

MURAX VISION SHUTTERS

MURAX VISION

TRANSPARENT SHUTTER

"Highlight your windows in total security"

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- For commercial, tertiary and residential buildings
- Optimum visibility from the inside and outside
- Highlight your windows both day and night
- No image distortion
- Allows in natural light
- Highly-resistant, it slows down break-ins
- Manual or motorized operation
- Can be used in complete safety



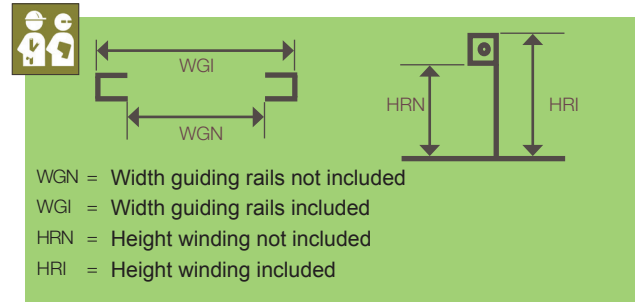


DESCRIPTION

WGN HRN
HRI

Limits of use

Min.	Width (WGI) MM		Height (HRN) MM	Weight (W) KG
	Manual 750	Motorized 810	800	17
Max.	8,200		5,000	



Installation layouts

The Murax Vision can be:

- wall-mounted
- installed between walls

The Murax Vision can be rolled:

- Inward: the shaft is facing the inside of the building
- Outward: the shaft is facing the outside of the building

Shutter

- The shutter is composed of transparent links made of personalized composite polymer (PCP) and anodized aluminum hooks in a natural shade.

LINKS	
STRUCTURE	The links (thickness 30/10th, excluding peripheral reinforcement) are assembled in a staggered formation and connected using 12 anchor points and extruded anodized aluminum tubes (Ø 16 mm).
FINISH	Transparent with integrated anti-UV treatment.

END SLAT	
SLAT PITCH	125 mm
STRUCTURE	Full slat
FINISH	Galvanized (275 g/m ²) Prelacquered, similar to RAL: 7016 / 8017 / 9005 / 9010 Lacquered, RAL of your choice
THICKNESS	20/10th in galvanized steel 15/10th in prelacquered steel similar to RAL: 7016 / 8017 / 9005 / 9010
LOCK	All our Murax Vision models are equipped with a European cylinder lock with 2 anchor points on the end slat.



The MURAX VISION shutter can be "mixed" with the MURAX 110 full, galvanized or lacquered shutter. *
 Min. mixing for Vision: 4 rows (≈ 340 mm)



It is not possible to mix parts between the Murax Vision and the Dentel or the microperforated Murax 110.

SLATS AND SHUTTER SLATS IN CASE OF MIXING	
STRUCTURE	<ul style="list-style-type: none"> • 3 slats (full slats) provide the connection with the Murax Vision shutter. This also prevents the shaft from marking the links. • For mixed installations, we use the same slats as those for the Murax 110. The required height of the full slats must be specified.
FINISH	<ul style="list-style-type: none"> • Galvanized (275 g/m²) • Prelacquered, white (similar to RAL 9010) or RAL similar to: 7016 / 8017 / 9005 • Optional epoxy RAL of your choice.



Guiding rails

- **Standard:**
 - U-shaped
 - In galvanized steel or optional RAL of your choice
 - Thickness 25/10th
 - 60x30x60, 80x30x80, 100x30x100 depending on the dimensions or specific requirements of the site.

Types of operation

TYPES OF OPERATION	SHAFTS	
Direct pull (or with rod)	Spring-loaded	<ul style="list-style-type: none"> • Galvanized steel load bearing shaft Ø 60 mm • Galvanized steel spring spools Ø 220 mm • Galvanized steel curved profiles to ensure better rigidity of the shaft and better distribution of forces • "Antifall Guard"® depending on the shutter weight (EN 13241 + A2)
Axial operator (or central)		
Tubular operator	Hollow	<ul style="list-style-type: none"> • Steel tube of Ø 168 mm • Direct drive operator (non-balanced shaft) • Anti-fall guard on opposite side to operator
External operator	Hollow	<ul style="list-style-type: none"> • Steel tube from Ø 168 mm to Ø 193 mm depending on the width and weight of the shutter • Direct drive operator (non-balanced shaft) • Anti-fall guard integrated into operator

® Patented system



If the weight of the shutter is less than or equal to 120 kg, balancing is carried out without "Antifall Guard" Standard EN 13241 + A2 allows an imbalance of less than or equal to 20 kg. Therefore, our shafts have been recalibrated with springs whose force is less than or equal to 20 kg.

Winding plates

- **Made of galvanized steel:** the plates support the shaft.
- Their **dimensions and thicknesses** vary according to the shutter characteristics.

Operating modes

- **Hold to run operation:**
Control device that requires continuous manual operation to function, within sight of the door: open, close.
- **Impulse operation for ascent and hold to run operation for descent:**
This operation corresponds to what was formerly known as combined operation under French standard NFP 25362; it relates to impulse operation under current standard EN 13241 + A2.
- **Impulse operation:**
Control device that requires a brief manual effort to initiate movement: open, stop or close.
- **Automatic operation**
The door can be operated without any manual effort (with a time delay system or a magnetic loop that triggers movement, for example).

Two additional factors must be taken into consideration:

- **The user:** trained or untrained.
- **The installation site :** whether it is in a public area or not.

The two above points determine the safety protocol to be followed.



