

*axis*  
ENTRANCE SYSTEMS



**manusa**   
intelligent access

*DOOR SOLUTIONS FOR  
THE HEALTHCARE SECTOR*

# HERMETICALLY SEALED DOORS

## FOR THE HEALTHCARE SECTOR

Founded over 50 years ago, Manusa is a leading and trusted supplier of automatic hermetic doors, including sliding swing, lead lined and glass. Axis is Manusa's official healthcare partner in the UK.

Manusa's range of hermetic doors are used widely in the European healthcare sector, when specific areas need isolating.



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# 360° SOLUTIONS

Manusa offers a **comprehensive service with effective solutions** for all areas of a hospital complex.

This all contributes to maintaining the **hygiene, safety** and **comfort** of both workers and patients and can be totally adapted to specific requirements. There is also the option to equip Manusa devices with access control systems or manage them remotely thanks to the **IoT technology** built into our operators.

- 1 Hermetic glazed door
- 2 Two-leaf, bi-parting door
- 3 Four-leaf, telescopic door
- 4 Single sliding door
- 5 Hermetic swing door
- 6 Fire rated glazed door
- 7 Panic break-out door
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- 9 Hermetic sliding door
- 10 Lead-lined door for X-ray rooms
- 11 Airlock system



# AIRTIGHTNESS AND CLEAN ROOMS

## BASIC PRINCIPLES

### Don't attract

- It is very important to avoid dust escaping from the HEPA filters and frames as well as to keep the pressure regulated in the room. To ensure an optimum level of hygiene and cleanliness, anyone entering the room must do so after changing their clothing and receiving an air shower. Similarly, any material or equipment brought into the room must also be sterilized.

### Don't accumulate

- Ensuring that technical equipment does not have any corners or edges that are difficult to clean is fundamental to controlling the condition of white rooms. Making sure that pipes and tubing are not exposed and creating a cleaning routine is important in order to achieve the necessary environmental conditions.

### Don't generate

- Using dust-free clothing and not using materials that generate it easily is another factor that has to be taken into consideration as a basic principle for achieving the conditions of a clean room. It also helps not to move unnecessarily and not to bring in disused items.

### Remove quickly

- To increase the air change rate, it is important to avoid placing air generating equipment close to areas prone to dust and to create a suitable air pattern that prevents it from sticking.

## BASIC CONCEPTS

### POSITIVE PRESSURE

**Purpose:** To keep the clean room in aseptic conditions.

**How:** By preventing the entry of untreated or contaminated air into the room by keeping a difference of pressure between two rooms.

Process for achieving positive pressure environment:

- Through forced air purifiers, fresh air is collected, purified and moved into the clean room.
- During this process the bacteria is burnt and eliminated.
- The recovery of air inside the room is less than the air that enters.
- This process can only be achieved by sealing all the openings.

### NEGATIVE PRESSURE

**Purpose:** To keep rooms adjoined to a contaminated area in aseptic conditions.

**How:** By evacuating contaminated air.

Process for achieving negative pressure environment:

- By forcing contaminated air out of the room through air purification machines.
- Air absorption is higher than the air introduced in the room.
- This process can only be achieved by sealing all the openings.
- The hermetic door ensures the effectiveness of this process.

### CLEAN CORRIDOR AND DIRTY CORRIDOR

**Clean corridor:** Offering access to patients, doctors and other persons with access to operating theatre or clean rooms.

**Dirty corridor:** Used by maintenance staff to access a clean room, collect the tools and clothes used during the operation, and take them to the decontamination area.

- The surgery room must be equipped with two doors: one leading to a clean corridor and a back door leading to a dirty corridor.
- The hermetic door prevents clean corridor and clean rooms being contaminated by separating them from a dirty area.
- Both doors must function in an airlock configuration.

# HERMETIC DOORS

Axis offer automatic hermetic doors to fulfill every requirement. Sliding, swing, leadlined or glass, all our hermetic doors are functional, aesthetic and hygienic.

## HYGIENE

Due to their flush-surfaced design and the use of easy-clean materials, Manusa's hermetic doors can maximise hygiene levels in hospital environments.

## SAFETY

Reduction in installation workload, increasing their life expectancy and substantially decreasing the number of faults, leading to lower maintenance costs.

## FUNCTIONALITY

The advanced, exclusive mechanism designed by Manusa equips our doors with excellent low air permeability as well as being user-friendly and practical.

## AESTHETICS

Minimalistic lines and perfect finishes on any surface, our doors offer a design adapted to each space and requirement.



# HERMETIC SLIDING DOOR



Operating  
theatres



Clean rooms



Laboratories

With bi-part or single-slide options, Manusa's sliding doors combine the advantages of an automatic door with the airtightness and hygiene required in clean environments.

The hermetic sliding door consists of one or two sliding leaves which move sideways automatically, opening up a wide clearance area for public transit whilst hermetically sealing the perimeter of the aperture once closed. In the event of power failure, the door can be opened manually by using the handle.

In order to guarantee correct hermetic sealing, the leaf drops down 15 mm towards the floor and fits 10 mm into the frame of the opening so as to seal the perimeter of the door opening.



## TECHNICAL SPECIFICATIONS

Hermetic sliding doors form part of the solutions that Manusa offers for laboratories, hospitals and environments related to the healthcare sector and all types of white rooms in industrial environments, where the air has special conditions.



### MOTOR GROUP ELECTRICAL SPECIFICATIONS

Standard power supply	220-240V ± 6% 50-60 Hz
Power source option	100-120V ± 6% 50-60 Hz
Motor	2 x Three-phase AC
Nominal Power	250 W
Inverter Technology (exclusive to Manusa)	VV-VF
Protection fuse	3.15 A (220V) / 5A (110 V)
Operating temperature	-15°C to 50°C
Transport and storage temperature	-15°C to 50°C
Rechargeable antipanic battery	1 x 12 V DC 700 mAh

