



Doors for automated production lines

Open to the future

Since it was established in 1998, Manusa has become a benchmark in the high-speed door sector. Furthermore, we joined the Manusa Group in 2015 which has enabled us to expand and widen our market internationally.

Our facilities in the industrial area of Barcelona and its infrastructures enable us to deal with customers worldwide in a fast, effective manner.



Open to Leadership

Our full range of products includes specific options to meet all types of requirement: from separating spaces in industrial units and warehouses to ensuring their air-tightness or providing access to the inside. Specific, tailor-made Manusa solutions to be applied in industrial processes.

Open to excellence

We maintain the highest level of excellence throughout the development of each project, from its beginnings until its subsequent maintenance. We only use the highest-quality materials during the manufacture of our doors, subjecting them to the highest controls. To guarantee perfect operation and absolute peace of mind for our customers.

Open to You

Thanks to our philosophy of proximity with our customers, we are able to establish joint goals to benefit both parties. Thousands of satisfied customers worldwide endorse the quality of our products, enabling us to create an extensive international network of distributors.



High-speed protective door for automated production lines

Its high opening and closing speed guarantees a minimum cycle time, offering high performance, reliability and, most importantly, a safety barrier for operators working on the production line.

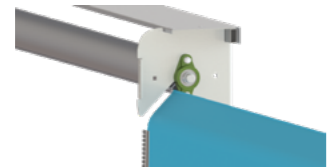
This product fulfils all the regulations of reference to comply with the PLe/SIL3 (performance level) required by Standards EN ISO 13849-1 and SIL3 EN 62061. For this purpose, our door is equipped with a category 4 magnetic sensor as standard. The high-speed protective door for production lines can also be fitted with sensors of any brand that are compliant with this standard.

We have several types of curtain/fabrics, the qualities of which include: resistance to welding splatter and cuts when handling sheet metal, or resistance to impact from parts, and that are available in several standard colours.

Advantages

- Door ready for intensive use (up to 5 cycles per minute).
- Minimum maintenance.
- Quick connections on all door components.
- Safety sensors in compliance with EN ISO 13849-1 and EN62061.
- Doors compliant with EN ISO12100 and EN 14119.
- Door tested for applications on process lines and in automation as a physical protection barrier.

Features



Upper roller

Fitted with a spool system to attach the fabric. The side attachment plates also include a special ream for easier fabric replacement without dismantling the shaft. The caps are made of anodised aluminium.

Roller and motor guard

For a pleasant, functional finish, preventing entrapment in hazardous areas.

Side guides

These are made of anodised grey extruded aluminium on the exterior and on the interior profile. The interiors are made of galvanised steel and include a special self-lubricating guide system.

Side caps

Can be opened for easy access to the internal components.

100 x 100 x 5mm steel supporting structure **



manusa
intelligent access

Easy access to motor

Without having to remove the roller and motor guard.

Transparent/UV vision panels *

For an easier view of the inside of the machine or the process.

Sizes available:

- 700 x 500 mm
- 500 x 500 mm






Fabric guide system

By zip, high-frequency welded to the fabric. For opening and closure control, ensuring the fabric never comes out of the guide rail in the event of impact or collision.

Fabric

2mm thick. 2 types of fabric available:

- For when the welding source is at a distance of over 500 mm
 - RAL 5000 
 - RAL 2004 
- Resistant to high temperatures with sources at a distance of less than 500 mm
 - RAL 7037 ** 

* Option available depending on final application. Consult our sales team.

** Optional equipment (extra cost). Consult our sales team.

PLC connection

The Manusa high-speed protective doors for automated production lines are designed for connection with the PLC controlling the automated line process.

Our control cabinet can connect the PLC to the door using analogue signals in order to control its status at all times. All this is integrated and designed to avoid additional parts, manufactured and certified in line with European regulations and directives (EN 13241-1) and SIL3/Ple (EN ISO 13849-1 and EN 62061).

Signals exchanged

From door to PLC

- Door open power-free signal (information).
- Door closed power-free signal (information).
- Internal error power-free signal (information).
- 2 volt-free contacts from door closed safety sensor (cat. 4 safe signal).

From PLC to door

- Open pulse (24vdc). *
- Close pulse (24vdc). *
- Emergency Stop.

* 24VDC power is required from PLC for these signals.



Control cabinet

Our control cabinet includes a transparent lid for easy reading/verification of the error codes on the electronics board and the converter, as well as function LEDs for all status relays, without having to open the board; It also includes an additional 10-contact jumper terminal block for use by the customer whenever necessary.

Fitted with a status LED including optical fault, emergency stop, and preventive maintenance warning.



Connections

All the door connections (motor/brake/safety devices) are made using quick pluggable connectors for fast board/motor installation or replacement.

Photoelectric light barrier (transmitter/receiver)

Installed on the opening side cap of the door, it provides complete safety along the entire travel of the door and fast access without having to open the caps in the event of a fault. Fitted with a blanking disconnection system and a safety test during each operation. All connections between both barriers are made using quick pluggable connectors for easier maintenance and/or replacement work.



Built-in clearance stop sensor

Magnetic 2-channel sensor that informs the PLC in the installation that the door is closed and secure. It includes a specific relay in the control cabinet for category 4 compliance. Fitted with a transparent hatch to view the status of the sensor without having to remove the opening side cap.

