Product datasheet
High speed door
ASSA ABLOY HS9010PFR

ASSA ABLOY
Entrance Systems

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Technical facts

Features

Area of use:	Inside
Structure:	Galvanized steel
Max size: (W x H)*	5500 mm** x 5500 mm
Colors:	11 standard colors - white, yellow, green, orange, red, gray, traffic gray B, anthracite, black, blue, gentian blue
Safety:	Photocells in side columns Flexible soft bottom beam including wireless detection device Break-away and self-reset function
Options:	Different vision options are available. Color of side column cover, motor cover. Insulated curtain.

* Other sizes may be available on request
** Depending on curtain type

Performance

Operating speed:	Opening: up to 2,4 m/s ** Closing: 1,2 m/s
Wind load resistance:	Class 1 (300 Pa (N/m²))
Water penetration:	Class 1 (30 Pa (N/m²))
Air permeability:	Class 1 (24 m³/m²/h at 50 Pa)
Thermal transmittance:	6,02 W/(m²K)
Temperature working range:	-30 °C - +5 °C
Performance Test:	1.000.000 cycles

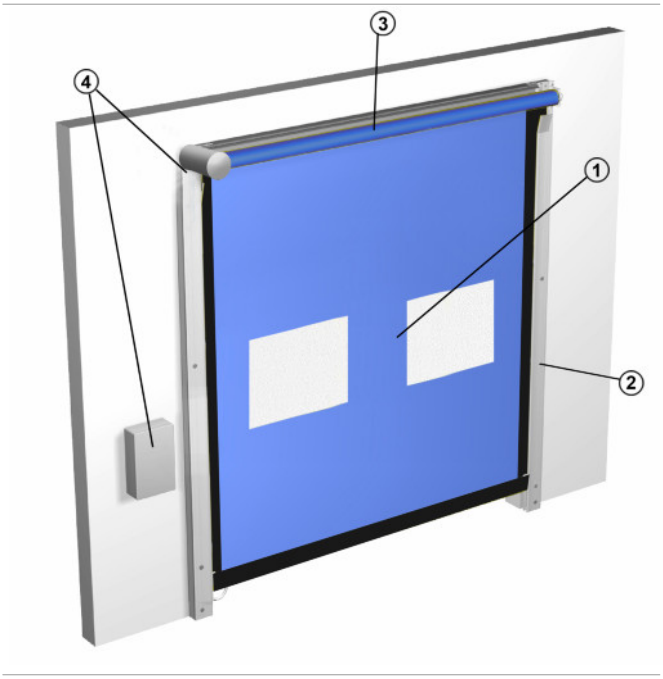
** Depending on door size

Contents

1. Description

1.1 General

The ASSA ABLOY HS9010PFR high speed door is designed for freezer environments, allowing efficient traffic flow while minimizing temperature variations. The high operating speed combined with an excellent seal optimizes the internal traffic flow and provides energy savings. The door can be set to open automatically every 20-25 minutes to avoid build-up of ice on side-guides and curtain. Heating cables in the side columns and motor help prevent this ice-formation.



The ASSA ABLOY HS9010PFR high speed door has 4 primary parts:

1) Door curtain
2) Side columns
3) Header box
4) Operating system

1.1.1 Standard

The ASSA ABLOY HS9010PFR high speed door is supplied with the following specifications as standard:

Door curtain:	900 g/m² colored PVC Self-reset function
Header box:	Galvanized steel operator cover No drum cover
Side column:	Galvanized steel side column covers
Frame:	Galvanized steel
Safety:	Photocells in side columns Flexible soft bottom beam including wireless detection device Break-away and self-reset function
Operation:	Operator + control unit
Thermal protection:	Heating cables in side columns and motor. PU layer between side guides and wall PU coating on springs
Colors:	11 standard colors - white, yellow, green, orange, red, gray, traffic gray B, anthracite, black, blue, gentian blue

1.1.2 Options

ASSA ABLOY provides a wide range of options and accessories to customize the ASSA ABLOY HS9010PFR high speed door to any customer's needs.

Construction:	Stainless steel
Header box:	Painted or Stainless steel operator cover
Side Column:	Painted or Stainless steel covers
Operation:	Access and Automation
Windows:	Small windows in freezer quality PVC
Insulated door curtain	Static insulation 2,41 W/m²K

1.2 Door curtain

1.2.1 Construction

The door curtain is constructed from one single piece of PVC fabric. The door curtain rolls up above the door opening and requires little space.

