galvanised duct + GEOFLAM® Light 35 mm + mortar	EI 120 (v_e i ↔ o) S - (500 Pa)

1

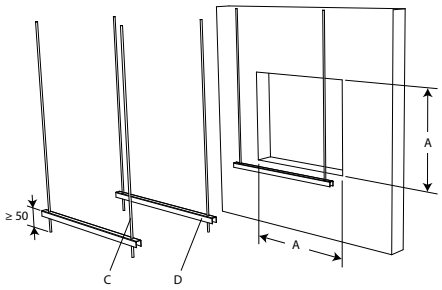


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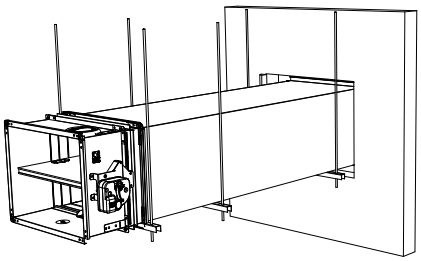
	EI120S
A	≥(Hn+100)x(Wn+100)
B	(Hn+120) x(Wn+120)
C	M8
D	25x25x2 mm
E	Glue, fibrous plaster
F	100 mm
G	Geoflam F 45 mm Geoflam Light 35 mm

3



3. An opening with maximal dimensions “A” is made in the wall.

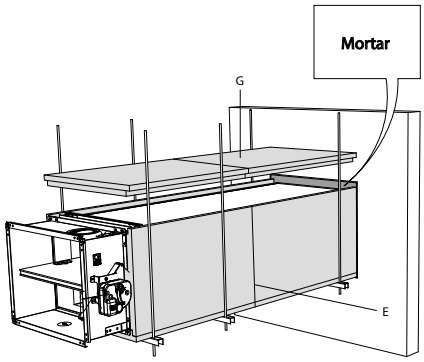
4



4. The fire damper is mounted remote from the wall at the end of a metal duct. The duct is supported every 1000 mm.
The suspensions consist of threaded rods “C” and U-shaped steel profiles “D”. A free space of maximum 25 mm is left between the threaded rods and the vertical walls of the casing “B”.

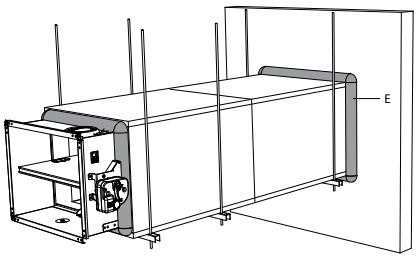
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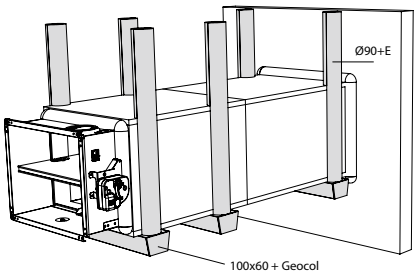
5. The opening around the duct is sealed with standard mortar. The duct is covered with 45 mm thick GEOFLAM F plates or 35 mm thick GEOFLAM Light plates "G".
The plates adhere to each other with glue and fibrous plaster "E". The damper casing is also covered on a length of 120 mm.

6



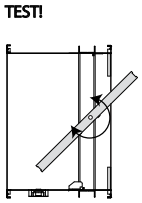
6. The GEOFLAM F plates stop at a distance of 15 mm from the wall. The free space is filled with fibrous plaster.
The same filling is applied to seal off the connection between the GEOFLAM F plates and the damper casing.

7

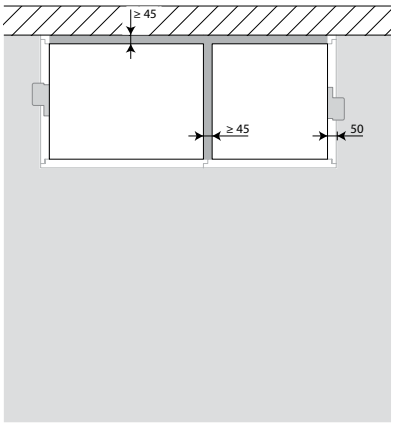


7. The threaded rods are covered with U-shaped plates of GEOFLAM (Ø 90 mm) and affixed with glue and fibrous plaster. The profiles are covered with U-shaped shells GEOFLAM 100 x 60 mm, which are affixed to the underside of the shaft with GEOCOL (GEOSTAFF) cement plaster.

8

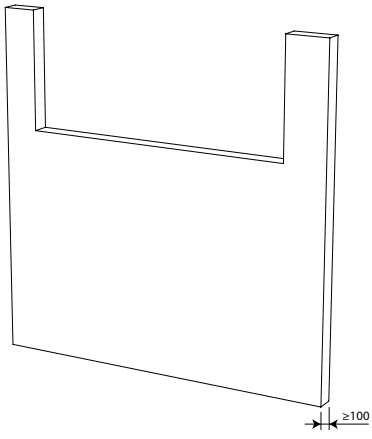


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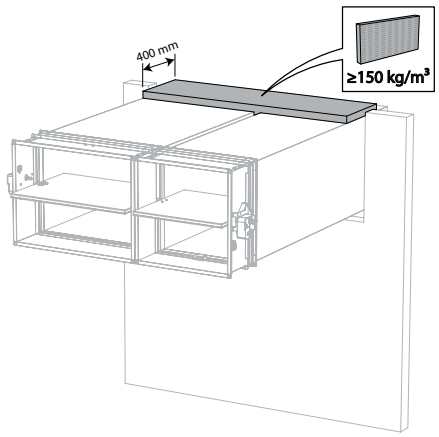


9. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

10

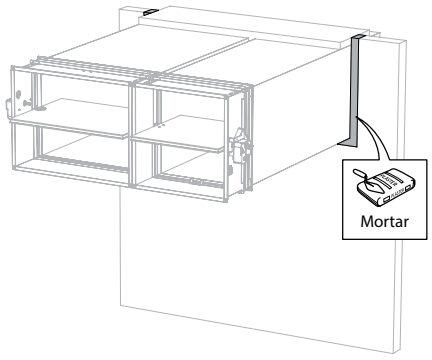


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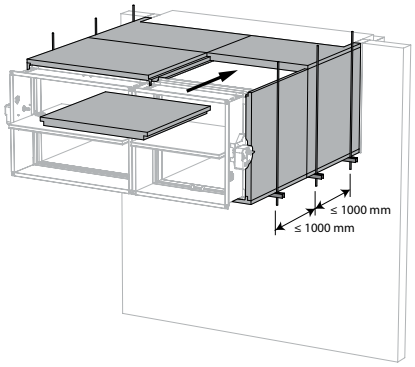


11. Apply rigid stone wool panels (≥ 150 kg/m^3) to a depth of 400 mm (150 mm on the mechanism side of the wall) to seal the opening at the side with minimal distances.

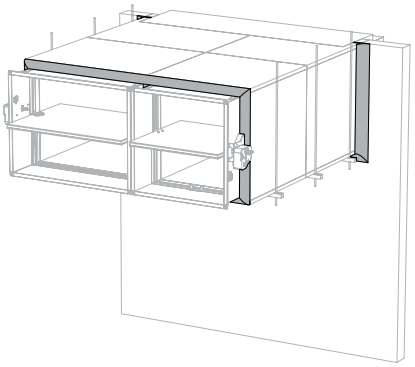
12



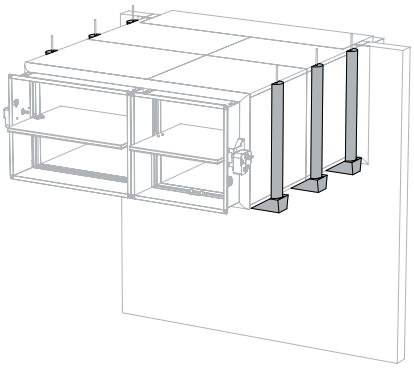
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Rf-t Rf-Technologies
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Maintenance

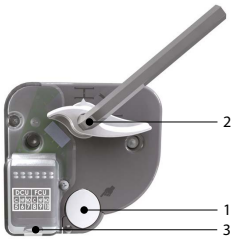
- No specific maintenance required.
- Schedule at least 2 visual checks each year.
- Remove dust and all other particles before use.
- Follow local maintenance regulations (i.e. BS9999 Annex V; NF S 61-933) and EN13306.
- Read the maintenance instructions on our website: https://www.rft.be/assets//PIM/DOCUMENTS/BROCHURE%20KITS/BRO_K139_MAINTENANCE_C.pdf
- Use the damper at up to 95% humidity, non-condensing.
- The fire damper can be cleaned with a dry or slightly damp cloth. It is forbidden to use abrasive cleaners or mechanical cleaning techniques (brush).

