

KAMOUFLAGE

Aesthetic smoke evacuation shutter.




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Explanation of the abbreviations and pictograms

Wn = nominal width	ved = vertical duct	OP = option (delivered with the product)
Hn = nominal height	hod = horizontal duct	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" 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)
I = thermal insulation	V AC = Volt alternating current	Cal-Sil = calcium silicate
S = smoke leakage	V DC = Volt direct current	ζ [-] = pressure loss coefficient
60/120 = fire resistance time	E.ALIM = power supply magnet	Q = air flow
Pa = pascal	E.TELE = power supply motor	ΔP = static pressure drop
o -> i = meets the criteria from the outside (o) to the inside (i)	Auto = automatic	v = air speed in the duct
i <-> o = fire side not important	Tele = remote controlled	Lwa = A-weighted sound power level
AA = automatic activation	Pnom = nominal capacity	ME = motorised
multi = multiple	Pmax = maximum capacity	H = habitat
1500 = pressure level 3 (1500Pa)	DAS MOD = modular product	

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

DECLARATION OF PERFORMANCE

CE_DoP_Rf-t_V12_EN - E-05/2015

1. Unique identification code of the product-type:	KAMOUFLAGE
2. Intended use/s:	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 Ambachtstraat 40, B-9860 Oosterzele
4. System/s of AVCP:	System 1
5. Harmonised standard, notified body/ies, certificate of constancy of performance:	EN 12101-8:2011, Effects with identification number 1812, 1812_CPR_1043
6. Declared performance according to EN 12101-8:2011	(fire resistance according to EN 1366-10, classification according to EN 13501-4)

Essential characteristics		Wall	Wall type	Installation	Performance Classification
Range	Product		Shaft		
	Kamouflage 60	Promatect L500 ≥ 30mm Geoflam ≥ 30mm Tectiver ≥ 35mm		1	EI 60 (v _{se} , i ↔ o) S 1500 AA multi
	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Glasroc FV500 ≥ 35mm Promatect L500 ≥ 50mm Geoflam ≥ 45mm		1	EI 60 (v _{se} , i ↔ o) S 1500 AA multi
	Kamouflage 120	Glasroc FV500 ≥ 50mm		1	EI 120 (v _{se} , i ↔ o) S 1500 AA multi

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



Harmonised standard
EN 12101-8:2011

Nominal activation conditions/sensitivity:
Response delay (response time): closure time
Operational reliability: cycling
Durability of response delay:
Durability of operational reliability:

Pass - automatic activation
Pass - automatic activation
300 cycles (no load)
Pass
Pass

Approved accessories

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; KAP or KGC mounting frame, with or without mastic seal; Antifall device type KGD
NPD (no performance determined)

High operational temperature (HOT 400/30):

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:

Barbara Willems, Technical Manager



Oosterzele, 05/2015



Product presentation KAMOUFLAGE

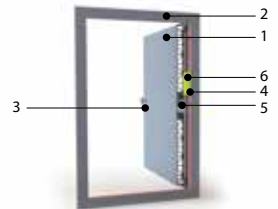
The smoke evacuation shutter Kamouflage is unique through its aesthetic finish, its air-tightness, and its high thermal and acoustic insulation. Its outer face consists of a plasterboard panel enabling a decorative finish to be applied to match the adjacent wall finish. In addition to single and double shutter units (1V/2V) for vertical wall installation, the Kamouflage P model (NT-V14) is suitable for ceiling mounting into the bottom of smoke shafts. Developed in accordance with the European product standard EN 12101-8 and tested according to the EN 1366-10 standard, Kamouflage offers a fire-resistance of 60 or 120 minutes, and ensures minimum pressure loss.

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
 - ✓ superior air tightness (tested at 1500 Pa)
 - ✓ thermal and acoustic insulation
 - ✓ optimal free air passage and minimal pressure loss
 - ✓ 2V model with simplified manual reset (closing)
 - ✓ 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 2012
 - intermediate dimensions on request
 - reversible (hinges left or right)

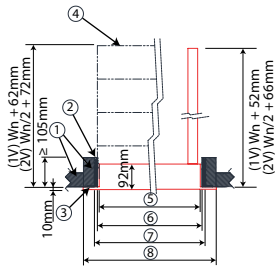


1. 1 shutter (1V)
2. frame in anodised aluminium or with primer (PRIM)
3. lock + key
4. connection compartement
5. blocking mechanism + automatic locking at 90°
6. product identification



Variant KAMOUFLAGE 1V

Range and dimensions KAMOUFLAGE 1V60 - 1V120

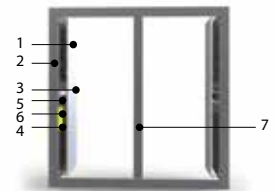


	IV	IV
(W x H) mm	300x385	700x1075

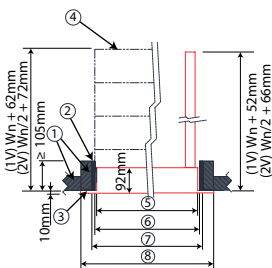
1. Refractory material
2. Sealing if mounting frame
3. KAP mounting frame (optional)
4. KGC drop guard (optional)
5. Nominal dimensions shutter $W_n \times H_n$
6. Built-in dimensions without KAP mounting frame $(W_n+10) \times (H_n+10)$ mm
7. Built-in dimensions with KAP mounting frame $(W_n+20) \times (H_n+20)$ mm
8. Overall (outside) dimensions of the shutter $(W_n+54) \times (H_n+54)$ mm

Variant KAMOUFLAGE 2V

- 2 shutters
 - fire resistance till 120 minutes
1. 2 shutters (2V)
 2. frame in anodised aluminium or with primer (PRIM)
 3. lock + key
 4. connection compartement
 5. blocking mechanism + automatic locking at 90°
 6. product identification
 7. central support (2V)











Range and dimensions KAMOUFLAGE 2V60 - 2V120



	IV	IV
(W x H) mm	350x385	1100x1105

1. Refractory material
2. Sealing if mounting frame
3. KAP mounting frame (optional)
4. KGC drop guard (optional)
5. Nominal dimensions shutter $W_n \times H_n$
6. Built-in dimensions without KAP mounting frame $(W_n+10) \times (H_n+10)$ mm
7. Built-in dimensions with KAP mounting frame $(W_n+20) \times (H_n+20)$ mm
8. Overall (outside) dimensions of the shutter $(W_n+54) \times (H_n+54)$ mm

Evolution - kits

	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 VM48-VA	Electromagnet 48 V DC (not applicable for ME model)
	KITS FDC-VA	End and begin of range switch
	KAP	Mounting frame (delivered separately)
	KGC 1V	Mounting frame with hinged drop guard grid (delivered separately)
	KGC 2V	Mounting frame with hinged drop guard grid (delivered separately)

Options - at the time of order

	PRIM	Frame available with primer
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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:

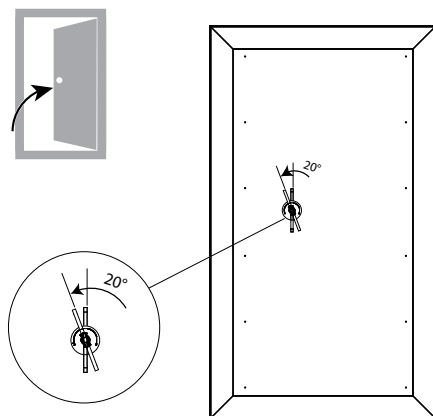
- to unload in a dry area
- not to flip or roll the product to move it
- not to use the damper as a scaffold, working table, etc.
- not to store smaller dampers inside larger ones

Installation

General points

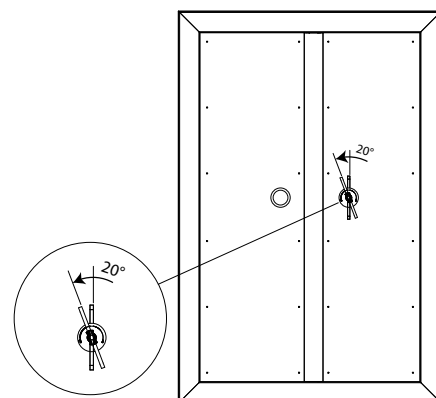
- The installation must comply with the classification report and the installation manual delivered with the product.
- The installation of the shaft must comply with the classification report delivered by the manufacturer.
- Axis orientation: see the declaration of performance.
- Avoid obstruction of adjoining ducts.
- 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.