Top
The top of the fabric is connected to a steel roll, located in the header box above the door opening.

Bottom
The soft bottom beam of the door curtain does not contain any stiffeners. This makes the door curtain completely safe as it gives way if an obstruction is in the line of closing.

Side
The left and right sides of the door curtain are constructed with a patented retaining strap. If the door is hit by a vehicle, the retaining strap is pulled out of the side column. The self-reset function acts as a zipper to put the retaining strap back in the side column.

1.2.2 Material

Fabric type

- 900 g/m² colored PVC
- High resistance

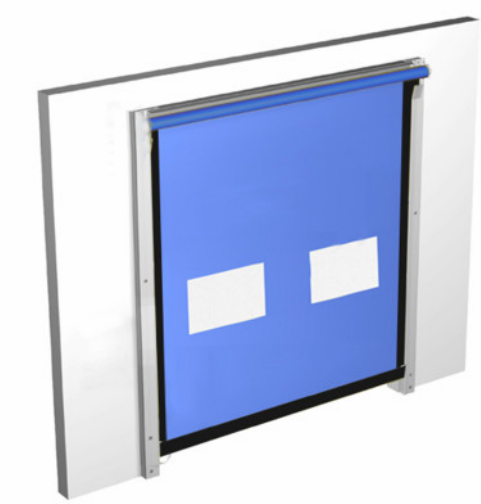
1.2.3 Colors

The ASSA ABLOY HS9010PFR high speed door is available in 11 fabric colors and translucent. The RAL-colors are as close as possible to the official RAL HR collection. Max. deviation is 1,0 DE.

	RAL 1003
	RAL 2004
	RAL 3000
	RAL 5002
	RAL 5010
	RAL 6005
	RAL 7016
	RAL 7035
	RAL 7043
	RAL 9005
	RAL 9010
	Translucent (option)

1.2.4 Windows and vision panels

To increase the admission of daylight or to improve the visibility, the door curtain can be equipped with freezer quality PVC windows or vision panels. Both have fixed sizes and are located on a pre-defined grid.



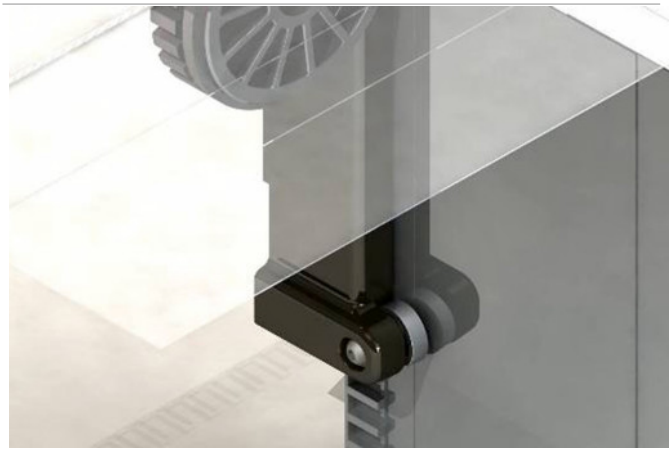
1.2.5 Insulated door curtain

For an improved temperature management, an insulated door curtain (double layer) is available with static insulation of 2.41 W/(m^2K).

- Max. 4000 mm x 5500 mm

1.2.6 Self-reset system

The high speed doors are equipped with an automatic reset system. If a door is hit by a vehicle during operation, the resistant door curtain absorbs the impact and releases itself from its side guides, minimizing damage. The door reinserts itself automatically within the next open and close cycle. This unique feature makes the door crash-resistant, reducing damage, production downtime and repair costs.



1.2.7 Soft bottom beam

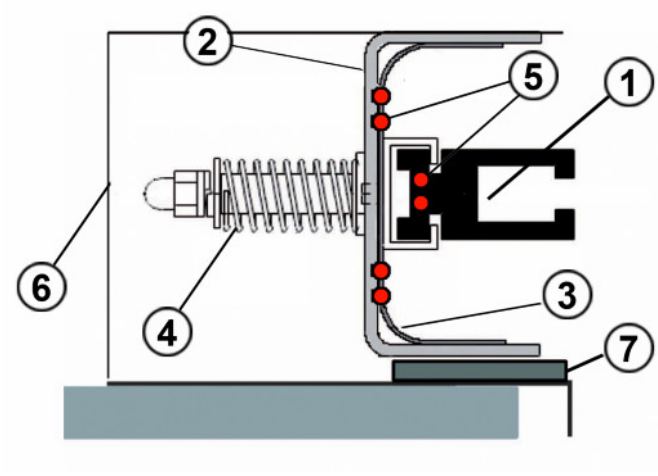
The soft bottom beam is a flexible floor sealing that contains a wireless detection device. When the door is hit by a vehicle, the curtain dislocates from the side column and automatically resets itself immediately during movement or during the next opening cycle.

