LUME

LUME

Packing-up external venetian blind with continuous chain system

- *Extruded aluminium slats*
- *Self supporting side rail guides in extruded aluminium*
- *Maximum surface **9 sqm***
- *Adjustable slats at any angle and height*
- *Darkening up to **92%***

LUME is the revolutionary external venetian blind. Thanks to Its innovative elements and structure, LUME has achieved international patents.

Exclusive features:

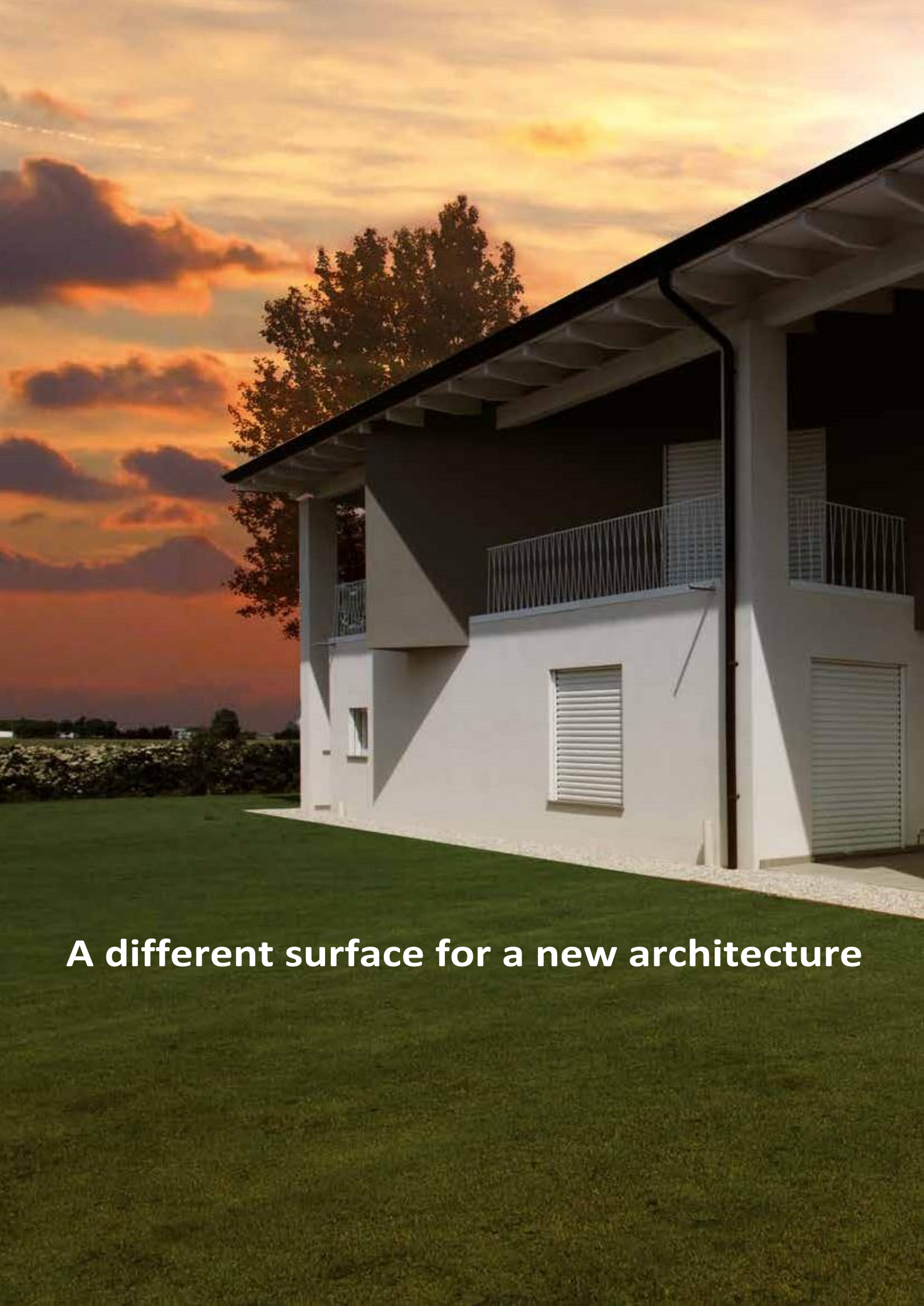
1) *Extruded aluminium slats 13/10*
2) *Slat fastening invisible from outside*
3) *Possibility to adjust slats length on building site*
4) *Breaking pressure of about 140 km/h on 3000x3000 dimensions*
5) *New continuous chain system integrated in the rail guides*
6) *Tilting slats 0°-87° at any angle and height*
7) *Emergency release latch of slats from lifting mechanism*
8) *Slats are secured in every position*
9) *Mechanical components in stainless steel and aluminium*
10) *Maximum length (BK) 3000 mm*
11) *Adjustment system for side rail guides*
12) *Adjustable rubber on last slat for closing to threshold*
13) *Great resistance to impacts from hail and bad weather conditions*
14) *Painted accessories*
15) *Fall arrest system*

Fastening clips are covered, making them invisible from the external side.

Slats with fastening clips invisible from outside.

Features which are similar to other chain systems:

- *Anti-lifting system*
- *Anti-crushing system*
- *Rubber profile on each slat to avoid noise*
- *Side rail guides can be embedded*
- *High resistance coatings*
- *Salt resistance coatings (seaside treatment)*
- *Special colours available for slats and side rail guides*
- *Painted accessories*



A different surface for a new architecture

- *Tilting slat at every angle and height*
- *Innovation and design*
- *More safety*
- *Thermal insulation*
- *Hail and wind resistance*
- *Blackout and air management*

Thanks to the advanced movement of the slats, light and blackout are easier to manage and a better thermal insulation is guaranteed.

The slat in extruded aluminium 13/10 is designed to accomplish excellent performances against all atmospheric agents, such as hail and wind.

It stands out for its exceptional stability, elegance and security, combined with an anti-lifting device and an anti-crushing system.

LUME, with its essential and sophisticated design, benefits from an exclusive slat fastening invisible from outside, which is a patented feature.

Available colours

Standard colours

RAL	Side rail guides and slats	Fastening clips	Extras*	Colour description
RAL 9010 OPACO - *MATT*	X	X	X	*White*
RAL 1013 OPACO - *MATT*	X	X	X	*Vanilla flower*
RAL 7035 OPACO - *MATT*	X	X	X	*Ice grey*
RAL 7016 OPACO - *MATT*	X	X	X	*Fossil grey*
RAL 9006 OPACO - *MATT*	X		X	aluminum - *Silver*
RAL 9007 OPACO - *MATT*	X		X	*Titanium*
RAL 6005 OPACO - *MATT*	X	X	X	*Forest green*
RAL 8017 OPACO - *MATT*	X	X	X	*Coffee brown*

**Extras such as cover panels and finishing profiles*

***NB:** with RALs 9006 and 9007, the fastening clips are provided in polished steel.*

***NB:** for non-standard colours, accessories such as fastening clips, fixation brackets, finishing profiles and cover panels can be painted to match with the blind with an additional charge.*

***NB:** there may be small colour differences from one supplying to another due to the particular colouring process.*

Non-standard colours at an additional price

LUME is able to satisfy every colour requests, from wooden to metallic textures, marbled and sublimated.
For delivery times and prices, please send a request to the sales office.

The seaside salt treatment is possible also on profiles and accessories, recommended especially on seaside areas.

Table of values g tot - energy transmission coefficient

Slats standard colours			Curtain tightly closed				Blind at 45°				Glass window + outside blind		Class
			Te	Re	Tv	Rv	Te-45°	Re-45°	Tv-45°	Rv-45°	g-tot	g-tot45°	
	White	RAL 9010	0.00	0.73	0.00	0.83	0.11	0.55	0.12	0.62	**0.02**	**0.10**	3
	Vanilla flower	RAL 1013	0.00	0.57	0.00	0.83	0.11	0.55	0.12	0.62	**0.02**	**0.10**	3
	Ice grey	RAL 7035	0.00	0.57	0.00	0.61	0.09	0.43	0.09	0.46	**0.04**	**0.10**	3
	Fossil grey	RAL 7016	0.00	0.16	0.00	0.08	0.02	0.09	0.01	0.06	**0.08**	**0.09**	4
	Silver	RAL 9006	0.00	0.12	0.00	0.08	0.02	0.09	0.01	0.06	**0.08**	**0.09**	4
	Titanium	RAL 9007	0.00	0.36	0.00	0.34	0.05	0.27	0.05	0.26	**0.06**	**0.10**	3
	Forest green	RAL 6005	0.00	0.12	0.00	0.08	0.02	0.09	0.01	0.06	**0.08**	**0.09**	4
	Coffee brown	RAL 8017	0.00	0.16	0.00	0.12	0.03	0.18	0.03	0.12	**0.10**	**0.10**	3

NB: The colours shown are given as an indication

Re: *solar reflectance index*

Rv: *light reflectance value*

g-tot45°: *g-tot with slat at 45° angle*

Te: *solar transmittance*

Tv: *light transmittance*

g-tot: *the overall energy transmittance for "closed" external solar systems with glazing*

VETRATA: *reference glazing C according to EN 14501 - g= 0.59 - heat transfer coefficient = 1.20 [Wm2K]*

the higher the class, the less the heat able to reach the indoor space

Class	0	1	2	3	4
effect	*very small effect*	*small effect*	*moderate effect*	*good effect*	*very good effect*
solar factor	g-tot ≥ 0.50	0.35 ≤ g-tot < 0.50	0.15 ≤ g-tot < 0.35	0.10 ≤ g-tot < 0.15	g-tot < 0.10

Resistance to wind load

Article	*Type of test*	*Test regulation*	*Regulatory classification*	*Km/h*	*Class*
LUME	*Resistance to wind load*	UNI EN 1932	UNI EN 13659	**92***	**6***