Operation: manual opening



Unlocking 1V

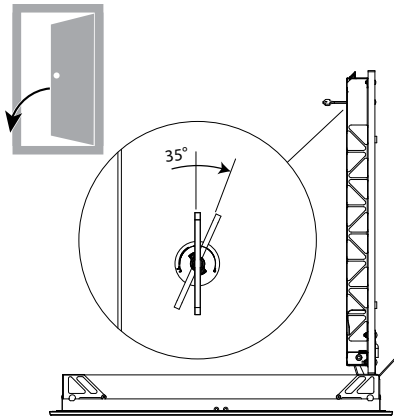
Insert the key in the lock. Turn the key 20° anti-clockwise: the shutter opens. Remove the key from the lock.



Unlocking 2V

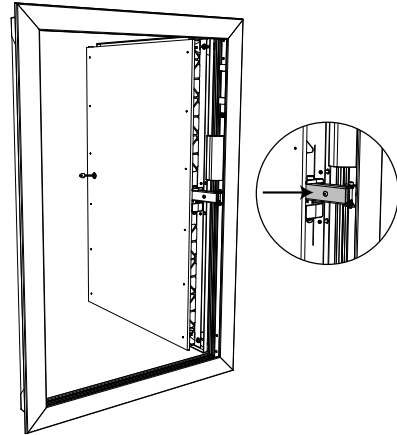
Insert the key in the lock. Turn the key 20° anti-clockwise: the shutter opens. Remove the key from the lock.

Operation: manual closing



Resetting 1V

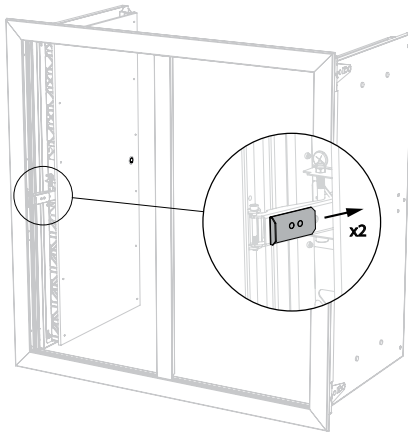
Insert the key in the lock. Turn the key 35° clockwise, the key gets blocked in the lock.



Press on the blocking devices.

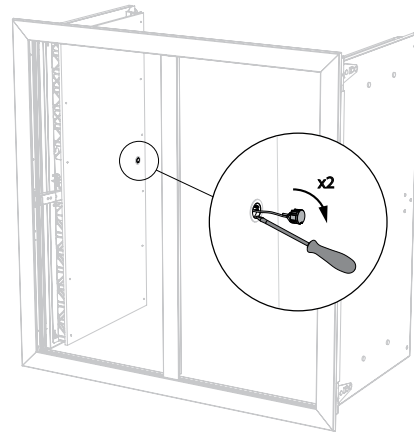
Close the shutter by pulling at the key.

Turn the key 15° counter clock wise, the key unblocks from the lock. Withdraw the key.

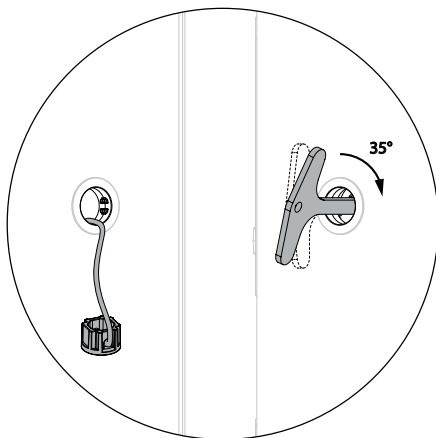


Resetting 2V

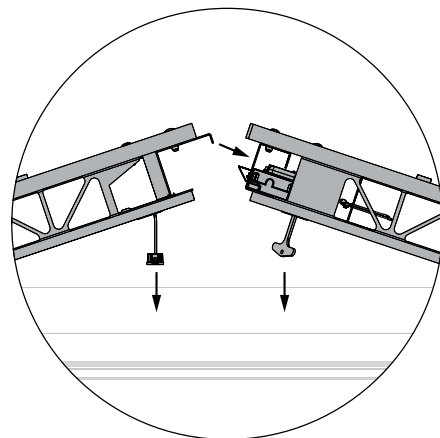
Press on both blocking devices to deactivate them.



Remove the finishing cap from the shutter. To do this, use a small flat screwdriver (3 mm)

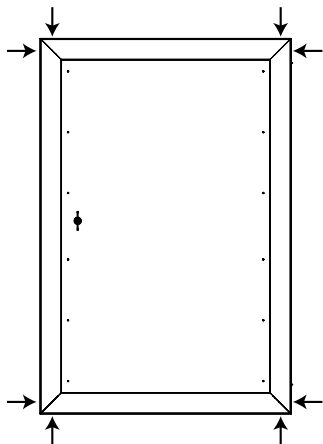


Insert the key in the lock in the second shutter. Turn the key 35° clockwise, the key gets blocked in the lock.

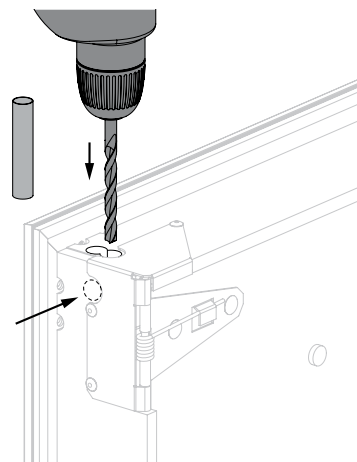


Close both shutters together. Make sure that the shutters hook in each other as illustrated. Turn the key 15° counter clock wise, the key unblocks from the lock. Withdraw the key and put the finishing caps back in place.

Electrical connection

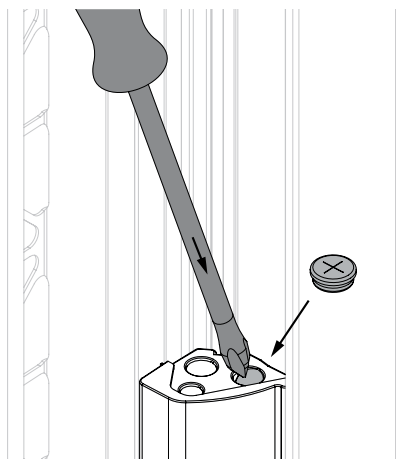


The electrical supply can be done at the 4 corners of the shutter.

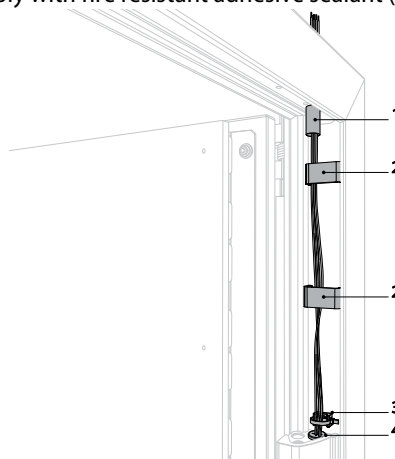


Drill a hole in the refractory material at the chosen corner(s). The galvanised part at the inside of the shutter is already indented.