1.3 Side columns

The side columns guide the door curtain up and down. This guidance is a plastic-to-plastic connection, which makes lubrication essential.

1.3.1 General

The side columns are part of the frame that also contains the header box. This frame is made of 3 mm thick galvanised steel tubes. The side column is as a standard equipped with a side guide cover. Inside the side column four heating cables prevent ice-formation. Between the side column and the building/wall a 10 mm layer of polyurethane isolation creates a thermal barrier between the steel structure and the ice cold wall. All these measures help prevent freezing and immobilising the door.

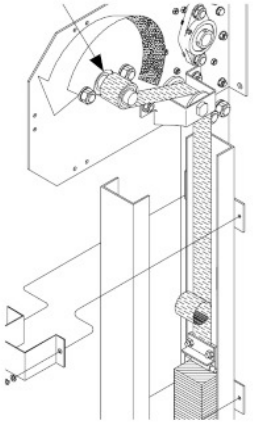


1) Low-friction polyethylene side guide inside a steel rail
2) Galvanised steel structure. U-channel 80 mm x 40 mm x 3 mm
3) Flexible rubber seal
4) Tension spring
5) Heating cables
6) Side guide cover
7) Polyurethane isolation (10 mm) between building and side column

1.4 Header box

1.4.1 Fabric roll

The fabric roll is installed in the header box above the door curtain. Its function is to roll up the door curtain with a counterweight. A gear drive system forces the door curtain up and down the tracks.



1.4.2 Covers

The motor is as a standard isolated by a galvanized steel cover. The motor compartment is heated with heating cables. The motor cover isolates the heating.

2. Operating system

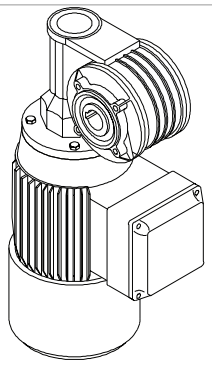
2.1 General

The ASSA ABLOY HS9010PFR high speed door is always operated electrically. The operating system is a combination of an operator and a control unit. The operator opens and closes the door with an electric engine. The operator secures a safe closing speed with a soft start and stop.

2.2 Operator

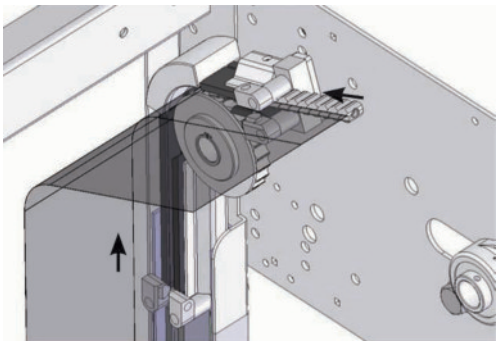
Exceptional reliability and smooth operation is ensured by a motor driven by a frequency inverter. This technology ensures a soft start and stop, which increases the longevity of the motor considerably. It also allows faster opening/closing speed. This motor delivers reliable operations around-the clock. The operator is always combined with a control unit.

The operator drives the steel roll to open or close the door. In case of a main supply failure, the operator can be disconnected and the door can be opened or closed manually using the hand crank.



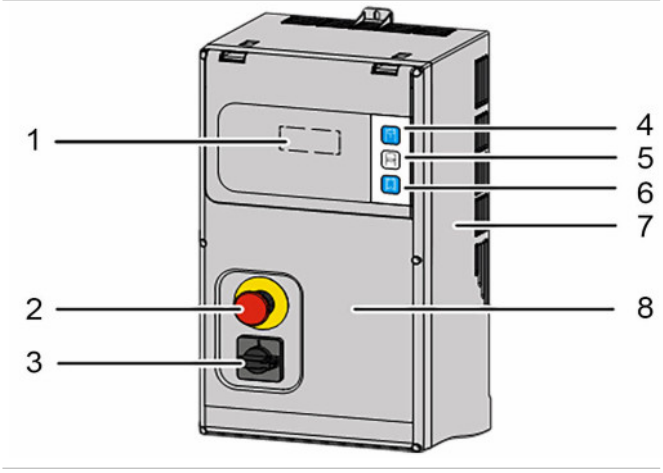
2.3 Power drive system

The ASSA ABLOY HS9010PFR high speed door is equipped with a unique power drive system. This system eliminates the need for ballast in the door curtain or tension straps. This gear driven system consists of a pinion on the drive shaft that forces the lateral retaining straps up or down the tracks.