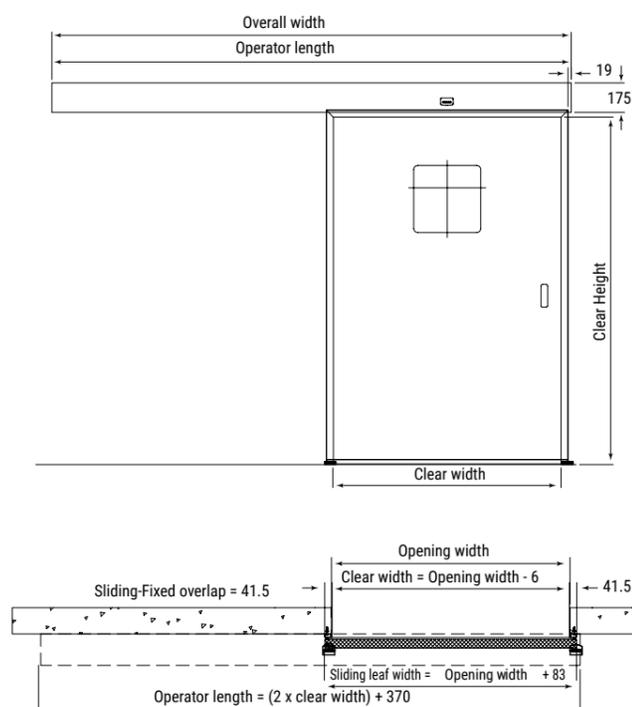
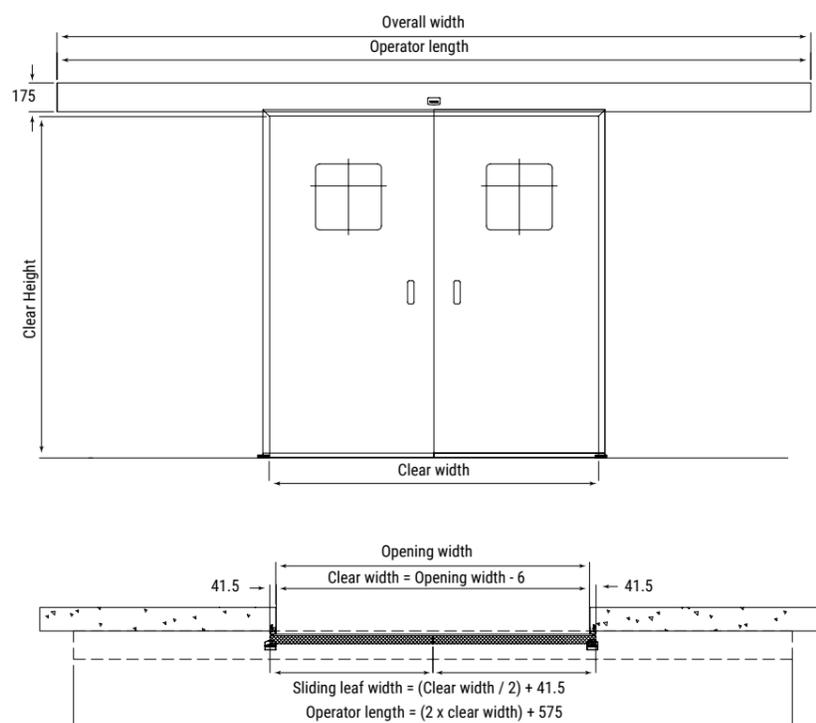
### KINEMATIC SPECIFICATIONS OF THE MOTOR GROUP

Adjustable leaf opening speed	≤ 1 m/s
Adjustable leaf closing speed	0.15 to 0.6 m/s
Maximum acceleration	0.8 m/s <sup>2</sup>
Maximum weight of LD leaves (single/bi-parting)	1x90 Kg / 2x65 Kg
Maximum weight of HD leaves (single/bi-parting)	1x200 Kg / 2x150 Kg

### OPERATOR CHASSIS TECHNICAL SPECIFICATIONS

Operator dimensions (height x depth)	175 x 220 mm
Maximum operator length	5900 mm
Single slide clearance (min./max.)	495 / 1800 mm
Bi-part clearance (min./max.)	1070 / 2660 mm
Recommended maximum clear height	2400 mm

## DRAWINGS



The entire door guarantees low air permeability



Bi-part or single slide opening



Smooth design with flush surfaces



Stainless steel finish, HPL or mixed

## TECHNICAL INFORMATION AND FINISHES

## HERMETIC SLIDING DOOR

Hermetic sliding door leaves are available in HPL, in AISI-304 and AISI-316 stainless steel (the latter being especially recommended for corrosive and saline environments), mixed (HPL and stainless steel) and glass\*.

The low air permeability features of our doors are due to the airtight seal fitted around the entire perimeter for the leaf. The hermetic Visio + operator and the MK40 frame make it possible to guarantee the correct functioning of a hermetic sliding door on any type of wall. When the leaf/leaves close/s they approach the frame, sealing the perimeter of the door opening.

Manusa's hermetic sliding doors have been tested with the aim of determining the product's air permeability at low pressures. The tests have been performed with positive and negative overpressure on the sliding door.

There is the option to place a double-glazed vision panel, flush with the leaf, in an easy-to-clean, elegant design, available in different shapes and sizes. The vision panel can have a Venetian blind built into it or self-dimming glass. There is also the option to make the vision panel with its maximum size, leaving an outer frame of 150 mm in HPL or stainless steel finish.



\* For other finishes, please consult the Technical Department.

# HERMETIC SWING DOOR



Operating theatres



Clean rooms



Laboratories

Single or double hermetic swing doors can be manual or automatic by integrating a swinging operator.

This product is especially recommended for the healthcare sector in which cleanliness is paramount, thanks to the frame's smooth surface, as well as no visible screws. It is also extremely safe, with elements that ensure electrical continuity for correct electrostatic discharge.

When the leaf closes, it seals itself at the side and top against the frame. At the bottom, there is a mechanical system that lowers to perform a function in relation to the floor. Its design makes it possible to maintain the positive or negative pressure in the clean room as required.



## TECHNICAL SPECIFICATIONS

The hermetic swing doors are manufactured under strict quality control conditions to guarantee functioning according to the highest levels of compliance with hygiene measures.



### MOTOR GROUP ELECTRICAL SPECIFICATIONS

Standard power supply	230V ± 10% AC 50/60Hz
Nominal power	85 W
Max. shaft output	45Nm
External devices power supply	15 VDC - 12 W Max.
Operating temperature	-10°C to 50°C
Service	Continuous

