

SC+

Brandwerende ronde vlinderklep.



CE
0749



Behoort bij besluit van
Gemeente Barneveld



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Verklaring van de afkortingen en iconen

Dn = nominale diameter	o -> i = vervult de criteria van buiten (o) naar binnen (i)	OP = optie (met het product geleverd)
E = vlamdichtheid	GKB (type A) / GKF (type F): "GKB" wijst op standaard gipskartonplaten (type A volgens EN 520); "GKF" platen bieden een hogere brandweerstand voor gelijke plaatdikten (type F volgens EN 520)	KIT = kit (los geleverd voor herstelling of upgrade)
I = thermische isolatie	Sn = netto doorlaat	DAS MOD = modulair product
S = rookdichtheid	ζ [-] = drukverliescoëfficiënt	dB(A) = A-gewogen decibelwaarde
Pa = pascal	Q = luchtdebiet	Lw oct = geluidsvermogen per octaafblad
ve = doorvoering in verticale wand	ΔP = statisch drukverlies	ΔL = correctiefactor
ho = doorvoering in horizontale vloerplaat	v = aanstroomsnelheid in kanaal	
i <-> o = willekeurige vuurzijde	Lwa = A-gewogen geluidsvermogen niveau	



snelle montage

Productvoorstelling SC+

Brandwerende ronde vlinderklep met een brandweerstand tot 120 minuten. Standaard zijn de vlinderkleppen uitgerust met een eenvoudig smeltlood dat de twee halve klepbladen openhoudt. Indien de temperatuur in het kanaal 72°C overschrijdt, springt het smeltlood waardoor de twee halfronde klepbladen loslaten en sluiten. Twee veren blokkeren het klepblad waardoor een perfecte dichtheid tegen vlammen en rook gewaarborgd is. De vlinderklep wordt in een metalen ventilatiekanaal met dezelfde diameter geplaatst en op zijn plaats gehouden door een rubberen dichtingsring.

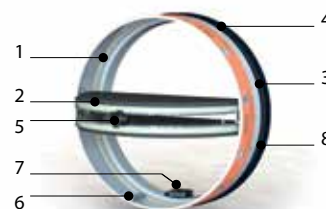
Voor luchtkanalen met een kleine diameter zijn de ronde vlinderkleppen een compacte brandwerende oplossing. Ze worden in het kanaal ter hoogte van de wand geplaatst om te beletten dat het vuur zich voortplant. Vlinderkleppen zijn heel makkelijk te installeren. Er zijn twee versies verkrijgbaar: de gewone ronde vlinderklep (technische fiche S2/S3) en de vlinderklep met afwerkingsventiel 'V' (technische fiche S4/S5) voor installatie aan het uiteinde van een luchtkanaal.

- ✓ montagevriendelijk
- ✓ geen plaatsverlies t.h.v. de doorvoering
- ✓ minimale afstand toegelaten



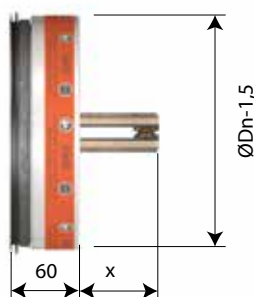
- lichtgewicht
- getest volgens EN 1366-2 tot 300 Pa
- geschikt voor plaatsing in massieve wand, massieve vloer en flexibele wand (metal stud gipskarton wand)
- onderhoudsvrij
- voor binnentoepassingen
- omgevingstemperatuur van max 50°C

1. tunnel uit staal
2. twee halve ronde klepbladen
3. opzwellende voeg
4. rubberen dichtingsring
5. smeltlood 72°C
6. 2 blokkeerveren
7. eindeloopschakelaar (optie)
8. productidentificatie



Gamma en afmetingen SC+60

Brandwerende ronde vlinderklep met een brandweerstand van 60 minuten.
Uitsteken klepblad: X

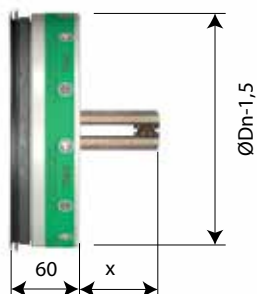


ØDn (mm)	100	125	150	160	200
ØDn (mm)	100	125	150	160	200
x	18	31	40	49	69
y	-	-	-	-	-

Gamma en afmetingen SC+90

Brandwerende ronde vlinderklep met een brandweerstand van 90 minuten.

Uitsteken klepblad: X

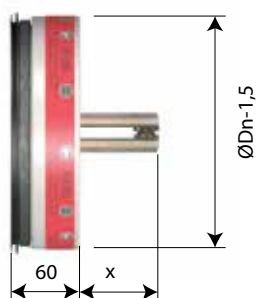


ØDn (mm)	100	125	150	160	200
ØDn (mm)	100	125	150	160	200
x	20	33	42	51	71
y	-	-	-	-	-

Gamma en afmetingen SC+120

Brandwerende ronde vlinderklep met een brandweerstand van 120 minuten.

Uitsteken klepblad: X



ØDn (mm)	100	125	160	200
ØDn (mm)	100	125	160	200
x	20	33	51	71
y	-	-	-	-

Evolutie - kits



KITS FCU SC

Unipolaire eindeloopschakelaar



KITS FT SC

Smeltlood 72°C (per set van 5)

Opties - bij bestelling



FCU SC

Unipolaire eindeloopschakelaar (voorgemonteerd)

Opslag en behandeling

Aangezien het product een veiligheidselement is, is een bijzondere zorg inzake opslag en behandeling noodzakelijk.

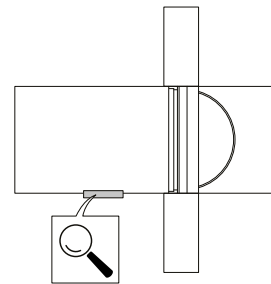
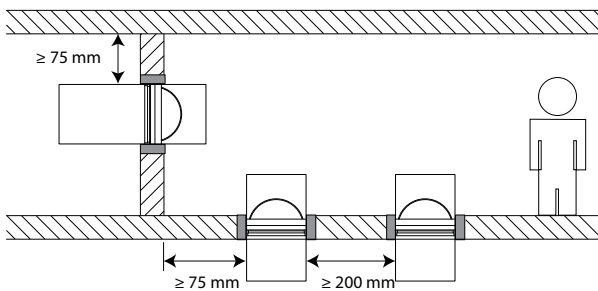
Vermijd:

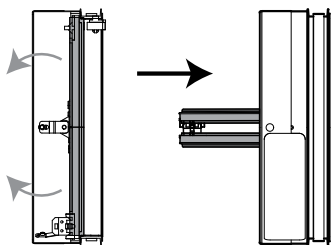
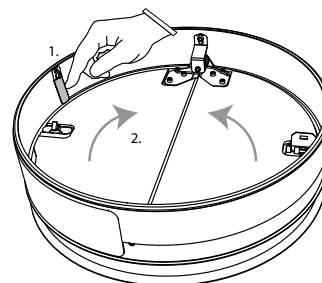
- schokken en beschadigingen
- contact met water
- vervorming van het product

Plaatsing

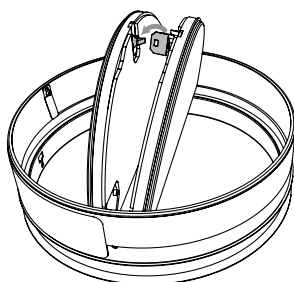
Algemeen

- De plaatsing dient steeds te gebeuren conform het installatievoorschrift en het classificatierapport.
- Kijk na of het klepblad vrij kan bewegen.
- Montagezin: de montage kan met de klepas in elke stand (0-360°)
- Richting van de luchtstroom: willekeurig
- Rf-t vlinderkleppen worden steeds getest in gestandaardiseerde draagconstructies volgens EN 1366-2. De behaalde resultaten gelden voor gelijksoortige draagconstructies met een brandweerstand, dikte en dichtheid gelijk aan of groter dan de draagconstructie van de test.
- De vlinderklep moet bereikbaar zijn voor inspectie en onderhoud.
- Bij montage dienen de veiligheidsafstanden t.o.v. andere constructie-elementen gerespecteerd te worden. Tenzij anders vermeld.



Bediening: manuele opening**1****2**

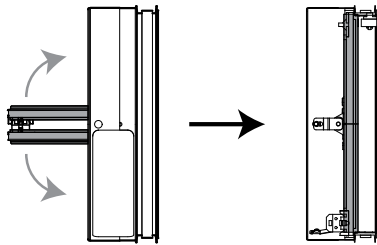
2. Ontgrendelen van de klepbladen door de twee blokkeerveren licht in te drukken.

3

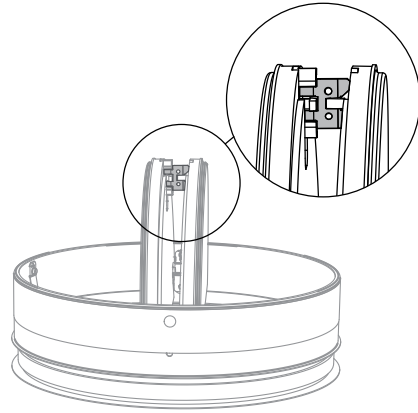
3. Klepbladen vergrendelen door het smeltlood in de houder te klikken.

Bediening: manuele sluiting

1

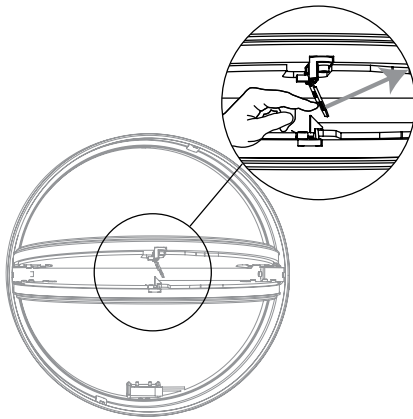


2



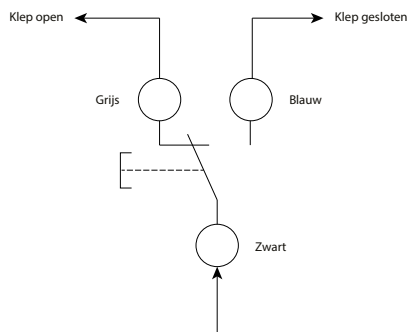
2. Ontgrendel (sluit) de klepbladen door ze naar elkaar toe te duwen en het smeltlood zacht zijdelings te ontgrendelen.

3



Elektrische aansluiting

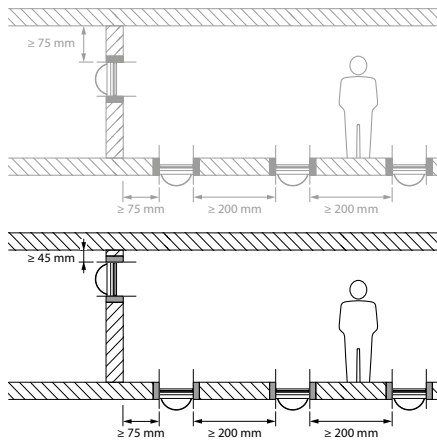
1



1. Een elektrisch eindeloopcontact (FCU) kan op het metalen lichaam worden geïnstalleerd om van op afstand de positie van het klepblad te signaleren. 1mA...6A DC 5V....AC250V.
COM: zwart; NF: grijs; NO: blauw.
Gebruiksspanning: Max 250V; Gebruiksstroom Max 6A;
Beschermingsgraad: IP65; Lengte kabel: 500 mm.