Operation and mechanisms

MFUS(P) Mechanism with fusible link

The operating mechanism MFUS(P) automatically unlocks the blade when the temperature in the duct exceeds 72°C. The damper can also be unlocked and reset manually.

1. unlocking button
2. resetting handle
3. cable entrance



Options - at the time of order

FDCU	Limit switch 'open/closed'

Unlocking

- **manual unlocking**: press the unlocking button (1).
- **automatic unlocking**: the fusible link melts when the temperature reaches 72°C in the duct.
- **remote unlocking**: n/a

Resetting

- **manual resetting**: turn the resetting handle (2) 90° clockwise (or use a 10 mm hex key).
- **motorised resetting**: n/a

Caution:

- The mechanism may never be tested on its own, without being attached to the damper. Such a test might damage the mechanism or the operator might be injured.

Rf-t Rf-Technologies
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ONE Spring return actuator for remote control

The spring-return actuator ONE is designed to easily operate Rf-t fire dampers of all sizes, automatically or remotely. Five models are available, 24 or 230 volt, with FDCU or FDCB position switches; and 24 volt with plug (ST).

1. unlocking button
2. blade position indicator
3. LED
4. battery compartment to reset motor
5. plug (ST)



Unlocking

- **manual unlocking**: shortly press the unlocking button (1) once.
- **automatic unlocking**: the fusible link reacts as soon as the temperature in the duct reaches 72°C.
- **remote unlocking**: by interrupting the power supply.

Resetting

- **manual resetting**: open the battery compartment (4) and press a 9V battery against the contact springs. Hold this position until the LED (3) emits a continuous light. Check whether the indicator (2) shows that the damper blade is in the open position. Remove the battery, the LED fades away. Close the battery compartment.
- **motorised resetting**: switch off the power supply for at least 5 sec. Power the actuator (respect the prescribed voltage) for at least 75 sec. The resetting stops automatically when the end of range is reached (damper open).

Caution:

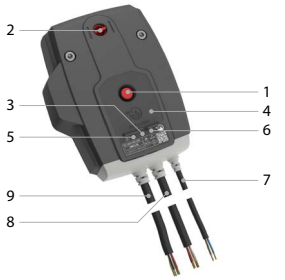
- If the LED (3) flickers fast (3x/sec.), the battery is discharged: use a new battery.
- If the LED (3) flickers slowly (1x/sec), the resetting is in progress.
- If the LED (3) is continuously on, the resetting is complete and the motor is powered.
- If the actuator detects voltage on the power cable, a brief contact of the battery is enough to start the resetting process.
- The power supply of this actuator cannot be individually replaced. If the cable is damaged, the whole unit must be discarded and replaced.
- The housing of the mechanism contains a temperature sensor. When the temperature in the housing exceeds 72°C, the mechanism unlocks. The LED flashes twice per second. When the temperature drops below 72°C, the mechanism can only be reset in a motorised manner after a manual reset (with a battery).
- The end of range switches need 1 second after operation to adopt a stable position.
- Make sure the thermal trigger device is present in the actuator. The actuator might not function properly if this is not the case.

	prod. < 1/7/2015				prod. ≥ 1/7/2015			
	CR60(1s) CR120	CU-LT CU-LT-1s	CR2≤400 CU2≤1200	CR2>400 CU2>1200	CR60(1s) CR120(1s)	CU-LT CU-LT-1s	CR2≤400 CU2≤1200	CR2>400 CU2>1200
Kit ONE	●	●	●		●	●	●	●

ONE-X Spring return actuator with integrated communication module.

The ONE-X is a spring return actuator with integrated communication module designed to simply operate Rf-t fire dampers of all sizes, automatically or remotely. The ONE-X is available in two versions: 24 V and 230 V.

1. unlocking button
2. blade position indicator
3. LED red: status
4. battery compartment
5. LED blue: communication
6. LED orange: error message
7. supply
8. bus cable



Options - at the time of order

ONE-X CN	Connectors for the bus cables and the power cable.

Unlocking

- **manual unlocking**: shortly press the unlocking button (1) once.
- **automatic unlocking**: the fusible link reacts as soon as the temperature in the duct reaches 72°C.
- **remote unlocking**: via ZENiX controller

Resetting

- **manual resetting**: Open the battery compartment (4) and press a 9V battery against the contact springs. Hold this position until the red LED (3) emits a continuous light. Control whether the indicator (2) indicates that the damper blade is open. Remove the battery. Close the battery compartment.
- **motorised resetting**: via ZENiX controller. By applying voltage during first use.

Caution:

- If the ONE-X detects voltage on the power cable, a brief contact of the battery is enough to start the resetting process, provided the ZENiX controller has sent the damper to open position or the ONE-X is being operated for the first time.
- The power supply of this actuator cannot be individually replaced. If the cable is damaged, the whole unit must be discarded and replaced.
- The housing of the mechanism contains a temperature sensor. When the temperature in the housing exceeds 72°C, the mechanism unlocks. The LED flashes twice per second. When the temperature drops below 72°C, the mechanism can only be reset in a motorised manner after a manual reset (with a battery).
- The end of range switches need 1 second after operation to adopt a stable position.

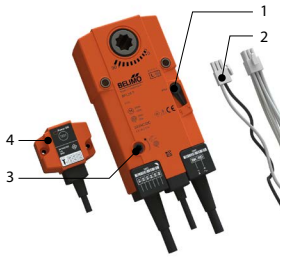
Safety regulations:

- Do not use the ONE-X for any application other than the specified applications, in particular not in aircraft or other airborne vehicles.
- The company that purchases and/or installs the ONE-X is fully responsible for the correct operation of the entire system. Only authorised specialists may perform the installation. All rules and regulations, including statutory regulations, must be observed during installation.
- This device contains electrical or electronic components and must not be disposed of as household waste. All locally applicable regulations and requirements must be strictly observed.

BFL(T) Remotely controlled spring return actuator

The spring return actuator BFL(T) is specially designed to remotely control fire dampers. The BFL(T) model is intended for fire dampers with smaller dimensions (ø ≤ 400 mm or W+H ≤ 1200 mm/1400 mm for CU-LT, CU-LT-1s).

1. locking button
2. plug (ST)
3. access for manual resetting
4. thermo-electric tripping device (T)



Options - at the time of order

SN2 BFL/BFN	Auxiliary limit switch 'open/closed'

Unlocking

- **manual unlocking**: place the locking button on "unlock". (In case of BFLT: the damper can alternatively be unlocked by pushing the "test" button on the thermo-electric fuse)
- **automatic unlocking**: the thermo-electric fuse reacts as soon as the temperature reaches 72°C (type BFLT).
- **remote unlocking**: by interrupting the power supply.

Caution:

- The thermo-electric fuse will not move the damper into its safety position (when the temperature reaches 72°C) if the motor is not powered.

Resetting

- **manual resetting**: turn the enclosed handle anti-clockwise. To block the motor, place the locking button on "lock"
- **motorised resetting**: switch off the power supply for at least 10 seconds. Supply the actuator (respect the prescribed voltage) for at least 75 seconds. The resetting stops automatically when the end of range is reached (damper open) - it takes about 60 seconds to reset the damper - or when the power supply is interrupted.