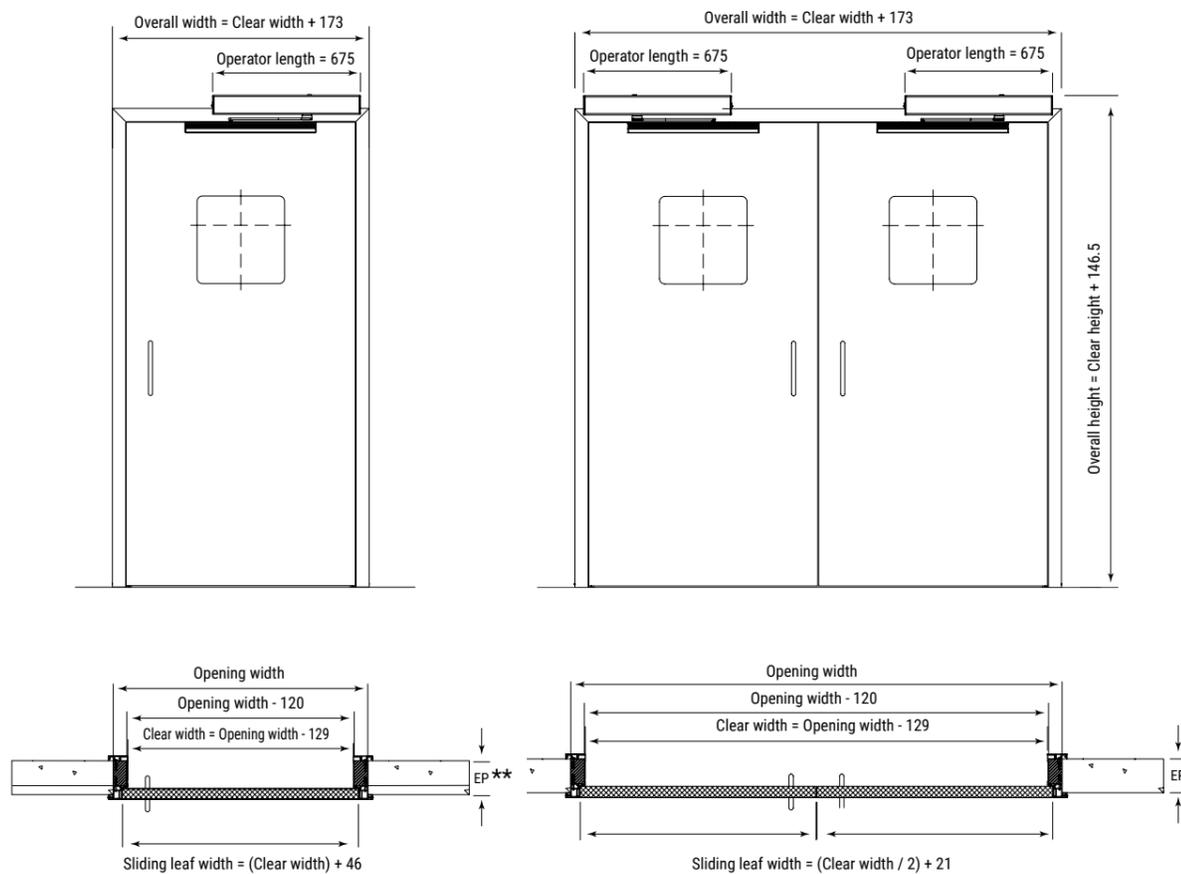
### KINEMATIC SPECIFICATIONS OF THE MOTOR GROUP

Opening time	3s (70°/s) ÷ 6s (20°/s)
Closing time	4s (40°/s) ÷ 15s (20°/s)
Closing force (according to 1154)	EN4 ÷ EN6
Maximum opening angle	110°
Door leaf width	700 ÷ 1400mm
Protection rating	IP40

### OPERATOR CHASSIS TECHNICAL SPECIFICATIONS

Operator dimensions (height x width x length)	89 x 130 x 675 mm
Minimum single slide door dimensions	605 x 1934 mm (PL x HL)
Maximum single slide door dimensions	1154 x 2457 mm (PL x HL)
Maximum LEADED single slide door dimensions	929 x 2457 mm (PL x HL)
Minimum bi-parting door dimensions	1260 x 1934 mm (PL x HL)
Maximum bi-parting door dimensions	2358 x 2457 mm (PL x HL)
Maximum LEADED bi-parting door dimensions	1916 x 2457 mm (PL x HL)

# DRAWINGS



 The entire door guarantees low air permeability

 Bi-part or single slide opening

 Manual or automatic opening

 Stainless steel finish, HPL or mixed

\* On-site structural framing. Needed to install the Manusa frame.

# TECHNICAL INFORMATION AND FINISHES

## HERMETIC SWING DOOR

Hermetic swing door leaves are available in HPL, in AISI-304 and AISI-316 stainless steel (the latter being especially recommended for corrosive and saline environments), mixed (HPL and stainless steel) and glass\*.

Whenever hermetic swing doors need to be installed between two rooms at different pressures, the doorset should be designed and installed so that the positive pressure always acts in the same direction as the leaf closes, thus helping to keep the door closed.

The MKB frame is specially designed to guarantee the correct functioning of a hermetic swing door on any type of wall. It

makes it possible to cover the opening where you want to place the door on both sides, offering a smooth, solid block which ensures that the leaf is correctly coupled. Its design makes it possible to adapt to any wall with thicknesses greater than 60 mm.

There is also the option to make the vision panel with its maximum size, leaving an outer frame of 150 mm in HPL or stainless steel finish.

The hinges are completely hidden and integrated between the frame and the leaf. When the door is closed, the hinges are not visible at all.



\* For other finishes, please consult the Technical Department.

# LEAD-LINED SLIDING DOOR FOR X-RAY ROOMS



Radiology

Operating  
theatres

The automatic lead-lined doors for X-ray rooms guarantee adequate insulation in such areas thanks to the lead lining on the leaf and the anti-radiation treatment applied to the viewing panels.

The door offers comprehensive protection against radiation since the leaf contains continuous sheets of lead inside it, which in turn overlap with the lead in the walls of the x-ray rooms. Vision panel with lead-lined glass and camera to allow viewing whilst protecting against X-rays.

Designed for protection against X-ray room radiation, it has a hygienic and sanitary design which is highly resistant to impact, chemicals and humidity. For intensive use being highly robust and safe in radiological conditions.



## TECHNICAL SPECIFICATIONS

There are bi-part, single-slide, hermetic and non-hermetic options as well as one- or two-leaf swingdoors.

### MOTOR GROUP ELECTRICAL SPECIFICATIONS

Standard power supply	220-240V ± 6% 50-60 Hz
Power source option	100-120V ± 6% 50-60 Hz
Motor	2 x Three-phase AC
Nominal Power	250 W
Inverter Technology (exclusive to Manusa)	VV-VF
Protection fuse	3.15 A (220V) / 5A (110 V)
Operating temperature	-15°C to 50°C
Transport and storage temperature	-15°C to 50°C
Rechargeable antipanic battery	1 x 12 V DC 700 mAh

