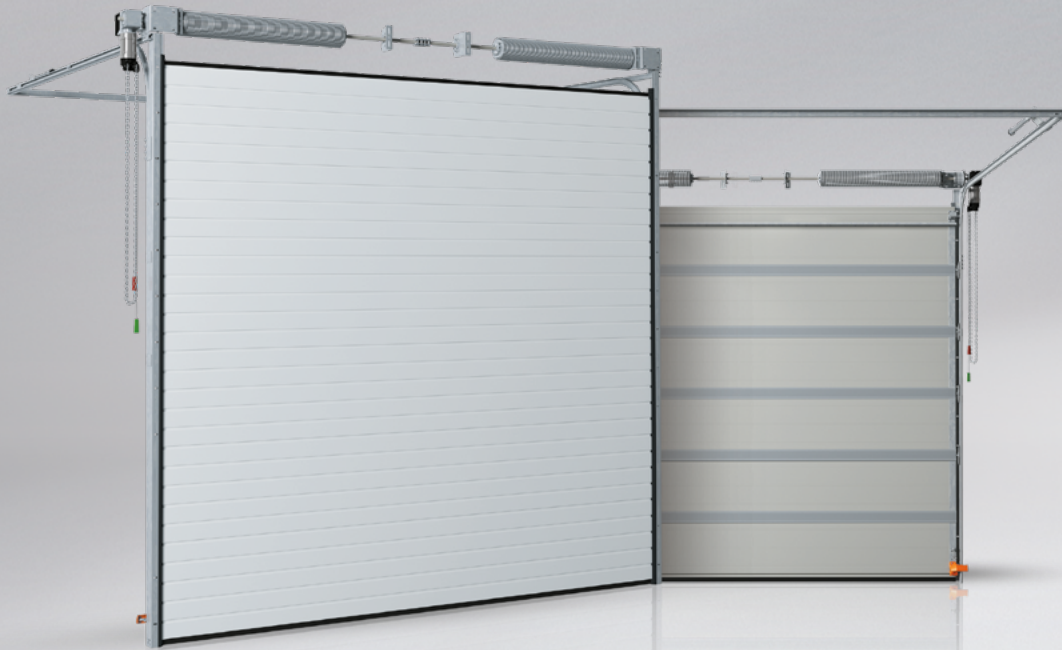


INDUSTRIAL DOORS



WIŚNIEWSKI

GATES | DOORS | FENCES

SECTIONAL DOORS MakroTherm

Intended use: Industrial sectional doors are intended to be used in residential buildings, public utility buildings, industrial facilities, including the food industry (without direct food contact), and in indoor car parks. The door includes vertical and/or horizontal ceiling-mounted tracks and a leaf made of steel panels infilled with freon-free polyurethane foam. The structure is made of galvanized elements. The door is sealed around the entire circumference. A safe torsion spring system is used to balance the leaf weight



For the 60 [mm] panel

THERMAL INSULATION

Steel panels are made of galvanized sheet, filled with freon-free, hardened polyurethane foam and coated with polyester paint on both sides. This ensures very good thermal insulation and acoustic properties. Each door features a system of flexible and robust gaskets both along the entire circumference and between the panels.



SAFETY

The safety systems involve above all the minimization of all traces of risk. Regardless of the method of the WIŚNIEWSKI door operation, our doors ensure comfort and safety. Our products are fully compliant with the PN-EN 13241-1 standard.



FUNCTIONAL

Thanks to our broad range of track systems, WIŚNIEWSKI industrial doors can be matched with all types of industrial halls. A well selected track type enables you to take advantage of all the benefits that our doors have to offer, regardless of whether the door is installed in newly built or refurbished buildings.