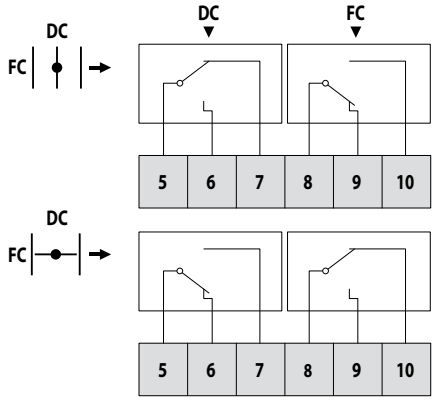
Caution:

- Do not use a drill or powered screwdriver.
- Stop as soon as the motor is completely rearmed (end of range).

	prod. < 1/7/2015				prod. ≥ 1/7/2015			
	CR60(1s) CR120	CU-LT CU-LT-1s	CR2≤400 CU2≤1200	CR2>400 CU2>1200	CR60(1s) CR120 (1s)	CU-LT CU-LT-1s	CR2≤400 CU2≤1200	CR2>400 CU2>1200
Kit BFL					●	●	●	
Kit BFN	●	●	●					●
Kit BF				●				

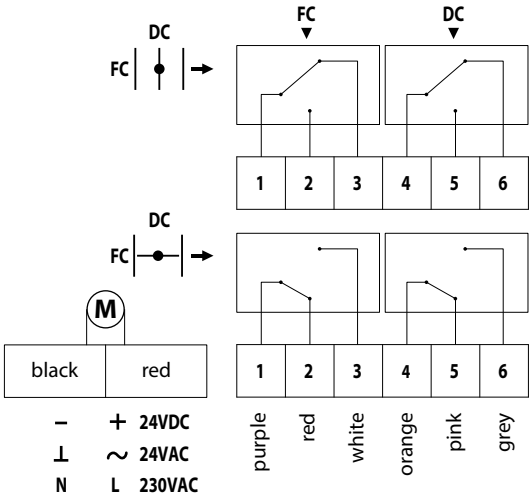
Electrical connection

MFUS(P)



DC : Switch open position fire damper
FC : Switch closed position fire damper

ONE

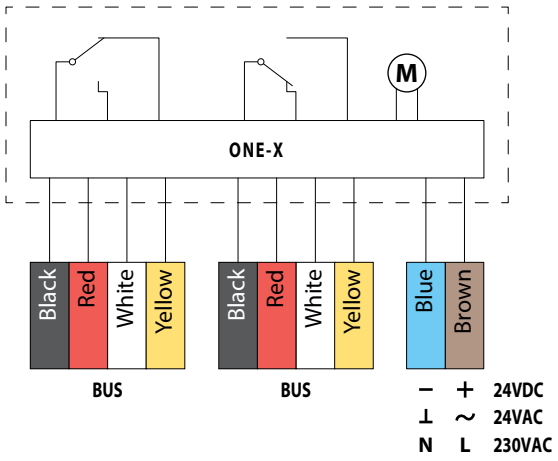


DC : Switch open position fire damper
FC : Switch closed position fire damper

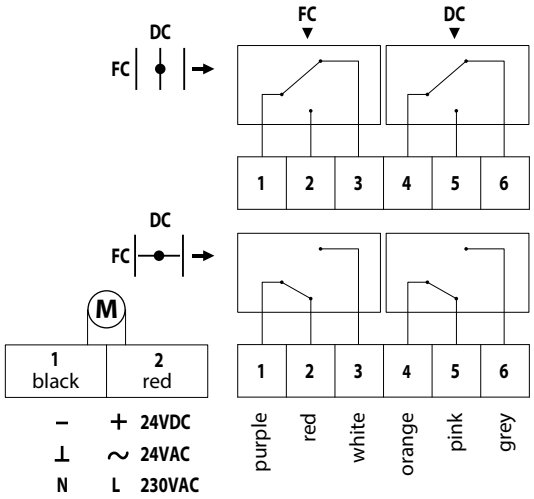
MEC	Nominal voltage motor	Nominal voltage magnet	Power consumption (stand-by)	Power consumption (operating)	Standard switches
MFUSP	N/A	N/A	N/A	N/A	1mA...1A, DC 5V...AC 48V
ONE T 24 FDCU	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	1mA...1A 60V
ONE T 230 FDCU	230 V AC (-15/+15%)	N/A	0,57W	4,2W	1mA...1A 60V
ONE T 24 FDCU ST	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	1mA...1A 60V
ONE T 24 FDCB	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	1mA...1A 60V
ONE T 230 FDCB	230 V AC (-15/+15%)	N/A	0,57W	4,2W	1mA...1A 60V
ONE-X 24	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	
ONE-X 230	230 V AC (-15/+15%)	N/A	0,57W	4,2W	
BFL24	24 V AC/DC	N/A	0,7W	2,5W	1mA...3A, AC 250V
BFL230	230 V AC	N/A	1,1W	3,5W	1mA...3A, AC 250V
BFL24-ST	24 V AC/DC	N/A	0,7W	2,5W	1mA...3A, AC 250V
BFLT24	24 V AC/DC	N/A	0,8W	2,5W	1mA...3A, AC 250V
BFLT230	230 V AC	N/A	1,4W	4W	1mA...3A, AC 250V
BFLT24-ST	24 V AC/DC	N/A	0,8W	2,5W	1mA...3A, AC 250V

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AMS AIR MOVEMENT SUPPLIES

ONE-X



BFL(T)



DC : Switch open position fire damper

FC : Switch closed position fire damper

MEC	Resetting time motor	Running time spring	Noise level motor	Noise level spring	Cable supply / control	Cable auxiliary switch	Protection class
MFUSP	N/A	1 s	N/A	N/A			IP 42
ONE T 24 FDCU	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm²	1 m, 6 x 0.75 mm²	IP 54
ONE T 230 FDCU	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm²	1 m, 6 x 0.75 mm²	IP 54
ONE T 24 FDCU ST	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm²	1 m, 6 x 0.75 mm²	IP 54
ONE T 24 FDCB	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm²	(2x) 1 m, 6 x 0,75 mm²	IP 54
ONE T 230 FDCB	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm²	(2x) 1 m, 6 x 0,75 mm²	IP 54
ONE-X 24	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)			IP 54
ONE-X 230	< 75 s (cabled) / <85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)			IP 54
BFL24	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.34 mm² (halogen-free)	1 m, 6 x 0.75 mm² (halogen-free)	IP 54
BFL230	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm² (halogen-free)	1 m, 6 x 0.75 mm² (halogen-free)	IP 54
BFL24-ST	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm² (halogen-free)	1 m, 6 x 0.75 mm² (halogen-free)	IP 54
BFLT24	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.34 mm² (halogen-free)	1 m, 6 x 0.75 mm² (halogen-free)	IP 54
BFLT230	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm² (halogen-free)	1 m, 6 x 0.75 mm² (halogen-free)	IP 54
BFLT24-ST	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm² (halogen-free)	1 m, 6 x 0.75 mm² (halogen-free)	IP 54

Weights

CU-LT + MFUSP

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	3,6	4,0	4,4	4,7	5,1	5,5	5,9	6,2	6,6	7,0	7,3	7,7	8,1		
150	kg	4,1	4,5	5,0	5,4	5,8	6,2	6,7	7,1	7,5	8,0	8,4	8,8	9,2		
200	kg	4,6	5,1	5,6	6,0	6,5	7,0	7,5	8,0	8,5	8,9	9,4	9,9	10,4		
250	kg	5,1	5,6	6,1	6,7	7,2	7,8	8,3	8,8	9,4	9,9	10,5	11,0	11,5		
300	kg	5,6	6,1	6,7	7,3	7,9	8,5	9,1	9,7	10,3	10,9	11,5	12,1	12,7		
350	kg	6,0	6,7	7,3	8,0	8,6	9,3	9,9	10,6	11,2	11,9	12,5	13,2	13,8		
400	kg	6,5	7,2	7,9	8,6	9,3	10,1	10,8	11,5	12,2	12,9	13,6	14,3	15,0		
450	kg	7,0	7,8	8,5	9,3	10,1	10,8	11,6	12,3	13,1	13,9	14,6	15,4	16,2		
500	kg	7,5	8,3	9,1	9,9	10,8	11,6	12,4	13,2	14,0	14,8	15,7	16,5	17,3		
550	kg	8,0	8,8	9,7	10,6	11,5	12,3	13,2	14,1	15,0	15,8	16,7	17,6	18,5		
600	kg	8,5	9,4	10,3	11,2	12,2	13,1	14,0	15,0	15,9	16,8	17,7	18,7	19,6		

CU-LT + ONE (X)