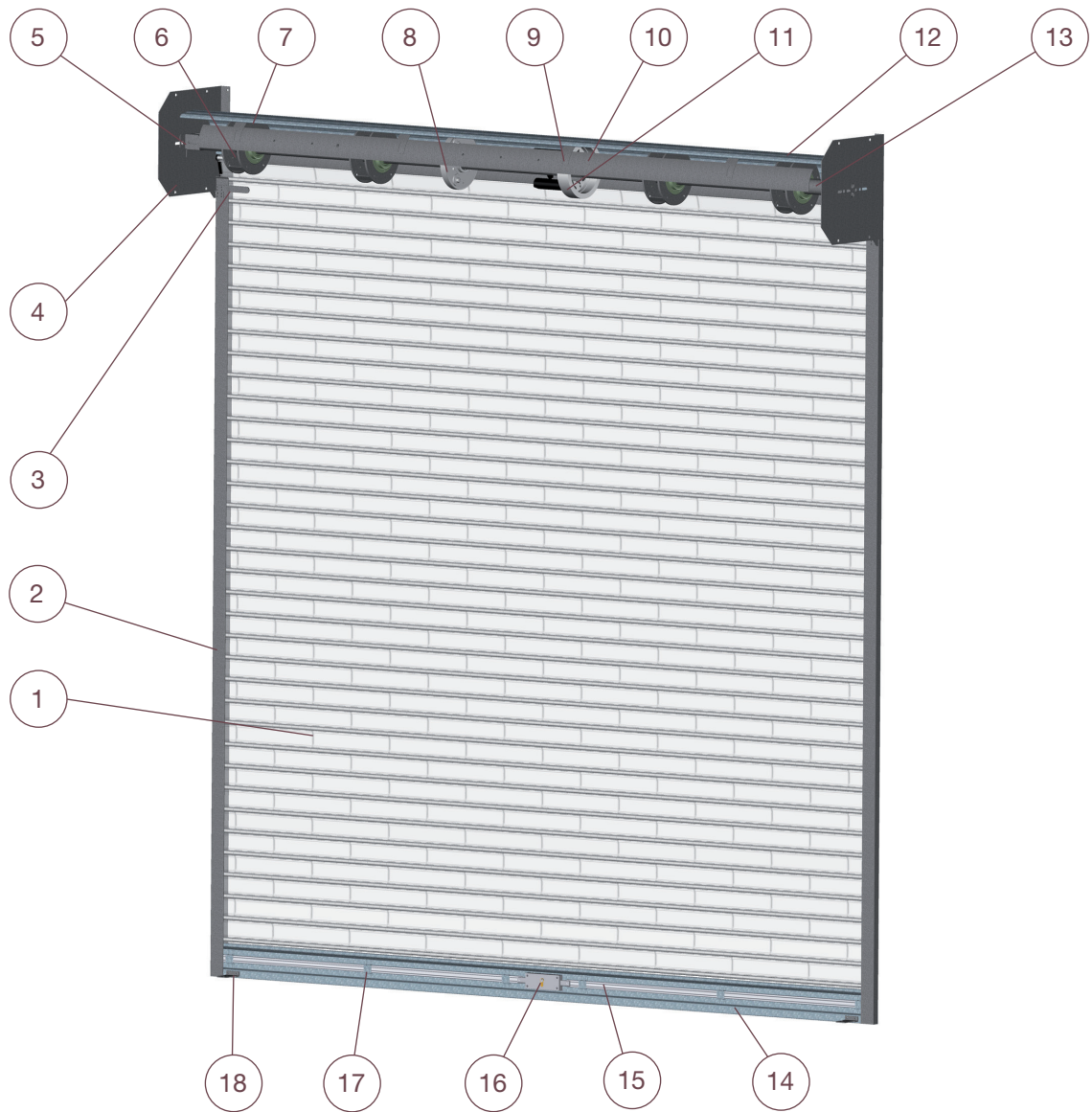
A user is considered to have been "trained" if the installer has given them instructions on how to use the product. The European standard EN 13241 + A2 requires that a user guide and a maintenance logbook be provided with each installation.

- **Standard:**
All our shutters have been checked by a certified body and are CE labeled (EN 13241 + A2)



PARTS LIST

Shutter with spring-actuated shaft



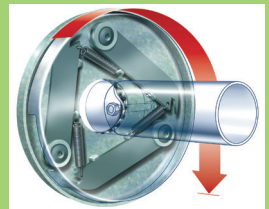
- 1. Shutter
- 2. Guiding rail
- 3. Stop on guiding rail
- 4. Winding plate
- 5. Shaft support bracket
- 6. Spring

- 7. Spring spool
- 8. "Antifall Guard"[®]
- 9. Shutter clip
- 10. Curved profile
- 11. Axial operator
- 12. Slats (3)

- 13. Ø 60 mm tube
- 14. End slat
- 15. Lock rod
- 16. European cylinder lock
- 17. Rod guide
- 18. Stop

