



KAMOUFLAGE P

Aesthetic smoke evacuation shutter for ceiling mounting.

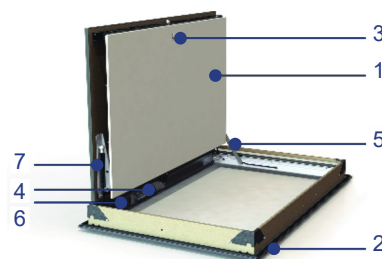
Product presentation KAMOUFLAGE P

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.

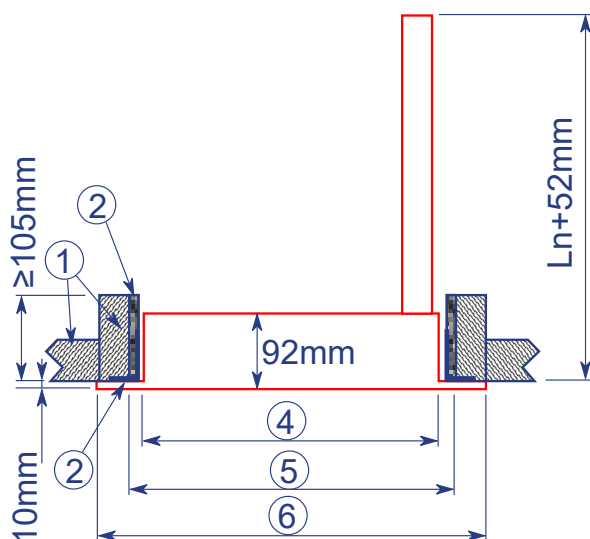
- Aesthetic solution
- modern look: either select the ready-to-install product with white laquered finish, or cover with paint or wallpaper
- Superior air tightness (tested at 1500 Pa)
- thermal and acoustic insulation
- optimal free air passage and minimal pressure loss
- frame available with primer
- 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 shutter (1V)
- 2 frame in anodised aluminium / with primer (PRIM) / white laquered (ATOUT RAL9010)
- 3 lock + key
- 4 connection compartement
- 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 $L_n \times H_n$
5. Built-in dimensions with KAP mounting frame $(L_n+20) \times (H_n+20)$ mm
6. Overall (outside) dimensions of the shutter $(L_n+54) \times (H_n+54)$ mm



	≥	≤
$(L_n \times H_n)$ mm	350 x 385	600 x 1045

FIRE RESISTANCE ACCORDING TO EN 1366-10 & EN 13501-4

Range	Product	Wall type	Wall	Classification	
350x385 mm ≤ Kamouflage P 1V ≤ 700 x 775 mm	Kamouflage 60 P	Conduit	Promatect L 500 ≥ 30mm	EI 60 (h _{od} i↔o)S 1500 AA multi	
			Geoflam ≥ 30mm		
			Geotec ≥ 30mm		
			Tecniver ≥ 35mm		
			Glasroc F V500 ≥ 35mm		
			Exthamat ≥ 25 mm		
			Desenfire HD ≥ 25 mm HD		
	Kamouflage 120 P	Conduit	Conduit	Promatect L500 ≥ 40 mm	EI 90 (h _{od} i↔o)S 1500 AA multi
				Geoflam ≥ 35mm	
				Tecniver ≥ 45mm	
				Exthamat ≥ 30 mm	
				Desenfire HD ≥ 25 mm HD	
		Conduit	Conduit	Promatect L 500 ≥ 50mm	EI 120 (V _{ed} i↔o)S 1500 AA multi
				Geoflam ≥ 45mm	
Geoflam Light ≥ 35mm					
Geotec ≥ 45mm					
Tecniver ≥ 50mm					
Conduit	Conduit	Glasroc F V500 ≥ 50mm			
		Exthamat ≥ 35mm			
		Desenfire HD ≥ 35mm			
		Desenfire HD ≥ 45mm			

1 Type of installation: shaft-mounted 0/ 90°/ 180°/ 270°

Évolution – kits (hors NF)



KITS VD24-VA

Natural magnet 24 V DC

KITS VD48-VA

Natural magnet 48 V DC

KITS VM24-VA

Electromagnet 24 V DC (not applicable for ME model)

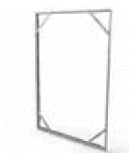
KITS VM 48-VA

Electromagnet 48 V DC (not applicable for ME model)



KITS FDC-VA

Limit switches 'open/closed'



KAP

Mounting frame (delivered separately)

Options – at the time of order



PRIM

Frame with primer (to facilitate the application of a layer of synthetic paint on the outside of the frame). The shutter is covered with a raw gypsum-cardboard-plate.



