

CU2

Wide-ranging rectangular fire damper up to 120'



CE
0749












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Explanation of the abbreviations and pictograms

<p>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</p>	<p>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</p>	<p>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</p>
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	large dimensions		battery assembly tested in rigid wall
	air tightness in accordance with EN 1751: class B (class C in option)		Hygiene certificate (www.HYG.de)
	suitable for built-in installation		intermediate dimensions on request
	minimal distance allowed		sealing with fire resistant stone wool boards allowed, also for asymmetric opening
	ATEX certificate TÜV 14 ATEX 7540 X		

Product presentation CU2

Rectangular fire damper available in the largest dimensions, with battery conform to the European norm up to 3050x1650 mm. Fire resistance up to 120 minutes. The refractory casing is made of asbestos-free panels, which are resistant to humidity. Its many options make the CU2 damper a universal reference on the market.

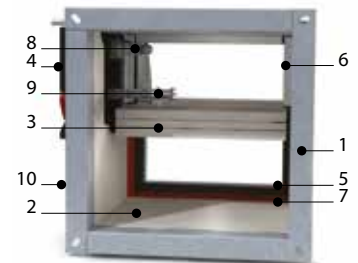
Fire dampers are installed where air ducts penetrate fire-resistant compartment walls. Their role is to restore the fire resistance grade of the penetrated wall and to prevent smoke propagation. Fire dampers are distinguished by their degree of fire resistance, by their aerualic properties as well as 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.

- ✓ large dimensions
- ✓ many options and variants
- ✓ battery assembly tested in rigid wall
- ✓ model available for use in potentially explosive atmospheres



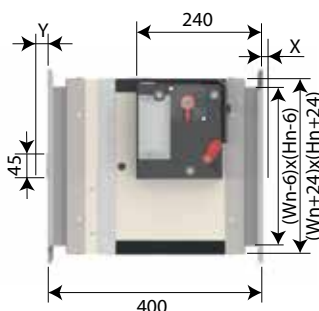
- suitable for built-in installation
- minimal distance allowed
- suitable for rigid wall, rigid floor and light wall (metal stud gypsum plasterboard wall), gypsum blocks end sandwich panel wall
- sealing with fire resistant stone wool boards allowed, also for asymmetric opening
- air tightness in accordance with EN 1751: class B (class C in option)
- tested according to EN 1366-2 up to 500 Pa
- operating mechanism outside the wall
- maintenance-free
- for indoor use
- operating temperature: max. 50°C
- intermediate dimensions on request
- Hygiene certificate (www.HYG.de) For CU2: H > 600 or W > 800

1. connection flange PG30
2. casing made of refractory material
3. damper blade
4. operating mechanism
5. sealing cold smoke
6. blade bumper
7. intumescent strip
8. transmission with locking (open/closed)
9. fusible link
10. product identification



Range and dimensions CU2

Wn/Hn in steps of 50 mm; intermediate dimensions are subject to extra cost (heights between ≥ 275 and ≤ 299 mm are not possible). Exceeding blade: X = on the mechanism side, Y = on the wall side



Hn (mm)	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
x	-	-	-	-	-	1	26	51	76	101	126	151	176	201	226
y	2	27	52	77	102	127	152	177	202	227	252	277	302	327	352

	IV	IV
(B x H) mm	200x200	1500x1000

Variant CU2L

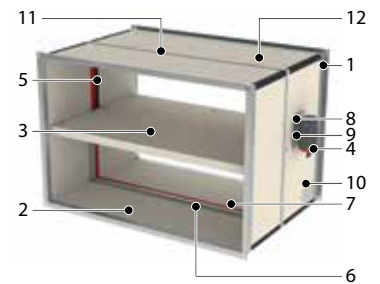
Variant CU2L

Damper with a tunnel casing extension at one or both sides so that the damper blade does not exceed the tunnel. This version allows to connect a grill or a bend directly on the damper flange or to use a circular connection.

■ extension:

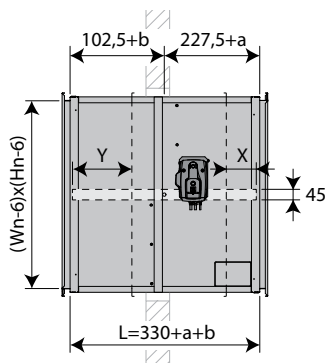
- a = $H_n/2 - 230$ mm (on the side of the mechanism);
- b = $H_n/2 - 100$ mm (on the wall side)

1. connection flange PG30
2. casing made of refractory material
3. damper blade
4. operating mechanism
5. sealing cold smoke
6. blade bumper
7. intumescent strip
8. transmission with locking (open/closed)
9. fusible link
10. product identification
11. graphite strip
12. wall limit



Range and dimensions CU2L

extension: a = $H_n/2 - 230$ mm (on the side of the mechanism); b = $H_n/2 - 100$ mm (on the wall side)

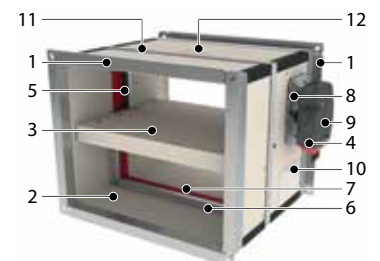


(B x H) mm	IV	V
	200x200	1500x1000

Variant CU2-L500

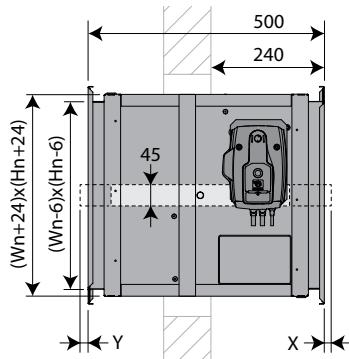
CU2 damper with a tunnel casing extension at the wall side to facilitate the connection to the duct when the supporting construction is thicker than 100 mm. This version also ensures that the damper blade doesn't exceed the casing at the wall side (up to a height of 500 mm), which allows to connect a grill or a bend directly on the damper flange or to use a circular connection.

1. connection flange PG30
2. casing made of refractory material
3. damper blade
4. operating mechanism
5. sealing cold smoke
6. blade bumper
7. intumescent strip
8. transmission with locking (open/closed)
9. fusible link
10. product identification
11. graphite strip
12. wall limit



Range and dimensions CU2-L500

Wn/Hn in steps of 50 mm; intermediate dimensions are subject to extra cost (heights between ≥ 275 and ≤ 299 mm are not possible).



Hn [mm]	500	550	600	650	700	750	800	850	900	950	1000
x	-	1	26	51	76	101	126	151	176	201	226
y	2	27	52	77	102	127	152	177	202	227	252

	IV	IA
(B x H) mm	200x200	1500x1000

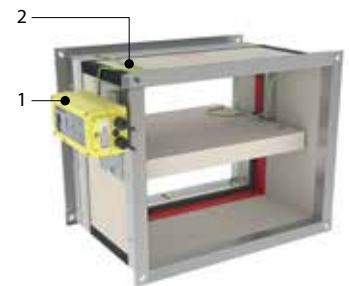
Variant CU2 ATEX

Explosion protected fire damper for use in zone 1,2 (gas) and zone 21,22 (combustible dust). The option is available on all dimensions of the CU2.

ATEX certificate TÜV 14 ATEX 7540 X

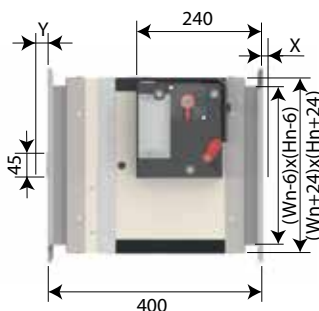


1. explosion proof mechanism
2. equipotential connection



Range and dimensions CU2 ATEX

Wn/Hn in steps of 50 mm; intermediate dimensions are subject to extra cost (heights between ≥ 275 and ≤ 299 mm are not possible). Exceeding blade: X = on the mechanism side, Y = on the wall side



Hn [mm]	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
x	-	-	-	-	-	1	26	51	76	101	126	151	176	201	226
y	2	27	52	77	102	127	152	177	202	227	252	277	302	327	352

	IV	IA
(B x H) mm	200x200	1500x1000

Variant CU2L ATEX

Explosion protected fire damper for use in zone 1,2 (gas) and zone 21,22 (combustible dust) with a tunnel casing extension at one or both sides so that the damper blade does not exceed the tunnel. This extension makes it possible to use a circular connection (PRJ flange).

☑ ATEX certificate TÜV 14 ATEX 7540 X



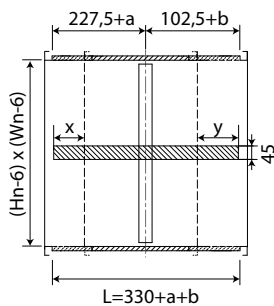
■ extension:

a = $H_n/2 - 230$ mm (on the side of the mechanism);

b = $H_n/2 - 100$ mm (on the wall side)

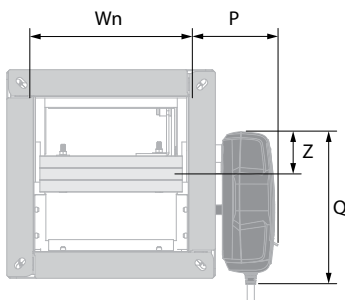
Range and dimensions CU2L ATEX

W_n/H_n in steps of 50 mm; intermediate dimensions are subject to extra cost (heights between ≥ 275 and ≤ 299 mm are not possible).
Exceeding blade: X = on the mechanism side, Y = on the wall side

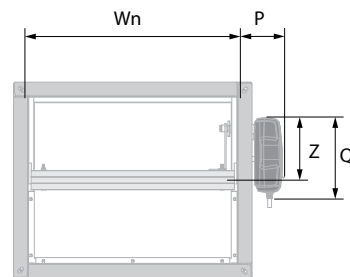


	IV	IV
(B x H) mm	200x200	1500x1000

$H_n < 300$ mm



$H_n \geq 300$ mm



















	CFTH	ONE(X)	BFL(T)	E/RMEK(T)
P	78	104	96	118
Q	180	191	110	95
Z	62	47	74	72,5

	CFTH	ONE(X)	BFL(T)	BFN(T)	E/RMEK(T)
P	78	104	96	100	118
Q	180	191	110	110	95
Z	157	147	180	180	167,5





Evolution - kits

	KITS CFTH	Automatic unlocking mechanism CFTH with FCU and without FTH 72
	KITS ONE T 24 FDCU	Spring return actuator ONE 24V (with fusible link T) + unipolar beginning- and end-of-range switch
	KITS ONE T 24 FDCB	Spring return actuator ONE 24V (with fusible link T) + bipolar 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)

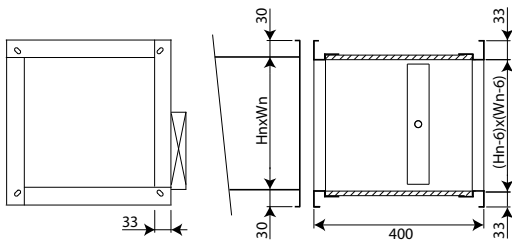
	KITS BFLT24-ST	Spring return actuator BFL 24V with thermo-electric fuse (T) and plug (ST)
	KITS BFN24	Spring return actuator BFN 24V
	KITS BFN24	Spring return actuator BFN 24V (BFN kits must be used instead of BFL kits for fire dampers produced before 1/7/2015)
	KITS BFN230	Spring return actuator BFN 230V
	KITS BFN24-ST	Spring return actuator BFN 24V with plug (ST)
	KITS BFN24	Spring return actuator BFN 24V with thermo-electric fuse (T)
	KITS BFN230	Spring return actuator BFN 230V with thermo-electric fuse (T)
	KITS BFN24-ST	Spring return actuator BFN 24V with thermo-electric fuse (T) and plug (ST)
	KITS BF24	Spring return actuator BF 24V (BF kits must be used instead of BFN kits for fire dampers produced before 1/7/2015)
	KITS FDC CFTH	1 limit switch (FCU/DCU/FCB/DCB)

	KITS SN2 BFL/BFN	Auxiliary limit switch 'open/closed'
	KITS FTH72	Fusible link FTH 72°C (for CFTH)
	KITS ZBAT 72	Black spare part for thermo-electric fuse for BFLT/BFNT
	FUS72 ONE	Fusible link 72°C
	MECT	Testbox for mechanisms 24/48 V (magnet, motor, beginning and end of range switches)
	KITS EQ	Kit equipotential connection (per set of 5 pieces)

Options - at the time of order

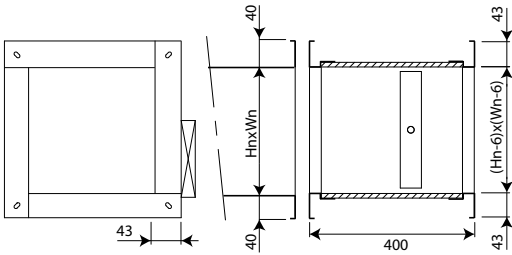
	ONE-X CN	Connectors for the bus cables and the power cable.
	UL	Inspection shutter (set of 2)
	EQ	Equipotential connection
	EN1751_C	Air-tightness class C (note: for CU2 H > 600 mm or W > 800 mm).

Flange types - at the time of order



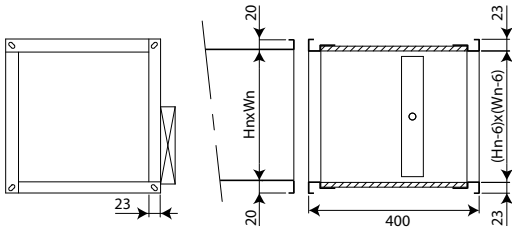
PG30

Connection to ducts with 30 mm flanges (either by sliding profile, or with bolts, or with clamps). Elliptical holes $\varnothing 8,5 \times 16$ mm.



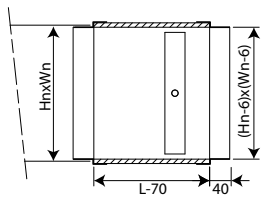
PG40

Connection to ducts with 40 mm flanges. Elliptical holes $\varnothing 8,5 \times 16$ mm.



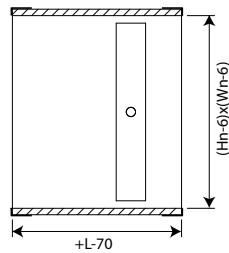
PG20

Connection to ducts with 20 mm flanges. Elliptical holes $\varnothing 6,5 \times 16$ mm.



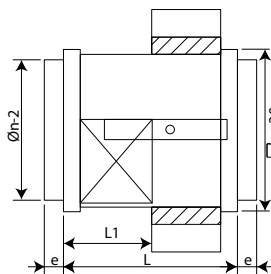
PM

Connection to ducts by insertion. This type of frame is used in case of lack of space for a standard PG30 frame.



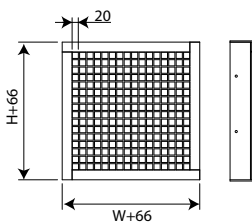
PP

No connection. This type of frame is used on one side of a damper that ends into a room.



PRJ

Circular connection with rubber sealing ring.



PPT

Grill. Very well suited as protection grill on the end piece of a duct system.

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

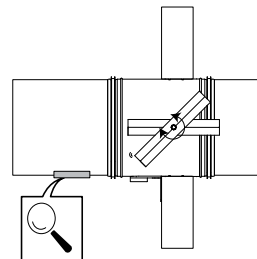
Installation

General points

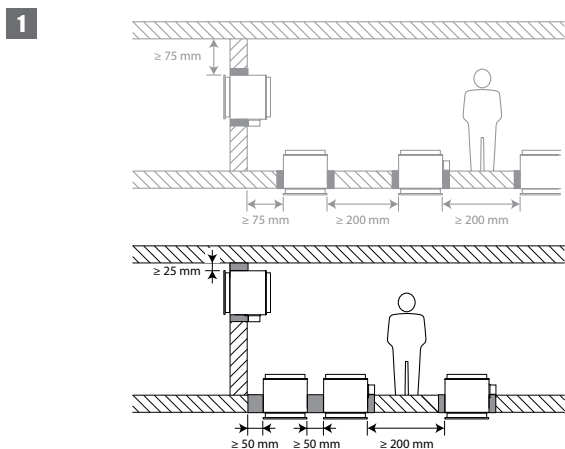
- The installation must comply with the installation manual and the classification report.
- Axis orientation: see the declaration of performance.
- Avoid obstruction of adjoining ducts.
- Product installation: always with closed damper blade.
- Verify if the blade can move freely.
- Please observe safety 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.

 TEST

2017	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
2018	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
2019	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2020	<input type="checkbox"/>		<input type="checkbox"/>
2021	<input type="checkbox"/>		<input type="checkbox"/>



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



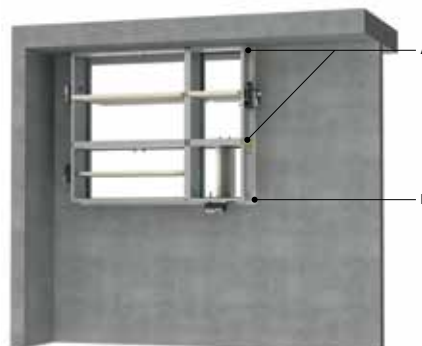
1. Principle

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).

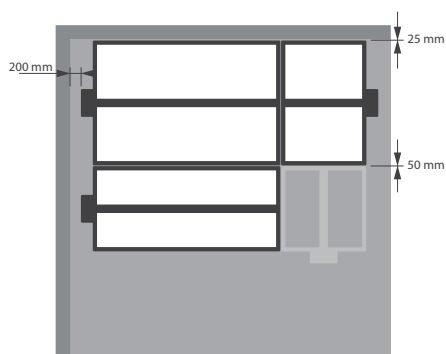
A. Sealing of the opening at the side with minimal distances between damper and wall/ceiling: rigid stone wool panels (150 kg/m^3) are applied to a depth of 400 mm (for a wall of 100 mm for instance: 100 mm in the wall + 150 mm on each side of the wall).

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). Details for each wall/sealing combination are given under the corresponding title of this installation guide.

3



3. Restrictions

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

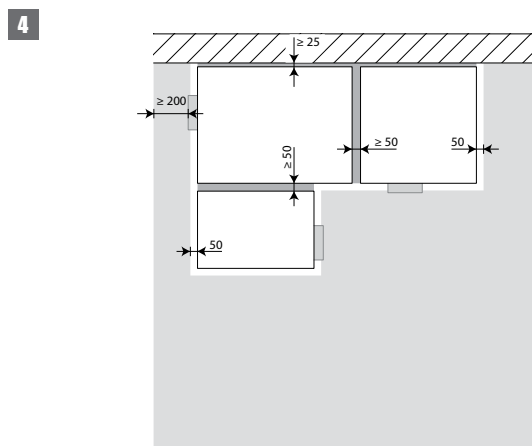
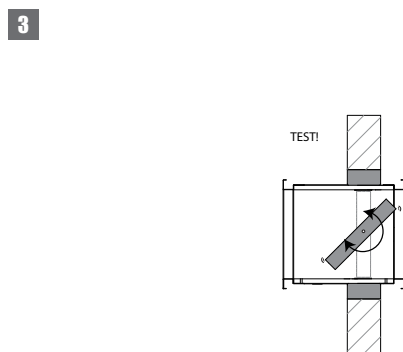
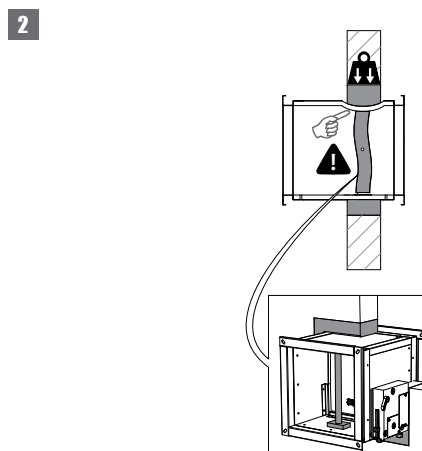
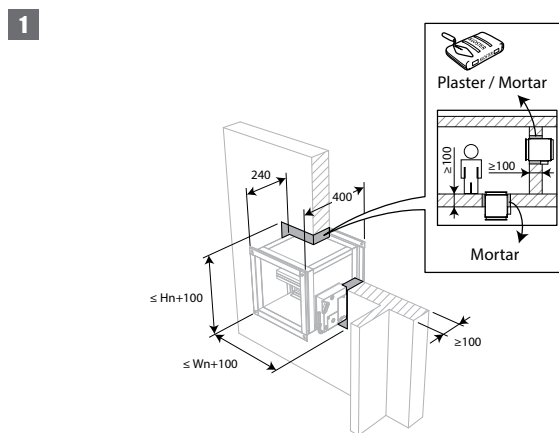
A maximum of 2 rectangular dampers can be installed at a minimum distance from one another, both vertically and horizontally (maximum cluster of 4 dampers).

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

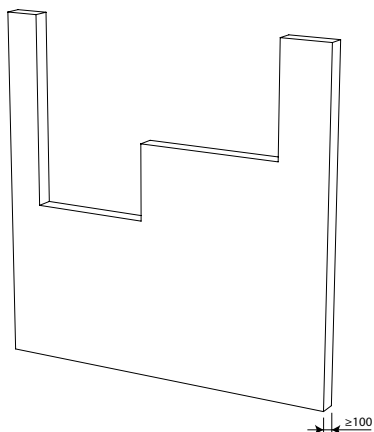
The product was tested and approved in:

Range	Wall type	Sealing	Classification	
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	Gypsum	El 120 ($v_e i \leftrightarrow o$) S - (500 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	Mortar	El 90 ($v_e i \leftrightarrow o$) S - (300 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Rigid floor	Aerated concrete $\geq 150 \text{ mm}$	Mortar	El 120 ($h_o i \leftrightarrow o$) S - (500 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	Mortar	El 120 ($v_e i \leftrightarrow o$) S - (500 Pa)
$1200 \times 800 \text{ mm} < \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	Mortar / Gypsum	El 60 ($v_e i \leftrightarrow o$) S - (500 Pa)
$1200 \times 800 \text{ mm} < \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	Mortar / Gypsum	E 120 ($v_e i \leftrightarrow o$) S - (500 Pa)
$1200 \times 800 \text{ mm} < \text{CU2} \leq 1500 \times 800 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	Mortar	El 90 ($v_e i \leftrightarrow o$) S - (300 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 800 \text{ mm}$	Rigid floor	Aerated concrete $\geq 125 \text{ mm}$	Mortar	El 120 ($h_o i \leftrightarrow o$) S - (300 Pa)



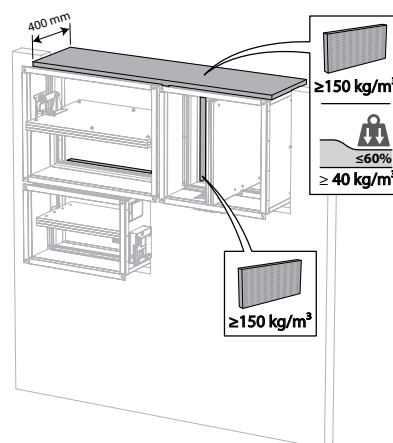
4. The dampers can be installed at a minimum distance from an adjacent floor/ceiling ($\geq 25 \text{ mm}$), from an adjacent wall or from another damper ($\geq 50 \text{ mm}$).

5



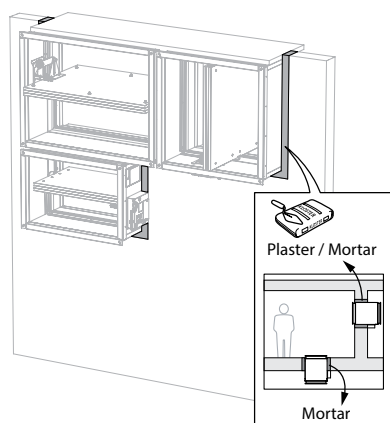
5. Make the necessary openings ($W_n + 100 \text{ mm}$) x ($H_n + 100 \text{ mm}$) in the wall.