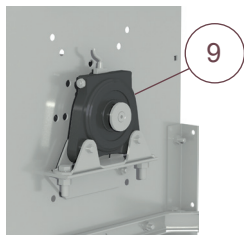
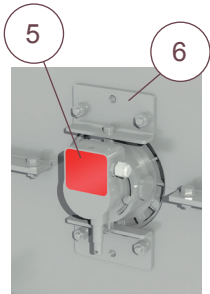
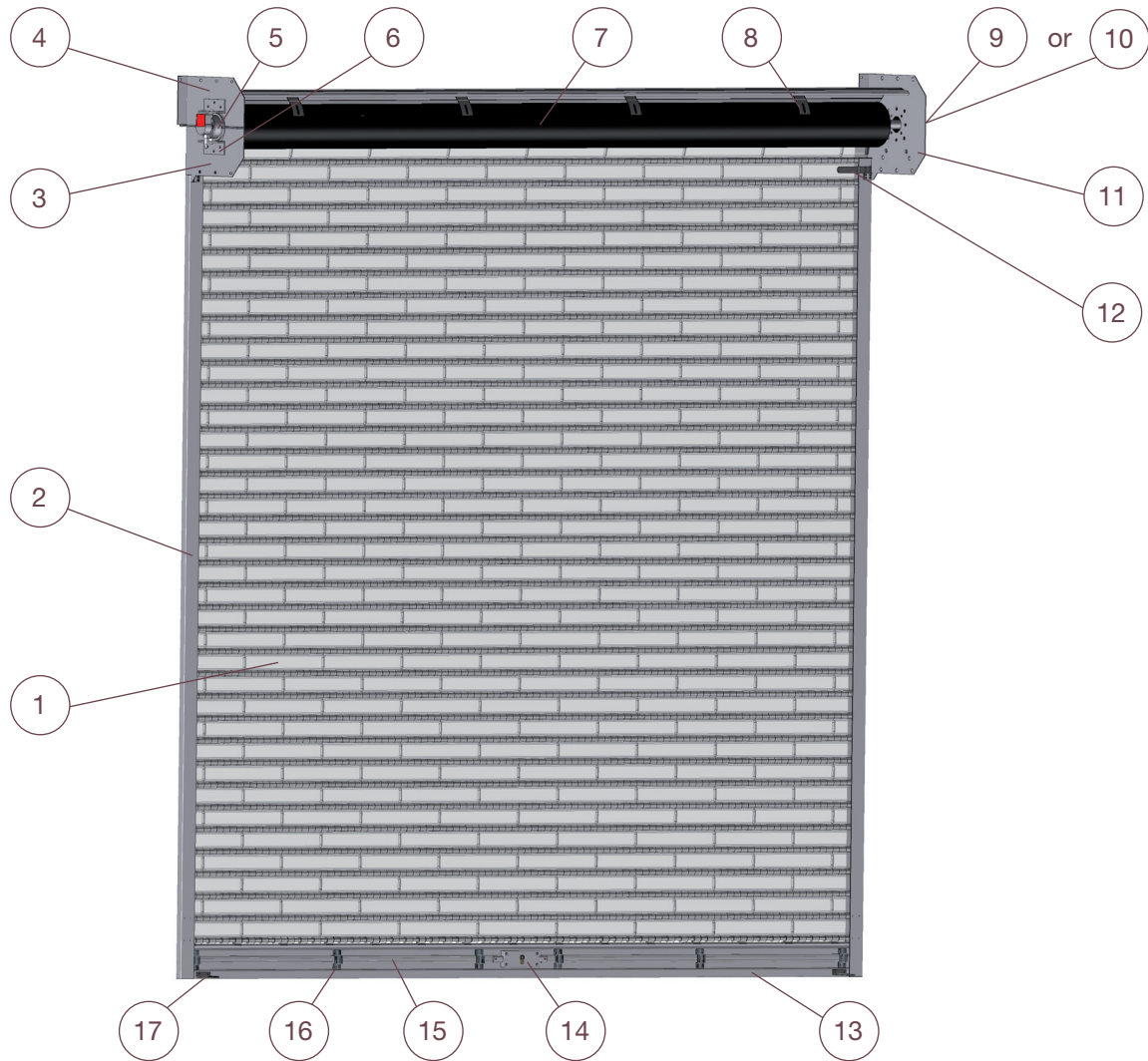


All our spring-loaded shafts for shutters over 120 kg are equipped with "Antifall Guard"[®] (EN 13241 + A2).

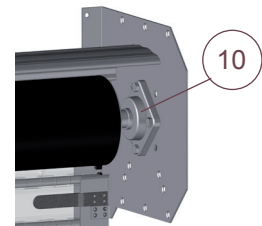
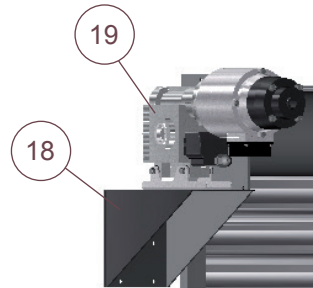




Shutter with hollow shaft



Ringed tubular operator
(TB20M / TB25M / TB30M / TB35M / TB45M)

