NIRMAL

SECTIONAL OVERHEAD DOOR

Industrial Sectional Door

www.nirmalautomation.com

Sectional Overhead Door

Industrial sectional door are robust and long-lasting doors, providing security and functionality for all logistical, industrial and warehouse Requirements. Industrial Sectional Door panels are 4 0 m m thick sandwich panels and designed for Acoustic and Thermal insulation; made of high density (45-48kg/m3) PIR (Polyisocyanurate), fully encapsulated with roll-formed galvanized and 2-layer coated steel.

Thanks to its design, sectional industrial doors are perfect solution for the best insulation and security. Industrial sectional door can be adapted easily to any type of space and should be designed and installed according to the facilities architectural structure considering the gap between the ceiling and the top of the door as standard lift, low lift, high lift and vertical lift track applications.

Industrial sectional door systems provide smooth and safe loading and unloading in enterprises with level adjustable ramps and truck bed compactor PVC bellows. Sectional industrial door systems slide open parallel to the ceiling, saving space and the door opening can be used clearly.

Industrial sectional door systems can be produced for factories, warehouses or buildings in accordance with the passing gap and height. The sectional industrial door works by sliding in the side rails by using the space between the ceiling height and the upper door level.

Industrial sectional doors are manufactured as a standard with white panels (inside and outside RAL9016) and other color options are available in accordance with the exterior surface of the buildings. In addition, it can be used with different lifting types depending on the details in the area to be applied. Sectional doors, which play an active role in vehicle and pedestrian traffic, can be applied as standard buttons, manual chain hoists, or remote control.

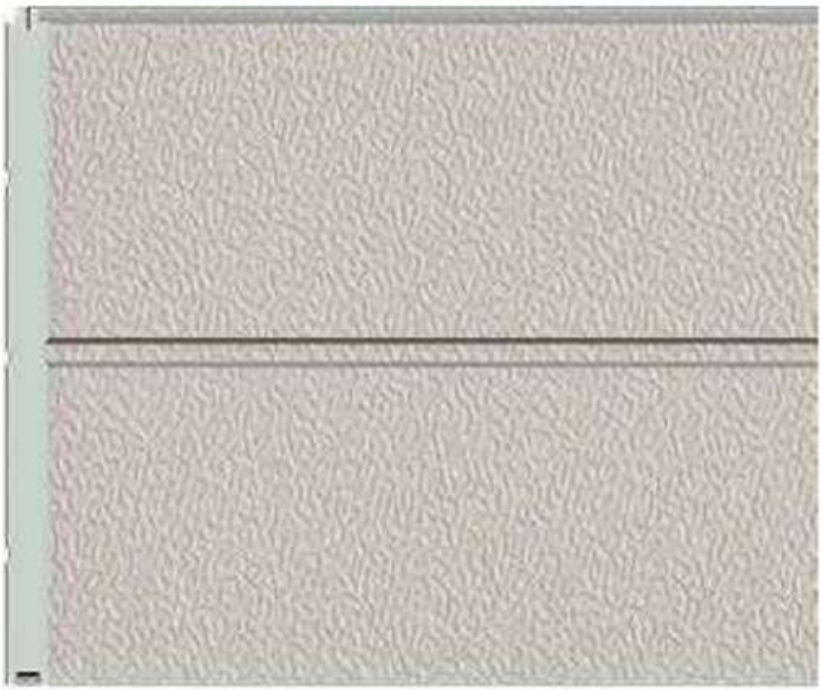
The industrial sectional door system works with a motor system with the side grip directly from the shaft or a chain system with a chain hoist that operates similarly. The industrial sectional doors can be operated by installing a 230 / 380 V-AC 50 Hz electric motor and/or manually with a torsion spring system that balances the door weight; due to spring system door weight does not affect the manual operation. The springs are manufactured as a standard 20,000 cycles; besides, as an option spring cycle can be increased.

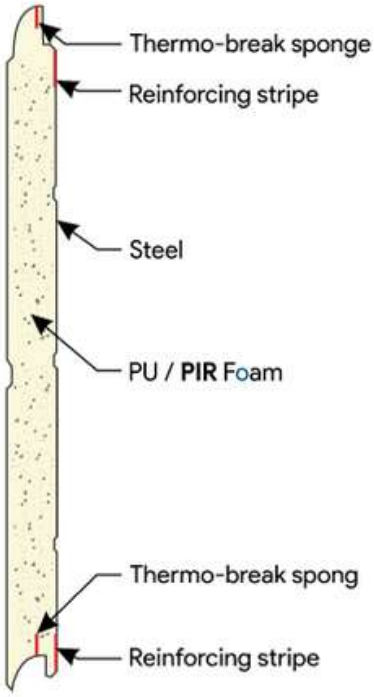
INDUSTRIAL DOOR WINDOW

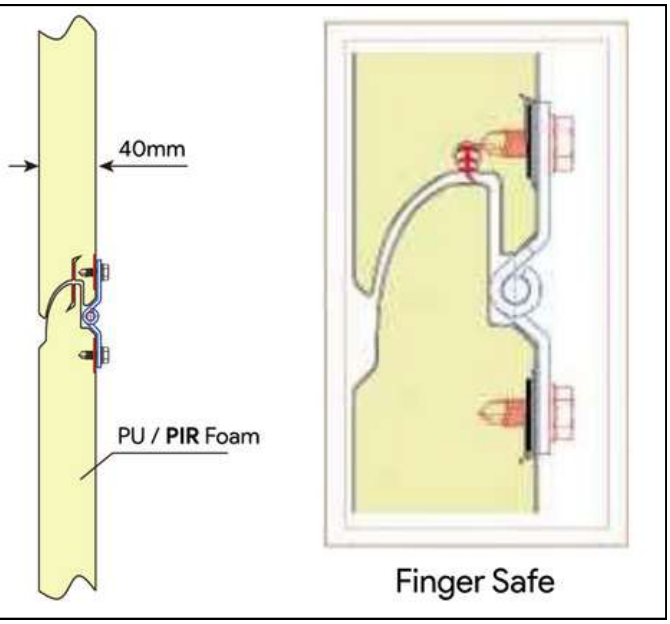
Our Industrial sectional door consist of steel sandwich panels. Sandwich panels are obtained by injecting high pressure polyurethane between galvanized sheet metal plates. Excellent heat insulation is provided by PIR (Polyisocyanurate). The wind resistance of our panels is Class 3. The sheet plates on the front and back surfaces of the sectional industrial door panels are firmly connected to each other in four layers.

Windows made of double-walled acrylic also can be opened in desired rows for lighting purposes on the door panels.

FEATURE OF SECTIONAL OVERHEAD DOOR



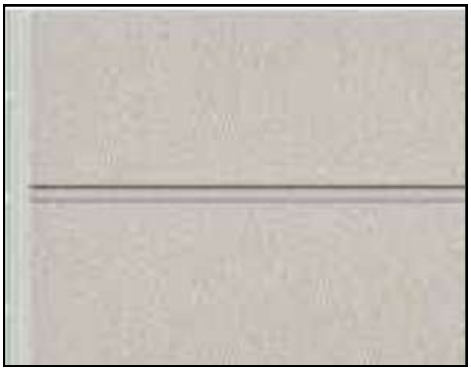




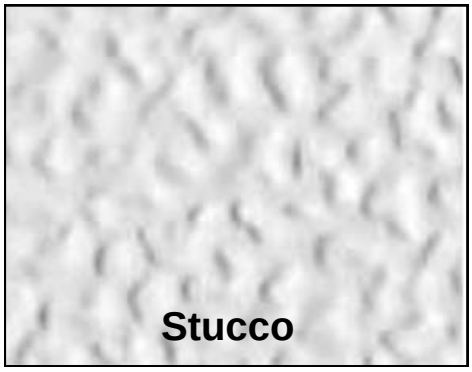
Industrial sectional door has finger protection panel, the galvalume panel width is 40mm and height is 500mm, thickness is 0.4mm + 0.4mm. each panel is filled with PU (polyurethane) / PIR (Polyisocyanurate) with density of 45 Kg/m3

