AVANTAGE DP

Motorised dual purpose smoke control damper.

SMS
SMOKE MANAGEMENT SYSTEMS

CE
1812

Smoke Management Systems Ltd.
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Table of content

Explanation of the abbreviations and pictograms

Wn = nominal width
Hn = nominal height
Sn = free air passage
E = integrity
I = thermal insulation
S = smoke leakage
60/120 = fire resistance time
Pa = pascal
o -> i = meets the criteria from the outside (o) to the inside (i)
i <-> o = fire side not important
AA = automatic activation
multi = multi compartment
1500 = pressure level 3 (1500Pa)
ved = vertical duct
hod = horizontal duct
vew = vertical wall penetration
V = volt
W = watt
V AC = Volt alternating current
V DC = Volt direct current
E.TELE = power supply magnet
E.ALIM = power supply motor
Auto = automatic
Tele = remote controlled
Pnom = nominal capacity
Pmax = maximum capacity
DAS MOD = modular product
OP = option (delivered with the product)
KIT = kit (delivered separately for repair or upgrade)
PG = connection flange to the duct
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
ζ [-] = pressure loss coefficient
Q = air flow
ΔP = static pressure drop
v = air speed in the duct
Lwa = A-weighted sound power level
ME = motorised
H = habitat

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DECLARATION OF PERFORMANCE

1. Unique identification code of the product-type:	**AVANTAGE DP**
2. Intended use/es:	Smoke control damper to be used in smoke control systems, in multi-compartment applications at fire temperatures, or in single-compartment applications.
3. Manufacturer:	Rf-Technologies NV, Lange Ambachtstraat 40, B-9860 Oosterzele
4. System/s of AVCP:	System 1
5. Harmonised standard / European Assessment Document; notified body / European Technical Assessment, Technical Assessment Body, notified body; certificate of constancy of performance:	EN 12101-8:2011, Efectis with identification number 1812; Efectis_1812_CPR_1042
6. Declared performance according to EN 12101-8:2011	(fire resistance according to EN 1366-10, classification according to EN 13501-4)

Essential characteristics					Performance
Range	Product	Wall type	Wall	Installation	Classification
350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Avantage 60	Shaft	Promatect L500 ≥ 30 mm	1	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
			Geoflam ≥ 30 mm		
			Geotec ≥ 30 mm		
			Tecniver ≥ 35 mm		
			Glasroc F V500 ≥ 35 mm		
			Exthamat ≥ 25 mm		
			Desenfire HD ≥ 25 mm HD		
			Concrete ≥ 70 mm		
	Avantage 120	Shaft	Promatect L500 ≥ 40 mm	1	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
			Geoflam ≥ 35 mm		
			Tecniver ≥ 45 mm		
			Exthamat ≥ 30 mm		
			Desenfire ≥ 25 mm THD		
			Concrete ≥ 70 mm		
	Avantage 120	Shaft	Promatect L500 ≥ 50 mm	1	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
			Geoflam ≥ 45 mm		
			Geoflam Light ≥ 35 mm		
			Geotec ≥ 45 mm		
			Tecniver ≥ 50 mm		
			Glasroc F V500 ≥ 50 mm		
			Exthamat ≥ 35 mm		
			Desenfire HD ≥ 35 mm HD		
			Desenfire ≥ 45 mm		

1 Type of installation: shaft-mounted 0/180°

Harmonised standard
EN 12101-8:2011

Nominal activation conditions/sensitivity:	Pass - automatic activation
Response delay (response time): closure time	Pass - automatic activation
Operational reliability: cycling	10000 cycles (no load)
Durability of response delay:	Pass
Durability of operational reliability:	Pass
Approved accessories	EASY-KAP mounting frame; motor VA DP MEC; with grill; option BLACK (700 x 1075 mm)
High operational temperature (HOT 400/30):	NPD (no performance determined)

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

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

Oosterzele, 03/2019

Rf-t

Declaration of performance

Product presentation AVANTAGE DP

Product presentation AVANTAGE DP

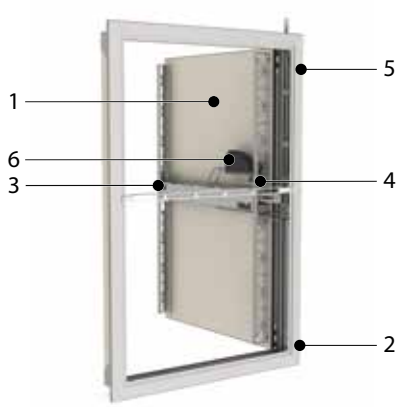
The Avantage DP is a CE marked product certified in accordance with EN12101-8, suitable for vertical mounting within apertures in ducts or structures. Offering 60 or 120-minute fire resistance at minimum pressure loss, it is classified as suitable for multi-compartment applications. In addition, Avantage DP has a $C_{10.000}$ reliability classification that means it can be used in combined smoke control and environmental systems.

Smoke evacuation shutters and dampers are suitable for use in ventilating protected lobbies, venting to shafts either naturally or mechanically. They open to evacuate smoke in emergency situations whilst maintaining fire resistant integrity in standby position.

- ☑ simple operating tests through remote opening and resetting
- ☑ optimal free air passage and minimal pressure loss

- ■ tested according to EN 1366-10
- ■ compliant with EN 12101-8
- ■ approved for installation in calcium-silicate, 'Staff', Tecniver, Glasroc, Extha and concrete shafts.
- ■ maintenance-free
- ■ for indoor use

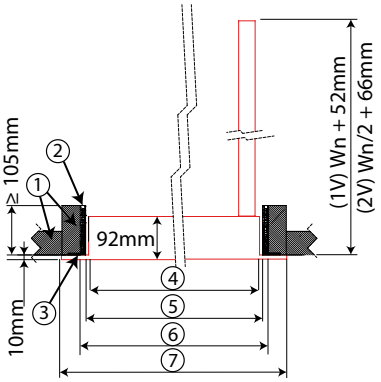
1. 1 shutter (1V)
2. aluminium frame
3. lock + key
4. blocking mechanism + automatic locking at 90°
5. product identification
6. resetting motor



AVANTAGE DP 1V

Avantage DP single shutter units (1V), with a fire-resistance of 60 minutes.