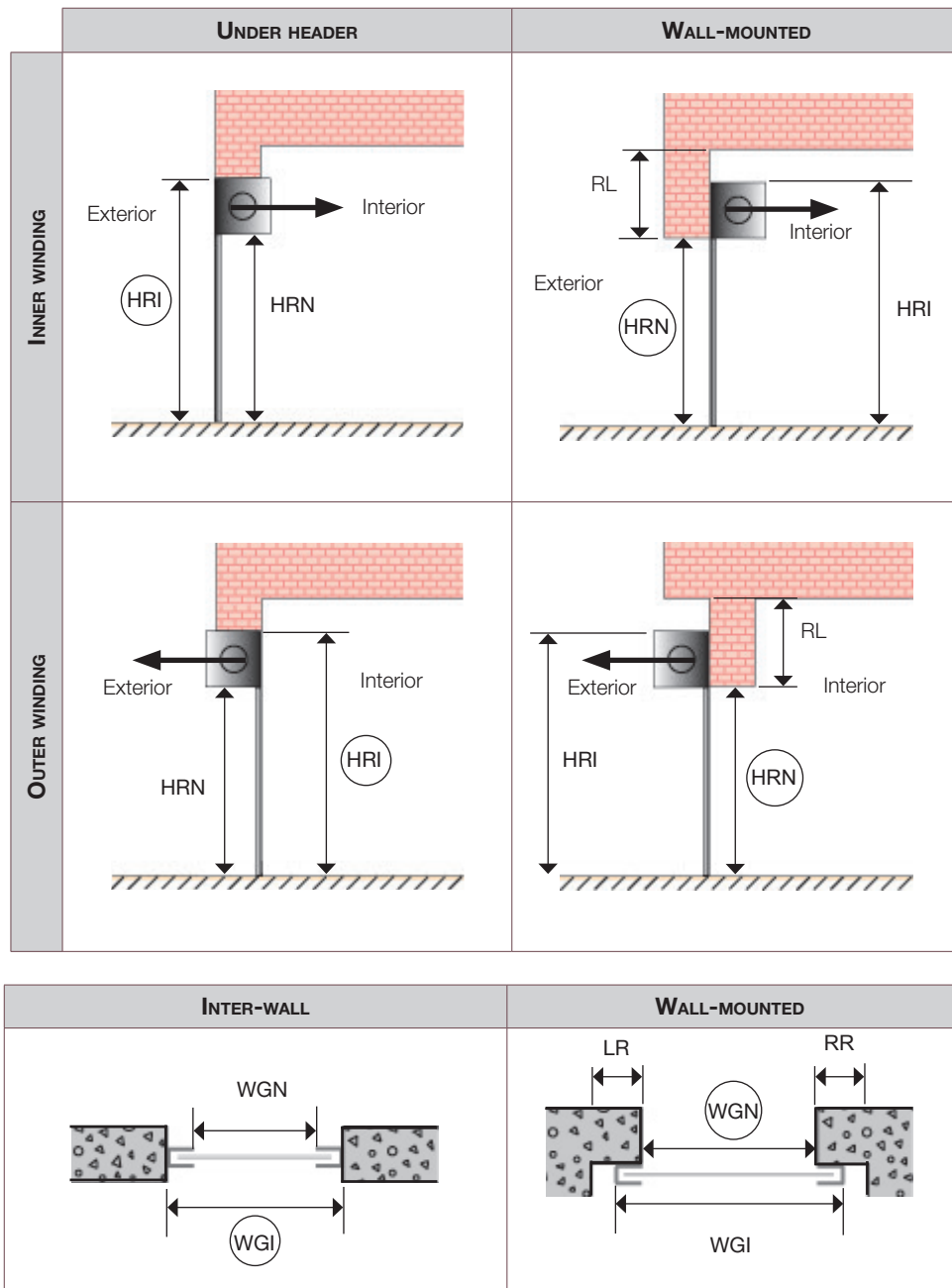


Gear operator
(E400 / E750 / S100 / S140)

- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Shutter 2. Guiding rail 3. Lower half winding plate on operator side (OS) 4. Upper half winding plate on operator side (OS) 5. Tubular operator 6. Tubular operator support 7. Hollow shaft 8. Shutter clip 9. Anti-fall guard with support for tubular operator. | <ul style="list-style-type: none"> 10. Bearing opposite side to gear operator 11. Winding plate opposite side to operator (OO) 12. Stop on guiding rail 13. End slat 14. European cylinder lock 15. Lock rod 16. Rod guide 17. Stop 18. Gear operator support 19. Gear operator |
|--|---|



SHUTTER INSTALLATION LAYOUTS



For inter-wall installations, be mindful of the operator reservations or anti-fall guards.



WGN = Width guiding rails not included
 WGI = Width guiding rails included
 HRN = Height winding not included
 HRI = Height winding included
 OH = Overhead height
 LR = Left reservation
 RR = Right reservation



The installation layouts are always provided from the interior view.



You must provide us with the encircled dimensions according to the layout.



SHUTTER

Shutter weight

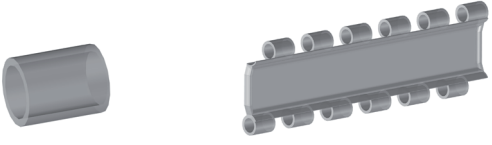

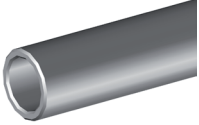



The shutter weight can be calculated approximately using the formula:

$$W \text{ (kg)} = WGI \text{ (m)} \times HRI \text{ (m)} \times 9 \text{ (kg/m}^2\text{)}$$



WGI = Width guiding rails included
 HRN = Height winding included
 W = Shutter weight

The different shutter components

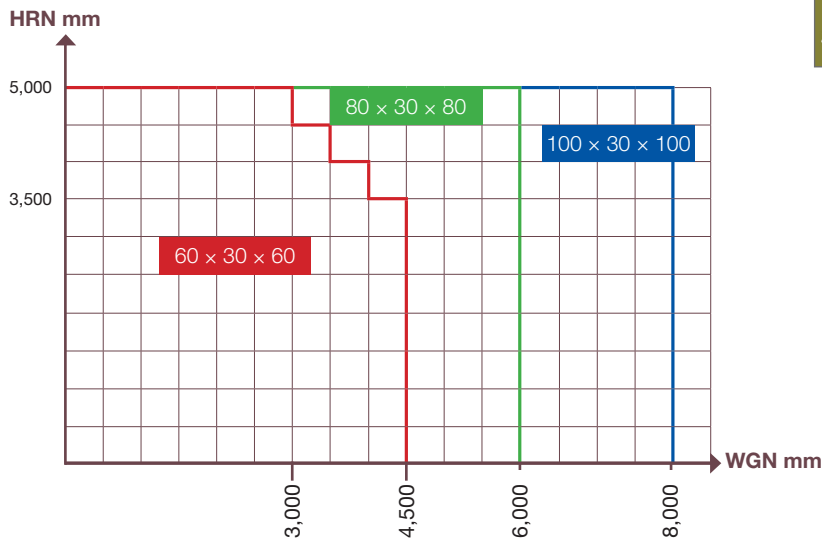
<ul style="list-style-type: none"> • Links and spacers: <ul style="list-style-type: none"> - Exterior and interior finish: Transparent - Material: Personalized Composite Polymer (PCP) - Fire-resistance classification: M2 - Integrated Anti-UV treatment 	 <p>Spacer 360 mm long link with pitch of 85 mm</p>
<ul style="list-style-type: none"> • Aluminum hooks: <ul style="list-style-type: none"> - Material: Anodized aluminum, natural shade - The hooks connect the Vision shutter to the intermediate slats 	 <p>Aluminum hook:</p>
<ul style="list-style-type: none"> • Aluminum tubes: <ul style="list-style-type: none"> - Exterior and interior finish: Extruded anodized aluminum in a natural shade (Ø 16 mm) 	 <p>Aluminum tube Ø 16 mm</p>
<ul style="list-style-type: none"> • Plugs and finishing clips: <ul style="list-style-type: none"> - Material: Polypropylene - Color: Black 	 <p>Plugs Clips</p>
<ul style="list-style-type: none"> • End slat: <ul style="list-style-type: none"> - Exterior and interior finish: Galvanized or prelacquered white, RAL 7016, RAL 8017 and RAL 9005 or optional epoxy lacquer with a choice of 180 RAL colors - Material : <ul style="list-style-type: none"> --> Galvanized steel 20/10th --> Prelacquered, galvanized steel 15/10th 	 <p>End slat</p>
<ul style="list-style-type: none"> • Slats: <ul style="list-style-type: none"> - Exterior and interior finish: Galvanized or prelacquered white, RAL: 7016, RAL 8017 and RAL 9005 or optional epoxy lacquer with a choice of 180 RAL colors - Material: Galvanized or prelacquered, white steel in 6/10th, 8/10th or 10/10th - Prelacquered white steel, or RAL: 7016 / 8017 / 9005 in 8/10th 	 <p>Slat</p>