⚠ Caution: after passing and fixing the cables, it is necessary to seal the drilled hole in the refractory around the electrical supply with fire resistant adhesive sealant (BCM f.e.).



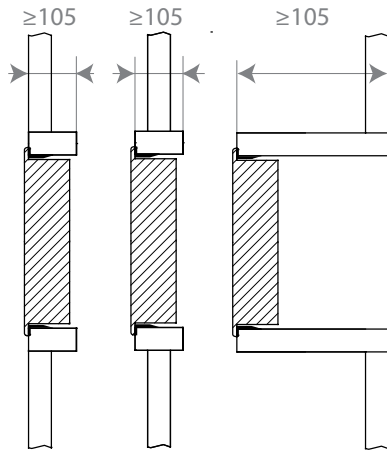
Pierce an opening in the connection box. Affix the grommet delivered with the product.



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

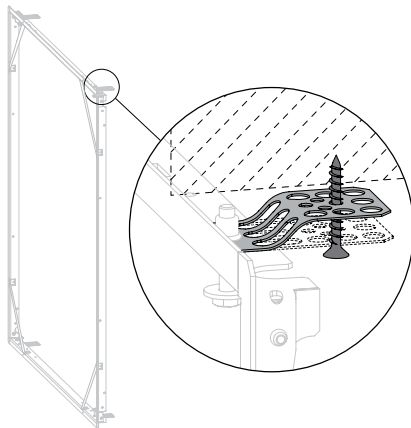


The shutter is affixed to the smoke evacuation shaft through a sleeve. That sleeve can be indifferently installed: in the shaft, in the axis of the shaft or outside the shaft (or shaft extension).

Installation in vertical shaft PROMATECT L500 with KAP mounting frame

The product was tested and approved in:

Product	Range	Wall type	Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Promatect L500 ≥ 30mm EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Promatect L500 ≥ 50mm EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 20$ mm.

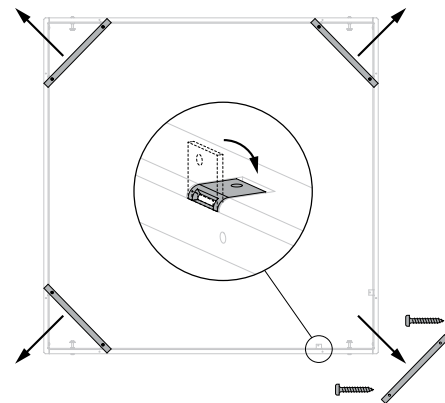
Fit a sleeve of the same type and thickness of the duct (thickness e) of 105 mm deep in the opening.

Staple the sleeve itself and to the shaft wall.

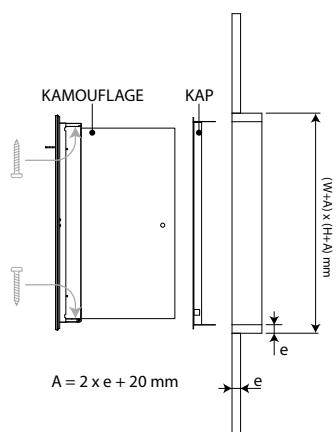
Coat the edges of the opening with adhesive plaster type Promacol S.

Screw the KAP mounting frame with chipboard screw $(6 \times e)$ mm to the sleeve. 2 sealing lugs are provided on each fitting, which must be opened out when sealing. Sea the mounting frame with Promacol S taking care not to misshape it. The finished opening must be the same size as the mounting frame $(W+10) \times (H+10)$ mm.

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



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

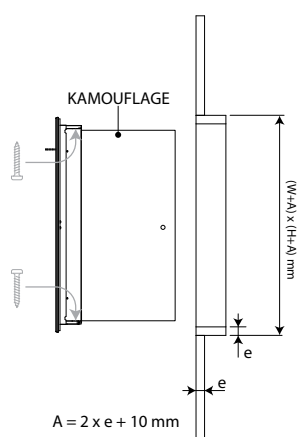


Position and open the shutter in the mounting frame. If VM magnet: remove the key from the lock to open the shutter. Fix the shutter to the frame using 4 bolts M6x30 mm, supplied with the frame. To ensure a proper fixation, first attach the bolts in the upper side of the shutter's frame, then in the lower part. Connect the mechanism according to the wiring diagram. Check the mobility of the shutter.

Installation in vertical shaft PROMATECT L500 (without a mounting frame)

The product was tested and approved in:

Product	Range	Wall type	Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Promatect L500 ≥ 30mm EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Promatect L500 ≥ 50mm EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 10$ mm.

Fit a sleeve of the same type and thickness of the duct (thickness e) of 105 mm deep in the opening.

Staple the sleeve itself and to the shaft wall.

Position and open 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 D6 x 40 mm.

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

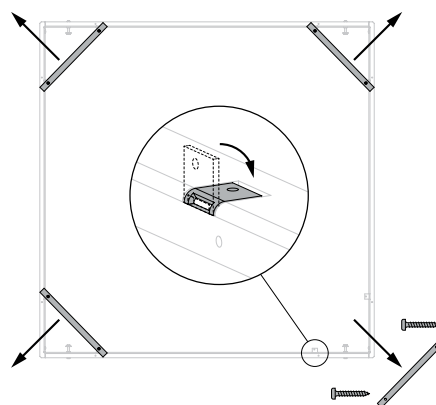
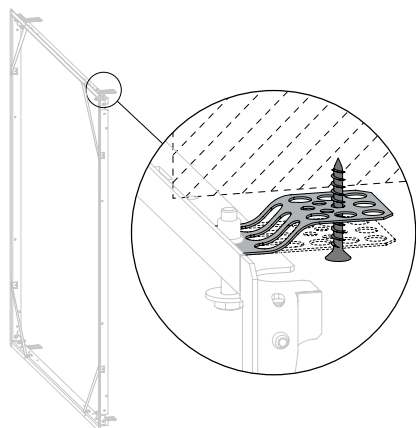
Connect the mechanism according to the wiring diagram.

Check the mobility of the shutter.

Installation in vertical shaft GEOFLAM (LIGHT) with KAP mounting frame

The product was tested and approved in:

Product	Range	Wall type	Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Geoflam ≥ 30mm EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Geoflam ≥ 45mm EI 120 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Geoflam Light ≥ 35mm EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 20$ mm.

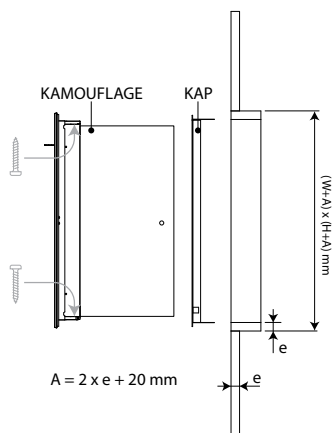
Coat the edges of the opening with adhesive plaster type PLACOL.

Fit a sleeve of the same type and thickness of the duct (thickness e) of 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.

2 sealing lugs are provided on each fitting, which must be opened out when sealing. Caulk the KAP mounting frame to the duct with vegetable fibre and taking care not to misshape it. The finished opening must be the same size as the mounting frame $(W+10) \times (H+10)$ mm.

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



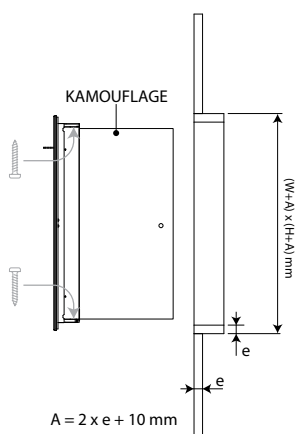
Position and open the shutter in the mounting frame. If VM magnet: remove the key from the lock to open the shutter. Fix the shutter to the frame using 4 bolts M6x30 mm, supplied with the frame. To ensure a proper fixation, first attach the bolts in the upper side of the shutter's frame, then in the lower part.