Range and dimensions AVANTAGE DP 1V60



1. Refractory material
2. Sealing if mounting frame
3. Mounting frame (optional)
4. Nominal dimensions shutter Wn x Hn
5. Built-in dimensions without mounting frame (Wn+10) x (Hn+10)mm
6. Built-in dimensions with mounting frame (Wn+20) x (Hn+20)mm
7. Overall (outside) dimensions of the shutter (Wn+54) x (Hn+54)mm

	≥	≤
(Wn x Hn) mm	350x385	700x1075

Evolution - kits

	KITS VD24-VA	Natural magnet 24 V DC
	KITS FDC-VA	Limit switches 'open/closed'
	KITS ME AVANDP	Motor DP 24V
	EASY-KAP	Mounting frame (delivered separately)
	GFV-PB	Technical front protection grill (aluminium frame and perforated plate, fastened with screws 4.8x19mm), free air passage of 69,4%

Options - at the time of order

	GFV-PB	Technical front protection grill (aluminium frame and perforated plate, fastened with screws 4.8x19mm), free air passage of 69,4%

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Storage and handling

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 delivered with the product and the classification report.
- The installation of the shaft must comply with the classification report delivered by the shaft manufacturer.
- Axis orientation: see the declaration of performance.
- Avoid the obstruction of adjoining shafts.
- Verify if the blade can move freely.
- Rf-t smoke dampers may be applied to ducts that have been tested according to EN 1366-8 and EN 1366-9 as appropriate, constructed from similar materials with a fire resistance, thickness and density equal or superior to these of the tested materials.
  - ⚠ Caution: when fitting, the product should be handled with care and remain protected from any sealing products.
  - ⚠ Caution: before putting the installation into operation, clean off all the dust and dirt.
  - ⚠ Caution: bear in mind the blade's clearance inside the smoke evacuation duct.

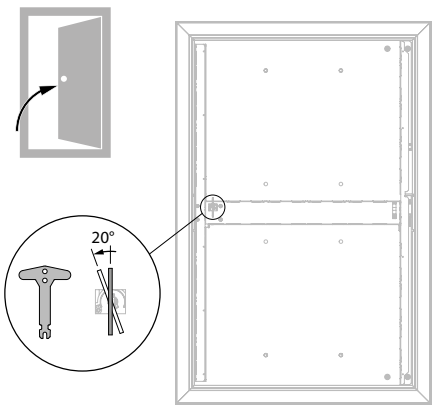
Warning

Extreme care must be taken in the installation of smoke control dampers and regard should be given to health and safety provisions. The installation should only be carried out by suitably trained and qualified personnel. Installers, users and maintainers are reminded of their duties under the U.K. Health and Safety at Work Act, the European Community Workplace Directives and other National Legislation and Guidelines on Safety.

Do not attempt to lift, support or move the damper by the drive linkage transom. If the transom is bent in any way it will cause damage to the motor drive shaft and gearbox. Do not attempt to operate the damper if the transom bar is damaged.

Operation: manual opening

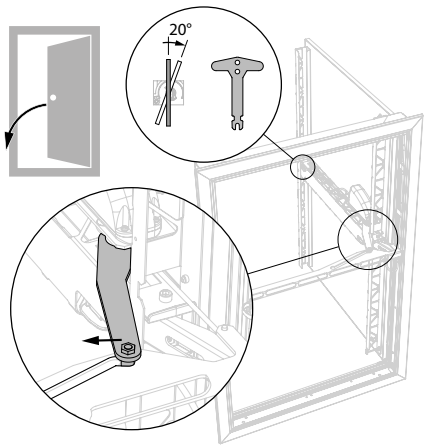
1



1. Unlocking 1V
Turn the key 20° anti clockwise and the damper will push open without releasing the magnetic latch. Turn the key past 20 degrees and the latch will disengage and the damper will also push open. To re-arm the latch insert key and turn clockwise.

Operation: manual closing

1



1. Resetting 1V
Insert the key and turn 20° clockwise. Press the drive linkage bar to release from the stand-open position and pull the damper door slowly closed until the latch locates with the strike plate.

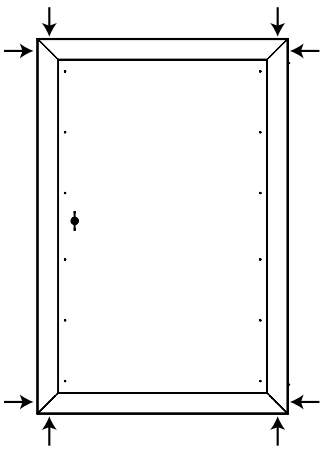
Electrical connection

The DP drive motor is a 24 volt DC 0.8 amp rated motor that requires a 24 volt ± 5% fully smooth and rectified supply. The damper operates on a 2 wire reverse polarity connection. Terminate cables in a site supplied junction box with screw terminals. The 24 volt DC motor connections are polarity sensitive. Be sure positive (+) and Negative (-) are connected correctly.

Wire colours: brown = 24 V DC (+); blue = 24 V DC (-); white = not used (programming).
Operation: brown + and blue -: opening; brown - and blue +: closing.

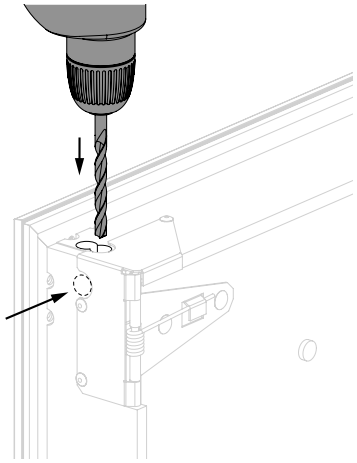
It is recommended that only control systems conforming to standards ISO 21927-9, pr EN12101-9 and EN 12101-10 are used to operate the smoke control dampers.