GUIDING RAILS

Types of guiding rail

- Minimum guiding rail types according to height (HRN) and width (WGN)



WGN = Width guiding rails not included
HRN = Height winding not included

If the dimensions fall exactly on the limits provided, our quote will be based on the larger guiding rail dimensions.
E.g. Shutter WGN 4,500 mm x HRN 2,500 mm --> Guiding rails of 80x30x80

Rules for allocating offset posts:

- Product with spring-loaded shaft:
WGN > 4,500 mm
Winding plates ≥ 440 mm
- Product with hollow shaft:
WGN > 4,500 mm
Winding plates ≥ 370 mm

- Wind resistance classification (EN 13241 + A2):

- Width (WGN) 760 mm to 3,400 mm: class 4
- Width (WGN) 3,401 mm to 4,900 mm: class 3
- Width (WGN) 4,901 mm to 6,000 mm: class 2
- Width (WGN) 6,001 mm to 8,000 mm: class 1



Class 1: 300 Pa max.
Class 2: 450 Pa max.
Class 3: 700 Pa max.
Class 4: 1,000 Pa max.

Reservations

TYPES OF GUIDING RAIL		LATERAL DIMENSIONS (LGD) IN MM	BASE DIMENSIONS (GBD) IN MM
	Guiding rail 60x30x60	60	30
	Guiding rail 80x30x80	80	30
	Guiding rail 80x30x80 + offset post 80x50	80	80
	Guiding rail 100 x 30 x 100	100	30
	Guiding rail 100 x 30 x 100 + offset post 100 x 50	100	80



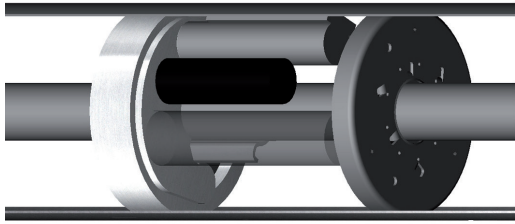
Depending on the space available and in accordance with the winding diameter that the height allows, the shutter may "sag" in the upper section (between the shaft and the header).



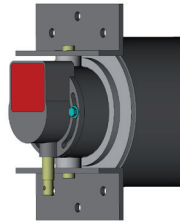
This "sagging" can be reduced at the header by lifting the shaft by a minimum of 500 mm if the overhead height allows.



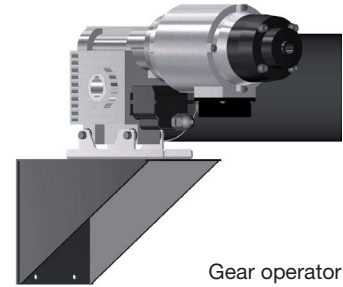
TYPES OF OPERATION



Axial operator + "Antifall Guard"®



Tubular operator



Gear operator

TYPES OF OPERATION	RECOMMENDED OPERATORS	TYPES OF SHAFT	LIMITS OF USE
DIRECT PULL (OR WITH ROD)	None	Spring-loaded with curved support sections and "Antifall Guard" if necessary	WGN ≤ 4,000 mm HRN ≤ 3,500 mm W ≤ 120 Kg Operator recommended for W ≥ 80 Kg
AXIAL OPERATOR / VEOHZ (OR CENTRAL)	<ul style="list-style-type: none"> Positioned in the center of the shaft Emergency operation by release mechanism handle and direct pull 		WGI ≤ 6,000 mm HRN ≤ 5,000 mm W ≤ 240 Kg Emergency operation difficult using direct pull for W ≥ 120 Kg
TUBULAR OPERATOR	<ul style="list-style-type: none"> Positioned at the end of the shaft Direct drive Emergency operation performed with detachable oscillating rod (width: 3,000 mm max.) Anti-fall guard on opposite side to operator 	Hollow Ø 168 mm	WGI ≥ 1,500 mm WGN ≤ 8,000 mm HRN ≤ 5,000 mm W ≤ 450 Kg
GEAR OPERATOR E400	<ul style="list-style-type: none"> Positioned at the end of the shaft Direct drive Emergency operation: <ul style="list-style-type: none"> - operated using short crank - optional hoist Anti-fall guard integrated into operator 	Hollow 168 mm ≤ Ø ≤ 193 mm	WGI ≥ 1,000 mm W ≤ 530 Kg
GEAR OPERATOR E750			WGI ≥ 1,000 mm W ≤ 670 Kg
GEAR OPERATOR S100 AND S140			WGI ≥ 1,000 mm W ≤ 1,200 Kg



OPERATORS

Types of operator

As all of our products are custom-made, our quotation team will determine the most suitable operator according to the shutter characteristics, the layout and the types of operation.