PANEL DESIGN:

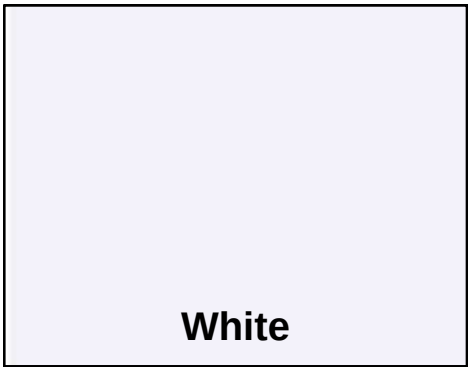
Exterior color - RAL 9016: White color / Interior color: RAL 9016: White color, STUCCO embossed finish



Panel Design: Middle 1 Line



Surface Texture: Stucco Finish



Color: RAL9016 (whiteColor)

DESCRIPTION

- The industrial sectional door is a sectional door model that provides a high level of insulation, which is used to protect the car entrance and exit sections of the car parks of the residence.
- The industrial sectional door panels consist of insulated panels with finger-squeeze protection.
- Industrial sectional door can be opened manually with a chain pulley or by a 230 / 380 V-AC electric motor and a double torsion spring (wind-up) system that balances door weight. The door weight does not force the user and automation because of the springs.
- Galvalume PU / PIR foam panel thickness is 40mm, with external & internal wall thickness of 0.4mm +0.4mm, and a height of 500mm.
- Sizes up to 6 meter Width x 6 meter Height. Any special sizes if required kindly consult factory
- Doors are provided with spring break safety and cable break safety.
- Springs are designed for a standard of 20,000 cycles.
- Windows can be provided as optional.
- Perimeter seals are provided as standard
- Pneumatic safety edge, Reflector Photocell is provided for additional safety to prevent door to collide with any object during closing.

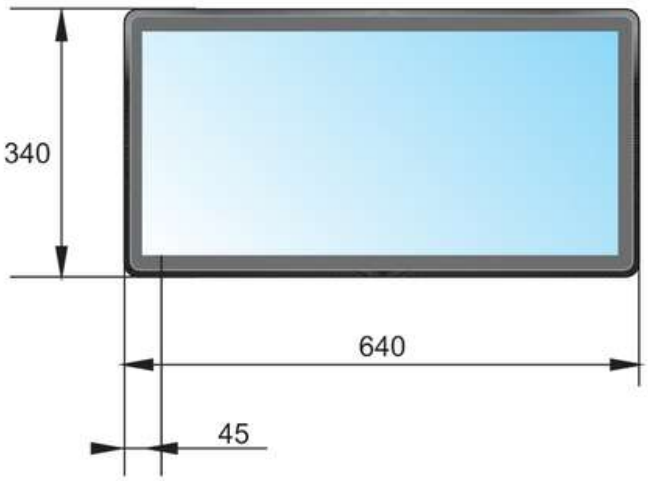
FEATURES OF INDUSTRIAL SECTIONAL DOOR

2 Years warranty on door
Exterior color / Inner color:
White 9016 / white 9016, STUCCO embossed finish
Panel Design: Center Rib / three groves
Panel:
White PIR 40mm with 0.4+0.4mm Ext/Int Thickness
Panel section height: 500mm

-Density: 45 Kg/m3
- EPDM sealing gasket between panels
- Finger safe protection
- Top & Bottom Aluminum profile with EPDM seal
- CFC Free PU polyurethane / PIR (Polyisocyanurate)
- Galvanized vertical & horizontal track
- Spring 20000 cycles

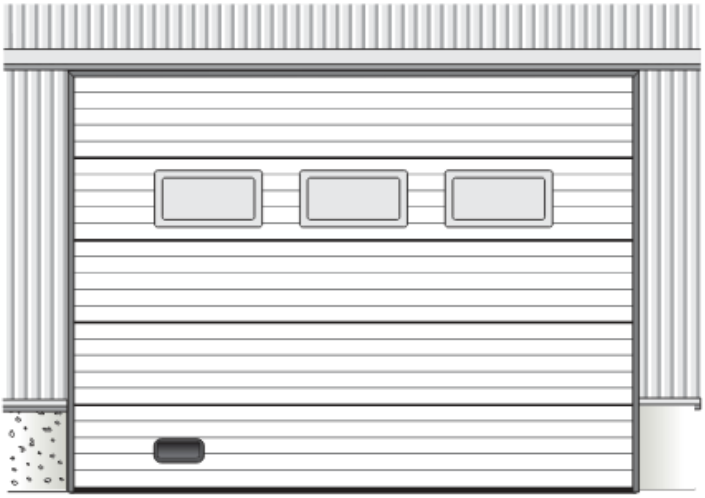
Description	Value
R-value	1.12 (m2 °C/W*)
Thermal Insulation	0.04(W/m?.:°C)
Wind Load	2 class EN12424
Airtghtness	2 class EN12426
Water tightness	3 class En12425
Acoustic Insulation	≤35 dB
Door Panel Weight	9.8 kg/m2
Panel Thickness, mm	40
Thickness Of Steel	0.4

RECTANGULAR WINDOW



Window quanity in panel	Door width
1	1140-2040
2	2050-2940
3	2950-3840
4	3850-4740
5	4750-5640
6	5650-6540
7	6550-7440
8	7450-8000