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	4,8	5,2	5,6	5,9	6,3	6,7	7,1	7,4	7,8	8,2	8,5	8,9	9,3		
150	kg	5,3	5,7	6,2	6,6	7,0	7,4	7,9	8,3	8,7	9,2	9,6	10,0	10,4		
200	kg	5,8	6,3	6,8	7,2	7,7	8,2	8,7	9,2	9,7	10,1	10,6	11,1	11,6		
250	kg	6,3	6,8	7,3	7,9	8,4	9,0	9,5	10,0	10,6	11,1	11,7	12,2	12,7		
300	kg	6,8	7,3	7,9	8,5	9,1	9,7	10,3	10,9	11,5	12,1	12,7	13,3	13,9		
350	kg	7,2	7,9	8,5	9,2	9,8	10,5	11,1	11,8	12,4	13,1	13,7	14,4	15,0		
400	kg	7,7	8,4	9,1	9,8	10,5	11,3	12,0	12,7	13,4	14,1	14,8	15,5	16,2		
450	kg	8,2	9,0	9,7	10,5	11,3	12,0	12,8	13,5	14,3	15,1	15,8	16,6	17,4		
500	kg	8,7	9,5	10,3	11,1	12,0	12,8	13,6	14,4	15,2	16,0	16,9	17,7	18,5		
550	kg	9,2	10,0	10,9	11,8	12,7	13,5	14,4	15,3	16,2	17,0	17,9	18,8	19,7		
600	kg	9,7	10,6	11,5	12,4	13,4	14,3	15,2	16,2	17,1	18,0	18,9	19,9	20,8		

CU-LT + BFL

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	4,3	4,7	5,1	5,4	5,8	6,2	6,6	6,9	7,3	7,7	8,0	8,4	8,8		
150	kg	4,8	5,2	5,7	6,1	6,5	6,9	7,4	7,8	8,2	8,7	9,1	9,5	9,9		
200	kg	5,3	5,8	6,3	6,7	7,2	7,7	8,2	8,7	9,2	9,6	10,1	10,6	11,1		
250	kg	5,8	6,3	6,8	7,4	7,9	8,5	9,0	9,5	10,1	10,6	11,2	11,7	12,2		
300	kg	6,3	6,8	7,4	8,0	8,6	9,2	9,8	10,4	11,0	11,6	12,2	12,8	13,4		
350	kg	6,7	7,4	8,0	8,7	9,3	10,0	10,6	11,3	11,9	12,6	13,2	13,9	14,5		
400	kg	7,2	7,9	8,6	9,3	10,0	10,8	11,5	12,2	12,9	13,6	14,3	15,0	15,7		
450	kg	7,7	8,5	9,2	10,0	10,8	11,5	12,3	13,0	13,8	14,6	15,3	16,1	16,9		
500	kg	8,2	9,0	9,8	10,6	11,5	12,3	13,1	13,9	14,7	15,5	16,4	17,2	18,0		
550	kg	8,7	9,5	10,4	11,3	12,2	13,0	13,9	14,8	15,7	16,5	17,4	18,3	19,2		
600	kg	9,2	10,1	11,0	11,9	12,9	13,8	14,7	15,7	16,6	17,5	18,4	19,4	20,3		

Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

CU-LT + BFLT

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	4,4	4,8	5,2	5,5	5,9	6,3	6,7	7,0	7,4	7,8	8,1	8,5	8,9		
150	kg	4,9	5,3	5,8	6,2	6,6	7,0	7,5	7,9	8,3	8,8	9,2	9,6	10,0		
200	kg	5,4	5,9	6,4	6,8	7,3	7,8	8,3	8,8	9,3	9,7	10,2	10,7	11,2		
250	kg	5,9	6,4	6,9	7,5	8,0	8,6	9,1	9,6	10,2	10,7	11,3	11,8	12,3		
300	kg	6,4	6,9	7,5	8,1	8,7	9,3	9,9	10,5	11,1	11,7	12,3	12,9	13,5		
350	kg	6,8	7,5	8,1	8,8	9,4	10,1	10,7	11,4	12,0	12,7	13,3	14,0	14,6		
400	kg	7,3	8,0	8,7	9,4	10,1	10,9	11,6	12,3	13,0	13,7	14,4	15,1	15,8		
450	kg	7,8	8,6	9,3	10,1	10,9	11,6	12,4	13,1	13,9	14,7	15,4	16,2	17,0		
500	kg	8,3	9,1	9,9	10,7	11,6	12,4	13,2	14,0	14,8	15,6	16,5	17,3	18,1		
550	kg	8,8	9,6	10,5	11,4	12,3	13,1	14,0	14,9	15,8	16,6	17,5	18,4	19,3		
600	kg	9,3	10,2	11,1	12,0	13,0	13,9	14,8	15,8	16,7	17,6	18,5	19,5	20,4		

CU-LT-L500 + MFUSP

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	4,4	4,9	5,4	5,9	6,4	6,9	7,4	7,9	8,3	8,8	9,3	9,8	10,3		
150	kg	5,0	5,5	6,1	6,6	7,2	7,7	8,3	8,8	9,4	10,0	10,5	11,1	11,6		
200	kg	5,6	6,2	6,8	7,4	8,0	8,6	9,2	9,8	10,5	11,1	11,7	12,3	12,9		
250	kg	6,2	6,9	7,5	8,2	8,9	9,5	10,2	10,8	11,5	12,2	12,8	13,5	14,2		
300	kg	6,8	7,5	8,2	9,0	9,7	10,4	11,1	11,8	12,6	13,3	14,0	14,7	15,4		
350	kg	7,4	8,2	9,0	9,7	10,5	11,3	12,1	12,8	13,6	14,4	15,2	15,9	16,7		
400	kg	8,0	8,9	9,7	10,5	11,3	12,2	13,0	13,8	14,7	15,5	16,3	17,2	18,0		
450	kg	8,6	9,5	10,4	11,3	12,2	13,1	14,0	14,8	15,7	16,6	17,5	18,4	19,3		
500	kg	9,2	10,2	11,1	12,1	13,0	14,0	14,9	15,8	16,8	17,7	18,7	19,6	20,5		
550	kg	9,8	10,8	11,8	12,8	13,8	14,8	15,8	16,8	17,8	18,8	19,8	20,8	21,8		
600	kg	10,5	11,5	12,6	13,6	14,7	15,7	16,8	17,8	18,9	19,9	21,0	22,0	23,1		

CU-LT-L500 + ONE (X)

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	5,6	6,1	6,6	7,1	7,6	8,1	8,6	9,1	9,5	10,0	10,5	11,0	11,5		
150	kg	6,2	6,7	7,3	7,8	8,4	8,9	9,5	10,0	10,6	11,2	11,7	12,3	12,8		
200	kg	6,8	7,4	8,0	8,6	9,2	9,8	10,4	11,0	11,7	12,3	12,9	13,5	14,1		
250	kg	7,4	8,1	8,7	9,4	10,1	10,7	11,4	12,0	12,7	13,4	14,0	14,7	15,4		
300	kg	8,0	8,7	9,4	10,2	10,9	11,6	12,3	13,0	13,8	14,5	15,2	15,9	16,6		
350	kg	8,6	9,4	10,2	10,9	11,7	12,5	13,3	14,0	14,8	15,6	16,4	17,1	17,9		
400	kg	9,2	10,1	10,9	11,7	12,5	13,4	14,2	15,0	15,9	16,7	17,5	18,4	19,2		
450	kg	9,8	10,7	11,6	12,5	13,4	14,3	15,2	16,0	16,9	17,8	18,7	19,6	20,5		
500	kg	10,4	11,4	12,3	13,3	14,2	15,2	16,1	17,0	18,0	18,9	19,9	20,8	21,7		
550	kg	11,0	12,0	13,0	14,0	15,0	16,0	17,0	18,0	19,0	20,0	21,0	22,0	23,0		
600	kg	11,7	12,7	13,8	14,8	15,9	16,9	18,0	19,0	20,1	21,1	22,2	23,2	24,3		