• Technical characteristics of operators

TYPE OF OPERATOR	VOLTAGE (V)	POWER (W)	CURRENT (A)	POWER SUPPLY	IP PROTECTION CLASS	ROTATIONAL SPEED (NB TR/MIN)	NO. OF CYCLES* PER DAY	TORQUE (Nm)
Axial II	230 mono	300	1.3	3 x 2.5	IPX4	10	15	75
Axial III yellow	230 mono	360	1.6	3 x 2.5	IPX4	10	15	100
Axial III gray	230 mono	450	2	3 x 2.5	IPX4	10	15	140
TB20M	230 mono	550	2.4	3 x 2.5	IP44	8	15	200
TB25M	230 mono	710	3.2	3 x 2.5	IP44	8	15	250
TB30M	230 mono	855	3.9	3 x 2.5	IP44	8	15	300
TB35M	230 mono	990	4.4	3 x 2.5	IP44	8	15	350
TB45M	230 mono	1,200	5.3	3 x 2.5	IP44	8	15	450
E400	230 tri	1,100	8.83	5 x 2.5	IP54***	12	15	400
	400 tri **	1,100	5.1	5 x 2.5	IP54***	12	15	
E750	400 tri **	1,400	3.9	5 x 2.5	IP54***	10	15	750
S100	400 tri	1,300	6.5	5 x 2.5	IP54	10	15	1,000
S140	400 tri	1,100	4.1	5 x 2.5	IP54	7	15	1,400

* 1 cycle = 1 ascent + 1 descent - Non-consecutive cycles

** 400 tri + N if using flashing or illumination lights

*** Protection code 65 on request

Reservations

TYPES OF OPERATOR	OPERATOR SIDE DIMENSIONS (OSD)	OPPOSITE SIDE TO OPERATOR DIMENSIONS (OOD)	OPERATOR DEPTH (OD)	UPPER DIMENSIONS OF OPERATOR (UOD)	LOWER DIMENSIONS OF OPERATOR (LDO)		
					WITHOUT SUPPORT	WITH SUPPORT	
Axial	0	0	0	0	0		
Tubular	100	70	0	0	0		
E400	ALONE	180	100	1/2 plate + 390	160	145	470
	CRANK	390	100	1/2 plate + 600	380	220	470
	HOIST	210	100	1/2 plate + 480	190	145	470
E750	ALONE	180	100	1/2 plate + 420	190	145	460
	CRANK	390	100	1/2 plate + 630	380	220	460
	HOIST	240	100	1/2 plate + 500	190	145	460
S100	ALONE	210	100	1/2 plate + 500	210	135	590
	CRANK	410	100	1/2 plate + 760	420	190	590
	HOIST	210	100	1/2 plate + 590	210	135	590
S140	ALONE	210	100	1/2 plate + 570	250	135	590
	CRANK	410	100	1/2 plate + 840	480	135	590
	HOIST	210	100	1/2 plate + 660	250	135	590

Nota: Réservations données en mm./ Note: reservations provided in mm.



WINDING PLATES

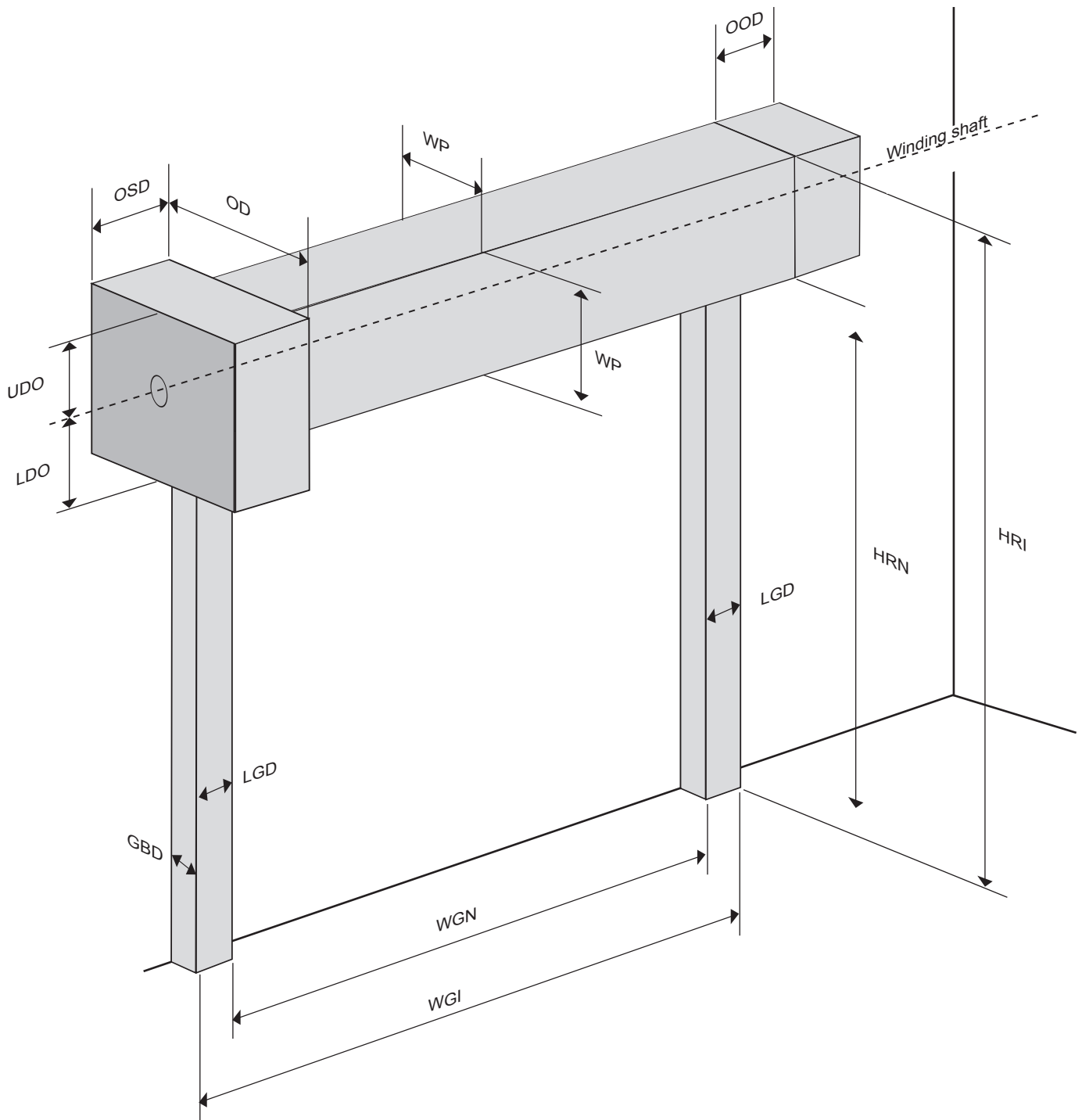
Murax Vision	Ø (mm)	Operation	Winding plate (WP) dimensions in mm							
			220	Rod	340	370	400	440		
220	Axial II / III	340	370	400	440					
168	Tubular	340		370		400		440		
168	E400 / E750	340		370		400		440		
168	S100 / S140	400						440		
193	E400 / E750	340		370		400		440		
193	S100 / S140	400						440		
		800	1,850	2,400 2,500	2,850	3,100	3,250 3,285	3,800 3,900	5,000	