RECTANGULAR WINDOW SPACING SAMPLES



WINDOW LOCATION ON PASS DOOR

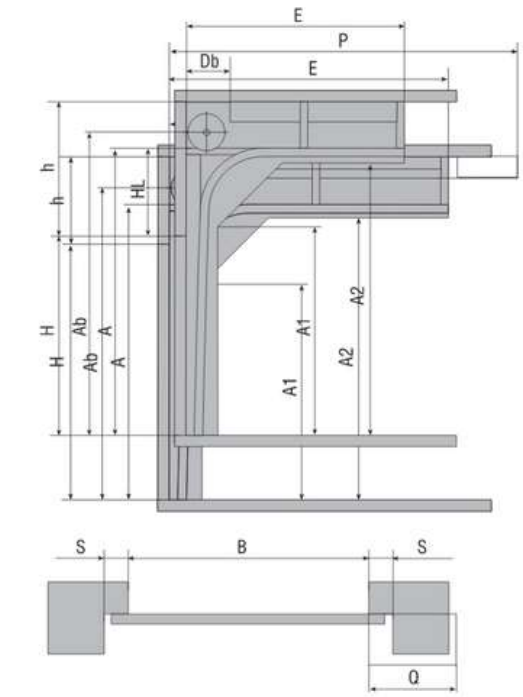
PASS DOOR

RECTANGULAR WINDOW SPACING SAMPLES

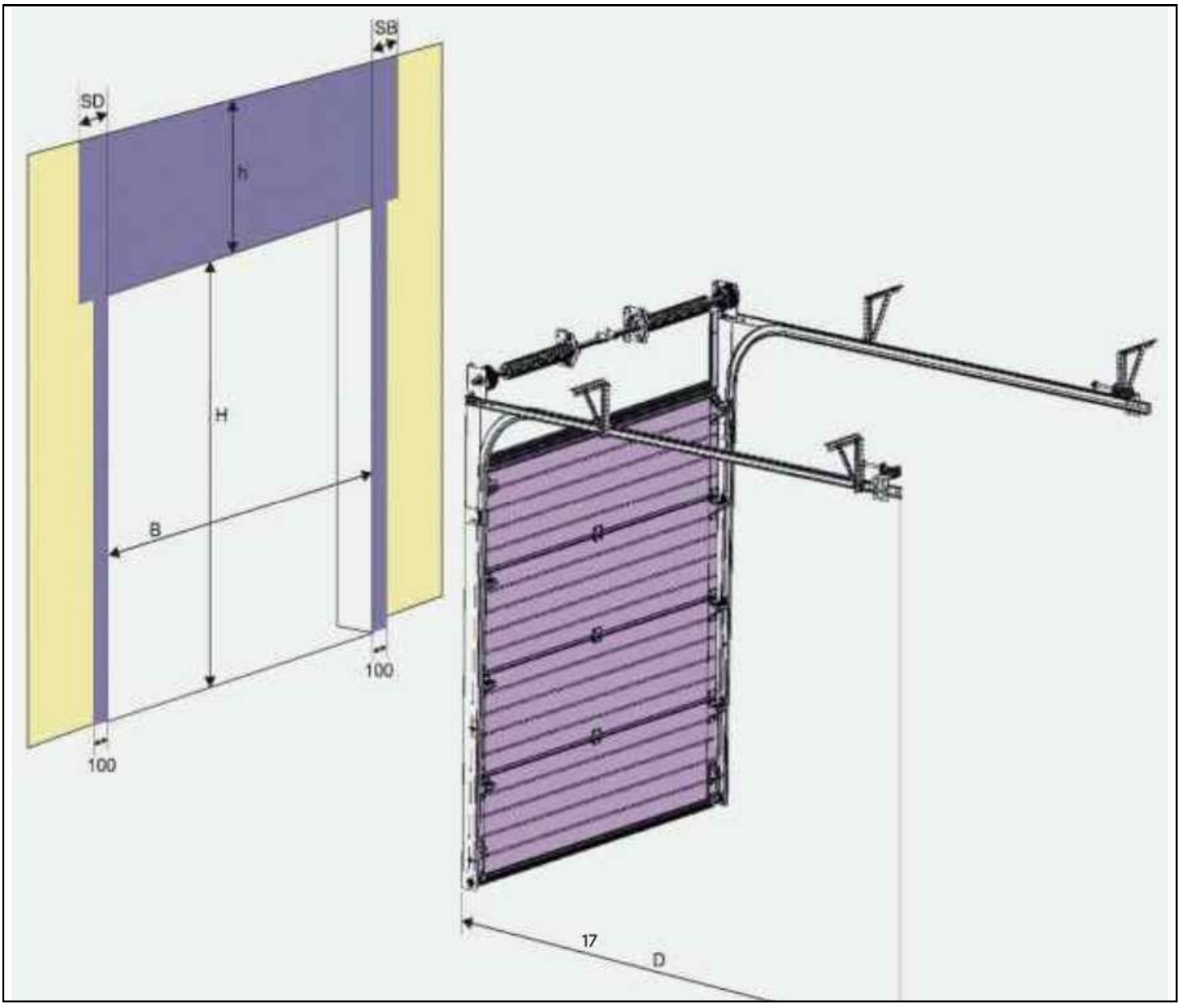
SIDE DOOR MODELS

RECTANGULAR WINDOW SPACING SAMPLES

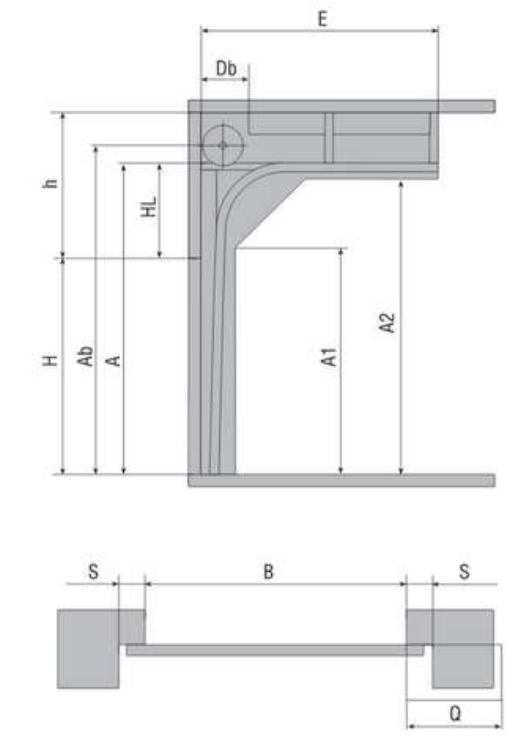
TRACK AND LIFTING TYPES (T1)



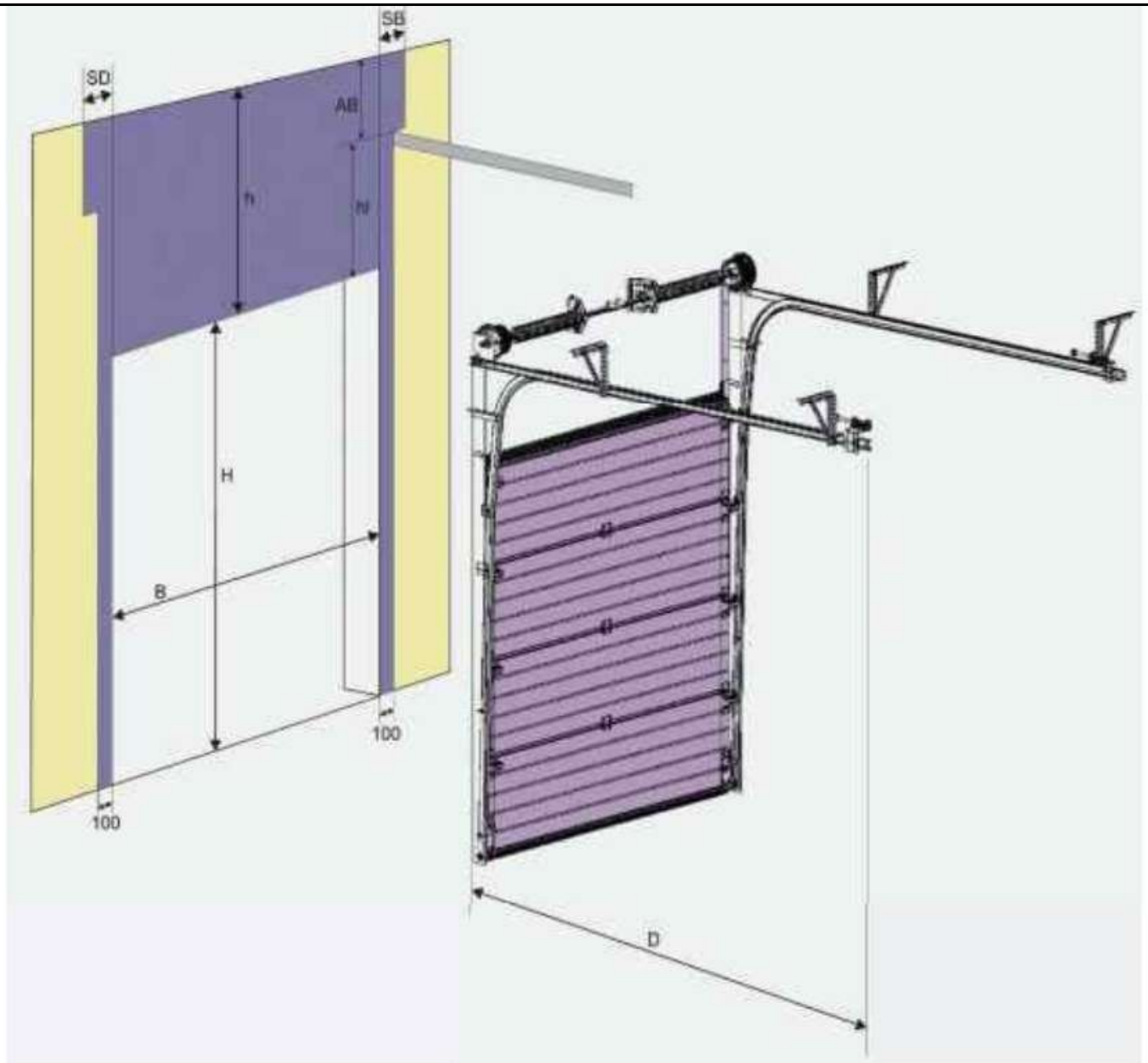
Parameter	Description	Space Requirements
H, mm	Height opening	H
h,mm	Headroom height	500
B,mm	Opening Heights	B
A,mm	Verticalangel height	H+235
AB,mm	Shaft axis height and drum height	H+332
A1,mm	Vertical track height	A-425
A2,mm	Door working space at horixontal angle length	A-110
E,mm	Door operating space horizontal track.	H+500
	Point of attachments of the horizontal track to the celling	Depends of door size
Db,mm	Torion spring mechanism operating space	Depends of door size
S,mm	Minimum Side Room	150
Q,mm	Side room for flate when electric opration	300



