



# INDUSTRIAL DOORS:

## SECTIONAL, ACCORDION, AND SLIDING



- ✓ ALL DOOR ELEMENTS ARE DEVELOPED TAKING INTO ACCOUNT CLIMATIC OPERATION CONDITIONS
- ✓ DOORS MEET THE HIGHEST QUALITY STANDARDS



We offer you a series of industrial sectional, accordion and sliding doors, made by DoorHan.



# DoorHan



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## 7

### MAIN ADVANTAGES FOR YOU



#### **SPACE SAVING**

The considerable economy of indoor and outdoor space is provided for owing to the method for opening of industrial doors.

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#### **FUNCTIONALITY AND DURABILITY**

The unique design of DoorHan industrial doors allows you to withstand intensive operation in any climatic conditions.

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#### **MODERN SOLUTION FOR BUSINESS**

DoorHan doors are an optimum solution for industrial projects, as they possess high capacity. The automatic system for industrial doors makes their use comfortable to the maximum.

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#### **FUTURE TECHNOLOGIES**

The application of innovative profile **"T-bridge"** in DoorHan industrial panoramic doors allows you to protect them from frost penetration, corrosion, and to preserve their attractive appearance for a long time.

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#### **CONVENIENCE AND EASY ASSEMBLY**

The design of DoorHan industrial doors provides their easy installation without using special tools. The advanced solution - **Quick Fix** system - saves the time for mounting sectional doors to the limit.

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#### **RELIABILITY AND SAFETY**

DoorHan industrial sectional doors are an embodiment of modern technologies and materials. Modern safety tools make them a reliable solution.

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#### **RAPID PRODUCTION**

DoorHan can manufacture industrial doors of any design very rapidly due to in-house production.

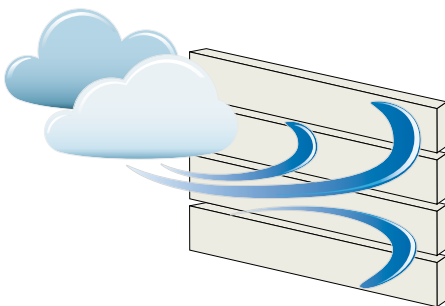
# QUALITY IN DETAIL

## ENERGY CONSERVATION



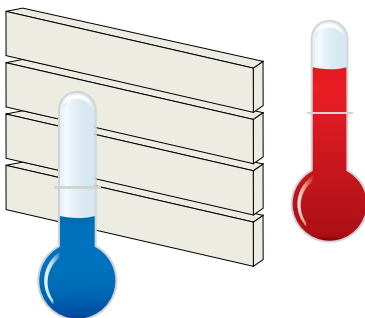
The special design of DoorHan industrial doors gives them energy-saving properties, which allows you to stabilize the room microclimate, and also to reduce heat losses and costs for room heating.

## STRENGTH



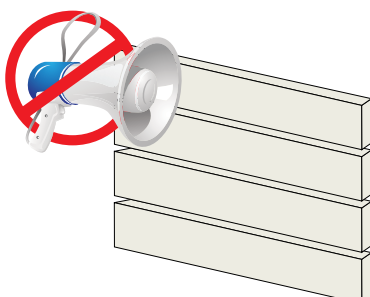
The materials, used for production of DoorHan industrial doors provide their increased strength; due to this they can withstand severe wind loads.

## AIRTIGHTNESS



The door leaf design and the sealing system increase their airtightness. Space behind the doors is not subjected to draught and sudden temperature fluctuations. This is extremely essential for premises, where products are warehoused, and special requirements for their storage are needed.

## ACOUSTIC INSULATION



Industrial doors possess both thermal-insulating properties, and sound-proofing ones - they prevent the penetration of sound from the street.

## WORTHY OF YOU QUALITY

DoorHan organized the full cycle production. Due to this, we answer for the product quality. High operational characteristics of our industrial doors are laid down already at the design stage. The work of the skilled specialists of our company made it possible to develop doors oriented to any operation conditions and a large fluctuation range of seasonal temperatures.



02

Our production is an embodiment of modern technologies and materials. We are constantly improving and developing, moving with the times and offering doors, meeting the modern requirements.



Leaders of their professions work in our company at all stages: from doors designing to their installation. We take care of our workers' qualification, as their responsibility and professionalism are our guarantee of product and service quality.

All component parts of DoorHan industrial doors are made on the certified world-level equipment. All door constituents pass tests for compliance to world standards.



In modern world high demands are placed on ecological cleanness of manufacturing and products. DoorHan uses ecologically pure and high-quality materials.



Our industrial doors are designed for high operation intensity and long service life; that is why we use modern superalloys and paint materials of leading world producers.



At your desire it is possible to paint panels into any color as per the international RAL card. During printout the colors can be distorted, please use the original RAL card.

DoorHan offers a rich selection of color solutions for industrial doors. The absolute advantage is not only this, but also the applied modern technology for factory painting of sandwich panels and aluminium profiles on the specialized paint lines.



# INDUSTRIAL SECTIONAL DOORS ISD01

**Modern sandwich panels are used for leaf filling of doors ISD01.**



03

DoorHan industrial sectional doors are an ideal solution for business and production. They possess increased endurance and can be installed into premises with various architectural peculiarities. Special technologies are used to ensure the long-term fail-free operation with high intensity. The elements, which increase their reliability and wear resistance, are provided for in the design of doors and tracks. DoorHan in its doors realizes the most advanced technologies; thereby they possess the unique service performance.

The sealing system is used in DoorHan industrial doors; owing to it, the increased thermal insulation is provided. So, the doors contribute to the preservation of comfortable temperature conditions, which is an important concern of the enterprises in winter.





### INDUSTRIAL DOORS ISD01

<b>Height of opening:</b>	from 2 m to 8 m.
<b>Width of opening:</b>	from 2 m to 7 m, when selecting design with vertical-type lift - to 8 m.
<b>Lintel height:</b>	minimum 150 mm.
<b>Room depth:</b>	door leaf height + 500 mm.
<b>Distance from edge of opening to wall:</b>	minimum 140 mm.