The table above shows the plate dimensions for Murax Vision. In case of Mixing, if the Vision section is smaller than 1/3 of the HRN, use the plate chart for the Murax 110.



RESERVATION AREAS



- WGN** : Width guiding rails not included
- WGI** : Width guiding rails included
- HRN** : Height winding not included
- HRI** : Height winding included
- LGD** : Lateral guiding rail dimensions
- GBD** : Guiding rail base dimensions
- OSD** : Operator side dimensions
- OD** : Operator depth
- UDO** : Upper dimensions of operator
- LDO** : Lower dimensions of operator
- OOD** : Opposite side to operator dimensions
- WP** : Winding plate dimensions



OPERATING MODES

Hold to run (trained users)

This operating mode can be used for all shutter locations. It requires a controller that allows constant user control (continuous action on the control device and within sight of closing).



Caution: In public areas, the controller must be customizable, such as a key switch box

• Safety devices required

	OUTSIDE PUBLIC AREA / IN PUBLIC AREA WITHIN SIGHT OF DOOR
INDUSTRIAL OR COMMERCIAL PREMISES, OR GARAGES	• No safety device required

CONTROLLER		IN AREA	OUTSIDE AREA
BBA1	Wall-mounted toggle-switch box		x
BBE1	Built-in toggle-switch box		x
BBA2	Wall-mounted 2-button box		x
Transmitter	Remote control (linked to the "Easy" control box)	x	x
Key pad	Wall-mounted, wireless key pad (for the "Easy" control box)	x	x
BCA	Wall-mounted key switch box	x	x
BCE	Flush-mounted key switch box	x	x
BCDA	Wall-mounted key switch and release box	x	x
BCDE	Flush-mounted key switch and release box	x	x
BCBA	Wall-mounted bipolar key switch box	x	x
BCBE	Flush-mounted bipolar key switch box	x	x
Sécurinox	Sécurinox release box with tubular cylinder	x	x
	/Sécurinox release box with European cylinder		
BDD	Junction box with double release mechanism	x	x
BBAR	Wall-mounted 2-button radio box (for the «Easy» control box)		x
Transmitter veoHz	3-button portable transmitter veoHz	x	x
Wall-mounted transmitter veoHz	Wall-mounted 3-button transmitter veoHz		x
BDCA veoHz	Wall-mounted key switch and release box veoHz (with European cylinder)	x	x



For more technical information, refer to the "Operators & Accessories" chapter and the "Control Accessories" section.



Impulse operation for ascent / Hold to run for descent (trained users)

This operating mode allows opening by impulse operation and closing by hold to run (previously combined operation under French Standard NFP 25362). This operating mode relates to impulse operation in the Standard EN 13241 + A2.



Caution: In public areas, the controller must be customizable, such as a key switch box

• **Safety devices required:**

	OUTSIDE PUBLIC AREAS	IN PUBLIC AREAS
INDUSTRIAL OR COMMERCIAL PREMISES, OR GARAGES	<ul style="list-style-type: none"> Control box adapted according to operator <ul style="list-style-type: none"> 1 safety micro switch with lock 	

CONTROLLER		IN AREA	OUTSIDE AREA
BBA3	Wall-mounted 3-button box		x
BBAS	Wall-mounted box with stop button	x	x
BCBA	Wall-mounted bipolar key switch box	x	x
BCBE	Flush-mounted bipolar key switch box	x	x
BCA	Wall-mounted key switch box	x	x
BCE	Flush-mounted key switch box	x	x
BCDA	Wall-mounted key switch and release box	x	x
BCDE	Flush-mounted key switch and release box	x	x
Key pad	Wall-mounted, wireless key pad (for the "Easy" control box)	x	x
Transmitter	Remote control	x	x
Sécurinox	Sécurinox release box with tubular cylinder	x	x
	Sécurinox release box with European cylinder		
BDD	Junction box with double release mechanism	x	x
BBAR	Wall-mounted 2-button radio box (for the "Easy" control box)		x
Transmitter veoHz	3-button portable transmitter veoHz	x	x
Wall-mounted transmitter veoHz	Wall-mounted 3-button transmitter veoHz		x
BDCA veoHz	Wall-mounted key switch and release box veoHz (with European cylinder)	x	x



For more technical information, refer to the "Operators & Accessories" chapter and the "Control Accessories" section.



Impulse operation (trained users)

In impulse operation mode, the user is required to perform a brief action on the controller which triggers the movement of the shutter: open, stop or close.



Caution in the workplace: 2 flashing spots + markings on the ground are now legally required according to the decree of 21 December 1993.