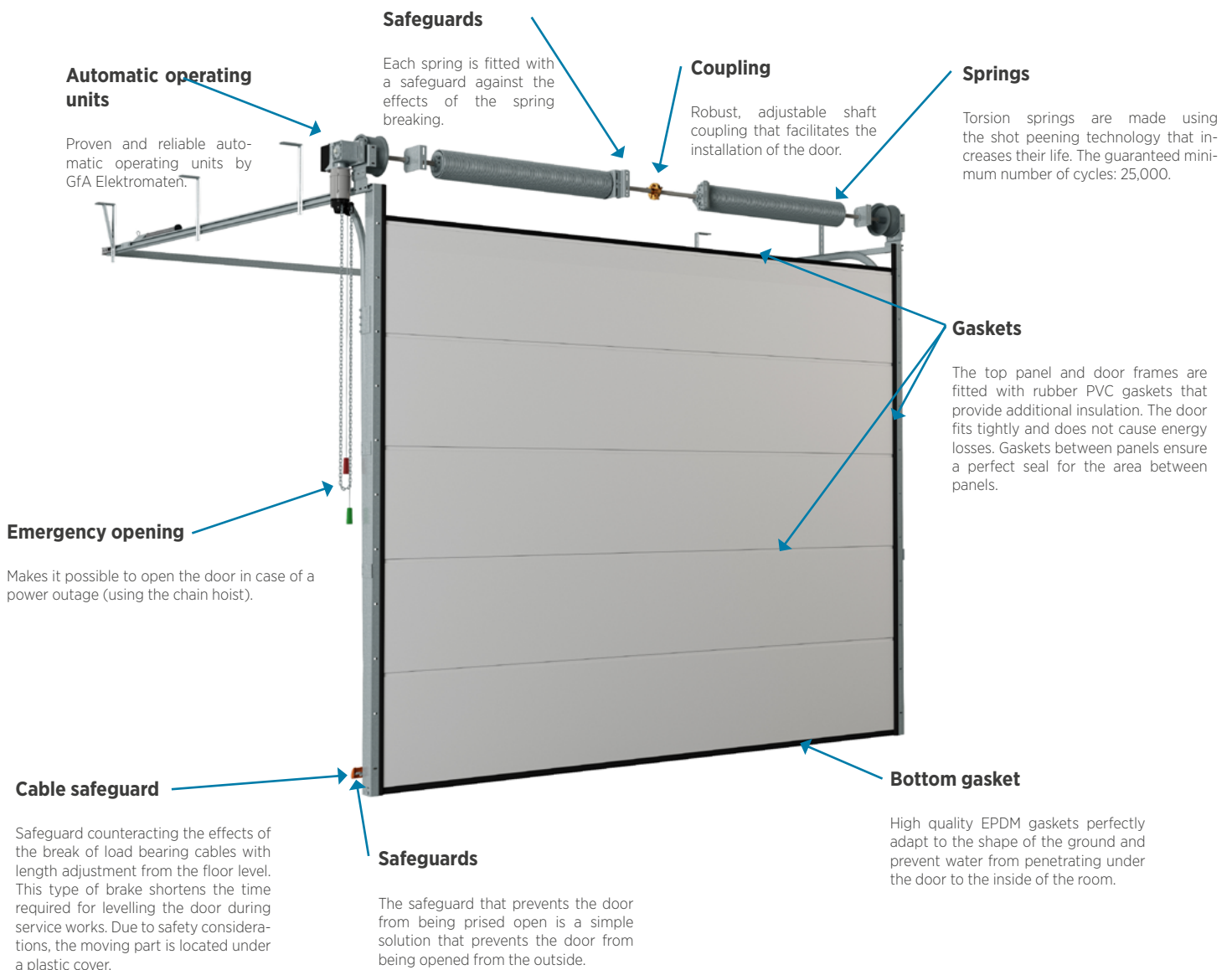
STRUCTURE

The sectional door is installed behind the opening, it opens vertically upwards and does not take up any space on the forecourt. Sectional doors let you use the space available in front of the door and inside the building to its maximum potential. Thanks to our broad range of track systems, WISNIOWSKI industrial doors can be matched with all types of buildings, even non-standard ones. Our solutions enable the door to operate without disturbing the operations inside the industrial hall. Thanks to numerous safety systems, our doors are safe at every stage of opening and closing, regardless of the method of operation: manual or automatic.