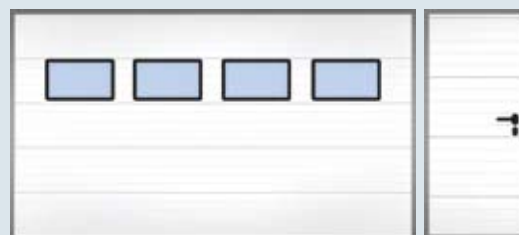
### VERSIONS OF INDUSTRIAL SECTIONAL DOORS ISD01



Sectional doors + entrance door



Sectional doors with imbedded pass door + entrance door



Sectional doors with false windows + entrance door

### Technical parameters

<b>Heat conductivity factor</b>	0.38 W/mC
<b>Acoustic insulation</b>	24 dB
<b>Wind load</b>	5 class (200 km/h)
<b>Watertightness</b>	1 class (water pressure 30 Pa)
<b>Lifting force</b>	up to 40 kg
<b>Flammability group</b>	Г2 as per GOST 30244-94
<b>Ignitability group</b>	B2 as per GOST 30402-96
<b>Door leaf weight</b>	17 kg/m <sup>2</sup>

### WINDOWS



Edging color - black, dimensions - 635x330 mm, 607x202 mm.

Edging colors - black and silver, 360 mm.

Windows can be cut into DoorHan industrial sectional lift doors, which snug against the door leaf due to the special design; this protects it from frost penetration and heat losses along the window perimeter.

## RELIABLE SOLUTION



### ENERGOFLEX

- a modern non-moisture absorbing insulant and wear-resistant material

### ABSENCE OF "COLD BRIDGE"

- front and rear steel plates panels are not rolled over (not connected against each other), owing to this thermal insulation increases and the possibility of freezing decreases

### REINFORCEMENT UNDER HINGES

- steel plates provide the increased strength of joints and strengthen stiffness and burglar resistance of door design

### STEEL PLATE 0,45 MM

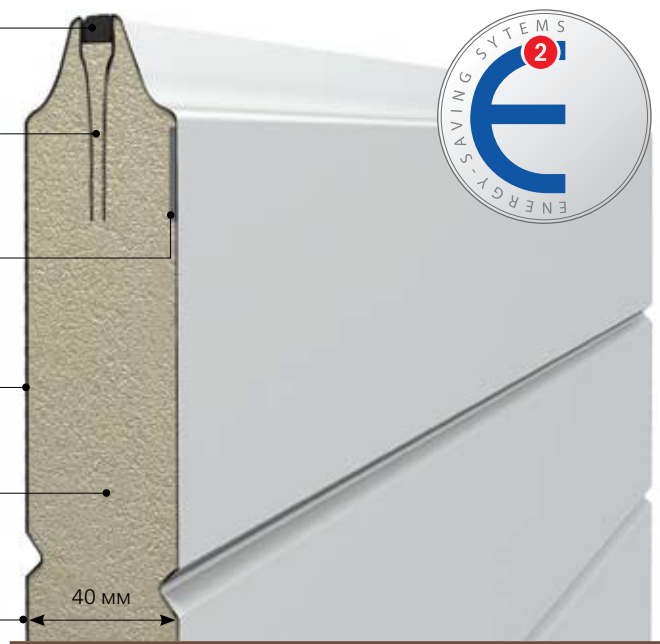
- owing to the polymer coating, the sectional doors keep their front for a longer time and do not need time-consuming care.

### FOAMED POLYURETHANE

- a modern high-quality insulant, its application increases the panel wear resistance and decreases heat losses, making the doors energy-saving

### PANEL THICKNESS 40 MM

a door leaf is made according to all international standards and conforms to the highest class of heat conductivity (Class A)





## PANEL TYPES



### Surface types



At your desire it is possible to paint panels into any color as per the international RAL card. During printout the colors can be distorted, please use the original RAL card.

### 8 standard colors



Foamed polyurethane, a modern, durable, non-moisture absorbing insulant, is used as a filler in DoorHan panels. Panel thickness (40 mm) is optimum for use in any climatic conditions.

Another design feature - availability of reinforcement under hinges: steel plates, which provide the increased strength of joints and strengthen stiffness and burglar resistance of doors.

Five kinds of DoorHan sandwich panels with three surface types are produced; they can be painted any color as per RAL card.





## PANORAMIC DOORS

DoorHan industrial sectional panoramic doors are a unique solution for projects, where it is required to provide maximum view of inner or outer space. Industrial panoramic doors are a modern design solution, which will decorate the front. If it is necessary to ensure the increased light transmission capability of the doors, DoorHan offers fully-glazed doors.

Due to their special design, DoorHan panoramic doors conserve heat and do not freeze in joints; they are corrosion-proof and preserve their attractive appearance for a long time. The panoramic door leaf can be combined with a sandwich panel. This allows you to augment thermal-insulating properties of the doors. Besides the unequalled functional performance, DoorHan sectional panoramic doors are a functional solution for business.

When it is necessary to ensure the increased energy conservation, DoorHan offers industrial panoramic doors, made of panels with aluminium profile "T-bridge". T-bridge is a system of aluminium profiles with thermal insert, made of a high-strength material - polyamide. The application of the given system allows you to protect panoramic doors against freezing, having considerably reduced costs for heating of premises.

It is possible to fit a pass door into DoorHan sectional panoramic doors; this allows you to get into the room, when the doors are closed. Owing to the sealing system, when the pass door is imbedded, DoorHan doors do not lose their thermal-insulating properties. All pass doors are equipped with a door closer, which eases the use of the pass door.

## FULLY-GLAZED PANORAMIC DOORS WITH LINTELS

### STANDARD GLAZED DOORS



Glazed panoramic panels of aluminium profiles form a door leaf

#### Dimensions of opening:

**width:** 2,000 – 6,000 mm; **height:** 2,000 – 8,000 mm.

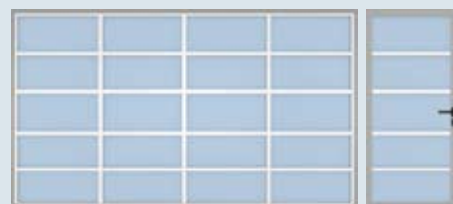
**lintel height:** minimum 150 mm.

**distance from edge of opening to wall:** minimum 140 mm.

**room depth:** door leaf height plus 500 mm.

#### Dimensions of entrance door:

**width:** from 600 to 1,500 mm, **height:** from 1,100 to 2,500 mm.



Fully-glazed doors + entrance door



Fully-glazed doors with pass door + entrance door

#### Dimensions of cell light:

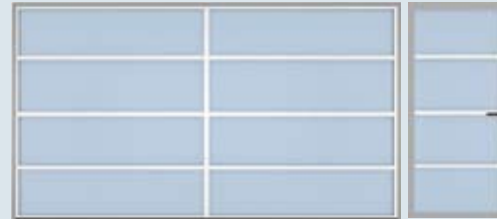
**height:** from 370 to 650 mm; **width:** maximum 1,100 mm (with vertical lift and leaf width equal to 4.5 – 6 m, light width - maximum 900 mm).