1



1. The shutter is a 24 volt DC drive open, drive closed unit incorporating a 24 volt DC pulse active locking latch. It is supplied with double insulated trailing lead cables for onsite connection in accordance with these instructions. Mechanisms need to be visually inspected prior to installation to check any physical damage to actuators or cables.
The trailing lead cable exit position can be any of the 4 corners of the damper.

2



2. Drill a hole in the refractory material at the chosen corner(s). The galvanised part at the inside of the shutter is already indented.

⚠ Caution: after passing and fixing the cables, it is necessary to caulk around the electrical cables with fire resistant adhesive sealant (BCM f.e.).

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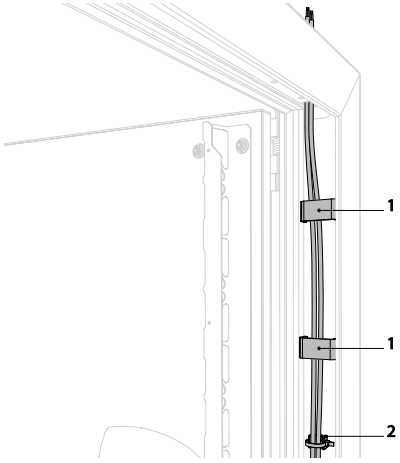
Installation

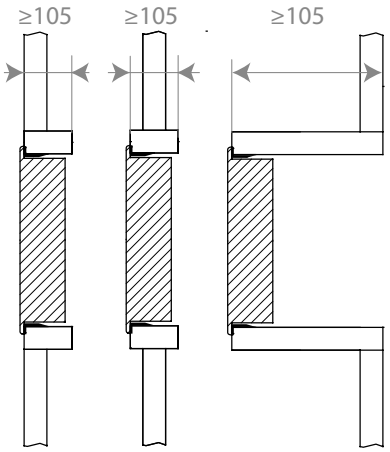
3



3. It is recommended that once the holes have been drilled at the cable exit position, the cables are laid and clipped in position around the inside perimeter of the damper framing and each cable "Fed and Drawn" through these holes to the outside of the damper spigot. At all times take care not to damage the cable insulation.
Lead the cables through the opening. Use the fixation clips (1) and the plastic cable clamp (2) to attach the cables to the frame.

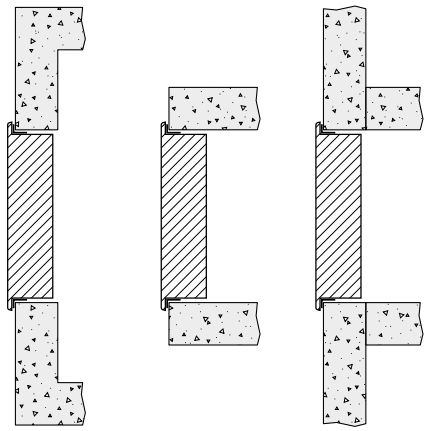
Position in the shaft

1



1. Smoke control dampers should be fitted to the smoke evacuation shaft and / or fire resisting duct with a penetration seal of a type used in the test of the damper to EN1366-10. They may be installed within the duct or wall thickness of the fire separating element or onto the surface of these elements or to a fire resisting branch duct connecting to the shaft.

2



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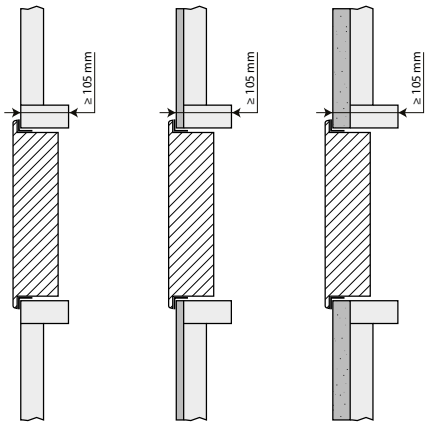

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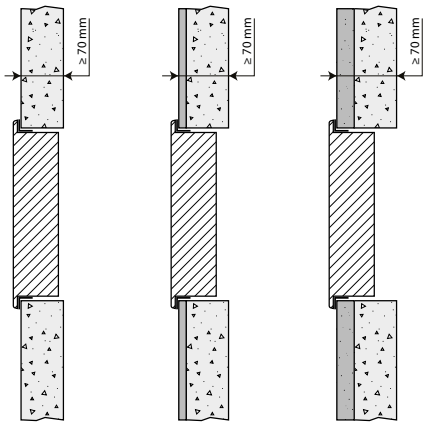

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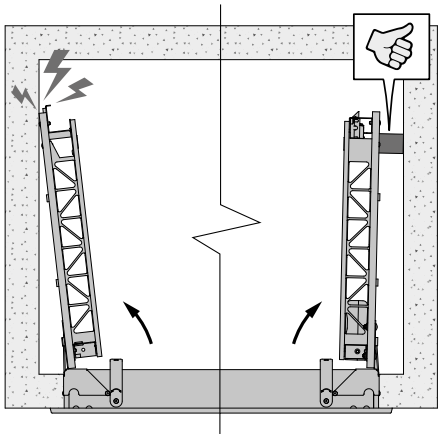
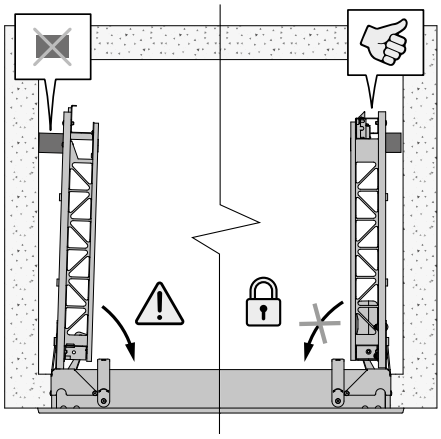
Shock absorbers for the doors

1



1. Shock absorbers (foam) come standard with the shutter. They can be affixed to the inner face of the door to prevent it from hitting the shaft wall when opening.