### KINEMATIC SPECIFICATIONS OF THE MOTOR GROUP\*

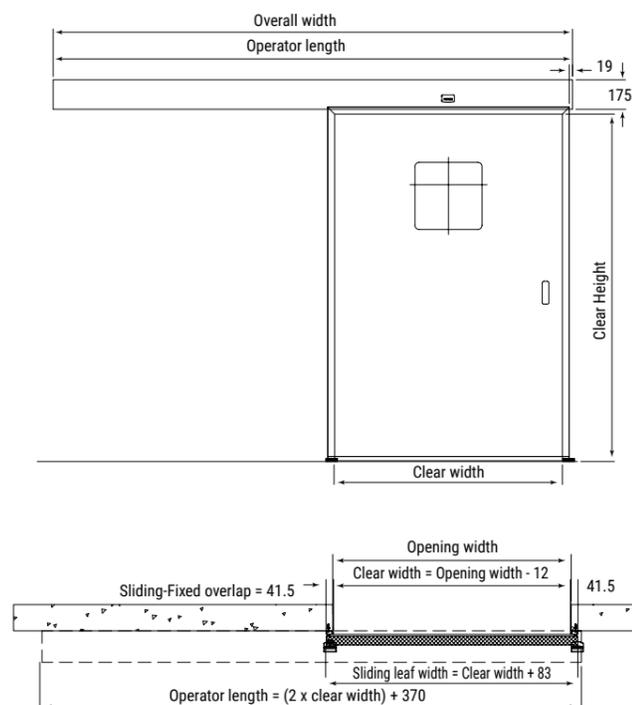
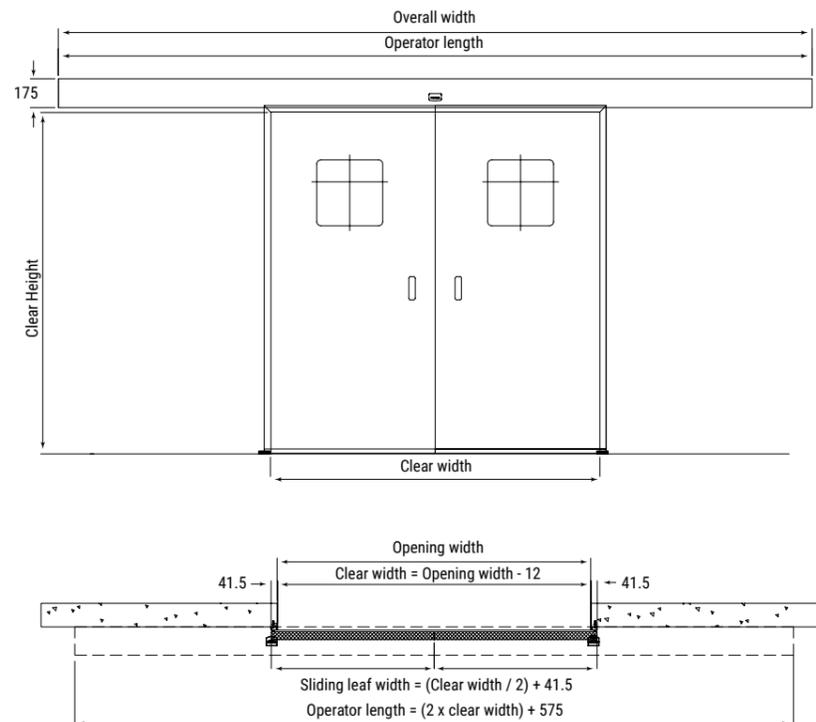
Adjustable leaf opening speed	≤ 1 m/s
Adjustable leaf closing speed	0.15 to 0.6 m/s
Maximum acceleration	0.8 m/s <sup>2</sup>
Maximum weight of LD leaves (single/bi-parting)	1x90 Kg / 2x65 Kg
Maximum weight of HD leaves (single/bi-parting)	1x200 Kg / 2x150 Kg

### OPERATOR CHASSIS TECHNICAL SPECIFICATIONS\*

Operator dimensions (height x depth)	175 x 220 mm
Maximum operator length	5900 mm
Single slide clearance (min./max.)	495 / 1800 mm
Bi-part clearance (min./max.)	1070 / 2660 mm
Recommended maximum clear height	2400 mm

\* The kinematic and technical specifications correspond to the hermetic operator. For a non-hermetic operator, please consult the Technical Department.

## DRAWINGS



-  Isolation thanks to the lead lining on the leaf
-  Sliding or swing opening
-  Smooth design with flush surfaces
-  Hermetic or non-hermetic door depending on the requirements

## TECHNICAL INFORMATION AND FINISHES

## LEAD-LINED DOOR FOR X-RAY ROOMS

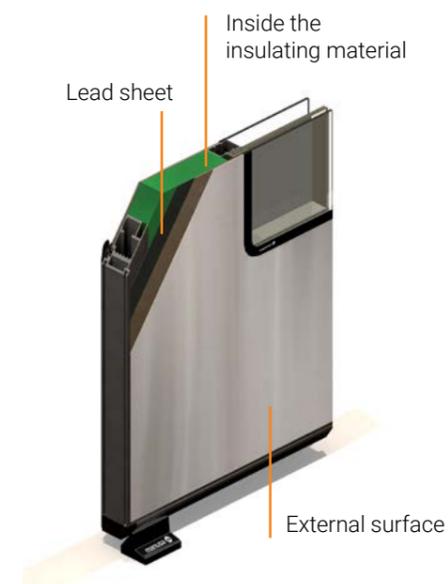
The leaves of lead-lined sliding doors are available in HPL and AISI-304 and AISI-316 stainless steel. The standard thickness of the lead is 2 and 3 mm.\*

The low air permeability features of our doors are due to the airtight seal fitted around the entire perimeter for the leaf. The hermetic Visio + operator and the MK40 frame make it possible to guarantee the correct functioning of a hermetic sliding door on any type of wall. When the leaf/leaves close/s they approach the frame, sealing the perimeter of the door opening.

For correct operation, it is important to know the variables of the rooms, such as the workload, the distance from the radiology equipment to the door, the use of the area on the other side of the door, the characteristics of the X-ray equipment, etc.

Double glazed vision panels and lead lined glass allows viewing whilst protecting against X-rays.

There are also doors for MRI rooms, with copper mesh inside them.



\* For other finishes, please consult the Technical Department.

# HERMETIC GLAZED DOOR



These doors are suitable for observation rooms since they provide great visibility inside the room, whilst also guaranteeing a hermetic seal.

Product designed specifically to guarantee low air permeability because when the leaf/leaves close, they approach the frame and the floor, hermetically sealing the perimeter of the aperture.

Hence, we maintain a positive or negative pressure, inside the white room with the added feature of the leaves being completely glazed.

A common application for this type of door leaf is in ICU and CCU rooms, so that patients can be monitored and supervised from the outside.

The frame is designed to cover the clear width of the opening on the side of the leaf and can be adapted to any wall, ensuring a flat contact surface with the leaf to guarantee airtightness.



## TECHNICAL SPECIFICATIONS

They enable hospital staff to medically monitor each of the modules that compose ICUs, CCU rooms resuscitation, pre-anaesthesia, etc.