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 each 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

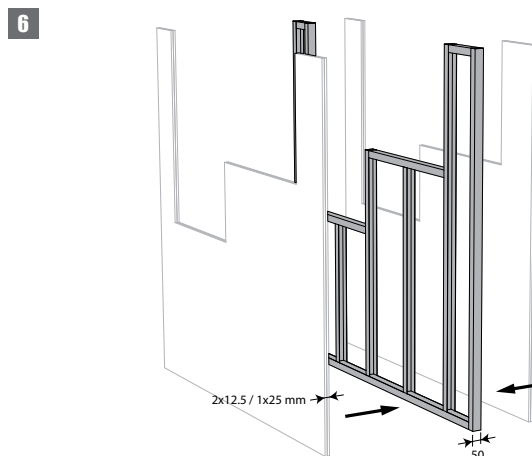
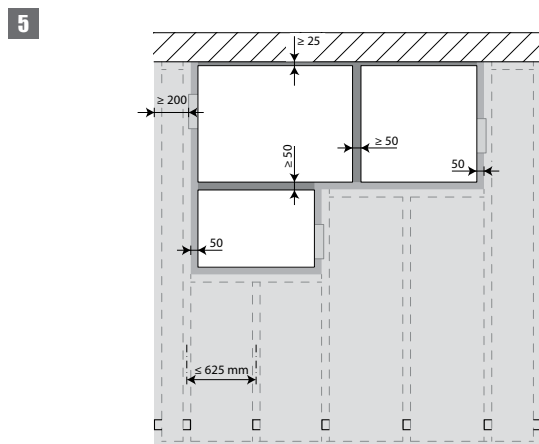
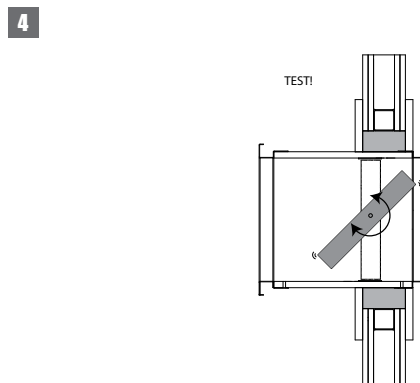
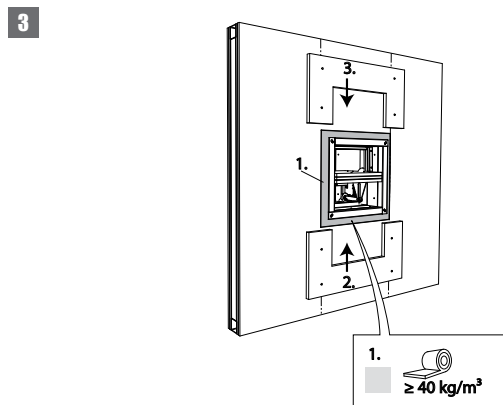
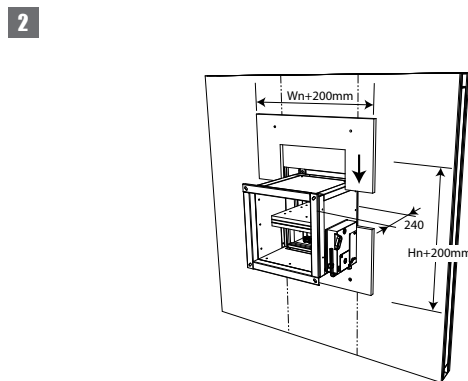
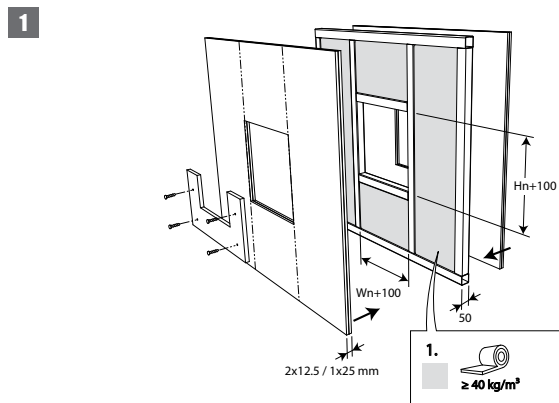


7. Seal the rest of the opening with standard mortar or gypsum (only for vertical walls).

Installation in flexible wall (metal stud gypsum plasterboard wall)

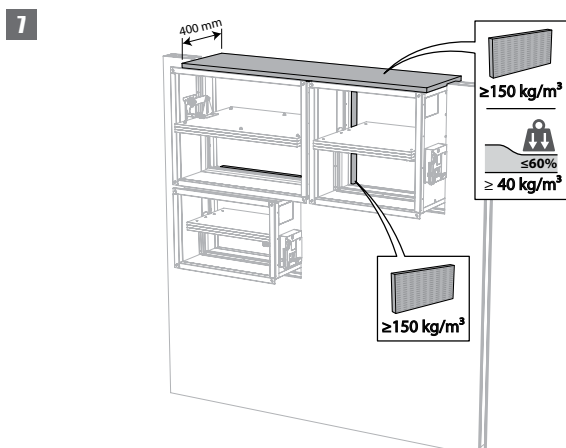
The product was tested and approved in:

Range	Wall type	Sealing	Classification	
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) $\geq 100 \text{ mm}$	Stone wool $\geq 40 \text{ kg/m}^3$ + cover plates	EI 90 ($v_e i \leftrightarrow o$) S - (500 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) $\geq 100 \text{ mm}$	Stone wool $\geq 40 \text{ kg/m}^3$ + cover plates	EI 90 ($v_e i \leftrightarrow o$) S - (500 Pa)
$1200 \times 800 \text{ mm} < \text{CU2} \leq 1500 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) $\geq 100 \text{ mm}$	Stone wool $\geq 40 \text{ kg/m}^3$ + cover plates	EI 90 ($v_e i \leftrightarrow o$) S - (300 Pa)
$1200 \times 800 \text{ mm} < \text{CU2} \leq 1500 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) $\geq 100 \text{ mm}$	Stone wool $\geq 40 \text{ kg/m}^3$ + cover plates	E 120 ($v_e i \leftrightarrow o$) S - (300 Pa)

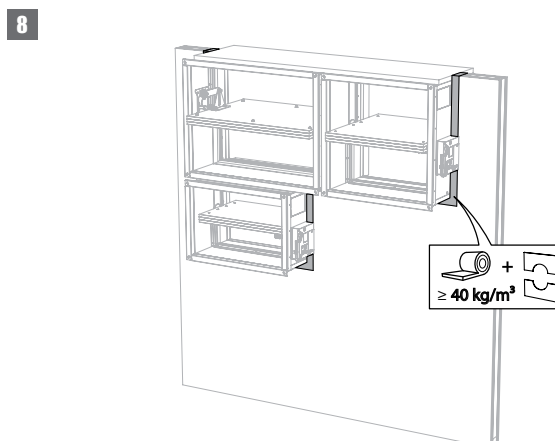


5. The dampers can be installed at a minimum distance from an adjacent floor/ceiling ($\geq 25 \text{ mm}$), from an adjacent wall or from another damper ($\geq 50 \text{ mm}$).

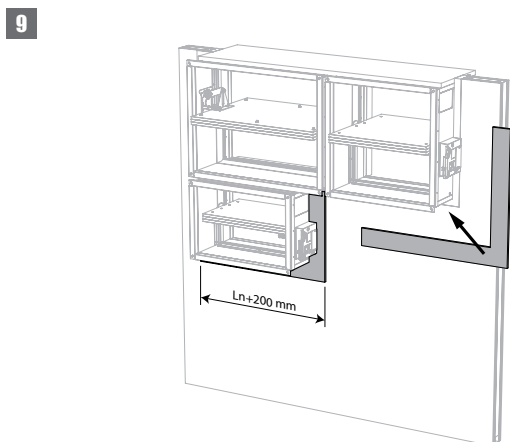
6. Build the drywall and foresee horizontal and vertical studs around the opening.



7. Mount the dampers in the opening.
Apply rigid stone wool panels (150 kg/m^3) to a depth of 400 mm (150 mm on each 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%.



8. Seal the rest of the opening with standard stone wool 40 kg/m^3 across the entire wall thickness.



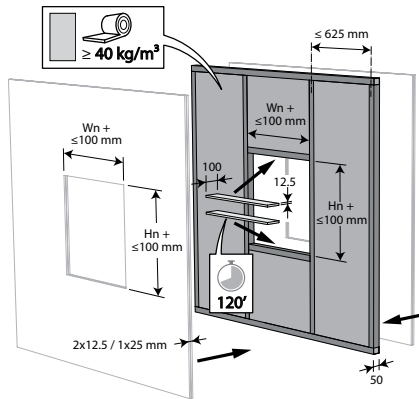
9. Apply cover plates (gypsum plasterboards) to finish the surface at both sides.
Seal off the space between the plasterboards with jointfiller.

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

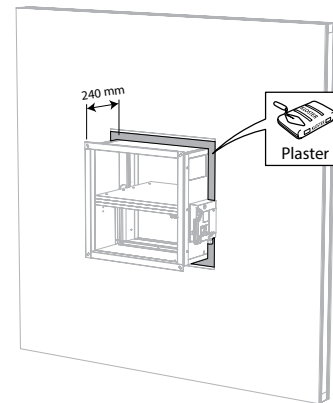
The product was tested and approved in:

Range	Wall type	Sealing	Classification
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) $\geq 100 \text{ mm}$	El 120 ($v_e i \leftrightarrow o$) S - (500 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) $\geq 100 \text{ mm}$	El 90 ($v_e i \leftrightarrow o$) S - (500 Pa)

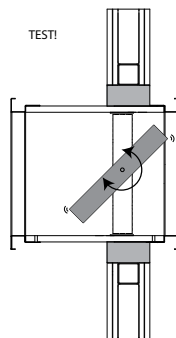
1



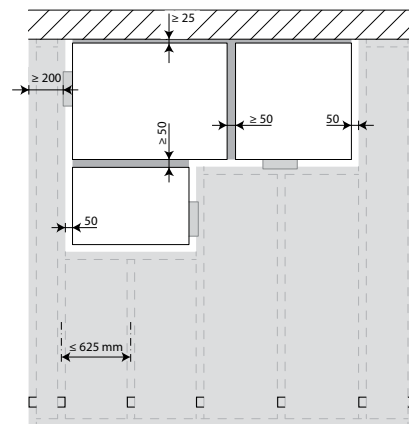
2



3

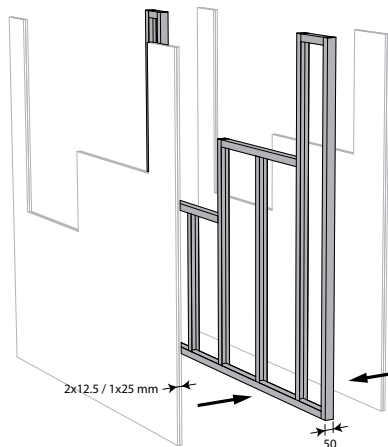


4



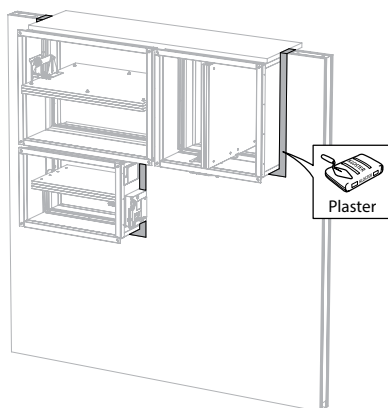
4. The dampers can be installed at a minimum distance from an adjacent floor/ceiling ($\geq 25 \text{ mm}$), from an adjacent wall or from another damper ($\geq 50 \text{ mm}$).

5



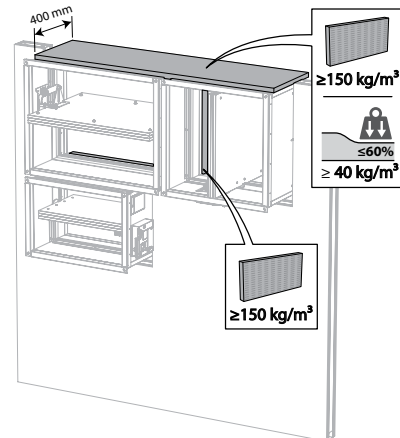
5. Build the drywall and foresee horizontal and vertical studs around the opening.

7



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

6



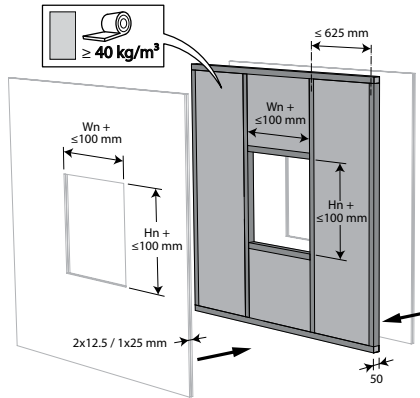
6. Mount the dampers in the opening.
Apply rigid stone wool panels (150 kg/m^3) to a depth of 400 mm (150 mm on each side of the wall) to seal the opening at the side with minimal distances.
This sealing is applied over the whole width/height of the damper(s).
When the damper is installed at a distance 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%.

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

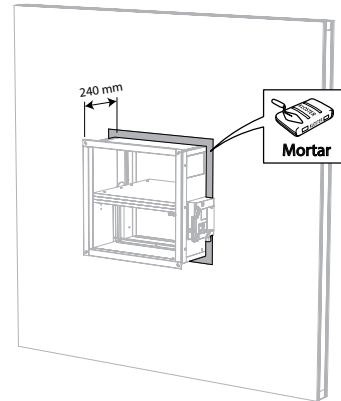
The product was tested and approved in:

Range	Wall type	Sealing	Classification
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) $\geq 100 \text{ mm}$	Mortar
			El 90 (v_e i \leftrightarrow o) S - (300 Pa)

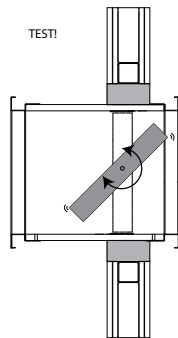
1



2



3

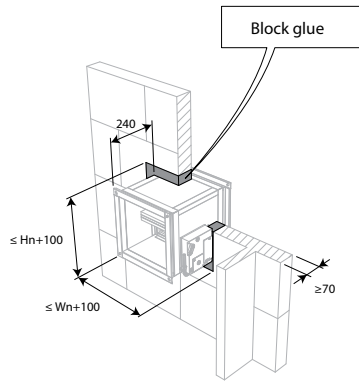


Installation in gypsum block wall

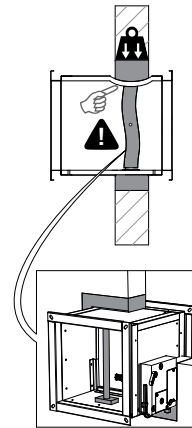
The product was tested and approved in:

Range	Wall type	Sealing	Classification
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1500 \times 1000 \text{ mm}$	Flexible wall	Gypsum blocks $\geq 100 \text{ mm}$	EI 120 (v_e i \leftrightarrow o) S - (500 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Flexible wall	Gypsum blocks $\geq 70 \text{ mm}$	EI 120 (v_e i \leftrightarrow o) S - (500 Pa)

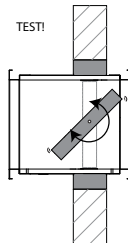
1



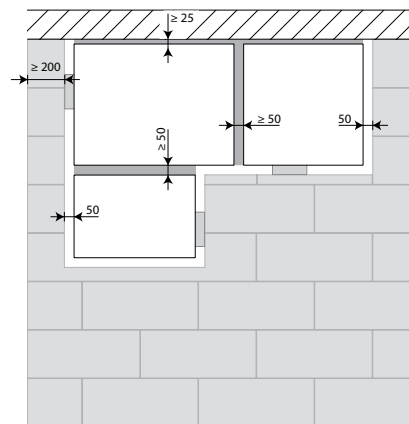
2



3

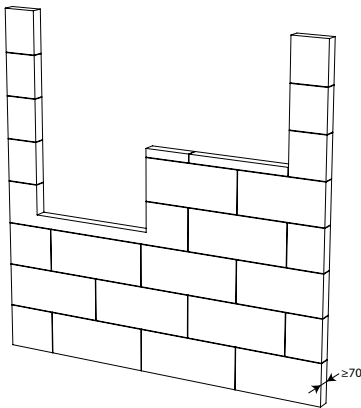


4



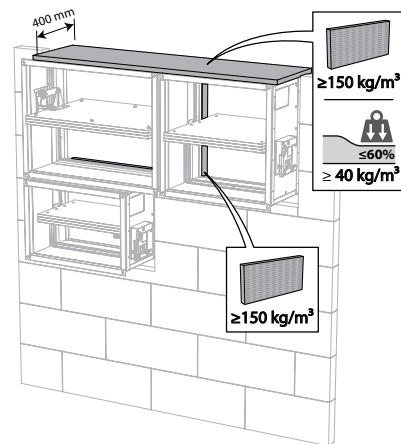
4. The dampers can be installed at a minimum distance from an adjacent floor/ceiling ($\geq 25 \text{ mm}$), from an adjacent wall or from another damper ($\geq 50 \text{ mm}$).

5



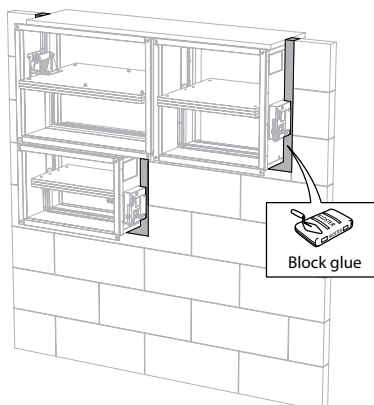
5. Make the necessary openings ($W_n + 100 \text{ mm}$) x ($H_n + 100 \text{ mm}$) in the wall.

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 each 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



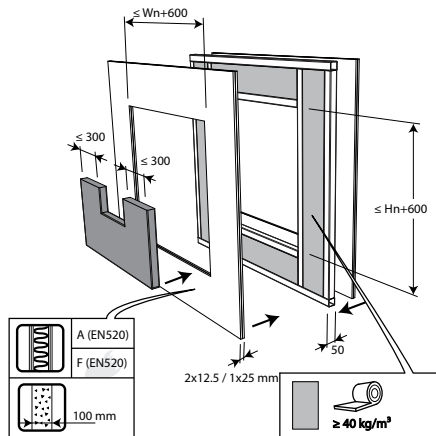
7. Seal the rest of the opening (50 mm) with block glue across the entire wall thickness.

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

The product was tested and approved in:

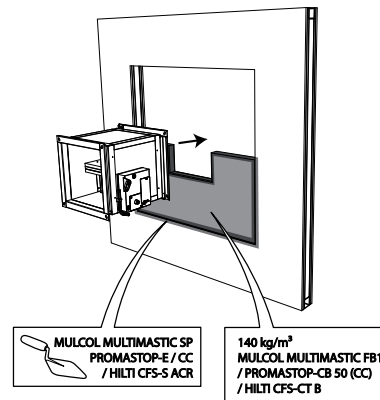
Range	Wall type	Sealing	Classification
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Rigid wall	Aerated concrete $\geq 100 \text{ mm}$	El 90 (v_e i \leftrightarrow o) S - (300 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type A (EN 520) $\geq 100 \text{ mm}$	El 60 (v_e i \leftrightarrow o) S - (300 Pa)
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Flexible wall	Metal studs gypsum plasterboard Type F (EN 520) $\geq 100 \text{ mm}$	El 90 (v_e i \leftrightarrow o) S - (300 Pa)

1

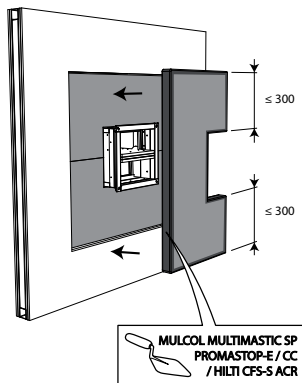


1. The opening around the damper is sealed with 2 layers of 50 mm-thick mineral wool panels with fire resistant coating on one side (type PROMASTOP-CB 50 / PROMASTOP-CB/CC 50 / HILTI CFS-CT B / Mulcol Multimastic FB1).

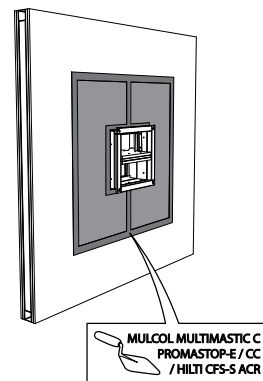
2



3

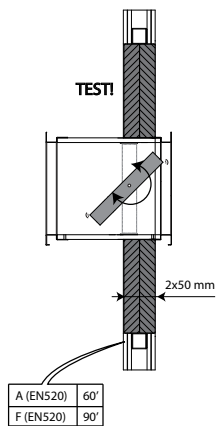


4

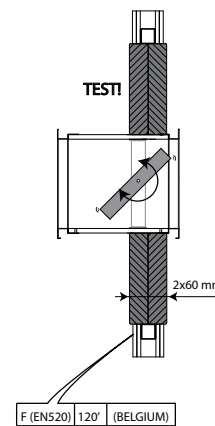


4. The joints on these 2 layers must be installed staggered and covered all around the edge with coating (type PROMASTOP-E / PROMASTOP-CC / HILTI CFS-S-ACR / Mulcol Multimastic FB1).

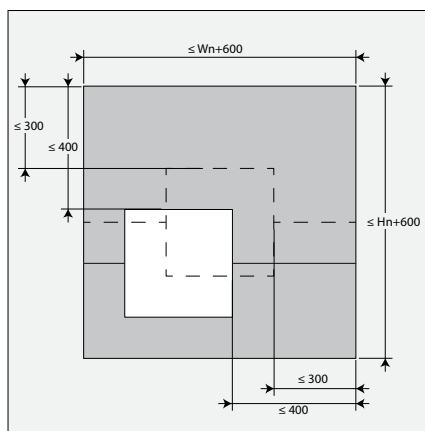
5



6

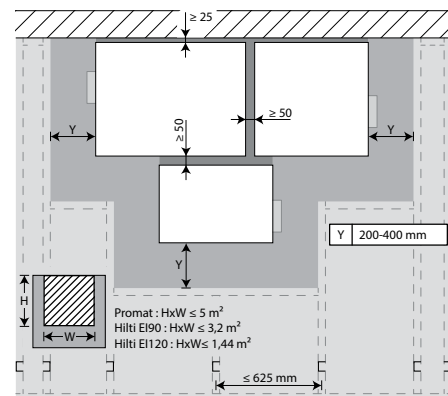


7



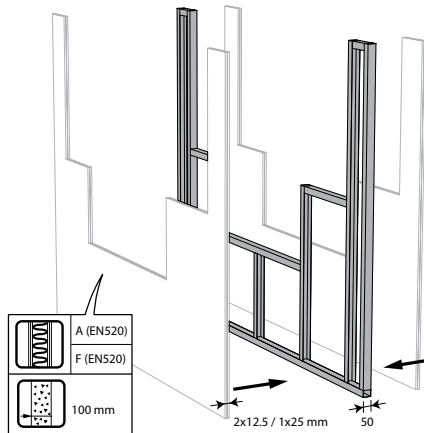
7. The damper does not need to be centered in the opening (with max dimensions fire damper + 600 mm). The maximal distance between the damper and the edge of the opening is 400 mm.

8



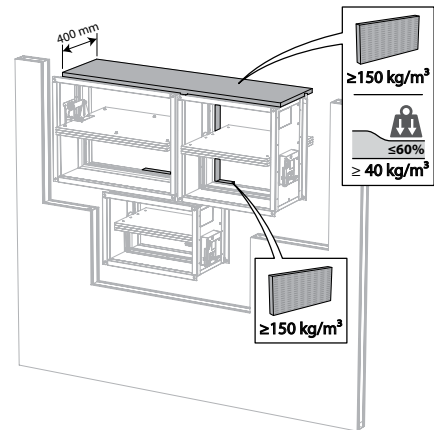
8. The dampers can be installed at a minimum distance from an adjacent floor/ceiling (≥ 25 mm), from an adjacent wall or from another damper (≥ 50 mm).