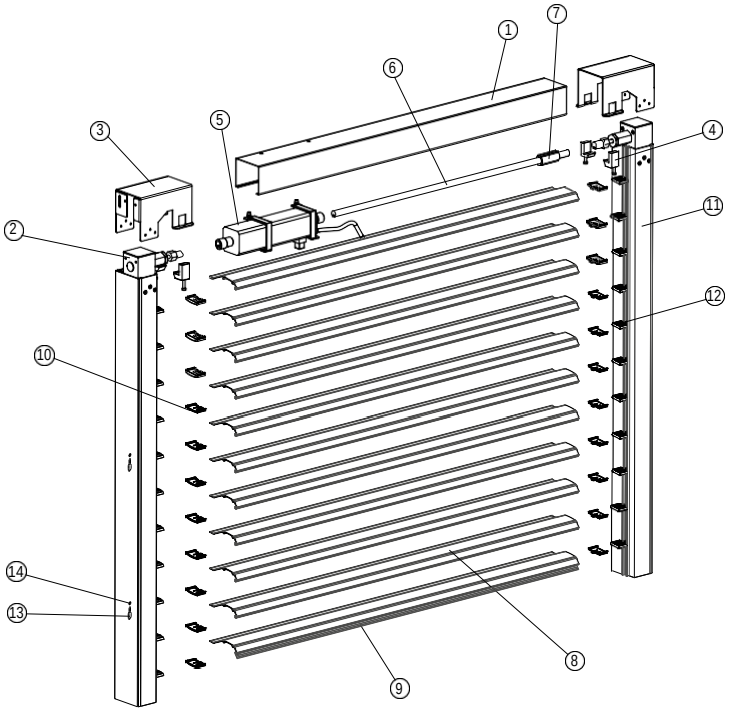
NB: the system was tested on 3000X3000 mm dimension

*

*The number 6 in the table is the highest level of resistance for sun shading systems. The test exceeded the value shown above, **since its breaking point was at 930 PA, that means about 140 km/h**.*

LUME with motor operations

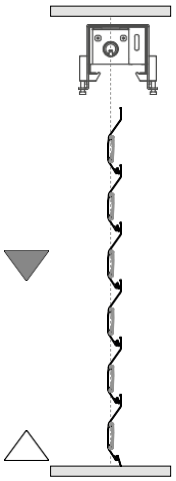
1. Head rail in galvanized steel
2. Regulator's mechanical components
3. Pre-assembled angle bracket in galvanized steel integrated in the side rail guides
4. Fixation brackets
5. Mechanical motor
6. Drive shaft Ø14 mm
7. Telescopic universal joint for shaft
8. Painted slats in extruded aluminium
9. Adjustable rubber on last slat
10. Fastening clip
11. Continuous chain structure integrated in the rail guides
12. Hooks for slats fastening
13. Hole for pre-assembly
14. Threaded hole for rail guide adjustments



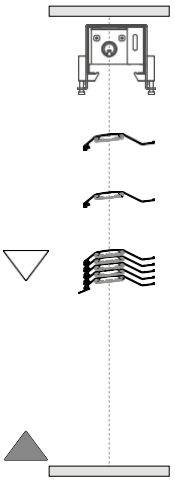
Modulation of slats

1. *Slat position upper limit stop*

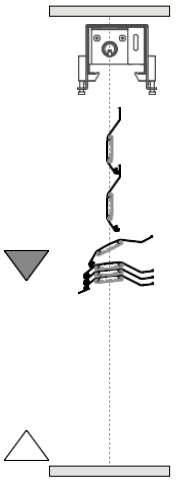
2. *Slat position lower limit stop*



3. *Slats running upward*



4. *Slats running downward*



NB: *thanks to the exclusive system, the slats tilt at any angle.*

PRESENTATION OF LUME

*Every time we visit our vendors and professionals, such as architects and design studios, they express the need for a "**complete and all-embracing**" product. Our partners require something **resistant, durable, safe, functional, elegant and easy to install.***
*Since a year and half we have the external venetian blind that combines all needs: LUME. After 3 years of research and design studies, LUME represents the **technological evolution** of blinds with chain systems.*
It is very distinctive from other competing products and every characteristic explains the obtained interest and success.

*Many highlight the sturdiness and security of the slats in **extruded aluminium 13/10,** but it is not just about this feature: LUME has many more! It boasts **international patents**, regarding the unique fastening system for slats, which is completely invisible from outside. This permits to adjust the length of each slat on your own, saving valuable time and avoiding unnecessary transport costs.*

*Another important characteristic is **the complete rotation of the slats, from 0 to 87°**, at every intermediate position and height, which has never occurred with the other chain systems. The astonishing resistance of LUME has no competitors in the actual market. The test realised at the certifying institution showed that the breaking pressure reached 930 PA, which is approximately 140 km/h on a blind of 3000x3000 dimensions.*

Lume is secured in every position and has an anti-lifting system which is activated by an attempt of slat lifting. When this happens, the system secures the slats at the rail guides and unlocks them at the moment the blind is switched on upwards. Instead, if it operates downwards, the blind doesn't move but the motor is still on to inform you about the potential intrusion occured.

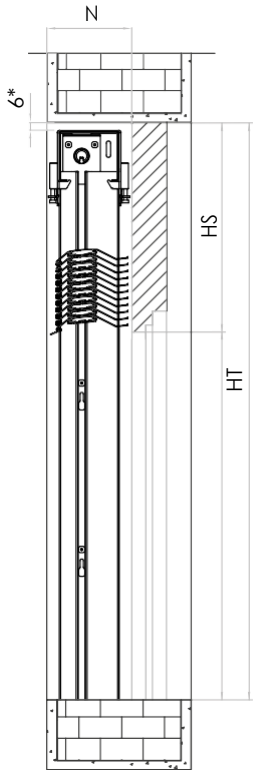
*Lume is the only system with **adjustable side rail guides**, thanks to standard accessories that fix and correct possible non-aligned walls.*
*Moreover the fact that **the rubber on last slat** is adaptable for a perfect closure to threshold.*

*Last but not least, **the slat stack is releasable,** that means the slats can be unfastened to easily reach the head box for maintenance works. This feature is mainly appreciated by professionals for the time saved during the intervention.*

In addition to the standard colours, LUME's shades can be customised as required.

Table of stack heights

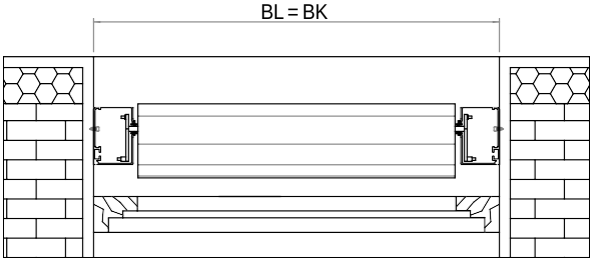
HL mm		HS mm	HT mm		HP mm
da-*from*	a-*to*		da-*from*	a-*to*	
520	635	230	750	865	210
640	680	230	870	910	210
685	755	230	915	985	210
760	845	230	990	1075	210
850	925	230	1080	1155	210
930	995	240	1170	1235	211
1000	1070	249	1249	1319	220
1075	1155	259	1334	1414	230
1160	1245	268	1428	1513	239
1250	1330	278	1528	1608	249
1335	1415	288	1623	1703	259
1420	1500	298	1718	1798	269
1505	1585	305	1810	1890	276
1590	1675	315	1905	1990	286
1680	1760	325	2005	2085	296
1765	1845	335	2100	2180	306
1850	1930	345	2195	2275	316
1935	2015	355	2290	2370	326
2020	2105	365	2385	2470	336
2110	2190	375	2485	2565	346
2195	2275	385	2580	2660	356
2280	2360	395	2675	2755	366
2365	2445	401	2766	2846	372
2450	2535	411	2861	2946	382
2540	2620	421	2961	3041	392
2625	2705	431	3056	3136	402
2710	2790	441	3151	3231	412
2795	2875	450	3245	3325	421
2880	2965	460	3340	3425	431
2970	3050	470	3440	3520	441
3055	3135	479	3534	3614	450
3140	3220	489	3629	3709	460
3225	3305	497	3722	3802	468
3310	3395	510	3820	3905	481
3400	3480	520	3920	4000	491



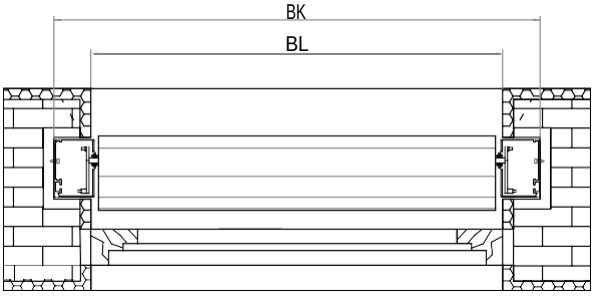
Δ value already included in HS, which is the required space to allow rail guides and eventual brackets for front cover panels to be pre-assembled.*

Table of dimensions

LUME	Side rail guides	Embedded rail guides
	mm	mm
BL MINIMA	675	565
BL MASSIMA	3000	2890
HT MINIMA	750	750
HT MASSIMA	4020	4020
SUP.MASSIMA	9 MQ	9 MQ
N MINIMA	120	120