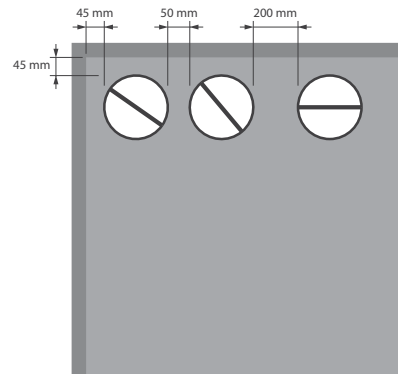
Plaatsing op minimale afstanden van een andere brandklep of van een aanpalende wand/vloer

1



1. Volgens de Europese testnorm EN 1366-2 bedraagt de minimaal vereiste afstand tussen 2 brandkleppen 200 mm en tussen een brandklep en een andere (draag)constructie 75 mm. Enkel als de klep op een kortere afstand van andere elementen werd getest, dan mag ze ook zo geplaatst worden. Deze brandklep van Rf-Technologies werd met succes getest en mag geïnstalleerd worden op een kortere afstand dan het door de norm vastgelegde minimum in verticale wand. Voor de SC+60 en SC+90 brandkleppen in ronde ventilatiekanalen bedraagt de minimale afstand 50 mm tussen twee brandkleppen en 45 mm tot wand/plafond.

2



2. Beperkingen

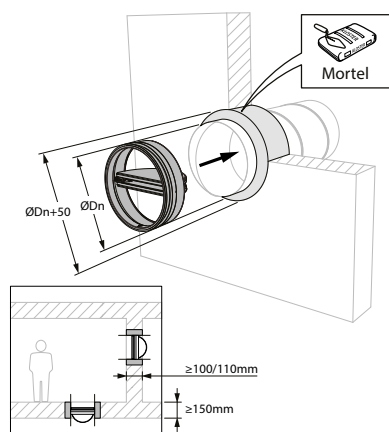
Er mogen maximaal 2 ronde kleppen horizontaal naast elkaar op een minimale afstand geïnstalleerd worden.

Plaatsing in massieve wand en vloer met mortel afdichting voor SC+60, SC+90 en SC+120

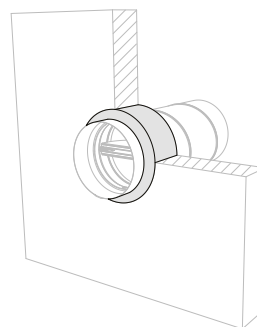
Het product werd getest en goedgekeurd in:

Gamma	Wandtype		Afdichting	Classificatie
SC+60 Ø 100-200 mm	Massieve vloer	Cellenbeton ≥ 150 mm	Mortel	El 60 (h_o i \leftrightarrow o) S - (300Pa)
SC+90 Ø 100-200 mm	Massieve vloer	Cellenbeton ≥ 150 mm	Mortel	El 90 (h_o i \leftrightarrow o) S - (300Pa)
SC+60 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	Mortel	El 60 (v_e i \leftrightarrow o) S - (300Pa)
SC+90 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	Mortel	El 90 (v_e i \leftrightarrow o) S - (300Pa)
SC+120 Ø 100-200 mm	Massieve wand	Gewapend beton ≥ 110 mm	Mortel	El 120 (v_e i \leftrightarrow o) S - (300Pa)

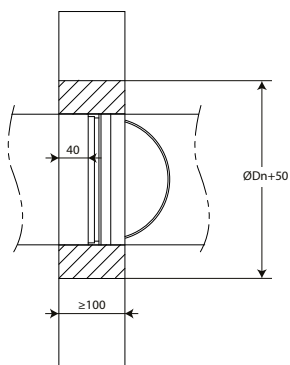
1



2



3

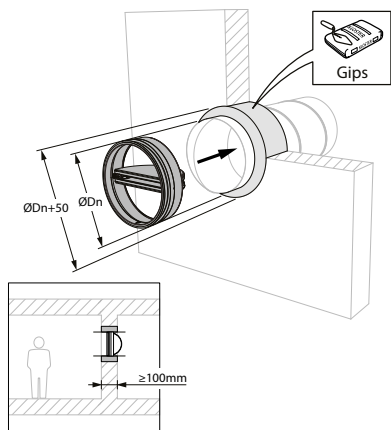


Plaatsing in massieve wand met gips afdichting van toepassing voor SC+60

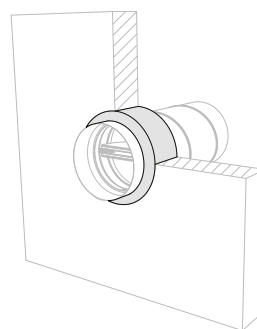
Het product werd getest en goedgekeurd in:

Gamma	Wandtype		Afdichting	Classificatie
SC+60 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	Gips	El 60 ($v_e i \leftrightarrow o$) S - (300Pa)

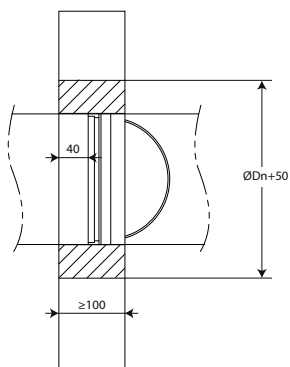
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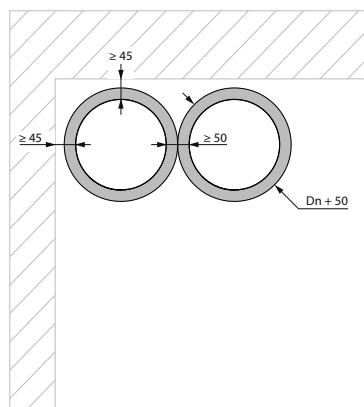
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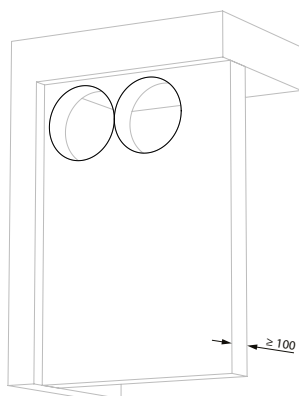
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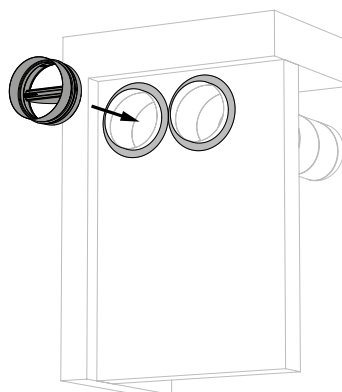
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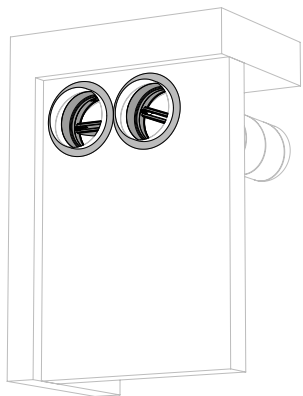
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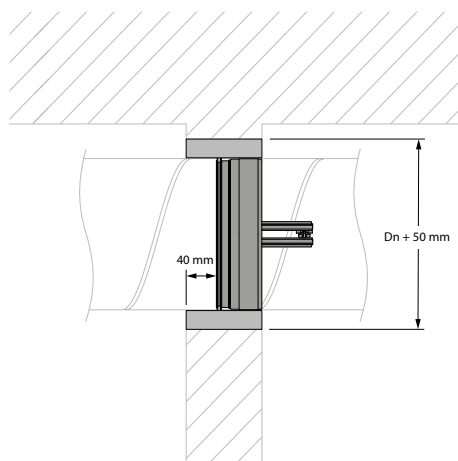
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7



8

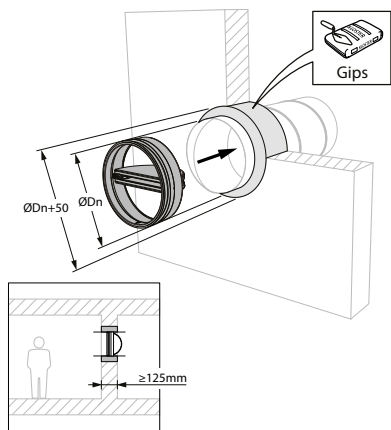


Plaatsing in massieve wand met gips afdichting van toepassing voor SC+90

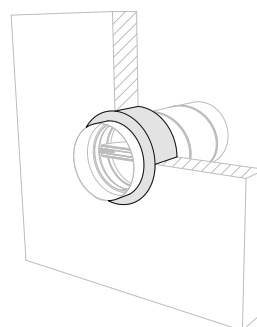
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+90 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 125 mm	El 90 (v_e i ↔ o) S - (300Pa)

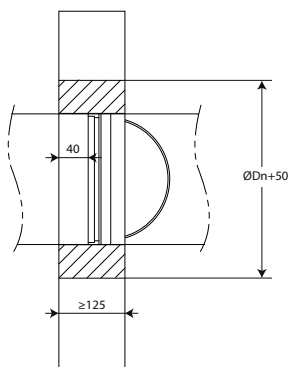
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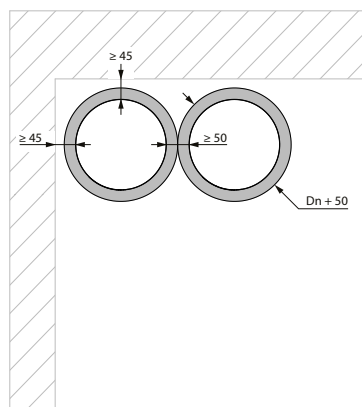
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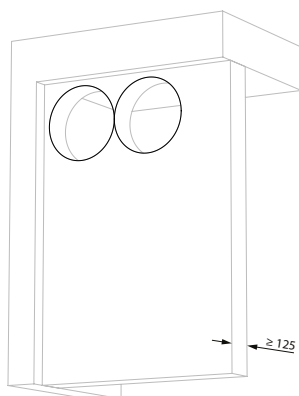
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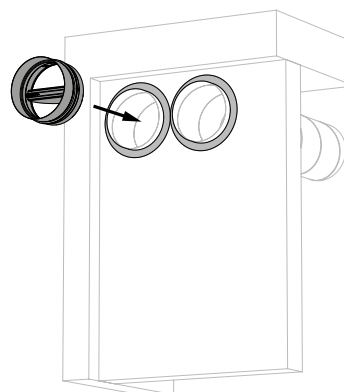
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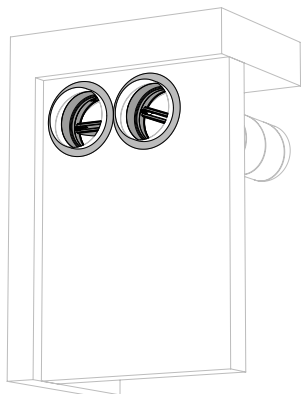
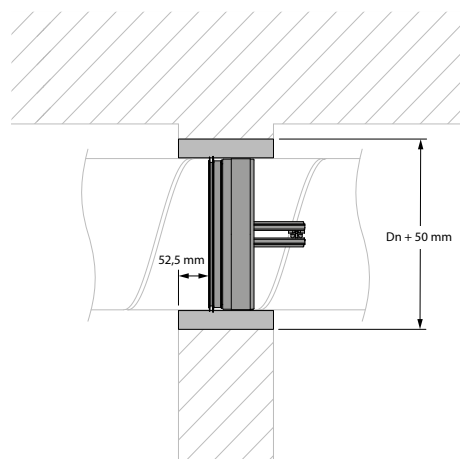