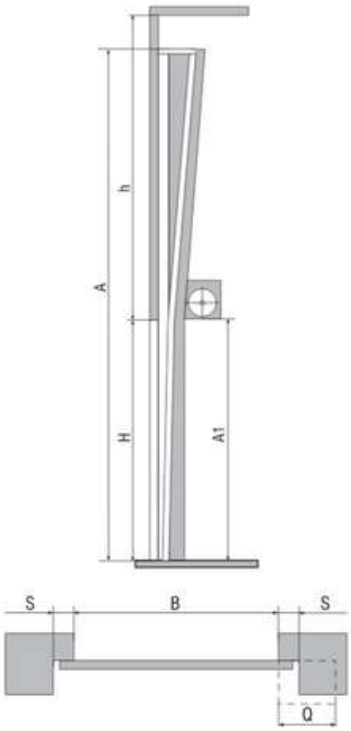
TRACK AND LIFTING TYPES (T2)



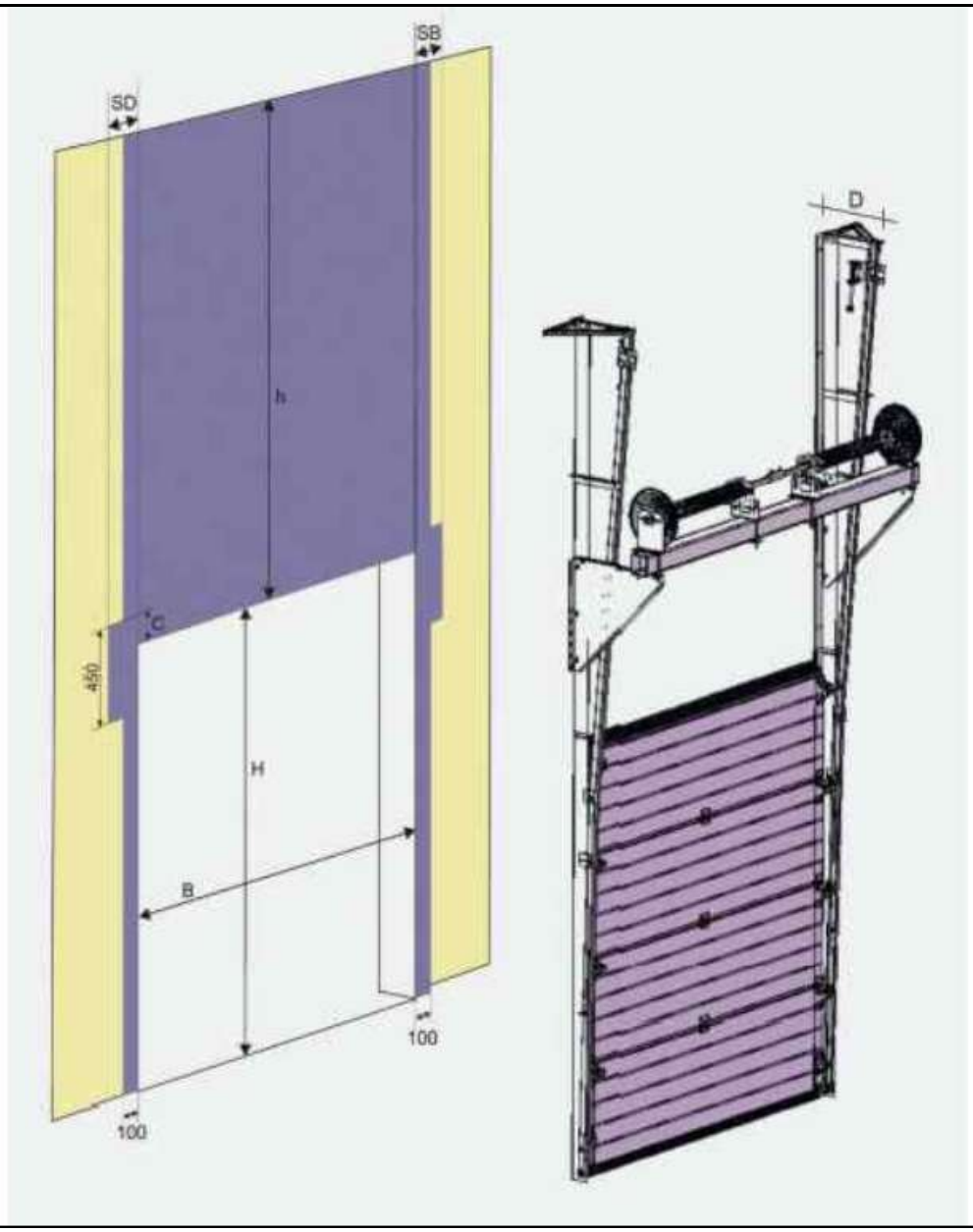
Parameter	Description	Space Requirements
H, mm	Height opening	H
h,mm	Headroom height	>1000
B,mm	Opening Heights	B
HL,mm	Distance From the top of the opening to the horizontal track	h-350
A,mm	Verticalangel height	H+HL
Ab,mm	Shaft axis height and drum height	A+125
A1,mm	Vertical track height	A-425
A2,mm	Door working space at horixontal angle length	A-110
E,mm	Door operating space horizontal track.	H-HL+500
	Point of attachments of the horizontal track to the celling	Depends of door size
Db,mm	Torion spring mechanism operating space	Depends of door size
S,mm	Minimum Side Room	150
Q,mm	Side room for flate when electric opration	300



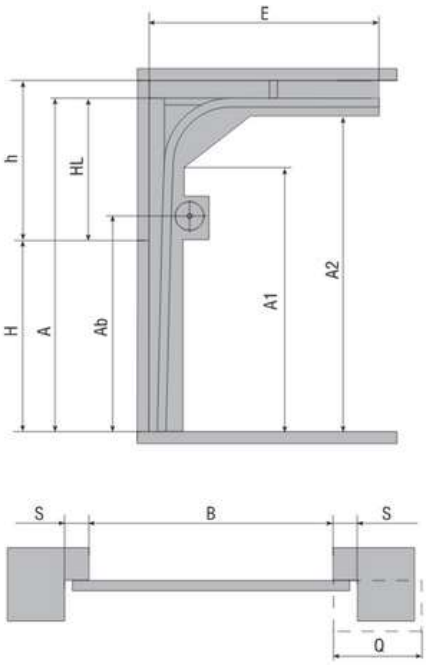
TRACK AND LIFTING TYPES (T3)