2



2. Be sure to cut these blocks to the correct dimensions so that the blocking mechanism can engage when the door opens.

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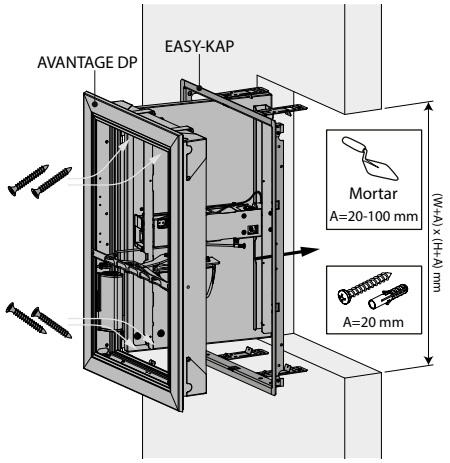
Installation

Installation into vertical concrete shaft with built-in mounting frame

The product was tested and approved in:

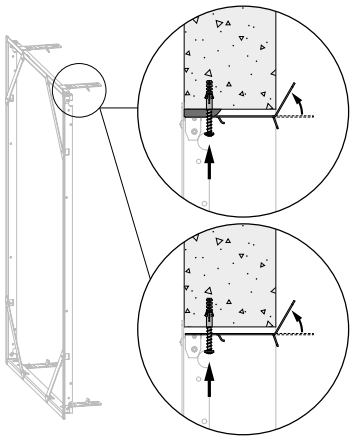
Product	Range	Wall type		Classification
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Concrete ≥ 70 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Concrete ≥ 70 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi

1



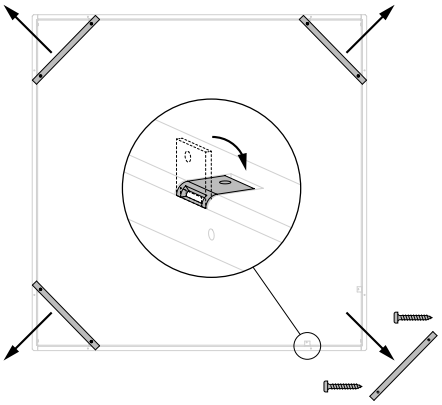
1. In case of sealing the mounting frame:
Make an opening with dimensions (W+20) x (H+20) mm till (W+100) x (H+100) mm.
In case of screwing of the mounting frame:
Make an opening with dimensions (W+20) x (H+20) mm.

2



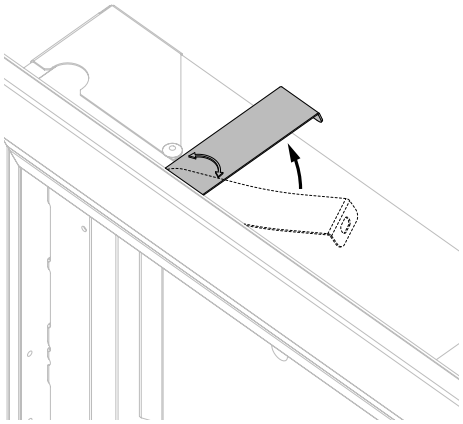
2. The mounting frame should always be fastened to the concrete shaft with screws and dowels (Ø6 x minimum 60 mm, steel or stainless steel).
For an opening with dimensions up to (W+20) x (H+20) mm:
Two sealing lugs are provided at the bottom and at the top of the mounting frame: fold these against the shaft and fasten the mounting frame to the lining with 4 screws Ø6 x 60 mm, taking care not to misshape it. These screws can be inserted through any of the punched holes in the lugs, depending on the thickness of the shaft wall.
The finished opening must be the same size as the mounting frame (W+10) x (H+10) mm.
For an opening with dimensions up to (W+100) x (H+100) mm:
Apply mortar around the opening to reduce the opening to the outer dimensions of the frame, then proceed as mentioned above to fasten the frame to the opening. Make sure that the gap between the frame and the opening in sealed completely with mortar.
The mortar must harden completely before the damper is fastened to the mounting frame.

3



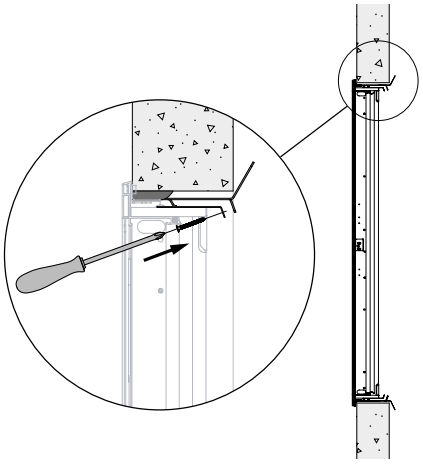
3. Set aside the screws that are affixed to one of the cross slats, then unscrew the 4 cross slats of the mounting frame and fold the 8 plates in the frame.

4



4. Rotate the four fastening plates on the damper 90° (to the upright position).

5



5. Open and position the shutter in the mounting frame. If VM magnet: remove the key from the lock to open the shutter.
Fasten the shutter onto the mounting frame with the 4 screws supplied with the mounting frame, as shown in the drawing.
Tightening the screws pulls the shutter towards the wall until its final position.
It also makes it possible to slightly correct the angle of the shutter with respect to the mounting frame.
Connect the mechanism according to the wiring diagram.
Check the mobility of the shutter.