CU-LT-L500 + BFL

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	5,1	5,6	6,1	6,6	7,1	7,6	8,1	8,6	9,0	9,5	10,0	10,5	11,0		
150	kg	5,7	6,2	6,8	7,3	7,9	8,4	9,0	9,5	10,1	10,7	11,2	11,8	12,3		
200	kg	6,3	6,9	7,5	8,1	8,7	9,3	9,9	10,5	11,2	11,8	12,4	13,0	13,6		
250	kg	6,9	7,6	8,2	8,9	9,6	10,2	10,9	11,5	12,2	12,9	13,5	14,2	14,9		
300	kg	7,5	8,2	8,9	9,7	10,4	11,1	11,8	12,5	13,3	14,0	14,7	15,4	16,1		
350	kg	8,1	8,9	9,7	10,4	11,2	12,0	12,8	13,5	14,3	15,1	15,9	16,6	17,4		
400	kg	8,7	9,6	10,4	11,2	12,0	12,9	13,7	14,5	15,4	16,2	17,0	17,9	18,7		
450	kg	9,3	10,2	11,1	12,0	12,9	13,8	14,7	15,5	16,4	17,3	18,2	19,1	20,0		
500	kg	9,9	10,9	11,8	12,8	13,7	14,7	15,6	16,5	17,5	18,4	19,4	20,3	21,2		
550	kg	10,5	11,5	12,5	13,5	14,5	15,5	16,5	17,5	18,5	19,5	20,5	21,5	22,5		
600	kg	11,2	12,2	13,3	14,3	15,4	16,4	17,5	18,5	19,6	20,6	21,7	22,7	23,8		

CU-LT-L500 + BFLT

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	kg	5,2	5,7	6,2	6,7	7,2	7,7	8,2	8,7	9,1	9,6	10,1	10,6	11,1		
150	kg	5,8	6,3	6,9	7,4	8,0	8,5	9,1	9,6	10,2	10,8	11,3	11,9	12,4		
200	kg	6,4	7,0	7,6	8,2	8,8	9,4	10,0	10,6	11,3	11,9	12,5	13,1	13,7		
250	kg	7,0	7,7	8,3	9,0	9,7	10,3	11,0	11,6	12,3	13,0	13,6	14,3	15,0		
300	kg	7,6	8,3	9,0	9,8	10,5	11,2	11,9	12,6	13,4	14,1	14,8	15,5	16,2		
350	kg	8,2	9,0	9,8	10,5	11,3	12,1	12,9	13,6	14,4	15,2	16,0	16,7	17,5		
400	kg	8,8	9,7	10,5	11,3	12,1	13,0	13,8	14,6	15,5	16,3	17,1	18,0	18,8		
450	kg	9,4	10,3	11,2	12,1	13,0	13,9	14,8	15,6	16,5	17,4	18,3	19,2	20,1		
500	kg	10,0	11,0	11,9	12,9	13,8	14,8	15,7	16,6	17,6	18,5	19,5	20,4	21,3		
550	kg	10,6	11,6	12,6	13,6	14,6	15,6	16,6	17,6	18,6	19,6	20,6	21,6	22,6		
600	kg	11,3	12,3	13,4	14,4	15,5	16,5	17,6	18,6	19,7	20,7	21,8	22,8	23,9		

Selection data

$$\Delta p\ [Pa] = \zeta * v^2 * 0{,}6$$

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800		
100	ζ [-]	1,69	1,65	1,62	1,60	1,59	1,58	1,57	1,56	1,55	1,55	1,54	1,54	1,54		
150	ζ [-]	0,98	0,93	0,89	0,87	0,85	0,83	0,82	0,81	0,80	0,80	0,79	0,79	0,78		
200	ζ [-]	0,69	0,63	0,60	0,57	0,55	0,54	0,52	0,51	0,51	0,50	0,49	0,49	0,49		
250	ζ [-]	0,54	0,48	0,44	0,42	0,40	0,39	0,37	0,37	0,36	0,35	0,35	0,34	0,34		
300	ζ [-]	0,45	0,39	0,35	0,33	0,31	0,30	0,29	0,28	0,27	0,26	0,26	0,26	0,25		
350	ζ [-]	0,39	0,33	0,30	0,27	0,25	0,24	0,23	0,22	0,22	0,21	0,21	0,20	0,20		
400	ζ [-]	0,34	0,29	0,26	0,23	0,22	0,20	0,19	0,18	0,18	0,17	0,17	0,16	0,16		
450	ζ [-]	0,31	0,26	0,23	0,20	0,19	0,17	0,16	0,16	0,15	0,15	0,14	0,14	0,13		
500	ζ [-]	0,29	0,24	0,20	0,18	0,17	0,15	0,14	0,14	0,13	0,13	0,12	0,12	0,12		
550	ζ [-]	0,27	0,22	0,19	0,16	0,15	0,14	0,13	0,12	0,12	0,11	0,11	0,10	0,10		
600	ζ [-]	0,25	0,20	0,17	0,15	0,14	0,12	0,12	0,11	0,10	0,10	0,10	0,09	0,09		

Rf-t Rf-Technologies
AMS AIR MOVEMENT SUPPLIES

Example

Data

Hn = 350 mm, Bn = 400 mm , v = 5 m/s

Calculation

$\Delta p = 0.25 * (5\ m/s)^2 * 0.6 = 3.75\ Pa$

CU-LT - A-weighted sound power level in the duct

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	
100	Sn [m²]	0,0099	0,0127	0,0154	0,0182	0,0209	0,0237	0,0264	0,0292	0,0319	0,0347	0,0374	0,0402	0,0429	
	Sn [%]	54,29	55,15	55,72	56,13	56,43	56,67	56,85	57,00	57,13	57,24	57,33	57,41	57,48	
	Q [m³/h]	690,00	860,00	1.030,00	1.200,00	1.360,00	1.530,00	1.700,00	1.870,00	2.030,00	2.200,00	2.370,00	2.540,00	2.700,00	45 dB
	Δp [Pa]	93,34	90,41	88,50	87,16	84,91	84,29	83,80	83,41	82,26	82,05	81,86	81,70	80,97	
	Q [m³/h]	560,00	700,00	840,00	970,00	1.110,00	1.250,00	1.380,00	1.520,00	1.650,00	1.790,00	1.930,00	2.060,00	2.200,00	40 dB
	Δp [Pa]	61,48	59,90	58,86	56,95	56,56	56,26	55,22	55,11	54,35	54,32	54,29	53,74	53,75	
	Q [m³/h]	460,00	570,00	680,00	790,00	900,00	1.010,00	1.120,00	1.230,00	1.350,00	1.460,00	1.570,00	1.680,00	1.790,00	35 dB
	Δp [Pa]	41,49	39,71	38,57	37,77	37,19	36,73	36,38	36,08	36,38	36,13	35,92	35,74	35,59	
	Q [m³/h]	370,00	460,00	550,00	640,00	730,00	820,00	910,00	1.000,00	1.090,00	1.180,00	1.270,00	1.360,00	1.450,00	30 dB
	Δp [Pa]	26,84	25,87	25,23	24,79	24,46	24,21	24,01	23,85	23,72	23,60	23,51	23,42	23,35	
	Q [m³/h]	310,00	380,00	450,00	520,00	600,00	670,00	740,00	820,00	890,00	960,00	1.040,00	1.110,00	1.180,00	25 dB
	Δp [Pa]	18,84	17,65	16,89	16,37	16,53	16,16	15,88	16,04	15,81	15,62	15,76	15,60	15,46	
150	Sn [m²]	0,0189	0,0242	0,0294	0,0347	0,0399	0,0452	0,0504	0,0557	0,0609	0,0662	0,0714	0,0767	0,0819	
	Sn [%]	67,65	68,73	69,44	69,95	70,33	70,62	70,85	71,04	71,20	71,33	71,45	71,54	71,63	
	Q [m³/h]	940,00	1.170,00	1.390,00	1.610,00	1.840,00	2.060,00	2.290,00	2.510,00	2.730,00	2.960,00	3.180,00	3.410,00	3.630,00	45 dB
	Δp [Pa]	44,54	41,91	39,31	37,88	37,01	35,79	35,39	34,71	34,08	34,14	33,55	33,60	33,04	
	Q [m³/h]	770,00	950,00	1.130,00	1.310,00	1.490,00	1.680,00	1.860,00	2.040,00	2.220,00	2.400,00	2.590,00	2.770,00	2.950,00	40 dB
	Δp [Pa]	30,00	27,56	26,02	24,96	24,18	23,87	23,37	22,97	22,64	22,36	22,30	22,08	21,90	
	Q [m³/h]	620,00	770,00	920,00	1.070,00	1.220,00	1.360,00	1.510,00	1.660,00	1.810,00	1.960,00	2.100,00	2.250,00	2.400,00	35 dB
	Δp [Pa]	19,45	18,11	17,25	16,65	16,21	15,64	15,40	15,21	15,05	14,91	14,66	14,57	14,49	
	Q [m³/h]	510,00	630,00	750,00	870,00	990,00	1.110,00	1.230,00	1.350,00	1.470,00	1.590,00	1.710,00	1.830,00	1.950,00	30 dB
	Δp [Pa]	13,16	12,12	11,46	11,01	10,67	10,42	10,22	10,06	9,93	9,81	9,72	9,64	9,57	
	Q [m³/h]	410,00	510,00	610,00	710,00	810,00	900,00	1.000,00	1.100,00	1.200,00	1.290,00	1.390,00	1.490,00	1.590,00	25 dB
	Δp [Pa]	8,51	7,94	7,58	7,33	7,15	6,85	6,76	6,68	6,61	6,46	6,42	6,39	6,36	
200	Sn [m²]	0,0279	0,0357	0,0434	0,0512	0,0589	0,0667	0,0744	0,0822	0,0899	0,0977	0,1054	0,1132	0,1209	
	Sn [%]	74,13	75,31	76,09	76,65	77,06	77,38	77,63	77,84	78,01	78,16	78,29	78,39	78,49	
	Q [m³/h]	1.190,00	1.470,00	1.750,00	2.030,00	2.310,00	2.590,00	2.860,00	3.140,00	3.420,00	3.700,00	3.980,00	4.260,00	4.530,00	45 dB
	Δp [Pa]	28,38	25,37	23,49	22,20	21,26	20,55	19,85	19,42	19,06	18,77	18,51	18,29	18,02	
	Q [m³/h]	970,00	1.200,00	1.420,00	1.650,00	1.880,00	2.100,00	2.330,00	2.550,00	2.780,00	3.010,00	3.230,00	3.460,00	3.690,00	40 dB
	Δp [Pa]	18,85	16,91	15,46	14,67	14,08	13,51	13,18	12,81	12,60	12,42	12,19	12,07	11,96	
	Q [m³/h]	790,00	970,00	1.160,00	1.340,00	1.530,00	1.710,00	1.890,00	2.080,00	2.260,00	2.450,00	2.630,00	2.810,00	3.000,00	35 dB
	Δp [Pa]	12,51	11,05	10,32	9,67	9,33	8,96	8,67	8,52	8,32	8,23	8,08	7,96	7,90	
	Q [m³/h]	640,00	790,00	940,00	1.090,00	1.240,00	1.390,00	1.540,00	1.690,00	1.840,00	1.990,00	2.140,00	2.290,00	2.440,00	30 dB
	Δp [Pa]	8,21	7,33	6,78	6,40	6,13	5,92	5,76	5,63	5,52	5,43	5,35	5,29	5,23	
	Q [m³/h]	520,00	640,00	770,00	890,00	1.010,00	1.130,00	1.250,00	1.370,00	1.500,00	1.620,00	1.740,00	1.860,00	1.980,00	25 dB
	Δp [Pa]	5,42	4,81	4,55	4,27	4,06	3,91	3,79	3,70	3,67	3,60	3,54	3,49	3,44	