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6



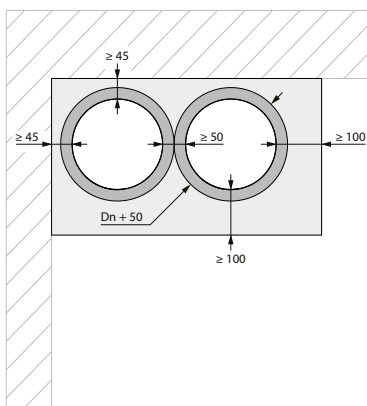
7**8**

Plaatsing in massieve wand met gips afdichting + 2 x 12.5 mm gipsplaten type F van toepassing voor SC+90

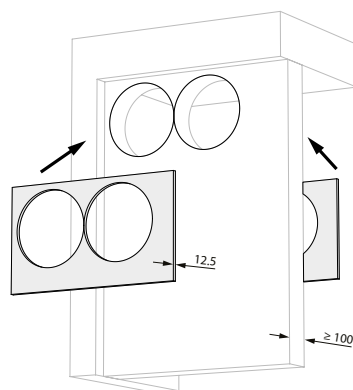
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+90 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	El 90 ($v_e i \leftrightarrow o$) S - (300Pa)

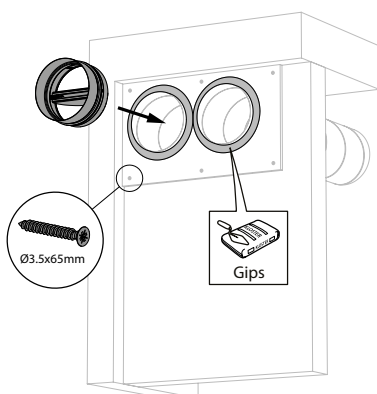
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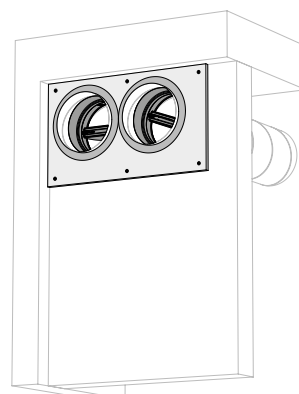
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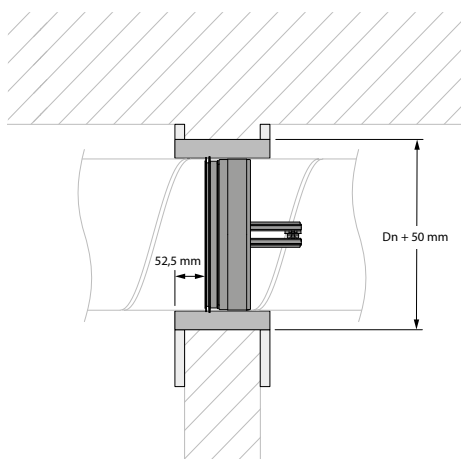
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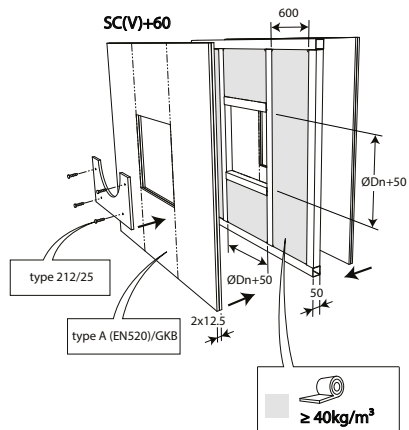


Plaatsing in flexibele wand met afdichting steenwol en afdekplaten van toepassing voor SC+60

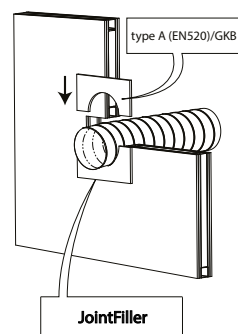
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+60 Ø 100-200 mm	Flexibele wand	Metal stud gipsplatenwand Type A (EN 520) ≥ 100 mm	El 60 (v_e i \leftrightarrow o) S - (300Pa)

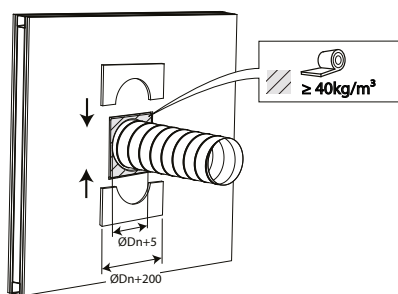
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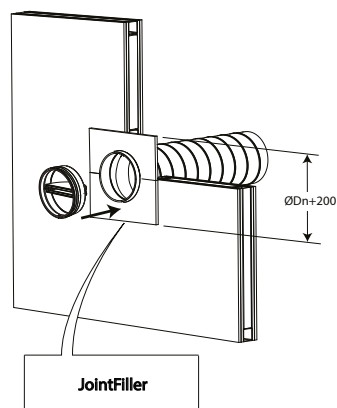
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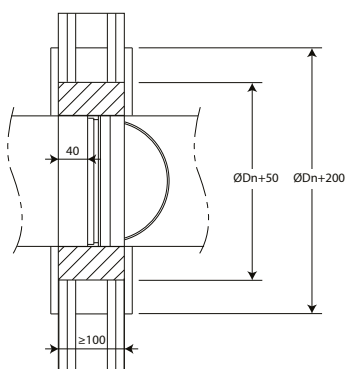
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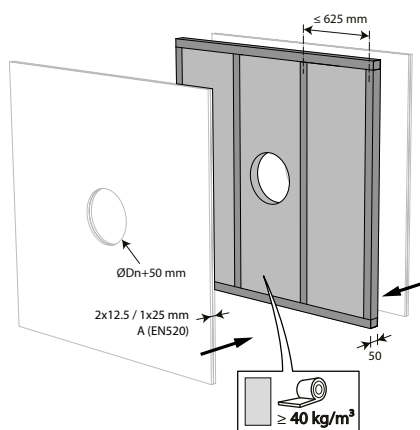


Plaatsing in flexibele wand met gips afdichting van toepassing voor SC+60

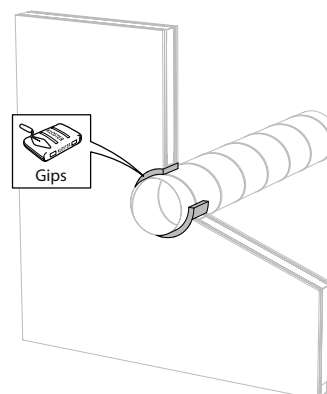
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+60 Ø 100-200 mm	Flexibele wand	Metal stud gipsplatenwand Type A (EN 520) ≥ 100 mm	El 60 (v_e i \leftrightarrow o) S - (300Pa)

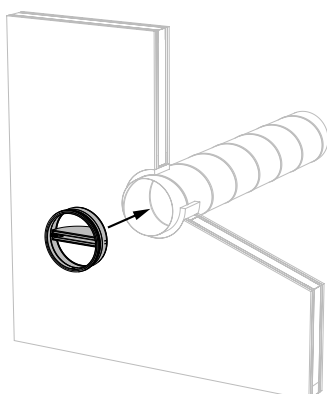
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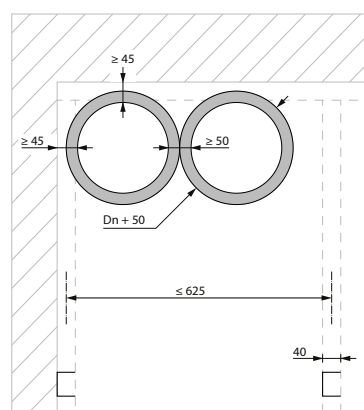
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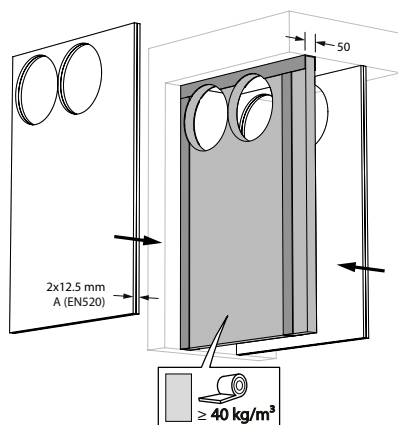
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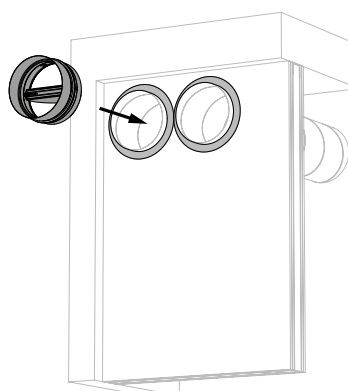
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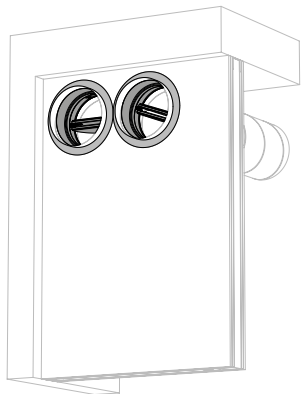
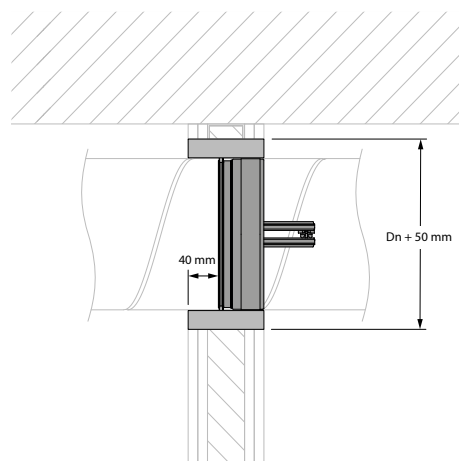


5



6



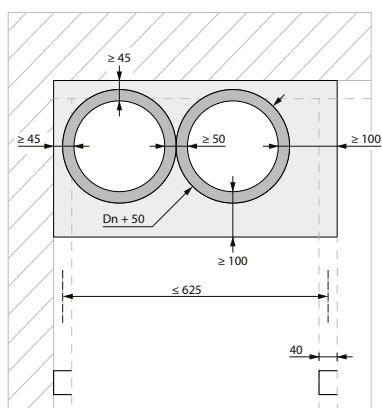
7**8**

Plaatsing in flexibele wand met gips afdichting en 2 x 12.5 mm gipsplaten type F van toepassing voor SC+90

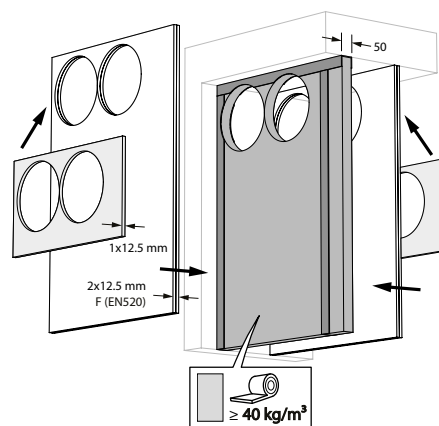
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+90 Ø 100-200 mm	Flexibele wand	Metal stud gipsplatenwand Type F (EN 520) ≥ 100 mm	El 90 ($v_e i \leftrightarrow o$) S - (300Pa)