Technical specifications

TECHNICAL SPECIFICATIONS

Min/max clearance width (mm)	1000 / 4000
Min/max clearance height (mm)	1000 / 4000
Maximum surface area	16 m ²
Opening direction	Vertical
Wind resistance (EN 12424)	Class 1
Maximum temperature range	-10°C to 50°C

SAFETY DEVICES

Safety strip	Contactless (light barrier 1800 - 2500 mm high)
Protective photocell	Light barrier 1800 - 2500 mm high
Emergency opening	Manual handle
Magnetic sensor on side frame	1 // 2 volt-free contacts + relay

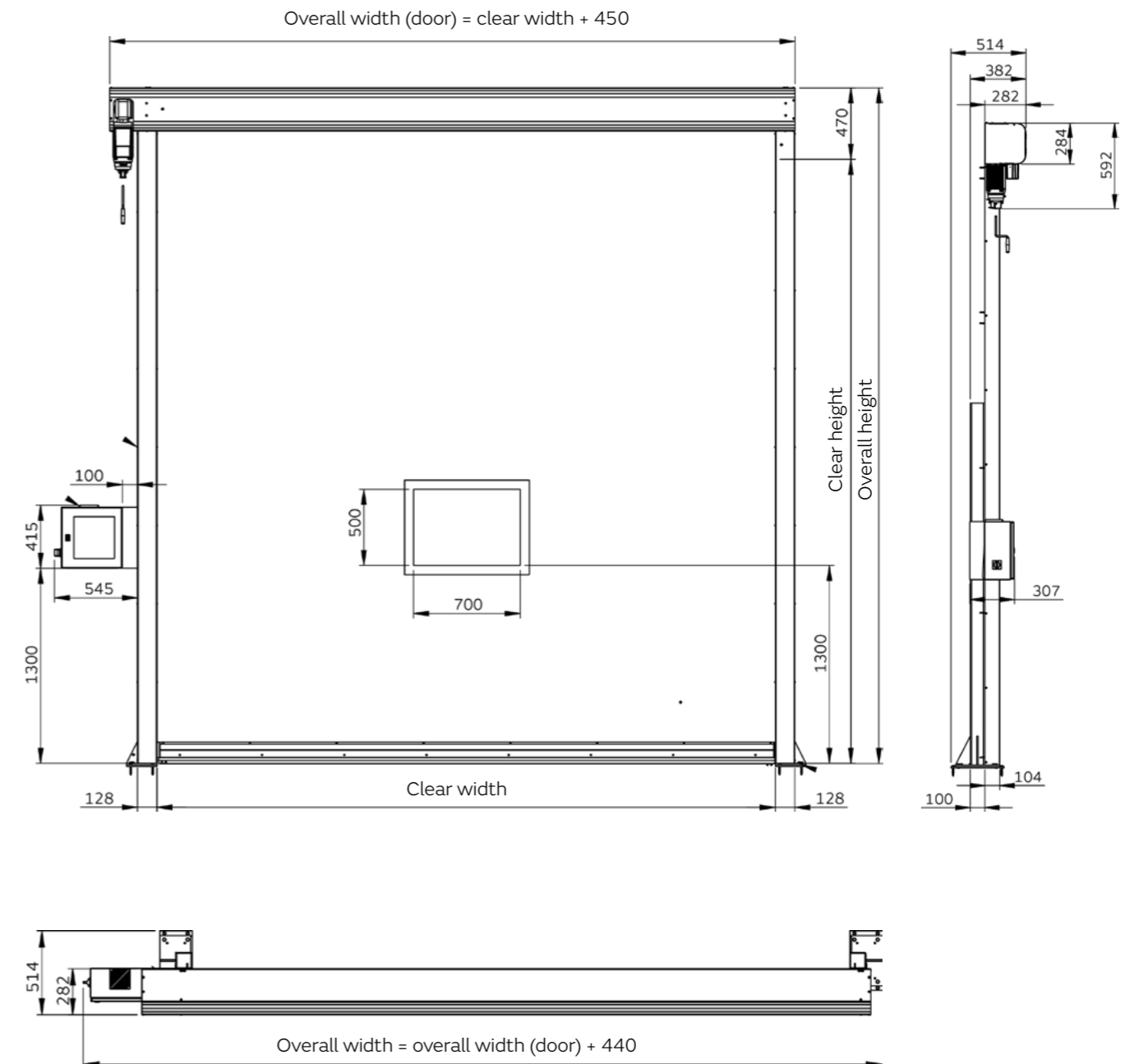
DRIVE UNIT

Nominal power	0.75 KW
Standard power supply	200V III ± 10% 100Hz
Level of protection	IP54
Electric brake	DC rectifier
Fall arrest system	Included in gearbox
Thermal protection	On electric winding
Clearance stops	Absolute digital encoder

CONTROL CABINET

Model	ELK-CI02 MP
Dimensions	400 x 400 x 200 mm
Opening/closing speed	Adjustable up to 2.1/1.5 m/sec. (depending on size)
Cycles per minute	Up to 4-5 cycles (depending on size/application)
Power supply	Single-phase 1x230V ± 5% 50/60 Hz *
Fuse protection	16A thermal-magnetic switch in control cabinet
Power-free signals	Included (open/closed/error)
Installation PLC connection	24VDC customer power supply required

Drawings



manusa 

intelligent access

HEADQUARTERS

C/ Mestral, 15 · Pol. Ind. Llevant
08213 Polinyà
Barcelona · Spain

+34 935 915 700
manusa@manusa.com

www.manusa.com

FACTORY

C/ Tramuntana, 3 · Pol. Ind. Llevant
08213 Polinyà
Barcelona · Spain

+34 935 915 700
manusa@manusa.com

www.manusa.com



D90036-EN