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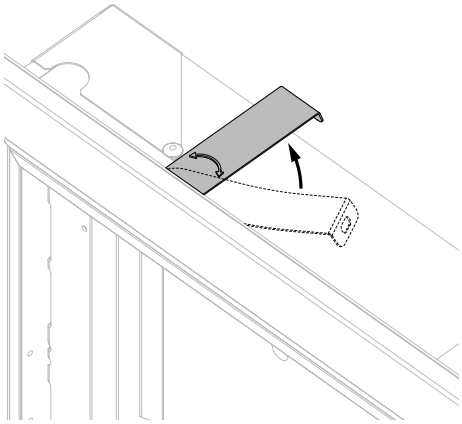
Installation

Installation into vertical concrete shaft (without a mounting frame)

The product was tested and approved in:

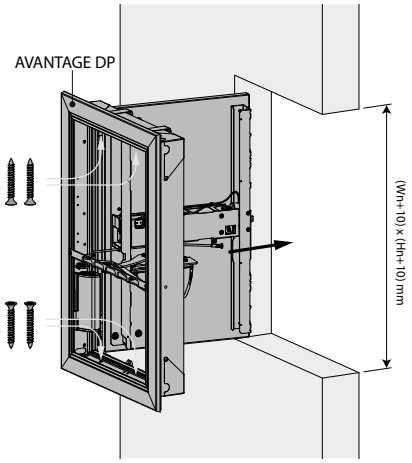
Product	Range	Wall type		Classification
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Concrete ≥ 70 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Concrete ≥ 70 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi

1



1. Rotate the four fastening plates on the damper 90° (to the upright position).
The fastening plates are not used for an installation without a mounting frame.

2



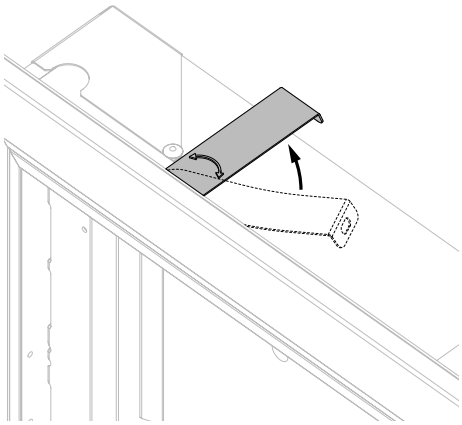
2. Make an opening with dimensions (W+10) x (H+10) mm.
Open and position the shutter in the opening. If VM magnet: remove the key from the lock to open the shutter.
Fix the shutter in the opening using 4 screws and dowels Ø6 x 40 mm.
Connect the mechanism according to the wiring diagram.
Check the mobility of the shutter.

Installation into vertical shaft (without a mounting frame): general instructions for all types of shafts (other than concrete)

The product was tested and approved in:

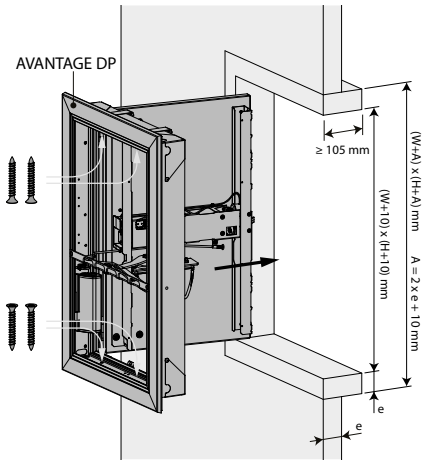
Product	Range	Wall type		Classification
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Promatect L500 ≥ 30 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam ≥ 30 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geotec ≥ 30 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Tecniver ≥ 35 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Glasroc F V500 ≥ 35 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Exthamat ≥ 25 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire HD ≥ 25 mm HD	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Promatect L500 ≥ 40 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam ≥ 35 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Tecniver ≥ 45 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Exthamat ≥ 30 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire ≥ 25 mm THD	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Promatect L500 ≥ 50 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam ≥ 45 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam Light ≥ 35 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geotec ≥ 45 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Exthamat ≥ 35 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Tecniver ≥ 50 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Glasroc F V500 ≥ 50 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire HD ≥ 35 mm HD	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire ≥ 45 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi

1



1. Rotate the four fastening plates on the damper 90° (to the upright position).
The fastening plates are not used for an installation without a mounting frame.

2



2. Make an opening with dimensions (W+A) x (H+A) mm.
A = 2 x thickness sleeve (e) + 10 mm.
Fit a sleeve of the same type and thickness of the duct (thickness e) of minimum 105 mm deep in the opening.
Fix the sleeve to the shaft wall.
With the opening prepared the shutter can be handled into position, from the room side. Ensure that the trailing lead cables are not trapped at this stage and freely hang loose. Do not distort or twist the frames as this will affect the correct operation and sealing of the shutter. Check for squareness by measuring the frame diagonals (they must measure the same).
Fix the shutter in the opening using 4 screws and dowels Ø6 x 40 mm.

⚠ Caution: make sure that the screws don't exceed the sleeve's thickness!

Connect the mechanism according to the wiring diagram.
Check the mobility of the shutter.

⚠ Caution: before putting the installation into operation, clean off all the dust and dirt.

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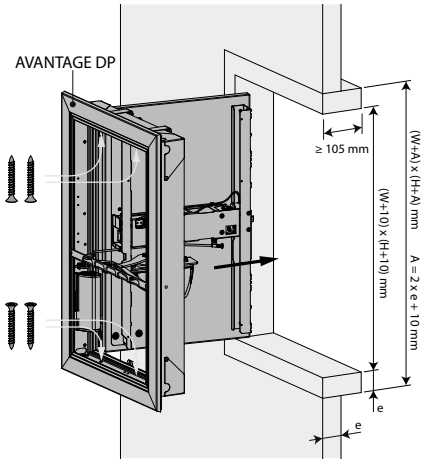
Installation

Installation into vertical shaft with built-in mounting frame: general instructions for all types of shafts (other than concrete)

The product was tested and approved in:

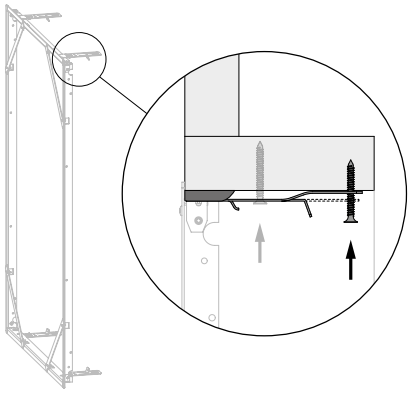
Product	Range	Wall type		Classification
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Promatect L500 ≥ 30 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam ≥ 30 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geotec ≥ 30 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Tecniver ≥ 35 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Glasroc F V500 ≥ 35 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Exthamat ≥ 25 mm	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 60	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire HD ≥ 25 mm HD	EI 60 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Promatect L500 ≥ 40 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam ≥ 35 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Tecniver ≥ 45 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Exthamat ≥ 30 mm	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire ≥ 25 mm THD	EI 90 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Promatect L500 ≥ 50 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam ≥ 45 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geoflam Light ≥ 35 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Geotec ≥ 45 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Exthamat ≥ 35 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Tecniver ≥ 50 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Glasroc F V500 ≥ 50 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire HD ≥ 35 mm HD	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi
Avantage 120	350x385 mm ≤ Avantage 1V DP ≤ 700x1075 mm	Shaft	Desenfire ≥ 45 mm	EI 120 (v_{ed} i ↔ o) S 500 C10000 AA multi

1



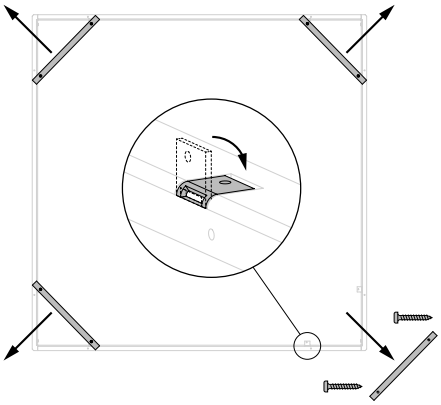
1. Make an opening with dimensions (W+A) x (H+A) mm.
A = 2 x thickness sleeve (e) + 20 mm.
Fit a sleeve of the same type and thickness of the duct (thickness e) of minimum 105 mm deep in the opening.
Fix the sleeve to the shaft wall.

2



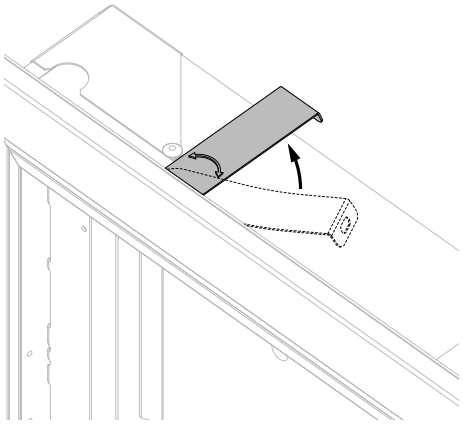
2. Two sealing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve.
In case of fixing by screws, fasten the mounting frame to the sleeve with chipboard screws (Ø 6 x e) mm. These screws can be fixed in one of the openings provided for this purpose, depending on the depth of the sleeve.
Take care not to misshape the frame during its installation. The finished opening must be the same size as the mounting frame (W+10) x (H+10) mm.

3



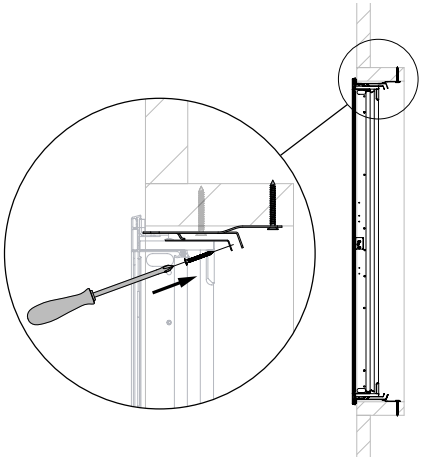
3. Set aside the screws that are affixed to one of the cross slats, then unscrew the 4 cross slats of the mounting frame and fold the 8 plates in the frame.

4



4. Rotate the four fastening plates on the damper 90° (to the upright position).

5



5. With the opening prepared the shutter can be handled into position, from the room side. Ensure that the trailing lead cables are not trapped at this stage and freely hang loose. Do not distort or twist the frames as this will affect the correct operation and sealing of the shutter. Check for squareness by measuring the frame diagonals (they must measure the same). Fasten the shutter onto the mounting frame with the 4 screws supplied with the mounting frame, as shown in the drawing. Tightening the screws pulls the shutter towards the wall until its final position. It also makes it possible to slightly correct the angle of the shutter with respect to the mounting frame.

⚠ Caution: make sure that the screws don't exceed the sleeve's thickness!

Connect the mechanism according to the wiring diagram. Check the mobility of the shutter.

⚠ Caution: before putting the installation into operation, clean off all the dust and dirt.

Product maintenance

Smoke control dampers must form part of a professionally designed Smoke and Heat Exhaust Ventilation System (SHEVS) that will be specially suited to an individual buildings size, usage and structure. SHEVS are Fire Safety Installations and it is essential they are subject to the routine inspection and maintenance requirements of the country of installation of the SHEV system. For example, BS7346 part 8, NF S 61-933 and EN 13306. Avantage and Kamouflage DP dampers are virtually maintenance free, however, they will require occasional operation and maintenance as part of a system specific routine operational test and maintenance procedure. It is recommended that as part of the system testing and maintenance procedure that different individual dampers are operated at each system test such that each damper within a system is inspected, checked and tested at least once in any 6-month period. The following instructions are a general guide and our recommendations to the procedures required: a) Operate each ventilator at least once; checking that the unit opens and closes fully. b) Visually observe the control mechanisms ensuring the devices are in place and are not obviously damaged or obstructed. c) Inspect each ventilator in its open position to check that the intumescent fire seals and smoke seals between the vent frame and doors are not damaged and are securely attached. Wipe any dirt build up from the seals. Inspect the door leading and trailing edge seals and lightly lubricate with a machine oil and a silicone grease to the release latch.