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	
250	Sn [m²]	0,0369	0,0472	0,0574	0,0677	0,0779	0,0882	0,0984	0,1087	0,1189	0,1292	0,1394	0,1497	0,1599	
	Sn [%]	77,95	79,20	80,02	80,60	81,03	81,37	81,64	81,85	82,04	82,19	82,32	82,44	82,53	
	Q [m³/h]	1.440,00	1.770,00	2.100,00	2.440,00	2.770,00	3.100,00	3.430,00	3.760,00	4.090,00	4.420,00	4.750,00	5.090,00	5.420,00	45 dB
	Δp [Pa]	20,74	17,89	16,14	15,08	14,21	13,56	13,05	12,64	12,31	12,03	11,80	11,64	11,46	
	Q [m³/h]	1.170,00	1.440,00	1.710,00	1.980,00	2.250,00	2.520,00	2.790,00	3.060,00	3.330,00	3.600,00	3.870,00	4.130,00	4.400,00	40 dB
	Δp [Pa]	13,69	11,84	10,70	9,93	9,38	8,96	8,63	8,37	8,16	7,98	7,83	7,66	7,55	
	Q [m³/h]	950,00	1.170,00	1.390,00	1.610,00	1.830,00	2.050,00	2.270,00	2.490,00	2.710,00	2.920,00	3.140,00	3.360,00	3.580,00	35 dB
	Δp [Pa]	9,03	7,82	7,07	6,57	6,20	5,93	5,71	5,54	5,40	5,25	5,15	5,07	5,00	
	Q [m³/h]	780,00	950,00	1.130,00	1.310,00	1.490,00	1.670,00	1.840,00	2.020,00	2.200,00	2.380,00	2.560,00	2.730,00	2.910,00	30 dB
	Δp [Pa]	6,08	5,15	4,67	4,35	4,11	3,93	3,75	3,65	3,56	3,49	3,43	3,35	3,30	
	Q [m³/h]	630,00	780,00	920,00	1.070,00	1.210,00	1.360,00	1.500,00	1.640,00	1.790,00	1.930,00	2.080,00	2.220,00	2.370,00	25 dB
	Δp [Pa]	3,97	3,47	3,10	2,90	2,71	2,61	2,50	2,40	2,36	2,29	2,26	2,21	2,19	
300	Sn [m²]	0,0459	0,0587	0,0714	0,0842	0,0969	0,1097	0,1224	0,1352	0,1479	0,1607	0,1734	0,1862	0,1989	
	Sn [%]	80,48	81,76	82,60	83,20	83,65	84,00	84,28	84,50	84,69	84,85	84,99	85,10	85,21	
	Q [m³/h]	1.690,00	2.070,00	2.450,00	2.840,00	3.220,00	3.600,00	3.990,00	4.370,00	4.750,00	5.130,00	5.520,00	5.900,00	6.280,00	45 dB
	Δp [Pa]	16,45	13,78	12,16	11,16	10,38	9,80	9,40	9,03	8,73	8,49	8,31	8,13	7,98	
	Q [m³/h]	1.370,00	1.680,00	2.000,00	2.310,00	2.620,00	2.930,00	3.240,00	3.550,00	3.860,00	4.170,00	4.480,00	4.790,00	5.110,00	40 dB
	Δp [Pa]	10,81	9,08	8,11	7,39	6,87	6,49	6,20	5,96	5,77	5,61	5,47	5,36	5,28	
	Q [m³/h]	1.120,00	1.370,00	1.620,00	1.880,00	2.130,00	2.380,00	2.640,00	2.890,00	3.140,00	3.390,00	3.650,00	3.900,00	4.150,00	35 dB
	Δp [Pa]	7,23	6,04	5,32	4,89	4,54	4,28	4,11	3,95	3,82	3,71	3,63	3,55	3,48	
	Q [m³/h]	910,00	1.110,00	1.320,00	1.530,00	1.730,00	1.940,00	2.140,00	2.350,00	2.550,00	2.760,00	2.960,00	3.170,00	3.370,00	30 dB
	Δp [Pa]	4,77	3,96	3,53	3,24	3,00	2,85	2,70	2,61	2,52	2,46	2,39	2,35	2,30	
	Q [m³/h]	740,00	910,00	1.070,00	1.240,00	1.410,00	1.580,00	1.740,00	1.910,00	2.080,00	2.240,00	2.410,00	2.580,00	2.740,00	25 dB
	Δp [Pa]	3,15	2,66	2,32	2,13	1,99	1,89	1,79	1,73	1,67	1,62	1,58	1,55	1,52	
350	Sn [m²]	0,0549	0,0702	0,0854	0,1007	0,1159	0,1312	0,1464	0,1617	0,1769	0,1922	0,2074	0,2227	0,2379	
	Sn [%]	82,26	83,58	84,44	85,05	85,51	85,87	86,15	86,38	86,57	86,74	86,87	86,99	87,10	
	Q [m³/h]	1.930,00	2.370,00	2.800,00	3.240,00	3.670,00	4.100,00	4.540,00	4.970,00	5.400,00	5.830,00	6.260,00	6.700,00	7.130,00	45 dB
	Δp [Pa]	13,62	11,24	9,74	8,80	8,09	7,57	7,19	6,87	6,60	6,38	6,20	6,06	5,93	
	Q [m³/h]	1.570,00	1.930,00	2.280,00	2.630,00	2.980,00	3.340,00	3.690,00	4.040,00	4.390,00	4.740,00	5.090,00	5.440,00	5.790,00	40 dB
	Δp [Pa]	9,01	7,46	6,46	5,80	5,34	5,02	4,75	4,54	4,36	4,22	4,10	4,00	3,91	
	Q [m³/h]	1.280,00	1.570,00	1.850,00	2.140,00	2.430,00	2.710,00	3.000,00	3.280,00	3.570,00	3.850,00	4.140,00	4.430,00	4.710,00	35 dB
	Δp [Pa]	5,99	4,93	4,25	3,84	3,55	3,31	3,14	2,99	2,89	2,78	2,71	2,65	2,59	
	Q [m³/h]	1.040,00	1.270,00	1.510,00	1.740,00	1.970,00	2.210,00	2.440,00	2.670,00	2.900,00	3.130,00	3.370,00	3.600,00	3.830,00	30 dB
	Δp [Pa]	3,96	3,23	2,83	2,54	2,33	2,20	2,08	1,98	1,90	1,84	1,80	1,75	1,71	
	Q [m³/h]	850,00	1.040,00	1.230,00	1.420,00	1.600,00	1.790,00	1.980,00	2.170,00	2.360,00	2.550,00	2.740,00	2.930,00	3.110,00	25 dB
	Δp [Pa]	2,64	2,17	1,88	1,69	1,54	1,44	1,37	1,31	1,26	1,22	1,19	1,16	1,13	
400	Sn [m²]	0,0639	0,0817	0,0994	0,1172	0,1349	0,1527	0,1704	0,1882	0,2059	0,2237	0,2414	0,2592	0,2769	
	Sn [%]	83,60	84,93	85,81	86,43	86,90	87,26	87,55	87,78	87,98	88,14	88,28	88,41	88,51	
	Q [m³/h]	2.170,00	2.660,00	3.150,00	3.630,00	4.110,00	4.600,00	5.080,00	5.560,00	6.040,00	6.520,00	7.000,00	7.480,00	7.960,00	45 dB
	Δp [Pa]	11,72	9,48	8,14	7,22	6,57	6,12	5,75	5,46	5,22	5,03	4,86	4,72	4,61	
	Q [m³/h]	1.770,00	2.160,00	2.560,00	2.950,00	3.350,00	3.740,00	4.130,00	4.520,00	4.910,00	5.300,00	5.690,00	6.080,00	6.470,00	40 dB
	Δp [Pa]	7,80	6,25	5,37	4,77	4,36	4,04	3,80	3,61	3,45	3,32	3,21	3,12	3,04	
	Q [m³/h]	1.440,00	1.760,00	2.080,00	2.400,00	2.720,00	3.040,00	3.360,00	3.670,00	3.990,00	4.310,00	4.630,00	4.950,00	5.260,00	35 dB
	Δp [Pa]	5,16	4,15	3,55	3,15	2,88	2,67	2,51	2,38	2,28	2,20	2,13	2,07	2,01	
	Q [m³/h]	1.170,00	1.430,00	1.690,00	1.950,00	2.210,00	2.470,00	2.730,00	2.990,00	3.250,00	3.500,00	3.760,00	4.020,00	4.280,00	30 dB
	Δp [Pa]	3,41	2,74	2,34	2,08	1,90	1,76	1,66	1,58	1,51	1,45	1,40	1,36	1,33	
	Q [m³/h]	950,00	1.160,00	1.380,00	1.590,00	1.800,00	2.010,00	2.220,00	2.430,00	2.640,00	2.850,00	3.060,00	3.270,00	3.480,00	25 dB
	Δp [Pa]	2,25	1,80	1,56	1,38	1,26	1,17	1,10	1,04	1,00	0,96	0,93	0,90	0,88	