**Installation of composite panels into any opening instead of insulated glazing unit material is possible.**

## FULLY-GLAZED DOORS



Fully-glazed doors (up to 3,000 mm) + entrance door



Fully-glazed doors with lintel (from 3,000 to 6,000 mm) + entrance door

Glazed panoramic panels of aluminium profiles form a door leaf

### Dimensions of opening:

**width:** 2,000 – 6,000 mm; **height:** 2,000 – 8,000 mm;  
**lintel height:** minimum 150 mm;  
**distance from edge of opening to wall:** minimum 140 mm;  
**room depth:** door leaf height plus 500 mm.

### Dimensions of entrance door:

**width:** from 600 to 1,500 mm, **height:** from 1,100 to 2,500 mm.  
**Dimensions of cell light:** **height:** from 370 to 650 mm; **width:** maximum 3,190 mm. **Installation of composite panels into any opening instead of insulated glazing unit material is possible.**

## COMBINED PANORAMIC DOORS

### COMBINED GLAZED DOORS



Partially glazed doors + entrance door



Partially glazed doors with pass door + entrance door

Glazed panoramic panels of aluminium profiles form a door leaf

### Dimensions of opening:

**width:** 2,000 – 6,000 mm; **height:** 2,000 – 8,000 mm;  
**lintel height:** minimum 150 mm;  
**distance from edge of opening to wall:** minimum 140 mm;  
**room depth:** door leaf height plus 500 mm.

### Dimensions of entrance door:

**width:** from 600 to 1,500 mm, **height:** from 1,100 to 2,500 mm.

### Dimensions of cell light:

**height:** from 370 to 650 mm; **width:** maximum 3,190 mm (with vertical lift and leaf width equal to 4.5 – 6 m, light width - maximum 900 mm).

**Installation of composite panels into any opening instead of insulated glazing unit material is possible.**

## INDUSTRIAL SECTIONAL PANORAMIC DOORS ISD02



DoorHan panels for sectional panoramic doors consist of special aluminium profiles and glazing. Mechanically stable materials - polycarbonate, impact-resistant polycarbonate or louvered organic glass, can be used as glazing. These materials possess high resistance to impact and also have a special coating, excluding sweating of the insulated glazing unit. The special design of an aluminium profile, which is used in panoramic panels, ensures high strength and reliability of the design. For increasing thermal-insulating properties of its doors, DoorHan offers to combine panoramic and sandwich panels.



## PANORAMIC PANEL WITH ALUMINIUM PROFILE SYSTEM T-BRIDGE

T-bridge system



Polycarbonate,  
impact-resistant polycarbonate,  
louvered organic glass  
T-bridge system



Aluminium profile


RAL 9003  
white

RAL 8014  
brown

RAL 5005  
blue

RAL 6005  
green

RAL 3005  
claret

RAL 9006  
silver

RAL 1000  
beige

RAL 7004  
grey


At your desire it is possible to paint panels into any color as per the international RAL card. During printout the colors can be distorted, please use the original RAL card.

### Technical parameters

<b>Wind load</b>	5 class (200 km/h)
<b>Watertightness</b>	1 class (water pressure 30 Pa)
<b>Lifting force</b>	up to 40 kg
<b>Door leaf weight</b>	17 kg/m <sup>2</sup>

## PANORAMIC PANEL

Aluminium profile

Polycarbonate,  
impact-resistant  
polycarbonate,  
louvered organic


RAL 9003  
white

RAL 8014  
brown

RAL 5005  
blue

RAL 6005  
green

RAL 3005  
claret

RAL 9006  
silver

RAL 1000  
beige

RAL 7004  
grey


At your desire it is possible to paint panels into any color as per the international RAL card. During printout the colors can be distorted, please use the original RAL card.

### Technical parameters

<b>Wind load</b>	5 class (200 km/h)
<b>Watertightness</b>	1 class (water pressure 30 Pa)
<b>Lifting force</b>	up to 40 kg
<b>Door leaf weight</b>	17 kg/m <sup>2</sup>

Should there be an order for doors made of louvered organic glass, we can give you a choice of several glazing colors. Such stylish solution will advantageously single out the front and attract attention of potential customers to it. Besides, profiles can be painted any color as per RAL card; this allows making panoramic doors in one color solution with building facade or interior.



## RICH CHOICE, OPTIMUM SOLUTION



### Polycarbonate

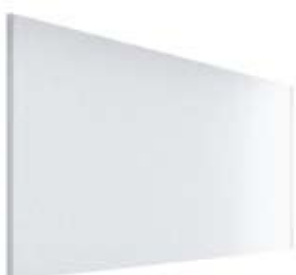
Polycarbonate is used for panoramic door glazing; it possesses a number of advantages:

- high optical transparency;
- low weight;
- weather resistance.

#### Technical parameters

Thickness of insulated glazing unit made of acryl	22 mm
Panel height (dynamically calculated on the basis of height of opening)	maximum value - 650 mm minimum value - 370 mm
Maximum width of opening without lintel	900 mm
Maximum width of opening with lintel	6,000 mm
Maximum panel section height	8,000 mm

### Impact-resistant polycarbonate



Impact-resistant polycarbonate possesses such unique properties as lightness, extreme transparency and resistance to damaging factors, including unfavourable weather conditions (even hail), and fire resistance, also it is convenient for assembly. The translucent panels with impact-resistant polycarbonate are 200 times stronger than glass. The strength of polycarbonate sheets is permanent under any weather conditions within the temperature range from -400 C to +1200 C. Besides, such panels possess the increased light transmission up to 91% and do not change their properties even if exposed to direct sunlight for a long time.