2.4 Control unit

The control unit is installed adjacent to the door. It has impulse UP and DOWN buttons, an emergency stop button and a mechanical main switch.



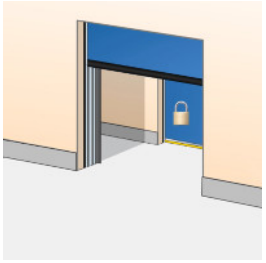
1) Display
2) Emergency stop
3) Mechanical main switch
4) UP button
5) STOP button
6) DOWN button
7) Housing
8) Housing cover

2.5 Access and automation

ASSA ABLOY offers a wide range of functions that allow advanced opening and safety control.

2.5.1 Basic control functions

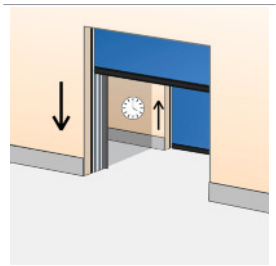
2.5.1.1 Interlocking



Developed for climate control or safety; If door A is open, door B cannot be opened. If door B is open, door A cannot be opened. An interlocked door can remember an up-command, if selected via a micro switch. Optionally an external locked switch can be installed to deactivate it.

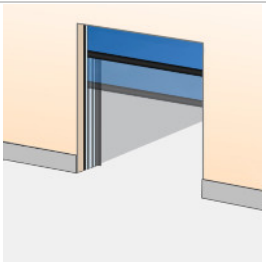
- Function Interlock operating (switch interlock ON/OFF delivered with priority door)
- Switch interlock ON/OFF (requires interlock function)
- Switch interlock ON/OFF with key (requires interlock function)

2.5.1.2 Airlock



Developed for climate control or safety; Other than the interlock, door B will open automatically when door A is closed.
Circuit card installed in control unit. Optionally an external locked switch can be installed to deactivate it.

2.5.1.3 Reduced opening

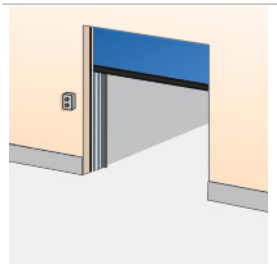


When people pass through the door, it may be unnecessary to fully open a door. A manual (pedestrian) command can trigger a reduced door opening, while a radar or magnetic loop still triggers a full door opening.
Pre-fitted micro-switch to be activated in control unit.

- Function Two opening heights I/II with manual selection (switch included)
- Function Two opening heights I/II with automatic selection (2 different opening impulses)

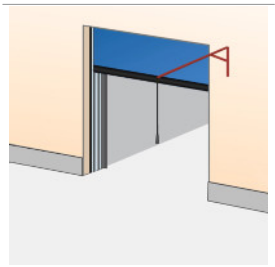
2.5.2 External control functions

2.5.2.1 External push button box



An extra control box is installed outside the building or inside close to the door if the main control unit needs to be installed away from the door opening. Usually combined with reduced opening.
Installed on the inside or outside wall beside the door.

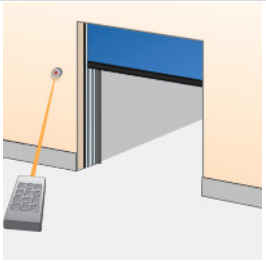
2.5.2.2 Pull-rope switch



A pull-rope switch above the door opening can be operated from e.g. a forklift truck. Pulling the rope opens the door.
Installed on the inside construction above the door.