### MOTOR GROUP ELECTRICAL SPECIFICATIONS

Standard power supply	220-240V ± 6% 50-60 Hz
Power source option	100-120V ± 6% 50-60 Hz
Motor	2 x Three-phase AC
Nominal Power	250 W
Inverter Technology (exclusive to Manusa)	VV-VF
Protection fuse	3.15 A (220V) / 5A (110 V)
Operating temperature	-15°C to 50°C
Transport and storage temperature	-15°C to 50°C
Rechargeable antipanic battery	1 x 12 V DC 700 mAh

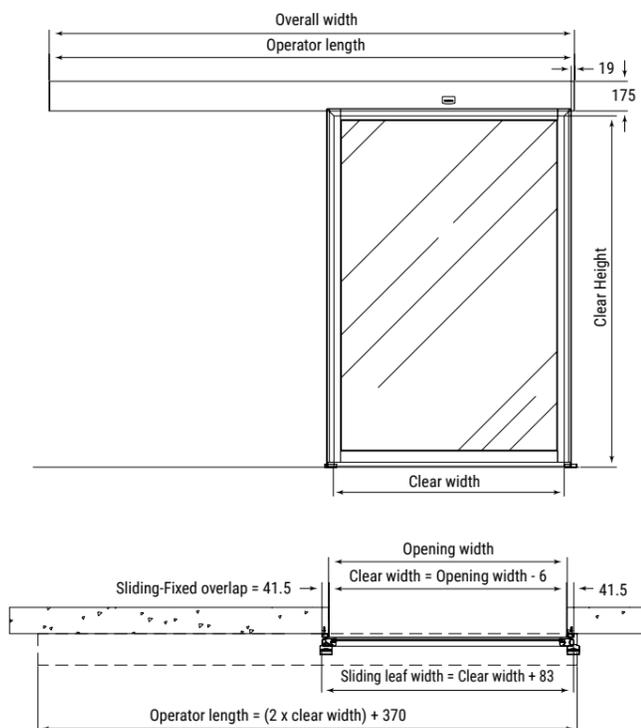
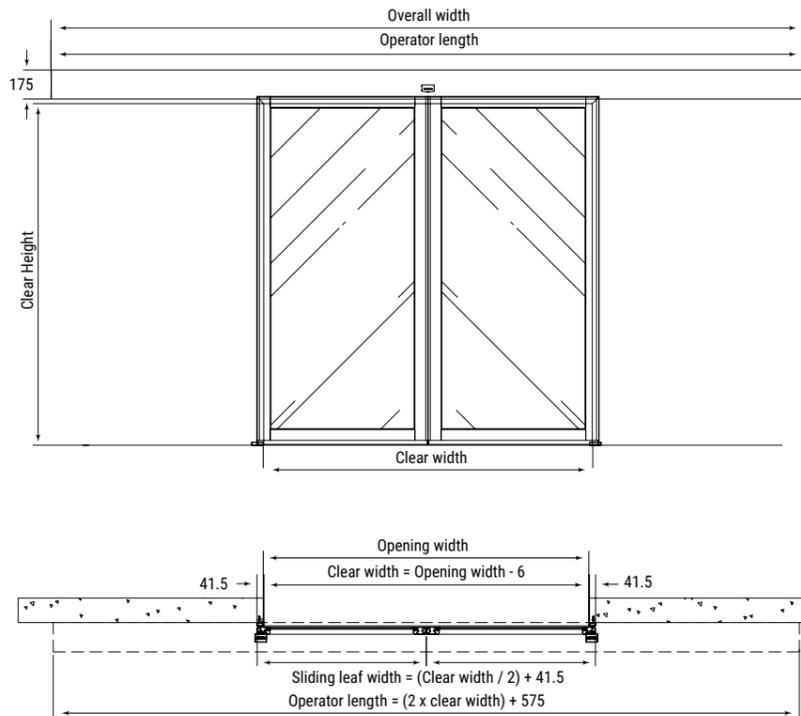
### KINEMATIC SPECIFICATIONS OF THE MOTOR GROUP

Adjustable leaf opening speed	≤ 1 m/s
Adjustable leaf closing speed	0.15 to 0.6 m/s
Maximum acceleration	0.8 m/s <sup>2</sup>
Maximum weight of LD leaves (single/bi-parting)	1x90 Kg / 2x65 Kg
Maximum weight of HD leaves (single/bi-parting)	1x200 Kg / 2x150 Kg

### OPERATOR CHASSIS TECHNICAL SPECIFICATIONS

Operator dimensions (height x depth)	175 x 220 mm
Maximum operator length	5900 mm
Single slide clearance (min./max.)	495 / 1800 mm
Bi-part clearance (min./max.)	1070 / 2660 mm
Recommended maximum clear height	2400 mm

## DRAWINGS



The entire door guarantees low air permeability



Ideal visibility for the observation room



Smooth design with flush surfaces



Stainless steel finish, HPL or mixed

## TECHNICAL INFORMATION AND FINISHES

### HERMETIC GLAZED DOOR

This door is made in aluminium, which permits an anodised or lacquered finish. The latter is available in the entire RAL range.

The leaves made with extruded aluminium with a thickness of 44 mm, frame the whole perimeter of the glass by means of a glazing gasket. It is compatible with all types of conventional safety glass: laminated, tempered, with standard thicknesses between 6 and 10 mm.

If greater visibility is desired for the hermetic glazed door, a fixed leaf can be added, when it is single slide door, or two fixed leaves for a bi-parting door. Hence, patient visibility is maximised and virological contamination is minimised.

Optionally, when a certain level of privacy is required, there is the option to install self-dimming glass or glass with an integrated Venetian blind, which provides the door with opacity or transparency at any given time.



# *CUSTOMISATION, FINISHES AND ACCESSORIES*

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Axis offers a wide range of Manusa accessories suitable for healthcare environments, which enable safe, hygienic access and prevent any type of contact.

Our accessories are designed to boost the functional nature of each of our doors.



# HERMETIC VISIO +

Manusa's hermetic Visio+ operator permits the administration and management of smart accesses safely and remotely. It enables you to immediately contact Maintenance besides being able to manage every space separately, assigning customised access in accordance with the requirements requested.



### Automatic lock

Two models available:  
standard or fail-safe



### Profiles

Numerous combinations.

### Easy access

Front cover with flexible hinge for easier access.



### Three-phase AC motors

Direct Drive technology



### Track solution

Track rail and trolleys to guarantee silent operations.



### High-performance control electronics

VV-VF Inverter technology and Advanced Motor Control Management for uniquely smooth movements.  
Auxiliary battery.

### Filter

Ensures compliance with regulations and reduces costs in the event of faults due to power surges.

### Manusa Bus\*

Greater possibilities and easy connection of accessories.