**ATOUT 1V P
RAL9010**

Frame painted white and shutter covered with white metallic sheet (RAL 9010 mat)

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

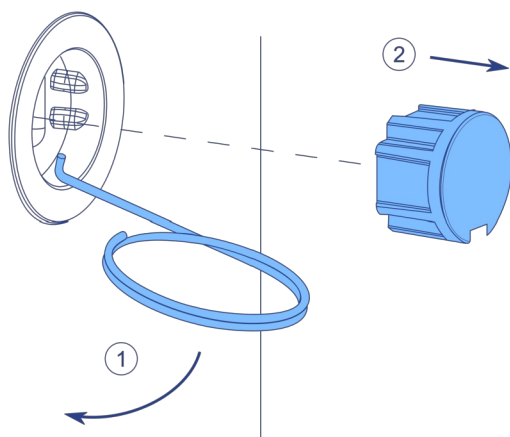
Installation

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 the blade can move freely.
- KAMOUFLAGE P 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.

Operation: manual opening

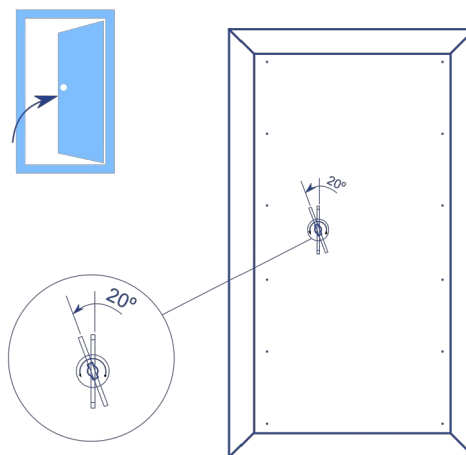
1.



1. Unlock 1V

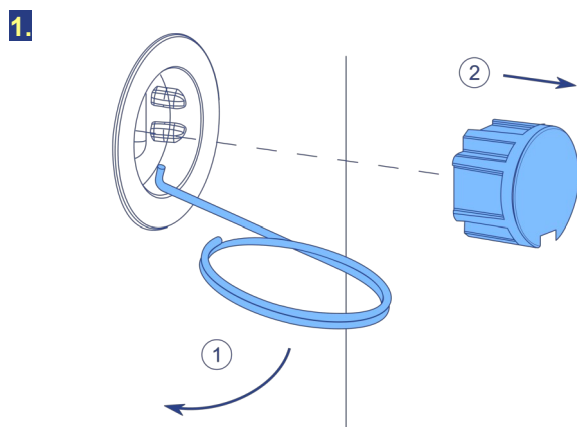
Remove the finish cap from the shutter. To do this, use the hook with key ring that is delivered with the product. You may attach this tool to the key through its handy key ring.

2.