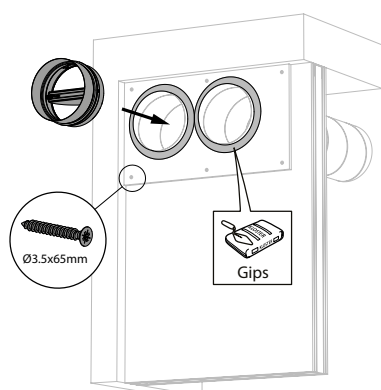
1



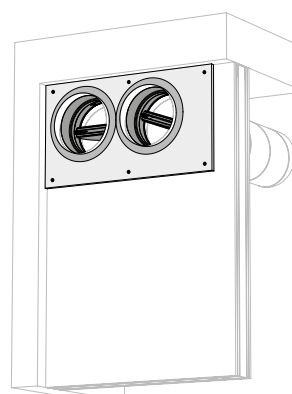
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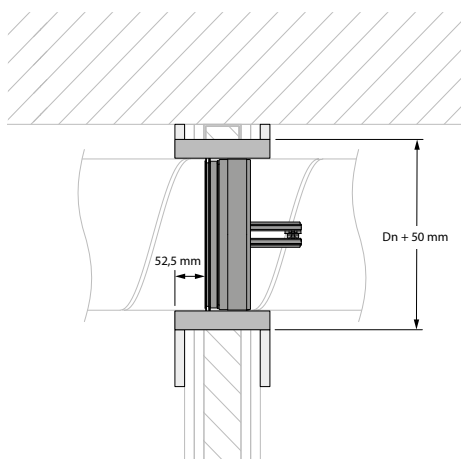
3



4



5

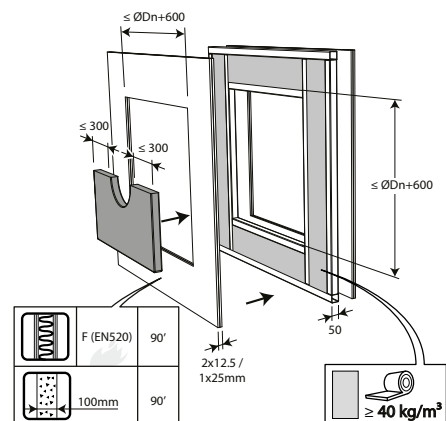


Plaatsing in flexibele en massieve wand + BASTA - SC+90

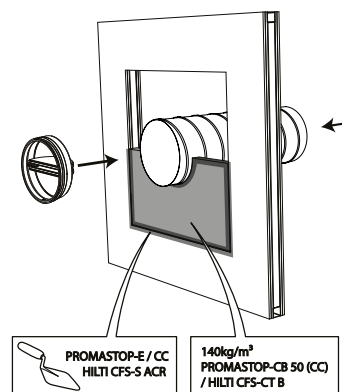
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+90 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	El 90 ($v_e i \leftrightarrow o$) S - (300Pa)
SC+90 Ø 100-200 mm	Flexibele wand	Metal stud gipsplatenwand Type F (EN 520) ≥ 100 mm	El 90 ($v_e i \leftrightarrow o$) S - (300Pa)

1

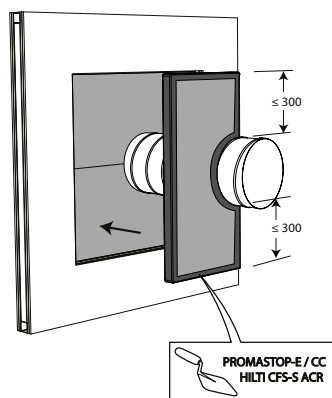


2



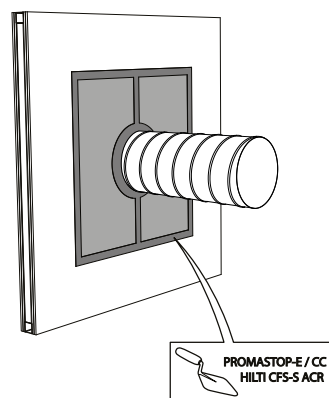
2. De opening in de wand rond het kanaal waarin de vlinderklep zit, wordt afgedicht met 2 harde steenwolplaten van 50mm die eenzijdig voorzien zijn van 1mm brandwerende coating (type PROMASTOP-CB 50 / PROMASTOP-CB/CC 50 / HILTI CFS-CT B).

3

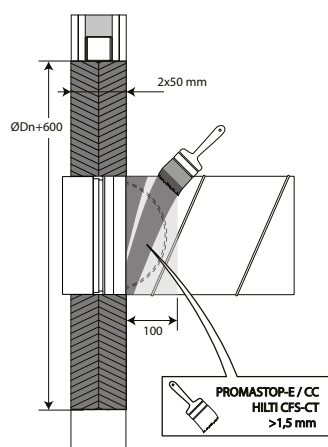


3. Deze platen moeten geschrinkt geplaatst worden en de voegen moeten rondom rond bedekt worden met vulpasta (type PROMASTOP-E / PROMASTOP-CC / HILTI CFS-S-ACR).

4

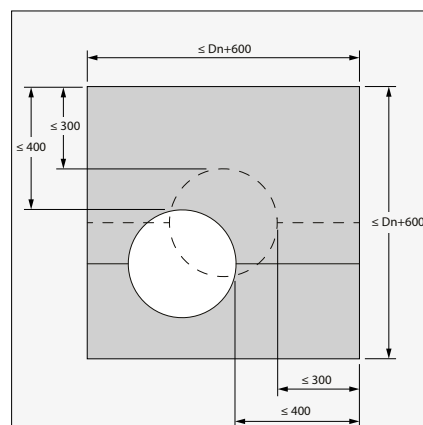


5



5. Het kanaal dient te worden voorzien van een laag (>1,5mm) endotherme vulpasta (type PROMASTOP-E / PROMASTOP-CC / HILTI CFS-CT) op een breedte van 100 mm aan de kant van het uitstekende klepblad.

6



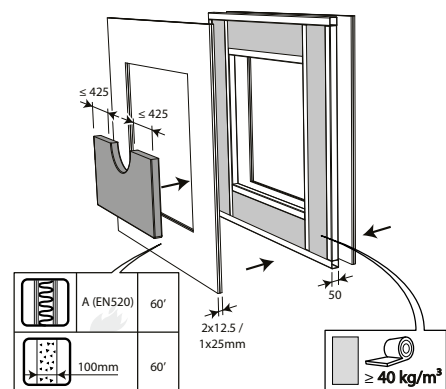
6. Het kanaal met de vlinderklep moet niet centraal in de opening (met maximale afmetingen kanaal + 600 mm) geplaatst worden. De afstand tussen de vlinderklep en de rand van de opening is maximaal 400 mm.

Plaatsing in flexibele en massieve wand + BASTA - SC+60

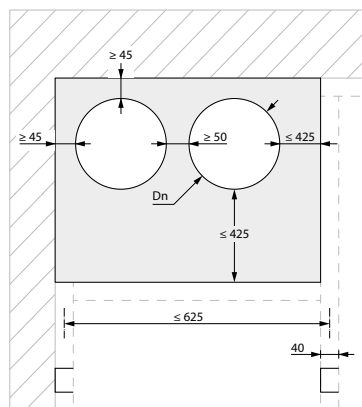
Het product werd getest en goedgekeurd in:

Gamma	Wandtype	Afdichting	Classificatie
SC+60 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	Gecoate steenwol + coating ≥ 140 kg/m ³
SC+60 Ø 100-200 mm	Flexibele wand	Metal stud gipsplatenwand Type A (EN 520) ≥ 100 mm	Gecoate steenwol + coating ≥ 140 kg/m ³

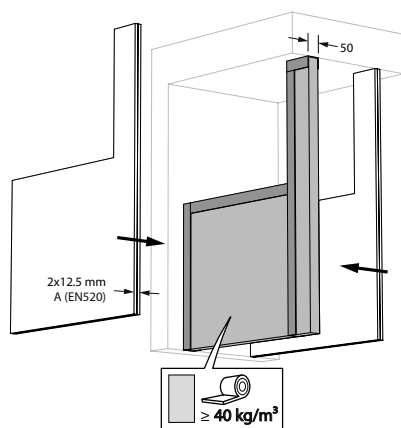
1



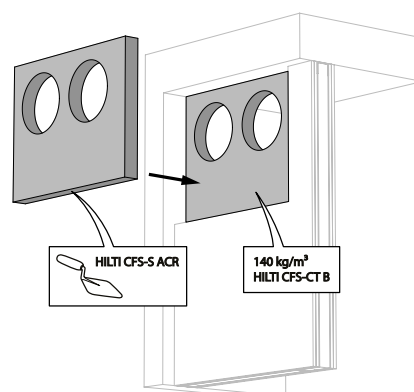
2



3



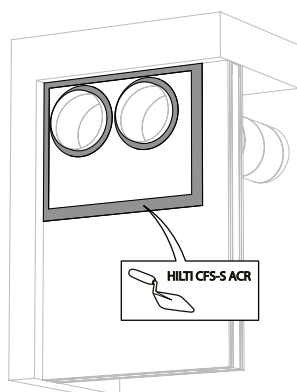
4



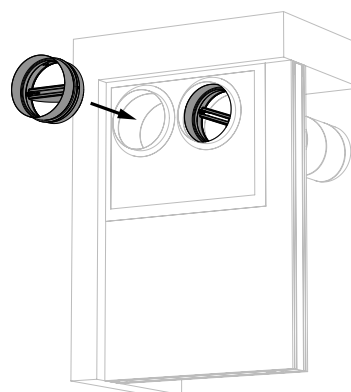
3. De opening in de wand rond het kanaal waarin de vlinderklep zit, wordt afgedicht met 2 harde steenwolplaten van 50mm die eenzijdig voorzien zijn van 1mm brandwerende coating (type HILTI CFS-CT B).

4. Deze platen moeten geschrapt geplaatst worden en de voegen moeten rondom rond bedekt worden met vulpasta (type HILTI CFS-S-ACR).

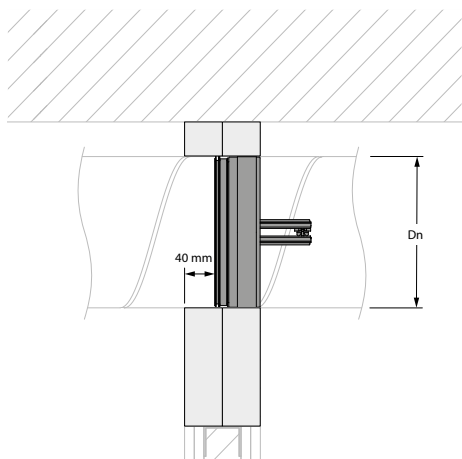
5



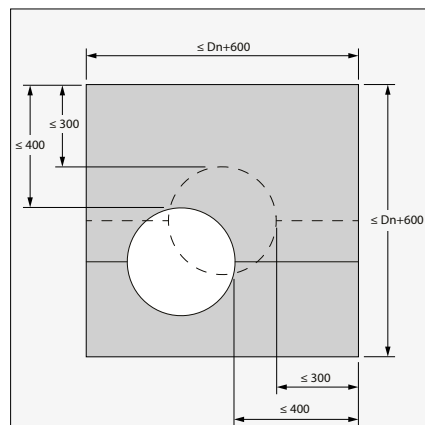
6



7



8



8. Het kanaal met de vlinderklep moet niet centraal in de opening (met maximale afmetingen kanaal + 600 mm) geplaatst worden. De afstand tussen de vlinderklep en de rand van de opening is maximaal 425 mm.