- Pull down switch complete 5 m cord
- Pull switch bracket in galvanised steel – L 3000 mm
- Pull switch bracket in painted steel – L 3000 mm
- Pull switch bracket in stainless steel – L 3000 mm

2.5.2.3 Remote control

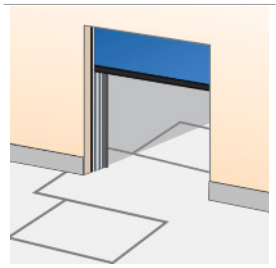


A hand-held radio transmitter allows door operation from a vehicle or any position within 50-100 meters from the receiver and aerial at the door. For closing, the door can be provided with a photocell beam.
Receiver installed in control unit, antenna installed on the wall beside the door.

2.5.3 Automatic control functions

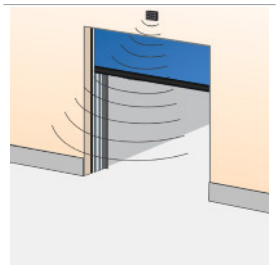
- Function Auto/Manual (includes switch on the control box)
- Function Manual closing with opening/closing using a common manual command (e.g. one single pull rope opens and closes the door)
- Function Manual closing with separate impulse (e.g. 2 buttons up and down)

2.5.3.1 Magnetic loop



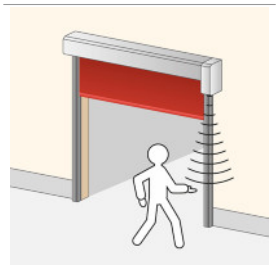
A sensor in the floor detects a metal object (usually forklift trucks, pallet trucks) and opens the door automatically. This is an ideal solution for frequent vehicle traffic.
Installed on the outside, inside or both sides of the door in the floor.

2.5.3.2 Radar



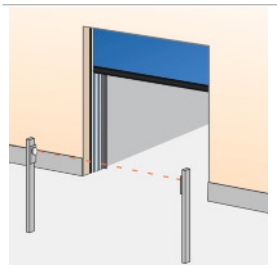
An infrared sensor above the door detects an object (person, vehicle) within a specified distance from the door and opens the door automatically. This is an ideal solution for frequent vehicle or personal traffic. Often combined with automatic closing.
Installed on the inside or outside wall above the door.

2.5.3.3 Spot on



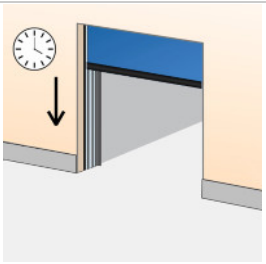
An infrared sensor can be installed to allow a contactless opening for passage of people. The sensor can be placed in the motor cover or an alternative support can be used to install the device anywhere. This is an ideal solution in an environment where, for hygiene reasons, people must avoid touching objects.

2.5.3.4 Photocell open door



A set of photocells on pillars, on each side of the door. When a person or vehicle passes between the photocells, the beam is interrupted and the door opens.
Photocells installed on pillars, away from the door.

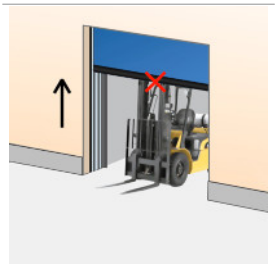
2.5.3.5 Automatic closing (standard)



A programmable timer that closes the door after a specified time, counted from either the fully open position and/or from passing through the photocell beam.
Usually also a switch on the control unit is used to turn to manual closing.
Adjustable micro switches in control unit.

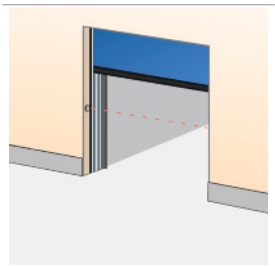
2.5.4 Safety functions

2.5.4.1 Wireless detection device (standard)



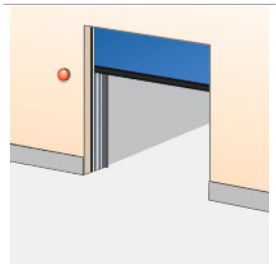
All doors are equipped with a detection device. A wireless detection device in the soft bottom beam detects any obstruction under a closing door and reverses the door.

2.5.4.2 Safety photocells 1-channel (standard)



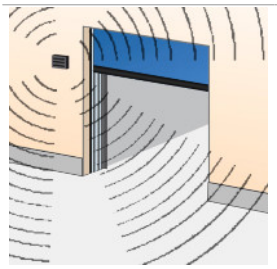
A set of a photocell transmitter and receiver is installed in the door opening. If the photocell beam is interrupted during closing, the door will stop in less than 30 mm and reverse to the fully open position.
Installed in the door opening 300 mm from floor level.