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

Installation in vertical shaft GEOFLAM (LIGHT)(without a mounting frame)

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Geoflam ≥ 30mm	EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Geoflam ≥ 45mm	EI 120 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Geoflam Light ≥ 35mm	EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 10$ mm.

Coat the edges of the opening with adhesive plaster type PLACOL.

Fit a sleeve of the same type and thickness of the duct (thickness e) of 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.

Position and open 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 D6 x 40 mm.

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

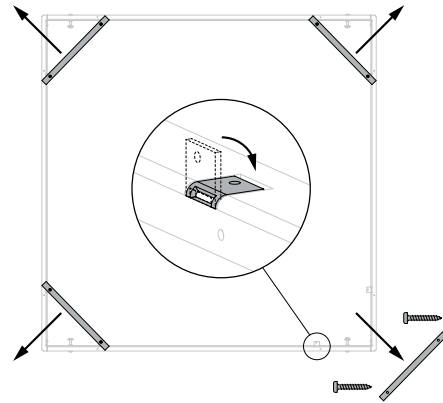
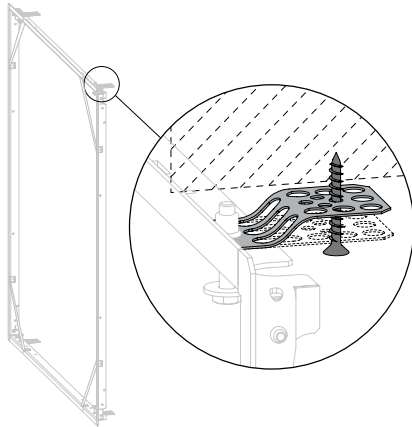
Connect the mechanism according to the wiring diagram.

Check the mobility of the shutter.

Installation in vertical shaft TECNIVER with KAP mounting frame

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Tecniver ≥ 35mm	EI 60 (V _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Tecniver ≥ 50mm	EI 120 (V _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 20$ mm.

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

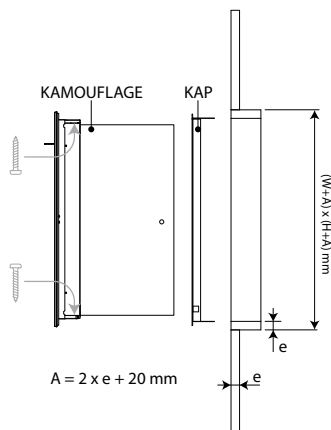
Fit a sleeve of the same type and thickness of the duct (thickness e) of 105 mm deep in the opening.

Put glue type CF GLUE on the uprights and cross pieces and between the lining and the wall. Screw the sleeve using chip-board screws $\varnothing 5 \times 70$ mm at 150 mm intervals.

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

2 sealing lugs are provided on each fitting, which must be opened out when sealing. First coat the opening with glue CF GLUE. Glue the KAP mounting frame to the lining taking care not to misshape it. The finished opening must be the same size as the mounting frame $(W+10) \times (H+10)$ mm.

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

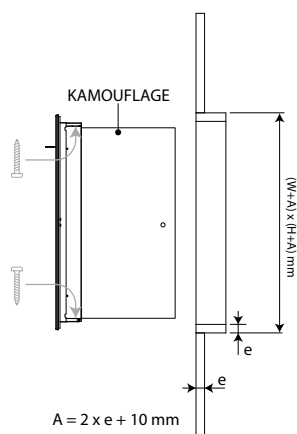


Position and open the shutter in the mounting frame. If VM magnet: remove the key from the lock to open the shutter. Fix the shutter to the frame using 4 bolts M6x30 mm, supplied with the frame. To ensure a proper fixation, first attach the bolts in the upper side of the shutter's frame, then in the lower part. Connect the mechanism according to the wiring diagram. Check the mobility of the shutter.

Installation in vertical shaft TECNIVER (without a mounting frame)

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Tecniver ≥ 35mm	EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Tecniver ≥ 50mm	EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 10$ mm.

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

Fit a sleeve of the same type and thickness of the duct (thickness e) of 105 mm deep in the opening.

Put glue type CF GLUE on the uprights and cross pieces and between the lining and the wall. Screw the sleeve using chip-board screws $\varnothing 5 \times 70$ mm at 150 mm intervals.

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

Position and open 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 $D6 \times 40$ mm.

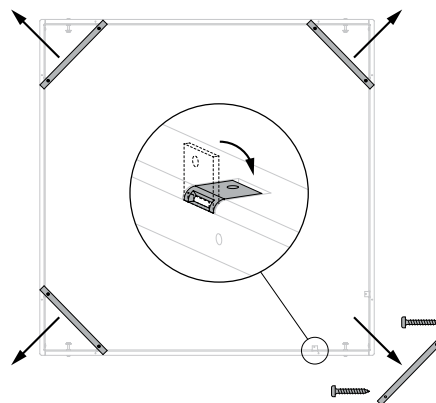
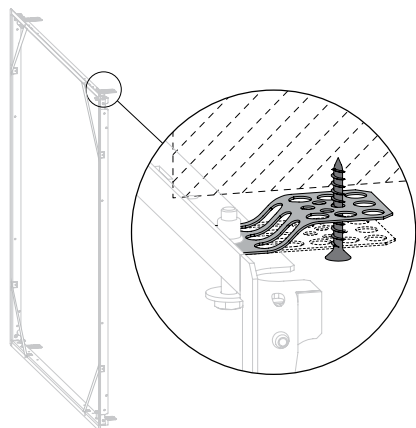
Connect the mechanism according to the wiring diagram.

Check the mobility of the shutter.

Installation in vertical shaft GLASROC F V500 with KAP mounting frame

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Glasroc F V500 ≥ 35mm	EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Glasroc F V500 ≥ 50mm	EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 20$ mm.

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

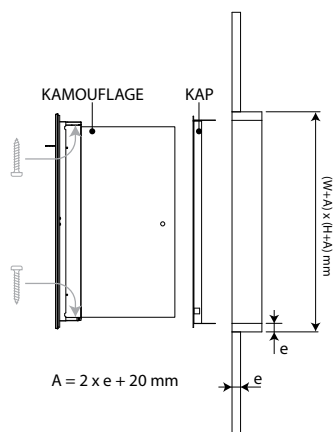
Fit a sleeve of the same type and thickness of the duct (thickness e) of 105 mm deep in the opening.

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 $\varnothing 5 \times 70$ mm at 150 mm intervals.

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

2 sealing lugs are provided on each fitting, which must be opened out when sealing. First coat the opening with glue GLASROC F V500. Glue the KAP mounting frame to the lining taking care not to misshape it. The finished opening must be the same size as the mounting frame $(W+10) \times (H+10)$ mm.

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

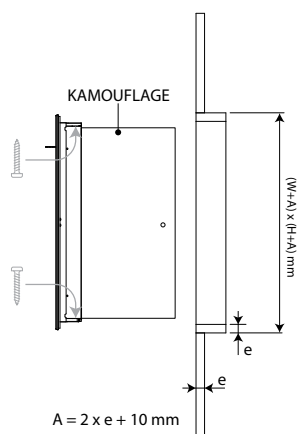


Position and open the shutter in the mounting frame. If VM magnet: remove the key from the lock to open the shutter. Fix the shutter to the frame using 4 bolts M6x30 mm, supplied with the frame. To ensure a proper fixation, first attach the bolts in the upper side of the shutter's frame, then in the lower part. Connect the mechanism according to the wiring diagram. Check the mobility of the shutter.

