

Aesthetic smoke evacuation shutter for ceiling mounting.



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Explanation of the abbreviations and pictograms

Wn = nominal width Hn = nominal height	hod = horizontal duct vew = vertical wall penetration	KIT = kit (delivered separately for repair or upgrade)
Sn = free air passage	V = volt	PG = connection flange to the duct
E = integrity	W = watt	GKB (type A) / GKF (type F): "GKB"
I = thermal insulation	V AC = Volt alternating current	stands for standard plasterboards (type
S = smoke leakage	V DC = Volt direct current	A according to EN 520) while "GKF"
60/120 = fire resistance time	E.TELE = power supply magnet	plasterboards offer a higher fire resistance
Pa = pascal	E.ALIM = power supply motor	for a similar plate thickness (type F
o -> i = meets the criteria from the outside	Auto = automatic	according to EN 520)
(o) to the inside (i)	Tele = remote controlled	Cal-Sil = calcium silicate
i <-> o = fire side not important	Pnom = nominal capacity	ζ [-] = pressure loss coefficient
AA = automatic activation	Pmax = maximum capacity	Q = air flow
multi = multi compartment	DAS MOD = modular product	$\Delta P =$ static pressure drop
1500 = pressure level 3 (1500Pa)	OP = option (delivered with the product)	v = air speed in the duct
ved = vertical duct		Lwa = A-weighted sound power level
		ME = motorised

H = habitat

aesthetic solution		X	optimal acoustic performance
optimal free air passage	and minimal pressure loss	-1500 Pa	superior air tightness (tested at 1500 Pa)
intermediate dimension	is on request	JNUS 2012	winner of the French "Janus de l'Industrie" award

DECLARATION OF PERFORMANCE

CE_DoP_Rf-t_V14_EN= H-11/2019

1. Unique identification code of the product-type:			KAMOUFLAGE P				
2. Intended use/es:			Smoke evacuation shutter to b compartment applications.	oe used in smoke control systems, in multi	i-compartment a	Smoke evacuation shutter 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 Am	Rf-Technologies NV, Lange Ambachtstraat 40, B-9860 Oosterzele			
4. System/s of AVCP:		. 01	System 1				
5. Harmonised standard / European Assessment Documen notified body: certificate of constancy of nerformance.	5. Harmonised standard / European Assessment Document; notified body / European Technical Assessment, Technical Assessment Body, notified body cartificate of constancy of nodomance.		EN 12101-8:2011, Efectis with	EN 12101-8:2011, Efectis with identification number 1812; Efectis_1812_CPR_1043	CPR1043		
6. Declared performance according to EN 12101-8:2011	011		fire resistance according to EN	(fire resistance according to EN 1366-10, classification according to EN 13501-4)	13501-4)		
Essential characteristics						Performance	
Range	Product	Type shaft	Shaft		Installation	Class ification	
350x385 mm < Kamoliflacie P 1V < 700x775 mm:	Kamouflace 60 P	Shaft	Promatect	Promatect 500 > 30 mm		El 60 (h : i ↔ 여) S 1500 AA multi	
550x1075 mm			Geoflam ≥ 30 mm	30 mm			
			Geotec ≥ 30 mm	10 mm	1		
			Tecniver ≥ 35 mm	35 mm	1		
			Glasroc F V	Glasroc F V500 ≥ 35 mm	1		
			Exthamat ≥ 25 mm	≥ 25 mm	1		
			Desenfire I	Desenfire HD ≥ 25 mm			
	Kamouflage 120 P	Shaft	Promatect	Promatect L500 ≥ 40 mm	-	El 90 (h_{od} i \leftrightarrow o) S 1500 AA multi	
			Geoflam ≥ 35 mm	35 mm			
			Tecniver ≥ 45 mm	45 mm			
			Exthamat ≥ 30 mm	≥ 30 mm			
			Desenfire	Desenfire THD ≥ 25 mm			ł
		Shaft	Promatect	Promatect L500 ≥ 50 mm	-	El 120 (h_{od} i \leftrightarrow o) S 1500 AA multi	
			Geoflam ≥ 45 mm	· 45 mm			
			Geoflam Li	Geoflam Light ≥ 35 mm	1		sed s 101
			Geotec ≥ 45 mm	45 mm			
			Tecniver ≥ 50 mm	50 mm			
			Glasroc F V	Glasroc F V500 ≥ 50 mm			
			Exthamat ≥ 35 mm	≥ 35 mm			
			Desenfire F	Desenfire HD ≥ 35 mm			
			Desenfire ≥ 45 mm	≥ 45 mm			
			Desenfire	Desenfire STR ≥ 25 mm			
Type of installation: shaft-mounted 0/90°/180′/270°	180°/270°						
Nominal activation conditions/sensitivity:		Pass - a	Pass - automatic activation				1
Response delay (response time): closure time		Pass - é	automatic activation				
Operational reliability: cycling Durability of resnonce delaw		300 CV	rcles (no load)				
Durability of operational reliability:		Pass					
Approved accessories		Acrylic ATOUT	c paint on the leaf and synthet RAL 9010; KAP mounting fran	ic paint on the frame on the side not exponent	osed to fire; Glue	Acrylic paint on the leaf and synthetic paint on the frame on the side not exposed to fire; Glued wall paper on the side not exposed to fire; ATOUT RAL 9010; KAP mounting frame	
High operational temperature (HOT 400/30):			NPD (no performance determined)				
The performance of the product identified above is in c performance is issued, in accordance with Regulation (identified above	The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of the performance is insued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identifier above is a constructure of the manufacturer identifier above is a constructure of the manufacturer of the manufacturer of the manufacturer of the manufacturer of the constructurer of the constructure of the constructurer of the manufacturer of the constructurer of the cons	This declaration of he manufacturer		Siç	gned for and on l Mathieu S	Signed for and on behalf of the manufacturer by: Mathieu Steenland, Technical Manager Rf-t	
						Apr LP	
						Octomolo 11/2010	
						Oosterzele, 11/2019	