2.5.4.3 Warning lights - Red



A red warning light on each side gives information on the current door behavior. Flashing light seconds before and during door movement.
Installed on the inside and outside wall beside the door.

2.5.4.4 Acoustic signal



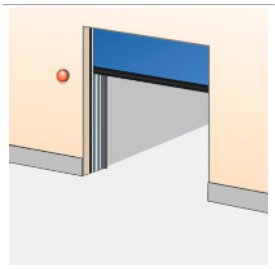
An acoustic signal is given, starting just before the door begins to close and continues until the door is fully closed.
Installed on the inside and outside wall beside the door.

- Acoustic signal 24VAC 80 dB at 1 meter (horn when door is moving)

2.5.5 Lights

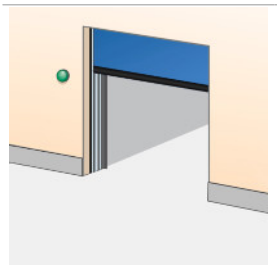
- Standard function flashing light
- Standard function flashing light with pre-warning before closing and opening

2.5.5.1 Warning lights - Orange



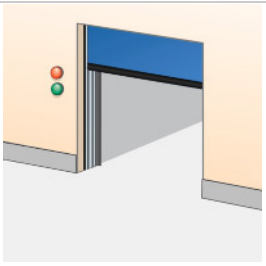
An orange warning light on each side gives information on the current door behaviour. Flashing light seconds before and during door movement.
Installed on the inside and outside wall beside the door.

2.5.5.2 Warning lights - Green



A green warning light installed on each side of the door indicating the open position of the door by continuous light signal.

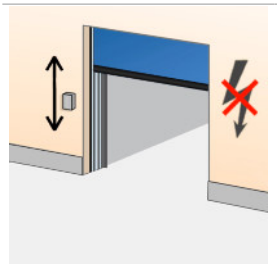
2.5.5.3 Traffic lights - Red & Green



If traffic through a door needs to be directed; two red and two green traffic lights can be installed to indicate traffic direction. From the side where a vehicle is first detected to approach the door, the green traffic light comes on. The opposing side shows a red traffic light. Traffic from this direction must give way to the other. Usually installed in e.g. parking garages.
Installed on the inside and outside wall beside the door.

2.5.6 Additional functions

2.5.6.1 UPS battery backup



In case of main supply failure or emergency situations, it may be necessary to be able to open the door. The UPS battery stores enough power for one emergency opening cycle.
Installed on the inside wall beside the door.

- Kit UPS Interface, automatic opening in case of power failure
- Kit UPS Interface, semi-automatic in case of power failure

3. Specifications

3.1 Daylight width and height

The standard ASSA ABLOY HS9010PFR high speed door is delivered in the following size range:

Standard door sizes*		
	Daylight width	Daylight height
Min.:	1000 mm	2000 mm
Max.:	5500 mm**	5500 mm

* Other sizes may be available on request
** 4000 mm for insulated curtain

3.2 Fabric specifications

Insulated curtain: fabric specifications are correct for both layers.

	Colored fabric	**Vision panel**
Material	Reinforced PVC	PVC
Thickness	0,8 mm	2,0 mm
Weight	900 g/m²	2,5 kg/m²
Tensile strength (kN/5cm)	4,0 L / 3,5 W	1,6
Tearing resistance	600 N (DIN 53363)	100 N (DIN 53515)

3.3 Windows

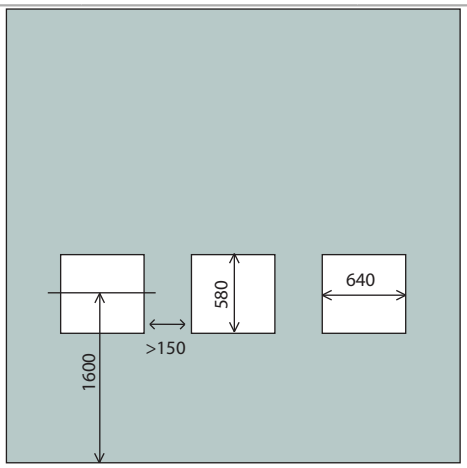
Dimensions: W x H: 640 mm x 580 mm.
Combinations: Any combination of rows is possible.