Installation in vertical shaft GLASROC F V500 (without a mounting frame)

The product was tested and approved in:

Product	Range	Wall type		Classification
Kamouflage 60	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Glasroc F V500 ≥ 35mm	EI 60 (v _{ed} i ↔ o) S 1500 AA multi
Kamouflage 120	300x385 mm ≤ Kamouflage 1V ≤ 700x1075 mm; 350x385 mm ≤ Kamouflage 2V ≤ 1100x1105 mm	Shaft	Glasroc F V500 ≥ 50mm	EI 120 (v _{ed} i ↔ o) S 1500 AA multi



Make an opening with dimensions $(W+A) \times (H+A)$ mm. $A = 2 \times$ thickness sleeve $(e) + 10$ mm.

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

Fit a sleeve of the same type and thickness of the duct (thickness e) of 105 mm deep in the opening.

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 $\varnothing 5 \times 70$ mm at 150 mm intervals.

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

Position and open 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 D6 x 40 mm.

Connect the mechanism according to the wiring diagram.

Check the mobility of the shutter.

Finishing



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 acrylic 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.

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.

Operation and mechanisms

Operation: general points

- See under 'Installation'. View also the video on our website: www.rft.be (product: Kamouflage, menu: 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	Unipolar beginning and end of range switch (incl. exc. for H model)
FDCB	Bipolar beginning and end of range switch

Unlocking

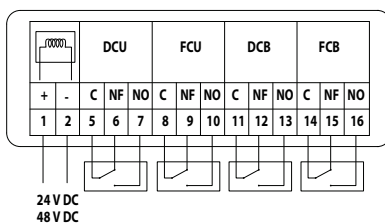
- **manual unlocking:** with the key
- **remote unlocking:** remote controlled by electrical impulse (VD) or interruption (VM) of current to the magnet.

Resetting

- **manual resetting:** with the key

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 DC	VM: 1,5W / VD: -	VM: - / VD: 3,5W	1mA...6A, DC 5V...AC 250V	IP 42

Weights

KAMOUFLAGE 1V60 - 1V120

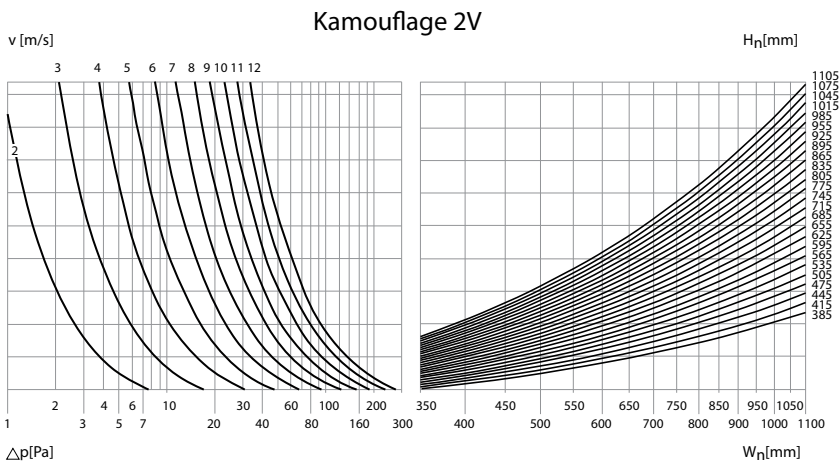
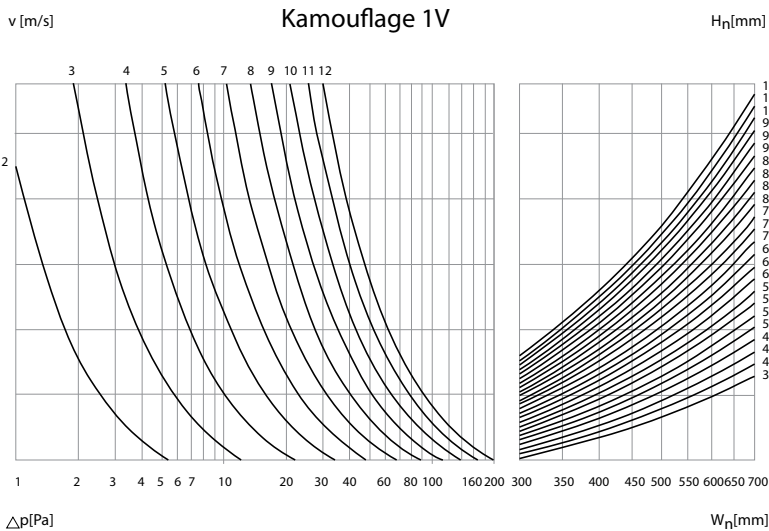
Hn\Wn [mm]		300	350	400	450	500	550	600	650	700
385	kg	7,1	7,3	7,6	7,8	8,3	8,9	9,7	10,4	11,2
415	kg	37,1	7,9	8,5	9,0	9,5	10,0	10,5	11,1	11,6
445	kg	6,8	7,5	8,1	8,8	9,4	10,1	10,7	11,4	12,0
475	kg	36,8	7,7	8,4	9,1	9,8	10,4	11,1	11,8	12,5
505	kg	66,8	8,0	8,7	9,4	10,1	10,8	11,5	12,2	12,9
535	kg	7,8	8,6	9,4	10,2	11,0	11,8	12,6	13,4	14,1
565	kg	37,8	8,9	9,7	10,5	11,3	12,1	12,9	13,7	14,5
595	kg	8,5	9,3	10,1	10,9	11,7	12,5	13,3	14,1	14,9
625	kg	9,1	9,8	10,5	11,2	11,8	12,8	13,7	14,5	15,3
655	kg	9,3	10,0	10,7	11,5	12,1	13,2	14,0	14,9	15,7
685	kg	9,5	10,3	11,0	11,7	12,4	13,5	14,4	15,3	16,0
715	kg	9,3	10,2	11,1	12,0	12,7	13,8	14,7	15,7	17,6
745	kg	9,5	10,4	11,4	12,3	12,9	14,1	15,1	16,0	17,9
775	kg	9,7	10,7	11,6	12,6	13,2	14,5	15,4	16,4	18,3
805	kg	9,9	10,9	11,9	12,9	13,5	14,8	15,8	16,8	18,7
835	kg	10,1	11,1	12,1	13,2	13,8	15,1	16,2	17,2	19,1
865	kg	10,4	11,4	12,4	13,4	14,1	15,5	16,5	17,6	19,5
895	kg	22,6	20,0	17,5	14,9	15,5	15,8	16,9	18,0	19,8
925	kg	12,6	13,5	17,9	15,3	15,9	16,1	17,2	18,3	21,6
955	kg	12,9	13,8	14,7	15,6	16,3	16,4	17,6	18,7	22,0
985	kg	13,2	14,2	15,1	16,0	16,7	16,8	17,9	19,1	22,4
1015	kg	13,6	14,5	15,4	16,4	17,0	17,1	18,3	19,5	22,7
1045	kg	13,9	14,9	15,8	16,8	17,4	17,4	18,6	19,9	23,1
1075	kg	14,3	15,2	16,2	17,1	17,8	20,0	24,3	28,7	33,0