Onderhoud

- Geen specifiek onderhoud vereist.
- Minstens 2 visuele controles per jaar zijn aangewezen.
- Verwijder stof en ander vuil voor het in werking stellen van het product.
- Respecteer de lokale regels betreffende onderhoud (bijv. NF S 61-933) en EN13306.
- Let wel, vlinderkleppen in gesloten toestand kunnen bij te hoge druk verschuiven in het kanaal.

Gewichten

SC+60

ØDn [mm]	100	125	150	160	200					
kg	0,2	0,3	0,4	0,5	0,6					

SC+90

ØDn [mm]	100	125	150	160	200					
kg	0,3	0,4	0,5	0,5	0,7					

SC+120

ØDn [mm]	100	125	160	200						
kg	0,3	0,4	0,5	0,8						

Selectiegrafieken

SC+

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

SC+60

ØDn [mm]	100	125	150	160	200					
ζ [-]	2,31	1,48	1,09	1,02	0,8					

SC+90

ØDn [mm]	100	125	150	160	200					
ζ [-]	2,31	1,48	1,11	1,04	0,81					

SC+120

ØDn [mm]	100	125	160	200						
ζ [-]	2,31	1,48	1,04	0,81						

Voorbeeld

Gegevens

Dn= 125 mm (SC0), v= 5 m/s

Gevraagd

Δp = ca. 21 Pa (Cfr. selectiegrafiek)

LWA= ca. 47.5 dB(A)

Berekening

$\Delta p = 1.36 \cdot (5 \text{ m/s})^2 \cdot 0.6 = 20.4 \text{ Pa}$

Selectiegegevens

SC+60 - A-gewogen geluidsvermogen niveau Lwa in het kanaal

ØDn [mm]	100	125	150	160	200						
Sn [m ²]	0,0035	0,0067	0,0109	0,0129	0,0223						
Sn [%]	44,02	54,49	61,52	63,81	70,78						
Q [m ³ /h]	287,00	505,00	801,00	934,00	1.597,00						60 dB
Δp [Pa]	143,00	116,00	104,00	102,00	96,00						
Q [m ³ /h]	204,00	358,00	568,00	662,00	1.132,00						55 dB
Δp [Pa]	72,00	58,00	52,00	51,00	48,00						
Q [m ³ /h]	144,00	254,00	402,00	469,00	802,00						50 dB
Δp [Pa]	36,00	29,00	26,00	26,00	24,00						
Q [m ³ /h]	102,00	180,00	285,00	332,00	569,00						45 dB
Δp [Pa]	18,00	15,00	13,00	13,00	12,00						
Q [m ³ /h]	73,00	127,00	202,00	236,00	403,00						40 dB
Δp [Pa]	9,00	7,00	7,00	6,00	6,00						
Q [m ³ /h]	51,00	90,00	143,00	167,00	286,00						35 dB
Δp [Pa]	5,00	4,00	3,00	3,00	3,00						

Elk debiet lager dan de hierboven opgegeven maximale waarde, zal voor de respectievelijke afmeting voldoen aan het vermelde A-gewogen geluidsvermogen niveau.

SC+90 - A-gewogen geluidsvermogen niveau Lwa in het kanaal

ØDn [mm]	100	125	150	160	200						
Sn [m ²]	0,0029	0,0060	0,0100	0,0119	0,0211						
Sn [%]	37,13	48,77	56,62	59,21	67,02						
Q [m ³ /h]	287,00	505,00	796,00	928,00	1.590,00						60 dB
Δp [Pa]	143,00	116,00	105,00	102,00	96,00						
Q [m ³ /h]	204,00	358,00	564,00	658,00	1.127,00						55 dB
Δp [Pa]	72,00	58,00	53,00	51,00	48,00						
Q [m ³ /h]	144,00	254,00	400,00	466,00	799,00						50 dB
Δp [Pa]	36,00	29,00	26,00	26,00	24,00						
Q [m ³ /h]	102,00	180,00	283,00	330,00	566,00						45 dB
Δp [Pa]	18,00	15,00	15,00	13,00	12,00						
Q [m ³ /h]	73,00	127,00	201,00	234,00	401,00						40 dB
Δp [Pa]	9,00	7,00	7,00	7,00	6,00						
Q [m ³ /h]	51,00	90,00	142,00	166,00	284,00						35 dB
Δp [Pa]	5,00	4,00	4,00	3,00	3,00						

Elk debiet lager dan de hierboven opgegeven maximale waarde, zal voor de respectievelijke afmeting voldoen aan het vermelde A-gewogen geluidsvermogen niveau.

SC+120 - A-gewogen geluidsvermogen niveau Lwa in het kanaal

$\varnothing D_n$ [mm]	100	125	160	200						
S_n [m ²]	0,0029	0,0060	0,0119	0,0211						
S_n [%]	37,13	48,77	59,21	67,02						
Q [m ³ /h]	287,00	505,00	928,00	1.590,00						60 dB
Δp [Pa]	143,00	116,00	102,00	96,00						
Q [m ³ /h]	204,00	358,00	658,00	1.127,00						55 dB
Δp [Pa]	72,00	58,00	51,00	48,00						
Q [m ³ /h]	144,00	254,00	466,00	799,00						50 dB
Δp [Pa]	36,00	29,00	26,00	24,00						
Q [m ³ /h]	102,00	180,00	330,00	566,00						45 dB
Δp [Pa]	18,00	15,00	13,00	12,00						
Q [m ³ /h]	73,00	127,00	234,00	401,00						40 dB
Δp [Pa]	9,00	7,00	7,00	6,00						
Q [m ³ /h]	51,00	90,00	166,00	284,00						35 dB
Δp [Pa]	5,00	4,00	3,00	3,00						

Elk debiet lager dan de hierboven opgegeven maximale waarde, zal voor de respectievelijke afmeting voldoen aan het vermelde A-gewogen geluidsvermogen niveau.

Correctiefactor ΔL

Om het geluidsvermogen per octaafband te verkrijgen: $LW_{oct} = \Delta L + Lwa$

[Hz]	63	125	250	500	1000	2000	4000	8000
2 - 4 m/s	25	3	-7	-13	-22	-27	-28	-24
6 - 8 m/s	18	5	1	-3	-8	-11	-14	-20
10 - 12 m/s	13	2	0	-3	-7	-9	-10	-15

Bestelvoorbeeld

SC+60	200	FCU
1	2	3

1. product
2. diameter
3. optie: unipolaire eindeloopschakelaar

Goedkeuring en certificaten

Al onze producten worden onderworpen aan testen door officiële testinstituten. Rapporten van deze testen vormen de basis van de goedkeuringen van onze kleppen.



BCCA-0749-CPR-BC1-606-0464-15650.09-2517

025237 / 025239 / 025240

FIRE RESISTANCE CLASSIFICATION REPORT No. 12664F

Owner of the classification report

RF-TECHNOLOGIES NV
Lange Ambachtstraat 40
9860 Oosterzele
Belgium

Introduction

This classification report defines the classification assigned to a fire damper, type: SC60+ / SCV60+, in accordance with the procedures given in EN 13501-3:2005+A1 2009: Fire classification of construction products and building elements - Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers. This classification report consists of 20 pages and 5 annexes and may only be used or reproduced in its entirety.

1 Details of classified product

1.1 General

The element, type: SC60+ / SCV60+, is defined as a fire damper.

1.2 Description

The element, SC60+ / SCV60+, is described below, in support of this classification. The drawings of the test element are enclosed in the annexes 1 till 5 of this classification report.

The detailed description of the element, SC60+ / SCV60+, is fully described in the test reports.

1.2.1 Composition of the test specimen

The fire damper is asymmetrical and consists of a cylindrical housing, damper blades and an internal energy based mechanism. Fire dampers with nominal diameters D_n of 100 mm and 200 mm have been tested.

1.2.1.1 Damper housing

The damper housing consists of a galvanized sheet steel shaft with a thickness of 0.6 mm and a length of 60 mm. The housing of the fire dampers has an external diameter of (D_n-1) mm.

The housing has on the exterior a groove holding a U-formed sealing ring, covered on the inside with an intumescent graphite tape. The dampers are mounted so that the sealing ring is at the middle of the wall/floor.

Profiles have been foreseen with a ring to secure the dampers' connecting duct to the wall/ floor.

1.2.1.2 Damper blades

The damper consists of two semi-circular damper blades made of fibre-silicate board with a thickness of 6 mm. The damper blades revolve around an axis. The axis hinges in a galvanised steel support. The support is fixed to the damper blades by means of steel blind rivets.

The damper blades are covered at both sides with a layer of intumescent material stapled to the damper blades. One side is covered with a foam layer glued onto the damper blade. The foam layer is placed at the exposed side or at the unexposed side.

At the height of the damper blades at the interior of the damper housing an intumescent strip is glued. The gap between the damper blades and the damper housing of the fire dampers is between 1 mm and 2.6 mm.

1.2.1.3 Actuating mechanism

Two stainless steel locks holding the damper blades in the closed position, are fastened onto the body by means of steel blind rivets. The axis holds the hinges. The hinges are fixed to the damper housing by means of two steel rivets.

The damper blades are kept open by a fuse held within plastic supports. The supports have been fixed to the damper blades with a rivet.

If the fusible alloy opens, the internal spring puts the damper blades in closed position.

The damper consists of damper blades folding over an axis. The damper opens either in the direction of the current or against the current.

1.2.1.4 Single damper: Construction in an aerated concrete wall

The fire damper is mounted in an aerated concrete wall according to the standard constructions in table 3 of EN 1366-2:2015 with a thickness of 100 mm in an opening of $(D_n + 50)$ mm.

The entire opening between the damper housing and the wall construction is filled with standard cement mortar.

- D_n = nominal diameter – varies from 100 mm till 200 mm.

1.2.1.5 Clustered dampers: Construction in an aerated concrete wall

The two fire dampers are mounted in an aerated concrete wall according to the standard constructions in table 3 of EN 1366-2:2015 with a thickness of 100 mm in an opening of $(D_n + 50)$ mm.

The entire opening between the damper housing and the wall construction is filled with gypsum (brand and type: Knauf Goldband).

Between two dampers a minimal distance of 50 mm is allowed.

Between a damper and a (horizontal or vertical) supporting construction a minimal distance of 45 mm is allowed.

- D_n = nominal diameter – varies from 100 mm till 200 mm.

1.2.1.6 Single damper: Construction in an aerated concrete floor

The fire damper is mounted in an aerated concrete floor construction with a thickness of 150 mm according to the standard constructions in table 5 of EN 1366-2:2015 in an opening of $(D_n + 100)$ mm.

The entire opening between the damper housing and the floor construction is filled with standard cement mortar.

- D_n = nominal diameter – varies from 100 mm till 200 mm.

1.2.1.7 Single damper: Construction in a flexible wall (type A or type F boards)

The fire damper is mounted in a flexible plasterboard wall with a thickness of 100 mm in a rectangular opening of $(D_n + 50) \times (D_n + 50)$ mm.

The wall is mounted with profiles of 50 mm and a double layer of boards with a thickness of 12.5 mm each on both sides. Between the boards and the profiles rock wool of 40 kg/m³ (NW) is placed.

The entire opening between the damper housing and the wall construction is filled with rock wool with a density of 40 kg/m³ (NW) and finished with a sealing plaster board.

- D_n = nominal diameter – varies from 100 mm till 200 mm.

1.2.1.8 Single damper: Construction in a flexible wall (type A boards)

The fire damper is mounted in a flexible plasterboard wall with a thickness of 100 mm in a circular opening with a diameter of $(D_n + 50)$ mm.