3.3.1 Required Daylight Width

DLW (mm)	**No. of columns**
1210 mm – 1999	1
2000 mm – 2789	2
2790 mm – 3579	3
3580 mm – 4369	4
4370 mm – 5159	5
5160 mm –	6

3.3.2 Required Daylight Height

DLH	**Available no. of rows**	**CC**
2040 mm	1	1600 mm



3.4 Round Vision Panel

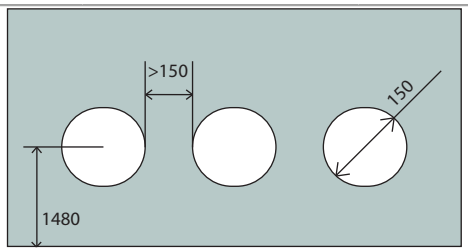
Diameter: 150 mm.
Only for insulated curtain.
Combinations: Any combination of rows is possible.

3.4.1 Required Daylight Width

DLW (mm)	**No. of columns**
1000 - 1019	1
1020 - 1319	2
1320 - 1619	3
1620 - 1919	4
1920 - 2219	5
2220 - 2519	6
2520 - 2819	7
2820 - 3119	8
3120 - 3419	9
3420 - 3719	10
3720 -	11

3.4.2 Required Daylight Height

DLH	Available no. of rows	CC
1560 mm	1	1480 mm



4. CEN Performance

Characteristic	Standard	Test acc.	Result	Value
Wind load	EN 12424	EN 12444	Class 1	300 Pa (N/m²)
Water permeability	EN 12425	EN 12489	Class 1	30 Pa (N/m²) water spray for 20 minutes
Air permeability	EN 12426	EN 12427	Class 1	24 m³/m²/h at 50 Pa
Safe openings	EN 12453	EN 12445	Pass	
Mechanical resistance	EN 12604	EN 12605	Pass	
Unintended movements	EN 12604	EN 12605	Pass	
Thermal resistance	EN 12428		6,02 W/(m²K)	
Performance Test	EN 12604	EN 12605	1.000.000 cycles	

5. Building and space requirements

5.1 Building preparations

The door is pre-assembled in the factory as much as possible to ensure that installation can be carried out easily and quickly. The door is installed directly on the wall. A forklift truck is needed to raise the frame to the wall.

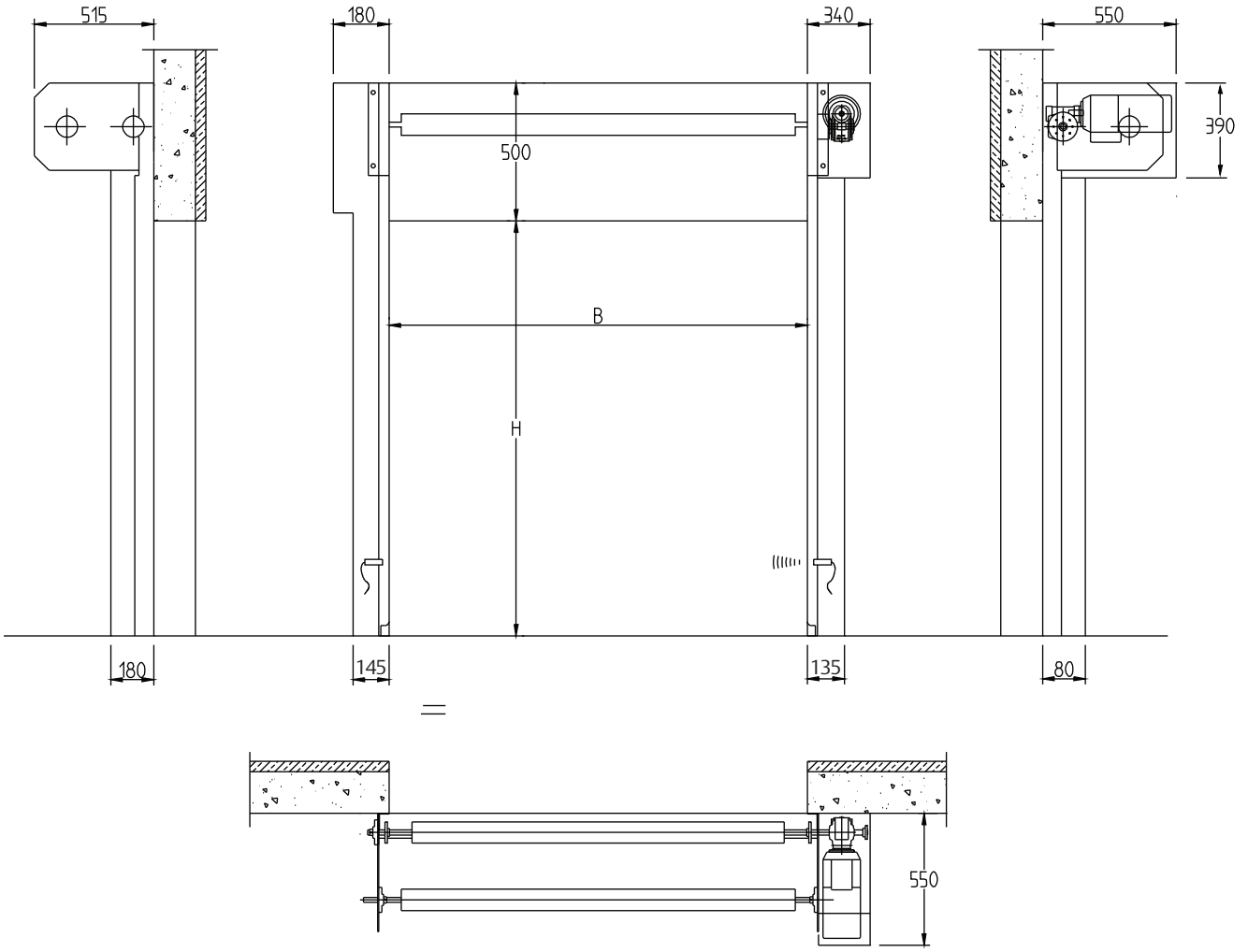
The fixation of the wall must be of an adequate strength to sustain the wind load as well as the blow of a collision.