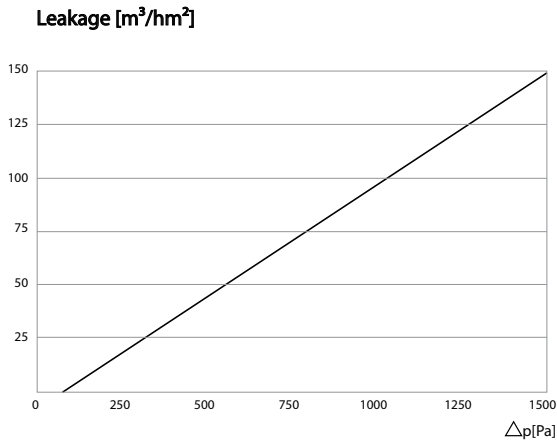
KAMOUFLAGE 2V60 - 2V120

Hn\Wn [mm]		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
385	kg	7,7	8,3	8,9	9,5	10,0	11,2	12,5	13,7	14,9	15,4	16,0	16,5	17,0	18,4	19,8	21,2
415	kg	7,7	9,0	9,9	10,9	11,8	12,7	13,6	14,5	15,4	16,4	17,3	18,2	19,1	20,0	20,9	21,9
445	kg	7,7	9,4	10,4	11,3	12,2	13,2	14,1	15,0	16,0	16,9	17,8	18,8	19,7	20,6	21,6	22,6
475	kg	7,7	9,8	10,8	11,7	12,7	13,6	14,6	15,5	16,5	17,4	18,4	19,4	20,3	21,3	22,2	23,3
505	kg	7,7	10,2	11,2	12,1	13,1	14,1	15,1	16,0	17,0	18,0	19,0	19,9	20,9	21,9	22,9	24,0
535	kg	10,0	11,2	12,3	13,5	14,7	15,9	17,1	18,3	19,5	20,7	21,9	23,0	24,2	25,4	26,6	27,8
565	kg	10,0	11,5	12,7	13,9	15,2	16,4	17,6	18,8	20,0	21,2	22,4	23,6	24,8	26,0	27,2	28,4
595	kg	10,0	11,9	13,1	14,4	15,6	16,8	18,0	19,3	20,5	21,7	22,9	24,2	25,4	26,6	27,8	29,0
625	kg	10,0	12,3	13,5	14,8	16,0	17,2	18,5	19,7	21,0	22,2	23,5	24,7	25,9	27,2	28,4	29,6
655	kg	10,0	12,7	13,9	15,2	16,4	17,7	19,0	20,2	21,5	22,7	24,0	25,3	26,5	27,8	29,0	30,2
685	kg	12,1	13,6	15,0	16,5	18,0	19,5	20,9	22,4	23,9	25,4	26,8	28,3	29,8	31,3	32,7	34,2
715	kg	12,9	14,3	15,7	17,0	18,4	19,9	21,4	22,9	24,4	25,9	27,3	28,8	30,3	31,8	33,3	34,8
745	kg	13,3	14,7	16,0	17,4	18,8	20,3	21,8	23,3	24,8	26,4	27,9	29,4	30,9	32,4	34,0	35,4
775	kg	13,6	15,0	16,4	17,8	19,2	20,8	22,3	23,8	25,3	26,8	28,4	29,9	31,4	33,0	34,6	36,0

H _n \W _n (mm)	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
805 kg	13,9	15,4	16,8	18,2	19,7	21,2	22,7	24,3	25,8	27,3	28,9	30,4	31,9	33,6	35,2	36,7
835 kg	14,3	15,7	17,2	18,6	20,1	21,6	23,2	24,7	26,3	27,8	29,4	30,9	32,5	34,1	35,8	37,3
865 kg	14,6	16,1	17,6	19,0	20,5	22,1	23,6	25,2	26,8	28,3	29,9	31,5	33,0	34,7	36,4	37,9
895 kg	15,0	16,4	17,9	19,4	20,9	22,5	24,1	25,6	27,2	28,8	30,4	32,0	33,6	35,3	37,0	38,5
925 kg	13,5	15,5	17,4	19,4	21,3	22,9	24,5	26,1	27,7	29,3	30,9	32,5	34,1	37,6	41,1	44,6
955 kg	13,9	15,8	17,8	19,8	21,7	23,3	25,0	26,6	28,2	29,8	31,4	33,0	34,7	38,2	41,7	45,3
985 kg	14,2	16,2	18,2	20,2	22,1	23,8	25,4	27,0	28,7	30,3	31,9	33,6	35,2	38,8	42,4	45,9
1015 kg	14,5	16,6	18,6	20,6	22,6	24,2	25,9	27,5	29,1	30,8	32,4	34,1	35,7	39,4	43,0	46,5
1045 kg	14,9	16,9	18,9	21,0	23,0	24,6	26,3	28,0	29,6	31,3	32,9	34,6	36,3	39,9	43,6	47,1
1075 kg	15,2	17,3	19,3	21,4	23,4	25,1	26,7	28,4	30,1	31,8	33,5	35,1	36,8	40,5	44,2	47,7
1105 kg	21,7	23,6	25,5	27,5	29,4	31,4	33,4	35,5	37,5	39,5	41,5	43,6	45,6	47,9	50,2	52,5

Selection graphs





KAMOUFLAGE

$$\Delta p = 0,6 \times v^2 \times \zeta$$

KAMOUFLAGE 1V60 - 1V120

Hn\Wn [mm]	300	350	400	450	500	550	600	650	700
385 ζ [-]	2,197034	1,85359	1,610212	1,427955	1,285917	1,171833	1,078011	0,99937	0,932417
415 ζ [-]	2,031035	1,714557	1,490041	1,321777	1,190569	1,085136	0,998398	0,925674	0,863743
445 ζ [-]	1,890511	1,59672	1,388105	1,231657	1,109604	1,011491	0,93075	0,863039	0,805365
475 ζ [-]	1,769877	1,495459	1,300448	1,154121	1,039917	0,948085	0,872495	0,809089	0,755073
505 ζ [-]	1,665086	1,40742	1,224192	1,086641	0,979248	0,89287	0,821753	0,76209	0,711255
535 ζ [-]	1,573131	1,330108	1,157192	1,02733	0,925909	0,844315	0,777125	0,720747	0,672704
565 ζ [-]	1,49173	1,261625	1,097818	0,974752	0,878613	0,801253	0,737538	0,684069	0,638501
595 ζ [-]	1,419117	1,200502	1,044803	0,927792	0,836362	0,762777	0,702163	0,65129	0,60793
625 ζ [-]	1,353905	1,14558	0,997151	0,885572	0,798368	0,728173	0,670343	0,621803	0,580427
655 ζ [-]	1,294987	1,095937	0,954066	0,847389	0,764001	0,696868	0,641555	0,595122	0,555539
685 ζ [-]	1,24147	1,050827	0,914903	0,812676	0,732752	0,6684	0,615372	0,570854	0,532901
715 ζ [-]	1,192623	1,009638	0,879136	0,780967	0,704204	0,642389	0,591447	0,548677	0,512212
745 ζ [-]	1,147844	0,971866	0,84633	0,751877	0,67801	0,618521	0,569492	0,528325	0,493224
775 ζ [-]	1,106631	0,937093	0,81612	0,725086	0,653884	0,596535	0,549266	0,509575	0,47573
805 ζ [-]	1,068562	0,904963	0,788203	0,700325	0,631583	0,576211	0,530568	0,492239	0,459555
835 ζ [-]	1,033281	0,875179	0,762319	0,677364	0,610902	0,557361	0,513225	0,47616	0,444552
865 ζ [-]	1,000484	0,847486	0,738248	0,656009	0,591665	0,539826	0,497091	0,4612	0,430593
895 ζ [-]	0,96991	0,821663	0,7158	0,636091	0,573721	0,52347	0,482041	0,447245	0,41757
925 ζ [-]	0,941334	0,797524	0,694812	0,617467	0,556942	0,508174	0,467965	0,434193	0,405391
955 ζ [-]	0,91456	0,774903	0,675142	0,600011	0,541214	0,493835	0,45477	0,421957	0,393971
985 ζ [-]	0,889419	0,753657	0,656665	0,583613	0,526438	0,480364	0,442372	0,41046	0,383242
1015 ζ [-]	0,865761	0,733662	0,639274	0,568177	0,512528	0,467681	0,4307	0,399636	0,37314
1045 ζ [-]	0,843455	0,714806	0,622873	0,553618	0,499408	0,455718	0,41969	0,389425	0,36361
1075 ζ [-]	0,822385	0,696993	0,607377	0,539862	0,48701	0,444413	0,409285	0,379775	0,354604