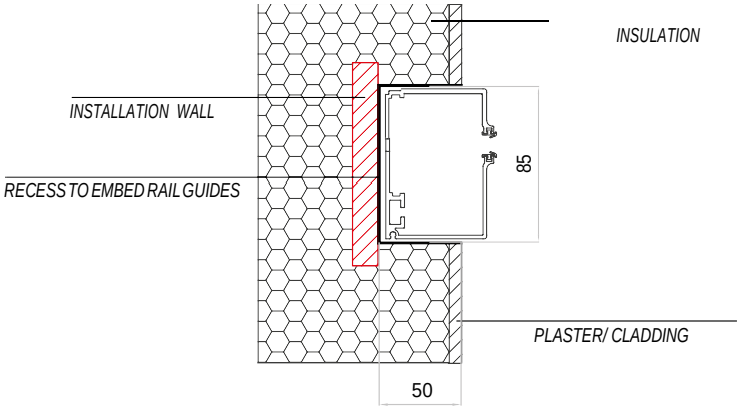
Horizontal section for side rail guides



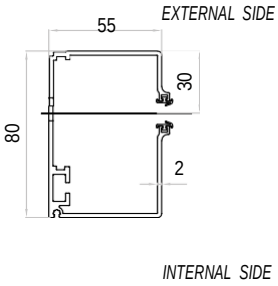
Horizontal section for embedded rail guides

Recommended solutions for embedded rail guides

NB: *we recommend not to embed each rail guides more than 50 mm. Maximum recess of 55 mm.*

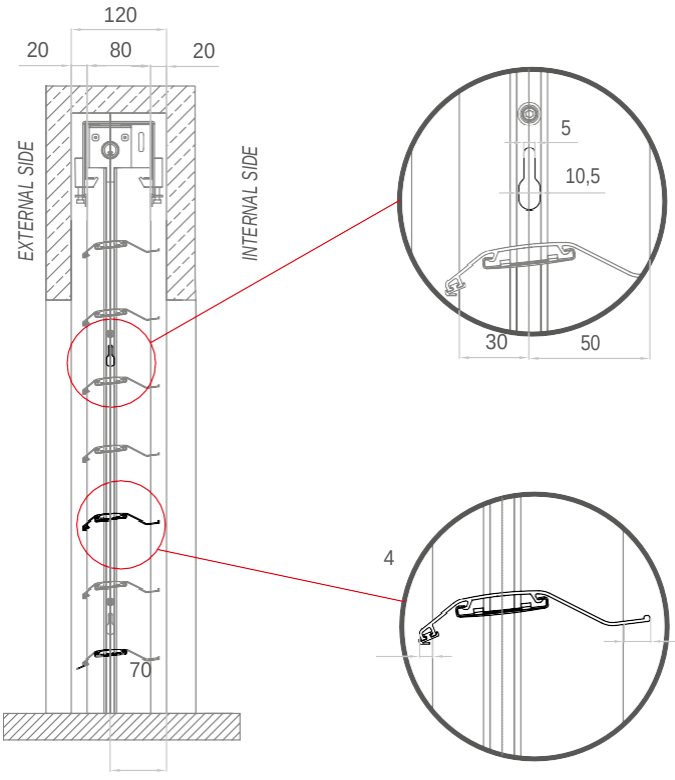


INTERNAL DIMENSIONS OF RAIL GUIDE RECESS



Correct measures of rail guides installation

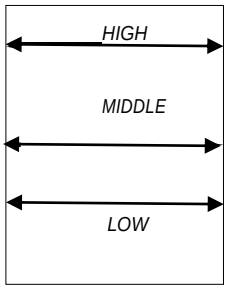
The minimum distance between the centreline of the guide hole and the wall/window must be at least of 70 mm.



NB: *the fixing hole is set at 30 mm from the external side and at 50 mm from the internal side of the rail guides*

NB: *the slat overhangs of 4 mm on the external side and of 3 mm on the internal side of the rail guides*

Out of alignments and tolerances

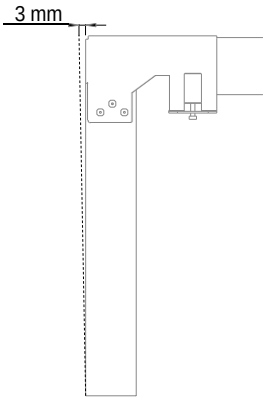


The installation of the rail guides has to be perfectly vertical.

In the case of any off-axis (HIGH, MIDDLE, LOW), consider the smallest detected measure.

LUME can bear small vertical and horizontal out of alignments.

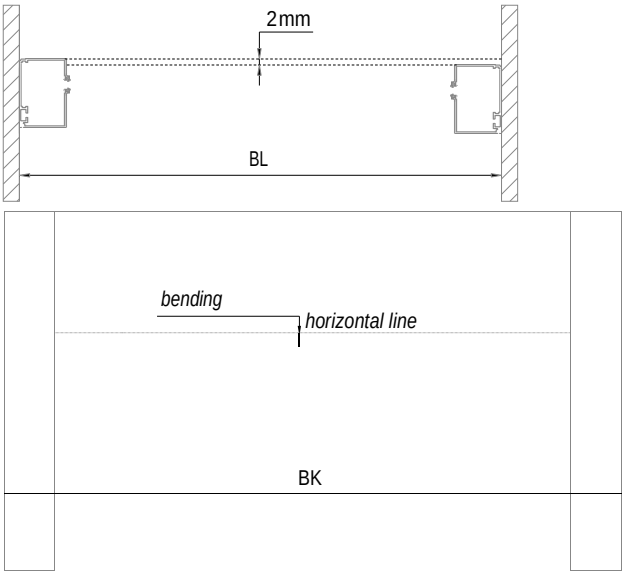
VERTICAL OUT OF ALIGNMENT
The blind works properly within an off-axis of 3 mm (beyond 3 mm, the system will have some impediments).



HORIZONTAL OUT OF ALIGNMENT
The blind works properly within an off-axis of 2 mm on a BL of 2000 mm.

BENDING OF THE SLATS
The slat is affected by a minimum of 4 mm to a maximum of 14 mm of bending on a width of 3000 mm.

NB: *the bending is referred to a single slat. The values could be higher when the blind is packed up.*



FLESSIONE LAMA

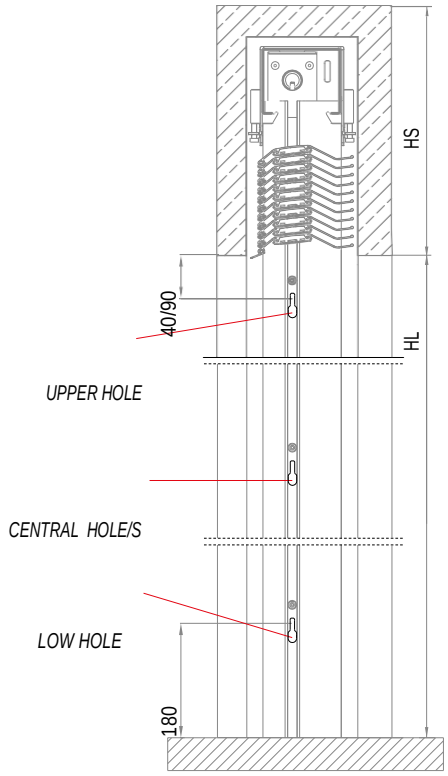
THE BENDING FOR DIFFERENT LENGTHS ON HORIZONTAL SLATS

BL mm	2000	2500	3000
Flessione *Bending* mm	4	7	14

Table of guide holes

Here there is a table with the centreline of the installation holes. The number of holes depends on the height of the opening HL.

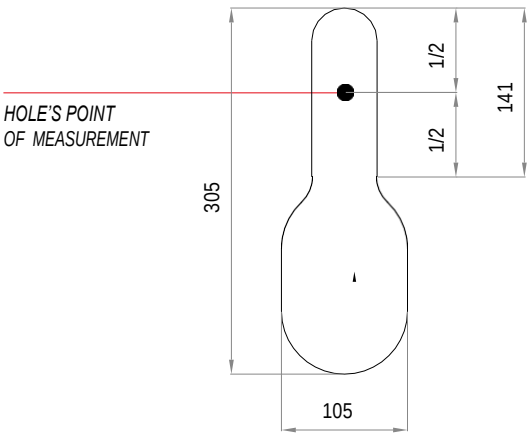
HL *mm*	N°
520– 1020	2
1021 – 1820	3
1821 – 2620	4
2621 - 3480	5



*As described in the section, the **low hole** is always at 180 mm from threshold.*
***The central hole** or holes are always equally far from the high and low holes.*
***The upper hole** varies according to HL, from 40 mm to a maximum of 90 mm.*

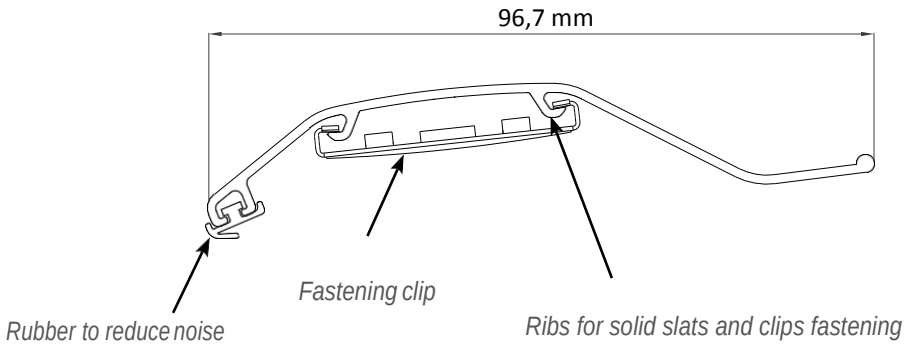
Hole's measurement point

The measurement point of the guide holes' centreline is calculated in the central part of the top side of the eyelet.