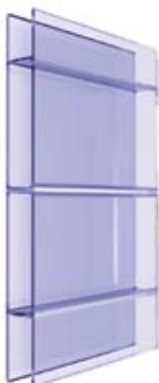
#### Technical parameters

Thickness of insulated glazing unit made of acryl	22 mm
Panel height (dynamically calculated on the basis of height of opening)	maximum value - 650 mm minimum value - 370 mm
Maximum width of opening without lintel	3,190 mm
Maximum width of opening with lintel	6,000 mm
Maximum panel section height	8,000 mm

### Louvered organic glass

Louvered glass, used for production of insulated glazing units in panoramic panels, is an extruded acrylic sheet (plexiglass), possessing unequalled resistance to weather conditions and high transparency (clear sheet: 92% light transmission). Due to inner fins in the louvered organic glass, panels possess the increased strength. Three types of the louvered organic glass with different transparency degrees, different dimensions of inner chambers and different tint coating are used.

### ALLTOP



ALLTOP is a double-layer louvered sheet with large intervals between partitions (64 mm). ALLTOP has an anti-drop coating from both sides and inside cells. Due to this, the light transmission is increased up to 91%; the condensate on inner and outer surfaces remains practically invisible. The use of ALLTOP in the panoramic door leaf contributes to the increase of energy conservation.

### HEATSTOP



HEATSTOP is a double-layer louvered sheet, reflecting infrared radiation, made of impact-modified polymethylmethacrylate (PMMA). The coating HEATSTOP is equally distributed and integrated into the sheet volume on this louvered sheet. HEATSTOP possesses high toughness in comparison with common louvered organic glass. This material has an anti-drop coating, on which a special protective layer is applied.

### RESIST



RESIST 00721

RESIST W1621

RESIST is a double-layer translucent, heat-insulating louvered sheet with high weather resistance, made of impact-modified polymethylmethacrylate (PMMA). This material is used for glazing, when the exceptional strength in combination with the design lightness is required. DoorHan offers two options of filling RESIST, differed by light conductivity: RESIST W1621 - 74% light transmission, and RESIST 00721 - 85% light transmission

#### Technical parameters

Thickness of insulated glazing unit made of louvered polycarbonate	16 mm
Weighted sound absorption factor	22 dB
Panel height (dynamically calculated on the basis of height of opening)	maximum value - 650 mm minimum value - 370 mm
Maximum width of opening without lintel	3,190 mm
Maximum width of opening with lintel	6,000 mm
Maximum panel section height	8,000 mm



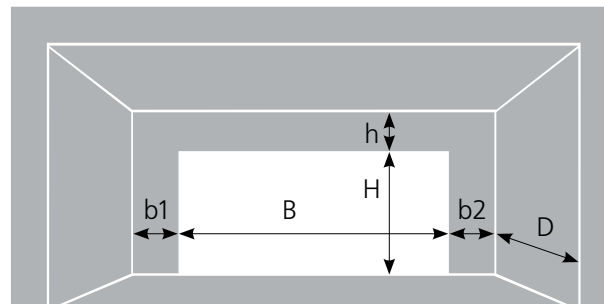
## Composite panel

The composite panel consists of 2 aluminium plates with foamed polyurethane filling between them.



## VARIETY OF SOLUTIONS AND FUNCTIONALITY

### INDUSTRIAL SECTIONAL DOORS ISD01, ISD02



#### DIMENSIONS

**H** - height of opening (distance from floor to opening top) 2 - 8 m;

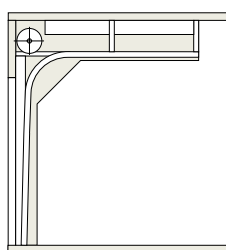
**B** - width of opening (distance from left edge to right edge of opening) - 2 - 7 m, during vertical lift - up to 8 m;

**h** - lintel (distance from opening top to ceiling) minimum 150 mm (various types of tracks are used depending on the lintel value);

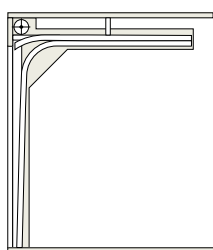
**b1** and **b2** - distances from opening edge to lateral interior wall - minimum 130 mm;

**D** - garage depth (distances from opening to distant interior garage wall) more than  $H + 500$  mm.

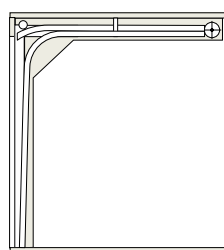
06



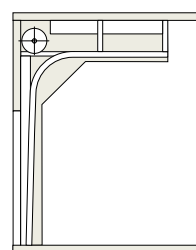
Standard lift



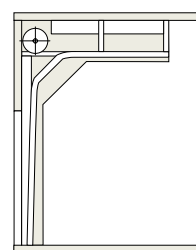
Low lift, front drum



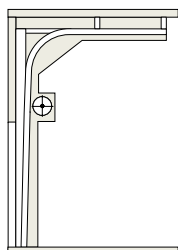
Low lift, back drum



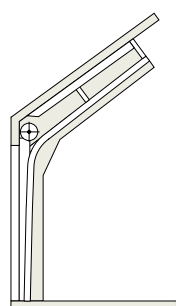
High lift



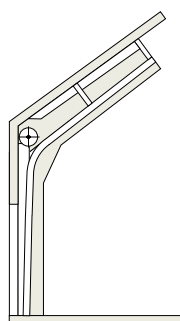
High lift with double bend



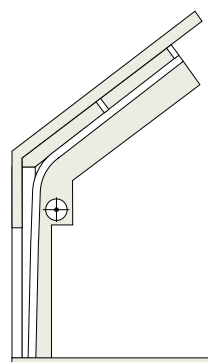
High lift, low drum



Standard inclined lift



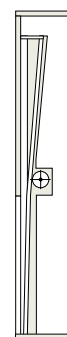
High inclined lift



High inclined lift, low drum



Vertical lift



Vertical lift, low drum

The chart displays the volume of goods turnover (in million rubles) for two companies, ISD02 and ISD01, across various dimensions (width) from 2000 to 8000. The Y-axis represents the volume of goods turnover, ranging from 2000 to 8000 million rubles. The X-axis represents the width, ranging from 2000 to 8000. A vertical dashed line separates the data for ISD02 (left) and ISD01 (right).