KAMOUBLAGE 2V60 - 2V120

Hn\Wn (mm)	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
385	ζ [-]	3,19704	2,711378	2,367037	2,108764	1,907072	1,744708	1,610868	1,498424	1,402469	1,319511	1,246993	1,182998	1,126056	1,075023	1,028993	0,98724
415	ζ [-]	2,968175	2,518767	2,199769	1,960316	1,773212	1,622524	1,498265	1,393839	1,304705	1,22763	1,160242	1,100765	1,047836	1,000395	0,957601	0,918779
445	ζ [-]	2,773656	2,354859	2,057308	1,833807	1,659082	1,518311	1,402195	1,304589	1,22126	1,149192	1,086173	1,030545	0,981036	0,936656	0,89662	0,860297
475	ζ [-]	2,606054	2,213485	1,934346	1,724557	1,560484	1,428253	1,319154	1,227428	1,149105	1,081357	1,022108	0,969803	0,923247	0,88151	0,843856	0,809692
505	ζ [-]	2,459966	2,090149	1,827008	1,629147	1,474348	1,349558	1,246575	1,159976	1,086021	1,022042	0,966085	0,91668	0,872703	0,833275	0,797701	0,765423
535	ζ [-]	2,331367	1,981495	1,732398	1,545019	1,398376	1,280133	1,182534	1,100451	1,030342	0,969685	0,916628	0,869781	0,828076	0,790684	0,756946	0,726332
565	ζ [-]	2,217188	1,884962	1,648304	1,470218	1,33081	1,218377	1,125559	1,047486	0,980795	0,923089	0,87261	0,828035	0,788352	0,75277	0,720664	0,691529
595	ζ [-]	2,115054	1,79856	1,573006	1,403222	1,270281	1,163043	1,074502	1,000016	0,936385	0,881321	0,83315	0,790611	0,752738	0,718777	0,688132	0,660323
625	ζ [-]	2,023088	1,720721	1,505147	1,342828	1,215706	1,113145	1,028455	0,957201	0,896325	0,843642	0,797551	0,756846	0,720604	0,688105	0,658778	0,632163
655	ζ [-]	1,939793	1,650188	1,443638	1,288074	1,166218	1,067892	0,986689	0,918364	0,859984	0,809459	0,765252	0,72621	0,691448	0,660274	0,632141	0,60661
685	ζ [-]	1,863954	1,585943	1,387596	1,238176	1,121113	1,026642	0,948614	0,882955	0,82685	0,77829	0,735801	0,698273	0,664858	0,634892	0,607849	0,583305
715	ζ [-]	1,794579	1,527151	1,336298	1,192493	1,079812	0,988867	0,913744	0,850524	0,7965	0,749739	0,708821	0,672681	0,6405	0,611639	0,585593	0,561954
745	ζ [-]	1,730845	1,473122	1,289145	1,150495	1,041837	0,95413	0,881676	0,820697	0,768586	0,723477	0,684005	0,64914	0,618093	0,590248	0,565118	0,542311
775	ζ [-]	1,672067	1,423278	1,245635	1,111736	1,006788	0,922067	0,852073	0,793162	0,742814	0,699231	0,661092	0,627403	0,597403	0,570496	0,546213	0,524172
805	ζ [-]	1,617668	1,377135	1,205348	1,075842	0,974326	0,892368	0,824652	0,767654	0,71894	0,676769	0,639864	0,607264	0,578233	0,552195	0,528695	0,507366
835	ζ [-]	1,567158	1,33428	1,167925	1,042496	0,944165	0,864771	0,799171	0,74395	0,696752	0,655893	0,620134	0,588546	0,560416	0,535185	0,512413	0,491744
865	ζ [-]	1,520119	1,29436	1,13306	1,011426	0,91606	0,839055	0,775423	0,721858	0,676073	0,636435	0,601744	0,571099	0,543808	0,519329	0,497235	0,477181
895	ζ [-]	1,476192	1,257074	1,10049	0,982397	0,8898	0,815024	0,753232	0,701212	0,656747	0,61825	0,584557	0,554793	0,528285	0,504509	0,483048	0,46357
925	ζ [-]	1,435068	1,222158	1,069987	0,955208	0,865201	0,792513	0,732443	0,681871	0,638641	0,601212	0,568454	0,539515	0,513741	0,490623	0,469756	0,450816
955	ζ [-]	1,396476	1,189387	1,041353	0,929683	0,842107	0,771377	0,712922	0,663709	0,621638	0,585213	0,553332	0,525167	0,500082	0,477582	0,457272	0,438838
985	ζ [-]	1,36018	1,15856	1,014415	0,905667	0,820377	0,751489	0,694554	0,646617	0,605638	0,570156	0,5391	0,511663	0,487227	0,465308	0,445523	0,427564
1015	ζ [-]	1,325975	1,129504	0,989021	0,883026	0,799889	0,732737	0,677234	0,630502	0,59055	0,555958	0,52568	0,49893	0,475105	0,453733	0,434443	0,416933
1045	ζ [-]	1,293677	1,102064	0,965037	0,861641	0,780536	0,715023	0,660872	0,615277	0,576296	0,542544	0,513	0,486899	0,463651	0,442798	0,423974	0,406887
1075	ζ [-]	1,263126	1,076104	0,942344	0,841405	0,762223	0,69826	0,645388	0,600868	0,562807	0,529849	0,501	0,475512	0,452811	0,432447	0,414065	0,39738
1105	ζ [-]	1,234178	1,051502	0,920837	0,822226	0,744865	0,68237	0,63071	0,58721	0,550019	0,517814	0,489624	0,464718	0,442534	0,422634	0,404671	0,388366

Selection data

KAMOUFFLAGE 1V60 & 1V120 - Free air passage (m²)

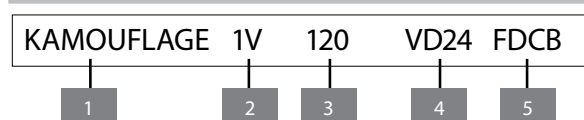
Hn\Bn [mm]		300	350	400	450	500	550	600	650	700
385	Sn [m ²]	0,0678	0,0834	0,0990	0,1146	0,1302	0,1458	0,1614	0,1770	0,1926
415	Sn [m ²]	0,0746	0,0917	0,1088	0,1259	0,1430	0,1601	0,1772	0,1943	0,2114
445	Sn [m ²]	0,0814	0,1000	0,1186	0,1372	0,1558	0,1744	0,1930	0,2116	0,2302
475	Sn [m ²]	0,0883	0,1084	0,1285	0,1486	0,1687	0,1888	0,2089	0,2290	0,2491
505	Sn [m ²]	0,0951	0,1167	0,1383	0,1599	0,1815	0,2031	0,2247	0,2463	0,2679
535	Sn [m ²]	0,1019	0,1250	0,1481	0,1712	0,1943	0,2174	0,2405	0,2636	0,2867
565	Sn [m ²]	0,1087	0,1333	0,1579	0,1825	0,2071	0,2317	0,2563	0,2809	0,3055
595	Sn [m ²]	0,1155	0,1416	0,1677	0,1938	0,2199	0,2460	0,2721	0,2982	0,3243
625	Sn [m ²]	0,1223	0,1499	0,1775	0,2051	0,2327	0,2603	0,2879	0,3155	0,3431
655	Sn [m ²]	0,1291	0,1582	0,1873	0,2164	0,2455	0,2746	0,3037	0,3328	0,3619
685	Sn [m ²]	0,1359	0,1665	0,1971	0,2277	0,2583	0,2889	0,3195	0,3501	0,3807
715	Sn [m ²]	0,1427	0,1748	0,2069	0,2390	0,2711	0,3032	0,3353	0,3674	0,3995
745	Sn [m ²]	0,1495	0,1831	0,2167	0,2503	0,2839	0,3175	0,3511	0,3847	0,4183
775	Sn [m ²]	0,1564	0,1915	0,2266	0,2617	0,2968	0,3319	0,3670	0,4021	0,4372
805	Sn [m ²]	0,1632	0,1998	0,2364	0,2730	0,3096	0,3462	0,3828	0,4194	0,4560
835	Sn [m ²]	0,1700	0,2081	0,2462	0,2843	0,3224	0,3605	0,3986	0,4367	0,4748
865	Sn [m ²]	0,1768	0,2164	0,2560	0,2956	0,3352	0,3748	0,4144	0,4540	0,4936
895	Sn [m ²]	0,1836	0,2247	0,2658	0,3069	0,3480	0,3891	0,4302	0,4713	0,5124
925	Sn [m ²]	0,1904	0,2330	0,2756	0,3182	0,3608	0,4034	0,4460	0,4886	0,5312
955	Sn [m ²]	0,1972	0,2413	0,2854	0,3295	0,3736	0,4177	0,4618	0,5059	0,5500
985	Sn [m ²]	0,2040	0,2496	0,2952	0,3408	0,3864	0,4320	0,4776	0,5232	0,5688
1015	Sn [m ²]	0,2108	0,2579	0,3050	0,3521	0,3992	0,4463	0,4934	0,5405	0,5876
1045	Sn [m ²]	0,2176	0,2662	0,3148	0,3634	0,4120	0,4606	0,5092	0,5578	0,6064
1075	Sn [m ²]	0,2245	0,2746	0,3247	0,3748	0,4249	0,4750	0,5251	0,5752	0,6253