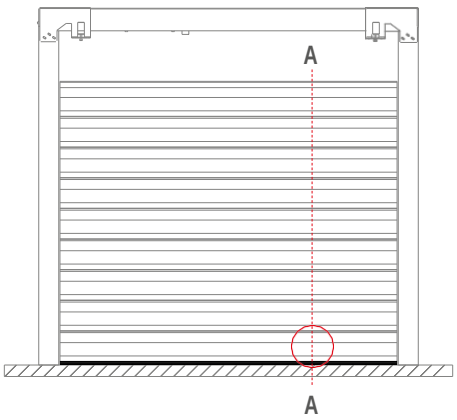


Slats

- *Slat LUME*
- *Thickness 1.3 mm*
- *Painted with powder coating on both sides*

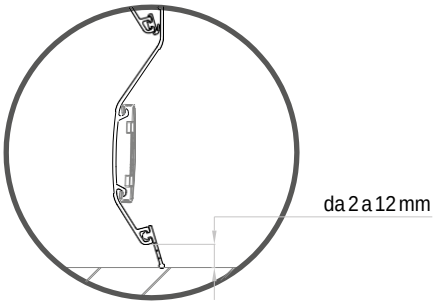


Adjustable rubber on last slat



Front blind view

A-A SECTION



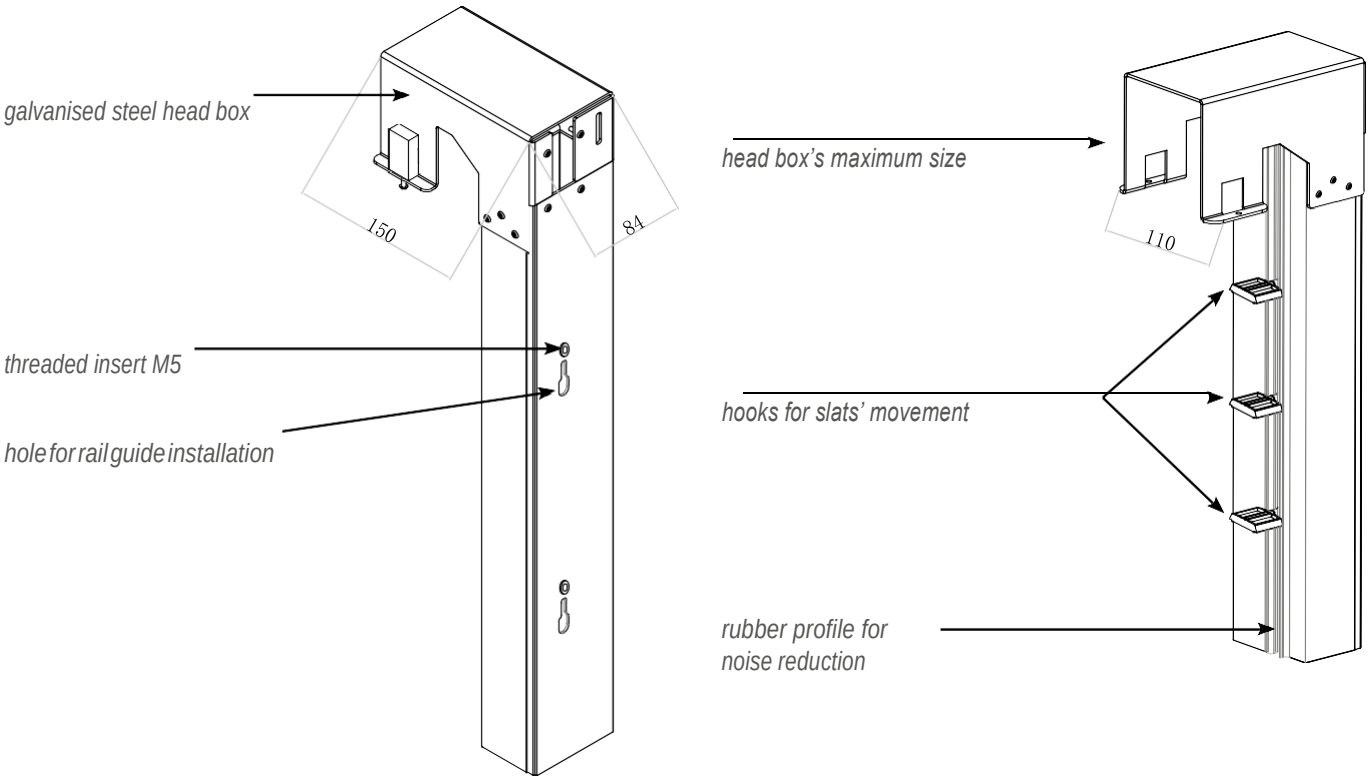
Adjustable segmented rubber

The distance between last slat and threshold could be from 2 to 12 mm. That space is fully covered by our ***adjustable segmented rubber****.*

Components

Details of rail guide and tested size

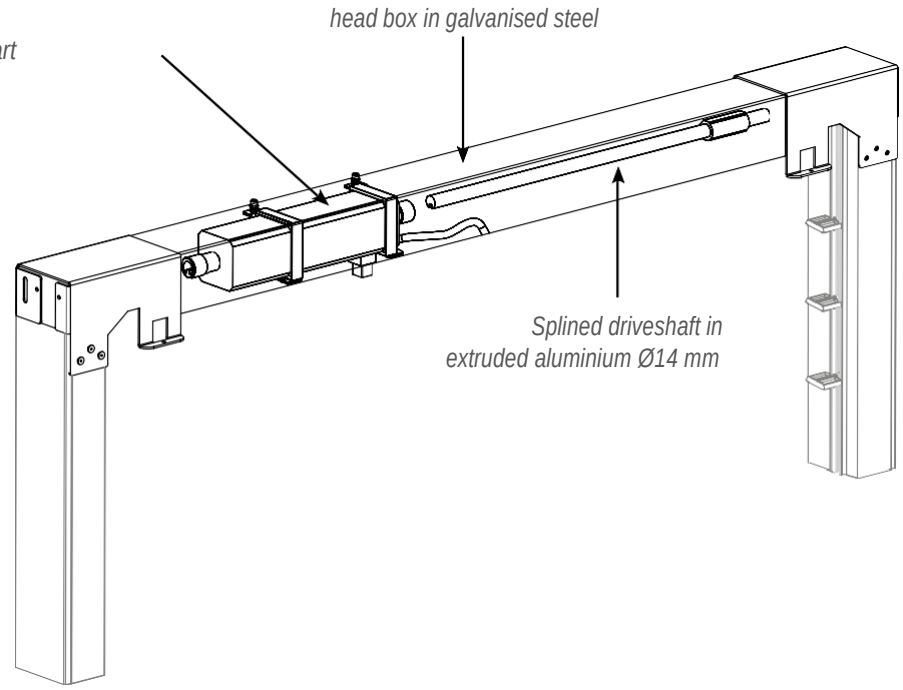
Painted rail guides in extruded aluminium of width 2 mm, provided with rubbers to avoid noise.



Details of operating parts and driveshaft

sempre a destra vista interna

on the inside right part

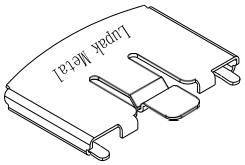


Supplied accessories

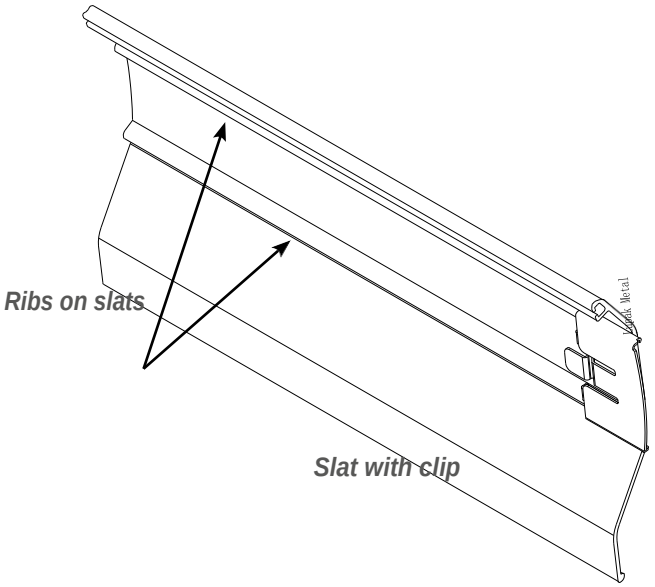
1. *Fastening clip*
2. *Small lever for clip fastening*
3. *Plastic shims to adjust rail guides*
4. *Threaded screws to adjust rail guides*
5. *Telescopic universal joint for shaft*
6. *STAK 3 plug for motor connection*
7. *Motor cable ties*

1. Fastening clip in polished or painted steel

The fastening system does not affect in any way the design of the slat on the external side, since it is situated in the inside part. The ribs on the slats help the clips insertion and avoid the accidental fall during the installation.

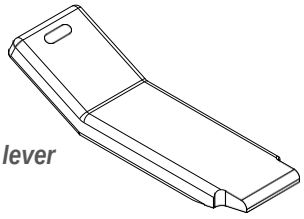


Clip

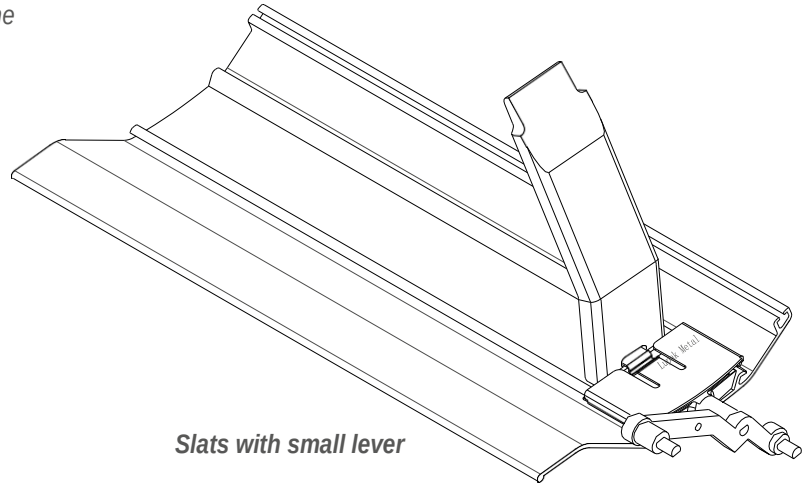


2. The small lever for clip fastening in plastic material

This small lever is useful to easily hook and release the fastening clips and to check the grip of the hooks in the rail guides.