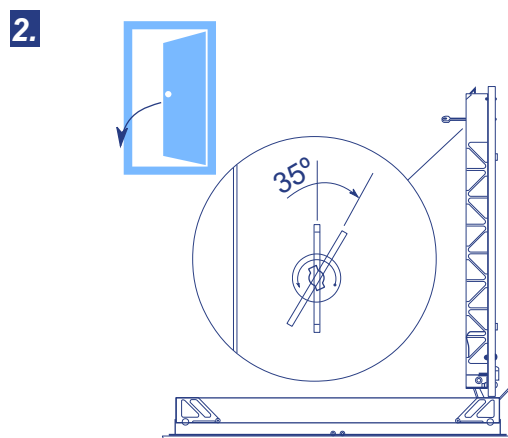


2. Insert the key in the lock. Turn the key 20° anti-clockwise: the shutter opens. Remove the key from the lock.

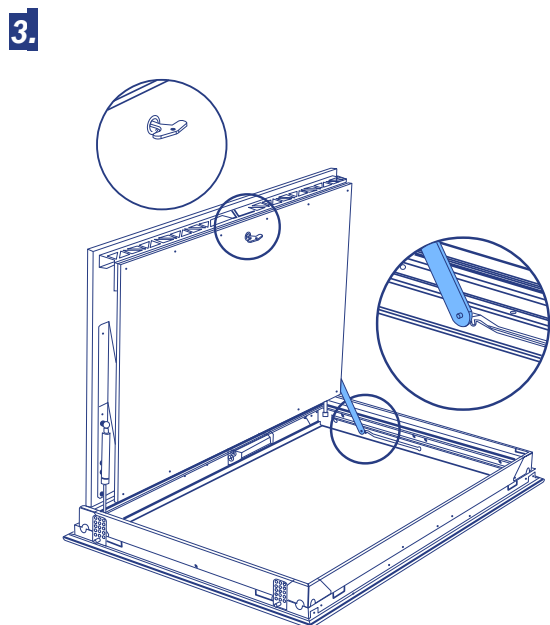
Commande : fermeture manuelle



1. **Resetting 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.



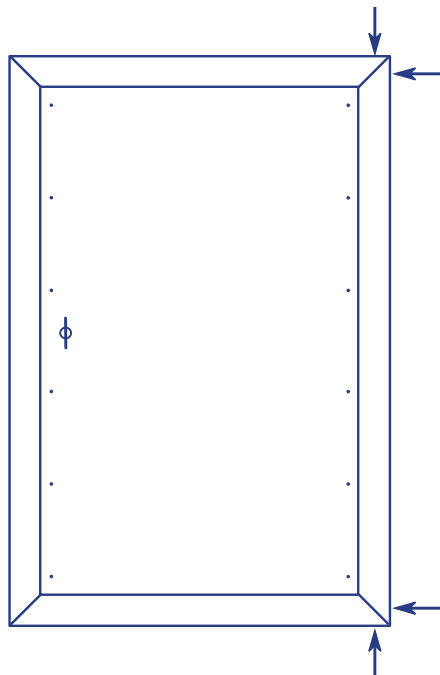
2. Insert the key in the lock. Turn the key 15° clockwise, the key gets blocked in the lock.



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

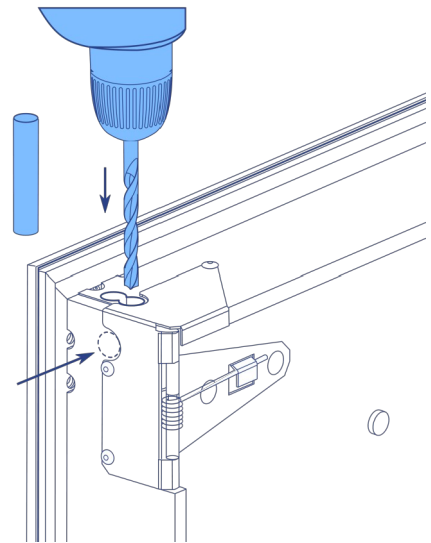
ELECTRICAL CONNECTION

1.



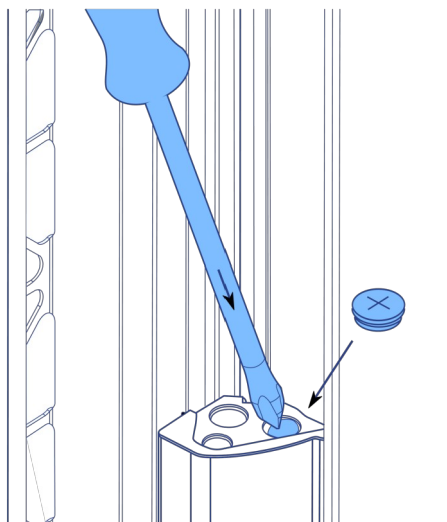
1. You can thread the cable for the power supply through the 2 corners of the shutter, on the hinges' side.

2.