• Safety devices required

	OUTSIDE PUBLIC AREAS WITHIN OR OUT OF SIGHT OF DOOR	IN PUBLIC AREAS	
		WITHIN SIGHT OF DOOR	OUT OF SIGHT OF DOOR
INDUSTRIAL OR COMMERCIAL PREMISES, OR GARAGES	<ul style="list-style-type: none"> Control box adapted according to operator Bottom safety edge 1 safety micro switch with lock 	<ul style="list-style-type: none"> Control box adapted according to operator Bottom safety edge 1 safety micro switch with lock 	<ul style="list-style-type: none"> Control box adapted according to operator Bottom safety edge 1 safety micro switch with lock 2 sets of bottom cells
RESIDENTIAL PLACE OF RESIDENCE WITH HRN ≤ 3,500 AND WGN ≤ 7,000 AND SURFACE AREA ≤ 12M ²	<ul style="list-style-type: none"> Murax VILLA box Bottom safety edge 1 safety micro switch with lock 		

CONTROLLER		IN AREA	OUTSIDE AREA
BBAI	Wall-mounted impulse button box		x
BCBA	Wall-mounted bipolar key switch box		x
BCBE	Flush-mounted bipolar key switch box		x
BCA	Wall-mounted key switch box		x
BCE	Flush-mounted key switch box		x
BCDA	Wall-mounted key switch and release box		x
BCDE	Flush-mounted key switch and release box		x
CCA	Wall-mounted radio code key pad		x
Receiver	Separate 2-function receiver		x
Murax transmitter	Murax Villa 2-function transmitter		x
Transmitter	4-function transmitter (Commerce and Industry)		x
Sécurinox	Sécurinox release box with tubular cylinder		x
	Sécurinox release box with European cylinder		
BDD	Junction box with double release mechanism		x



For more technical information, refer to the "Operators & Accessories" chapter and the "Control Accessories" section.



Automatic operation (trained or untrained users)

In automatic operation, the shutter moves without the need for manual operation by the user (for example, closing with time delay, opening by magnetic loop, etc.). This operating mode can be used for commercial and industrial premises and garages but it is not suitable for houses.



Caution in the workplace: 2 flashing spots + markings on the ground are now legally required according to the decree of 21 December 1993.



Caution should be taken if installing automatically operated shutters in places of residence: Collective residential buildings must meet specific requirements (acoustics/traffic, etc.) not covered by the European Standard EN 13241 + A2. These specific requirements are not included in our quotes. In a collective residence, signage and lighting (area lighting + flashing lights with 2 seconds warning + ground marking) is legally required (Decree of 09 August 2006 relating to the application of Article R.125-3-1 of the Construction and Housing Code).

• Safety devices required

	OUTSIDE PUBLIC AREAS	IN PUBLIC AREAS WITHIN OR OUT OF SIGHT OF DOOR
INDUSTRIAL OR COMMERCIAL PREMISES, OR GARAGES	<ul style="list-style-type: none"> • Control box adapted according to operator • Bottom safety edge • 1 safety micro switch with lock • 2 sets of bottom cells 	<ul style="list-style-type: none"> • Control box adapted according to operator • Bottom safety edge • 1 safety micro switch with lock • 2 sets of bottom cells

CONTROLLER		IN AREA	OUTSIDE AREA
BBAI	Wall-mounted impulse button box		x
BCBA	Wall-mounted bipolar key switch box		x
BCBE	Flush-mounted bipolar key switch box		x
BCA	Wall-mounted key switch box		x
BCE	Flush-mounted key switch box		x
BCDA	Wall-mounted key switch and release box		x
BCDE	Flush-mounted key switch and release box		x
CCA	Wall-mounted radio code key pad		x
TR	Road tube		x
BM	Magnetic Loop		x
Receiver	Separate 2-function receiver		x
Transmitter	4-function transmitter (Commerce and Industry)		x
Sécurinox	Sécurinox release box with tubular cylinder		x
	Sécurinox release box with European cylinder		
BDD	Junction box with double release mechanism		x




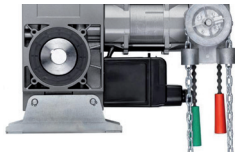






For more technical information, refer to the "Operators & Accessories" chapter and the "Control Accessories" section.



Murax Vision is provided for a maximum of 15 non-consecutive cycles per day.



OPTIONS

OPTIONS	
<ul style="list-style-type: none"> • Seal under end slat. 	
<ul style="list-style-type: none"> • Mixing possible with full galvanized or prelacquered MURAX 110 	
<ul style="list-style-type: none"> • Latch instead of a lock. 	
<ul style="list-style-type: none"> • Lock offset to the left or right of the end slat 	
<ul style="list-style-type: none"> • Safety micro switch on lock: recommended with tubular operators or gear operators 	
<ul style="list-style-type: none"> • Housing (galvanized or optional 180 RAL of your choice): If you select the "Housing" option, you can order your shutter with a suitable housing that will conceal or protect the shutter shaft. 	
<ul style="list-style-type: none"> • Polyurethane lacquer with RAL of your choice: <ul style="list-style-type: none"> • Guiding rails • housing 	
<ul style="list-style-type: none"> • Epoxy lacquer with RAL of your choice: WGI max. ≤ 10,500 mm <ul style="list-style-type: none"> • end slat with slats • guiding rails • housing 	
<ul style="list-style-type: none"> • Emergency chain hoist allowing repair operations to be performed from the ground: <ul style="list-style-type: none"> • E400 operator • E750 operator • S100 operator • S140 operator 	
<ul style="list-style-type: none"> • Installation accessories - Hardware For guiding rails to be pinned - screws, sleeper screws, washers, pins, nuts and stop pins 	
<ul style="list-style-type: none"> • Electrical connection accessories Disconnect switch, junction box, insulating screw joints, cable ties + threaded pins, 0.75mm², 1m of 5-core cable 1.5mm², 7m of 5-core cable 0.75mm², 4 x 3m IRO tubes 	 <p>6m of</p>
<ul style="list-style-type: none"> • Floor anchor lock not compatible with seal and safety edge 	
<ul style="list-style-type: none"> • VAK safety pump lock 	
<ul style="list-style-type: none"> • LED flashing spot Operating modes: Impulse, Automatic 	
<ul style="list-style-type: none"> • LED illumination spot 10W power = 930 lumen Operating modes: Impulse, Automatic 	



SOME OF OUR PROJECTS