The wall is mounted with profiles of 50 mm and a double layer of boards with a thickness of 12.5 mm each on both sides. Between the boards and the profiles rock wool of 40 kg/m³ (NW) is placed.

The entire opening between the damper housing and the wall construction is filled with gypsum (brand and type: Knauf Goldband).

- D_n = nominal diameter – varies from 100 mm till 200 mm.

1.2.1.9 Clustered dampers: Construction in a flexible wall (type A boards)

The two fire dampers are mounted in a flexible plasterboard wall with a thickness of 100 mm in a square mineral wool seal of minimum 45 mm and maximum 425 mm measured from the ventilation duct to the surrounding building structure.

The wall is mounted with profiles of 50 mm and a double layer of boards with a thickness of 12.5 mm each on both sides. Between the boards and the profiles rock wool of 40 kg/m³ (NW) is placed.

The entire opening between the damper housing and the wall construction is filled with two layers (thickness: 2 x 50 mm) of rigid mineral wool coated on one side (brand and type: HILTI CFS-CT B). Between all joints a fire stop coating (brand and type: HILTI CFS-CT FIRESTOP COATING) is used.

Between two dampers a minimal distance of 50 mm is allowed.

Between a damper and a (horizontal or vertical) supporting construction a minimal distance of 45 mm is allowed.

1.2.1.10 Valve

A valve made out of plastic may be placed on the fire damper. This valve is identified by the letter "V" in the name SCV60+.

2 Test reports/EXAP reports and test results in support of the classification

2.1 Test reports/EXAP reports

Name of the laboratory	Report ref. no.	Name of the owner	Date of the test	Method
WFRGENT nv	12663A	RF- TECHNOLOGIES NV	15/03/2007	EN 1366-2:1999*
WFRGENT nv	12664B	RF- TECHNOLOGIES NV	13/03/2007	EN 1366-2:1999*
EFFECTIS France	13-U-1045*	RF- TECHNOLOGIES NV	18/12/2013	EN 1366-2:1999**
EFFECTIS France	EFR-16-U- 002097b	RF- TECHNOLOGIES NV	8/09/2016	EN 1366-2:2015
WFRGENT nv	12664D	RF- TECHNOLOGIES NV	-	EN 15882-2:2015
WFRGENT nv	20819A	RF- TECHNOLOGIES NV	11/01/2021	EN 1366-2:2015
WFRGENT nv	20819B	RF- TECHNOLOGIES NV	11/01/2021	EN 1366-2:2015

*At present, these reports were technically examined with the conclusion that there have been no significant revisions to the relevant test standard which would render the test evidence irrelevant.

**Test 13-U-1045 was done in order to prove the valve has no effect on the fire resistance of the fire damper. Therefore no underpressure was generated over the fire damper.

Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:2020.

Direction of exposure: this concerns an asymmetrical construction which validates the results for one direction only ($i \rightarrow o$). Based on the EXAP report 12664D the classification is valid for both directions ($i \leftrightarrow o$) provided that the fire dampers are mounted in a symmetrical standard construction and a symmetrical sealing between the fire damper housing and the supporting construction.

2.2 Test results

2.2.1 12663A: SC60+ in a flexible wall (type F boards)

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	67 minutes
$\Delta T_M = 180^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Spontaneous and sustained flaming	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Ignition of cotton pad	69 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	57 seconds

⁽¹⁾ The test was stopped after 69 minutes at the request of the sponsor.

2.2.2 12663A: SC60+ in an aerated concrete wall

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	62 minutes
$\Delta T_M = 180^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Spontaneous and sustained flaming	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Ignition of cotton pad	69 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	30 seconds

⁽¹⁾ The test was stopped after 69 minutes at the request of the sponsor.

2.2.3 12664B: SC60+ in an aerated concrete floor

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	93 minutes
$\Delta T_M = 180^\circ\text{C}$	95 minutes
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	107 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	107 minutes
Spontaneous and sustained flaming	107 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	107 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	107 minutes, no failure ⁽¹⁾
Ignition of cotton pad	107 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	107 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	106 minutes
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	12 seconds

⁽¹⁾ The test was stopped after 107 minutes at the request of the sponsor.

2.2.4 EFR-16-U-002097b: SC60+ in a flexible wall (type A-boards)

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	67 minutes, no failure ⁽¹⁾
$\Delta T_M = 180^\circ\text{C}$	62 minutes
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	67 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	65 minutes
Spontaneous and sustained flaming	67 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	67 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	67 minutes, no failure ⁽¹⁾
Ignition of cotton pad	67 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	67 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	64 minutes
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	38 seconds

⁽¹⁾ The test was stopped after 67 minutes at the request of the sponsor.

2.2.5 13-U-1045: SCV60+ in a flexible wall (type A boards)

Parameters	Results
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	67 minutes, no failure ⁽¹⁾
$\Delta T_M = 180^\circ\text{C}$	67 minutes, no failure ⁽¹⁾
Integrity – E	
Spontaneous and sustained flaming	67 minutes, no failure ⁽¹⁾
Failure with gap gauge \varnothing 6 mm	67 minutes, no failure ⁽¹⁾
Failure with gap gauge \varnothing 25 mm	67 minutes, no failure ⁽¹⁾
Ignition of cotton pad	67 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	22 seconds

⁽¹⁾ The test was stopped after 67 minutes at the request of the sponsor.

2.2.6 20819A: two clustered SC60+ dampers in a flexible wall (type A-boards)

Fire damper A1:

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
$\Delta T_M = 180^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Spontaneous and sustained flaming	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Ignition of cotton pad	69 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	15 seconds

⁽¹⁾ The test was stopped after 69 minutes at the request of the sponsor.

Fire damper A2:

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
$\Delta T_M = 180^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Spontaneous and sustained flaming	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Ignition of cotton pad	69 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	15 seconds

⁽¹⁾ The test was stopped after 69 minutes at the request of the sponsor.

2.2.7 20819B: two clustered SC60+ dampers in a aerated concrete wall

Fire damper B1:

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
$\Delta T_M = 180^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Spontaneous and sustained flaming	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Ignition of cotton pad	69 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycli	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	15 seconds

⁽¹⁾ The test was stopped after 69 minutes at the request of the sponsor.

Fire damper B2:

Parameters	Results
Operating pressure	-300 Pa
Thermal insulation – I	
$\Delta T_m = 140^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
$\Delta T_M = 180^\circ\text{C}$	69 minutes, no failure ⁽¹⁾
Integrity – E	
Leakage rate before fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $360 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Spontaneous and sustained flaming	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 6 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Failure with gap gauge $\varnothing 25 \text{ mm}$	69 minutes, no failure ⁽¹⁾
Ignition of cotton pad	69 minutes, no failure ⁽¹⁾
Smoke leakage – S	
Leakage rate before fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Leakage rate during fire test = $200 \text{ m}^3/(\text{h.m}^2)$	69 minutes, no failure ⁽¹⁾
Actuating mechanism	
Any sign of mechanical damage after the opening and closing test of 50 cycles	No damage
Time at which the fully-open fire damper closes (allowed maximum = 2 minutes)	15 seconds

⁽¹⁾ The test was stopped after 69 minutes at the request of the sponsor.

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-3:2005+A1 2009.

3.2 Classification

The element, type: SC60+ / SCV60+, is classified according to the following combinations of performance parameters and classes as appropriate. No other classifications are permitted.

The classification are valid for both sides of the fire damper. At an operating pressure of -300 Pa.

EI 60 (v_e h_o i↔o) S

3.3 Field of direct application

This classification is valid for the following end use applications according to EN 1366-2:2015.

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

a) Size of fire damper when smoke leakage (S) is not required:

The classification is applicable to all dampers of the same type provided that the maximum diameter do not exceed 200 mm and that the components remain in the same orientation as those tested.

b) Size of fire damper when smoke leakage (S) is required:

The classification is applicable to the same type of damper provided that the minimum diameter is not less than Ø 100 mm and that the maximum diameter does not exceed Ø 200 mm. The components have to remain in the same orientation as those tested.

c) Fire dampers installed within structural openings:

The classification for a fire damper installed within a structural opening is only applicable to other fire dampers of the same type installed in the same orientation and position in relation to the supporting construction as that tested.

d) Fire from above:

Fire dampers tested horizontally in floors with fire from below are acceptable in installations where fire might come from above.

e) Separation between fire dampers and between fire dampers and construction elements:

Single dampers: The classification is applicable to a minimum separation in practice of 200 mm between fire dampers in separate ducts and of 75 mm between a fire damper and a constructional element.

Clustered dampers: The classification is applicable to a minimum separation in practice of 50 mm between fire dampers in separate ducts and of 45 mm between a fire damper and a constructional element.

f) Supporting constructions:

The following supporting constructions are tested:

- Flexible wall construction with a thickness of 100 mm;
- Aerated concrete wall construction with a thickness of 100 mm;
- Aerated concrete floor construction with a thickness of 150 mm.

The following rules apply in regards to the allowed supporting constructions:

Test results obtained with dampers installed in flexible vertical supporting constructions may be applied to rigid supporting constructions of a thickness equal to or greater than that of the element used in the tests, provided that the classified fire resistance of the rigid supporting construction is greater than or equal to the one used for the test. The sealants used shall be the same as those tested. Any fasteners used shall be fire rated to suit the supporting construction that is used.

Test results obtained with dampers installed in insulated flexible vertical supporting constructions may be applied to applications where the same flexible vertical supporting construction is uninsulated. The aperture framing shall be constructed using the same materials as used in the test partition construction, using the same number of boards as was tested.

Test results obtained with dampers installed in aerated concrete are applicable to rigid constructions made from hollow blocks, provided that the holes are filled/closed before the addition of the final penetration seal.

4 Limitations

This classification report does not represent type approval nor certification of the product.

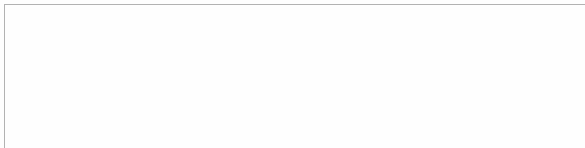
The classification assigned to the product in this report is appropriate to a Declaration of Performance (DoP) of the essential characteristics of the construction product by the manufacturer within the context of System 1 Assessment and Verification of Constancy of Performance (AVCP).

Under the Construction Products Regulation (CPR: EU 305/2011), such a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

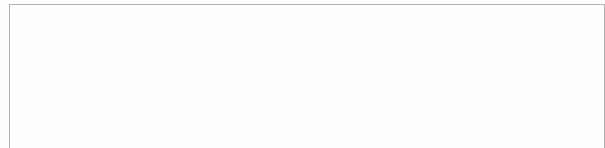
The test laboratory has played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide evidence for the traceability of the samples tested.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

SIGNED



APPROVED

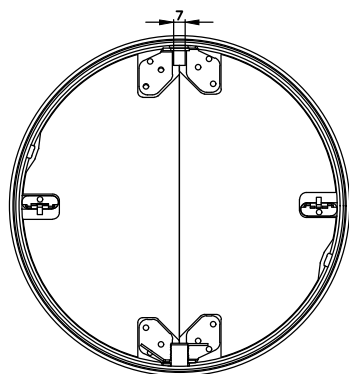
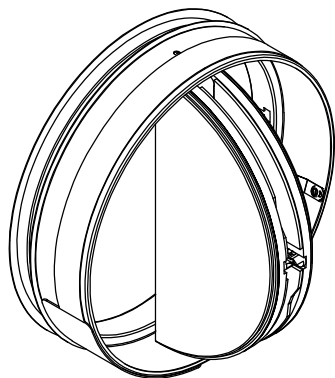


This document is the original version of the classification report and is written in English.