9



9. Make the necessary opening in the wall.

10



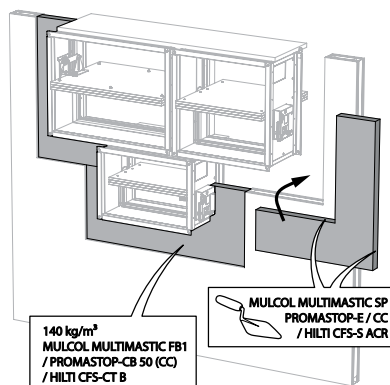
10. Mount the dampers in the opening.

Apply rigid stone wool panels (150 kg/m^3) to a depth of 400 mm (150 mm on each 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).

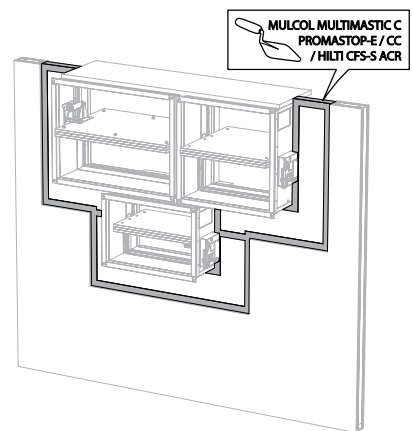
When the damper is installed at a distance of 25 mm from a floor/ceiling, the rigid high-density stone wool panels may be replaced with standard 40 kg/m^3 stone wool (e.g. Rockfit 431), compressed by at least 40%.

11



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

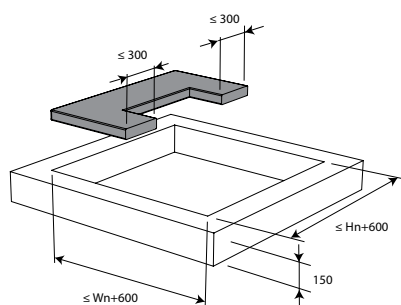
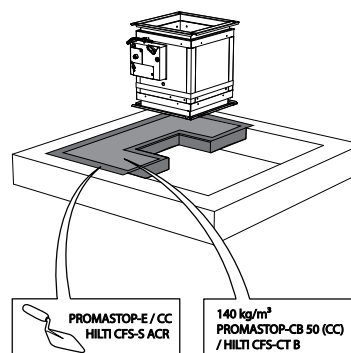
12



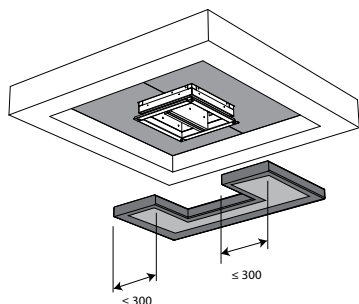
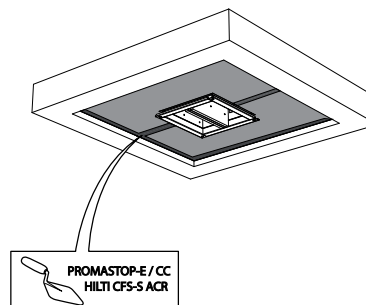
Installation in rigid floor, sealing with rigid rock wool boards with coating

The product was tested and approved in:

Range	Wall type	Sealing	Classification
$200 \times 200 \text{ mm} \leq \text{CU2} \leq 1200 \times 800 \text{ mm}$	Rigid floor	Aerated concrete $\geq 150 \text{ mm}$	Stone wool + coating $\geq 140 \text{ kg/m}^3$
			El 90 (h_o i \leftrightarrow o) S - (300 Pa)

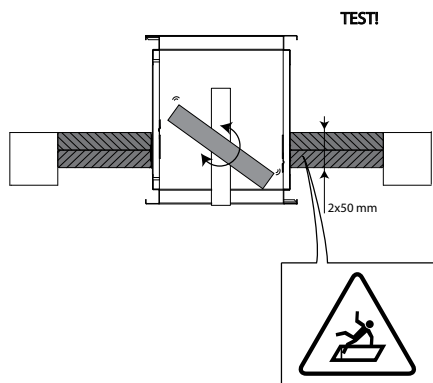
1

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 (type PROMASTOP-CB 50 / PROMASTOP-CB/CC 50 / HILTI CFS-CT B).

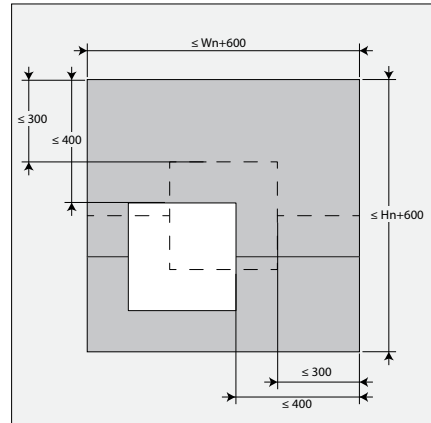
3

4


3. The joints on these 2 layers must be installed staggered and covered all around the edge with coating (type PROMASTOP-E / PROMASTOP-CC / HILTI CFS-S-ACR).

5

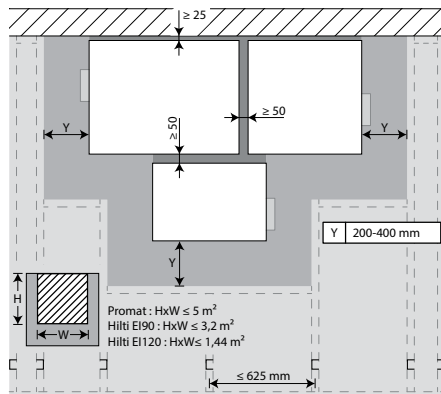


6



6. 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.

7



7. 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).

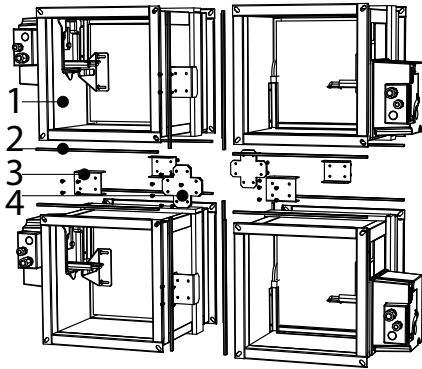
For details, please refer to 'Installation in flexible and rigid wall, sealing with rigid rock wool boards with coating'

Battery assembly

The product was tested and approved in:

Range	Wall type	Sealing	Classification	
CU2/B ≤ 4 x CU2 (200x200 mm ≤ CU2 ≤ 1200x800 mm)	Rigid wall	Reinforced concrete ≥ 110 mm	Mortar	El 120 (v _e i ↔ o) S - (500 Pa)
CU2/B ≤ 4 x CU2 (200x200 mm ≤ CU2 ≤ 1500x800 mm)	Rigid wall	Reinforced concrete ≥ 110 mm	Mortar	El 60 (v _e i ↔ o) S - (500 Pa)

1



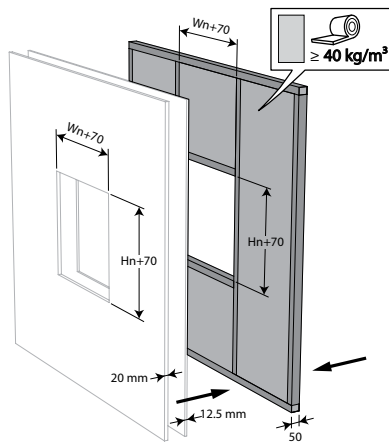
1. Individual damper CU2;
2. EPDM foam;
3. Connection piece;
4. Center plate - B22 (see technical note C31)

Installation in shaft wall

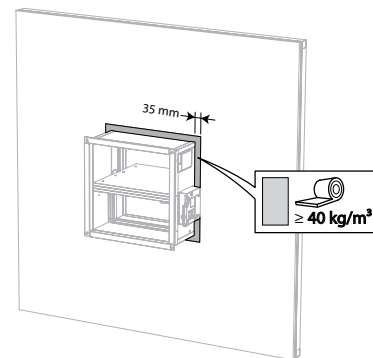
The product was tested and approved in:

Range	Wall type	Sealing	Classification	
200x200 mm ≤ CU2 ≤ 1500x800 mm	Asymmetrical flexible wall (shaft wall)	Metal studs gypsum plasterboard Type F (EN 520) ≥ 82.5 mm	Stone wool ≥ 40 kg/m ³ + cover plates	El 60 (v _e i ↔ o) S - (300 Pa)

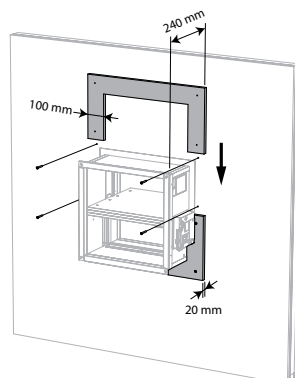
1



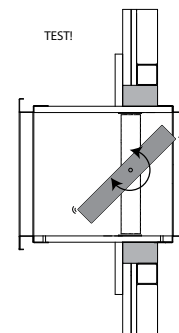
2



3



4



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).

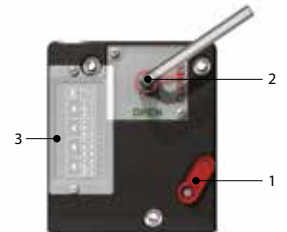
Operation and mechanisms



CFTH Mechanism with fusible link

The unlocking mechanism CFTH automatically unlatches the damper blade when the temperature in the duct rises above 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

FCU	Limit switch 'closed'
FDCU	Unipolar limit switch 'open/closed'
FDCB	Bipolar auxiliary limit switch 'open/closed'

Unlocking

- **manual unlocking:** use the unlocking button (1).
- **automatic unlocking:** when the fusible link melts at 72° C.
- **remote unlocking:** n/a

Resetting

- **manual resetting:** use the enclosed Hex key and turn clockwise(2).
- **motorised resetting:** n/a

Caution:

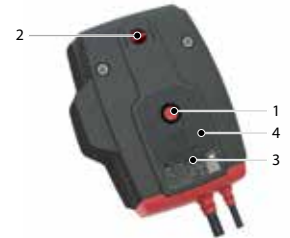
- ⚠ The mechanism may never be tested on its own, without being attached to the damper. Such a test might damage the mechanism or the operator might be injured.



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)



Options - at the time of order

IXI-R1	Universal field module (Modbus, BACnet or analog connection), pre-mounted on the damper.
IXI-R2-24	Universal field controller (Modbus, BACnet), pre-mounted on the damper and with a connection for a second damper.
IXI-R2-230	Universal field controller (Modbus, BACnet), pre-mounted on the damper and with a connection for a second damper.

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.

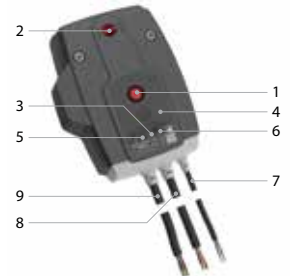
	prod. < 1/7/2015				prod. ≥ 1/7/2015			
	CR60(1s) CR120	CU-LT CU-LT-1s	CR2≤400 CU2≤1200	CR2>400 CU2>1200	CR60(1s) CR120(1s)	CU-LT CU-LT-1s	CR2≤400 CU2≤1200	CR2>400 CU2>1200
Kit ONE	●	●	●		●	●	●	●



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
9. bus cable



Options - at the time of order

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

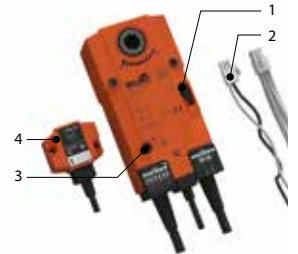
- ⚠ Do not use the ONE-X for any application other than the specified applications, in particular not in aircraft or other airborne vehicles.
- ⚠ The company that purchases and/or installs the ONE-X is fully responsible for the correct operation of the entire system. Only authorised specialists may perform 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 ($\varnothing \leq 400$ mm or $W+H \leq 1200$ 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'
IXI-R1	Universal field module (Modbus, BACnet or analog connection), pre-mounted on the damper.
IXI-R2-24	Universal field controller (Modbus, BACnet), pre-mounted on the damper and with a connection for a second damper.
IXI-R2-230	Universal field controller (Modbus, BACnet), pre-mounted on the damper and with a connection for a second damper.

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				●				



BFN(T) Remotely controlled spring return actuator

The spring return actuator BFN(T) is specially designed to remotely control fire dampers. The BFN(T) model is intended for fire dampers with large dimensions ($\varnothing > 400$ mm (CR2) or W+H > 1200 mm (CU2, CA2, CU2-15, CU4)) or for dampers CU-LT(-1s), CR60, CR120 with a production date before 1 July 2015.

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'
IXI-R1	Universal field module (Modbus, BACnet or analog connection), pre-mounted on the damper.
IXI-R2-24	Universal field controller (Modbus, BACnet), pre-mounted on the damper and with a connection for a second damper.
IXI-R2-230	Universal field controller (Modbus, BACnet), pre-mounted on the damper and with a connection for a second damper.

Unlocking

- **manual unlocking:** place the locking button on "unlock". (In case of BFNT: 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 BFNT).
- **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).

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.

	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				●				



Ex (ROTORK-SCHISCHEK) Explosion proof (ATEX) motor

Explosion proof (ATEX) motor for different risk areas:• Zone 1/21: average risk of explosion >100h/year explosive environment• Zone 2/22: low risk of explosion <10h/year of explosive environment

1. access for manual resetting
2. thermo-electric tripping device (T)
3. switch S (selection of the running time)



Unlocking

- **manual unlocking:** n.a.
- **automatic unlocking:** as soon as the reaction temperature (72°C) of the thermo-electric tripping device is reached (Types EMEXT/RMEXT).
- **remote unlocking:** by interrupting the power supply.

Caution:

- ▲ Selection of running time spring return: the running time of 3 or 10 sec. spring return is selected by wiring (see electrical connection).

Resetting

- **manual resetting:** use the delivered socket wrench, turn in slow motion and apply enough torque/force.
- **motorised resetting:** supply the actuator (respect the prescribed voltage) for at least 60 sec. The resetting stops automatically.

Caution:

- ▲ Selection of running time (resetting): place the switch (S) into the correct/selected position in accordance to the details below. The selected parameter will work at next operation of the actuator. Adjustment can be done even without supply voltage.
- ▲ 3 sec./90°: S=00; 15 sec./90°: S=01; 30 sec./90°: S=02; 60 sec./90°: S=03; 120 sec./90°: S=04
- ▲ If the motor is powered, turn the switch only if the actuator is not running !

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.



Ex (ROTORK-SCHISCHEK) Explosion proof (ATEX) motor

Explosion proof (ATEX) motor for different risk areas:• Zone 1/21: average risk of explosion >100h/year explosive environment• Zone 2/22: low risk of explosion <10h/year of explosive environment

1. access for manual resetting
2. thermo-electric tripping device (T)
3. switch S (selection of the running time)



Unlocking

- **manual unlocking:** n.a.
- **automatic unlocking:** as soon as the reaction temperature (72°C) of the thermo-electric tripping device is reached (Types EMEXT/RMEXT).
- **remote unlocking:** by interrupting the power supply.

Caution:

- ▲ Selection of running time spring return: the running time of 3 or 10 sec. spring return is selected by wiring (see electrical connection).

Resetting

- **manual resetting:** use the delivered socket wrench, turn in slow motion and apply enough torque/force.
- **motorised resetting:** supply the actuator (respect the prescribed voltage) for at least 60 sec. The resetting stops automatically.

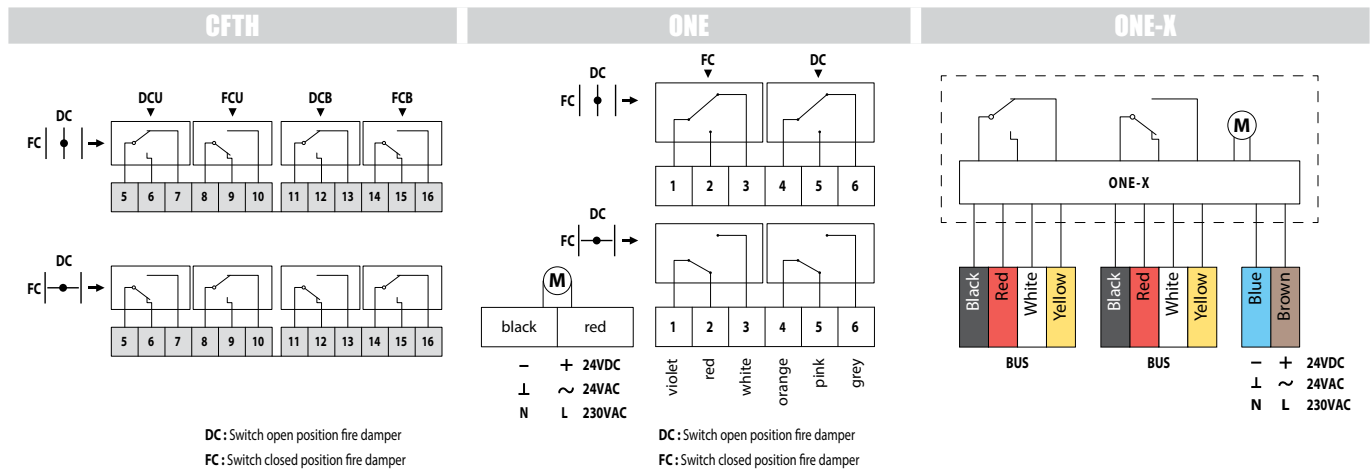
Caution:

- ▲ Selection of running time (resetting): place the switch (S) into the correct/selected position in accordance to the details below. The selected parameter will work at next operation of the actuator. Adjustment can be done even without supply voltage.
- ▲ 3 sec./90°: S=00; 15 sec./90°: S=01; 30 sec./90°: S=02; 60 sec./90°: S=03; 120 sec./90°: S=04
- ▲ If the motor is powered, turn the switch only if the actuator is not running !

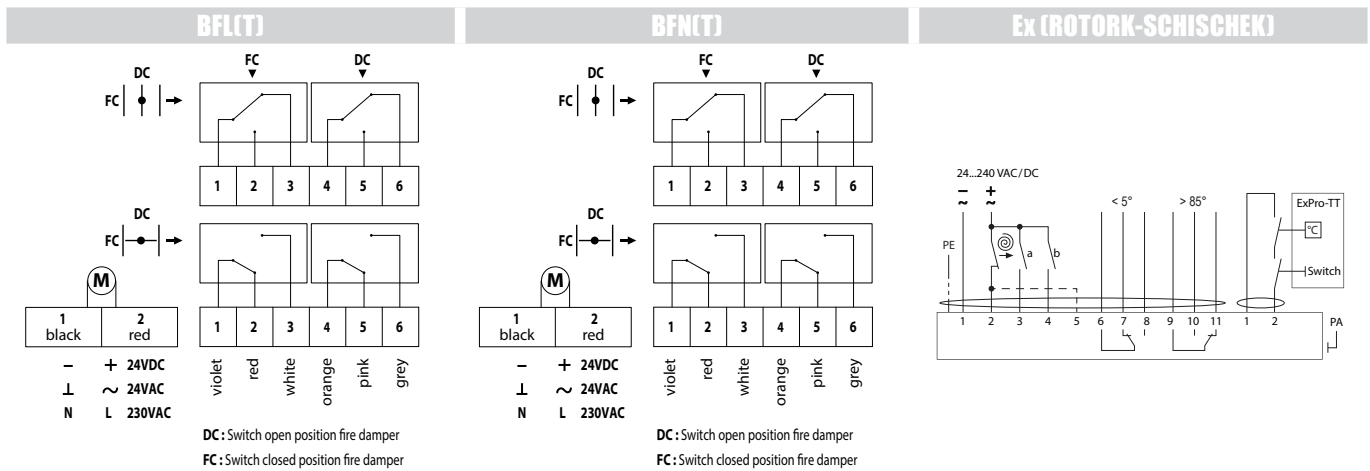
Caution:

- ▲ 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.

Electrical connection



MEC	Nominal voltage motor	Nominal voltage magnet	Power consumption (stand-by)	Power consumption (operating)	Standard switches
CFTH	N/A	N/A	N/A	N/A	1mA...6A, DC 5V...AC 250V
ONET 24 FDCU	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	1mA...1A 60V
ONET 230 FDCU	230 V AC (-15/+15%)	N/A	0,57W	4,2W	1mA...1A 60V
ONET 24 FDCU ST	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	1mA...1A 60V
ONET 24 FDCB	24 V AC/DC (-10/+20%)	N/A	0,28W	4,2W	1mA...1A 60V
ONET 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
BFN24	24 V AC/DC	N/A	1W	4W	1mA...3A, AC 250V
BFN230	230 V AC	N/A	1,5W	5W	1mA...3A, AC 250V
BFN24-ST	24 V AC/DC	N/A	1W	4W	1mA...3A, AC 250V
BFNT24	24 V AC/DC	N/A	1,1W	4W	1mA...3A, AC 250V
BFNT230	230 V AC	N/A	1,8W	5,5W	1mA...3A, AC 250V
BFNT24-ST	24 V AC/DC	N/A	1,1W	4W	1mA...3A, AC 250V
RMEX	24...230 V AC / DC	N/A	5W	20W	max. 24V/3A, 230V/0,25A
RMEXT	24...230 V AC / DC	N/A	5W	20W	max. 24V/3A, 230V/0,25A
EMEX	24...230 V AC / DC	N/A	5W	20W	max. 24V/3A, 230V/0,25A
EMEXT	24...230 V AC / DC	N/A	5W	20W	max. 24V/3A, 230V/0,25A



	Resetting time motor	Running time spring	Noise level motor	Noise level spring	Cable supply / control	Cable auxiliary switch	Protection class
	N/A	1 s	N/A	N/A			IP 42
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm ²	1 m, 6 x 0.75 mm ²	IP 54
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm ²	1 m, 6 x 0.75 mm ²	IP 54
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm ²	1 m, 6 x 0.75 mm ²	IP 54
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm ²	(2x) 1 m, 6 x 0,75 mm ²	IP 54
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)	1 m, 2 x 0.75 mm ²	(2x) 1 m, 6 x 0,75 mm ²	IP 54
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)			IP 54
	< 75 s (cabled) / < 85 s (battery)	< 30 s	< 64 dB (A)	< 67 dB (A)			IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.34 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.34 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.34 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	< 43 dB (A)	< 62 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	≤ 55 dB (A)	ca. 70 dB (A)	1 m, 2 x 0.34 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	≤ 55 dB (A)	ca. 70 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	≤ 55 dB (A)	ca. 70 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	≤ 55 dB (A)	ca. 70 dB (A)	1 m, 2 x 0.34 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	≤ 55 dB (A)	ca. 70 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	< 60 s	20 s	≤ 55 dB (A)	ca. 70 dB (A)	1 m, 2 x 0.75 mm ² (halogen-free)	1 m, 6 x 0.75 mm ² (halogen-free)	IP 54
	3/15/30/60/120s	3/10 s					IP 66
	3/15/30/60/120s	3/10 s					IP 66
	3/15/30/60/120s	3/10 s					IP 66
	3/15/30/60/120s	3/10 s					IP 66