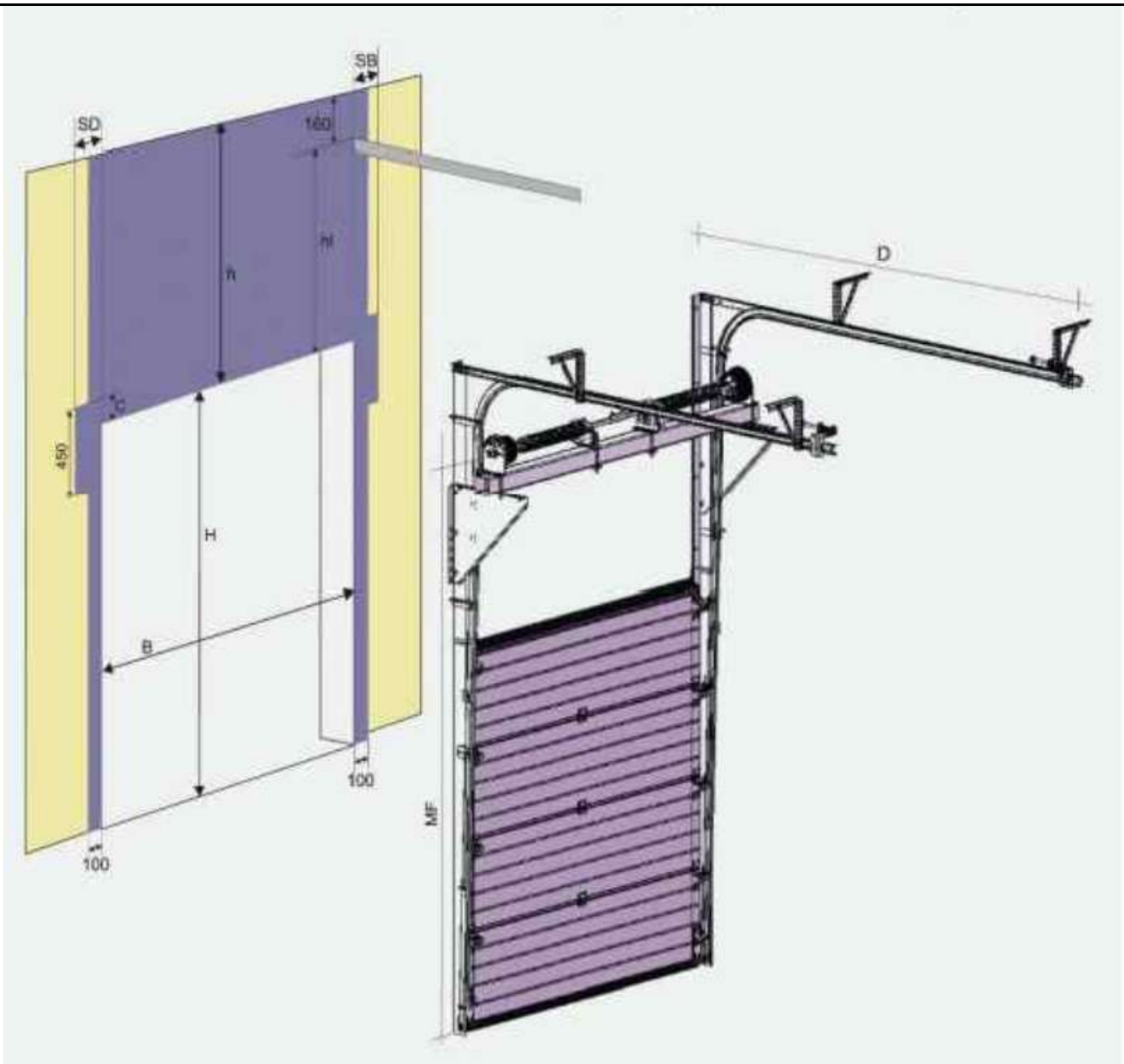
Parameter	Description	Space Requirements
H, mm	Height opening	H
h,mm	Headroom height	.H>1000
B,mm	Opening Heights	B
A,mm	Verticalangel height	2H+300
Ab,mm	Shaft axis height and drum height	H+<_1000
A1,mm	Vertical track height	H
S,mm	Minimum Side Room	150
Q,mm	Side room for flate when electric opration	250



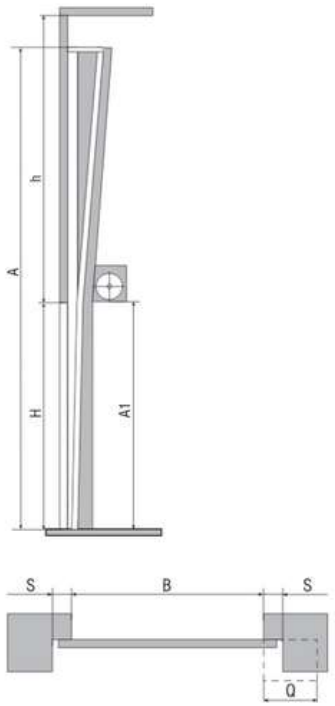
TRACK AND LIFTING TYPES (T4)



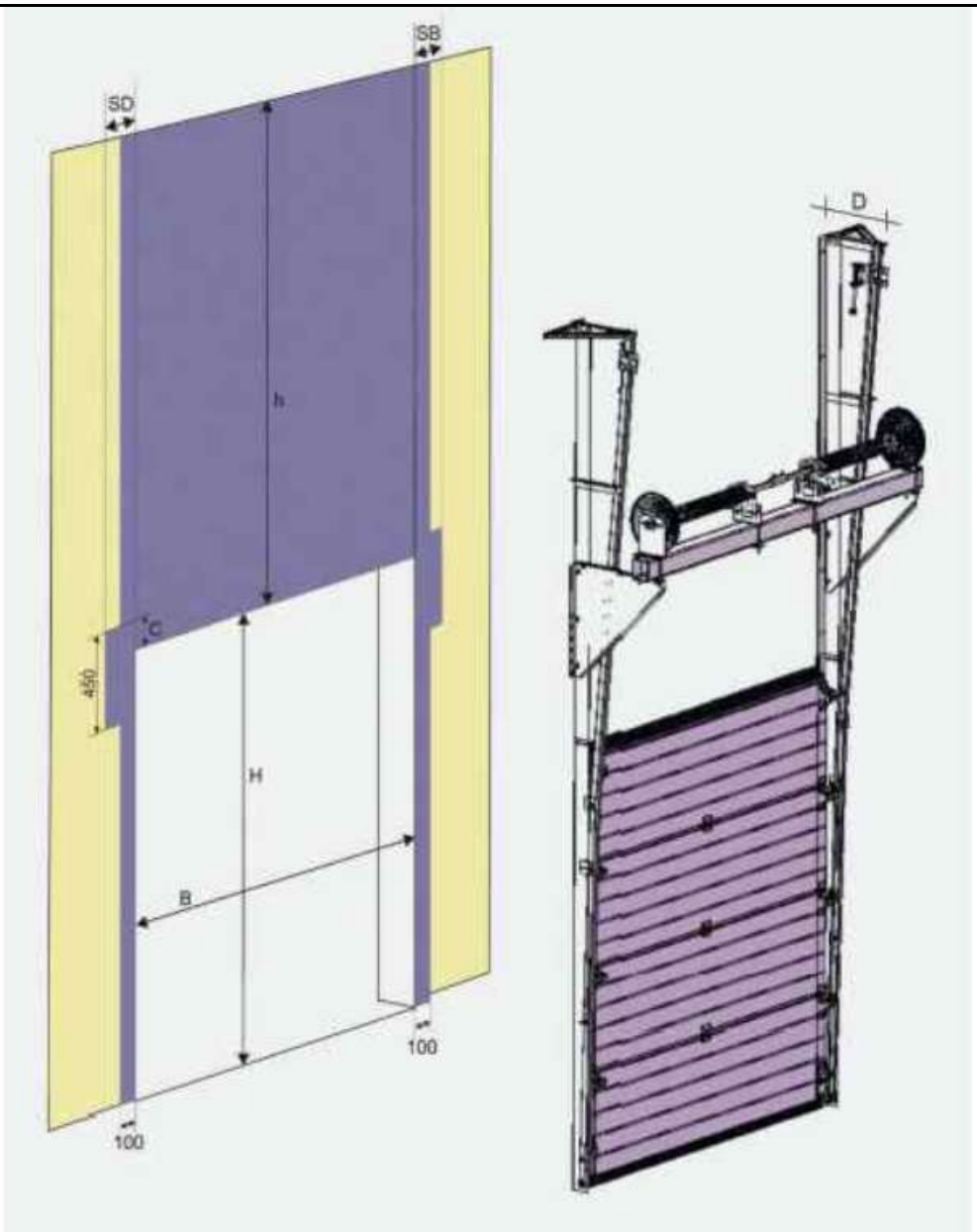
Parameter	Description	Space Requirements
H, mm	Height opening	H
h,mm	Headroom height	>H>1000
B,mm	Opening Heights	B
A,mm	Verticalangel height	2H+604
Ab,mm	Shaft axis height and drum height	A+152
A1,mm	Vertical track height	H
S,mm	Minimum Side Room	150
Q,mm	Side room for flate when electric opration	300