Product certified by the following laboratories:



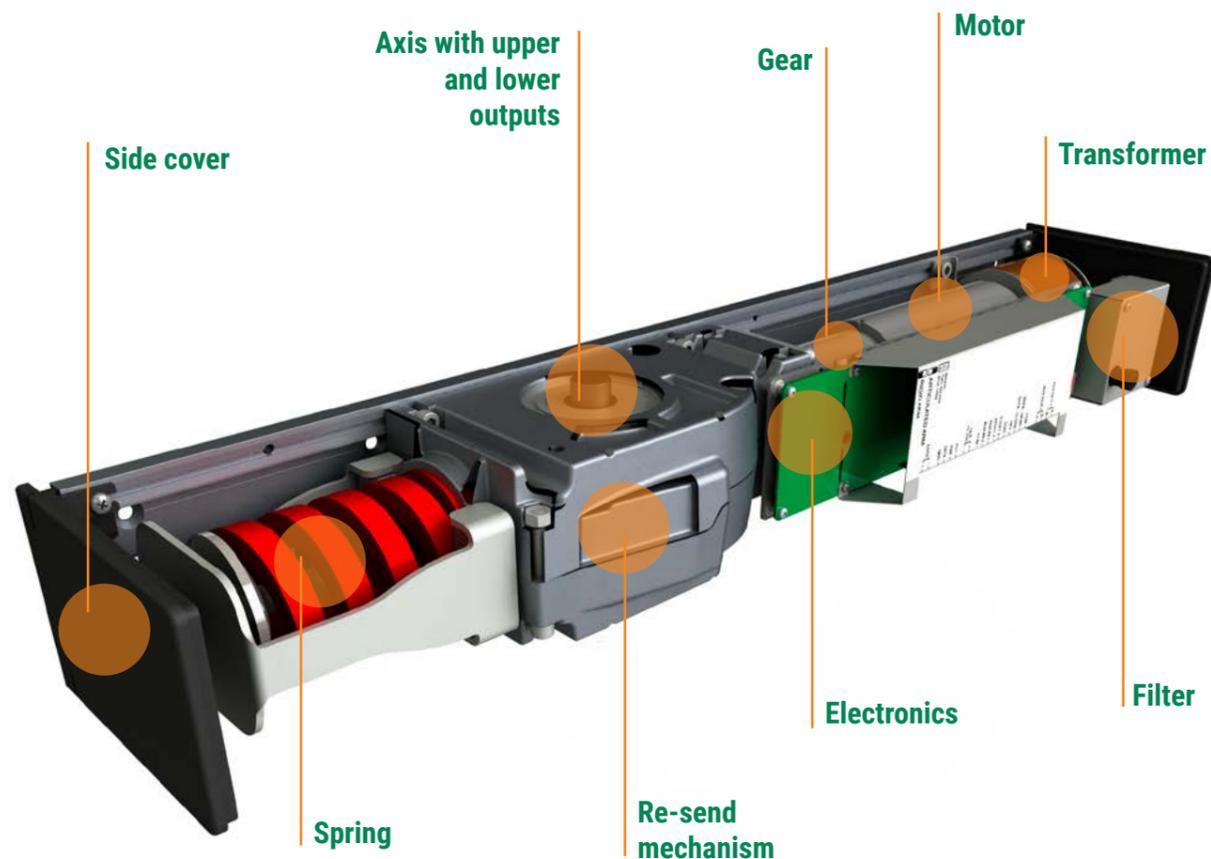
Associated certificates:



Certificate of durability for 1 million cycles according to Standard UNE 16361:2014+A1:2017

\* MANUSA BUS: connection system between the control electronics and the accessories that provides maximum reliability and easy installation. Automatically recognises accessories without having to switch off the operator (Plug & Play).

# VECTOR



Vector is an advanced electromechanical operator used for the automation of any type of new or existing swing door. It is a highly-efficient, high-performance operator, especially designed for intensive use, as it can automate both light and very heavy doors. It is available with pull or push arms for single-slide and bi-parting door versions.

- **Compact** design, with minimum aesthetic impact.
- Attractive and formal design with pleasant lines.
- Door closing by means of a **motor-assisted spring** in normal operation.
- Door closing by means of spring in case of power supply failure.
- Available modes for **Low Energy** and **Push&Go** activation.
- **Easy installation** and monitoring thanks to its built-in double display.
- Built-in mode selector: manual, automatic and stop open mode.
- Possibility to interlock the doors.
- Optional 5 modes selector on surface (available under request).

## Pull arm

Attached to the wall on the same side as the hinges.



## SLIM pull arm



## Push arm

Attached to the wall on the opposite side as the hinges.

- Short push arm  $0 \leq x \leq 150$
- Long push arm  $150 \leq x \leq 300$



Associated certificates:



# CUSTOMISATION

## Door closer \*\*

Built-in door closer EN 2-4.

## HPL finish \*\*\*

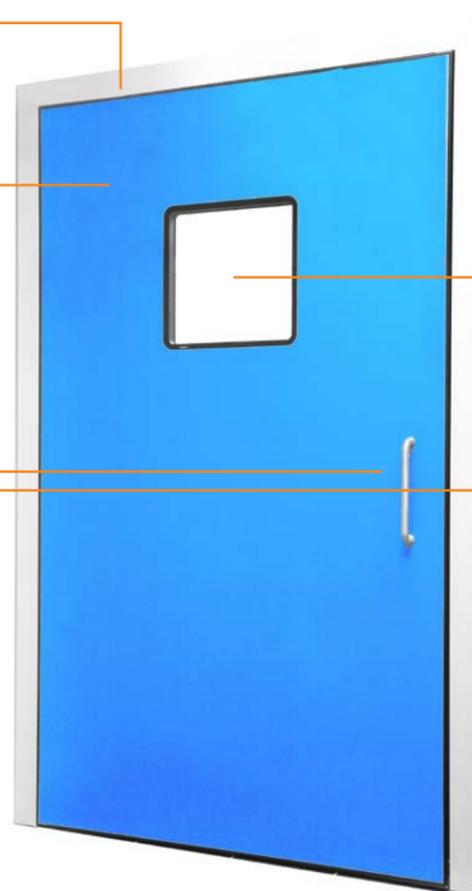
- It consists of phenolic resin as standard, antibacterial certification according to standard JIS Z 2801.
- Standard colours: blue, green, white and beige.

## Handle \*\*

- Only handle
- Handle + Key
- Handle + Lock
- Only key

## Handle

- Tubular handle 600mm \*
- Tubular handle 250mm \*
- Embedded finger grip



\*\* Only available for manual doors. Not compatible with automatic doors.

\*\*\* Available with Bs2d0 classification: this means that it reacts well to fire (close to non-flammability), moderate smoke emission and does not release droplets or persistent flaming particles.

## Vision panels

Vision panels make it possible glance inside the room. They can be customised as follows:

- **Shapes and sizes:** circular, oval, square, rectangular etc.
- **Glass with integrated Venetian blind:** double glazing including a Venetian blind which provides total isolation from the outside and prevents dirt and deterioration resulting from humidity or contact.
- **Self-dimming glass:** switches from opaque to transparent through an electric current. It is most useful when separating environments, providing immediate privacy.