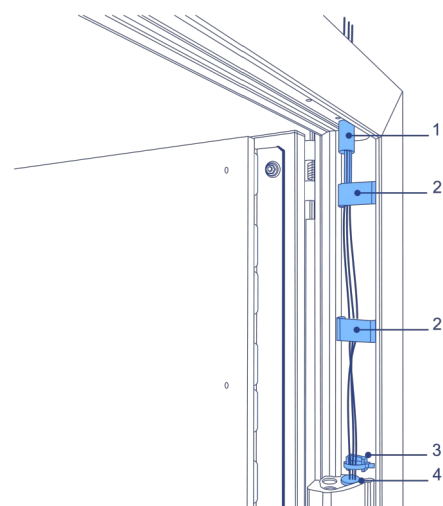
2. Drill a hole in the refractory material at the chosen corner(s).
The galvanized part at the inside of the shutter is already indented.
Caution: after passing and fixing the cables, it is necessary to seal the drilled hole in the refractory around the electrical supply with fire resistant adhesive sealant (BCM f.e.).

3.



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

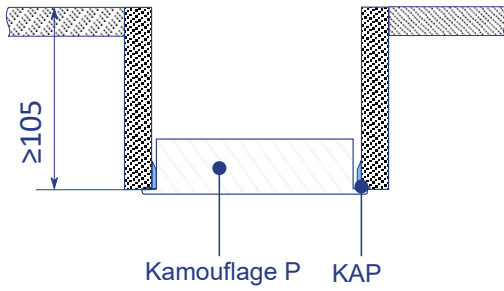
4.



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.

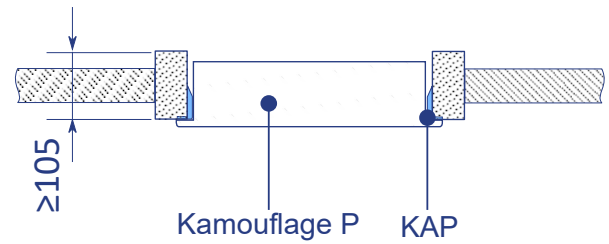
POSITION IN THE SHAFT

1.

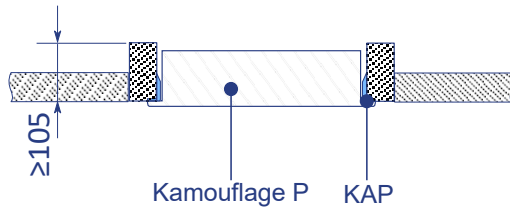


1. The shutter is affixed to the smoke evacuation shaft through a sleeve. That sleeve can be installed either in the shaft, in the axis of the shaft or outside the shaft (or shaft extension).

2.



3.



FINISHING



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 anodized aluminum: 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 aluminum profile in order to guarantee that the shutter can open.

The options ATOUT RAL 9010 / 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, lacquered white or aluminum. With option PRIM the profile is pre-painted with a primer.

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 EN 13306.

OPERATION AND MECHANISMS

Operation: general points

- See under 'Installation'

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

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	Auxiliary limit switch 'open/closed'
FDCB	Auxiliary limit switch 'open/closed'

Unlocking

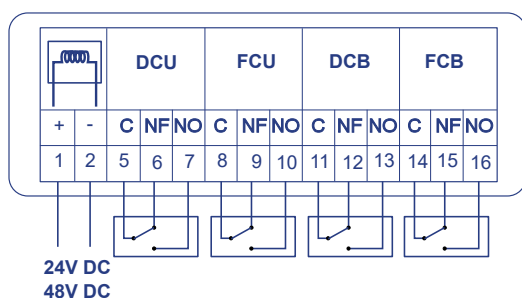
- Manual unlocking: with the key (delivered in the bag together with the installation guidelines)
- Automatic unlocking: n/a
- remote unlocking: by electrical impulse (VD) or interruption (VM) of current to the magnet.