Product presentation KAMOUFLAGE P

Aesthetic smoke evacuation shutter suitable for ceiling mounting into the bottom of smoke shafts.

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.

- aesthetic solution
- ☑ modern look: either select the ready-to-install product with white laquered finish, or cover with paint or wallpaper
- ☑ superior air tightness (tested at 1500 Pa)
- ☑ thermal and acoustic insulation
- ☑ optimal free air passage and minimal pressure loss
- ☑ frame available with primer
- tested according to EN 1366-10
- compliant with EN 12101-8
- approved for installation in calcium-silicate, 'Staff', Tecniver and Glasroc shafts
- maintenance-free
- for indoor use
- winner of the French "Janus de l'Industrie" award
- intermediate dimensions on request
- 1. 1 shutter (1V)
- 2. frame in anodised aluminium / with primer (PRIM) / white laquered (ATOUT RAL9010)
- 3. lock + key
- 4. connection compartment
- 5. blocking mechanism + automatic locking at 90°
- 6. product identification
- 7. gas spring (ceiling version)



Range and dimensions KAMOUFLAGE P



- 1. Refractory material
- 2. Sealing mounting frame
- 3. KAP mounting frame (mandatory option)
- 4. Nominal dimensions shutter Wn x Hn
- 5. Built-in dimensions with KAP mounting frame (Wn+20) x (Hn+20)mm
- 6. Overall (outside) dimensions of the shutter (Wn+54) x (Hn+54)mm

	≥	≤
(Wn x Hn) mm	350x385	600x1045



D Evolution - kits

Evolution - kits



Options - at the time of order



Storage and handling

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

Avoid:

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

It is recommended:

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

Installation

General points

- The installation must comply with the installation manual and the classification report.
- 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.
 - A Caution: when fitting, the product should be handled with care and remain protected from any sealing products.
 - A Caution: before putting the installation into operation, clean off all the dust and dirt.
 - A Caution: bear in mind the blade's clearance inside the smoke evacuation duct.

Operation: manual opening



1. Unlocking 1V

Remove the finishing cap from the shutter. To do this, use the hook with key ring that is delivered with the product. You may attach this tool to the key through its handy key ring.

2. Insert the key in the lock. Turn the key 20° anti-clockwise: the shutter opens. Remove the key from the lock.

B Installation

1





2

1. Resetting 1V

3

Remove the finishing cap from the shutter. To do this, use the hook with key ring that is delivered with the product. You may attach this tool to the key through its handy key ring. 2. Insert the key in the lock. Turn the key 15° clockwise, the key gets blocked in the lock and can be used to pull the shutter.