## Lacquered aluminium finish (frame and operator)

- The lacquered finish is a protective covering made from plastic paint polymerised in an oven. The minimum lacquered thickness is 60 microns. Available in the complete RAL range.

## Anodised aluminium finish (frame and operator)

- The aluminium consists of a protective surface layer, created through an electrolyte process. The minimum anodised thickness is 15 microns.

## Stainless steel finish

- Available in AISI-304 and AISI-316 in Scotch grain 400.
- AISI-316 stainless steel (optional) especially recommended for corrosive or saline environments.

## Mixed finish

- Combination of stainless steel and HPL finish.

- For other available finishes, please consult the Technical Department

# FRAMES FOR HERMETIC DOORS

The frames for Manusa's hermetic doors are designed to ensure that the doors operate correctly on any type of wall.

## HERMETIC SLIDING DOORS

The MK40 frame for hermetic sliding doors is designed to cover the door openings on one or both sides of the wall.

It is specifically designed to guarantee the door's airtightness, cleanliness and security. Its innovative clip assembly system allows the frame to rest on the entire surface of the finish chosen by the client and can be adapted to any wall thickness. It can also be used as a purely decorative element.

## HERMETIC SWING DOORS

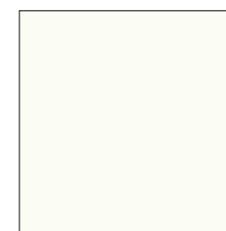
The MKB frame for hermetic swing doors is also designed to ensure the door performs optimally.

It makes it possible to cover the opening where you want to place the door on both sides, offering a smooth, solid block, also called a block frame, which ensures that the leaf is correctly coupled and supported.

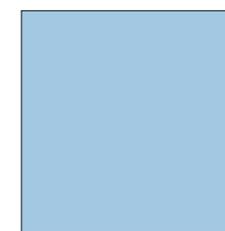
# FINISHES IN HPL

Due to the technical nature of printing, there may be differences between the printed colour and the real colour of the material.

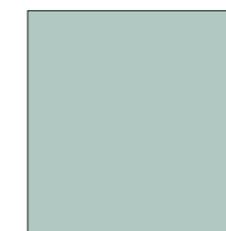
## STANDARD COLOURS



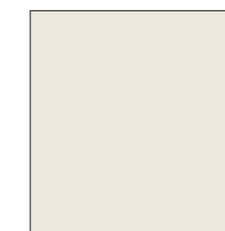
**White**  
Ref. 0085FH



**Arctic**  
Ref. 0718FH



**Sea green**  
Ref. 0630FH



**Pebble grey**  
Ref. 0742FH

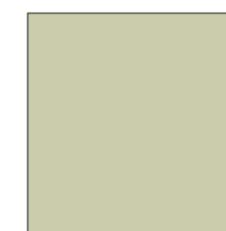
## NON-STANDARD COLOURS



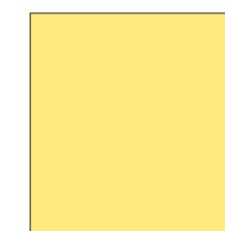
**Hygienic white**  
Ref. 0733FH



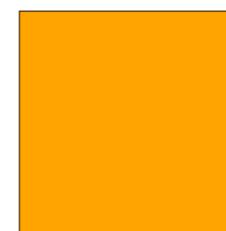
**Light beige**  
Ref. 0624FH



**Papilio**  
Ref. 0061FH



**Camomilla**  
Ref. 2124FH



**Diabolo**  
Ref. 0012FH



**Atlantic**  
Ref. 0717FH

# HERMETIC DOOR ACCESSORIES

**ACTIVATION:** Drive systems to control safe opening.



**DDS-S sensor**  
Side safety sensor.



**DDS-A and DDS-B hybrid sensor**  
Hybrid presence and movement sensor.



**Planar radar**  
Movement sensor.



**Planar radar 2.0**  
Directional movement sensor.



**Optima Prox+**  
Contactless drive.  
White or black finish.



**Contactless card reader**  
For coded cards.



**Photocell**  
Avoids accidental closure.



**Push button and elbow push button**  
Device for opening the door.  
Available in wireless, surface and recessed version.  
White or silver finish.

**CONTROL:** Systems to optimise efficient entry and exit management.



**Manulink interface**  
Control software  
Allows remote control and time programming.



**Openlink system**  
Door interconnector and controller. Remote management of automatic door operations from web browser and integration with industrial and building automation communication buses.

## OTHER CONTROL ACCESSORIES

Manusa e-Sat device, Technical service configurator.

## OTHER AVAILABLE ACCESSORIES

Ledglass leaf lighting \*\*\* Customised designs using LED lighting.

Glass with integrated Venetian blind \*\*\* A blind integrated into the glass.

Self-dimming glass \*\*\* Allows the transparency of the leaves to be changed for specific privacy needs.

People counter \*\*\* Crowd measuring system for knowledge of entrance and exit traffic.

**REMOTE:** To control the operating mode of doors and manage malfunctions.



**Optima+ selector**  
Automatic door control program selector.  
White or black finish.



**Optima Pocket+**  
Wireless automatic door control program selector.



**Smart program selector**  
Selects operating mode on LCD screen.



**Remote control**  
For remote management, can be combined with other controls.



**Optima selector**  
Basic selector for the control of the automatic door.



**DoorWifi selector app**  
Mobile app for remote door management.

**SAFETY:** Devices to control the entrance and exit, providing maximum user protection.



**Numeric keypad**  
Also available in wireless version.



**Outside key switch**  
Also available in wireless version.



**Lock**  
To open or close the door using other accessories, such as the outside key switch, the remote control or the control program switch.  
Floor lock \*\*\*  
ERO lock \*\*\*  
Leaf lock \*\*\*

\* Refer to the technical data sheets.

\*\* The characteristics described in this document are purely informative and are in no way binding.

\*\*\* Consult our commercial department.

The manufacturer reserves the right to make modifications without prior notice.

# OTHER SOLUTIONS

Solutions that adapt to the safety requirements of any environment.

Manusa focuses on the comprehensive management of solutions for the access and safety of people and places.

We guarantee the safety of any environment by installing solutions that are compliant with the most demanding regulations. Our products adapt to the needs of the different sectors and to the requirements of each project through sophisticated safety systems for the peace of mind of both customers and users.



## AUTOMATIC SLIDING DOORS

Automatic sliding doors are the most practical and functional on the market since they can be installed in main entrances, corridors, rooms, waiting rooms etc.

Versions available include bi-part, single slide, telescopic, curved and semi-circular. They can have transparent leaves or be entirely framed.



Partitioning



Entrance



Pharmacies



\* For more information about automatic sliding doors, please see the specific catalogue.