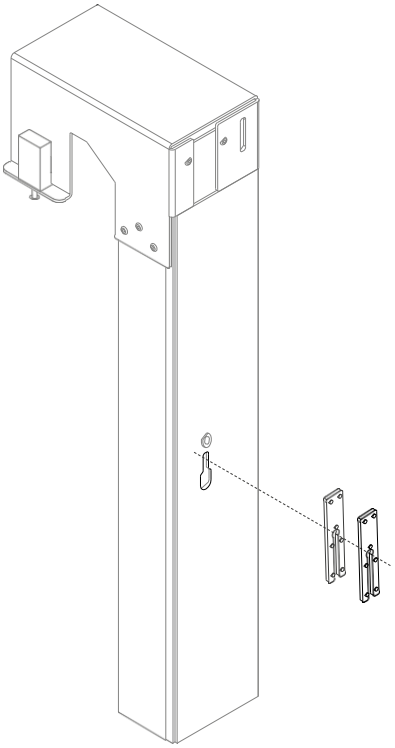
Small lever



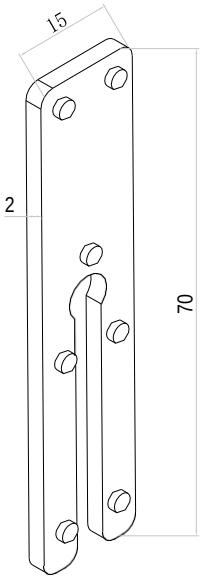
Slats with small lever

3. Plastic shims to adjust rail guides

It is possible to adjust eventual out of alignments with stackable nylon shims. The shims are placed behind the rail guides in line with the holes.



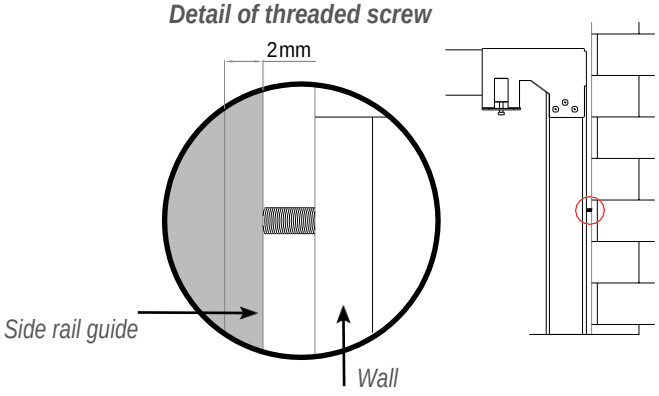
Shims

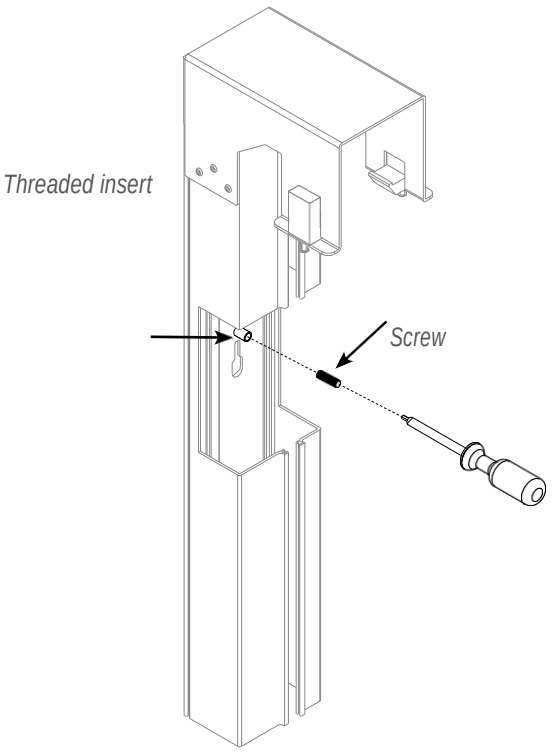


4. Threaded screws to adjust rail guides

Threaded screws M5x10 are provided to ease the adjustments of rail guides in case of out of alignment surfaces up to 2 mm. They are positioned in the specific threaded inserts as required.

Detail of threaded screw

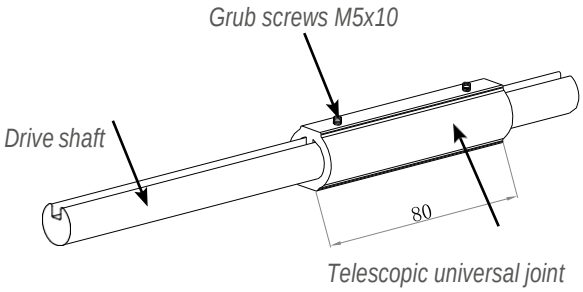




Supplied accessories

5. Telescopic universal joint for shaft in aluminium

The telescopic universal joint is essential to link the drive shaft with the left steering, as seen from inside, and it speeds up the operation.

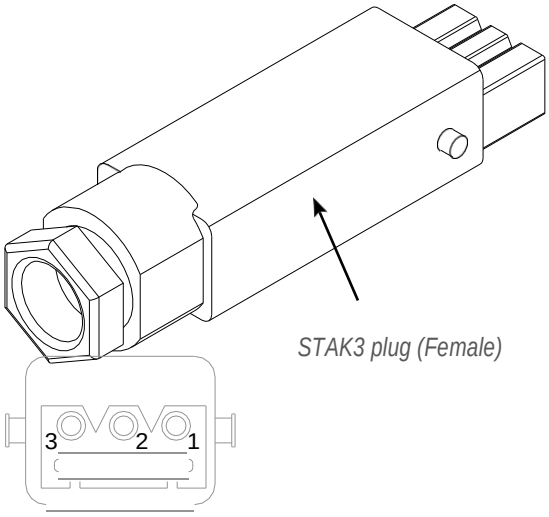


6. Stak 3 plug for motor connection

A wired cable of 90 cm and the male plug STAS 3 are included with the motor. To connect the power cord to the motor, we provide the female plug STAK 3.

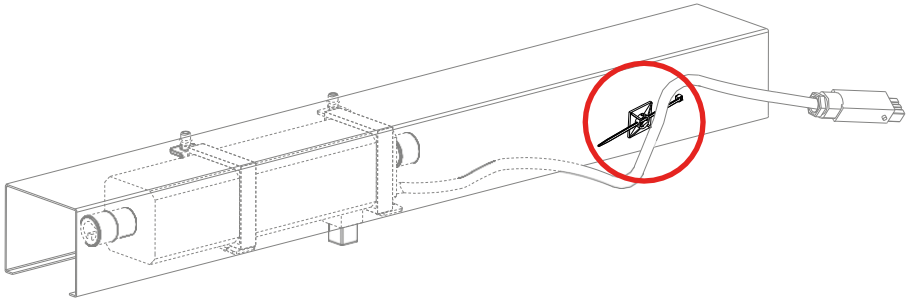
frontal view Stak 3 plug

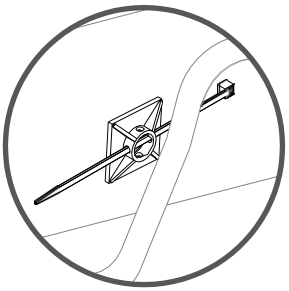
OUTPUT 1 > neutral BLUE
OUTPUT 2 > upwards BLACK
OUTPUT 3 > downwards BROWN
OUTPUT > ground YELLOW/GREEN



7. Motor cable ties

To secure the cable from the motor through the head box, we provide adhesive cable ties.





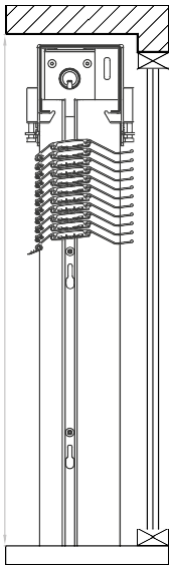
Detail cable ties

TYPES OF INSTALLATION of single and coupled blinds.

- *single blinds*
  - **1.** *standard*
  - **2.** *concealed installation*
  - **3.** *frontal installation*
- *coupled blinds*
  - **4.** *standard* *(central rail guides with frontal fixation)*
  - **5.** *standard* *(central rail guides with ground/topside fixation)*
  - **6.** *frontal installation* *(central rail guides with frontal fixation)*
  - **7.** *frontal installation* *(central rail guides with ground/topside fixation)*

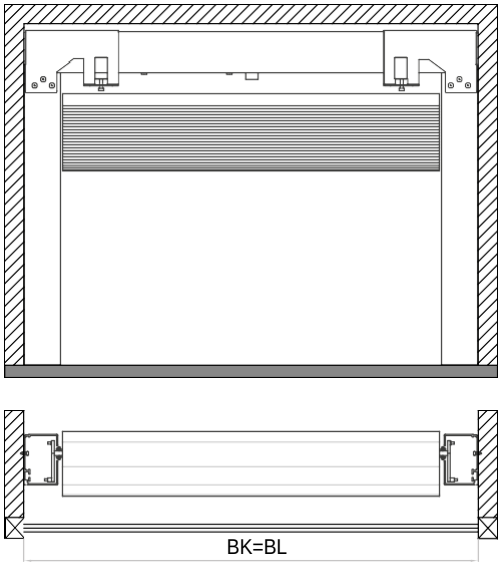
Types of installation of single blinds

1. Standard installation



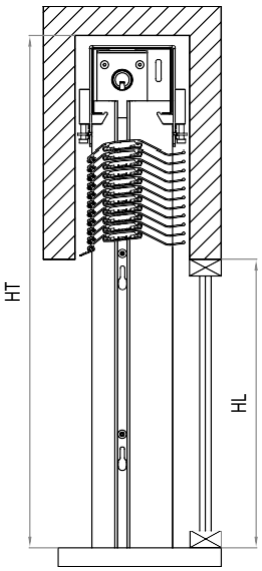
Vertical section

Example of standard installation with exposed head box and stack height, side rail guides fixed on the walls.