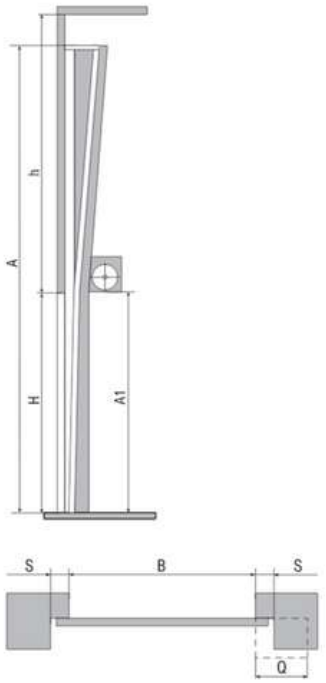
TRACK AND LIFTING TYPES (T5)



Parameter	Description	Space Requirements
H, mm	Height opening	H
h,mm	Headroom height	>H>1000
B,mm	Opening Heights	B
A,mm	Verticalangel height	2H+604
Ab,mm	Shaft axis height and drum height	H + <1000
A1,mm	Vertical track height	H
S,mm	Minimum Side Room	150
Q,mm	Side room for flate when electric opration	250

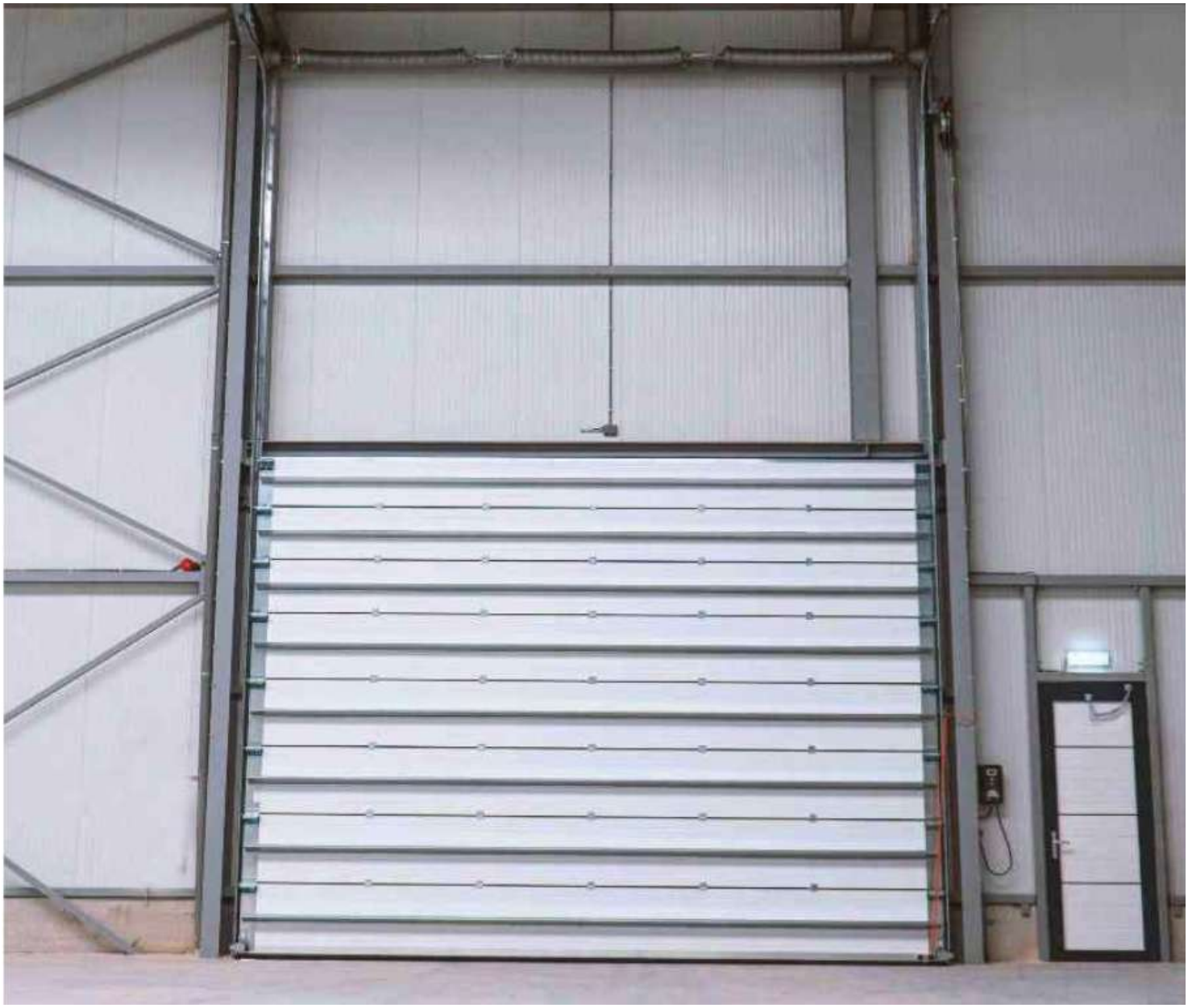


TRACK AND LIFTING TYPES (T6)



Parameter	Description	Space Requirements
H, mm	Height opening	H
h,mm	Headroom height	>H>1000
B,mm	Opening Heights	B
A,mm	Verticalangel height	2H+604
Ab,mm	Shaft axis height and drum height	A+152
A1,mm	Vertical track height	H
S,mm	Minimum Side Room	150
Q,mm	Side room for flate when electric opration	300

FULL VIEW OF INDUSTRIAL SECTIONAL DOOR



T**he full-view door is one of the most preferred models m o n g the industrial sectional door models and it is the door type that brings your buildings therefore by providing high visually. It is used as normal lifting, high lifting or vertical lifting according to the beam section of the area top applied.**

Profile thicknesses of full-view doors vary according to the parts used and are specially designed o match each other, generally, 3 mm plex glass glasses are used in full-view doors, a n double glass model with double glazing can be used according to t h e need. Tempered or laminated glass options can also be applied in different structures in order for our doors to achieve maximum harmony.

Panels forming full-view sectional doors are produced from 500 mm- 610 mm aluminum finger-protected aluminum profile. The standard color of full-view sectional door Profile is natural anodized. However, ti can also be painted in the desired RAL colors depending on the exterior color optional. Full-view sectional doors can also be applied with standard control unit and remote control.
Full-view sectional doors, with t h epopt laser system feature, allow the door to b opened back in case any object touches it.

ACCESSORIES

Zink-coated double roller carrier for big doors.

Cable break safety device for prevention of accidental door drop.

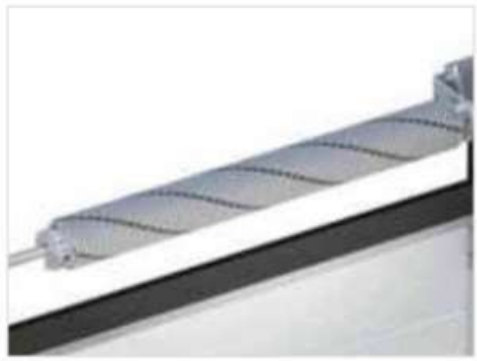
Cable break safety device for prevention of accidental door drop.

Updated spring break safety device

High density spring filler for noise reduction and increased working life performance.