Weights

CU2 + CFTH

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	10,8	11,9	12,9	14,0	15,0	16,1	17,1	18,2	19,3	20,3	21,4	22,4	23,5	24,5	25,6
250	kg	11,8	12,9	14,0	15,2	16,3	17,4	18,5	19,7	20,8	21,9	23,0	24,2	25,3	26,4	27,5
300	kg	12,8	14,0	15,2	16,4	17,6	18,7	19,9	21,1	22,3	23,5	24,7	25,9	27,1	28,3	29,4
350	kg	13,8	15,1	16,3	17,6	18,8	20,1	21,3	22,6	23,8	25,1	26,3	27,6	28,9	30,1	29,8
400	kg	14,8	16,1	17,5	18,8	20,1	21,4	22,7	24,0	25,4	26,7	28,0	29,3	30,6	30,4	31,7
450	kg	15,8	17,2	18,6	20,0	21,4	22,7	24,1	25,5	26,9	28,3	29,7	31,0	30,8	32,2	33,6
500	kg	16,8	18,3	19,7	21,2	22,6	24,1	25,5	27,0	28,4	29,9	31,3	31,2	32,6	34,1	35,5
550	kg	17,8	19,3	20,9	22,4	23,9	25,4	26,9	28,4	29,9	31,5	31,4	32,9	34,4	35,9	37,4
600	kg	18,8	20,4	22,0	23,6	25,2	26,7	28,3	29,9	31,5	31,5	33,0	34,6	36,2	37,8	39,3
650	kg	19,8	21,5	23,1	24,8	26,4	28,1	29,7	31,4	31,4	33,0	34,7	36,3	38,0	39,6	41,3
700	kg	20,8	22,6	24,3	26,0	27,7	29,4	31,1	31,2	32,9	34,6	36,3	38,1	39,8	41,5	43,2
750	kg	21,9	23,6	25,4	27,2	29,0	30,7	30,9	32,7	34,5	36,2	38,0	39,8	41,6	43,3	45,1
800	kg	22,9	24,7	26,5	28,4	30,2	30,5	32,3	34,1	36,0	37,8	39,7	41,5	43,3	45,2	47,0
850	kg	23,9	25,8	27,7	29,6	29,9	31,8	33,7	35,6	37,5	39,4	41,3	43,2	45,1	47,0	48,9
900	kg	24,9	26,8	28,8	29,2	31,2	33,1	35,1	37,1	39,0	41,0	43,0	44,9	46,9	48,9	50,9
950	kg	25,9	27,9	28,3	30,4	32,4	34,5	36,5	38,5	40,6	42,6	44,6	46,7	48,7	50,7	52,8
1000	kg	26,9	27,4	29,5	31,6	33,7	35,8	37,9	40,0	42,1	44,2	46,3	48,4	50,5	52,6	54,7

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	26,7	27,7	27,2	28,2	29,3	30,3	31,4	32,5	33,5	34,6	35,6	36,7			
250	kg	28,6	28,2	29,3	30,4	31,5	32,7	33,8	34,9	36,0	37,1	38,3	39,4			
300	kg	29,0	30,2	31,4	32,6	33,8	35,0	36,2	37,3	38,5	39,7	40,9	42,1			
350	kg	31,0	32,3	33,5	34,8	36,0	37,3	38,5	39,8	41,0	42,3	43,5	44,8			
400	kg	33,0	34,3	35,6	36,9	38,3	39,6	40,9	42,2	43,5	44,9	46,2	47,5			
450	kg	35,0	36,4	37,7	39,1	40,5	41,9	43,3	44,7	46,0	47,4	48,8	50,2			
500	kg	37,0	38,4	39,9	41,3	42,8	44,2	45,7	47,1	48,6	50,0	51,4	52,9			
550	kg	38,9	40,5	42,0	43,5	45,0	46,5	48,0	49,5	51,1	52,6	54,1	-			
600	kg	40,9	42,5	44,1	45,7	47,2	48,8	50,4	52,0	53,6	55,1	-	-			
650	kg	42,9	44,6	46,2	47,8	49,5	51,1	52,8	54,4	56,1	-	-	-			
700	kg	44,9	46,6	48,3	50,0	51,7	53,4	55,2	56,9	-	-	-	-			
750	kg	46,9	48,7	50,4	52,2	54,0	55,8	57,5	-	-	-	-	-			
800	kg	48,9	50,7	52,5	54,4	56,2	58,1	-	-	-	-	-	-			
850	kg	50,8	52,8	54,7	56,6	58,5	-	-	-	-	-	-	-			
900	kg	52,8	54,8	56,8	58,7	-	-	-	-	-	-	-	-			
950	kg	54,8	56,9	58,9	-	-	-	-	-	-	-	-	-			
1000	kg	56,8	58,9	-	-	-	-	-	-	-	-	-	-			

CU2 + ONE T / + ONE-X

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	11,6	12,7	13,7	14,8	15,8	16,9	17,9	19,0	20,1	21,1	22,2	23,2	24,3	25,3	26,4
250	kg	12,6	13,7	14,8	16,0	17,1	18,2	19,3	20,5	21,6	22,7	23,8	25,0	26,1	27,2	28,3
300	kg	13,6	14,8	16,0	17,2	18,4	19,5	20,7	21,9	23,1	24,3	25,5	26,7	27,9	29,1	30,2
350	kg	14,6	15,9	17,1	18,4	19,6	20,9	22,1	23,4	24,6	25,9	27,1	28,4	29,7	30,9	30,6
400	kg	15,6	16,9	18,3	19,6	20,9	22,2	23,5	24,8	26,2	27,5	28,8	30,1	31,4	31,2	32,5
450	kg	16,6	18,0	19,4	20,8	22,2	23,5	24,9	26,3	27,7	29,1	30,5	31,8	31,6	33,0	34,4
500	kg	17,6	19,1	20,5	22,0	23,4	24,9	26,3	27,8	29,2	30,7	32,1	32,0	33,4	34,9	36,3
550	kg	18,6	20,1	21,7	23,2	24,7	26,2	27,7	29,2	30,7	32,3	32,2	33,7	35,2	36,7	38,2
600	kg	19,6	21,2	22,8	24,4	26,0	27,5	29,1	30,7	32,3	32,3	33,8	35,4	37,0	38,6	40,1
650	kg	20,6	22,3	23,9	25,6	27,2	28,9	30,5	32,2	32,2	33,8	35,5	37,1	38,8	40,4	42,1
700	kg	21,6	23,4	25,1	26,8	28,5	30,2	31,9	32,0	33,7	35,4	37,1	38,9	40,6	42,3	44,0
750	kg	22,7	24,4	26,2	28,0	29,8	31,5	31,7	33,5	35,3	37,0	38,8	40,6	42,4	44,1	45,9
800	kg	23,7	25,5	27,3	29,2	31,0	31,3	33,1	34,9	36,8	38,6	40,5	42,3	44,1	46,0	47,8
850	kg	24,7	26,6	28,5	30,4	30,7	32,6	34,5	36,4	38,3	40,2	42,1	44,0	45,9	47,8	49,7
900	kg	25,7	27,6	29,6	30,0	32,0	33,9	35,9	37,9	39,8	41,8	43,8	45,7	47,7	49,7	51,7
950	kg	26,7	28,7	29,1	31,2	33,2	35,3	37,3	39,3	41,4	43,4	45,4	47,5	49,5	51,5	53,6
1000	kg	27,7	28,2	30,3	32,4	34,5	36,6	38,7	40,8	42,9	45,0	47,1	49,2	51,3	53,4	55,5

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	27,5	28,5	28,0	29,0	30,1	31,1	32,2	33,3	34,3	35,4	36,4	37,5			
250	kg	29,4	29,0	30,1	31,2	32,3	33,5	34,6	35,7	36,8	37,9	39,1	40,2			
300	kg	29,8	31,0	32,2	33,4	34,6	35,8	37,0	38,1	39,3	40,5	41,7	42,9			
350	kg	31,8	33,1	34,3	35,6	36,8	38,1	39,3	40,6	41,8	43,1	44,3	45,6			
400	kg	33,8	35,1	36,4	37,7	39,1	40,4	41,7	43,0	44,3	45,7	47,0	48,3			
450	kg	35,8	37,2	38,5	39,9	41,3	42,7	44,1	45,5	46,8	48,2	49,6	51,0			
500	kg	37,8	39,2	40,7	42,1	43,6	45,0	46,5	47,9	49,4	50,8	52,2	53,7			
550	kg	39,7	41,3	42,8	44,3	45,8	47,3	48,8	50,3	51,9	53,4	54,9	56,4			
600	kg	41,7	43,3	44,9	46,5	48,0	49,6	51,2	52,8	54,4	55,9	57,5	59,1			
650	kg	43,7	45,4	47,0	48,6	50,3	51,9	53,6	55,2	56,9	58,5	60,2	61,8			
700	kg	45,7	47,4	49,1	50,8	52,5	54,2	56,0	57,7	59,4	61,1	62,8	64,5			
750	kg	47,7	49,5	51,2	53,0	54,8	56,6	58,3	60,1	61,9	63,7	65,4	67,2			
800	kg	49,7	51,5	53,3	55,2	57,0	58,9	60,7	62,5	64,4	66,2	68,1	69,9			
850	kg	51,6	53,6	55,5	57,4	59,3	61,2	63,1	65,0	66,9	68,8	70,7	72,6			
900	kg	53,6	55,6	57,6	59,5	61,5	63,5	65,5	67,4	69,4	71,4	73,3	75,3			
950	kg	55,6	57,7	59,7	61,7	63,8	65,8	67,8	69,9	71,9	73,9	76,0	78,0			
1000	kg	57,6	59,7	61,8	63,9	66,0	68,1	70,2	72,3	74,4	76,5	78,6	80,7			

CU2 + BFN

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30,1
400	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	30,7	32,0
450	kg	-	-	-	-	-	-	-	-	-	-	-	-	31,2	32,6	33,9
500	kg	-	-	-	-	-	-	-	-	-	-	-	31,5	33,0	34,4	35,9
550	kg	-	-	-	-	-	-	-	-	-	-	31,7	33,2	34,8	36,3	37,8
600	kg	-	-	-	-	-	-	-	-	-	31,8	33,4	35,0	36,5	38,1	39,7
650	kg	-	-	-	-	-	-	-	-	31,8	33,4	35,0	36,7	38,3	40,0	41,6
700	kg	-	-	-	-	-	-	-	31,6	33,3	35,0	36,7	38,4	40,1	41,8	43,5
750	kg	-	-	-	-	-	-	31,3	33,0	34,8	36,6	38,4	40,1	41,9	43,7	45,5
800	kg	-	-	-	-	-	30,8	32,7	34,5	36,3	38,2	40,0	41,9	43,7	45,5	47,4
850	kg	-	-	-	-	30,2	32,1	34,0	36,0	37,9	39,8	41,7	43,6	45,5	47,4	49,3
900	kg	-	-	-	29,5	31,5	33,5	35,4	37,4	39,4	41,4	43,3	45,3	47,3	49,2	51,2
950	kg	-	-	28,7	30,7	32,8	34,8	36,8	38,9	40,9	42,9	45,0	47,0	49,1	51,1	53,1
1000	kg	-	27,7	29,8	31,9	34,0	36,1	38,2	40,3	42,4	44,5	46,6	48,7	50,8	52,9	55,0

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	-	-	27,5	28,6	29,6	30,7	31,8	32,8	33,9	34,9	36,0	37,0			
250	kg	-	28,5	29,6	30,8	31,9	33,0	34,1	35,2	36,4	37,5	38,6	39,7			
300	kg	29,4	30,6	31,8	32,9	34,1	35,3	36,5	37,7	38,9	40,1	41,3	42,4			
350	kg	31,4	32,6	33,9	35,1	36,4	37,6	38,9	40,1	41,4	42,6	43,9	45,1			
400	kg	33,3	34,7	36,0	37,3	38,6	39,9	41,3	42,6	43,9	45,2	46,5	47,8			
450	kg	35,3	36,7	38,1	39,5	40,9	42,2	43,6	45,0	46,4	47,8	49,2	50,5			
500	kg	37,3	38,8	40,2	41,7	43,1	44,6	46,0	47,5	48,9	50,4	51,8	53,2			
550	kg	39,3	40,8	42,3	43,8	45,4	46,9	48,4	49,9	51,4	52,9	54,4	55,9			
600	kg	41,3	42,9	44,4	46,0	47,6	49,2	50,8	52,3	53,9	55,5	57,1	58,7			
650	kg	43,3	44,9	46,6	48,2	49,8	51,5	53,1	54,8	56,4	58,1	59,7	61,4			
700	kg	45,2	47,0	48,7	50,4	52,1	53,8	55,5	57,2	58,9	60,6	62,3	64,1			
750	kg	47,2	49,0	50,8	52,6	54,3	56,1	57,9	59,7	61,4	63,2	65,0	66,8			
800	kg	49,2	51,1	52,9	54,7	56,6	58,4	60,3	62,1	63,9	65,8	67,6	69,5			
850	kg	51,2	53,1	55,0	56,9	58,8	60,7	62,6	64,5	66,4	68,3	70,3	72,2			
900	kg	53,2	55,2	57,1	59,1	61,1	63,0	65,0	67,0	68,9	70,9	72,9	74,9			
950	kg	55,2	57,2	59,2	61,3	63,3	65,3	67,4	69,4	71,5	73,5	75,5	77,6			
1000	kg	57,1	59,3	61,4	63,5	65,6	67,7	69,8	71,9	74,0	76,1	78,2	80,3			

CU2 + BFNT

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30,2
400	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	30,8	32,1
450	kg	-	-	-	-	-	-	-	-	-	-	-	-	31,3	32,7	34,0
500	kg	-	-	-	-	-	-	-	-	-	-	-	31,6	33,1	34,5	36,0
550	kg	-	-	-	-	-	-	-	-	-	-	31,8	33,3	34,9	36,4	37,9
600	kg	-	-	-	-	-	-	-	-	-	31,9	33,5	35,1	36,6	38,2	39,8
650	kg	-	-	-	-	-	-	-	-	31,9	33,5	35,1	36,8	38,4	40,1	41,7
700	kg	-	-	-	-	-	-	-	31,7	33,4	35,1	36,8	38,5	40,2	41,9	43,6
750	kg	-	-	-	-	-	-	31,4	33,1	34,9	36,7	38,5	40,2	42,0	43,8	45,6
800	kg	-	-	-	-	-	30,9	32,8	34,6	36,4	38,3	40,1	42,0	43,8	45,6	47,5
850	kg	-	-	-	-	30,3	32,2	34,1	36,1	38,0	39,9	41,8	43,7	45,6	47,5	49,4
900	kg	-	-	-	29,6	31,6	33,6	35,5	37,5	39,5	41,5	43,4	45,4	47,4	49,3	51,3
950	kg	-	-	28,8	30,8	32,9	34,9	36,9	39,0	41,0	43,0	45,1	47,1	49,2	51,2	53,2
1000	kg	-	27,8	29,9	32,0	34,1	36,2	38,3	40,4	42,5	44,6	46,7	48,8	50,9	53,0	55,1

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	-	-	27,6	28,7	29,7	30,8	31,9	32,9	34,0	35,0	36,1	37,1			
250	kg	-	28,6	29,7	30,9	32,0	33,1	34,2	35,3	36,5	37,6	38,7	39,8			
300	kg	29,5	30,7	31,9	33,0	34,2	35,4	36,6	37,8	39,0	40,2	41,4	42,5			
350	kg	31,5	32,7	34,0	35,2	36,5	37,7	39,0	40,2	41,5	42,7	44,0	45,2			
400	kg	33,4	34,8	36,1	37,4	38,7	40,0	41,4	42,7	44,0	45,3	46,6	47,9			
450	kg	35,4	36,8	38,2	39,6	41,0	42,3	43,7	45,1	46,5	47,9	49,3	50,6			
500	kg	37,4	38,9	40,3	41,8	43,2	44,7	46,1	47,6	49,0	50,5	51,9	53,3			
550	kg	39,4	40,9	42,4	43,9	45,5	47,0	48,5	50,0	51,5	53,0	54,5	56,0			
600	kg	41,4	43,0	44,5	46,1	47,7	49,3	50,9	52,4	54,0	55,6	57,2	58,8			
650	kg	43,4	45,0	46,7	48,3	49,9	51,6	53,2	54,9	56,5	58,2	59,8	61,5			
700	kg	45,3	47,1	48,8	50,5	52,2	53,9	55,6	57,3	59,0	60,7	62,4	64,2			
750	kg	47,3	49,1	50,9	52,7	54,4	56,2	58,0	59,8	61,5	63,3	65,1	66,9			
800	kg	49,3	51,2	53,0	54,8	56,7	58,5	60,4	62,2	64,0	65,9	67,7	69,6			
850	kg	51,3	53,2	55,1	57,0	58,9	60,8	62,7	64,6	66,5	68,4	70,4	72,3			
900	kg	53,3	55,3	57,2	59,2	61,2	63,1	65,1	67,1	69,0	71,0	73,0	75,0			
950	kg	55,3	57,3	59,3	61,4	63,4	65,4	67,5	69,5	71,6	73,6	75,6	77,7			
1000	kg	57,2	59,4	61,5	63,6	65,7	67,8	69,9	72,0	74,1	76,2	78,3	80,4			

CU2-L500 + CFTH

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	11,6	12,8	13,9	15,1	16,2	17,4	18,6	19,7	20,9	22,0	23,2	24,3	25,5	26,6	27,8
250	kg	12,7	14,0	15,2	16,4	17,6	18,9	20,1	21,3	22,5	23,8	25,0	26,2	27,4	28,7	29,9
300	kg	13,8	15,1	16,4	17,7	19,0	20,3	21,6	22,9	24,2	25,5	26,8	28,1	29,4	30,7	32,0
350	kg	14,9	16,3	17,7	19,0	20,4	21,8	23,1	24,5	25,9	27,2	28,6	30,0	31,4	32,7	32,3
400	kg	16,0	17,5	18,9	20,3	21,8	23,2	24,7	26,1	27,5	29,0	30,4	31,9	33,3	33,0	34,4
450	kg	17,1	18,6	20,1	21,7	23,2	24,7	26,2	27,7	29,2	30,7	32,2	33,7	33,5	35,0	36,5
500	kg	18,2	19,8	21,4	23,0	24,6	26,1	27,7	29,3	30,9	32,5	34,0	33,9	35,5	37,0	38,6
550	kg	19,3	21,0	22,6	24,3	25,9	27,6	29,2	30,9	32,5	34,2	34,1	35,8	37,4	39,1	40,7
600	kg	20,4	22,1	23,9	25,6	27,3	29,0	30,8	32,5	34,2	34,2	35,9	37,6	39,4	41,1	42,8
650	kg	21,5	23,3	25,1	26,9	28,7	30,5	32,3	34,1	34,1	35,9	37,7	39,5	41,3	43,1	44,9
700	kg	22,6	24,5	26,3	28,2	30,1	31,9	33,8	33,9	35,8	37,7	39,5	41,4	43,3	45,1	47,0
750	kg	23,7	25,6	27,6	29,5	31,5	33,4	33,6	35,5	37,5	39,4	41,4	43,3	45,2	47,2	49,1
800	kg	24,8	26,8	28,8	30,8	32,9	33,1	35,1	37,1	39,1	41,2	43,2	45,2	47,2	49,2	51,2
850	kg	25,9	28,0	30,1	32,2	32,5	34,6	36,6	38,7	40,8	42,9	45,0	47,1	49,1	51,2	53,3
900	kg	27,0	29,2	31,3	31,7	33,9	36,0	38,2	40,3	42,5	44,6	46,8	48,9	51,1	53,3	55,4
950	kg	28,1	30,3	30,8	33,0	35,2	37,5	39,7	41,9	44,2	46,4	48,6	50,8	53,0	55,3	57,5
1000	kg	29,2	29,8	32,0	34,3	36,6	38,9	41,2	43,5	45,8	48,1	50,4	52,7	55,0	57,3	59,6

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	29,0	30,1	29,5	30,7	31,8	33,0	34,1	35,3	36,4	37,6	38,8	39,9			
250	kg	31,1	30,6	31,8	33,1	34,3	35,5	36,7	38,0	39,2	40,4	41,6	42,9			
300	kg	31,5	32,8	34,1	35,4	36,7	38,0	39,3	40,6	41,9	43,2	44,5	45,8			
350	kg	33,7	35,1	36,4	37,8	39,2	40,6	41,9	43,3	44,7	46,0	47,4	48,8			
400	kg	35,9	37,3	38,8	40,2	41,6	43,1	44,5	46,0	47,4	48,8	50,3	51,7			
450	kg	38,0	39,6	41,1	42,6	44,1	45,6	47,1	48,6	50,1	51,6	53,2	54,7			
500	kg	40,2	41,8	43,4	45,0	46,5	48,1	49,7	51,3	52,9	54,5	56,0	57,6			
550	kg	42,4	44,0	45,7	47,3	49,0	50,7	52,3	54,0	55,6	57,3	58,9	-			
600	kg	44,5	46,3	48,0	49,7	51,4	53,2	54,9	56,6	58,4	60,1	-	-			
650	kg	46,7	48,5	50,3	52,1	53,9	55,7	57,5	59,3	61,1	-	-	-			
700	kg	48,9	50,7	52,6	54,5	56,4	58,2	60,1	62,0	-	-	-	-			
750	kg	51,1	53,0	54,9	56,9	58,8	60,7	62,7	-	-	-	-	-			
800	kg	53,2	55,2	57,2	59,2	61,3	63,3	-	-	-	-	-	-			
850	kg	55,4	57,5	59,5	61,6	63,7	-	-	-	-	-	-	-			
900	kg	57,6	59,7	61,9	64,0	-	-	-	-	-	-	-	-			
950	kg	59,7	61,9	64,2	-	-	-	-	-	-	-	-	-			
1000	kg	61,9	64,2	-	-	-	-	-	-	-	-	-	-			

CU2-L500 + ONE T / + ONE-X

Hn\Wn (mm)		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	12,4	13,6	14,7	15,9	17,0	18,2	19,4	20,5	21,7	22,8	24,0	25,1	26,3	27,4	28,6
250	kg	13,5	14,8	16,0	17,2	18,4	19,7	20,9	22,1	23,3	24,6	25,8	27,0	28,2	29,5	30,7
300	kg	14,6	15,9	17,2	18,5	19,8	21,1	22,4	23,7	25,0	26,3	27,6	28,9	30,2	31,5	32,8
350	kg	15,7	17,1	18,5	19,8	21,2	22,6	23,9	25,3	26,7	28,0	29,4	30,8	32,2	33,5	33,1
400	kg	16,8	18,3	19,7	21,1	22,6	24,0	25,5	26,9	28,3	29,8	31,2	32,7	34,1	33,8	35,2
450	kg	17,9	19,4	20,9	22,5	24,0	25,5	27,0	28,5	30,0	31,5	33,0	34,5	34,3	35,8	37,3
500	kg	19,0	20,6	22,2	23,8	25,4	26,9	28,5	30,1	31,7	33,3	34,8	34,7	36,3	37,8	39,4
550	kg	20,1	21,8	23,4	25,1	26,7	28,4	30,0	31,7	33,3	35,0	34,9	36,6	38,2	39,9	41,5
600	kg	21,2	22,9	24,7	26,4	28,1	29,8	31,6	33,3	35,0	35,0	36,7	38,4	40,2	41,9	43,6
650	kg	22,3	24,1	25,9	27,7	29,5	31,3	33,1	34,9	34,9	36,7	38,5	40,3	42,1	43,9	45,7
700	kg	23,4	25,3	27,1	29,0	30,9	32,7	34,6	34,7	36,6	38,5	40,3	42,2	44,1	45,9	47,8
750	kg	24,5	26,4	28,4	30,3	32,3	34,2	34,4	36,3	38,3	40,2	42,2	44,1	46,0	48,0	49,9
800	kg	25,6	27,6	29,6	31,6	33,7	33,9	35,9	37,9	39,9	42,0	44,0	46,0	48,0	50,0	52,0
850	kg	26,7	28,8	30,9	33,0	33,3	35,4	37,4	39,5	41,6	43,7	45,8	47,9	49,9	52,0	54,1
900	kg	27,8	30,0	32,1	32,5	34,7	36,8	39,0	41,1	43,3	45,4	47,6	49,7	51,9	54,1	56,2
950	kg	28,9	31,1	31,6	33,8	36,0	38,3	40,5	42,7	45,0	47,2	49,4	51,6	53,8	56,1	58,3
1000	kg	30,0	30,6	32,8	35,1	37,4	39,7	42,0	44,3	46,6	48,9	51,2	53,5	55,8	58,1	60,4