Resetting

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

Electrical connection

VA MEC



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 CC	VM : 1,5 W / VD : -	VM : -/VD : 3,5W	1mA...6A, CC 5V...CA 250V	IP42



WEIGHTS

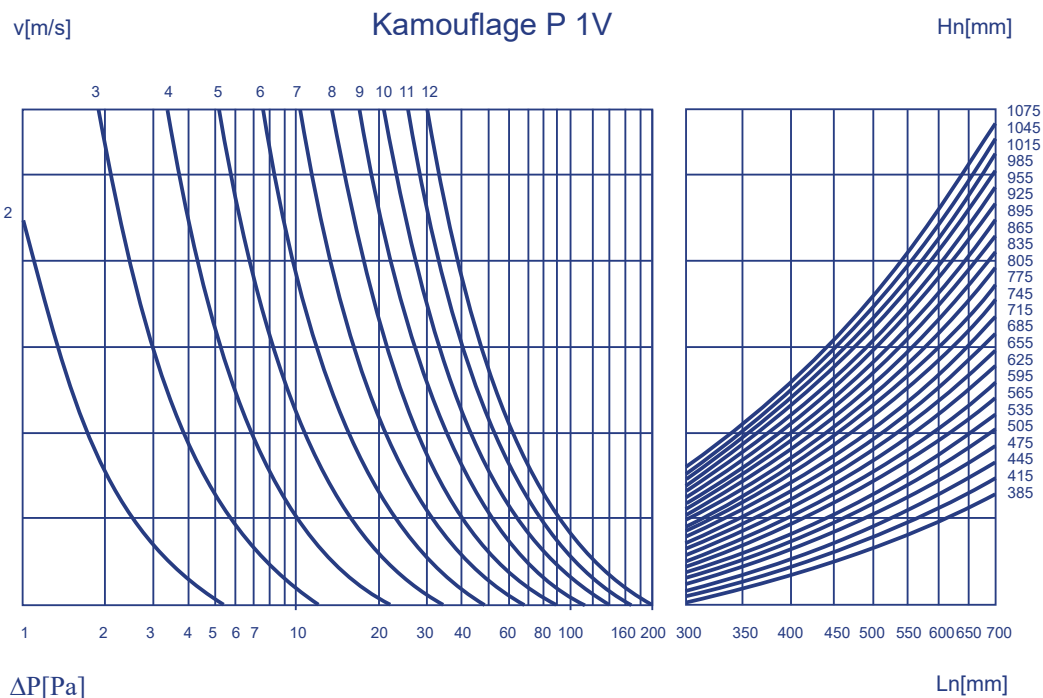
KAMOUFFLAGE 1V60 - 1V120 P

Hn/Ln [mm]		350	400	450	500	550	600	650	700
385	kg	10,77	11,03	11,29	11,95	12,60	13,49	14,37	
415	kg	11,47	12,09	12,70	13,31	13,93	14,54	15,15	
445	kg	10,90	11,67	12,44	13,20	13,97	14,74	19,03	19,80
475	kg	11,22	12,02	12,81	13,61	14,40	15,19	19,51	20,31
505	kg	11,55	12,37	13,19	14,01	14,83	15,65	20,00	20,82
535	kg	12,27	13,20	14,13	15,06	15,99	20,45	21,38	22,31
565	kg	12,59	13,54	14,49	15,45	16,40	20,88	21,83	22,79
595	kg	13,03	13,99	14,94	15,90	16,86	21,34	22,30	23,26
625	kg	13,64	14,46	15,28	16,03	17,24	21,76	22,75	23,73
655	kg	13,93	14,77	15,61	16,37	21,16	22,18	23,20	24,20
685	kg	14,22	15,08	15,95	16,70	21,55	22,60	23,65	24,67
715	kg	14,11	15,19	16,28	17,04	21,93	23,02	24,10	26,34
745	kg	14,39	15,50	16,62	17,37	22,32	23,44	24,56	26,82
775	kg	14,68	15,81	16,95	21,24	22,71	23,86	25,01	27,31
805	kg	14,96	16,12	17,29	21,57	23,09	24,27	25,46	
835	kg	15,25	16,43	17,62	21,91	23,48	24,69	25,91	
865	kg	15,53	16,74	17,96	22,24	23,87	25,11	26,36	
895	kg	17,64	18,65	19,66	23,94	24,25	25,53	26,81	
925	kg	18,02	19,07	23,65	24,41	24,64	25,95		
955	kg	18,38	19,46	24,06	24,83	25,03	26,37		
985	kg	18,80	19,89	24,51	25,28	25,41	26,79		
1015	kg	19,22	20,33	24,97	25,74	25,80	27,21		
1045	kg	19,65	20,77	25,43	26,19	26,19	27,62		
1075	kg	20,06	21,19	25,86	26,62	29,24			