Maintenance

- No specific maintenance required.
- Schedule at least two running checks each year.
- Remove dust and all other particles before start-up.
- Follow the local maintenance regulations (i.e. BS9999 Annex V; NF S 61-933) and EN13306.

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Operation and mechanisms

Operation and mechanisms

Operation: general points

- See under 'Installation' (manual opening and closing).
  - ⚠ Caution : please note dampers must be fully open before starting supply and/or extract fans.

VA DP MEC Mechanism for motorised unlocking and resetting.

Mechanism for the motorised unlocking and resetting of the Smoke Control Damper Avantage DP, Kamouflage DP.

1. Motor and housing
2. Motor mounting bracket
3. Drive arm guide pin
4. Motor drive arm
5. Cable connectors

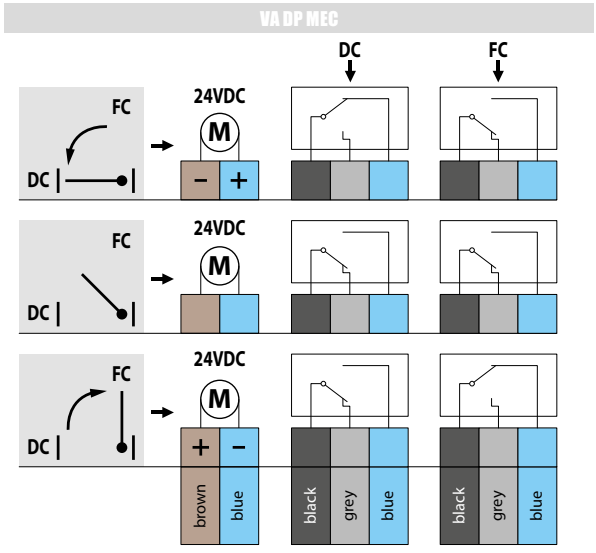
Unlocking

- **manual unlocking**: manual release with the damper key (delivered in the bag together with the installation guidelines)
- **remote unlocking**: remote by connection of 24 V DC

Resetting

- **manual resetting**: rearm magnetic latch with key (delivered in the bag together with the installation guidelines), press the drive linkage arm to unlock position and pull the damper closed
- **motorised resetting**: remote resetting by inverting the voltage connection

Electrical connection



DC : Switch closed position smoke evacuation shutter
FC : Switch open position smoke evacuation shutter

MEC	Nominal voltage motor	Nominal voltage magnet	Power consumption (stand-by)	Power consumption (operating)	Standard switches	Protection class
VA DP MEC	24 V DC	N/A	N/A	Pnom 15VA	1mA...6A, DC 5V...AC 250V	IP 32

Weights

AVANTAGE DP 1V60 - 1V120

Hn\Wn [mm]		350	400	450	500	550	600	650	700							
385	kg	7,9	8,3	8,8	9,2	9,7	10,3	11,0	11,6							
415	kg	8,3	8,8	9,4	9,9	10,4	11,0	11,5	12,0							
445	kg	8,6	9,2	9,7	10,3	10,8	11,4	11,9	12,5							
475	kg	8,9	9,5	10,0	10,6	11,2	11,8	12,3	12,9							
505	kg	9,2	9,8	10,4	11,0	11,5	12,1	12,7	13,3							
535	kg	9,4	10,1	10,7	11,3	11,9	12,5	13,1	13,8							
565	kg	9,7	10,3	11,0	11,6	12,3	12,9	13,5	14,2							
595	kg	10,0	10,6	11,3	11,9	12,6	13,3	13,9	14,6							
625	kg	10,4	11,0	11,6	12,2	12,9	13,6	14,3	15,0							
655	kg	10,7	11,3	11,9	12,5	13,3	14,0	14,7	15,4							
685	kg	10,9	11,5	12,1	12,8	13,6	14,3	15,1	15,8							
715	kg	11,2	11,8	12,4	13,1	13,9	14,7	15,4	16,2							
745	kg	11,4	12,1	12,7	13,4	14,2	15,0	15,8	16,6							
775	kg	11,6	12,3	13,0	13,7	14,6	15,4	16,2	17,0							
805	kg	11,9	12,6	13,3	13,9	14,9	15,7	16,6	17,4							
835	kg	12,1	12,8	13,6	14,2	15,2	16,1	17,0	17,8							
865	kg	12,4	13,1	13,8	14,5	15,5	16,4	17,3	18,2							
895	kg	12,6	13,4	14,1	14,8	15,9	16,8	17,7	18,6							
925	kg	12,9	13,6	14,4	15,1	16,2	17,2	18,1	19,0							
955	kg	13,1	13,9	14,7	15,4	16,5	17,5	18,5	19,5							
985	kg	13,4	14,2	15,0	15,7	16,9	17,9	18,9	19,9							
1015	kg	13,6	14,4	15,3	16,0	17,2	18,2	19,3	20,3							
1045	kg	13,9	14,7	15,5	16,2	17,5	18,6	19,6	20,7							
1075	kg	14,1	15,0	15,8	16,5	17,8	18,9	20,0	21,1							