Width	ISD02 Volume (million rubles)	ISD01 Volume (million rubles)
2000	2000	2000
2200	2200	2200
2400	2400	2400
2600	2600	2600
2800	2800	2800
3000	3000	3000
3200	3200	3200
3400	3400	3400
3600	3600	3600
3800	3800	3800
4000	4000	4000
4200	4200	4200
4400	4400	4400
4600	4600	4600
4800	4800	4800
5000	5000	5000
5200	5200	5200
5400	5400	5400
5600	5600	5600
5800	5800	5800
6000	6000	6000
6200	6200	6200
6400	6400	6400
6600	6600	6600
6800	6800	6800
7000	7000	7000
7200	7200	7200
7400	7400	7400
7600	7600	7600
7800	7800	7800
8000	8000	8000

- Torsion springs meant for up to 25,000 door opening/closing cycles
- Spring break protection device
- Rubber stoppers or dampers (according to the selected design)
- Handle
- Latch
- Technical documentation package

- Torsion springs meant for 50,000, 75,000, 100,000 door opening/closing cycles
- Windows of two types
- Pass door with linear door closer
- Cable break protection device
- Lock
- Automatic devices
- Manual chain operator
- Bottom/top aluminium profile with T-Bridge system
- External sealing boundary

## SPEED, RELIABILITY AND SAFETY

### TORSION MECHANISM WITH QUICK FIX SYSTEM



**Quick Fix** system, a DoorHan innovation solution, makes it possible to accelerate the installation period (by 4 times in comparison with analogs, offered at the market).

**Quick Fix** system includes:

- U-shaped brackets,
- special shaft lift mechanism,
- new safety devices,
- octagonal shaft (shaft deflection and the necessity of intermediate fixation to opening are excluded),
- spring assembly with quick fixation ends,
- shaft operator fixation bracket.

07



Cable break protection mechanism, equipped with protective housing; it is mounted as a bottom bracket on the leaf. In case of cable failure the protection mechanism stops the door leaf motion, fixing in the track.



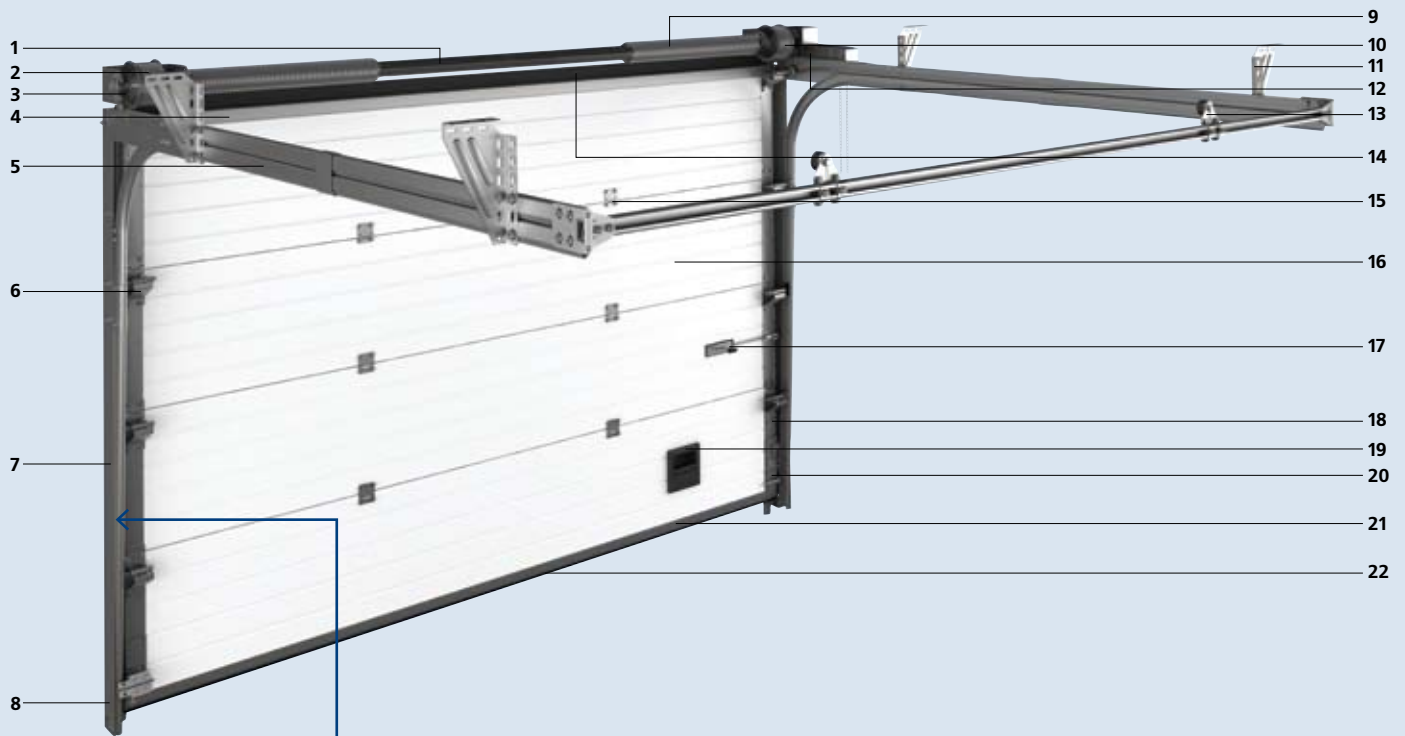
DoorHan innovation - special plastic strips, which prevent fingers from being trapped in a gap between rollers and the track.



Cable break protection device. When the cable is broken or when there is an attempt to lift the doors without authorization, the device engages the strip, mounted on the door vertical angle. At the same time the leaf is blocked. Consequently, the doors fall or their unauthorized lift is prevented.







A new oversize vertical angle makes it possible to install the doors in a convenient for assembly position relative to the opening, preserving however the airtight door properties.

## Design of sectional doors

- |   |   |
|---|---|
| 1. Shaft (octagonal)                                  | 12. Electric shaft operator                           |
| 2. Drums  | 13. Special stops                                     |
| 3. U-type end support bracket                         | 14. Top seal  |
| 4. Top profile  | 15. Hinges  |
| 5. Tracks for door leaf                               | 16. Door leaf made of sandwich panels                 |
| 6. Adjustable bracket with rollers                    | 17. Lock  |
| 7. Vertical angles                                    | 18. Side cup  |
| 8. Bottom cup   | 19. Handle  |
| 9. Torsion mechanism with Quick Fix system            | 20. Bottom bracket with cable break protection device |
| 10. Spring break protection device                    | 21. Bottom profile                                    |
| 11. System for attaching horizontal tracks to ceiling | 22. Bottom seal                                       |

## New side weather seal for garage doors



- The freeze-proof weather seal does not freeze in winter due to the fact that it possesses big surface contact against the opening and more reliable fixation with the vertical angle too.