## SEMI-HERMETIC DOORS

Semi-hermetic sliding door for the healthcare sector, designed for rooms working with low differential pressure. This door is suitable for healthcare environments such as hospitals, white rooms or laboratories.

This type of door includes an aluminium frame and additional brushes on the leaf to reduce its air permeability.

It is made in aluminium and has finishes in glass, phenolic resin (HPL) or a combination of both.



Partitioning



Clean rooms



Laboratories



Pharmacies



## TELESCOPIC BREAK OUT DOORS

This type of door makes it possible to combine the telescopic opening with swing leaves. The leaves fold back on one another to provide maximum transit space on one of the sides of the door. Also, the leaves can be folded back simply by pushing them outwards to lie flat against a side, to allow extra transit space.

This is ideal for corridors or narrow areas where a complete opening is needed to facilitate the transit of stretchers, UCI equipment etc.



Partitioning



## BALANCED DOORS

This type of door is especially recommended in cases where there is minimal installation space and maximum clearance is needed, such as a hospital corridor.

It opens particularly quickly and smoothly and its speed and force can be controlled separately.



Partitioning



## FIXED WINDOWS

Fixed windows have been designed for visually monitoring the room from outside. They are mainly fitted in operating theatres, ICUs, X-ray rooms, etc.

Optionally, they include leaded protection or a system for regulating privacy using glass with an integrated venetian blind or self-dimming glass.

If required, they can also be made with fire-resistant profiles.



ICU



Radiology



Operating theatres





## FIRE RATED GLAZED DOORS

Fire rated glazed doors help to separate areas that pose a higher fire risk, preventing the propagation of fire outside of those areas, without the need to create unnecessary obstacles and always maintaining the aesthetics of the location.

The door remains closed and prevents the passage of flames, smoke, gases and significant heat transfer to the unexposed surface for a certain period of time (30 or 60 minutes, depending on the model).



Partitioning



Car park

\* For more information about fire rated glazed doors, please see the specific catalogue.

## PANIC BREAK-OUT DOORS

This product is particularly suitable for doors located on evacuation routes. In normal mode, a door with this type of leaf operates normally, but in the event of an emergency, a simple push is enough to fold the leaves back to the sides to provide a wider clearance.

There are different types of leaves with 40, 44 or 45mm thicknesses to cover the aesthetic and functional options required.



Partitioning



Car park



Emergency exit



\* For more information about panic break-out doors, please see the specific catalogue.

## ACCESS CONTROL SYSTEMS FOR BATHROOMS

This is an innovative opening system for controlling the entry to and exit from bathrooms using a validation or push button system. There are four possible opening systems adaptable to each client's needs:

- Single-door control
- Two-door control
- One-door control with a single inside button
- One-door control with a single outside button

This access system is designed to adapt to bathrooms that are accessed by a single door, shared bathrooms with two access doors, or an airlock system door. This solution is applicable for any type of automatic door, be it swing or sliding.

It is composed of an online operator and Manusa's own smart system consisting of a control box and an interface with buttons for opening, closing and locking. The buttons can also light up to show the status of the door and the bathroom (occupied and vacant).

This system may be installed in places where it is necessary to have an advanced and electromechanical control of bathroom access, such as hospitals, nursing homes, day-care centres, etc. and where there might be users with reduced mobility.



Clean rooms



Pharmacies



Partitioning



ICU



Operating theatres



Offices



## CUSTOM-MADE SOLUTIONS

We have a large R&D+i team with enough experience and know-how to carry out any project they are given. We offer 360° solutions that include all aspects of a hospital, since we are equipped with the latest technology to facilitate the optimisation of every process and the creation of smart solutions.

### REMOTE MANAGEMENT

- Any action that you need to take in relation to your access can be managed from your mobile phone.
- Allocation of keys and access permissions.
- Creation of spaces for managing and grouping different accesses together.
- Different profile types, which make it possible to match functional features to individual needs.

### AIRLOCK SYSTEM

Some hospitals have rooms that need to be controlled to prevent the transmission of pathogens, such as ICUs, acute burns units, laboratories, etc. In these cases, safety and strictly controlling access are of critical importance, and the airlock system makes this possible.

Regardless of the type of doors and access control chosen, the airlock offers many different external control and connectivity options so that it can be integrated into other control systems in the hospital and be managed and supervised.



ICU



Partitioning

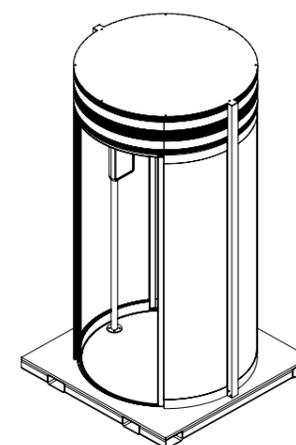


Pharmacies



Laboratories

### AIRLOCK SYSTEM WITH SLIDING DOOR



Airlock system with circular sliding door

Wide range of operating and safety accessories:

Movement switches, pressure switches, thermal switches, vision camera systems, card readers, biometric readers, facial recognition systems, RFID readers, volumetric systems.

# FAQS ON HERMETIC DOORS

## What distinguishes hermetic sliding doors from non-hermetic doors?

Manusa's hermetic sliding doors help to keep the room free from any external contamination, sealing the entrance to maintain a pressure differential between two adjoining rooms. They also optimise the use of treated air within a surgical area, and reduce the operating costs of an operating theatre or clean room.

In the case of clean rooms or operating theatres, clean air is pumped from inside the room, maintaining an overpressure that prevents pathogens from entering; hermetic automatic doors minimise any air leakage so the pressurisation system operates more efficiently.

Morgues, by contrast, work at a negative pressure to ensure pathogens do not leave the room. In this case the air leaving the room is filtered to remove the pathogens and clean air is pumped in.

## Where can glazed hermetic doors be installed?

A common application for this type of door leaf is in ICU and CCU rooms, so that patients can be monitored and supervised from outside the room. The airtightness is guaranteed between the leaf and the frame and the floor, providing a perfectly hermetic seal around the perimeter of the door opening and therefore maintaining the positive or negative pressure (depending on the environment's specifications) in the clean room; with the added benefit of fully glazed leaves.

## What materials are used to manufacture the leaves of lead-lined doors in radiology departments?

Lead-lined hermetic doors are manufactured with the same structure as standard hermetic doors, in other words, aluminium frame with a high-density polyisocyanurate (PIR) core, lead layers with the requested thickness and the final visible coatings of high-pressure laminate (HPL) or stainless steel.

## What does Axis and Manusa offer in terms of maintenance and repairs?

Axis and Manusa has a professional team that will help guarantee the proper operation of your doors and protect the people that pass through them each day. Keeping your equipment up to date in accordance with current legislation is key to preventing accidents, since user safety is paramount.

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