Hn\Wn (mm)		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	29,8	30,9	30,3	31,5	32,6	33,8	34,9	36,1	37,2	38,4	39,6	40,7			
250	kg	31,9	31,4	32,6	33,9	35,1	36,3	37,5	38,8	40,0	41,2	42,4	43,7			
300	kg	32,3	33,6	34,9	36,2	37,5	38,8	40,1	41,4	42,7	44,0	45,3	46,6			
350	kg	34,5	35,9	37,2	38,6	40,0	41,4	42,7	44,1	45,5	46,8	48,2	49,6			
400	kg	36,7	38,1	39,6	41,0	42,4	43,9	45,3	46,8	48,2	49,6	51,1	52,5			
450	kg	38,8	40,4	41,9	43,4	44,9	46,4	47,9	49,4	50,9	52,4	54,0	55,5			
500	kg	41,0	42,6	44,2	45,8	47,3	48,9	50,5	52,1	53,7	55,3	56,8	58,4			
550	kg	43,2	44,8	46,5	48,1	49,8	51,5	53,1	54,8	56,4	58,1	59,7	61,4			
600	kg	45,3	47,1	48,8	50,5	52,2	54,0	55,7	57,4	59,2	60,9	62,6	64,3			
650	kg	47,5	49,3	51,1	52,9	54,7	56,5	58,3	60,1	61,9	63,7	65,5	67,3			
700	kg	49,7	51,5	53,4	55,3	57,2	59,0	60,9	62,8	64,6	66,5	68,4	70,2			
750	kg	51,9	53,8	55,7	57,7	59,6	61,5	63,5	65,4	67,4	69,3	71,2	73,2			
800	kg	54,0	56,0	58,0	60,0	62,1	64,1	66,1	68,1	70,1	72,1	74,1	76,1			
850	kg	56,2	58,3	60,3	62,4	64,5	66,6	68,7	70,8	72,8	74,9	77,0	79,1			
900	kg	58,4	60,5	62,7	64,8	67,0	69,1	71,3	73,4	75,6	77,7	79,9	82,0			
950	kg	60,5	62,7	65,0	67,2	69,4	71,6	73,9	76,1	78,3	80,5	82,8	85,0			
1000	kg	62,7	65,0	67,3	69,6	71,9	74,2	76,5	78,8	81,1	83,4	85,6	87,9			

CU2-L500 + BFN

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32,7
400	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	33,3	34,8
450	kg	-	-	-	-	-	-	-	-	-	-	-	-	33,9	35,4	36,9
500	kg	-	-	-	-	-	-	-	-	-	-	34,2	35,8	37,4	39,0	
550	kg	-	-	-	-	-	-	-	-	-	34,5	36,1	37,8	39,4	41,1	
600	kg	-	-	-	-	-	-	-	-	-	34,5	36,3	38,0	39,7	41,5	43,2
650	kg	-	-	-	-	-	-	-	-	34,5	36,3	38,1	39,9	41,7	43,5	45,3
700	kg	-	-	-	-	-	-	-	34,3	36,2	38,0	39,9	41,8	43,6	45,5	47,4
750	kg	-	-	-	-	-	-	33,9	35,9	37,8	39,8	41,7	43,6	45,6	47,5	49,5
800	kg	-	-	-	-	-	33,5	35,5	37,5	39,5	41,5	43,5	45,5	47,5	49,5	51,6
850	kg	-	-	-	-	32,8	34,9	37,0	39,1	41,2	43,2	45,3	47,4	49,5	51,6	53,7
900	kg	-	-	-	32,1	34,2	36,4	38,5	40,7	42,8	45,0	47,1	49,3	51,4	53,6	55,8
950	kg	-	-	31,1	33,4	35,6	37,8	40,1	42,3	44,5	46,7	48,9	51,2	53,4	55,6	57,8
1000	kg	-	30,1	32,4	34,7	37,0	39,3	41,6	43,9	46,2	48,5	50,8	53,1	55,3	57,6	59,9

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	-	-	29,9	31,0	32,2	33,3	34,5	35,6	36,8	38,0	39,1	40,3			
250	kg	-	31,0	32,2	33,4	34,6	35,9	37,1	38,3	39,5	40,8	42,0	43,2			
300	kg	31,9	33,2	34,5	35,8	37,1	38,4	39,7	41,0	42,3	43,6	44,9	46,2			
350	kg	34,1	35,4	36,8	38,2	39,5	40,9	42,3	43,6	45,0	46,4	47,8	49,1			
400	kg	36,2	37,7	39,1	40,5	42,0	43,4	44,9	46,3	47,8	49,2	50,6	52,1			
450	kg	38,4	39,9	41,4	42,9	44,4	46,0	47,5	49,0	50,5	52,0	53,5	55,0			
500	kg	40,6	42,2	43,7	45,3	46,9	48,5	50,1	51,6	53,2	54,8	56,4	58,0			
550	kg	42,7	44,4	46,0	47,7	49,4	51,0	52,7	54,3	56,0	57,6	59,3	60,9			
600	kg	44,9	46,6	48,3	50,1	51,8	53,5	55,3	57,0	58,7	60,4	62,2	63,9			
650	kg	47,1	48,9	50,7	52,5	54,3	56,0	57,9	59,6	61,4	63,2	65,0	66,8			
700	kg	49,2	51,1	53,0	54,8	56,7	58,6	60,4	62,3	64,2	66,0	67,9	69,8			
750	kg	51,4	53,3	55,3	57,2	59,2	61,1	63,0	65,0	66,9	68,9	70,8	72,7			
800	kg	53,6	55,6	57,6	59,6	61,6	63,6	65,6	67,6	69,6	71,7	73,7	75,7			
850	kg	55,7	57,8	59,9	62,0	64,1	66,1	68,2	70,3	72,4	74,5	76,6	78,6			
900	kg	57,9	60,1	62,2	64,4	66,5	68,7	70,8	73,0	75,1	77,3	79,4	81,6			
950	kg	60,1	62,3	64,5	66,7	69,0	71,2	73,4	75,6	77,9	80,1	82,3	84,5			
1000	kg	62,2	64,5	66,8	69,1	71,4	73,7	76,0	78,3	80,6	82,9	85,2	87,5			

CU2-L500 + BFNT

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32,8
400	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	33,4	34,9
450	kg	-	-	-	-	-	-	-	-	-	-	-	-	34,0	35,5	37,0
500	kg	-	-	-	-	-	-	-	-	-	-	34,3	35,9	37,5	39,1	
550	kg	-	-	-	-	-	-	-	-	-	34,6	36,2	37,9	39,5	41,2	
600	kg	-	-	-	-	-	-	-	-	-	34,6	36,4	38,1	39,8	41,6	43,3
650	kg	-	-	-	-	-	-	-	-	34,6	36,4	38,2	40,0	41,8	43,6	45,4
700	kg	-	-	-	-	-	-	-	34,4	36,3	38,1	40,0	41,9	43,7	45,6	47,5
750	kg	-	-	-	-	-	-	34,0	36,0	37,9	39,9	41,8	43,7	45,7	47,6	49,6
800	kg	-	-	-	-	-	33,6	35,6	37,6	39,6	41,6	43,6	45,6	47,6	49,6	51,7
850	kg	-	-	-	-	32,9	35,0	37,1	39,2	41,3	43,3	45,4	47,5	49,6	51,7	53,8
900	kg	-	-	-	32,2	34,3	36,5	38,6	40,8	42,9	45,1	47,2	49,4	51,5	53,7	55,9
950	kg	-	-	31,2	33,5	35,7	37,9	40,2	42,4	44,6	46,8	49,0	51,3	53,5	55,7	57,9
1000	kg	-	30,2	32,5	34,8	37,1	39,4	41,7	44,0	46,3	48,6	50,9	53,2	55,4	57,7	60,0

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	kg	-	-	30,0	31,1	32,3	33,4	34,6	35,7	36,9	38,1	39,2	40,4			
250	kg	-	31,1	32,3	33,5	34,7	36,0	37,2	38,4	39,6	40,9	42,1	43,3			
300	kg	32,0	33,3	34,6	35,9	37,2	38,5	39,8	41,1	42,4	43,7	45,0	46,3			
350	kg	34,2	35,5	36,9	38,3	39,6	41,0	42,4	43,7	45,1	46,5	47,9	49,2			
400	kg	36,3	37,8	39,2	40,6	42,1	43,5	45,0	46,4	47,9	49,3	50,7	52,2			
450	kg	38,5	40,0	41,5	43,0	44,5	46,1	47,6	49,1	50,6	52,1	53,6	55,1			
500	kg	40,7	42,3	43,8	45,4	47,0	48,6	50,2	51,7	53,3	54,9	56,5	58,1			
550	kg	42,8	44,5	46,1	47,8	49,5	51,1	52,8	54,4	56,1	57,7	59,4	61,0			
600	kg	45,0	46,7	48,4	50,2	51,9	53,6	55,4	57,1	58,8	60,5	62,3	64,0			
650	kg	47,2	49,0	50,8	52,6	54,4	56,1	58,0	59,7	61,5	63,3	65,1	66,9			
700	kg	49,3	51,2	53,1	54,9	56,8	58,7	60,5	62,4	64,3	66,1	68,0	69,9			
750	kg	51,5	53,4	55,4	57,3	59,3	61,2	63,1	65,1	67,0	69,0	70,9	72,8			
800	kg	53,7	55,7	57,7	59,7	61,7	63,7	65,7	67,7	69,7	71,8	73,8	75,8			
850	kg	55,8	57,9	60,0	62,1	64,2	66,2	68,3	70,4	72,5	74,6	76,7	78,7			
900	kg	58,0	60,2	62,3	64,5	66,6	68,8	70,9	73,1	75,2	77,4	79,5	81,7			
950	kg	60,2	62,4	64,6	66,8	69,1	71,3	73,5	75,7	78,0	80,2	82,4	84,6			
1000	kg	62,3	64,6	66,9	69,2	71,5	73,8	76,1	78,4	80,7	83,0	85,3	87,6			

Selection data

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

Hn\Wn [mm]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
200	ζ [-]	3,42	2,92	2,64	2,46	2,34	2,25	2,18	2,12	2,07	2,04	2,01	1,98	1,96	1,94	1,92
250	ζ [-]	1,91	1,58	1,39	1,27	1,19	1,13	1,08	1,05	1,02	0,99	0,97	0,96	0,94	0,93	0,92
300	ζ [-]	1,31	1,05	0,91	0,82	0,75	0,71	0,67	0,65	0,62	0,61	0,59	0,58	0,57	0,56	0,55
350	ζ [-]	1,01	0,79	0,66	0,59	0,54	0,5	0,47	0,45	0,43	0,42	0,41	0,4	0,39	0,38	0,37
400	ζ [-]	0,82	0,63	0,52	0,46	0,41	0,38	0,36	0,34	0,32	0,31	0,3	0,29	0,29	0,28	0,27
450	ζ [-]	0,7	0,53	0,43	0,37	0,33	0,31	0,28	0,27	0,26	0,24	0,24	0,23	0,22	0,22	0,21
500	ζ [-]	0,62	0,46	0,37	0,32	0,28	0,25	0,24	0,22	0,21	0,2	0,19	0,18	0,18	0,17	0,17
550	ζ [-]	0,56	0,41	0,32	0,27	0,24	0,22	0,2	0,19	0,18	0,17	0,16	0,15	0,15	0,14	0,14
600	ζ [-]	0,51	0,37	0,29	0,24	0,21	0,19	0,17	0,16	0,15	0,14	0,14	0,13	0,13	0,12	0,12
650	ζ [-]	0,47	0,34	0,26	0,22	0,19	0,17	0,15	0,14	0,13	0,13	0,12	0,11	0,11	0,11	0,1
700	ζ [-]	0,44	0,31	0,24	0,2	0,17	0,15	0,14	0,13	0,12	0,11	0,11	0,1	0,1	0,09	0,09
750	ζ [-]	0,42	0,29	0,23	0,18	0,16	0,14	0,13	0,12	0,11	0,1	0,1	0,09	0,09	0,08	0,08
800	ζ [-]	0,4	0,28	0,21	0,17	0,15	0,13	0,12	0,11	0,1	0,09	0,09	0,08	0,08	0,08	0,07
850	ζ [-]	0,38	0,26	0,2	0,16	0,14	0,12	0,11	0,1	0,09	0,08	0,08	0,08	0,07	0,07	0,07
900	ζ [-]	0,37	0,25	0,19	0,15	0,13	0,11	0,1	0,09	0,08	0,08	0,07	0,07	0,07	0,06	0,06
950	ζ [-]	0,36	0,24	0,18	0,14	0,12	0,11	0,09	0,08	0,08	0,07	0,07	0,06	0,06	0,06	0,06
1000	ζ [-]	0,34	0,23	0,17	0,14	0,12	0,1	0,09	0,08	0,07	0,07	0,06	0,06	0,06	0,05	0,05

Hn\Wn [mm]		950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
200	ζ [-]	1,9	1,89	1,88	1,86	1,85	1,84	1,84	1,83	1,82	1,81	1,81	1,8			
250	ζ [-]	0,91	0,9	0,89	0,88	0,88	0,87	0,87	0,86	0,86	0,85	0,85	0,85			
300	ζ [-]	0,54	0,54	0,53	0,53	0,52	0,52	0,51	0,51	0,51	0,5	0,5	0,5			
350	ζ [-]	0,37	0,36	0,36	0,35	0,35	0,35	0,34	0,34	0,34	0,33	0,33	0,33			
400	ζ [-]	0,27	0,26	0,26	0,26	0,25	0,25	0,25	0,25	0,24	0,24	0,24	0,24			
450	ζ [-]	0,21	0,2	0,2	0,2	0,19	0,19	0,19	0,19	0,19	0,18	0,18	0,18			
500	ζ [-]	0,17	0,16	0,16	0,16	0,15	0,15	0,15	0,15	0,15	0,15	0,14	0,14			
550	ζ [-]	0,14	0,13	0,13	0,13	0,13	0,13	0,12	0,12	0,12	0,12	0,12	0,12			
600	ζ [-]	0,12	0,11	0,11	0,11	0,11	0,11	0,1	0,1	0,1	0,1	0,1	0,1			
650	ζ [-]	0,1	0,1	0,1	0,09	0,09	0,09	0,09	0,09	0,09	0,08	0,08	0,08			
700	ζ [-]	0,09	0,09	0,08	0,08	0,08	0,08	0,08	0,08	0,07	0,07	0,07	0,07			
750	ζ [-]	0,08	0,08	0,07	0,07	0,07	0,07	0,07	0,07	0,07	0,06	0,06	0,06			
800	ζ [-]	0,07	0,07	0,07	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06	0,06			
850	ζ [-]	0,06	0,06	0,06	0,06	0,06	0,06	0,05	0,05	0,05	0,05	0,05	0,05			
900	ζ [-]	0,06	0,06	0,06	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05			
950	ζ [-]	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,04	0,04	0,04	0,04	0,04			
1000	ζ [-]	0,05	0,05	0,05	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04			

Example

Data

Hn = 550 mm, Bn = 500 mm, v = 9 m/s

Required

Δp = ca. 9 Pa (Cfr. selection graph)

LWA = ca. 36 dB(A)

Calculation

Δp = 0,2 * (9 m/s)² * 0,6 = 9,72 Pa

CU2 - CU2L - CU2-L500 - CU2 ATEX - CU2L ATEX - A-weighted sound power level in the duct

Hn\Wn [mm]	200	250	300	350	400	450	500	550	600	650	700	750	800	850		
200	Sn [m ²]	0,0195	0,0255	0,0314	0,0374	0,0433	0,0493	0,0552	0,0612	0,0671	0,0731	0,0790	0,0850	0,0909	0,0969	
	Sn [%]	51,85	53,80	55,08	55,99	56,67	57,20	57,62	57,96	58,24	58,48	58,69	58,87	59,02	59,16	
	Q [m ³ /h]	940,00	1.170,00	1.390,00	1.610,00	1.830,00	2.060,00	2.280,00	2.500,00	2.730,00	2.950,00	3.170,00	3.400,00	3.620,00	3.840,00	45 dB
	Δp [Pa]	87,32	74,13	65,70	60,35	56,65	54,48	52,35	50,68	49,70	48,55	47,60	47,06	46,34	45,71	
	Q [m ³ /h]	790,00	970,00	1.160,00	1.340,00	1.530,00	1.710,00	1.900,00	2.080,00	2.270,00	2.450,00	2.640,00	2.830,00	3.010,00	3.200,00	40 dB
	Δp [Pa]	61,67	50,95	45,76	41,80	39,60	37,54	36,36	35,08	34,36	33,49	33,01	32,60	32,04	31,74	
	Q [m ³ /h]	650,00	810,00	960,00	1.120,00	1.270,00	1.430,00	1.580,00	1.730,00	1.890,00	2.040,00	2.200,00	2.350,00	2.510,00	2.660,00	35 dB
	Δp [Pa]	41,75	35,53	31,34	29,20	27,29	26,25	25,14	24,27	23,82	23,22	22,92	22,48	22,28	21,93	
	Q [m ³ /h]	540,00	670,00	800,00	930,00	1.060,00	1.190,00	1.310,00	1.440,00	1.570,00	1.700,00	1.830,00	1.960,00	2.090,00	2.210,00	30 dB
	Δp [Pa]	28,82	24,31	21,76	20,14	19,01	18,18	17,28	16,82	16,44	16,12	15,86	15,64	15,45	15,14	
	Q [m ³ /h]	450,00	560,00	670,00	770,00	880,00	990,00	1.090,00	1.200,00	1.310,00	1.420,00	1.520,00	1.630,00	1.740,00	1.840,00	25 dB
	Δp [Pa]	20,01	16,98	15,27	13,80	13,10	12,58	11,97	11,68	11,44	11,25	10,94	10,82	10,71	10,50	
250	Sn [m ²]	0,0277	0,0362	0,0446	0,0531	0,0615	0,0700	0,0784	0,0869	0,0953	0,1038	0,1122	0,1207	0,1291	0,1376	
	Sn [%]	58,55	60,75	62,19	63,22	63,99	64,58	65,06	65,44	65,76	66,04	66,27	66,47	66,65	66,80	
	Q [m ³ /h]	1.130,00	1.400,00	1.660,00	1.920,00	2.190,00	2.450,00	2.710,00	2.980,00	3.240,00	3.510,00	3.770,00	4.030,00	4.300,00	4.560,00	45 dB
	Δp [Pa]	45,15	36,64	31,54	28,35	26,41	24,80	23,58	22,78	22,00	21,48	20,93	20,47	20,17	19,82	
	Q [m ³ /h]	940,00	1.160,00	1.380,00	1.600,00	1.820,00	2.040,00	2.260,00	2.480,00	2.700,00	2.920,00	3.140,00	3.360,00	3.570,00	3.790,00	40 dB
	Δp [Pa]	31,24	25,15	21,80	19,69	18,24	17,19	16,40	15,78	15,28	14,86	14,52	14,23	13,90	13,69	
	Q [m ³ /h]	790,00	970,00	1.150,00	1.330,00	1.510,00	1.700,00	1.880,00	2.060,00	2.240,00	2.430,00	2.610,00	2.790,00	2.970,00	3.160,00	35 dB
	Δp [Pa]	22,07	17,59	15,14	13,60	12,56	11,94	11,35	10,88	10,51	10,29	10,03	9,81	9,62	9,52	
	Q [m ³ /h]	650,00	810,00	960,00	1.110,00	1.260,00	1.410,00	1.560,00	1.720,00	1.870,00	2.020,00	2.170,00	2.320,00	2.480,00	2.630,00	30 dB
	Δp [Pa]	14,94	12,26	10,55	9,47	8,74	8,21	7,81	7,59	7,33	7,11	6,94	6,78	6,71	6,59	
	Q [m ³ /h]	540,00	670,00	800,00	920,00	1.050,00	1.180,00	1.300,00	1.430,00	1.550,00	1.680,00	1.810,00	1.930,00	2.060,00	2.190,00	25 dB
	Δp [Pa]	10,31	8,39	7,32	6,51	6,07	5,75	5,43	5,25	5,03	4,92	4,83	4,70	4,63	4,57	
300	Sn [m ²]	0,0359	0,0469	0,0578	0,0688	0,0797	0,0907	0,1016	0,1126	0,1235	0,1345	0,1454	0,1564	0,1673	0,1783	
	Sn [%]	62,97	65,33	66,89	67,99	68,82	69,46	69,97	70,38	70,73	71,02	71,27	71,49	71,68	71,84	
	Q [m ³ /h]	1.320,00	1.630,00	1.930,00	2.230,00	2.540,00	2.840,00	3.150,00	3.450,00	3.750,00	4.060,00	4.360,00	4.660,00	4.970,00	5.270,00	45 dB
	Δp [Pa]	29,41	23,00	19,32	17,04	15,63	14,50	13,75	13,08	12,55	12,17	11,80	11,49	11,27	11,04	
	Q [m ³ /h]	1.100,00	1.350,00	1.610,00	1.860,00	2.110,00	2.370,00	2.620,00	2.870,00	3.120,00	3.380,00	3.630,00	3.880,00	4.130,00	4.390,00	40 dB
	Δp [Pa]	20,42	15,78	13,44	11,85	10,78	10,10	9,51	9,05	8,69	8,44	8,18	7,97	7,79	7,66	
	Q [m ³ /h]	920,00	1.130,00	1.340,00	1.550,00	1.760,00	1.970,00	2.180,00	2.390,00	2.600,00	2.810,00	3.020,00	3.230,00	3.440,00	3.650,00	35 dB
	Δp [Pa]	14,29	11,05	9,31	8,23	7,50	6,98	6,58	6,28	6,03	5,83	5,66	5,52	5,40	5,30	
	Q [m ³ /h]	760,00	940,00	1.110,00	1.290,00	1.460,00	1.640,00	1.810,00	1.990,00	2.160,00	2.340,00	2.510,00	2.690,00	2.860,00	3.040,00	30 dB
	Δp [Pa]	9,75	7,65	6,39	5,70	5,16	4,84	4,54	4,35	4,16	4,04	3,91	3,83	3,73	3,67	
	Q [m ³ /h]	640,00	780,00	930,00	1.070,00	1.220,00	1.360,00	1.510,00	1.650,00	1.800,00	1.950,00	2.090,00	2.240,00	2.380,00	2.530,00	25 dB
	Δp [Pa]	6,91	5,27	4,48	3,92	3,61	3,33	3,16	2,99	2,89	2,81	2,71	2,66	2,59	2,54	
350	Sn [m ²]	0,0441	0,0576	0,0710	0,0845	0,0979	0,1114	0,1248	0,1383	0,1517	0,1652	0,1786	0,1921	0,2055	0,2190	
	Sn [%]	66,11	68,58	70,22	71,38	72,24	72,91	73,45	73,89	74,25	74,55	74,82	75,04	75,24	75,42	
	Q [m ³ /h]	1.510,00	1.860,00	2.200,00	2.550,00	2.890,00	3.230,00	3.580,00	3.920,00	4.260,00	4.600,00	4.950,00	5.290,00	5.630,00	5.980,00	45 dB
	Δp [Pa]	21,67	16,44	13,51	11,82	10,61	9,74	9,15	8,64	8,24	7,91	7,67	7,44	7,24	7,10	
	Q [m ³ /h]	1.260,00	1.550,00	1.830,00	2.120,00	2.400,00	2.690,00	2.980,00	3.260,00	3.550,00	3.830,00	4.120,00	4.400,00	4.690,00	4.970,00	40 dB
	Δp [Pa]	15,09	11,41	9,35	8,17	7,32	6,76	6,34	5,98	5,72	5,49	5,32	5,15	5,03	4,90	
	Q [m ³ /h]	1.050,00	1.290,00	1.530,00	1.760,00	2.000,00	2.240,00	2.480,00	2.710,00	2.950,00	3.190,00	3.430,00	3.660,00	3.900,00	4.140,00	35 dB
	Δp [Pa]	10,48	7,91	6,54	5,63	5,08	4,69	4,39	4,13	3,95	3,81	3,68	3,56	3,48	3,40	
	Q [m ³ /h]	870,00	1.070,00	1.270,00	1.470,00	1.670,00	1.860,00	2.060,00	2.260,00	2.460,00	2.650,00	2.850,00	3.050,00	3.250,00	3.440,00	30 dB
	Δp [Pa]	7,19	5,44	4,50	3,93	3,54	3,23	3,03	2,87	2,75	2,63	2,54	2,47	2,41	2,35	
	Q [m ³ /h]	730,00	890,00	1.060,00	1.220,00	1.390,00	1.550,00	1.710,00	1.880,00	2.040,00	2.210,00	2.370,00	2.540,00	2.700,00	2.860,00	25 dB
	Δp [Pa]	5,06	3,76	3,14	2,71	2,45	2,24	2,09	1,99	1,89	1,83	1,76	1,72	1,67	1,62	