Freeze-proof weather seal



## External sealing boundary



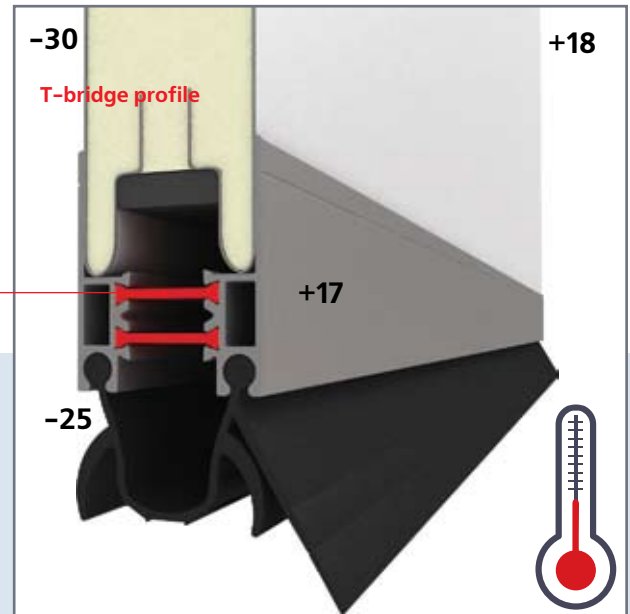
- The external sealing boundary provides the maximum surface contact of the door leaf against the weather seal.
- The air chamber, formed between the weather seals, provides the best sealing, preventing cold penetration into the room.

External boundary

Bottom heat-proof profile

- The installation of a bottom heat-proof profile on the doors using T-bridge technology allows avoiding heat losses of the room.

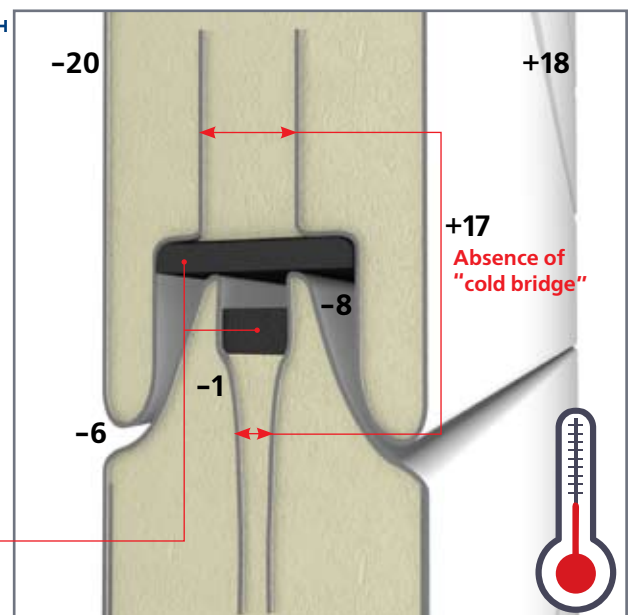
T-bridge profile



Absence of "cold bridge"

- The front and back steel plates in DoorHan panels are not canted with each other; thereby there is no "cold bridge". This gap provides thermal resistance of the doors, which prevents freezing of the panels in butting positions.
- Nonhygroscopic energoflex is used in panel joints, providing the reliable sealing of the doors.

Energoflex





### CONVENIENCE AND COMFORT

**Automatized systems make doors a modern high-tech product, which eases the door opening and closing process.**

#### DOORHAN SHAFT OPERATORS



DoorHan shaft operators are an ideal solution for industrial doors of any type. Electric operators of model SHAFT are operators of shaft type with gear in "oil bath". This technology considerably increases the operator life and allows you to use it more intensively.

The operator consists of an electric motor and a mechanical gear, and also has a built-in control unit, to which a three-position control desk is connected. When there is a power dump, a manual emergency release permits to open or to close the doors manually by means of a chain.

#### TRAFFIC LIGHTS



Traffic light is used as a signaling means for traffic handling. Its housing is made of high-quality plastic.



### THREE-POSITION CONTROL DESK



The three-position control desk is designed for individual control of door motion with a separate button for door stopping.

### TWO-POSITION CONTROL DESK WITH KEY-BUTTON



The two-position control desk with a key allows you to handle traffic and to prevent unauthorized door control.

### REMOTE CONTROL PANELS



DoorHan remote control panels TRANSMITTER 4 are designed for controlling DoorHan automatic equipment. One panel can control four doors or other automatic devices.

### OPTOELECTRONIC SENSORS



The optoelectronic sensors OP-TOKIT include two infrared safety sensors – a receiver and a transmitter. Both sensors are laid in a molded rubber strip. When the molded rubber strip is deformed, the optical ray is interrupted and the signal is given to the control unit, which performs the stop or reversal of the doors.

### KEY-BUTTON SWM



The key-button SWM is used for add-on assembly. It possesses the same properties as KEY-SWITCH. The key-button SWM is singled out by its reliability due to the metallic vandal-proof housing and the rear water-proof wall, which prevents moisture from penetrating into the housing. The key-button is easy to install and to connect.

### RADIO CODE KEYPAD



The radio code cordless keypad KEYPAD is designed for controlling the door electric operator, equipped with DoorHan built-in or external receiver. The control radio commands are issued only after the serial input of a programmed access code. The code keypad is easy to install and to adjust.

### PHOTOELECTRIC DETECTORS



The photoelectric detectors PHOTOCELL are designed for prediction of emergency situations, if foreign elements get into the opening. In case of infrared ray crossing, the signal about appearance of an obstacle comes into the control unit, as a result the stop or reversal of the door leaf occurs.

### KEY-BUTTON KEYSWITCH



The key-button KEYSWITCH is used to send a signal to the control unit by means of an operator. The availability of a Microswitch makes it possible to control the doors in a step mode – to open, to close, and to stop them. It is necessary to turn a key for issuing the required command.

### EXTERNAL RADIO RECEIVERS



The external radio receivers DHRE-2 are designed for controlling automatic equipment of other manufacturers by means of DoorHan panel. The connection to any operator is possible.