3. Press on the blocking devices. Close the shutter by pulling at the key. Turn the key 15° clockwise, the key unblocks from the lock. Withdraw the key.

Installation

9

Electrical connection

1



2

1. You can thead the cable for the power supply through the 2 corners of the shutter, on the hinges' side.



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, you need to seal the drilled hole in the refractory plates around the electrical cables with fire resistant adhesive sealant (BCM f.e.).



4. Lead the cables through the opening. Use the protective sleeve (1), the fixation clips (2) and the plastic cable clamp (3) to attach the cables to the frame. Lead the cables to the connection box through the grommet (4) and connect according to the electrical connection diagram. Comply with the installation rules according to article 6.1 of NF S 61-932.

3

3. Pierce an opening in the connection box. Affix the grommet delivered with the product.

Installation

Position in the shaft



2

1. The shutter is affixed to the smoke evacuation shaft through a sleeve. That sleeve can be installed either in the shaft, in the axis of the shaft or outside the shaft (or shaft extension).



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Shock absorbers for the doors

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

Horizontal installation with built-in mounting frame: general instructions for all types of shafts

2



1

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1. Make an opening with dimensions $(W+A) \times (H+A) mm$. 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. Fasten and seal the mounting frame. See details per type of shaft hereafter.

Screw the mounting frame with chipboard screw (Ø 6 x e)mm to the sleeve. Two sealing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve. Take care not to misshape the frame during its installation. The finished opening must have the same size as the mounting frame (W+10) x (H+10) mm.



3. Open and position the shutter in the mounting frame. If VM magnet: remove the key from the lock to open the shutter. Don't use the bolts delivered with the mounting frame, but use the ones delivered with the shutter (M6x50).

A 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.



2. Unscrew the 4 cross beams of the KAP mounting frame and fold the 8 plates in the frame.

1

1

Horizontal installation into shaft PROMATECT L500 with built-in mounting frame

The product was tested and approved in:

Product	Range Wall type			Classification
Kamouflage 60 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Promatect L500 \ge 30 mm	El 60 ($h_{od} i \leftrightarrow o$) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Promatect L500 ≥ 40 mm	El 90 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Promatect L500 ≥ 50 mm	El 120 ($h_{od} i \leftrightarrow o$) S 1500 AA multi



1. Assemble the sleeve with staples and affix the assembled sleeve to the shaft wall with staples.

Coat the edges of the opening with adhesive plaster type Promacol S.

Seal the mounting frame with Promacol S taking care not to misshape it.

Horizontal installation into shaft GEOFLAM (LIGHT) / GEOTEC with built-in mounting frame

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60 P	350x385 mm \leq Kamouflage P 1V \leq 700x775 mm; 550x1075 mm	Shaft	Geoflam ≥ 30 mm	El 60 ($h_{od} i \leftrightarrow o$) S 1500 AA multi
Kamouflage 60 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Geotec ≥ 30 mm	El 60 ($h_{od} i \leftrightarrow o$) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Geoflam ≥ 35 mm	El 90 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Geoflam ≥ 45 mm	El 120 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Geoflam Light ≥ 35 mm	El 120 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Geotec ≥ 45 mm	El 120 (h _{od} i ↔ o) S 1500 AA multi



1. Coat the edges of the opening with adhesive plaster type PLACOL (in case of Geoflam) or GEOCOL (S) (in case of Geotec). In case of Geotec you can also assemble the sleeve with glue and screws Ø 5 x (2 x e) mm and affix the assembled sleeve to the shaft wall with glue and screws Ø 5 x (2 x e) mm every 100 mm.

Seal the joints between uprights and cross pieces and between the lining and the wall with vegetable fibre caulking and plaster or with GEOCOL (S) (in case of Geotec).

Two fixing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve. Caulk the mounting frame to the duct with vegetable fibre or (in case of Geotec) you can also coat the opening with Geocol (S) and fasten the mounting frame with screws of Ø 5 x e mm. Take care not to misshape the frame. The finished opening must have the same size as the mounting frame (W+10) x (H+10) mm.