Hn\Wn (mm)	200	250	300	350	400	450	500	550	600	650	700	750	800	850		
400	Sn [m ²]	0,0523	0,0683	0,0842	0,1002	0,1161	0,1321	0,1480	0,1640	0,1799	0,1959	0,2118	0,2278	0,2437	0,2597	
	Sn [%]	68,44	71,01	72,70	73,90	74,80	75,49	76,05	76,50	76,88	77,19	77,46	77,70	77,91	78,09	
	Q [m ³ /h]	1.700,00	2.090,00	2.470,00	2.850,00	3.240,00	3.620,00	4.000,00	4.380,00	4.770,00	5.150,00	5.530,00	5.910,00	6.290,00	6.670,00	45 dB
	Δp [Pa]	17,21	12,72	10,27	8,79	7,85	7,14	6,62	6,21	5,92	5,66	5,44	5,26	5,10	4,97	
	Q [m ³ /h]	1.420,00	1.740,00	2.060,00	2.380,00	2.690,00	3.010,00	3.330,00	3.650,00	3.970,00	4.280,00	4.600,00	4.920,00	5.240,00	5.550,00	40 dB
	Δp [Pa]	12,01	8,82	7,14	6,13	5,41	4,94	4,59	4,32	4,10	3,91	3,76	3,64	3,54	3,44	
	Q [m ³ /h]	1.180,00	1.450,00	1.710,00	1.980,00	2.240,00	2.510,00	2.770,00	3.040,00	3.300,00	3.560,00	3.830,00	4.090,00	4.360,00	4.620,00	35 dB
	Δp [Pa]	8,29	6,12	4,92	4,24	3,75	3,43	3,17	2,99	2,83	2,70	2,61	2,52	2,45	2,38	
	Q [m ³ /h]	980,00	1.200,00	1.430,00	1.650,00	1.870,00	2.090,00	2.310,00	2.530,00	2.750,00	2.970,00	3.190,00	3.400,00	3.620,00	3.840,00	30 dB
	Δp [Pa]	5,72	4,19	3,44	2,94	2,61	2,38	2,21	2,07	1,97	1,88	1,81	1,74	1,69	1,65	
450	Q [m ³ /h]	820,00	1.000,00	1.190,00	1.370,00	1.550,00	1.740,00	1.920,00	2.100,00	2.280,00	2.470,00	2.650,00	2.830,00	3.020,00	3.200,00	25 dB
	Δp [Pa]	4,00	2,91	2,38	2,03	1,80	1,65	1,52	1,43	1,35	1,30	1,25	1,21	1,18	1,14	
	Sn [m ²]	0,0605	0,0790	0,0974	0,1159	0,1343	0,1528	0,1712	0,1897	0,2081	0,2266	0,2450	0,2635	0,2819	0,3004	
	Sn [%]	70,26	72,89	74,63	75,86	76,78	77,49	78,06	78,52	78,91	79,24	79,52	79,76	79,97	80,15	
	Q [m ³ /h]	1.900,00	2.320,00	2.740,00	3.160,00	3.580,00	4.010,00	4.430,00	4.850,00	5.270,00	5.690,00	6.110,00	6.530,00	6.950,00	7.360,00	45 dB
	Δp [Pa]	14,52	10,39	8,25	6,97	6,13	5,56	5,11	4,77	4,50	4,28	4,10	3,95	3,83	3,71	
	Q [m ³ /h]	1.580,00	1.930,00	2.280,00	2.630,00	2.980,00	3.330,00	3.680,00	4.030,00	4.380,00	4.730,00	5.080,00	5.430,00	5.780,00	6.130,00	40 dB
	Δp [Pa]	10,04	7,19	5,71	4,83	4,24	3,83	3,53	3,29	3,11	2,96	2,84	2,73	2,65	2,57	
	Q [m ³ /h]	1.310,00	1.610,00	1.900,00	2.190,00	2.480,00	2.770,00	3.060,00	3.350,00	3.650,00	3.940,00	4.230,00	4.520,00	4.810,00	5.100,00	35 dB
	Δp [Pa]	6,90	5,00	3,97	3,35	2,94	2,65	2,44	2,28	2,16	2,05	1,97	1,89	1,83	1,78	
500	Q [m ³ /h]	1.090,00	1.340,00	1.580,00	1.820,00	2.070,00	2.310,00	2.550,00	2.790,00	3.030,00	3.280,00	3.520,00	3.760,00	4.000,00	4.240,00	30 dB
	Δp [Pa]	4,78	3,46	2,74	2,31	2,05	1,84	1,69	1,58	1,49	1,42	1,36	1,31	1,27	1,23	
	Q [m ³ /h]	910,00	1.110,00	1.320,00	1.520,00	1.720,00	1.920,00	2.120,00	2.320,00	2.520,00	2.730,00	2.930,00	3.130,00	3.330,00	3.530,00	25 dB
	Δp [Pa]	3,33	2,38	1,91	1,61	1,41	1,27	1,17	1,09	1,03	0,99	0,94	0,91	0,88	0,85	
	Sn [m ²]	0,0687	0,0897	0,1106	0,1316	0,1525	0,1735	0,1944	0,2154	0,2363	0,2573	0,2782	0,2992	0,3201	0,3411	
	Sn [%]	71,70	74,39	76,16	77,42	78,36	79,09	79,67	80,14	80,53	80,87	81,15	81,40	81,61	81,80	
	Q [m ³ /h]	2.090,00	2.550,00	3.010,00	3.470,00	3.930,00	4.390,00	4.850,00	5.310,00	5.760,00	6.220,00	6.680,00	7.140,00	7.590,00	8.050,00	45 dB
	Δp [Pa]	12,54	8,81	6,90	5,76	5,02	4,49	4,11	3,81	3,57	3,38	3,23	3,10	2,99	2,89	
	Q [m ³ /h]	1.740,00	2.120,00	2.510,00	2.890,00	3.270,00	3.650,00	4.030,00	4.410,00	4.800,00	5.180,00	5.560,00	5.940,00	6.320,00	6.700,00	40 dB
	Δp [Pa]	8,69	6,09	4,80	4,00	3,47	3,11	2,84	2,63	2,48	2,35	2,24	2,15	2,07	2,01	
550	Q [m ³ /h]	1.450,00	1.770,00	2.080,00	2.400,00	2.720,00	3.040,00	3.360,00	3.670,00	3.990,00	4.310,00	4.620,00	4.940,00	5.260,00	5.570,00	35 dB
	Δp [Pa]	6,04	4,24	3,29	2,76	2,40	2,15	1,97	1,82	1,71	1,63	1,55	1,49	1,43	1,39	
	Q [m ³ /h]	1.200,00	1.470,00	1.740,00	2.000,00	2.260,00	2.530,00	2.790,00	3.060,00	3.320,00	3.580,00	3.850,00	4.110,00	4.370,00	4.640,00	30 dB
	Δp [Pa]	4,13	2,93	2,30	1,91	1,66	1,49	1,36	1,27	1,19	1,12	1,07	1,03	0,99	0,96	
	Q [m ³ /h]	1.000,00	1.220,00	1.440,00	1.660,00	1.880,00	2.100,00	2.320,00	2.540,00	2.760,00	2.980,00	3.200,00	3.420,00	3.640,00	3.860,00	25 dB
	Δp [Pa]	2,87	2,02	1,58	1,32	1,15	1,03	0,94	0,87	0,82	0,78	0,74	0,71	0,69	0,67	
	Sn [m ²]	0,0769	0,1004	0,1238	0,1473	0,1707	0,1942	0,2176	0,2411	0,2645	0,2880	0,3114	0,3349	0,3583	0,3818	
	Sn [%]	72,88	75,61	77,42	78,69	79,65	80,39	80,98	81,46	81,86	82,20	82,49	82,74	82,96	83,15	
	Q [m ³ /h]	2.280,00	2.780,00	3.280,00	3.780,00	4.270,00	4.770,00	5.270,00	5.760,00	6.260,00	6.750,00	7.250,00	7.740,00	8.240,00	8.730,00	45 dB
	Δp [Pa]	11,11	7,68	5,94	4,91	4,22	3,75	3,41	3,14	2,94	2,77	2,64	2,52	2,42	2,34	
550	Q [m ³ /h]	1.900,00	2.310,00	2.730,00	3.140,00	3.560,00	3.970,00	4.380,00	4.790,00	5.210,00	5.620,00	6.030,00	6.440,00	6.850,00	7.260,00	40 dB
	Δp [Pa]	7,71	5,30	4,11	3,39	2,93	2,60	2,36	2,17	2,04	1,92	1,82	1,74	1,67	1,62	
	Q [m ³ /h]	1.580,00	1.920,00	2.270,00	2.620,00	2.960,00	3.300,00	3.650,00	3.990,00	4.330,00	4.670,00	5.020,00	5.360,00	5.700,00	6.040,00	35 dB
	Δp [Pa]	5,33	3,66	2,84	2,36	2,03	1,80	1,64	1,51	1,41	1,33	1,26	1,21	1,16	1,12	
	Q [m ³ /h]	1.310,00	1.600,00	1.890,00	2.180,00	2.460,00	2.750,00	3.030,00	3.320,00	3.600,00	3.890,00	4.170,00	4.460,00	4.740,00	5.030,00	30 dB
	Δp [Pa]	3,67	2,54	1,97	1,63	1,40	1,25	1,13	1,04	0,97	0,92	0,87	0,84	0,80	0,78	
	Q [m ³ /h]	1.090,00	1.330,00	1.570,00	1.810,00	2.050,00	2.290,00	2.520,00	2.760,00	3.000,00	3.240,00	3.470,00	3.710,00	3.950,00	4.180,00	25 dB
	Δp [Pa]	2,54	1,76	1,36	1,13	0,97	0,87	0,78	0,72	0,68	0,64	0,60	0,58	0,56	0,54	

Hn\Wn (mm)	200	250	300	350	400	450	500	550	600	650	700	750	800	850		
600	Sn [m ²]	0,0851	0,1111	0,1370	0,1630	0,1889	0,2149	0,2408	0,2668	0,2927	0,3187	0,3446	0,3706	0,3965	0,4225	
	Sn [%]	73,86	76,63	78,46	79,75	80,72	81,47	82,07	82,56	82,96	83,30	83,60	83,85	84,07	84,27	
	Q [m ³ /h]	2.470,00	3.010,00	3.550,00	4.080,00	4.620,00	5.150,00	5.680,00	6.220,00	6.750,00	7.280,00	7.810,00	8.340,00	8.870,00	9.410,00	45
	Δp [Pa]	10,03	6,84	5,23	4,26	3,65	3,22	2,90	2,67	2,48	2,33	2,20	2,10	2,01	1,94	dB
	Q [m ³ /h]	2.050,00	2.500,00	2.950,00	3.400,00	3.840,00	4.290,00	4.730,00	5.170,00	5.620,00	6.060,00	6.500,00	6.940,00	7.380,00	7.830,00	40
	Δp [Pa]	6,91	4,72	3,61	2,96	2,52	2,23	2,01	1,84	1,72	1,61	1,53	1,45	1,39	1,34	dB
	Q [m ³ /h]	1.710,00	2.080,00	2.460,00	2.830,00	3.200,00	3.570,00	3.940,00	4.300,00	4.670,00	5.040,00	5.410,00	5.780,00	6.140,00	6.510,00	35
	Δp [Pa]	4,81	3,26	2,51	2,05	1,75	1,55	1,40	1,27	1,19	1,11	1,06	1,01	0,96	0,93	dB
	Q [m ³ /h]	1.420,00	1.730,00	2.040,00	2.350,00	2.660,00	2.970,00	3.270,00	3.580,00	3.890,00	4.190,00	4.500,00	4.810,00	5.110,00	5.420,00	30
	Δp [Pa]	3,32	2,26	1,73	1,41	1,21	1,07	0,96	0,88	0,82	0,77	0,73	0,70	0,67	0,64	dB
Q [m ³ /h]	1.180,00	1.440,00	1.700,00	1.960,00	2.210,00	2.470,00	2.720,00	2.980,00	3.230,00	3.490,00	3.740,00	4.000,00	4.250,00	4.510,00	25	
Δp [Pa]	2,29	1,56	1,20	0,98	0,84	0,74	0,66	0,61	0,57	0,53	0,50	0,48	0,46	0,45	dB	
650	Sn [m ²]	0,0933	0,1218	0,1502	0,1787	0,2071	0,2356	0,2640	0,2925	0,3209	0,3494	0,3778	0,4063	0,4347	0,4632	
	Sn [%]	74,69	77,49	79,34	80,65	81,63	82,38	82,99	83,48	83,89	84,24	84,53	84,79	85,02	85,21	
	Q [m ³ /h]	2.660,00	3.240,00	3.810,00	4.390,00	4.960,00	5.530,00	6.100,00	6.670,00	7.240,00	7.810,00	8.380,00	8.940,00	9.510,00	10.080,00	45
	Δp [Pa]	9,20	6,19	4,66	3,79	3,21	2,81	2,52	2,30	2,13	2,00	1,89	1,79	1,71	1,64	dB
	Q [m ³ /h]	2.210,00	2.690,00	3.170,00	3.650,00	4.130,00	4.600,00	5.080,00	5.550,00	6.020,00	6.500,00	6.970,00	7.440,00	7.910,00	8.380,00	40
	Δp [Pa]	6,35	4,27	3,23	2,62	2,23	1,95	1,75	1,60	1,48	1,38	1,30	1,24	1,18	1,14	dB
	Q [m ³ /h]	1.840,00	2.240,00	2.640,00	3.040,00	3.430,00	3.830,00	4.220,00	4.620,00	5.010,00	5.400,00	5.800,00	6.190,00	6.580,00	6.980,00	35
	Δp [Pa]	4,40	2,96	2,24	1,82	1,54	1,35	1,21	1,11	1,02	0,95	0,90	0,86	0,82	0,79	dB
	Q [m ³ /h]	1.530,00	1.870,00	2.200,00	2.530,00	2.860,00	3.190,00	3.510,00	3.840,00	4.170,00	4.500,00	4.820,00	5.150,00	5.480,00	5.800,00	30
	Δp [Pa]	3,04	2,06	1,55	1,26	1,07	0,94	0,84	0,76	0,71	0,66	0,62	0,59	0,57	0,54	dB
Q [m ³ /h]	1.280,00	1.550,00	1.830,00	2.100,00	2.380,00	2.650,00	2.920,00	3.200,00	3.470,00	3.740,00	4.010,00	4.290,00	4.560,00	4.830,00	25	
Δp [Pa]	2,13	1,42	1,07	0,87	0,74	0,65	0,58	0,53	0,49	0,46	0,43	0,41	0,39	0,38	dB	
700	Sn [m ²]	0,1015	0,1325	0,1634	0,1944	0,2253	0,2563	0,2872	0,3182	0,3491	0,3801	0,4110	0,4420	0,4729	0,5039	
	Sn [%]	75,40	78,23	80,09	81,41	82,40	83,17	83,78	84,27	84,69	85,04	85,34	85,60	85,82	86,02	
	Q [m ³ /h]	2.850,00	3.470,00	4.080,00	4.690,00	5.300,00	5.910,00	6.520,00	7.120,00	7.730,00	8.330,00	8.940,00	9.540,00	10.140,00	10.750,00	45
	Δp [Pa]	8,54	5,68	4,24	3,40	2,87	2,50	2,23	2,03	1,87	1,74	1,64	1,55	1,48	1,42	dB
	Q [m ³ /h]	2.370,00	2.880,00	3.400,00	3.900,00	4.410,00	4.920,00	5.420,00	5.930,00	6.430,00	6.930,00	7.430,00	7.940,00	8.440,00	8.940,00	40
	Δp [Pa]	5,90	3,91	2,94	2,35	1,99	1,73	1,54	1,41	1,29	1,20	1,13	1,07	1,02	0,98	dB
	Q [m ³ /h]	1.970,00	2.400,00	2.830,00	3.250,00	3.670,00	4.090,00	4.510,00	4.930,00	5.350,00	5.770,00	6.190,00	6.600,00	7.020,00	7.440,00	35
	Δp [Pa]	4,08	2,72	2,04	1,63	1,37	1,20	1,07	0,97	0,90	0,84	0,79	0,74	0,71	0,68	dB
	Q [m ³ /h]	1.640,00	2.000,00	2.350,00	2.700,00	3.050,00	3.400,00	3.750,00	4.100,00	4.450,00	4.800,00	5.150,00	5.490,00	5.840,00	6.190,00	30
	Δp [Pa]	2,83	1,89	1,41	1,13	0,95	0,83	0,74	0,67	0,62	0,58	0,54	0,51	0,49	0,47	dB
Q [m ³ /h]	1.370,00	1.660,00	1.960,00	2.250,00	2.540,00	2.830,00	3.120,00	3.410,00	3.700,00	3.990,00	4.280,00	4.570,00	4.860,00	5.150,00	25	
Δp [Pa]	1,97	1,30	0,98	0,78	0,66	0,57	0,51	0,46	0,43	0,40	0,38	0,36	0,34	0,33	dB	
750	Sn [m ²]	0,1097	0,1432	0,1766	0,2101	0,2435	0,2770	0,3104	0,3439	0,3773	0,4108	0,4442	0,4777	0,5111	0,5446	
	Sn [%]	76,01	78,86	80,74	82,08	83,07	83,84	84,46	84,96	85,38	85,73	86,03	86,29	86,52	86,72	
	Q [m ³ /h]	3.040,00	3.700,00	4.350,00	5.000,00	5.640,00	6.290,00	6.930,00	7.570,00	8.210,00	8.850,00	9.490,00	10.130,00	10.770,00	11.410,00	45
	Δp [Pa]	8,00	5,26	3,90	3,11	2,59	2,25	2,00	1,81	1,66	1,54	1,44	1,36	1,30	1,24	dB
	Q [m ³ /h]	2.530,00	3.080,00	3.620,00	4.160,00	4.700,00	5.230,00	5.770,00	6.300,00	6.830,00	7.370,00	7.900,00	8.430,00	8.960,00	9.490,00	40
	Δp [Pa]	5,54	3,65	2,70	2,15	1,80	1,56	1,38	1,25	1,15	1,07	1,00	0,94	0,90	0,86	dB
	Q [m ³ /h]	2.100,00	2.560,00	3.010,00	3.460,00	3.910,00	4.350,00	4.800,00	5.240,00	5.690,00	6.130,00	6.570,00	7.010,00	7.460,00	7.900,00	35
	Δp [Pa]	3,82	2,52	1,86	1,49	1,25	1,08	0,96	0,87	0,80	0,74	0,69	0,65	0,62	0,59	dB
	Q [m ³ /h]	1.750,00	2.130,00	2.500,00	2.880,00	3.250,00	3.620,00	3.990,00	4.360,00	4.730,00	5.100,00	5.470,00	5.840,00	6.200,00	6.570,00	30
	Δp [Pa]	2,65	1,74	1,29	1,03	0,86	0,75	0,66	0,60	0,55	0,51	0,48	0,45	0,43	0,41	dB
Q [m ³ /h]	1.460,00	1.770,00	2.080,00	2.400,00	2.700,00	3.010,00	3.320,00	3.630,00	3.940,00	4.240,00	4.550,00	4.860,00	5.160,00	5.470,00	25	
Δp [Pa]	1,84	1,20	0,89	0,72	0,59	0,52	0,46	0,42	0,38	0,35	0,33	0,31	0,30	0,29	dB	