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	
450	Sn [m²]	0,0729	0,0932	0,1134	0,1337	0,1539	0,1742	0,1944	0,2147	0,2349	0,2552	0,2754	0,2957	0,3159	
	Sn [%]	84,63	85,98	86,87	87,50	87,98	88,34	88,63	88,87	89,07	89,23	89,38	89,50	89,61	
	Q [m³/h]	2.420,00	2.960,00	3.490,00	4.020,00	4.560,00	5.090,00	5.620,00	6.150,00	6.680,00	7.200,00	7.730,00	8.260,00	8.790,00	45 dB
	Δp [Pa]	10,45	8,29	6,97	6,11	5,54	5,10	4,76	4,50	4,28	4,09	3,95	3,82	3,72	
	Q [m³/h]	1.970,00	2.400,00	2.840,00	3.270,00	3.700,00	4.140,00	4.570,00	5.000,00	5.430,00	5.860,00	6.290,00	6.720,00	7.150,00	40 dB
	Δp [Pa]	6,93	5,45	4,62	4,05	3,65	3,37	3,15	2,97	2,83	2,71	2,61	2,53	2,46	
	Q [m³/h]	1.600,00	1.950,00	2.310,00	2.660,00	3.010,00	3.360,00	3.710,00	4.060,00	4.410,00	4.760,00	5.110,00	5.460,00	5.810,00	35 dB
	Δp [Pa]	4,57	3,60	3,05	2,68	2,41	2,22	2,08	1,96	1,87	1,79	1,73	1,67	1,62	
	Q [m³/h]	1.300,00	1.590,00	1.880,00	2.160,00	2.450,00	2.730,00	3.020,00	3.300,00	3.590,00	3.870,00	4.150,00	4.440,00	4.720,00	30 dB
	Δp [Pa]	3,02	2,39	2,02	1,77	1,60	1,47	1,38	1,29	1,24	1,18	1,14	1,10	1,07	
	Q [m³/h]	1.060,00	1.290,00	1.530,00	1.760,00	1.990,00	2.220,00	2.450,00	2.690,00	2.920,00	3.150,00	3.380,00	3.610,00	3.840,00	25 dB
	Δp [Pa]	2,01	1,57	1,34	1,17	1,06	0,97	0,90	0,86	0,82	0,78	0,75	0,73	0,71	
500	Sn [m²]	0,0819	0,1047	0,1274	0,1502	0,1729	0,1957	0,2184	0,2412	0,2639	0,2867	0,3094	0,3322	0,3549	
	Sn [%]	85,46	86,82	87,72	88,36	88,83	89,20	89,49	89,73	89,93	90,10	90,25	90,37	90,48	
	Q [m³/h]	2.660,00	3.250,00	3.830,00	4.410,00	4.990,00	5.570,00	6.150,00	6.730,00	7.300,00	7.880,00	8.460,00	9.030,00	9.610,00	45 dB
	Δp [Pa]	9,43	7,36	6,12	5,31	4,76	4,35	4,04	3,80	3,59	3,43	3,30	3,18	3,08	
	Q [m³/h]	2.160,00	2.640,00	3.120,00	3.590,00	4.060,00	4.530,00	5.000,00	5.470,00	5.940,00	6.410,00	6.870,00	7.340,00	7.810,00	40 dB
	Δp [Pa]	6,22	4,86	4,06	3,52	3,15	2,88	2,67	2,51	2,38	2,27	2,17	2,10	2,04	
	Q [m³/h]	1.760,00	2.150,00	2.530,00	2.920,00	3.300,00	3.680,00	4.060,00	4.450,00	4.830,00	5.210,00	5.590,00	5.970,00	6.350,00	35 dB
	Δp [Pa]	4,13	3,22	2,67	2,33	2,08	1,90	1,76	1,66	1,57	1,50	1,44	1,39	1,35	
	Q [m³/h]	1.430,00	1.750,00	2.060,00	2.370,00	2.680,00	2.990,00	3.300,00	3.610,00	3.920,00	4.230,00	4.540,00	4.850,00	5.160,00	30 dB
	Δp [Pa]	2,73	2,13	1,77	1,53	1,37	1,25	1,16	1,09	1,04	0,99	0,95	0,92	0,89	
	Q [m³/h]	1.160,00	1.420,00	1.680,00	1.930,00	2.180,00	2.430,00	2.690,00	2.940,00	3.190,00	3.440,00	3.690,00	3.940,00	4.200,00	25 dB
	Δp [Pa]	1,79	1,41	1,18	1,02	0,91	0,83	0,77	0,72	0,69	0,65	0,63	0,61	0,59	
550	Sn [m²]	0,0909	0,1162	0,1414	0,1667	0,1919	0,2172	0,2424	0,2677	0,2929	0,3182	0,3434	0,3687	0,3939	
	Sn [%]	86,13	87,50	88,41	89,05	89,53	89,90	90,20	90,44	90,64	90,81	90,96	91,08	91,19	
	Q [m³/h]	2.900,00	3.540,00	4.170,00	4.800,00	5.430,00	6.060,00	6.680,00	7.300,00	7.930,00	8.550,00	9.170,00	9.790,00	10.420,00	45 dB
	Δp [Pa]	8,64	6,65	5,47	4,71	4,19	3,80	3,50	3,27	3,09	2,94	2,81	2,70	2,61	
	Q [m³/h]	2.360,00	2.880,00	3.390,00	3.900,00	4.410,00	4.920,00	5.430,00	5.940,00	6.440,00	6.950,00	7.460,00	7.960,00	8.470,00	40 dB
	Δp [Pa]	5,73	4,40	3,62	3,11	2,76	2,51	2,32	2,16	2,04	1,94	1,86	1,78	1,73	
	Q [m³/h]	1.920,00	2.340,00	2.760,00	3.170,00	3.590,00	4.000,00	4.420,00	4.830,00	5.240,00	5.650,00	6.060,00	6.470,00	6.880,00	35 dB
	Δp [Pa]	3,79	2,91	2,40	2,05	1,83	1,66	1,53	1,43	1,35	1,28	1,23	1,18	1,14	
	Q [m³/h]	1.560,00	1.900,00	2.240,00	2.580,00	2.920,00	3.250,00	3.590,00	3.920,00	4.260,00	4.590,00	4.930,00	5.260,00	5.600,00	30 dB
	Δp [Pa]	2,50	1,92	1,58	1,36	1,21	1,09	1,01	0,94	0,89	0,85	0,81	0,78	0,75	
	Q [m³/h]	1.270,00	1.550,00	1.820,00	2.100,00	2.370,00	2.650,00	2.920,00	3.190,00	3.460,00	3.730,00	4.010,00	4.280,00	4.550,00	25 dB
	Δp [Pa]	1,66	1,28	1,04	0,90	0,80	0,73	0,67	0,62	0,59	0,56	0,54	0,52	0,50	
600	Sn [m²]	0,0999	0,1277	0,1554	0,1832	0,2109	0,2387	0,2664	0,2942	0,3219	0,3497	0,3774	0,4052	0,4329	
	Sn [%]	86,69	88,07	88,99	89,63	90,11	90,49	90,79	91,03	91,23	91,40	91,55	91,68	91,79	
	Q [m³/h]	3.140,00	3.830,00	4.510,00	5.190,00	5.860,00	6.540,00	7.210,00	7.880,00	8.550,00	9.220,00	9.880,00	10.550,00	11.220,00	45 dB
	Δp [Pa]	8,02	6,10	4,97	4,24	3,73	3,37	3,09	2,87	2,70	2,56	2,43	2,34	2,25	
	Q [m³/h]	2.560,00	3.110,00	3.670,00	4.220,00	4.770,00	5.310,00	5.860,00	6.400,00	6.950,00	7.490,00	8.040,00	8.580,00	9.120,00	40 dB
	Δp [Pa]	5,33	4,02	3,29	2,80	2,47	2,22	2,04	1,90	1,78	1,69	1,61	1,54	1,49	
	Q [m³/h]	2.080,00	2.530,00	2.980,00	3.430,00	3.880,00	4.320,00	4.760,00	5.210,00	5.650,00	6.090,00	6.530,00	6.970,00	7.410,00	35 dB
	Δp [Pa]	3,52	2,66	2,17	1,85	1,64	1,47	1,35	1,26	1,18	1,12	1,06	1,02	0,98	
	Q [m³/h]	1.690,00	2.060,00	2.420,00	2.790,00	3.150,00	3.510,00	3.870,00	4.230,00	4.590,00	4.950,00	5.310,00	5.670,00	6.030,00	30 dB
	Δp [Pa]	2,32	1,76	1,43	1,23	1,08	0,97	0,89	0,83	0,78	0,74	0,70	0,67	0,65	
	Q [m³/h]	1.380,00	1.670,00	1.970,00	2.270,00	2.560,00	2.860,00	3.150,00	3.440,00	3.730,00	4.030,00	4.320,00	4.610,00	4.900,00	25 dB
	Δp [Pa]	1,55	1,16	0,95	0,81	0,71	0,65	0,59	0,55	0,51	0,49	0,47	0,45	0,43	