Window

ANTI CORROSION SET



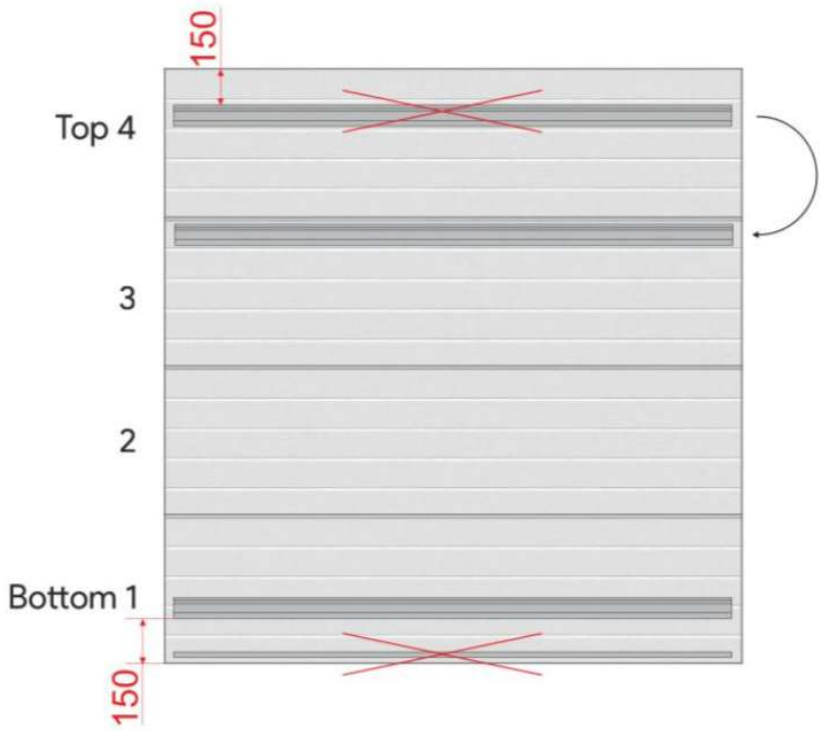
Anti corrosion set: for use in aggressive environment.
Note: Not all the hardware can be made of Stainless Steel. Some hardware can be powder coated like the tracks for example.
Our sales department can supply full details.

STRENGTHENING PROFILE

Strengthening Profile

Door width	Profile	Quantity	Note
<4500	-	-	-
4501-6000	Bottom	1	sample no.1
5011-6000	Bottom + Omega	On evry second door panel	ssample No.2 and no.3

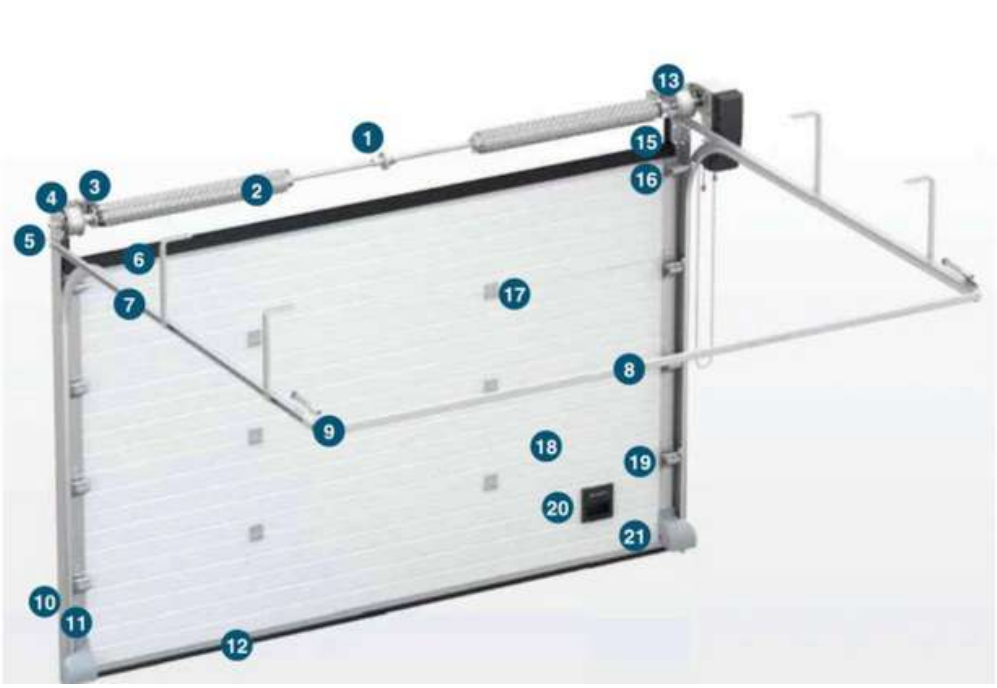
Dark color door exposed to the sunlight can require additional profile !!!



It is mounted on the penultimate section when it is impossible to fit the reinforcement profile on the upper section.

The omega or triangular profile in the bottom section is only used by straightening.

HARDWARE SPECIFICATION



1. Coupler
2. Torsion spring mechanism
3. Spring break safety device
4. Drum
5. End bracket
6. Top profile with seal
7. Horizontal track
8. C-profile
9. Spring bumper
10. Vertical angle
11. Vertical track
12. Bottom aluminium profile with seal
13. Bracket for shaft operator
14. Shaft operator
15. Side seal
16. Top roller carrier
17. Hinges
18. Panel
19. Side roller carriers
20. Footstep handle
21. Cable break safety device

1. Vertical track
2. Vertical angle
3. Shaft
4. Spring break safety device
5. Bracket for remote system
6. Pipe 100 × 100 × 4 mm
7. Drum
8. Top rubber seal
9. Top roller support
10. Hinges
11. Panel
12. Side roller carriers
13. Cable break safety device
14. Bottom aluminium profile
15. Side seal
16. Torsion spring mechanism
17. Top profile with seal
18. End cap
19. Footstep handle

SECTIONAL DOOR OPERATOR

PRODUCT DESCRIPTION:

- The standard electronic limit switch system can be set using the integrated control unit by using any conventional triplex sensing device.
- Powerful gearing system combined with the latest motor technology.
- The basic settings in the system can be changed to fit individual requirements.
- The electric motor ensures long life, less-vibration and less-noise operation in all assembly positions.
- Frequency conversion function, with soft start and soft stop function.
- In the event of power failure, the door can still be opened and closed by manual chain.

SECTIONAL DOOR OPERATOR - RECOMMENDED ACCESSORIES

MRS 68
Microwave Sensor

RFPC 43
Reflector Photocell

RFPC 417M
IP Reflector Photocell

LSEC 46
Series Light Curtain Sensor

LB 33
Loop Detector

HSD BES 64
Safety Edge Sensor

PB 16 A
Push Button

PB IP 65
Water Proof Push Button

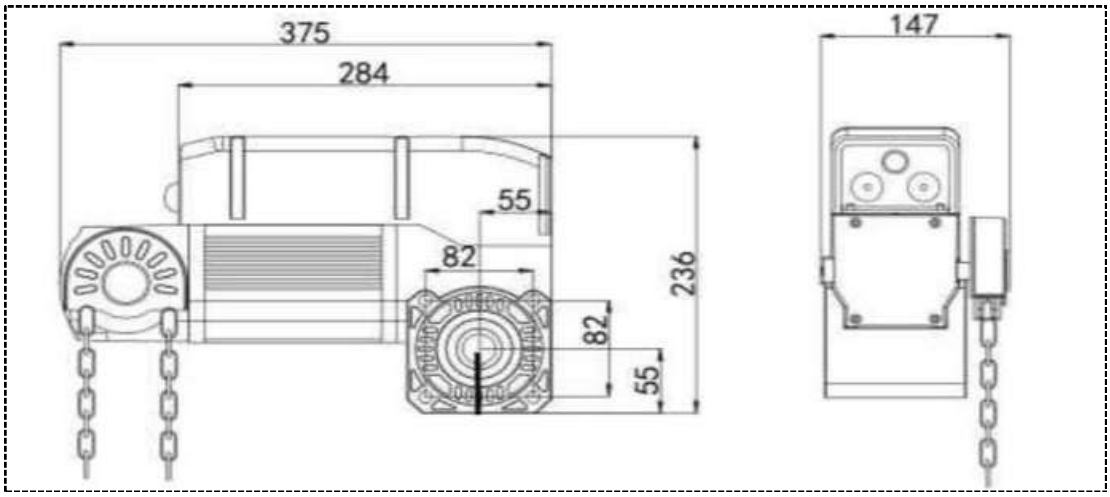
SLD TLS 73
Wired Touch less Sensor

AF LAC 19A
Alarm Flash Lamp

FL 19
Flash Lamp

SL 12
Signal Light

MACHINE CORE STRUCTURE



OPTIONAL INTEGRATION

FACE RECOGNITION

FINGER PRINT

RFID

QR CODE

PASSWORD

SAFETY DEVICES

SPECIFICATION

Model	Voltage	Motor Power (KW)	Max Door Aera (Sqm)	Torque (Nm)	Motor Runing Time	Dia Of Output Shaft (Mm)	Runing Speed (r/min)	Working Duty
NAISD40	220/380 V AC	370	18	40	25 min	25.4	24	S 2,20%
NAISD60	220/381 V AC	450	25	60	25 min	25.4	24	S 2,20%
NAISD100	220/382 V AC	650	35	100	25 min	25.4	24	S 2,20%
MNAISD150	220/383 V AC	800	40	150	25 min	25.4	24	S 2,20%