Hn\Wn (mm)	200	250	300	350	400	450	500	550	600	650	700	750	800	850		
800	Sn [m ²]	0,1179	0,1539	0,1898	0,2258	0,2617	0,2977	0,3336	0,3696	0,4055	0,4415	0,4774	0,5134	0,5493	0,5853	
	Sn [%]	76,55	79,42	81,31	82,66	83,66	84,44	85,05	85,56	85,98	86,34	86,64	86,90	87,13	87,34	
	Q [m ³ /h]	3.230,00	3.920,00	4.610,00	5.300,00	5.980,00	6.660,00	7.340,00	8.020,00	8.700,00	9.380,00	10.050,00	10.730,00	11.400,00	12.070,00	45
	Δp [Pa]	7,55	4,90	3,60	2,86	2,37	2,04	1,81	1,63	1,49	1,38	1,29	1,22	1,15	1,10	dB
	Q [m ³ /h]	2.690,00	3.270,00	3.840,00	4.410,00	4.980,00	5.540,00	6.110,00	6.670,00	7.240,00	7.800,00	8.360,00	8.920,00	9.480,00	10.040,00	40
	Δp [Pa]	5,23	3,41	2,50	1,98	1,65	1,41	1,25	1,13	1,03	0,96	0,89	0,84	0,80	0,76	dB
	Q [m ³ /h]	2.240,00	2.720,00	3.190,00	3.670,00	4.140,00	4.610,00	5.080,00	5.550,00	6.020,00	6.490,00	6.960,00	7.420,00	7.890,00	8.360,00	35
	Δp [Pa]	3,63	2,36	1,72	1,37	1,14	0,98	0,87	0,78	0,71	0,66	0,62	0,58	0,55	0,53	dB
	Q [m ³ /h]	1.860,00	2.260,00	2.660,00	3.050,00	3.450,00	3.840,00	4.230,00	4.620,00	5.010,00	5.400,00	5.790,00	6.180,00	6.560,00	6.950,00	30
	Δp [Pa]	2,50	1,63	1,20	0,95	0,79	0,68	0,60	0,54	0,49	0,46	0,43	0,40	0,38	0,36	dB
Q [m ³ /h]	1.550,00	1.880,00	2.210,00	2.540,00	2.870,00	3.190,00	3.520,00	3.840,00	4.170,00	4.490,00	4.820,00	5.140,00	5.460,00	5.780,00	25	
Δp [Pa]	1,74	1,13	0,83	0,66	0,55	0,47	0,42	0,37	0,34	0,32	0,30	0,28	0,26	0,25	dB	
850	Sn [m ²]	0,1261	0,1646	0,2030	0,2415	0,2799	0,3184	0,3568	0,3953	0,4337	0,4722	0,5106	0,5491	0,5875	0,6260	
	Sn [%]	77,02	79,91	81,82	83,17	84,18	84,96	85,58	86,09	86,51	86,87	87,18	87,44	87,67	87,88	
	Q [m ³ /h]	3.420,00	4.150,00	4.880,00	5.600,00	6.320,00	7.040,00	7.760,00	8.470,00	9.180,00	9.890,00	10.600,00	11.310,00	12.020,00	12.730,00	45
	Δp [Pa]	7,17	4,62	3,37	2,65	2,19	1,88	1,66	1,48	1,35	1,25	1,16	1,09	1,03	0,98	dB
	Q [m ³ /h]	2.850,00	3.460,00	4.060,00	4.660,00	5.260,00	5.860,00	6.450,00	7.050,00	7.640,00	8.230,00	8.820,00	9.410,00	10.000,00	10.590,00	40
	Δp [Pa]	4,98	3,21	2,33	1,83	1,52	1,30	1,14	1,03	0,94	0,86	0,81	0,76	0,72	0,68	dB
	Q [m ³ /h]	2.370,00	2.880,00	3.380,00	3.880,00	4.380,00	4.870,00	5.370,00	5.860,00	6.360,00	6.850,00	7.340,00	7.830,00	8.320,00	8.810,00	35
	Δp [Pa]	3,44	2,22	1,62	1,27	1,05	0,90	0,79	0,71	0,65	0,60	0,56	0,52	0,50	0,47	dB
	Q [m ³ /h]	1.970,00	2.390,00	2.810,00	3.230,00	3.640,00	4.060,00	4.470,00	4.880,00	5.290,00	5.700,00	6.110,00	6.520,00	6.920,00	7.330,00	30
	Δp [Pa]	2,38	1,53	1,12	0,88	0,73	0,62	0,55	0,49	0,45	0,41	0,39	0,36	0,34	0,33	dB
Q [m ³ /h]	1.640,00	1.990,00	2.340,00	2.690,00	3.030,00	3.370,00	3.720,00	4.060,00	4.400,00	4.740,00	5.080,00	5.420,00	5.760,00	6.100,00	25	
Δp [Pa]	1,65	1,06	0,77	0,61	0,50	0,43	0,38	0,34	0,31	0,29	0,27	0,25	0,24	0,23	dB	
900	Sn [m ²]	0,1343	0,1753	0,2162	0,2572	0,2981	0,3391	0,3800	0,4210	0,4619	0,5029	0,5438	0,5848	0,6257	0,6667	
	Sn [%]	77,44	80,35	82,26	83,62	84,64	85,42	86,05	86,56	86,98	87,34	87,65	87,92	88,15	88,35	
	Q [m ³ /h]	3.610,00	4.380,00	5.150,00	5.910,00	6.660,00	7.420,00	8.170,00	8.920,00	9.670,00	10.410,00	11.160,00	11.900,00	12.650,00	13.390,00	45
	Δp [Pa]	6,85	4,38	3,17	2,48	2,04	1,74	1,53	1,36	1,24	1,14	1,06	0,99	0,94	0,89	dB
	Q [m ³ /h]	3.000,00	3.650,00	4.280,00	4.910,00	5.540,00	6.170,00	6.800,00	7.420,00	8.040,00	8.660,00	9.280,00	9.900,00	10.520,00	11.140,00	40
	Δp [Pa]	4,73	3,04	2,19	1,71	1,41	1,20	1,06	0,94	0,86	0,79	0,73	0,69	0,65	0,62	dB
	Q [m ³ /h]	2.500,00	3.030,00	3.560,00	4.090,00	4.610,00	5.130,00	5.650,00	6.170,00	6.690,00	7.210,00	7.720,00	8.240,00	8.750,00	9.270,00	35
	Δp [Pa]	3,29	2,09	1,52	1,19	0,98	0,83	0,73	0,65	0,59	0,55	0,51	0,48	0,45	0,43	dB
	Q [m ³ /h]	2.080,00	2.520,00	2.960,00	3.400,00	3.840,00	4.270,00	4.700,00	5.140,00	5.570,00	6.000,00	6.430,00	6.850,00	7.280,00	7.710,00	30
	Δp [Pa]	2,27	1,45	1,05	0,82	0,68	0,58	0,50	0,45	0,41	0,38	0,35	0,33	0,31	0,30	dB
Q [m ³ /h]	1.730,00	2.100,00	2.470,00	2.830,00	3.190,00	3.550,00	3.910,00	4.270,00	4.630,00	4.990,00	5.350,00	5.700,00	6.060,00	6.420,00	25	
Δp [Pa]	1,57	1,01	0,73	0,57	0,47	0,40	0,35	0,31	0,28	0,26	0,24	0,23	0,22	0,20	dB	
950	Sn [m ²]	0,1425	0,1860	0,2294	0,2729	0,3163	0,3598	0,4032	0,4467	0,4901	0,5336	0,5770	0,6205	0,6639	0,7074	
	Sn [%]	77,82	80,74	82,66	84,03	85,05	85,84	86,46	86,98	87,41	87,77	88,08	88,34	88,58	88,78	
	Q [m ³ /h]	3.800,00	4.610,00	5.410,00	6.210,00	7.000,00	7.790,00	8.580,00	9.360,00	10.150,00	10.930,00	11.710,00	12.490,00	13.270,00	14.050,00	45
	Δp [Pa]	6,58	4,17	3,00	2,33	1,91	1,62	1,42	1,26	1,14	1,05	0,97	0,91	0,86	0,81	dB
	Q [m ³ /h]	3.160,00	3.840,00	4.500,00	5.170,00	5.830,00	6.480,00	7.140,00	7.790,00	8.440,00	9.090,00	9.740,00	10.390,00	11.040,00	11.690,00	40
	Δp [Pa]	4,55	2,89	2,07	1,62	1,32	1,12	0,98	0,87	0,79	0,73	0,67	0,63	0,59	0,56	dB
	Q [m ³ /h]	2.630,00	3.190,00	3.750,00	4.300,00	4.850,00	5.390,00	5.940,00	6.480,00	7.020,00	7.560,00	8.100,00	8.640,00	9.180,00	9.720,00	35
	Δp [Pa]	3,15	2,00	1,44	1,12	0,92	0,78	0,68	0,60	0,55	0,50	0,47	0,43	0,41	0,39	dB
	Q [m ³ /h]	2.190,00	2.660,00	3.120,00	3.580,00	4.030,00	4.490,00	4.940,00	5.390,00	5.840,00	6.290,00	6.740,00	7.190,00	7.640,00	8.090,00	30
	Δp [Pa]	2,18	1,39	1,00	0,78	0,63	0,54	0,47	0,42	0,38	0,35	0,32	0,30	0,28	0,27	dB
Q [m ³ /h]	1.820,00	2.210,00	2.590,00	2.980,00	3.360,00	3.730,00	4.110,00	4.490,00	4.860,00	5.240,00	5.610,00	5.980,00	6.360,00	6.730,00	25	
Δp [Pa]	1,51	0,96	0,69	0,54	0,44	0,37	0,32	0,29	0,26	0,24	0,22	0,21	0,20	0,19	dB	

Hn\Wn (mm)	200	250	300	350	400	450	500	550	600	650	700	750	800	850		
1000	Sn [m ²]	0,1507	0,1967	0,2426	0,2886	0,3345	0,3805	0,4264	0,4724	0,5183	0,5643	0,6102	0,6562	0,7021	0,7481	
	Sn [%]	78,16	81,09	83,02	84,39	85,42	86,21	86,84	87,36	87,79	88,15	88,46	88,73	88,96	89,17	
	Q [m ³ /h]	3.990,00	4.840,00	5.680,00	6.510,00	7.340,00	8.170,00	8.990,00	9.810,00	10.630,00	11.440,00	12.260,00	13.070,00	13.890,00	14.700,00	45
	Δp [Pa]	6,34	3,99	2,85	2,20	1,80	1,52	1,32	1,17	1,06	0,97	0,90	0,84	0,79	0,74	dB
	Q [m ³ /h]	3.320,00	4.030,00	4.720,00	5.420,00	6.110,00	6.790,00	7.480,00	8.160,00	8.840,00	9.520,00	10.200,00	10.880,00	11.550,00	12.230,00	40
	Δp [Pa]	4,39	2,77	1,97	1,53	1,25	1,05	0,92	0,81	0,73	0,67	0,62	0,58	0,54	0,52	dB
	Q [m ³ /h]	2.760,00	3.350,00	3.930,00	4.510,00	5.080,00	5.650,00	6.220,00	6.790,00	7.360,00	7.920,00	8.490,00	9.050,00	9.610,00	10.170,00	35
	Δp [Pa]	3,03	1,91	1,37	1,06	0,86	0,73	0,63	0,56	0,51	0,46	0,43	0,40	0,38	0,36	dB
	Q [m ³ /h]	2.300,00	2.790,00	3.270,00	3.750,00	4.230,00	4.700,00	5.180,00	5.650,00	6.120,00	6.590,00	7.060,00	7.530,00	8.000,00	8.460,00	30
	Δp [Pa]	2,11	1,33	0,95	0,73	0,60	0,50	0,44	0,39	0,35	0,32	0,30	0,28	0,26	0,25	dB
Q [m ³ /h]	1.910,00	2.320,00	2.720,00	3.120,00	3.520,00	3.910,00	4.310,00	4.700,00	5.090,00	5.480,00	5.870,00	6.260,00	6.650,00	7.040,00	25	
Δp [Pa]	1,45	0,92	0,65	0,51	0,41	0,35	0,30	0,27	0,24	0,22	0,21	0,19	0,18	0,17	dB	

Hn\Wn (mm)	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500		
200	Sn [m ²]	0,1028	0,1088	0,1147	0,1207	0,1266	0,1326	0,1385	0,1445	0,1504	0,1564	0,1623	0,1683	0,1742	
	Sn [%]	59,28	59,39	59,49	59,58	59,66	59,73	59,80	59,86	59,92	59,97	60,02	60,07	60,11	
	Q [m ³ /h]	4.070,00	4.290,00	4.510,00	4.730,00	4.960,00	5.180,00	5.400,00	5.630,00	5.850,00	6.070,00	6.300,00	6.520,00	6.740,00	45
	Δp [Pa]	45,38	44,89	44,44	44,04	43,86	43,53	43,23	43,10	42,84	42,60	42,52	42,31	42,11	dB
	Q [m ³ /h]	3.380,00	3.570,00	3.750,00	3.940,00	4.120,00	4.310,00	4.500,00	4.680,00	4.870,00	5.050,00	5.240,00	5.420,00	5.610,00	40
	Δp [Pa]	31,30	31,08	30,73	30,56	30,26	30,14	30,02	29,78	29,69	29,49	29,41	29,23	29,17	dB
	Q [m ³ /h]	2.810,00	2.970,00	3.120,00	3.280,00	3.430,00	3.590,00	3.740,00	3.900,00	4.050,00	4.200,00	4.360,00	4.510,00	4.670,00	35
	Δp [Pa]	21,63	21,51	21,27	21,18	20,98	20,91	20,73	20,68	20,53	20,40	20,36	20,24	20,22	dB
	Q [m ³ /h]	2.340,00	2.470,00	2.600,00	2.730,00	2.860,00	2.980,00	3.110,00	3.240,00	3.370,00	3.500,00	3.630,00	3.760,00	3.880,00	30
	Δp [Pa]	15,00	14,88	14,77	14,67	14,58	14,41	14,34	14,27	14,22	14,16	14,11	14,07	13,95	dB
Q [m ³ /h]	1.950,00	2.060,00	2.160,00	2.270,00	2.380,00	2.480,00	2.590,00	2.700,00	2.800,00	2.910,00	3.020,00	3.120,00	3.230,00	25	
Δp [Pa]	10,42	10,35	10,19	10,14	10,10	9,98	9,94	9,91	9,81	9,79	9,77	9,69	9,67	dB	
250	Sn [m ²]	0,1460	0,1545	0,1629	0,1714	0,1798	0,1883	0,1967	0,2052	0,2136	0,2221	0,2305	0,2390	0,2474	
	Sn [%]	66,94	67,06	67,17	67,27	67,36	67,45	67,52	67,59	67,66	67,72	67,77	67,82	67,87	
	Q [m ³ /h]	4.820,00	5.090,00	5.350,00	5.620,00	5.880,00	6.140,00	6.410,00	6.670,00	6.930,00	7.200,00	7.460,00	7.720,00	7.990,00	45
	Δp [Pa]	19,51	19,32	19,07	18,92	18,72	18,54	18,44	18,28	18,14	18,06	17,94	17,83	17,77	dB
	Q [m ³ /h]	4.010,00	4.230,00	4.450,00	4.670,00	4.890,00	5.110,00	5.330,00	5.550,00	5.770,00	5.990,00	6.210,00	6.430,00	6.650,00	40
	Δp [Pa]	13,51	13,34	13,20	13,07	12,95	12,84	12,75	12,66	12,58	12,50	12,43	12,37	12,31	dB
	Q [m ³ /h]	3.340,00	3.520,00	3.700,00	3.890,00	4.070,00	4.250,00	4.430,00	4.620,00	4.800,00	4.980,00	5.160,00	5.350,00	5.530,00	35
	Δp [Pa]	9,37	9,24	9,12	9,07	8,97	8,88	8,81	8,77	8,70	8,64	8,58	8,56	8,51	dB
	Q [m ³ /h]	2.780,00	2.930,00	3.080,00	3.230,00	3.390,00	3.540,00	3.690,00	3.840,00	3.990,00	4.150,00	4.300,00	4.450,00	4.600,00	30
	Δp [Pa]	6,49	6,40	6,32	6,25	6,22	6,16	6,11	6,06	6,01	6,00	5,96	5,93	5,89	dB
Q [m ³ /h]	2.310,00	2.440,00	2.570,00	2.690,00	2.820,00	2.940,00	3.070,00	3.200,00	3.320,00	3.450,00	3.580,00	3.700,00	3.830,00	25	
Δp [Pa]	4,48	4,44	4,40	4,34	4,31	4,25	4,23	4,21	4,16	4,15	4,13	4,10	4,08	dB	
300	Sn [m ²]	0,1892	0,2002	0,2111	0,2221	0,2330	0,2440	0,2549	0,2659	0,2768	0,2878	0,2987	0,3097	0,3206	
	Sn [%]	71,99	72,12	72,24	72,35	72,45	72,54	72,62	72,69	72,76	72,83	72,89	72,94	72,99	
	Q [m ³ /h]	5.580,00	5.880,00	6.180,00	6.490,00	6.790,00	7.090,00	7.400,00	7.700,00	8.010,00	8.310,00	8.610,00	8.920,00	9.220,00	45
	Δp [Pa]	10,88	10,70	10,54	10,42	10,29	10,18	10,10	10,00	9,93	9,85	9,77	9,72	9,65	dB
	Q [m ³ /h]	4.640,00	4.890,00	5.140,00	5.400,00	5.650,00	5.900,00	6.160,00	6.410,00	6.660,00	6.910,00	7.170,00	7.420,00	7.670,00	40
	Δp [Pa]	7,52	7,40	7,29	7,22	7,13	7,05	7,00	6,93	6,87	6,81	6,77	6,72	6,68	dB
	Q [m ³ /h]	3.860,00	4.070,00	4.280,00	4.490,00	4.700,00	4.910,00	5.120,00	5.330,00	5.540,00	5.750,00	5.960,00	6.170,00	6.380,00	35
	Δp [Pa]	5,21	5,12	5,05	4,99	4,93	4,88	4,83	4,79	4,75	4,71	4,68	4,65	4,62	dB
	Q [m ³ /h]	3.210,00	3.390,00	3.560,00	3.740,00	3.910,00	4.090,00	4.260,00	4.440,00	4.610,00	4.790,00	4.960,00	5.140,00	5.310,00	30
	Δp [Pa]	3,60	3,56	3,50	3,46	3,41	3,39	3,35	3,32	3,29	3,27	3,24	3,23	3,20	dB
Q [m ³ /h]	2.670,00	2.820,00	2.960,00	3.110,00	3.250,00	3.400,00	3.550,00	3.690,00	3.840,00	3.980,00	4.130,00	4.270,00	4.420,00	25	
Δp [Pa]	2,49	2,46	2,42	2,39	2,36	2,34	2,32	2,30	2,28	2,26	2,25	2,23	2,22	dB	

Hn\Wn [mm]	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500		
350	Sn [m ²]	0,2324	0,2459	0,2593	0,2728	0,2862	0,2997	0,3131	0,3266	0,3400	0,3535	0,3669	0,3804	0,3938	
	Sn [%]	75,57	75,71	75,84	75,95	76,05	76,15	76,23	76,31	76,38	76,45	76,51	76,57	76,63	
	Q [m ³ /h]	6.320,00	6.660,00	7.010,00	7.350,00	7.690,00	8.030,00	8.380,00	8.720,00	9.060,00	9.410,00	9.750,00	10.090,00	10.430,00	45
	Δp [Pa]	6,95	6,82	6,72	6,61	6,52	6,43	6,37	6,30	6,23	6,19	6,13	6,08	6,03	dB
	Q [m ³ /h]	5.260,00	5.540,00	5.830,00	6.110,00	6.400,00	6.680,00	6.970,00	7.250,00	7.540,00	7.830,00	8.110,00	8.400,00	8.680,00	40
	Δp [Pa]	4,81	4,72	4,65	4,57	4,51	4,45	4,41	4,35	4,32	4,28	4,24	4,21	4,18	dB
	Q [m ³ /h]	4.370,00	4.610,00	4.850,00	5.090,00	5.320,00	5.560,00	5.800,00	6.040,00	6.270,00	6.510,00	6.750,00	6.990,00	7.220,00	35
	Δp [Pa]	3,32	3,27	3,22	3,17	3,12	3,08	3,05	3,02	2,99	2,96	2,94	2,92	2,89	dB
	Q [m ³ /h]	3.640,00	3.840,00	4.040,00	4.230,00	4.430,00	4.630,00	4.820,00	5.020,00	5.220,00	5.420,00	5.610,00	5.810,00	6.010,00	30
	Δp [Pa]	2,30	2,27	2,23	2,19	2,16	2,14	2,11	2,09	2,07	2,05	2,03	2,02	2,00	dB
	Q [m ³ /h]	3.030,00	3.190,00	3.360,00	3.520,00	3.690,00	3.850,00	4.010,00	4.180,00	4.340,00	4.510,00	4.670,00	4.840,00	5.000,00	25
	Δp [Pa]	1,60	1,56	1,54	1,52	1,50	1,48	1,46	1,45	1,43	1,42	1,41	1,40	1,39	dB
400	Sn [m ²]	0,2756	0,2916	0,3075	0,3235	0,3394	0,3554	0,3713	0,3873	0,4032	0,4192	0,4351	0,4511	0,4670	
	Sn [%]	78,25	78,39	78,52	78,64	78,74	78,84	78,93	79,01	79,09	79,16	79,22	79,28	79,34	
	Q [m ³ /h]	7.060,00	7.440,00	7.820,00	8.200,00	8.580,00	8.960,00	9.340,00	9.730,00	10.110,00	10.490,00	10.870,00	11.250,00	11.630,00	45
	Δp [Pa]	4,86	4,76	4,67	4,59	4,52	4,45	4,39	4,35	4,30	4,25	4,21	4,17	4,13	dB
	Q [m ³ /h]	5.870,00	6.190,00	6.500,00	6.820,00	7.140,00	7.460,00	7.770,00	8.090,00	8.410,00	8.730,00	9.040,00	9.360,00	9.680,00	40
	Δp [Pa]	3,36	3,30	3,23	3,17	3,13	3,08	3,04	3,00	2,97	2,94	2,91	2,89	2,86	dB
	Q [m ³ /h]	4.880,00	5.150,00	5.410,00	5.680,00	5.940,00	6.200,00	6.470,00	6.730,00	7.000,00	7.260,00	7.520,00	7.790,00	8.050,00	35
	Δp [Pa]	2,32	2,28	2,24	2,20	2,16	2,13	2,11	2,08	2,06	2,04	2,01	2,00	1,98	dB
	Q [m ³ /h]	4.060,00	4.280,00	4.500,00	4.720,00	4.940,00	5.160,00	5.380,00	5.600,00	5.820,00	6.040,00	6.260,00	6.480,00	6.700,00	30
	Δp [Pa]	1,61	1,58	1,55	1,52	1,50	1,48	1,46	1,44	1,42	1,41	1,40	1,38	1,37	dB
	Q [m ³ /h]	3.380,00	3.560,00	3.750,00	3.930,00	4.110,00	4.290,00	4.480,00	4.660,00	4.840,00	5.030,00	5.210,00	5.390,00	5.570,00	25
	Δp [Pa]	1,12	1,09	1,07	1,05	1,04	1,02	1,01	1,00	0,98	0,98	0,97	0,96	0,95	dB
450	Sn [m ²]	0,3188	0,3373	0,3557	0,3742	0,3926	0,4111	0,4295	0,4480	0,4664	0,4849	0,5033	0,5218	0,5402	
	Sn [%]	80,32	80,47	80,60	80,72	80,83	80,93	81,02	81,10	81,18	81,25	81,32	81,38	81,44	
	Q [m ³ /h]	7.780,00	8.200,00	8.620,00	9.040,00	9.460,00	9.880,00	10.300,00	10.720,00	11.140,00	11.560,00	11.980,00	12.400,00	12.820,00	45
	Δp [Pa]	3,61	3,53	3,45	3,39	3,33	3,28	3,23	3,18	3,14	3,11	3,07	3,04	3,01	dB
	Q [m ³ /h]	6.480,00	6.830,00	7.170,00	7.520,00	7.870,00	8.220,00	8.570,00	8.920,00	9.270,00	9.620,00	9.970,00	10.310,00	10.660,00	40
	Δp [Pa]	2,50	2,45	2,39	2,34	2,30	2,27	2,23	2,20	2,18	2,15	2,13	2,10	2,08	dB
	Q [m ³ /h]	5.390,00	5.680,00	5.970,00	6.260,00	6.550,00	6.840,00	7.130,00	7.420,00	7.710,00	8.000,00	8.290,00	8.580,00	8.870,00	35
	Δp [Pa]	1,73	1,69	1,66	1,62	1,60	1,57	1,55	1,53	1,51	1,49	1,47	1,46	1,44	dB
	Q [m ³ /h]	4.480,00	4.720,00	4.970,00	5.210,00	5.450,00	5.690,00	5.930,00	6.170,00	6.410,00	6.660,00	6.900,00	7.140,00	7.380,00	30
	Δp [Pa]	1,20	1,17	1,15	1,13	1,10	1,09	1,07	1,05	1,04	1,03	1,02	1,01	1,00	dB
	Q [m ³ /h]	3.730,00	3.930,00	4.130,00	4.330,00	4.530,00	4.730,00	4.940,00	5.140,00	5.340,00	5.540,00	5.740,00	5.940,00	6.140,00	25
	Δp [Pa]	0,83	0,81	0,79	0,78	0,76	0,75	0,74	0,73	0,72	0,71	0,71	0,70	0,69	dB
500	Sn [m ²]	0,3620	0,3830	0,4039	0,4249	0,4458	0,4668	0,4877	0,5087	0,5296	0,5506	0,5715	0,5925	0,6134	
	Sn [%]	81,97	82,12	82,26	82,38	82,49	82,59	82,69	82,77	82,85	82,92	82,99	83,06	83,11	
	Q [m ³ /h]	8.510,00	8.960,00	9.420,00	9.880,00	10.330,00	10.790,00	11.250,00	11.700,00	12.160,00	12.620,00	13.070,00	13.530,00	13.990,00	45
	Δp [Pa]	2,81	2,74	2,68	2,62	2,57	2,52	2,48	2,44	2,41	2,38	2,35	2,32	2,30	dB
	Q [m ³ /h]	7.080,00	7.460,00	7.840,00	8.220,00	8.600,00	8.980,00	9.360,00	9.740,00	10.120,00	10.500,00	10.880,00	11.260,00	11.640,00	40
	Δp [Pa]	1,95	1,90	1,85	1,81	1,78	1,75	1,72	1,69	1,67	1,65	1,63	1,61	1,59	dB
	Q [m ³ /h]	5.890,00	6.200,00	6.520,00	6.840,00	7.150,00	7.470,00	7.790,00	8.100,00	8.420,00	8.730,00	9.050,00	9.370,00	9.680,00	35
	Δp [Pa]	1,35	1,31	1,28	1,26	1,23	1,21	1,19	1,17	1,16	1,14	1,13	1,11	1,10	dB
	Q [m ³ /h]	4.900,00	5.160,00	5.430,00	5.690,00	5.950,00	6.210,00	6.480,00	6.740,00	7.000,00	7.270,00	7.530,00	7.790,00	8.050,00	30
	Δp [Pa]	0,93	0,91	0,89	0,87	0,85	0,84	0,82	0,81	0,80	0,79	0,78	0,77	0,76	dB
	Q [m ³ /h]	4.080,00	4.300,00	4.510,00	4.730,00	4.950,00	5.170,00	5.390,00	5.610,00	5.830,00	6.040,00	6.260,00	6.480,00	6.700,00	25
	Δp [Pa]	0,65	0,63	0,61	0,60	0,59	0,58	0,57	0,56	0,55	0,55	0,54	0,53	0,53	dB