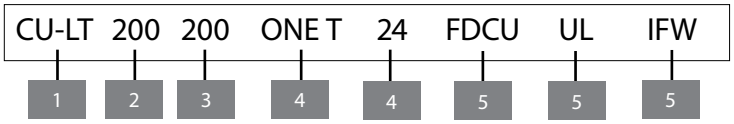
Every air flow lower than the above mentioned maximum value, will meet the listed A-weighted sound power level for the respective dimension.

Correction factor AL

To obtain the sound power level for the octave midband: LW oct = ΔL + Lwa

[Hz]	63	125	250	500	1000	2000	4000	8000
2 - 4 m/s	22	9	-2	-11	-18	-21	-17	-8
6 - 8 m/s	17	10	1	-4	-8	-13	-19	-21
10 - 12 m/s	15	9	0	-4	-7	-10	-14	-20

Sample order



1. product
2. width
3. height
4. mechanism type
5. option: type voltage
6. option: uni/bipolar switches
7. option: inspection shutter
8. option: installation kit for flexible wall IFW

Approvals and certificates

All our dampers are submitted to a number of tests by official test institutes. Reports of these tests form the basis for the approvals of our dampers.

CE 0749 — BCCA-0749-CPR-BC1-606-0464-15650.05-0464

NF 537 CLAPETS RÉSISTANT AU FEU VOLETS RÉSISTANT AU FEU — 18.19

SP Certifiering — SC0644-15

VKF AEAI — 26812

HY — W-336769-20-Zd

The NF-label guarantees: conformity with the standard NF S 61-937 Parts 1 and 5: “Systèmes de Sécurité Incendie Dispositifs Actionnés de Sécurité”; conformity with the national decree of March 22, 2004, changed on 14 March 2011 for the classification of fire resistance; the values of the characteristics mentioned in this document. Organisme Certificateur: AFNOR Certification, 11 Rue Francis de Pressensé, F93571 La Plaine Saint-Denis Cedex; Website: http://www.afnor.org http://www.marque-nf.com; Phone: +33 (0)1.41.62.80.00, Fax: +33 (0)1.49.17.90.00, Email: certification@afnor.org

If the product is manipulated in any other way than described in this manual, Rf-Technologies will decline any responsibility and the guarantee will expire!

AMS/Rf-t Partnership

AMS AIR MOVEMENT SUPPLIES /

Rf-t Rf-Technologies

AMS Air Movement Supplies has teamed up with **Rf-Technologies**, one of the largest manufacturers in Europe, to promote their extensive range of CE marked fire and smoke rated dampers.

The company employs 170 people in its two sites in Belgium (headquarters) and Slovakia. **Rf-Technologies** solutions are designed and approved for all types of walls: vertical and horizontal, in concrete or lightweight materials. They are compliant with the most stringent local and European standards. In it's pioneering role in the field of compliance with international standards, **Rf-Technologies** has been testing it's products according to the European test criteria since 2004.

This union of resources between **AMS** and **Rf-t** will offer more choice than any other supplier or distributor in Ireland and the UK. **Rf-t** are the first to bring intelligent motors to the Irish market, eliminating the need for an additional field module. It's wiring, along with many other progressive features, has erased the need for costly engineers.

For any queries, please contact us at s**ales@airmovementsupplies.ie**.

AMS Air Movement Supplies,
Unit 23, Second Avenue, Cookstown Ind. Est.,
Tallaght, Dublin 24, D24 FP95, Ireland.

Ph: +353 1 463 4300

Email: info@airmovementsupplies.ie

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"And if one can overpower him who is alone, two can resist him. A cord of three strands is not quickly torn apart."

— Ecclesiastes 4:12