ATOUT 1V P RAL9010

Hn/Ln [mm]		350	400	450	500	550	600	650	700
385	kg	0,4	0,4	0,5	0,5	0,6	0,7	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



KAMOUFFLAGE 1V60 P – 1V120 P

$$\Delta P = 0,6 \cdot v^2 \cdot \zeta$$

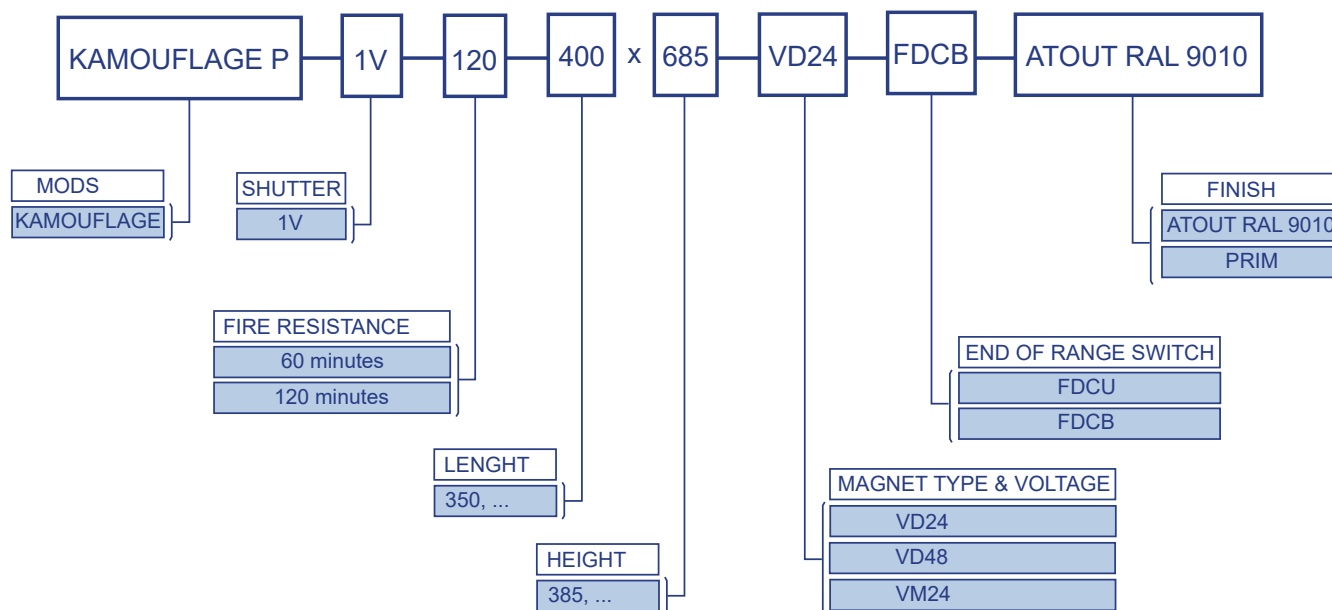
Hn/Ln [mm]		350	400	450	500	550	600	650	700
385	ζ[-]	3,603	2,960	2,518	2,196	1,950	1,757	1,600	
415	ζ[-]	3,237	2,663	2,267	1,978	1,758	1,585	1,444	
445	ζ[-]	2,940	2,422	2,064	1,802	1,602	1,445	1,317	1,212
475	ζ[-]	2,696	2,222	1,895	1,656	1,473	1,329	1,212	1,115
505	ζ[-]	2,491	2,055	1,754	1,533	1,364	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[-]	1,4456	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			

SELECTION DATA : Free air passage (m²)

KAMOUFLAGE 1V P

Hn/Ln [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	0,48860	
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[m ²]	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



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



Efectis_1812_CPR_1043



18.23

Clapets coupe-feu et
Volets de désenfumage D.A.S.
Organisme Certificateur
AFNOR Certification - www.marque-nf.com

The NF-label guarantees: conformity with the standard NF S 611-937 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

If the product is manipulated in any other way than described in this manual, Comercial A.V.C.S.A. will decline any responsibility and the guarantee will expire!