Horizontal installation into shaft TECNIVER with built-in mounting frame

The product was tested and approved in:

The product was tested and approved in:

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Product	Range	Wall type		Classification
Kamouflage 60 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Tecniver ≥ 35 mm	El 60 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Tecniver ≥ 45 mm	El 90 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Tecniver ≥ 50 mm	El 120 ($h_{od} i \leftrightarrow o$) S 1500 AA multi



1. Put glue CF GLUE on the edges of the opening and the uprights and cross pieces.

Put glue type CF GLUE on the uprights and cross pieces and between the lining and the wall. Screw the sleeve using chipboard screws Ø5 x 70 mm at 150 mm intervals. Two fixing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve. First coat the opening with glue CF GLUE. Glue the mounting frame to the lining taking care not to misshape it. The finished opening must have the same size as the mounting frame (W+10) x (H+10) mm.

Horizontal installation into shaft GLASROC F V500 with built-in mounting frame

Product Range Wall type Classification Kamouflage 60 P 350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm Shaft Glasroc F V500 ≥ 35 mm EI 60 (h_{od} i ↔ o) S 1500 AA multi Kamouflage 120 P 350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm Shaft Glasroc F V500 ≥ 35 mm EI 120 (h_{od} i ↔ o) S 1500 AA multi



1. Put glue GLASROC F V500 on the edges of the opening and the uprights and cross pieces.

Put glue type GLASROC F V500 on the uprights and cross pieces and between the lining and the wall. Screw the sleeve using chipboard screws Ø5 x 70 mm at 150 mm intervals. Two fixing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve. First coat the opening with glue GLASROC F V500. Glue the mounting frame to the lining taking care not to misshape it. The finished opening must have the same size as the mounting frame (W+10) x (H+10) mm. 1

1

Horizontal installation into shaft DESENFIRE (HD/THD/STR) with built-in mounting frame

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Desenfire HD \ge 25 mm	El 60 ($h_{od} i \leftrightarrow o$) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Desenfire THD ≥ 25 mm	El 90 ($h_{od} i \leftrightarrow o$) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Desenfire HD ≥ 35 mm	El 120 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Desenfire ≥ 45 mm	El 120 (h _{od} i ↔ o) S 1500 AA multi
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Desenfire STR ≥ 25 mm	El 120 ($h_{od} i \leftrightarrow o$) S 1500 AA multi



1. Coat the edges of the opening with adhesive plaster, type FACILIS.

Fit a sleeve of the same type and thickness of the duct (thickness e) of minimum 105 mm deep in the opening. Seal the joints between uprights and cross pieces and between the lining and the wall with vegetable fibre caulking and plaster.

Two fixing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve. Caulk the mounting frame to the duct with vegetable fiber caulking and plaster and taking care not to misshape it. The finished opening must have the same size as the mounting frame (W+10) x (H+10) mm.

Horizontal installation into shaft EXTHAMAT with built-in mounting frame

The product was tested and approved in:

Product	Product Range			Classification	
Kamouflage 60 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Exthamat ≥ 25 mm	El 60 (h_{od} i \leftrightarrow o) S 1500 AA multi	
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Exthamat ≥ 30 mm	El 90 (h _{od} i ↔ o) S 1500 AA multi	
Kamouflage 120 P	350x385 mm ≤ Kamouflage P 1V ≤ 700x775 mm; 550x1075 mm	Shaft	Exthamat ≥ 35 mm	El 120 ($h_{od} i \leftrightarrow o$) S 1500 AA multi	



1. Put gypsum glue on the edges of the opening.

Seal the joints between uprights and cross pieces and between the lining and the wall with vegetable fibre caulking and plaster.

Two fixing lugs are provided at the bottom and at the top of the mounting frame: fold these against the sleeve. Caulk the mounting frame to the duct with vegetable fiber caulking and plaster and taking care not to misshape it. The finished opening must have the same size as the mounting frame (W+10) x (H+10) mm.

Finishing

1



1. The upper face of the shutter consists of a sheet of plasterboard, which you can decorate to match the wall in which the shutter is installed (paint or wallpaper).

A coat of paint can be applied on the unexposed face of the shutter and the frame; wallpaper can be applied to the shutter. Covering plate of plasterboard: fill the holes of the screws with a suitable filler. Let it dry and sand. Apply a primer paint suitable for plasterboard.

Profile of anodised aluminium: apply a primer suitable for metal. With the option PRIM, the frame is already prepared with a primer, ready to be painted.