KAMOUFFLAGE 2V60 & 2V120 - Free air passage (m²)

Hn\Bn [mm]		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
385	Sn [m ²]	0,0659	0,0815	0,0971	0,1127	0,1283	0,1439	0,1595	0,1751	0,1907	0,2063	0,2219	0,2375	0,2531	0,2687	0,2843	0,2999
415	Sn [m ²]	0,0725	0,0896	0,1067	0,1238	0,1409	0,1580	0,1751	0,1922	0,2093	0,2264	0,2435	0,2606	0,2777	0,2948	0,3119	0,3290
445	Sn [m ²]	0,0791	0,0977	0,1163	0,1349	0,1535	0,1721	0,1907	0,2093	0,2279	0,2465	0,2651	0,2837	0,3023	0,3209	0,3395	0,3581
475	Sn [m ²]	0,0858	0,1059	0,1260	0,1461	0,1662	0,1863	0,2064	0,2265	0,2466	0,2667	0,2868	0,3069	0,3270	0,3471	0,3672	0,3873
505	Sn [m ²]	0,0924	0,1140	0,1356	0,1572	0,1788	0,2004	0,2220	0,2436	0,2652	0,2868	0,3084	0,3300	0,3516	0,3732	0,3948	0,4164
535	Sn [m ²]	0,0990	0,1221	0,1452	0,1683	0,1914	0,2145	0,2376	0,2607	0,2838	0,3069	0,3300	0,3531	0,3762	0,3993	0,4224	0,4455
565	Sn [m ²]	0,1056	0,1302	0,1548	0,1794	0,2040	0,2286	0,2532	0,2778	0,3024	0,3270	0,3516	0,3762	0,4008	0,4254	0,4500	0,4746
595	Sn [m ²]	0,1123	0,1384	0,1645	0,1906	0,2167	0,2428	0,2689	0,2950	0,3211	0,3472	0,3733	0,3994	0,4255	0,4516	0,4777	0,5038
625	Sn [m ²]	0,1189	0,1465	0,1741	0,2017	0,2293	0,2569	0,2845	0,3121	0,3397	0,3673	0,3949	0,4225	0,4501	0,4777	0,5053	0,5329
655	Sn [m ²]	0,1255	0,1546	0,1837	0,2128	0,2419	0,2710	0,3001	0,3292	0,3583	0,3874	0,4165	0,4456	0,4747	0,5038	0,5329	0,5620
685	Sn [m ²]	0,1321	0,1627	0,1933	0,2239	0,2545	0,2851	0,3157	0,3463	0,3769	0,4075	0,4381	0,4687	0,4993	0,5299	0,5605	0,5911
715	Sn [m ²]	0,1388	0,1709	0,2030	0,2351	0,2672	0,2993	0,3314	0,3635	0,3956	0,4277	0,4598	0,4919	0,5240	0,5561	0,5882	0,6203
745	Sn [m ²]	0,1454	0,1790	0,2126	0,2462	0,2798	0,3134	0,3470	0,3806	0,4142	0,4478	0,4814	0,5150	0,5486	0,5822	0,6158	0,6494
775	Sn [m ²]	0,1520	0,1871	0,2222	0,2573	0,2924	0,3275	0,3626	0,3977	0,4328	0,4679	0,5030	0,5381	0,5732	0,6083	0,6434	0,6785

Hn\Bn (mm)		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
805	Sn [m ²]	0,1586	0,1952	0,2318	0,2684	0,3050	0,3416	0,3782	0,4148	0,4514	0,4880	0,5246	0,5612	0,5978	0,6344	0,6710	0,7076
835	Sn [m ²]	0,1652	0,2033	0,2414	0,2795	0,3176	0,3557	0,3938	0,4319	0,4700	0,5081	0,5462	0,5843	0,6224	0,6605	0,6986	0,7367
865	Sn [m ²]	0,1719	0,2115	0,2511	0,2907	0,3303	0,3699	0,4095	0,4491	0,4887	0,5283	0,5679	0,6075	0,6471	0,6867	0,7263	0,7659
895	Sn [m ²]	0,1785	0,2196	0,2607	0,3018	0,3429	0,3840	0,4251	0,4662	0,5073	0,5484	0,5895	0,6306	0,6717	0,7128	0,7539	0,7950
925	Sn [m ²]	0,1851	0,2277	0,2703	0,3129	0,3555	0,3981	0,4407	0,4833	0,5259	0,5685	0,6111	0,6537	0,6963	0,7389	0,7815	0,8241
955	Sn [m ²]	0,1917	0,2358	0,2799	0,3240	0,3681	0,4122	0,4563	0,5004	0,5445	0,5886	0,6327	0,6768	0,7209	0,7650	0,8091	0,8532
985	Sn [m ²]	0,1984	0,2440	0,2896	0,3352	0,3808	0,4264	0,4720	0,5176	0,5632	0,6088	0,6544	0,7000	0,7456	0,7912	0,8368	0,8824
1015	Sn [m ²]	0,2050	0,2521	0,2992	0,3463	0,3934	0,4405	0,4876	0,5347	0,5818	0,6289	0,6760	0,7231	0,7702	0,8173	0,8644	0,9115
1045	Sn [m ²]	0,2116	0,2602	0,3088	0,3574	0,4060	0,4546	0,5032	0,5518	0,6004	0,6490	0,6976	0,7462	0,7948	0,8434	0,8920	0,9406
1075	Sn [m ²]	0,2182	0,2683	0,3184	0,3685	0,4186	0,4687	0,5188	0,5689	0,6190	0,6691	0,7192	0,7693	0,8194	0,8695	0,9196	0,9697
1105	Sn [m ²]	0,2249	0,2765	0,3281	0,3797	0,4313	0,4829	0,5345	0,5861	0,6377	0,6893	0,7409	0,7925	0,8441	0,8957	0,9473	0,9989

Sample order



1. product
2. 1 shutter (1V)/2 shutters (2V)
3. fire resistance of 60 or 120 minutes
4. option: type magnet and voltage
5. option: bipolar end of range switch (FDCU included)

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.



1812_CPR_1043



05.23 & 05.24



ISO 9001

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.marquage-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, Rf-Technologies will decline any responsibility and the guarantee will expire!