The leaf weight is perfectly balanced thanks to the use of a torsion spring system seated on the drive shaft. Springs are preselected with computer precision and guarantee the best balancing of the door, maximum comfort and safety of use. The doors are made of panels with a special profile that protects fingers against being crushed. All the steel elements are galvanized (tracks, frames, fastening elements). The door is fitted with double guiding sliding rollers with bearings in sliding cylinders providing proper running of the door curtain, while the tracks featuring a special profile prevent it from derailing. Electric drive gates are fitted with a modular control system which enables the connection of multiple devices compatible with the door.

Large dimension gates are additionally reinforced with special elements that increase the rigidity of the entire structure. Door panels are coated with high quality polyester paints. This provides optimum protection against the weather conditions and ensures many years of operation. Thanks to the vast range of colours, WISNIOWSKI industrial doors can be easily matched with the building's façade. WISNIOWSKI doors are an investment that stands the test of time.

Due to the corrosion protection of the doors, they can be used in line with their intended use in atmospheric corrosion class environments C1, C2, C3 in accordance with PN-EN ISO 12944-2 and PN-EN ISO 14713.





PANEL STRUCTURE



Robust and reliable design

Our whole range of industrial sectional doors follows identical design principles. Thanks to our robust and reliable design, you can rest assured that the door will meet even the most extreme requirements and withstand the most demanding operating conditions. Doors made of INNOVO panels, **60 [mm] thick**, are recommended for energy-efficient buildings. They help the door maintain an optimum temperature inside the garage. Special solutions, such as the original panel built using the **5-ply** sheet bending system ensures stable fastening of elements, which further contributes to the strength of the structure. The top section is fitted with a lip gasket. The internal side of the panel in RAL 9002.

RIB DESIGNS

V ribs



Low ribs



High ribs



Smooth ribs



COLOURS

Standard colours

White RAL 9016	Silver RAL 9006	Graphite RAL 7016
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Textures

Woodgrain	Sandgrain	Silkline
Smoothgrain		

Special colours

Golden Oak	Walnut	Mahogany	Oregon	Macore	Dark Oak
Swamp Oak	Black Cherry	Summer Cherry	Winchester	Siena Rosso	Siena Noce
Sapeli	Siena PL	Dark Green	Cream White	Anthracite Grey	Sibergrau
Metbrush Silver	AnTeak	Quartz Anthracite	"Weiss" Wite	Chocolate Brown	Natural Oak
Rustic Oak	Douglas Fir	Sheffield Oak Brown	Sheffield Oak Light	Sheffield Oak Grey	

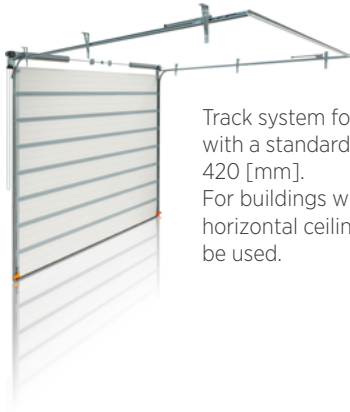


WIŚNIEWSKI sectional doors are available in a wide range of colours. You can match the door to the individual character of the building and your needs so that the door not only closes off the building, but constitutes its integral part that perfectly matches the company colours, façade or the surrounding environment.