Once the primer is dry, proceed with the finishing (paint or wallpaper).

▲ Caution : don't fill / cover the joint between the covering plate and the aluminium profile in order to guarantee that the shutter can open.

The options ATOUT RAL9010 / ALU (ALU not available on ceiling (P) model) and PRIM facilitate the finishing phase. With option ATOUT RAL9010 / ALU the shutter is supplied with a finished aspect, laquered white or aluminium. With option PRIM the profile is pre-painted with a primer.

Maintenance

- No specific maintenance required.
- Schedule at least two running visual 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.

Operation and mechanisms

Operation: general points

See under 'Installation'.

A Caution : please note dampers must be fully open before starting supply and/or extract fans.

C*D

VA MEC Remote controlled unlocking by a magnet.

Remote controlled unlocking by an electric impulse (VD) or by interruption (VM) of the magnet's power supply.



Options - at the time of order

VD24	Natural magnet 24 V DC
VD48	Natural magnet 48 V DC
VM24	Electromagnet 24 V DC (not applicable for ME and H model)
VM48	Electromagnet 48 V DC (not applicable for ME and H model)
FDCU	Limit switch 'open/closed' (Incl. exc. for H model)
FDCB	Auxiliary limit switch 'open/closed'

Unlocking

- **manual unlocking**: with the key (delivered in the bag together with the installation guidelines)
- automatic unlocking: n/a
- **remote unlocking**: by electrical impulse (VD) or interruption (VM) of current to the magnet.

Resetting

manual resetting: with the key (delivered in the bag together with the installation guidelines)

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 MEC	N/A	24/48 V DC	VM: 1,5W / VD: -	VM: - / VD: 3,5W	1mA6A, DC 5VAC 250V	IP 42

KAMOUFLAGE 1V60 P - 1V120 P

III m \ III m		050	400	450	500	550	600	CE0	700		1		
Hn\Wn		350	400	450	500	550	600	650	700				
385	kg	10,8	11,0	11,3	12,0	12,6	13,5	14,4					
415	kg	11,5	12,1	12,7	13,3	13,9	14,5	15,2					
445	kg	10,9	11,7	12,4	13,2	14,0	14,7	19,0	19,8				
475	kg	11,2	12,0	12,8	13,6	14,4	15,2	19,5	20,3				
505	kg	11,6	12,4	13,2	14,0	14,8	15,7	20,0	20,8				
535	kg	12,3	13,2	14,1	15,1	16,0	20,5	21,4	22,3				
565	kg	12,6	13,5	14,5	15,5	16,4	20,9	21,8	22,8				
595	kg	13,0	14,0	14,9	15,9	16,9	21,3	22,3	23,3				
625	kg	13,6	14,5	15,3	16,0	17,2	21,8	22,8	23,7				
655	kg	13,9	14,8	15,6	16,4	21,2	22,2	23,2	24,2				
685	kg	14,2	15,1	16,0	16,7	21,6	22,6	23,7	24,7				
715	kg	14,1	15,2	16,3	17,0	21,9	23,0	24,1	26,3				
745	kg	14,4	15,5	16,6	17,4	22,3	23,4	24,6	26,8				
775	kg	14,7	15,8	17,0	21,2	22,7	23,9	25,0	27,3				
805	kg	15,0	16,1	17,3	21,6	23,1	24,3	25,5					
835	kg	15,3	16,4	17,6	21,9	23,5	24,7	25,9					
865	kg	15,5	16,7	18,0	22,2	23,9	25,1	26,4					
895	kg	17,6	18,7	19,7	23,9	24,3	25,5	26,8					
925	kg	18,0	19,1	23,7	24,4	24,6	26,0						
955	kg	18,4	19,5	24,1	24,8	25,0	26,4						
985	kg	18,8	19,9	24,5	25,3	25,4	26,8						
1015	kg	19,2	20,3	25,0	25,7	25,8	27,2						
1045	kg	19,7	20,8	25,4	26,2	26,2	27,6						
1075	kg	20,1	21,2	25,9	26,6	29,2							