Hn\Wn [mm]		900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
550	Sn [m ²]	0,4052	0,4287	0,4521	0,4756	0,4990	0,5225	0,5459	0,5694	0,5928	0,6163	0,6397	0,6632	0,6866	
	Sn [%]	83,32	83,47	83,61	83,74	83,85	83,95	84,05	84,13	84,21	84,29	84,36	84,42	84,48	
	Q [m ³ /h]	9.220,00	9.720,00	10.210,00	10.710,00	11.200,00	11.690,00	12.190,00	12.680,00	13.170,00	13.670,00	14.160,00	14.650,00	15.150,00	45
	Δp [Pa]	2,26	2,20	2,15	2,10	2,05	2,01	1,98	1,94	1,91	1,89	1,86	1,84	1,82	dB
	Q [m ³ /h]	7.670,00	8.080,00	8.500,00	8.910,00	9.320,00	9.730,00	10.140,00	10.550,00	10.960,00	11.370,00	11.780,00	12.190,00	12.600,00	40
	Δp [Pa]	1,57	1,52	1,49	1,45	1,42	1,39	1,37	1,35	1,32	1,31	1,29	1,27	1,26	dB
	Q [m ³ /h]	6.380,00	6.730,00	7.070,00	7.410,00	7.750,00	8.090,00	8.430,00	8.780,00	9.120,00	9.460,00	9.800,00	10.140,00	10.480,00	35
	Δp [Pa]	1,08	1,06	1,03	1,00	0,98	0,96	0,95	0,93	0,92	0,90	0,89	0,88	0,87	dB
	Q [m ³ /h]	5.310,00	5.600,00	5.880,00	6.160,00	6.450,00	6.730,00	7.020,00	7.300,00	7.590,00	7.870,00	8.150,00	8.440,00	8.720,00	30
	Δp [Pa]	0,75	0,73	0,71	0,69	0,68	0,67	0,66	0,64	0,64	0,63	0,62	0,61	0,60	dB
	Q [m ³ /h]	4.420,00	4.660,00	4.890,00	5.130,00	5.370,00	5.600,00	5.840,00	6.070,00	6.310,00	6.550,00	6.780,00	7.020,00	7.260,00	25
	Δp [Pa]	0,52	0,51	0,49	0,48	0,47	0,46	0,45	0,45	0,44	0,43	0,43	0,42	0,42	dB
600	Sn [m ²]	0,4484	0,4744	0,5003	0,5263	0,5522	0,5782	0,6041	0,6301	0,6560	0,6820	0,7079	0,7339	0,7598	
	Sn [%]	84,44	84,60	84,74	84,86	84,98	85,08	85,18	85,27	85,35	85,42	85,49	85,56	85,62	
	Q [m ³ /h]	9.940,00	10.470,00	11.000,00	11.530,00	12.060,00	12.590,00	13.120,00	13.650,00	14.180,00	14.710,00	15.240,00	15.770,00	16.300,00	45
	Δp [Pa]	1,88	1,82	1,77	1,72	1,69	1,65	1,62	1,59	1,56	1,54	1,52	1,50	1,48	dB
	Q [m ³ /h]	8.270,00	8.710,00	9.150,00	9.590,00	10.030,00	10.470,00	10.910,00	11.350,00	11.790,00	12.230,00	12.680,00	13.120,00	13.560,00	40
	Δp [Pa]	1,30	1,26	1,22	1,19	1,17	1,14	1,12	1,10	1,08	1,06	1,05	1,04	1,02	dB
	Q [m ³ /h]	6.880,00	7.240,00	7.610,00	7.980,00	8.350,00	8.710,00	9.080,00	9.450,00	9.810,00	10.180,00	10.550,00	10.910,00	11.280,00	35
	Δp [Pa]	0,90	0,87	0,85	0,83	0,81	0,79	0,77	0,76	0,75	0,74	0,73	0,72	0,71	dB
	Q [m ³ /h]	5.720,00	6.030,00	6.330,00	6.640,00	6.940,00	7.250,00	7.550,00	7.860,00	8.160,00	8.470,00	8.770,00	9.080,00	9.380,00	30
	Δp [Pa]	0,62	0,60	0,59	0,57	0,56	0,55	0,54	0,53	0,52	0,51	0,50	0,50	0,49	dB
	Q [m ³ /h]	4.760,00	5.010,00	5.270,00	5.520,00	5.780,00	6.030,00	6.280,00	6.540,00	6.790,00	7.050,00	7.300,00	7.550,00	7.810,00	25
	Δp [Pa]	0,43	0,42	0,41	0,40	0,39	0,38	0,37	0,36	0,36	0,35	0,35	0,34	0,34	dB
650	Sn [m ²]	0,4916	0,5201	0,5485	0,5770	0,6054	0,6339	0,6623	0,6908	0,7192	0,7477	0,7761	0,8046	0,8330	
	Sn [%]	85,39	85,55	85,69	85,82	85,93	86,04	86,13	86,22	86,31	86,38	86,45	86,52	86,58	
	Q [m ³ /h]	10.640,00	11.210,00	11.780,00	12.340,00	12.910,00	13.480,00	14.040,00	14.610,00	15.170,00	15.740,00	16.300,00	16.870,00	17.440,00	45
	Δp [Pa]	1,58	1,53	1,49	1,45	1,41	1,38	1,35	1,33	1,30	1,28	1,26	1,24	1,23	dB
	Q [m ³ /h]	8.860,00	9.330,00	9.800,00	10.270,00	10.740,00	11.210,00	11.680,00	12.150,00	12.620,00	13.090,00	13.560,00	14.030,00	14.510,00	40
	Δp [Pa]	1,10	1,06	1,03	1,00	0,98	0,96	0,94	0,92	0,90	0,89	0,87	0,86	0,85	dB
	Q [m ³ /h]	7.370,00	7.760,00	8.150,00	8.540,00	8.940,00	9.330,00	9.720,00	10.110,00	10.500,00	10.890,00	11.280,00	11.680,00	12.070,00	35
	Δp [Pa]	0,76	0,73	0,71	0,69	0,68	0,66	0,65	0,64	0,62	0,61	0,60	0,60	0,59	dB
	Q [m ³ /h]	6.130,00	6.460,00	6.780,00	7.110,00	7.430,00	7.760,00	8.090,00	8.410,00	8.740,00	9.060,00	9.390,00	9.710,00	10.040,00	30
	Δp [Pa]	0,53	0,51	0,49	0,48	0,47	0,46	0,45	0,44	0,43	0,42	0,42	0,41	0,41	dB
	Q [m ³ /h]	5.100,00	5.370,00	5.640,00	5.910,00	6.180,00	6.460,00	6.730,00	7.000,00	7.270,00	7.540,00	7.810,00	8.080,00	8.350,00	25
	Δp [Pa]	0,36	0,35	0,34	0,33	0,32	0,32	0,31	0,30	0,30	0,29	0,29	0,29	0,28	dB
700	Sn [m ²]	0,5348	0,5658	0,5967	0,6277	0,6586	0,6896	0,7205	0,7515	0,7824	0,8134	0,8443	0,8753	0,9062	
	Sn [%]	86,20	86,36	86,50	86,63	86,75	86,85	86,95	87,04	87,13	87,20	87,27	87,34	87,40	
	Q [m ³ /h]	11.350,00	11.950,00	12.550,00	13.150,00	13.760,00	14.360,00	14.960,00	15.560,00	16.160,00	16.760,00	17.370,00	17.970,00	18.570,00	45
	Δp [Pa]	1,36	1,32	1,28	1,24	1,21	1,18	1,15	1,13	1,11	1,09	1,07	1,05	1,04	dB
	Q [m ³ /h]	9.440,00	9.940,00	10.440,00	10.940,00	11.440,00	11.950,00	12.450,00	12.950,00	13.450,00	13.950,00	14.450,00	14.950,00	15.450,00	40
	Δp [Pa]	0,94	0,91	0,88	0,86	0,84	0,82	0,80	0,78	0,77	0,75	0,74	0,73	0,72	dB
	Q [m ³ /h]	7.850,00	8.270,00	8.690,00	9.100,00	9.520,00	9.940,00	10.350,00	10.770,00	11.190,00	11.600,00	12.020,00	12.430,00	12.850,00	35
	Δp [Pa]	0,65	0,63	0,61	0,59	0,58	0,56	0,55	0,54	0,53	0,52	0,51	0,50	0,50	dB
	Q [m ³ /h]	6.530,00	6.880,00	7.230,00	7.570,00	7.920,00	8.270,00	8.610,00	8.960,00	9.310,00	9.650,00	10.000,00	10.340,00	10.690,00	30
	Δp [Pa]	0,45	0,44	0,42	0,41	0,40	0,39	0,38	0,37	0,37	0,36	0,35	0,35	0,34	dB
	Q [m ³ /h]	5.440,00	5.730,00	6.010,00	6.300,00	6.590,00	6.880,00	7.170,00	7.450,00	7.740,00	8.030,00	8.320,00	8.610,00	8.890,00	25
	Δp [Pa]	0,31	0,30	0,29	0,28	0,28	0,27	0,26	0,26	0,25	0,25	0,25	0,24	0,24	dB

Hn\Wn [mm]	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500		
750	Sn [m ²]	0,5780	0,6115	0,6449	0,6784	0,7118	0,7453	0,7787	0,8122	0,8456	0,8791	0,9125	0,9460	0,9794	
	Sn [%]	86,90	87,06	87,21	87,34	87,45	87,56	87,66	87,75	87,83	87,91	87,98	88,05	88,11	
	Q [m ³ /h]	12.050,00	12.690,00	13.320,00	13.960,00	14.600,00	15.240,00	15.870,00	16.510,00	17.150,00	17.780,00	18.420,00	19.060,00	19.690,00	45
	Δp [Pa]	1,19	1,15	1,11	1,08	1,05	1,02	1,00	0,98	0,96	0,94	0,92	0,91	0,89	dB
	Q [m ³ /h]	10.020,00	10.550,00	11.090,00	11.620,00	12.150,00	12.680,00	13.210,00	13.730,00	14.260,00	14.790,00	15.320,00	15.850,00	16.380,00	40
	Δp [Pa]	0,82	0,79	0,77	0,75	0,73	0,71	0,69	0,67	0,66	0,65	0,64	0,63	0,62	dB
	Q [m ³ /h]	8.340,00	8.780,00	9.220,00	9.660,00	10.100,00	10.550,00	10.990,00	11.430,00	11.870,00	12.310,00	12.750,00	13.190,00	13.630,00	35
	Δp [Pa]	0,57	0,55	0,53	0,52	0,50	0,49	0,48	0,47	0,46	0,45	0,44	0,43	0,43	dB
	Q [m ³ /h]	6.940,00	7.310,00	7.670,00	8.040,00	8.410,00	8.770,00	9.140,00	9.510,00	9.870,00	10.240,00	10.610,00	10.970,00	11.340,00	30
	Δp [Pa]	0,40	0,38	0,37	0,36	0,35	0,34	0,33	0,32	0,32	0,31	0,31	0,30	0,30	dB
	Q [m ³ /h]	5.770,00	6.080,00	6.380,00	6.690,00	6.990,00	7.300,00	7.600,00	7.910,00	8.210,00	8.520,00	8.820,00	9.130,00	9.430,00	25
	Δp [Pa]	0,27	0,26	0,25	0,25	0,24	0,23	0,23	0,22	0,22	0,22	0,21	0,21	0,20	dB
800	Sn [m ²]	0,6212	0,6572	0,6931	0,7291	0,7650	0,8010	0,8369	0,8729	0,9088	0,9448	0,9807	1,0167	1,0526	
	Sn [%]	87,52	87,68	87,82	87,95	88,07	88,18	88,28	88,37	88,45	88,53	88,61	88,67	88,74	
	Q [m ³ /h]	12.750,00	13.420,00	14.090,00	14.760,00	15.440,00	16.110,00	16.780,00	17.450,00	18.120,00	18.800,00	19.470,00	20.140,00	20.810,00	45
	Δp [Pa]	1,05	1,01	0,98	0,95	0,92	0,90	0,87	0,85	0,83	0,82	0,80	0,79	0,78	dB
	Q [m ³ /h]	10.600,00	11.160,00	11.720,00	12.280,00	12.840,00	13.400,00	13.960,00	14.520,00	15.080,00	15.640,00	16.200,00	16.750,00	17.310,00	40
	Δp [Pa]	0,73	0,70	0,68	0,66	0,64	0,62	0,60	0,59	0,58	0,57	0,56	0,55	0,54	dB
	Q [m ³ /h]	8.820,00	9.290,00	9.750,00	10.220,00	10.680,00	11.150,00	11.610,00	12.080,00	12.540,00	13.010,00	13.470,00	13.940,00	14.400,00	35
	Δp [Pa]	0,50	0,49	0,47	0,45	0,44	0,43	0,42	0,41	0,40	0,39	0,38	0,38	0,37	dB
	Q [m ³ /h]	7.340,00	7.730,00	8.110,00	8.500,00	8.890,00	9.280,00	9.660,00	10.050,00	10.440,00	10.820,00	11.210,00	11.600,00	11.980,00	30
	Δp [Pa]	0,35	0,34	0,32	0,31	0,31	0,30	0,29	0,28	0,28	0,27	0,27	0,26	0,26	dB
	Q [m ³ /h]	6.110,00	6.430,00	6.750,00	7.070,00	7.400,00	7.720,00	8.040,00	8.360,00	8.680,00	9.000,00	9.330,00	9.650,00	9.970,00	25
	Δp [Pa]	0,24	0,23	0,22	0,22	0,21	0,21	0,20	0,20	0,19	0,19	0,18	0,18	0,18	dB
850	Sn [m ²]	0,6644	0,7029	0,7413	0,7798	0,8182	0,8567	0,8951	0,9336	0,9720	1,0105	1,0489	1,0874	1,1258	
	Sn [%]	88,06	88,22	88,36	88,50	88,62	88,72	88,82	88,92	89,00	89,08	89,15	89,22	89,28	
	Q [m ³ /h]	13.440,00	14.150,00	14.860,00	15.560,00	16.270,00	16.980,00	17.690,00	18.390,00	19.100,00	19.800,00	20.510,00	21.220,00	21.920,00	45
	Δp [Pa]	0,94	0,90	0,87	0,84	0,82	0,79	0,77	0,75	0,74	0,72	0,71	0,70	0,68	dB
	Q [m ³ /h]	11.180,00	11.770,00	12.360,00	12.950,00	13.540,00	14.120,00	14.710,00	15.300,00	15.890,00	16.480,00	17.060,00	17.650,00	18.240,00	40
	Δp [Pa]	0,65	0,63	0,60	0,58	0,57	0,55	0,54	0,52	0,51	0,50	0,49	0,48	0,47	dB
	Q [m ³ /h]	9.300,00	9.790,00	10.280,00	10.770,00	11.260,00	11.750,00	12.240,00	12.730,00	13.220,00	13.710,00	14.190,00	14.680,00	15.170,00	35
	Δp [Pa]	0,45	0,43	0,42	0,40	0,39	0,38	0,37	0,36	0,35	0,35	0,34	0,33	0,33	dB
	Q [m ³ /h]	7.740,00	8.150,00	8.550,00	8.960,00	9.370,00	9.780,00	10.180,00	10.590,00	11.000,00	11.400,00	11.810,00	12.220,00	12.620,00	30
	Δp [Pa]	0,31	0,30	0,29	0,28	0,27	0,26	0,26	0,25	0,24	0,24	0,23	0,23	0,23	dB
	Q [m ³ /h]	6.440,00	6.780,00	7.120,00	7.460,00	7.790,00	8.130,00	8.470,00	8.810,00	9.150,00	9.490,00	9.820,00	10.160,00	10.500,00	25
	Δp [Pa]	0,22	0,21	0,20	0,19	0,19	0,18	0,18	0,17	0,17	0,17	0,16	0,16	0,16	dB
900	Sn [m ²]	0,7076	0,7486	0,7895	0,8305	0,8714	0,9124	0,9533	0,9943	1,0352	1,0762	1,1171	1,1581	1,1990	
	Sn [%]	88,54	88,70	88,85	88,98	89,10	89,21	89,31	89,40	89,49	89,57	89,64	89,71	89,77	
	Q [m ³ /h]	14.130,00	14.880,00	15.620,00	16.360,00	17.100,00	17.840,00	18.590,00	19.330,00	20.070,00	20.810,00	21.550,00	22.290,00	23.030,00	45
	Δp [Pa]	0,85	0,82	0,78	0,76	0,73	0,71	0,69	0,67	0,66	0,64	0,63	0,62	0,61	dB
	Q [m ³ /h]	11.760,00	12.380,00	12.990,00	13.610,00	14.230,00	14.840,00	15.460,00	16.080,00	16.690,00	17.310,00	17.930,00	18.540,00	19.160,00	40
	Δp [Pa]	0,59	0,56	0,54	0,52	0,51	0,49	0,48	0,47	0,46	0,45	0,44	0,43	0,42	dB
	Q [m ³ /h]	9.780,00	10.300,00	10.810,00	11.320,00	11.840,00	12.350,00	12.860,00	13.380,00	13.890,00	14.400,00	14.910,00	15.420,00	15.940,00	35
	Δp [Pa]	0,41	0,39	0,38	0,36	0,35	0,34	0,33	0,32	0,32	0,31	0,30	0,30	0,29	dB
	Q [m ³ /h]	8.140,00	8.570,00	8.990,00	9.420,00	9.850,00	10.270,00	10.700,00	11.130,00	11.550,00	11.980,00	12.410,00	12.830,00	13.260,00	30
	Δp [Pa]	0,28	0,27	0,26	0,25	0,24	0,24	0,23	0,22	0,22	0,21	0,21	0,21	0,20	dB
	Q [m ³ /h]	6.770,00	7.130,00	7.480,00	7.840,00	8.190,00	8.550,00	8.900,00	9.260,00	9.610,00	9.970,00	10.320,00	10.680,00	11.030,00	25
	Δp [Pa]	0,20	0,19	0,18	0,17	0,17	0,16	0,16	0,15	0,15	0,15	0,14	0,14	0,14	dB

$H_n \setminus W_n$ [mm]	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500			
950	S_n [m ²]	0,7508	0,7943	0,8377	0,8812	0,9246	0,9681	1,0115	1,0550	1,0984	1,1419	1,1853	1,2288	1,2722		
	S_n [%]	88,97	89,13	89,28	89,41	89,53	89,64	89,74	89,84	89,92	90,00	90,07	90,14	90,21		
	Q [m ³ /h]	14.820,00	15.600,00	16.380,00	17.150,00	17.930,00	18.710,00	19.480,00	20.260,00	21.030,00	21.810,00	22.580,00	23.350,00	24.130,00	45	
	Δp [Pa]	0,77	0,74	0,71	0,69	0,66	0,64	0,62	0,61	0,59	0,58	0,57	0,56	0,54	dB	
	Q [m ³ /h]	12.330,00	12.980,00	13.630,00	14.270,00	14.920,00	15.560,00	16.210,00	16.850,00	17.500,00	18.140,00	18.780,00	19.430,00	20.070,00	40	
	Δp [Pa]	0,53	0,51	0,49	0,47	0,46	0,44	0,43	0,42	0,41	0,40	0,39	0,38	0,38	dB	
	Q [m ³ /h]	10.260,00	10.800,00	11.340,00	11.870,00	12.410,00	12.950,00	13.480,00	14.020,00	14.560,00	15.090,00	15.630,00	16.160,00	16.700,00	35	
	Δp [Pa]	0,37	0,35	0,34	0,33	0,32	0,31	0,30	0,29	0,28	0,28	0,27	0,27	0,26	dB	
	Q [m ³ /h]	8.540,00	8.980,00	9.430,00	9.880,00	10.320,00	10.770,00	11.220,00	11.660,00	12.110,00	12.560,00	13.000,00	13.450,00	13.890,00	30	
	Δp [Pa]	0,26	0,25	0,24	0,23	0,22	0,21	0,21	0,20	0,20	0,19	0,19	0,18	0,18	dB	
	Q [m ³ /h]	7.100,00	7.470,00	7.850,00	8.220,00	8.590,00	8.960,00	9.330,00	9.700,00	10.070,00	10.450,00	10.820,00	11.190,00	11.560,00	25	
	Δp [Pa]	0,18	0,17	0,16	0,16	0,15	0,15	0,14	0,14	0,14	0,13	0,13	0,13	0,13	dB	
	1000	S_n [m ²]	0,7940	0,8400	0,8859	0,9319	0,9778	1,0238	1,0697	1,1157	1,1616	1,2076	1,2535	1,2995	1,3454	
		S_n [%]	89,35	89,52	89,66	89,80	89,92	90,03	90,13	90,23	90,31	90,39	90,47	90,53	90,60	
Q [m ³ /h]		15.510,00	16.320,00	17.140,00	17.950,00	18.760,00	19.570,00	20.370,00	21.180,00	21.990,00	22.800,00	23.610,00	24.420,00	25.220,00	45	
Δp [Pa]		0,71	0,68	0,65	0,63	0,60	0,58	0,57	0,55	0,54	0,52	0,51	0,50	0,49	dB	
Q [m ³ /h]		12.910,00	13.580,00	14.260,00	14.930,00	15.600,00	16.280,00	16.950,00	17.620,00	18.300,00	18.970,00	19.640,00	20.310,00	20.980,00	40	
Δp [Pa]		0,49	0,47	0,45	0,43	0,42	0,40	0,39	0,38	0,37	0,36	0,36	0,35	0,34	dB	
Q [m ³ /h]		10.740,00	11.300,00	11.860,00	12.420,00	12.980,00	13.540,00	14.100,00	14.660,00	15.220,00	15.780,00	16.340,00	16.900,00	17.460,00	35	
Δp [Pa]		0,34	0,32	0,31	0,30	0,29	0,28	0,27	0,26	0,26	0,25	0,25	0,24	0,24	dB	
Q [m ³ /h]		8.930,00	9.400,00	9.870,00	10.330,00	10.800,00	11.270,00	11.730,00	12.200,00	12.660,00	13.130,00	13.590,00	14.060,00	14.520,00	30	
Δp [Pa]		0,23	0,22	0,22	0,21	0,20	0,19	0,19	0,18	0,18	0,17	0,17	0,17	0,16	dB	
Q [m ³ /h]		7.430,00	7.820,00	8.210,00	8.600,00	8.980,00	9.370,00	9.760,00	10.150,00	10.530,00	10.920,00	11.310,00	11.700,00	12.080,00	25	
Δp [Pa]		0,16	0,16	0,15	0,14	0,14	0,13	0,13	0,13	0,12	0,12	0,12	0,12	0,11	dB	

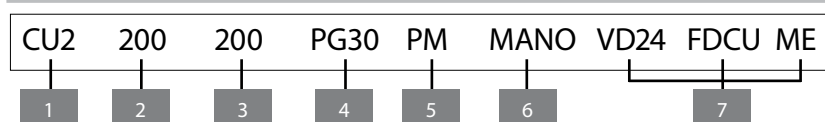
Every air flow lower than the above mentioned maximum value, will meet the listed A-weighted sound power level for the respective dimension.

Correction factor ΔL

To obtain the sound power level for the octave midband: $LW_{oct} = \Delta L + L_{wa}$

[Hz]	63	125	250	500	1000	2000	4000	8000
3,8 m/s	17	7	2	-2	-8	-13	-17	-18
4,5 m/s	15	6	1	-2	-7	-11	-15	-19
5,3 m/s	14	6	1	-3	-7	-10	-14	-19
6,4 m/s	14	7	0	-3	-7	-9	-12	-18
7,6 m/s	14	6	0	-4	-7	-9	-11	-16

Sample order



1. product
2. width
3. height
4. frame on the side of the mechanism
5. frame on the side of the wall
6. mechanism type
7. option: type magnet and voltage
8. option: unipolar end of range switch
9. option: resetting motor

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.



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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