TRACKS

Standard STL track

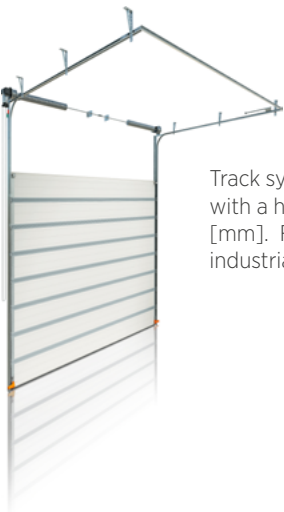


Track system for buildings with a standard lintel $N_{min} = 420$ [mm]. For buildings where horizontal ceiling tracks can be used.

Available dimensions for MakroTherm doors with STL tracks

Opening height (H _o) in [mm] up to	Opening width (S _o) in [mm] up to													
	2,250	2,500	2,750	3,000	3,250	3,500	3,750	4,000	4,250	4,500	4,750	5,000	5,250	5,500
2,000														
2,125														
2,250														
2,375														
2,500														
2,625														
2,750														
2,875														
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3,875														
4,000														
4,125														
4,250														
4,375														
4,500														
4,625														
4,750														
4,875														
5,000														

Standard HL track



Track system for buildings with a high lintel $N_{min} > 600$ [mm]. Frequently used in industrial hall type buildings.

Available dimensions for MakroTherm doors with HL tracks

Opening height (H _o) in [mm] up to	Opening width (S _o) in [mm] up to													
	2,250	2,500	2,750	3,000	3,250	3,500	3,750	4,000	4,250	4,500	4,750	5,000	5,250	5,500
2,000														
2,125														
2,250														
2,375														
2,500														
2,625														
2,750														
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4,125														
4,250														
4,375														
4,500														
4,625														
4,750														
4,875														
5,000														

Standard VL track



Track system for buildings with a very high lintel $H_o \leq 3,100$ [mm] $N_{min} = H_o + 800$ [mm], for $H_o > 3,100$ $N_{min} = H_o + 850$ [mm]. Frequently used in industrial hall type buildings, mostly in buildings where horizontal or diagonal ceiling tracks cannot be used as they would otherwise interfere with indoor systems or gantry operation.

Available dimensions for MakroTherm doors with VL tracks

Opening height (H _o) in [mm] up to	Opening width (S _o) in [mm] up to													
	2,250	2,500	2,750	3,000	3,250	3,500	3,750	4,000	4,250	4,500	4,750	5,000	5,250	5,500
2,000														
2,125														
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4,125														
4,250														
4,375														
4,500														



AUTOMATIC OPERATING UNITS

Automatic operating units fitted in WISNIEWSKI industrial gates are configured for continuous reliable operation. We use the proven GfA drive and control units that ensure the highest comfort of use and many years of operation.

Kit type	Totmann	Totmann	Automatik	Automatik		Automatik DU, FU	Automatik S
Control system	integrated	WS-900	T-720	TS-970	TS-971	TS-970	TS-981
Power supply	230 V	3x400 V	230 V	3x400 V	3x400 V	DU 3x400 V FU 230 V or 3x400 V	3x400 V
Limit switch	Mechanical, drive level	Mechanical, drive level	Mechanical, drive level	Electronic - operator	Electronic, operator level	Electronic, operator level	Electronic, operator level
Emergency opening	Chain hoist	Chain hoist	Chain hoist	Chain hoist	Chain hoist	Chain hoist	Chain hoist
Accessories	Three-function switch: up (with impulse maintenance), stop, down (without impulse maintenance)	Three-function switch: up (with impulse maintenance), stop, down (without impulse maintenance)	Central control unit: up (with impulse maintenance), stop, down (with impulse maintenance) Safety edge sensors	Central control unit: up (with impulse maintenance), stop, down (with impulse maintenance) Safety edge sensors	Central control unit: up (with impulse maintenance), stop, down (with impulse maintenance) Safety edge sensor Safety edge wireless transmission system	Central control unit: up (with impulse maintenance), stop, down (with impulse maintenance) Safety edge sensors Infinitely adjustable motor rotational speed adjustment	Central control unit: up (with impulse maintenance), stop, down (with impulse maintenance) Safety edge sensors Compatible with signal lights
Expandable	None	None	Additional safety, control, and signalling devices	Additional safety, control, and signalling devices	Additional safety, control, and signalling devices	Additional safety, control, and signalling devices	Additional safety, control, and signalling devices
Design	Self-locking gear with PVC cover	Self-locking gear with aluminium cover	Self-locking gear with PVC cover	Self-locking gear with aluminium cover	Self-locking gear with aluminium cover	Self-locking gear with aluminium cover	Self-locking gear with aluminium cover