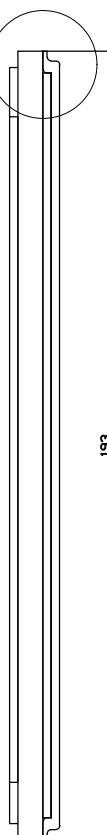
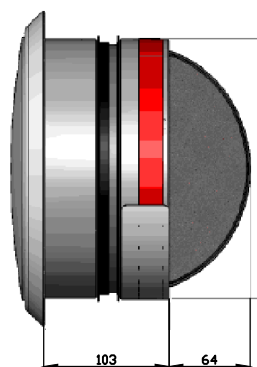
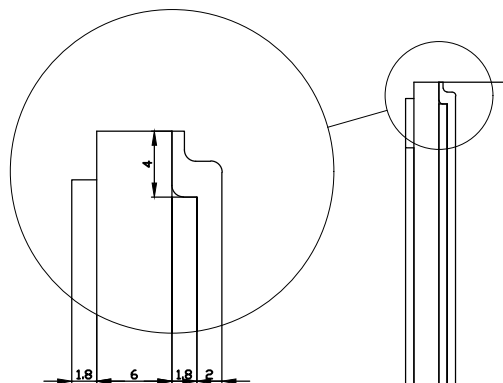
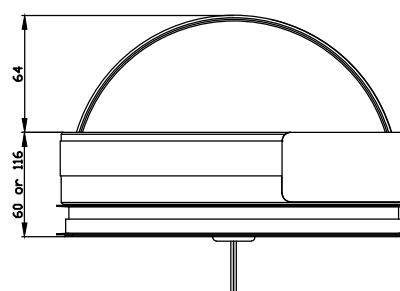
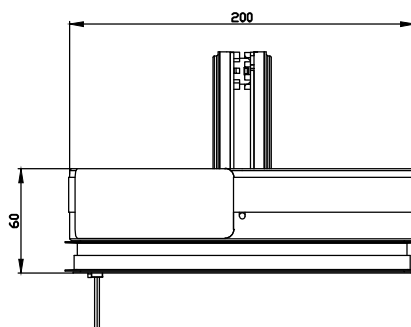
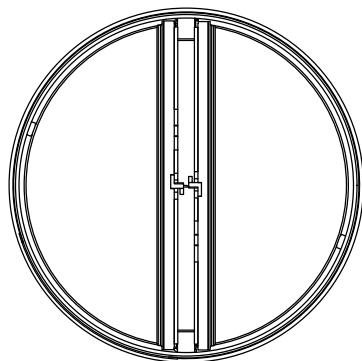
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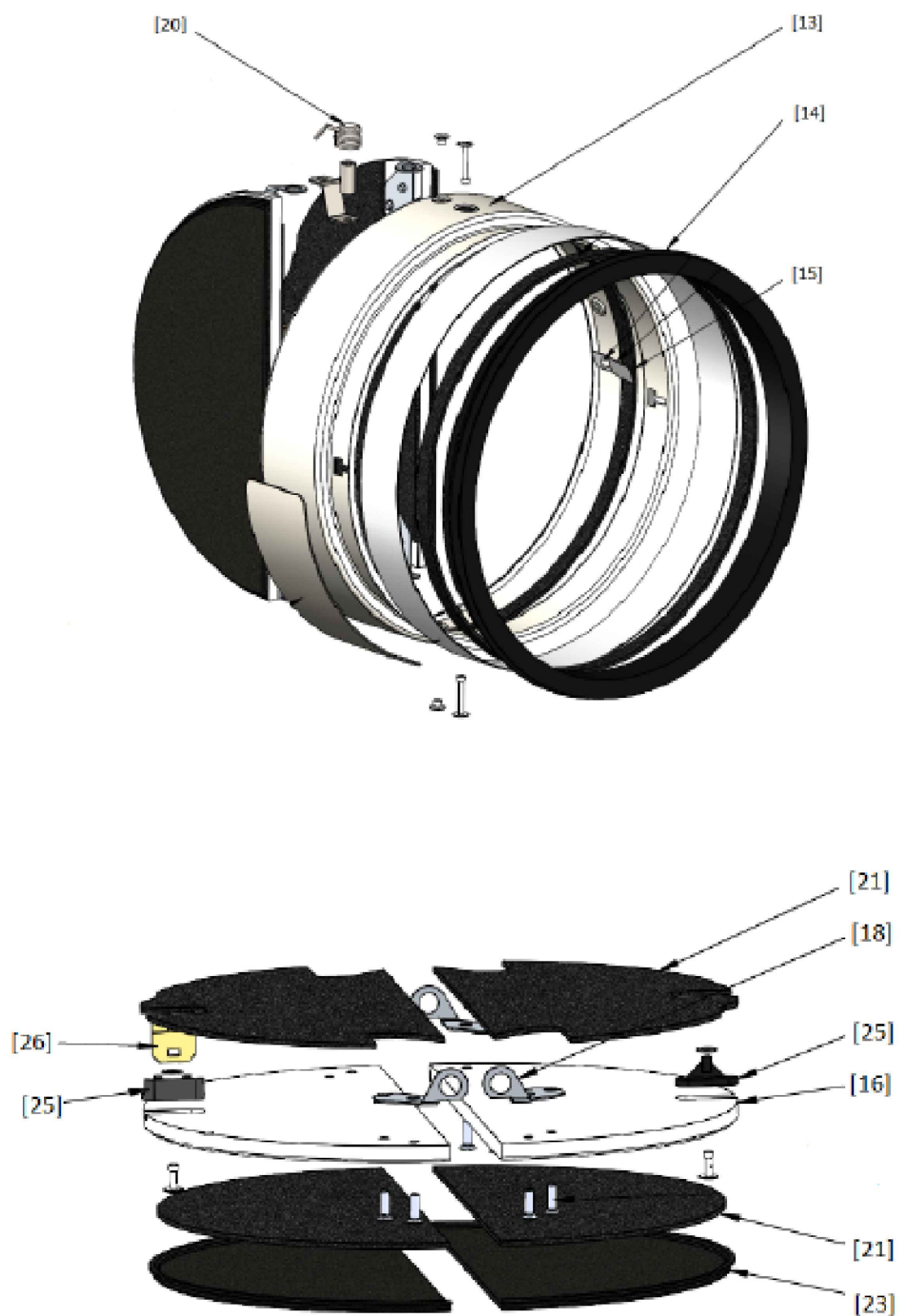
Details of the fire damper SC60+



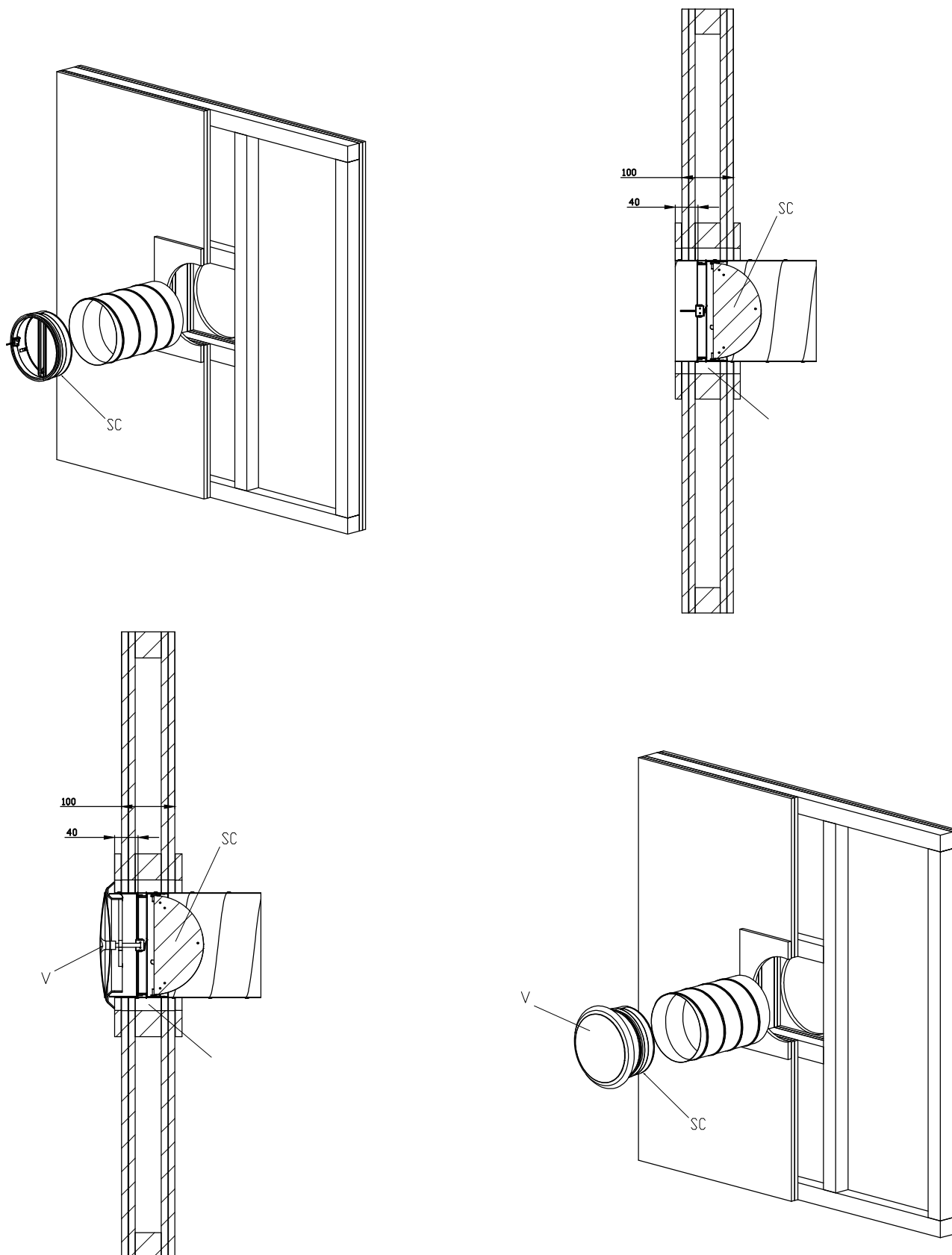
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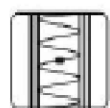
Details of the fire damper SC60+