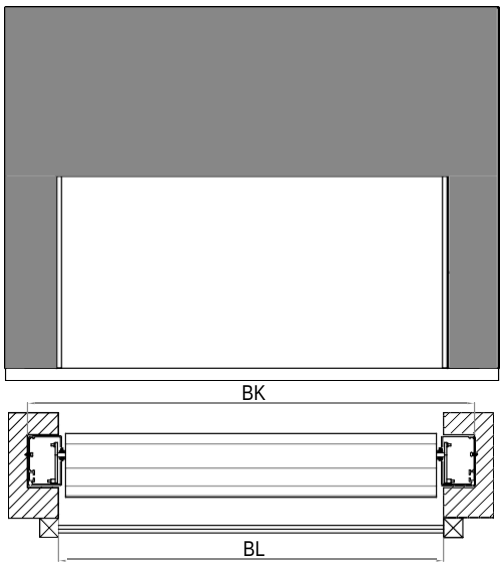
Horizontal section - standard rail guides installation

2. Concealed installation



Vertical section

Example of concealed installation where head box and stack height are hidden in a recess or an insulated box; the rail guides are embedded.



Horizontal section - rail guides embedded

NB: ***in both installations, STANDARD and EMBEDDED RAIL guides are realizable.***

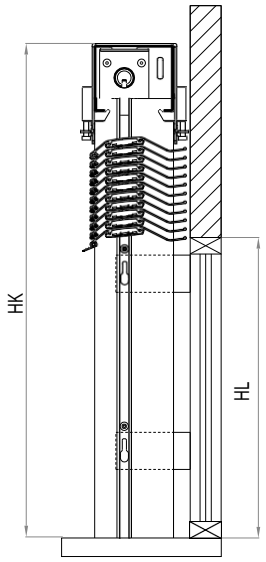
Types of installation of single blinds

3. Frontal installation

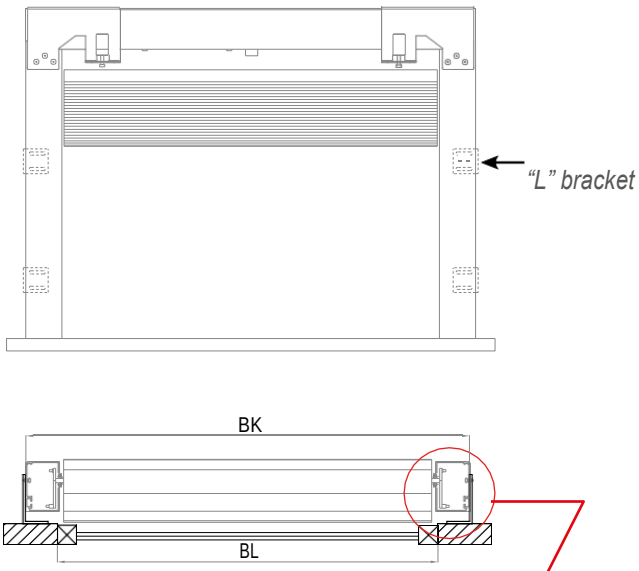
Example of frontal installation, where the mounting space needs to be added to the measures of the opening (BLxHL). the head box and the rail guides will be installed over the window opening (BKxHK).

NB: *particular attention should be paid not to exceed the maximum height (HT) and width.*

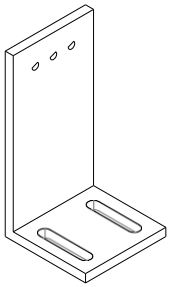
NB: *the rail guides need to be standing on ground or fixed through brackets to hold the weight of the blind.*



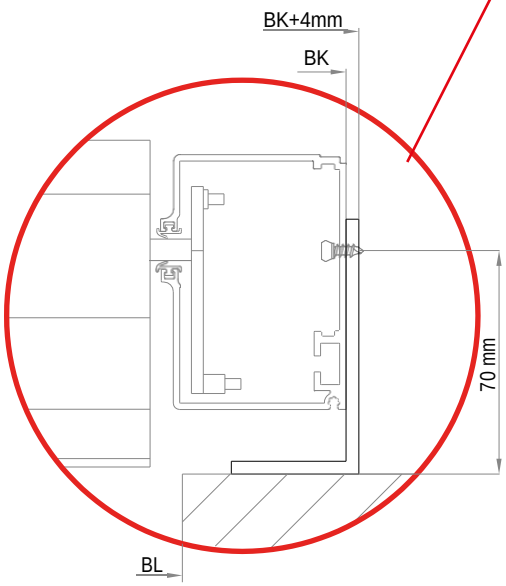
Vertical section



Horizontal section



"L" bracket with a centreline of 70 mm

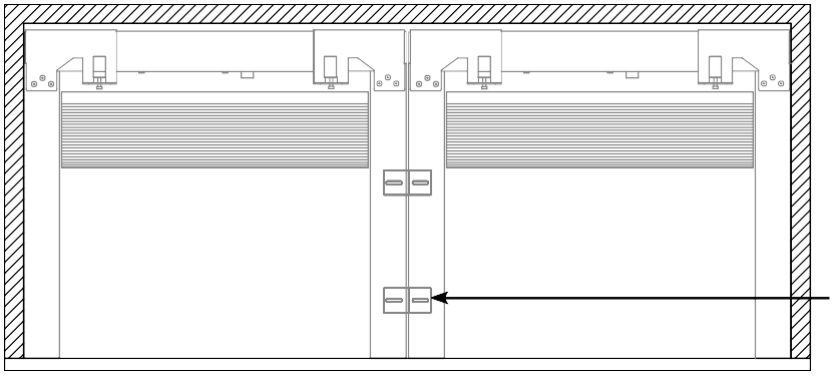


Detail of slat fixing

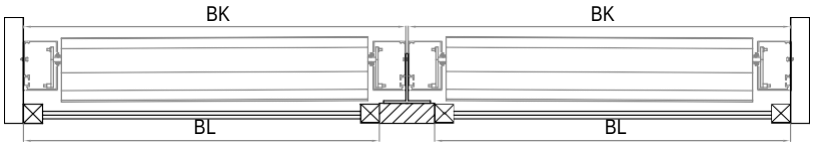
Types of installation of coupled blinds

4. Standard installation (central rail guides with frontal fixation)

Example of installation with central rail guides attached by a "T" bracket on the rear part of the guides (it is assumed window frames/mullions are present for fixation). ***NB:*** *the rail guides need to be standing on ground or fixed through brackets to hold the weight of the blind.*



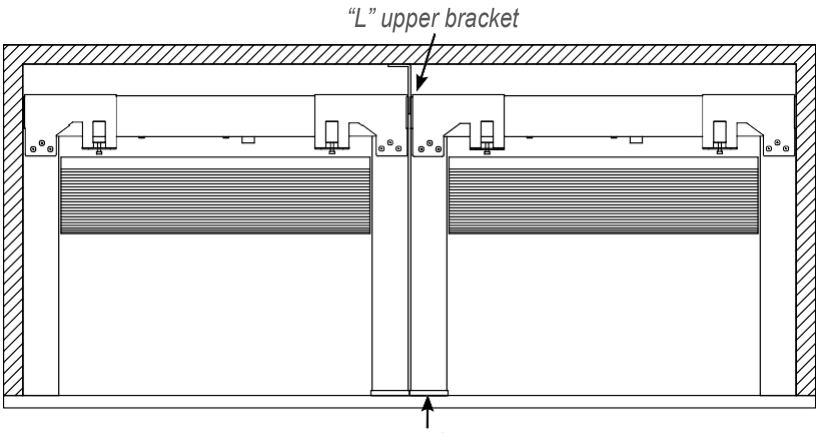
Frontal view



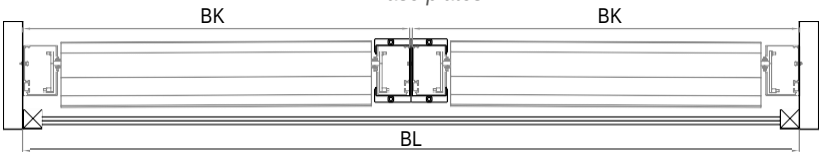
Horizontal section

5. Standard (central rail guides with ground/topside fixation)

Example of installation with central rail guides attached by an "L" bracket in the upper part and a base plates on the ground for a better stability of the guides, side rail guides are fixed on walls and standing on threshold. it is essential to know the distance from the threshold and the lintel (HT) to be able to provide the best supports.