OPTIONAL ACCESSORIES

CODE LOCK



Operates the door after an individual access code is provided. Can be installed indoors or outdoors.

PROXIMITY CARD READER



Can be controlled with proximity cards or fobs. Just place the card or fob against the reader to operate the door drive.

WARNING LAMP



Warning function. Orange blinking light indicates that the door is operating.

SIGNAL LIGHTS



Facilitates traffic management around the door. Set includes two lights: green and red indicating that the door is open or closed.

EXTERNAL KEY SWITCH



The switch requires a key for the door to operate. Recommended where access must always be controlled.

MICROWAVE MOTION SENSOR



The sensor automatically opens the door when a vehicle or a person appears in front of the entrance.

ACOUSTIC SIGNAL



Warning function. Acoustic signals indicate when the door operates.

TRANSMITTER



Works with the radio receiver and controls the drive unit through radio waves. One remote control can operate four individual doors.

PHOTOCELLS



If an obstacle appears in the clear passage, the infrared beam is interrupted, the door stops and returns to the open position.

PULL SWITCH



Sequential door control without using a transmitter.

SAFETY BARRIER



Secures clear passage in case of accidental door leaf movement.



SECTIONAL DOOR



MakroTherm door



MakroTherm door



TECHNICAL DATA

	MakroTherm
Leaf	Panel, 60 [mm] thick, made of galvanized steel sheet with two-side polyester coating, galvanized and painted on both sides, infilled with high density PU foam $\rho=42 \text{ kg/m}^3$ without HCFC
Minimum number of cycles	25,000
Thermal transmittance factor of the panel U [W/m ² ·K]	0.33
Watertightness class	2 in accordance with PN-EN 13241-1 section 4.4.2
Wind load resistance class	4 in accordance with PN-EN 13241-1 section 4.4.3
Air permeability class	5 in accordance with PN-EN 13241-1 section 4.4.6
Reaction to fire NFP	Fire properties B Smoke production s2 Flaming droplets d0 In accordance with EN 13501-1+A1:2010
Sound reduction index Rw [dB]	24 in accordance with PN-EN ISO 717-1: 1999
Drive type / power supply type	GfA SE series 1 x 230 V / 3 x 400 V
Safeguards	Special shape of the panel protecting fingers against being crushed, safeguards against breaking of load-bearing cables, safeguard against breaking of springs (on each spring), lock/latch opening sensor, safety edge (in doors with electric drive, Automatik type) Options: photocells, light barrier, safeguard against prising
Optional accessories	Various types of tracks, electric drive unit, chain hoist, rope hoist, 50,000 cycle springs, 100,000 cycle springs, photocells, light curtain, code lock, motion sensor, signal light, LED signal light (red-green), transmitter, acoustic signal, magnetic card reader, pull switch, safety edge wireless transmission system, drive unit for continuous operation.
Maximum width / height of the door [mm]	5,500/5,000
Available panel rib designs	low ribs, high ribs, V, without ribs
Available panel structures	woodgrain, smoothgrain, sandgrain, silkline
Standard RAL colours	RAL 9006, RAL 7016, RAL 9016
Custom colours:	other RAL colours, special colours, including wood imitating colours, (film coated panels)
Track type	STL, HL, VL

BPMakroPro/10.17/EN