ATOUT 1V P RAL 9010

Hn\Wn	[mm]	350	400	450	500	550	600	650	700		ĺ	ĺ	
385	kg	0,4	0,4	0,5	0,5	0,6	0,7						
415	kg	0,4	0,5	0,5	0,6	0,7	0,7	0,8					
445	kg	0,4	0,5	0,6	0,6	0,7	0,8	0,9	0,9				
475	kg	0,5	0,5	0,6	0,7	0,8	0,9	0,9	1,0				
505	kg	0,5	0,6	0,7	0,7	0,8	0,9	1,0	1,1				
535	kg	0,5	0,6	0,7	0,8	0,9	1,0	1,1	1,2				
565	kg	0,6	0,7	0,8	0,8	0,9	1,0	1,1	1,2				
595	kg	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3				
625	kg	0,6	0,7	0,8	1,0	1,1	1,2	1,3	1,4				
655	kg	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,5				
685	kg	0,7	0,8	0,9	1,1	1,2	1,3	1,4	1,5				
715	kg	0,7	0,9	1,0	1,1	1,2	1,4	1,5	1,6				
745	kg	0,8	0,9	1,0	1,2	1,3	1,4	1,6					
775	kg	0,8	0,9	1,1	1,2	1,3	1,5	1,6					
805	kg	0,8	1,0	1,1	1,3	1,4	1,5	1,7					
835	kg	0,9	1,0	1,2	1,3	1,5	1,6	1,8					
865	kg	0,9	1,0	1,2	1,4	1,5	1,7						
895	kg	0,9	1,1	1,2	1,4	1,6	1,7						
925	kg	1,0	1,1	1,3	1,5	1,6	1,8						
955	kg	1,0	1,2	1,3	1,5	1,7	1,9						
985	kg	1,0	1,2	1,4	1,6	1,7	1,9						
1015	kg	1,1	1,2	1,4	1,6	1,8							
1045	kg	1,1	1,3	1,5	1,7	1,9							
1075	kg	1,1	1,3	1,5	1,7	1,9							

Selection data

Selection data

 $\Delta p = 0.6 \ge v^2 \ge \zeta$

KAMOUFLAGE 1V60 P - 1V120 P

Hn\Wn	[mm]	350	400	450	500	550	600	650	700				
385	ζ[-]	3,603	2,960	2,518	2,196	1,950	1,757	1,600					
415	ζ[-]	3,237	2,663	2,267	1,978	1,758	1,585	1,444					
445	ζ[-]	2,940	2,422	2,064	1,802	1,602	1,445	1,317	1,212				
475	ζ[-]	2,696	2,222	1,895	1,656	1,473	1,329	1,212	1,115				
505	ζ[-]	2,491	2,055	1,754	1,533	1,364	1,231	1,123	1,033				
535	ζ[-]	2,316	1,913	1,633	1,428	1,271	1,147	1,047	0,963				
565	ζ[-]	2,166	1,790	1,529	1,337	1,191	1,075	0,981	0,903				
595	ζ[-]	2,035	1,683	1,438	1,258	1,121	1,012	0,923	0,850				
625	ζ[-]	1,920	1,588	1,358	1,189	1,059	0,956	0,873	0,804				
655	ζ[-]	1,818	1,505	1,287	1,127	1,004	0,907	0,828	0,762				
685	ζ[-]	1,728	1,430	1,223	1,071	0,955	0,862	0,787	0,725				
715	ζ[-]	1,646	1,363	1,166	1,022	0,911	0,823	0,751	0,692				
745	ζ[-]	1,572	1,303	1,115	0,977	0,871	0,787	0,718	0,662				
775	ζ[-]	1,506	1,248	1,068	0,936	0,834	0,754	0,689	0,634				
805	ζ[-]	1,445	1,198	1,025	0,899	0,801	0,724	0,661					
835	ζ[-]	1,389	1,152	0,986	0,864	0,771	0,697	0,636					
865	ζ[-]	1,338	1,109	0,950	0,833	0,743	0,671	0,613					
895	ζ[-]	1,290	1,070	0,917	0,804	0,717	0,648	0,592					
925	ζ[-]	1,246	1,034	0,886	0,777	0,693	0,626						
955	ζ[-]	1,206	1,001	0,857	0,752	0,671	0,606						
985	ζ[-]	1,168	0,969	0,831	0,728	0,650	0,588						
1015	ζ[-]	1,132	0,940	0,806	0,707	0,630	0,570						
1045	ζ[-]	1,099	0,913	0,782	0,686	0,612	0,554						
1075	ζ[-]	1,068	0,887	0,760	0,667	0,595							