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Selection data

Selection data

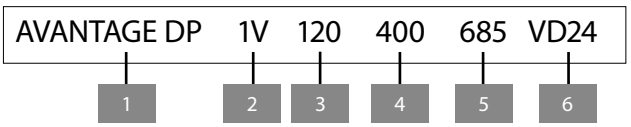
AVANTAGE DP 1V60 - 1V120

Hn\Wn [mm]		350	400	450	500	550	600	650	700							
385	ζ [-]	2,522	2,079	1,768	1,540	1,365	1,227	1,114	1,021							
415	ζ [-]	2,263	1,869	1,592	1,388	1,231	1,107	1,006	0,923							
445	ζ [-]	2,053	1,698	1,448	1,264	1,122	1,009	0,918	0,842							
475	ζ [-]	1,879	1,556	1,328	1,160	1,031	0,927	0,844	0,774							
505	ζ [-]	1,732	1,437	1,227	1,073	0,953	0,858	0,781	0,717							
535	ζ [-]	1,607	1,334	1,141	0,998	0,887	0,799	0,727	0,667							
565	ζ [-]	1,500	1,246	1,066	0,933	0,829	0,747	0,680	0,625							
595	ζ [-]	1,406	1,169	1,001	0,876	0,779	0,702	0,639	0,587							
625	ζ [-]	1,323	1,101	0,943	0,826	0,735	0,662	0,603	0,554							
655	ζ [-]	1,250	1,041	0,892	0,781	0,695	0,627	0,571	0,524							
685	ζ [-]	1,185	0,987	0,846	0,741	0,660	0,595	0,542	0,498							
715	ζ [-]	1,126	0,938	0,805	0,705	0,628	0,566	0,516	0,474							
745	ζ [-]	1,073	0,895	0,767	0,673	0,599	0,540	0,492	0,452							
775	ζ [-]	1,025	0,855	0,733	0,643	0,573	0,517	0,471	0,433							
805	ζ [-]	0,981	0,818	0,703	0,616	0,549	0,495	0,451	0,415							
835	ζ [-]	0,941	0,785	0,674	0,591	0,527	0,475	0,433	0,398							
865	ζ [-]	0,904	0,755	0,648	0,568	0,507	0,457	0,417	0,383							
895	ζ [-]	0,870	0,726	0,624	0,547	0,488	0,440	0,401	0,369							
925	ζ [-]	0,838	0,700	0,602	0,528	0,470	0,425	0,387	0,356							
955	ζ [-]	0,809	0,676	0,581	0,510	0,454	0,410	0,374	0,344							
985	ζ [-]	0,782	0,653	0,562	0,493	0,439	0,397	0,362	0,332							
1015	ζ [-]	0,757	0,632	0,544	0,477	0,425	0,384	0,350	0,322							
1045	ζ [-]	0,733	0,613	0,527	0,462	0,412	0,372	0,339	0,312							
1075	ζ [-]	0,711	0,594	0,511	0,448	0,400	0,361	0,329	0,303							

AVANTAGE DP 1V60 - 1V120 - Free air passage (m^2)

Hn\Wn [mm]		350	400	450	500	550	600	650	700		
385	Sn [m^2]	0,1090	0,1270	0,1450	0,1630	0,1810	0,1990	0,2170	0,2350		
415	Sn [m^2]	0,1190	0,1380	0,1580	0,1770	0,1960	0,2160	0,2350	0,2550		
445	Sn [m^2]	0,1280	0,1490	0,1700	0,1910	0,2120	0,2330	0,2540	0,2750		
475	Sn [m^2]	0,1380	0,1610	0,1830	0,2050	0,2280	0,2500	0,2730	0,2950		
505	Sn [m^2]	0,1480	0,1720	0,1960	0,2200	0,2440	0,2680	0,2920	0,3150		
535	Sn [m^2]	0,1580	0,1830	0,2080	0,2340	0,2590	0,2850	0,3100	0,3360		
565	Sn [m^2]	0,1670	0,1940	0,2210	0,2480	0,2750	0,3020	0,3290	0,3560		
595	Sn [m^2]	0,1770	0,2050	0,2340	0,2620	0,2910	0,3190	0,3480	0,3760		
625	Sn [m^2]	0,1870	0,2170	0,2470	0,2770	0,3070	0,3360	0,3660	0,3960		
655	Sn [m^2]	0,1960	0,2280	0,2590	0,2910	0,3220	0,3540	0,3850	0,4170		
685	Sn [m^2]	0,2060	0,2390	0,2720	0,3050	0,3380	0,3710	0,4040	0,4370		
715	Sn [m^2]	0,2160	0,2500	0,2850	0,3190	0,3540	0,3880	0,4230	0,4570		
745	Sn [m^2]	0,2260	0,2620	0,2980	0,3330	0,3690	0,4050	0,4410	0,4770		
775	Sn [m^2]	0,2350	0,2730	0,3100	0,3480	0,3850	0,4230	0,4600	0,4970		
805	Sn [m^2]	0,2450	0,2840	0,3230	0,3620	0,4010	0,4400	0,4790	0,5180		
835	Sn [m^2]	0,2550	0,2950	0,3360	0,3760	0,4170	0,4570	0,4970	0,5380		
865	Sn [m^2]	0,2640	0,3060	0,3480	0,3900	0,4320	0,4740	0,5160	0,5580		
895	Sn [m^2]	0,2740	0,3180	0,3610	0,4050	0,4480	0,4910	0,5350	0,5780		
925	Sn [m^2]	0,2840	0,3290	0,3740	0,4190	0,4640	0,5090	0,5540	0,5990		
955	Sn [m^2]	0,2940	0,3400	0,3870	0,4330	0,4790	0,5260	0,5720	0,6190		
985	Sn [m^2]	0,3030	0,3510	0,3990	0,4470	0,4950	0,5430	0,5910	0,6390		
1015	Sn [m^2]	0,3130	0,3630	0,4120	0,4610	0,5110	0,5600	0,6100	0,6590		
1045	Sn [m^2]	0,3230	0,3740	0,4250	0,4760	0,5270	0,5780	0,6290	0,6790		
1075	Sn [m^2]	0,3330	0,3850	0,4370	0,4900	0,5420	0,5950	0,6470	0,7000		

Sample order



1. product
2. 1 shutter (1V)
3. fire resistance of 60 or 120 minutes
4. width
5. height
6. option: type magnet and voltage

Approvals and certificates

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

CE
1812

Efectis_1812_CPR_1042

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

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