Frontal view

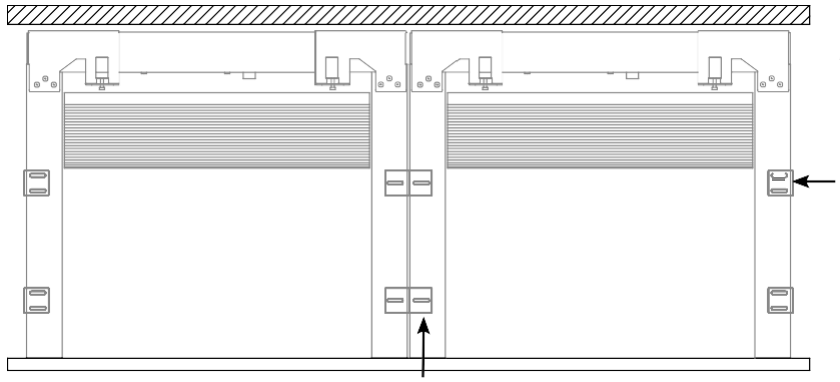


Horizontal section

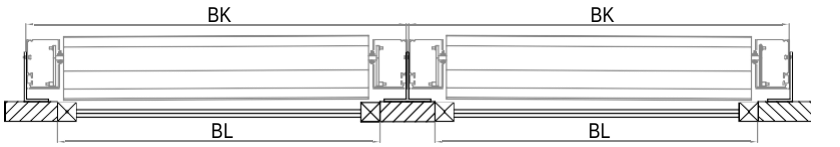
Types of installation of coupled blinds

6. Frontal installation (central rail guides with frontal fixation)

Example of installation with central rail guides attached by a "T" bracket on the rear part of the guides (it is assumed window frames/mullions are present for fixation). frontal installation for the side rail guides with "L" brackets. ***NB:*** *the rail guides need to be standing on ground or fixed through brackets to hold the weight of the blind.*



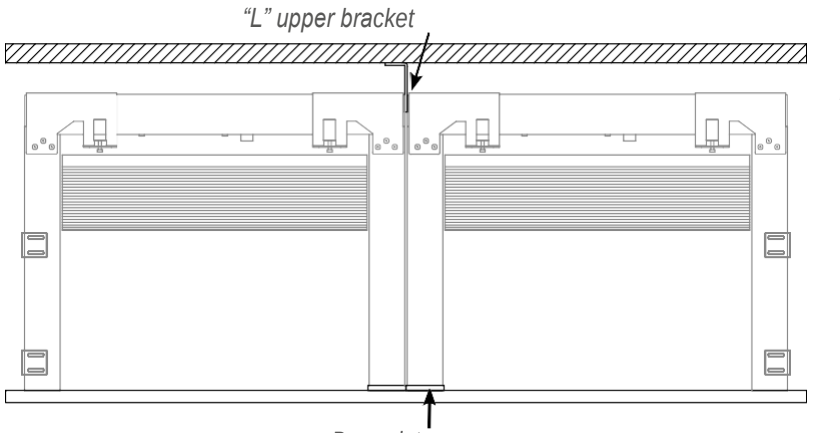
Frontal view



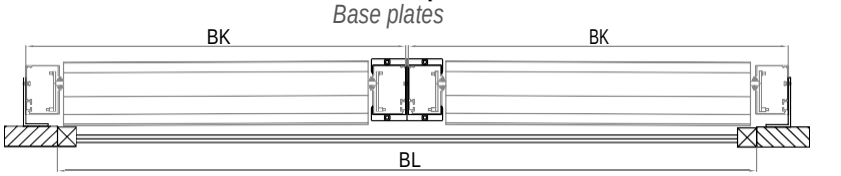
Horizontal section

7. Frontal installation (central rail guides with ground/wall fixation)

Example of installation with central rail guides attached by "L" bracket in the upper part and base plates on the ground for a better stability of the guides, frontal installation of side rail guides with "L" brackets. It is essential to know the distance from the threshold and the lintel (HT) to be able to provide the best supports.



Frontal view



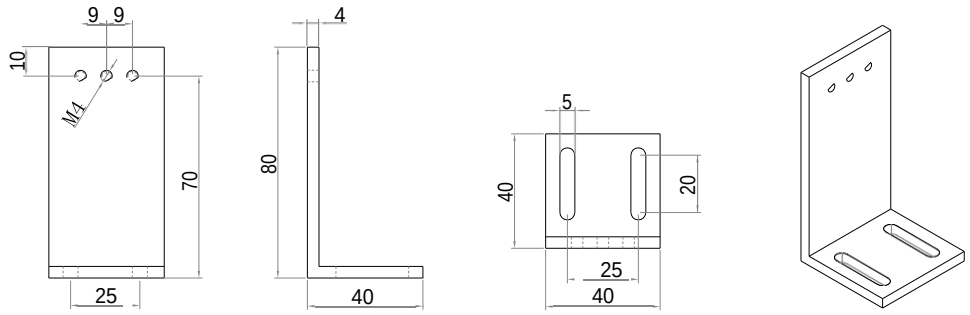
Horizontal section

Fixing accessories

1. *"L" bracket for frontal installation*
2. *"T" bracket for frontal installation of coupled rail guides*
3. *Base plate for coupled rail guides fixation on threshold*
4. *"L" bracket for coupled rail guides fixation on lintel*
5. *Threaded screw for coupled rail guides fixation*

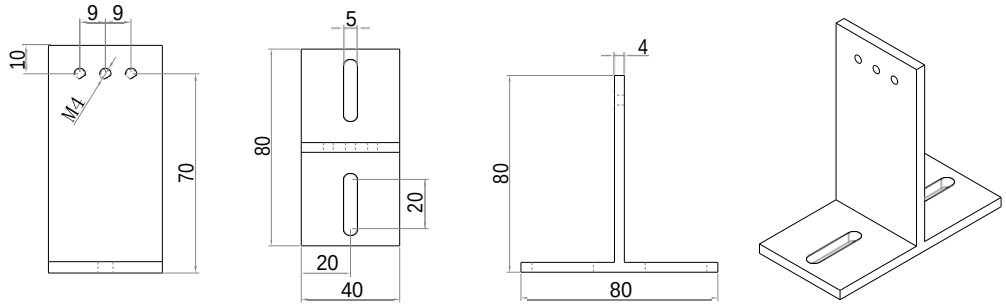
1. "L" bracket

It is used to install the rail guides over the side walls. standard dimension with 70mm centreline. request to our sales office for prices and project feasibility of brackets with bigger centrelines.



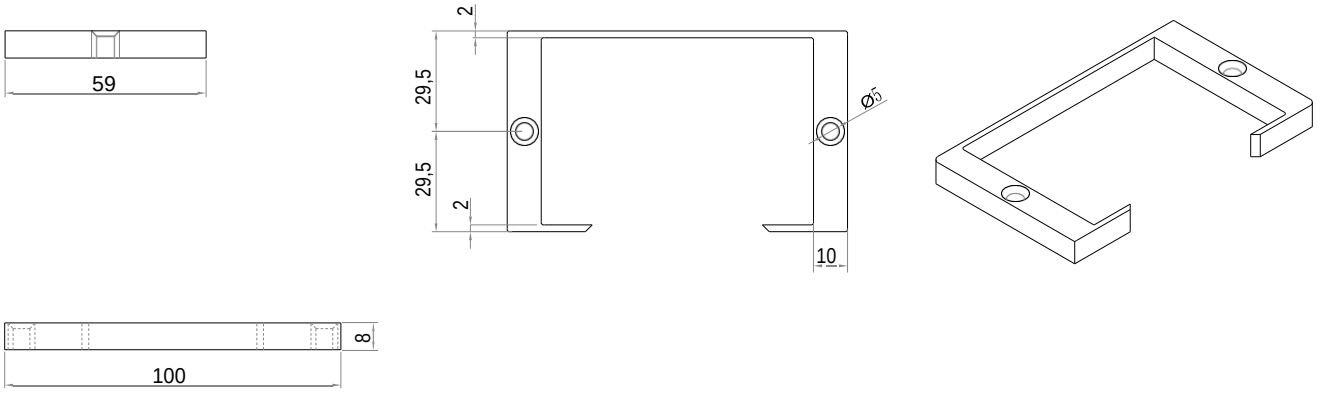
2. "T" bracket

It is used to install the central coupled rail guides when the fixing in the rear part of the guide is possible. With standard dimensions, the centreline is 70mm.Request to our sales office for prices and project feasibility of brackets with bigger centrelines.



3. Base plate for fixation on threshold

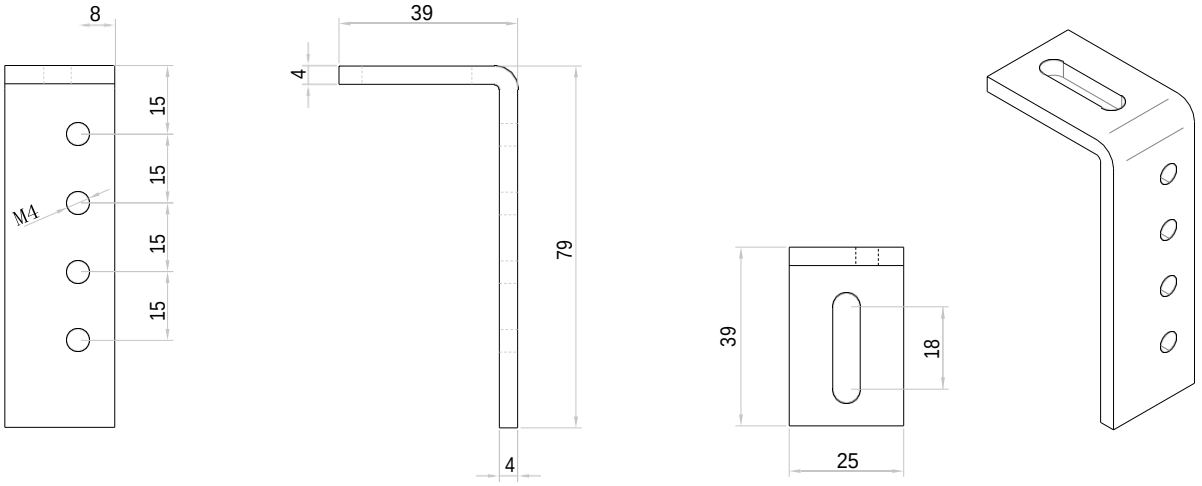
It is necessary to fix the central coupled rail guides on threshold. It is combined with the "L" bracket to confer more stability (see point 4).