KAMOUFLAGE 1V60 P - 1V120 P - Free air passage (m²)

Hn\W	n (mm) 🛛	350	400	450	500	550	600	650	700	
385	Sn [m ²]	0,1160	0,1340	0,1520	0,1700	0,1880	0,2060	0,2240		
415	Sn [m ²]	0,1260	0,1450	0,1650	0,1840	0,2040	0,2230	0,2430		
445	Sn [m ²]	0,1360	0,1570	0,1780	0,1990	0,2200	0,2410	0,2610	0,2820	
475	Sn [m ²]	0,1450	0,1680	0,1900	0,2130	0,2350	0,2580	0,2800	0,3030	
505	Sn [m ²]	0,1550	0,1790	0,2030	0,2270	0,2510	0,2750	0,2990	0,3230	
535	Sn [m ²]	0,1650	0,1900	0,2160	0,2410	0,2670	0,2920	0,3180	0,3430	
565	Sn [m ²]	0,1750	0,2020	0,2290	0,2550	0,2820	0,3090	0,3360	0,3630	
595	Sn [m ²]	0,1840	0,2130	0,2410	0,2700	0,2980	0,3270	0,3550	0,3840	
625	Sn [m ²]	0,1940	0,2240	0,2540	0,2840	0,3140	0,3440	0,3740	0,4040	
655	Sn [m ²]	0,2040	0,2350	0,2670	0,2980	0,3300	0,3610	0,3920	0,4240	
685	Sn [m ²]	0,2140	0,2460	0,2790	0,3120	0,3450	0,3780	0,4110	0,4440	
715	Sn [m ²]	0,2230	0,2580	0,2920	0,3270	0,3610	0,3950	0,4300	0,4640	
745	Sn [m ²]	0,2330	0,2690	0,3050	0,3410	0,3770	0,4130	0,4490	0,4850	
775	Sn [m ²]	0,2430	0,2800	0,3180	0,3550	0,3920	0,4300	0,4670	0,5050	
805	Sn [m ²]	0,2520	0,2910	0,3300	0,3690	0,4080	0,4470	0,4860		
835	Sn [m ²]	0,2620	0,3030	0,3430	0,3830	0,4240	0,4640	0,5050		
865	Sn [m ²]	0,2720	0,3140	0,3560	0,3980	0,4400	0,4820	0,5240		
895	Sn [m ²]	0,2820	0,3250	0,3680	0,4120	0,4550	0,4990	0,5420		
925	Sn [m ²]	0,2910	0,3360	0,3810	0,4260	0,4710	0,5160			
955	Sn [m ²]	0,3010	0,3470	0,3940	0,4400	0,4870	0,5330			
985	Sn [m ²]	0,3110	0,3590	0,4070	0,4550	0,5030	0,5500			
1015	Sn [m ²]	0,3200	0,3700	0,4190	0,4690	0,5180	0,5680			
1045	Sn [m²]	0,3300	0,3810	0,4320	0,4830	0,5340	0,5850			
1075	Sn [m ²]	0,3400	0,3920	0,4450	0,4970	0,5500				

Sample order

KAMOUFLAGE P	1V	120	400	685	VD24	FDCB	ATOUT RAL 9010				
1	2	3	4	5	6	7	8				
1. product											
2. 1 shutter (1V)											
3. fire resistance of 60 or 120 minutes											
4. width											
5. height											
6. option: type magnet and voltage											
7. option: bipolar end of range switch (FDCU included)											
8. option: frame painted white, shutter covered with white metallic sheet											

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.



The NF-label guarantees: conformity with the standard NF S 61-937 Parts 1 and 10: "Systèmes de Sécurité Incendie Dispositifs Actionnés de Sécurité"; conformity with the national decree of March 22, 2004, changed on 14 March 2011 for the classification of fire resistance; the values of the characteristics mentioned in this document. Organisme Certificateur: AFNOR Certification, 11 Rue Francis de Pressensé, F93571 La Plaine Saint-Denis Cedex; Website: http://www.afnor.org http://www.marque-nf.com; Phone: +33 (0)1.41.62.80.00, Fax: +33 (0)1.49.17.90.00, Email: certification@afnor.org