SECTIONAL DOOR OPERATOR

TECHNICAL INFORMATION

Nirmal Automation is certified by IndiaMART and best provider of sectional overhead doors in Maharashtra.

- Door panels are 40 mm thick. (0.4 mm galvanized steel + polyurethane / PIR (Polyisocyanurate) + 0.4 mm. Galvanized steel)
- Integral sealing with the panel that provides sealing between two panels when placed on top of each other. Gasket is available.
- The inner and outer sheets of our panels are clamped in such a way that they cannot be separated from each other.
- In the sections where the hinges will be screwed on the panels, the lower and upper sheets come together and form a total thickness of 2 mm, and has a structure that cannot be separated.
- There is a special PIR (Polyisocyanurate) filler injected at high pressure between the outer surface steel plates of our door panels, which preserves the ambient temperature.
- The special polyurethane / PIR (Polyisocyanurate) filling of our panels does not contain CFC (Chlorofluorocarbons) and has the feature of protection against mould, insects and bacteria.
- The heat transmission coefficient of the panels is 0.50 W/m? °C.
- Polyurethane foam, which is the panel filling material, has a density of 45 - 48 kg/m°.
- The thermal conductivity of polyurethane foam is 0.017 Kcall / (m.K) at an average temperature of 9.97 °C.
- Wind resistance is En 12424, Industrial door is class 3 - And garage door is class 5.
- Water tightness value is EN 12425 Industrial door class 3 - Garage door class 3.
- Air permeability value is EN 12426, Industrial door class 2 - Garage door class 3.
- Our panels have finger pinch safety.
- The weight of our panels is 9.9 kg/m?.
- For the connection of hinges and components on the panels, the inner and outer sheet bends are adjacent to each other at the connection point of the hinge screws in polyurethane filling.
- When the door size is 5 meters or more, reinforcement sheets, double-side hinges and long spindle wheels are used in panel joints to increase resistance against impacts and wind loads in panel joints.
- The torsion springs that balance the weight of the door must comply with DIN17223 and are galvanized or painted. Spring usage alternatives with a standard life of 20,000 cycles and a life of 100,000 cycles can be used if desired.
- The steels of the torsion springs used in the doors have been specially sandblasted and painted to extend their life.
- The steel ropes that ensure the healthy operation of the door are 6×19 = 114 wire wounds around the polypropylene core and are resistant to 1960 N/m m? tension.
- The shafts on which the torsion springs of the door are attached are galvanized.
- Horizontal rails have a rear connection C profile.
- There is a rope break safety system that prevents the door from falling down, as a standard for the industrial system, in case the steel ropes break, and it is kept with a cover for safety.
- The rails and brackets of the door are made of 2 mm galvanized sheet, depending on the type of lifting (standard, low, high, vertical) application.
- There is a special lifting to prevent the rail profiles of the door from coming out of the wheels.
- Rails and Angle profiles must be combined with air clamping without heat treatment and have a structure that cannot be separated easily.
- The wheels that move in rails on the door sides are made of noise-preventing polyamide.
- As a standard, there is an upto-laser safety system application inside the rubber gasket under the door, which makes a soft touch and allows it to return upwards in case the door encounters an obstacle during its downward movement.
- There is a special joint section that provides sealing between the door panels and a rubber gasket throughout the panel integrated with the panels.
- There is a double lip rubber outer sealing gasket between the door panels and the top and side walls, which maintains its flexibility down to -30° C.
- Between the door panels and the Door, there is a special hollow rubber gasket, which provides sealing, ensures that the door is fully seated on the Door, and is inserted into the profile on the bottom panel of the door.

Our esteemed client list includes					
Automobile	**Contruction**	**IT Sector**	**Pharma And Foods**	**Hotels, Malls, Enterainment**	**Others**
Tata Motor	Rohan	Infosys	Tetra Park	J W Mariott	Sandvik Asia
Bajaj	Rajdeep	AXA	Nestle	IBIS Hotels	Whirlpool
Mahindra	Ashoka Buildcon	Eon IBT Free Zone	Pepsi	Reliance Fresh	India
Mercedes	B U Bandari Landmarks	KPIT Cummins	Coca Cola	\Hotel Ambience	Crompton Graves
Volkswagen	Devi Construction	Cybage	Corning	Amby Valley	Kirloskar Brother
Skoda Auto	Gera Developers	ANSYS	Cipla	Essel World	Ador Powertron
General Motors	Ratilal Bhagwandas	PTC	Nipro	Appu Ghar	Ranka Jewellers
Flash Electronics	Elite	Aurion ProSena	Sushrut Surgical	Hotel New Leaf	Suzlon
Volvo And Eicher	Panchshil	Expo India	Dolher		Kirloskar Pneumatic
Harmon	Vascon	Magarpatta	Lupin		Poly Bond
Bridestones	Sun Orbit	Panchshil	Dream Plast		Seco Tools
Bosch	Park Express		L'OREAL		Siemens
SKF	Copration Shimzu		Alcan		Exim Bank
Honeywell Turbo	Blue Ridge		Serun Institute		Fujifilm Sericol
Piggio	Chiniwalas		Bilcare		Walchand Nagr Industrial PVT. LTD.
Star Engineers	KUL		Ansa Pack		Hindalco
GE Stamp	Amanora Park		Alfa Laval		Kolher
Motherson					United Cranes
Coope Coprportion					Oriental Rubber

Who can benefit from Sectional Overhead Door

Warehouses and Distribution Centers

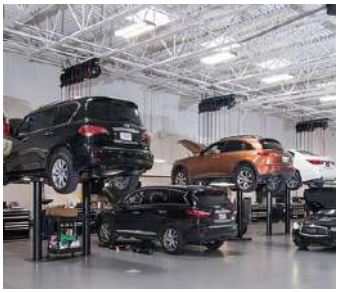
Manufacturing Plants

Retailers

Any Business with a Loading Dock

Third-Party Logistics (3PL) Providers

Logistics and Freight Companies



Automotive Industry

Industrial Sector

Nirmal Automation Pvt. Ltd.

COMMERCIAL | RESIDENTIAL | INDUSTRIAL

Sliding Gate Automation | Swing Gate Automation | Folding Gate Automation
Sliding Door Automation | Swing Door Automation | Frameless Sliding Door
High Speed Door (Industrial door) | Hermetic Seal Door (Pharmaceutical Door)
Sectional Overhead Door | Dock Shelter | Hydraulic Dock Leveller | Dock Door
Aluminum Rolling Shutter | Grill Rolling Shutter | Polycarbonate Rolling shutter
Fire-rated Rolling Shutter | SS Galvanized Rolling shutter | Fire & Smoke Curtain
Skyline Louvered Roof | Skyline PVC Retractable Roof | Skyline Zip screen
Barrier Gate | Toll-Plaza Gate | Flap Barrier Gate | P Type Gate | Parking Gate

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