Fixing accessories

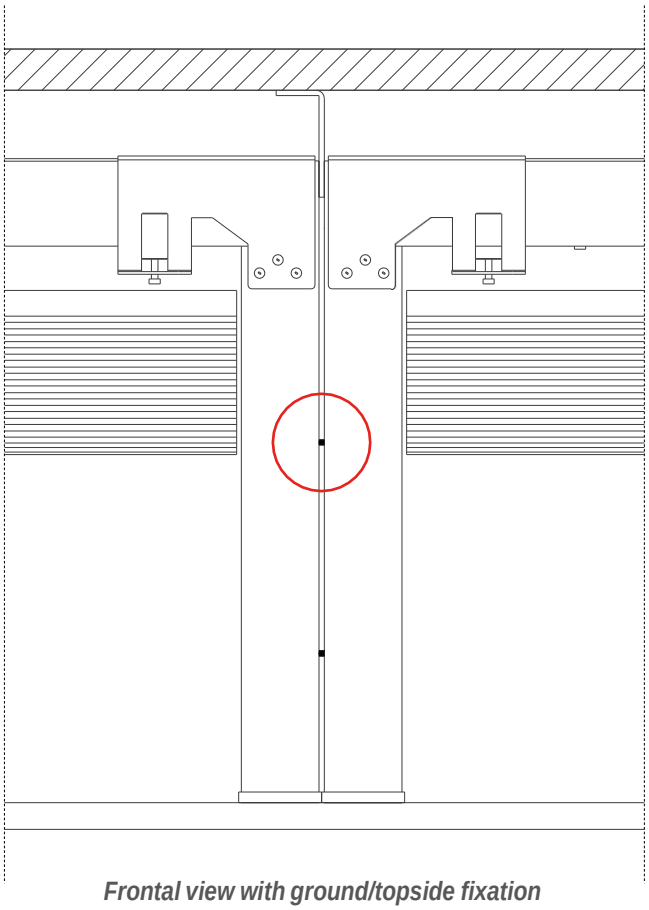
4. "L" bracket for fixation on lintel

It is necessary to fix the central coupled rail guides onto the topside/ lintel. it is combined with base plate to confer more stability. (see point 3)

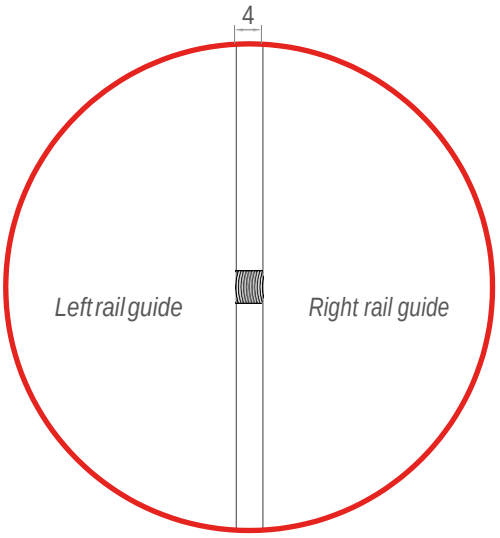


5. Threaded screw for coupled rail guides fixation

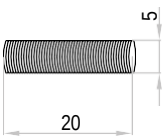
It is provided when the central rail guides are coupled and installed with ground/topside fixation. the screw m5x20 goes into the designated threaded insert. ***NB:*** *there will be 4 mm of distance in between the two rail guides because of the brackets' thickness*



Frontal view with ground/topside fixation



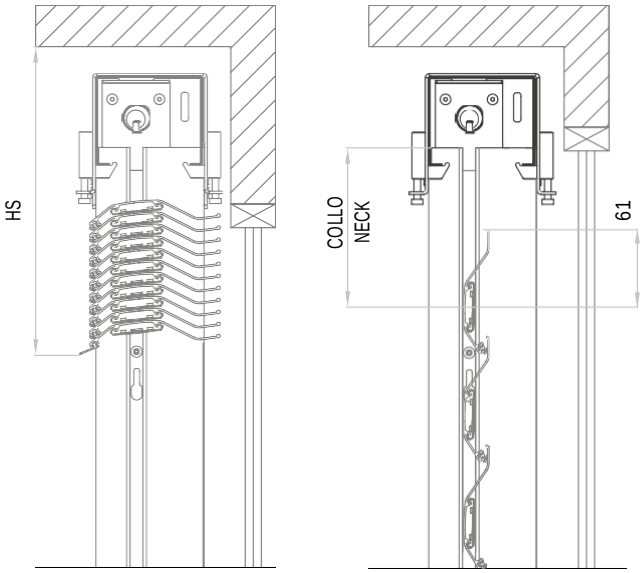
Detail of threaded screw in the coupled rail guides



Detail of threaded screw M5x20

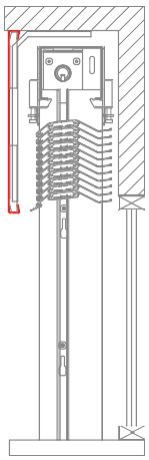
Front cover panels

Front cover panel in aluminium IS used not only to cover the stack height (check HS table), but also to secure a complete screen of light from entering through the head box and the first upper slat (the "neck").

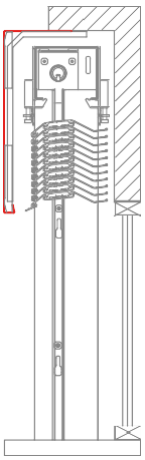


The so called "neck" is the distance from the head box and the center of the axis hook-slat. 61 mm is a fixed measurement from the center of the axis hook-slat and the end of the slat the cover panels are in pre-painted aluminium and have a thickness of 12/10 (unless otherwise required and after checking the availability with the sales office). they are independent from the blind since they are installed on the lintel or on the front wall, disconnected from the system.

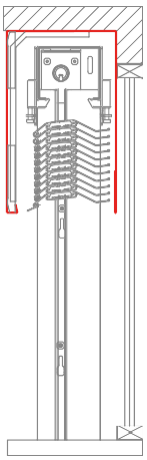
Some examples of front cover panel use



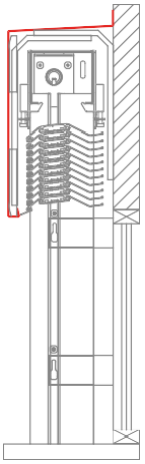
TYP1 cover panel
used when the external side of the stack height needs to be hidden.



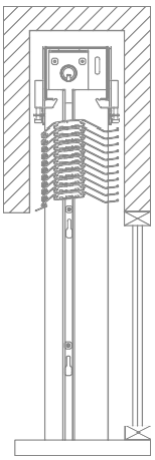
TYP1A cover panel
used when the external side of the stack height and the topside need to be hidden. Side caps can be provided.



TYP9 cover panel
used when both internal and external side of the stack height need to be covered. Side caps can be provided.



TYP8 cover panel
it is suggested with frontal installation. its shape allows it to be fixed on the wall through silicone adhesive or screws. Side caps are recommended.



When recess or insulated box are already provided, there is no need to apply a cover panel. take note of the dimensions in the stack height table; the hs provided needs to be bigger or equal to the necessary HS.

LUME

Technical specifications

- *Darkening up to 92%.*
- *Adjustable slats at any angle and height.*
- *Slats tilt from 0° to 87°.*
- *Head box in galvanised steel, supported by side brackets.*
- *Slats thickness 1.3 mm, width of 96,7 mm, in extruded aluminium with powder and matt finish painting on both sides. Qualicoat certified, with rubber to reduce noise on the external side.*
- *Fastening clips, possible to have them painted with qualicoat certified coating.*
- *Rail guides dimensions 80x55 mm, with rubber to reduce noise.*
- *Adjustable side rail guides via threaded screws.*
- *Traction and orientation mechanisms are operated by the continuous chain system in steel*
- *Emergency release hook from anti-lifting system in copper-plated steel.*
- *Motor operations IP44 only.*
- *Adjustable rubber profile on last slat for complete closure on threshold.*
- *Small lever for clip insertion and shims for rail guides adjustments are provided.*

Description: *all the components of this external venetian blind are made of aluminium, composite materials, stainless steel and zamak. It is the only chain system to achieve unique performances: copper-coated chain of transmission with high resistance to aggressive atmospheric agents such as salt air and pollution. High-resistance system with continuous chain, able to sustain up to 9 sqm of extruded aluminium.*
Self-supporting rail guides in aluminium with thickness of 20/10 mm and a rubber profile for noise reduction. Innovative design for the slats 13/10 mm in extruded aluminium with new patented fastening system invisible from outside and rubber profile on each slat to reduce noise. Last slat is provided with a segmented rubber for a perfect closure on threshold. It is possible to adjust the slats length at the moment of installation, thanks to the absence of holes and hooks on slats.
Tilting slats from 0° to 87° in every intermediate position thanks to the stainless steel tilter with the new active fractioned system awarded with an international patent. Maximum blind width (BK) 3000 mm. Rail guides alignment through threaded screws, which are able to compensate for differences up to 2 mm each side and on every fixation point. In the event of engine failure or maintenance of head box, it is possible to release as many slats as needed from stack height to make operations easier. patented wind resistance with highest value for sun shading systems.
The test was conducted by a certified institution which pointed the blind rupture pressure at 930 Pa, about 140 km/h. Anti-lifting system with automatic block when the blind is fully closed. Anti-crushing security system to prevent possible crush while the blind is opening downwards. Darkening up to 92% the highest result for sun shading blinds.