## SIMPLE AND EFFICIENT SOLUTION



### FIRE AND TECHNICAL DOORS

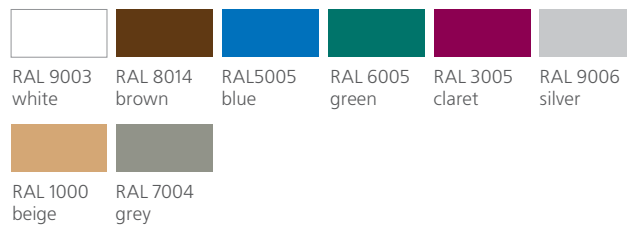
DoorHan offers fire and technical doors. They meet all technical requirements, specified for similar products.

#### Standard colors:

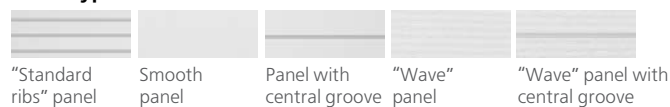


### ENTRANCE GARAGE DOORS

DoorHan entrance garage doors possess all advantages of sectional doors owing to the fact that they are made of aluminium profiles and sandwich panels.



#### Panel types:



#### Surface types:



One can imbed a pass door from the material similar to the door leaf into all DoorHan industrial doors (sectional doors ISD01, panoramic doors ISD02, accordion, and sliding doors).



#### PASS DOOR DIMENSIONS:

**Pass door width:** 800 mm  
**Pass door height:** 1800/1900 mm.  
**Minimum door leaf height:** 2,130 mm  
**Minimum distance from edge of opening to pass door:** 1,000 mm (when pass door is imbedded asymmetrically)  
**Pass door sill height:** 75 mm (without seal).



#### PASS DOOR HANDLE



All DoorHan pass doors are equipped with a mortise lock and a handle. Simple and fine form of the handle makes it not only convenient, but also attractive by its design.

#### DOOR HANDLE



DoorHan handles are ergonomic and easy-to-use; they are designed taking into account modern design solutions. We offer handles, which will be ideal for doors of any type. The handles are developed so, that they do not freeze at low temperatures and have a long life.

#### OPEN PASS DOOR SENSOR



The magnetic noncontact open pass door sensor is designed for preventing the operator start, when pass door is open. When pass door is opened, a magnet and a readout device move relative to each other, a contact opens, and the control unit prevents the operator start.

#### STEP-HANDLE



The step-handle is an important and necessary component of any doors. The step-handles for DoorHan industrial doors have a special ergonomic form. The step-handle is a refined object, which will decorate any doors. DoorHan handles are developed so, that when you lift the door leaf manually, you spend less strength.

#### LATCH LOCK



The latch lock is one of the most reliable devices for fixing doors in a closed position. The latch lock is a significant obstruction during a prying attack. The latch lock with dual control is made of high-quality steel that increases its reliability.

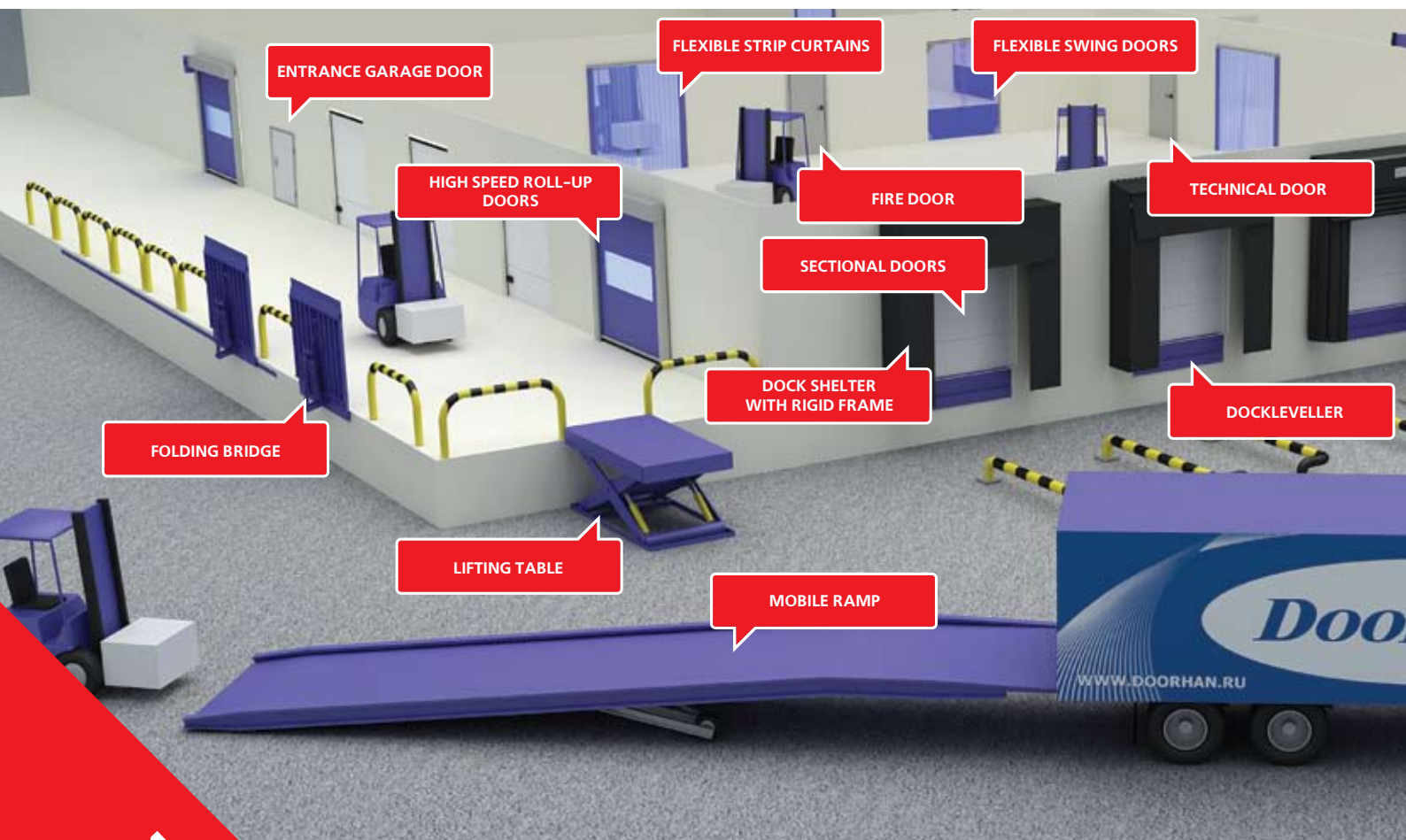
#### DOOR CLOSER



The door closer is an accessory, which considerably facilitates the pass door use. The attachment of the sliding door closer in DoorHan pass doors is performed in firm steel reinforcement.