5.1.1 Electrical preparations

The following environment criteria and electrical supplies are required for the operator to function properly:

Voltage supply:	400V 3-phase
Power:	1.5 kW 3x16 A
Frequency:	50 Hz - 60 Hz
Degree of protection:	Operator: IP65 Control unit: IP65
Temperature working range:	Door: -30 °C to +5 °C Control unit: -10 °C to +50 °C

5.2 Space requirements



Reduced head room
The space requirement of the head room is 500 mm. This head room can be reduced to 370 mm if the door is max. 4000 mm high.

6. Service you can rely on

Gold

The ultimate protection

With full coverage, Gold Service enables you to plan and budget your expenses annually.

- Spare parts for emergency calls
- Labor and travel costs for emergency calls
- Replacement of components according to preventive maintenance schedule and to fulfill legislative and safety requirements

Silver

Added advantages

With cover for all service calls during business hours, Silver Service offers you peace of mind.

- Labor and travel costs for emergency calls
- Preventive maintenance

Bronze

Scheduled Service

With scheduled on site visits, Bronze Service means you know that your doors and docking systems will be regularly serviced and inspected.

- Preventive maintenance

Included in all packages			
1-4 scheduled maintenance visits per year	24/7 priority service hotline and fast response	Safety, compliance and quality control checks	Documentation reports provided on site

Expert service you can rely on

A healthy business enjoys a steady flow of goods, services and people through its entrances every day. But heavy traffic puts entrances under pressure as every component works to keep them running.

ASSA ABLOY Entrance Systems offer the industry's most complete, flexible service solutions. Because even something as robust and well-engineered as an ASSA ABLOY door or docking system needs to be serviced to stay in great working order.

Pro-active care packages

An ASSA ABLOY service agreement gives you service you can rely on. We have specialized local service technicians on call to take care of your service needs. Equipped with a wide range of spare parts and expertise, to keep your industrial doors and docking systems running.

With an ASSA ABLOY service agreement you can ensure reliable, safe and sustainable operations at every entrance under your agreement, including doors and docking systems, independent of brand.

ASSA ABLOY e-maintenance™ (optional add-on)

For an online overview of your entrance systems and history, add ASSA ABLOY e-maintenance™ to your service package for:

- Easy access to real-time data on all your doors
- Planning, order and service information
- Overview that helps you control lifecycle costs

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Every day, we help billions of people to experience a more open world.

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Entrance Systems

ASSA ABLOY Entrance Systems provides solutions for efficient and safe flow of goods and people. Our offering includes a wide range of automated pedestrian, industrial and residential doors, loading dock equipment, perimeter fencing and service.

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