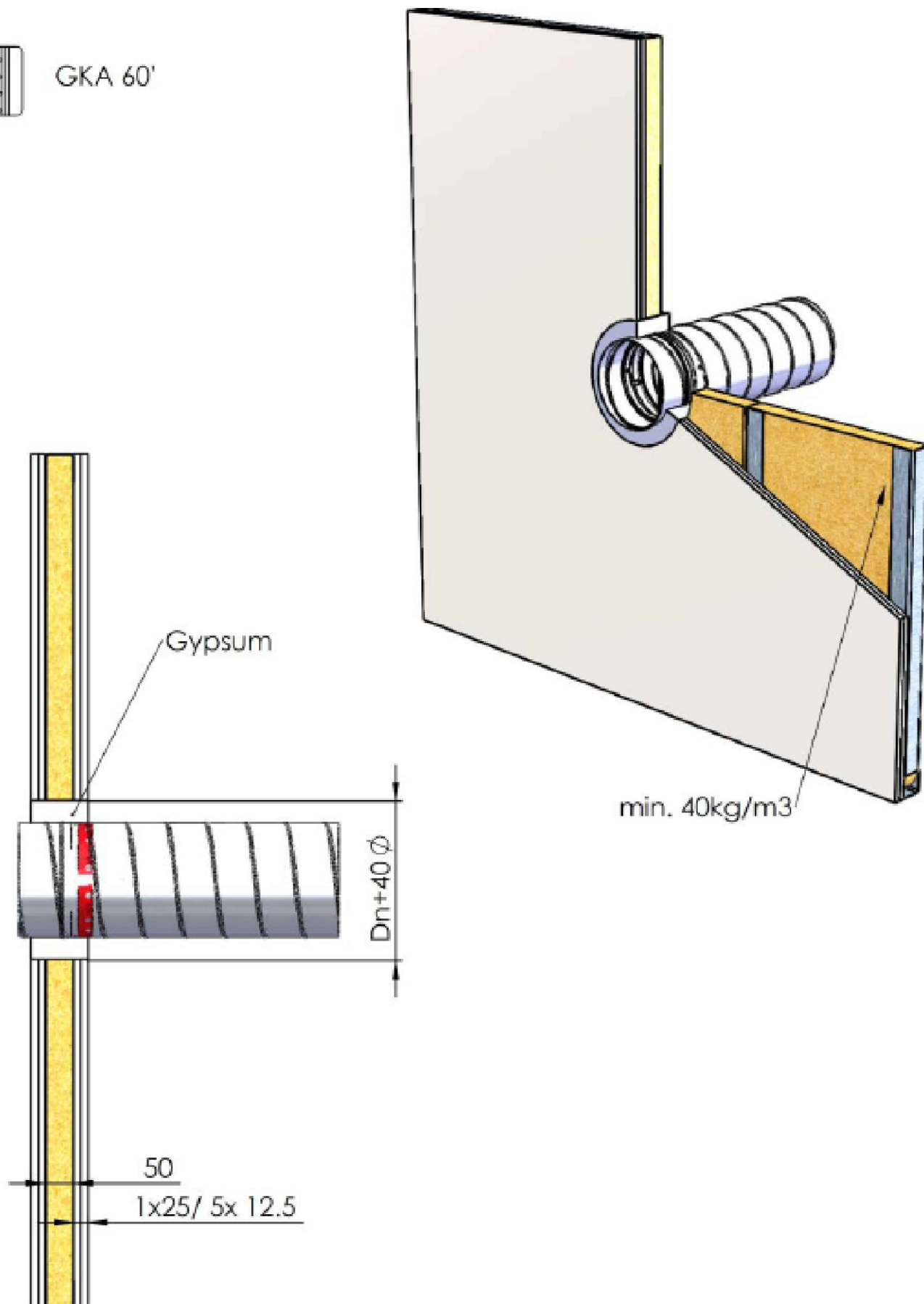
SC60+ / SCV60+ in a flexible wall with a rockwool and plasterboard penetration seal



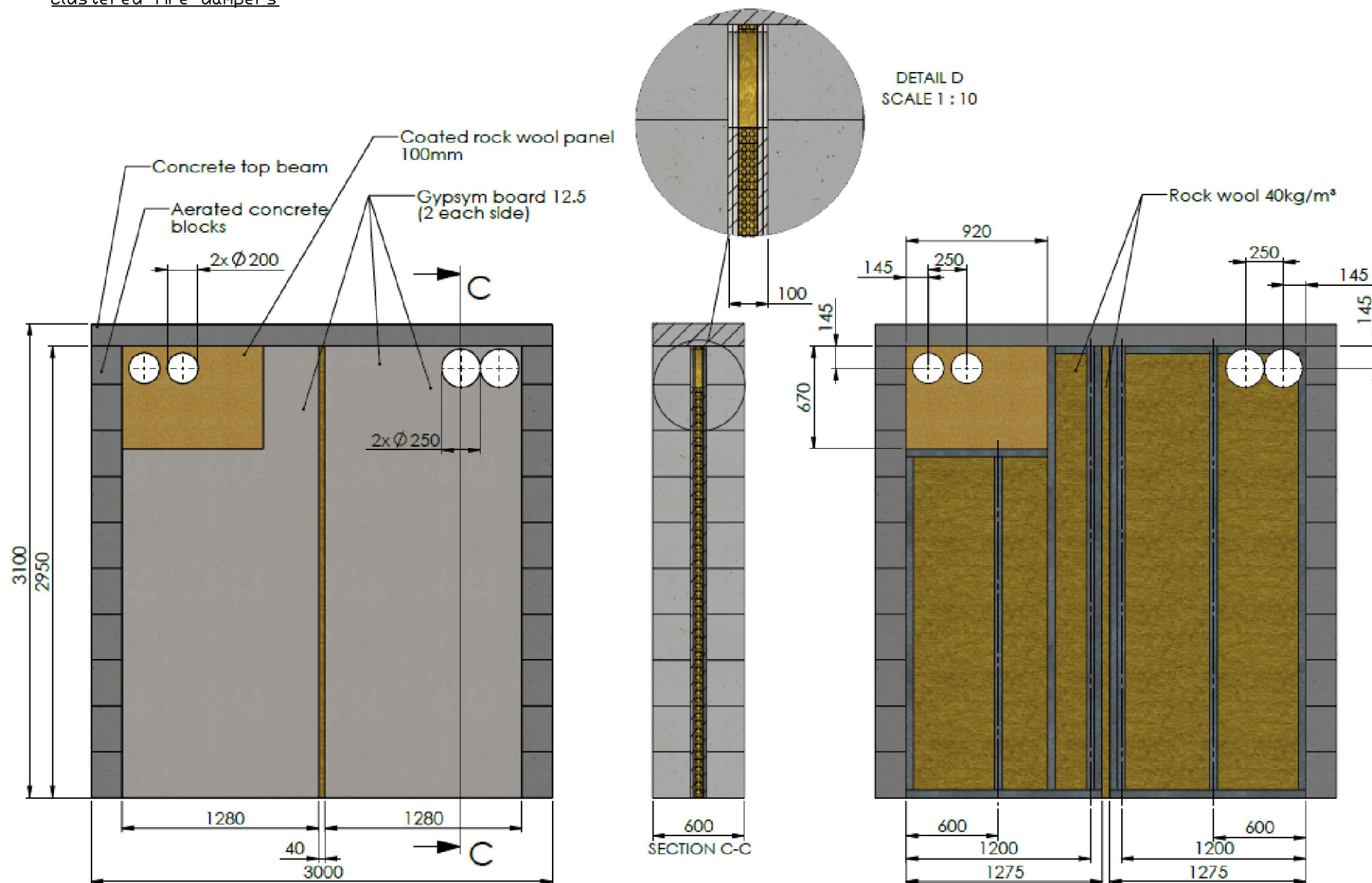
SC60+ / SCV60+ in a flexible wall with a gypsum penetration seal



GKA 60'





Clustered fire dampers



1. Unieke identificatiecode van het producttype:	SC+
2. Beoogd(e) gebruik(en):	Ronde brandklep voor gebruik ter hoogte van een scheidingsconstructie voor het behouden van brandcompartimentering in HVAC-systemen.
3. Fabrikant:	Rf-Technologies NV, Lange Ambachtstraat 40, B-9860 Oosterzele
4. Systeem voor de beoordeling en verificatie van de prestatiebestendigheid:	Systeem 1
5. Geharmoniseerde norm / Europees beoordelingsdocument; aangemelde instantie(s) / Europese technische beoordeling, technische beoordelingsinstantie, aangemelde instantie(s); certificaat van prestatiebestendigheid:	EN 15650:2010, BCCA met identificatienummer 0749; BCCA-0749-CPR-BC1-606-0464-15650.09-2517
6. Aangegeven prestatie(s) volgens	(Brandweerstand volgens EN 1366-2 en classificatie volgens EN 13501-3)

Essentiële kenmerken					Prestaties
Gamma	Wandtype	Wand	Afdichting	Installatie	Classificatie
SC(V)+60 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	Mortel	1	El 60 (v _e i ↔ o) S - (300Pa)
			Gips	2	El 60 (v _e i ↔ o) S - (300Pa)
			Gecoate steenwol + coating ≥ 140 kg/m ³	2	El 60 (v _e i ↔ o) S - (300Pa)
	Massieve vloer	Cellenbeton ≥ 150 mm	Mortel	1	El 60 (h _o i ↔ o) S - (300Pa)
	Flexibele wand	Metal stud gipsplatenwand Type A (EN 520) ≥ 100 mm	Steenwol ≥ 40 kg/m ³ + afdekplaten	1	El 60 (v _e i ↔ o) S - (300Pa)
			Gips	2	El 60 (v _e i ↔ o) S - (300Pa)
			Gecoate steenwol + coating ≥ 140 kg/m ³	2	El 60 (v _e i ↔ o) S - (300Pa)
SC(V)+90 Ø 100-200 mm	Massieve wand	Cellenbeton ≥ 100 mm	Mortel	1	El 90 (v _e i ↔ o) S - (300Pa)
		Cellenbeton ≥ 125 mm	Gips	2	El 90 (v _e i ↔ o) S - (300Pa)
		Cellenbeton ≥ 100 mm	Gips + 2 x 12.5 mm gipsplaten Type F (EN520)	2	El 90 (v _e i ↔ o) S - (300Pa)
			Gecoate steenwol + coating ≥ 140 kg/m ³ + coating op kanaal	1	El 90 (v _e i ↔ o) S - (300Pa)
	Massieve vloer	Cellenbeton ≥ 150 mm	Mortel	1	El 90 (h _o i ↔ o) S - (300Pa)
	Flexibele wand	Metal stud gipsplatenwand Type F (EN 520) ≥ 100 mm	Steenwol ≥ 40 kg/m ³ + gips + afdekplaten	1	El 90 (v _e i ↔ o) S - (300Pa)
			Gips + 2 x 12.5 mm gipsplaten Type F (EN520)	2	El 90 (v _e i ↔ o) S - (300Pa)
			Gecoate steenwol + coating ≥ 140 kg/m ³ + coating op kanaal	1	El 90 (v _e i ↔ o) S - (300Pa)
SC+120 Ø 100-200 mm	Massieve wand	Gewapend beton ≥ 110 mm	Mortel	1	El 120 (v _e i ↔ o) S - (300Pa)
1	Installatiemethode: ingebouwd in kanaal, 0-360°		360°	2	Installatiemethode: ingebouwd in kanaal, 0-360°. Minimum afstand toegestaan.





Geharmoniseerde norm

Nominale activeringscondities/gevoeligheid:	Geslaagd
Reactievertraging (reactietijd): sluitingstijd	Geslaagd
Operationele betrouwbaarheid: cyclische bewegingen	50 cycli
Duurzaamheid van de reactievertraging:	Geslaagd
Duurzaamheid van operationele betrouwbaarheid:	NPD (geen prestatie bepaald)
Bescherming tegen corrosie volgens EN 60068-2-52	NPD (geen prestatie bepaald)
Luchtdichtheid (lekkage over tunnel) volgens EN 1751:	NPD (geen prestatie bepaald)

De prestaties van het hierboven omschreven product zijn conform de aangegeven prestaties. Deze prestatieverklaring wordt in overeenstemming met Verordening (EU) nr. 305/2011 onder de exclusieve verantwoordelijkheid van de hierboven vermelde fabrikant verstrekt.

Ondertekend voor en namens de fabrikant door:
Mathieu Steenland, Technical Manager

Mathieu Steenland

Oosterzele, 09/2021