# EXPANDING THE BOUNDARIES

DoorHan Group offers all that is required for equipping storage and other industrial facilities. DoorHan equipment – mechanical and electrohydraulic devices – considerably improves the logistics efficiency, and also facilitates the product handling process, saving time.



11

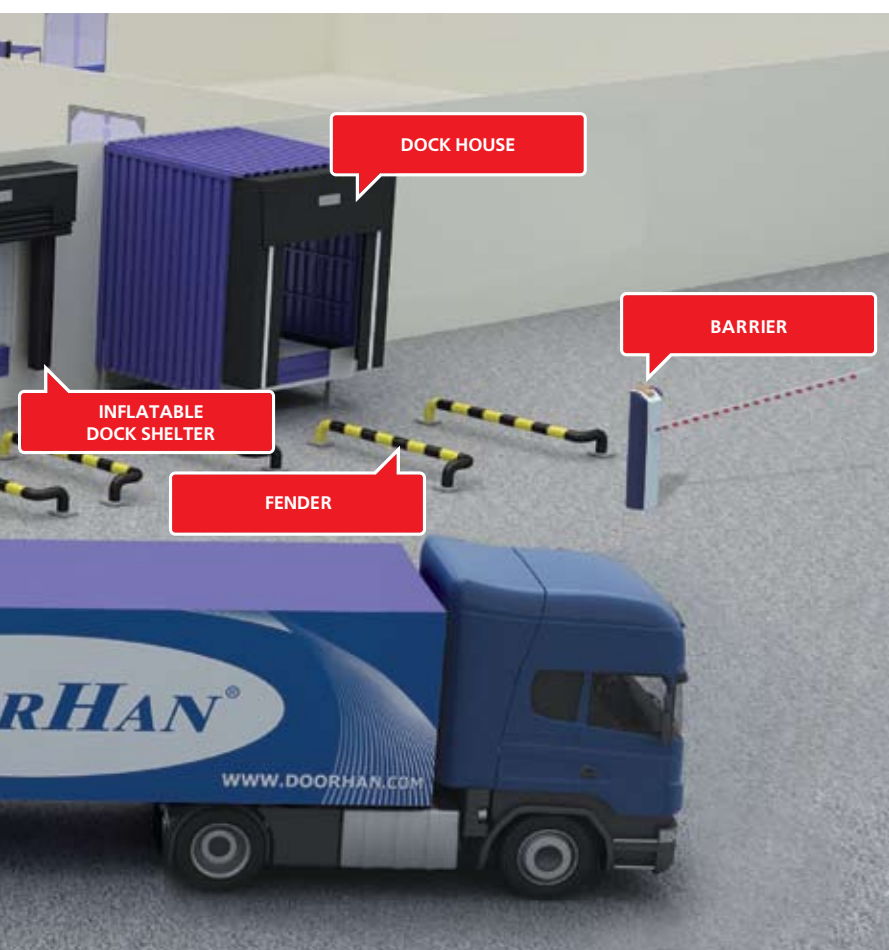
## DOCKLEVELLERS, BRIDGES, MOBILE RAMPS AND LIFTING TABLES

The docklevellers are designed for compensation of height difference between the truck body floor and the warehouse floor. When the docklevellers are used during the warehouse operation, the loading/unloading speed considerably increases. The mechanical folding and portable bridges, intended for providing an access for a loader/handcart from the fixed ramp to the truck body, are a simpler solution. If there is no a fixed ramp in the warehouse and it is necessary to load/unload trucks directly from the ground, DoorHan offers a convenient and modern solution - mobile ramps. The device lifting/lowering is performed by means of a manual or electrohydraulic operator, equipped with the safety system. Our company offers a practically feasible, modern solution for load lifting - a lifting table, which can move objects to 5 m-height.

## DOCK SHELTERS

DoorHan produces various models of the dock shelters for rapid and safe transfer of any cargo. The dock shelter acts as a "seal" between the warehouse opening and the van; it ensures the airtight passage between them. Due to the dock shelter, dust, wind, rain do not get into the warehouse, insects do not fly into it; draughts do not penetrate into the warehouse through an open loading opening. Stable temperature is maintained inside the warehouse owing to the airtightness. DoorHan produces the dock shelters for any truck.





## HIGH SPEED ROLL-UP DOORS

DoorHan high speed roll-up doors and flexible strip curtains are designed for providing transport or functional communication between warehouse premises or for their space separation. They ensure moisture resistance, reduce heat losses, eliminate draughts, and stabilize temperature and humidity conditions of an isolated room.

## BARRIERS

DoorHan barriers due to their design possess the increased wearability. The installation of the automatic barrier in a place for vehicular traffic control will allow you to regulate motor transport entry/exit to the territory (parking lot, etc.), to provide the required safety level of the controlled passage, to give the proper image to the organization.

## ENTRANCE DOORS

DoorHan offers various entrance doors:

- fire doors possess the enhanced fire resistance; they withstand fire exposure in the fire conditions;
- multifunctional technical doors possess quite a number of characteristics, which allow you to use them in industrial and business premises;
- DoorHan aluminium sliding and swing doors are made of aluminium profiles and sandwich panels.

# NETWORK OF WAREHOUSES



## DOORHAN

- ✓ Door systems
- ✓ Warehouse systems
- ✓ Automatics systems
- ✓ Roller shutter systems
- ✓ Fire door systems
- ✓ Aluminium systems

### **CZECH REPUBLIC, KADAN**

43201, Kadan, Production Zone Kadan  
Phone: +420 474 319 111, Fax: +420 474 336 650  
E-mail: europe@doorhan.com

### **CHINA, SUZHOU**

Gucun Road 188, Xukou Road, Suzhou, PC: 215164  
Phone: +86 (512) 66 31 61 11, 66 31 61 08, Fax: +86 (512) 66 31 61 06  
E-mail: sales.suzhou@doorhan.com

### **RUSSIA, MOSCOW**

120, ul. Novaya, s. Akulovo, Odintsovskij r-n, Moskovskaya obl., 143002 Russia  
Phone: +7 (495) 933 24 00, 981 11 33, Fax: +7 (495) 937 95 50  
E-mail: info@doorhan.com



### **SETRA SA**

Marcelino Sosa 2221 - Telefax (598-2) 201021  
CP 12000 Montevideo - Uruguay.