



Besam Activation Units

Facilitates opening

Each automatic door operator must be provided with activation units, which instruct the operator to open the door. Different doors and traffic situations require different activation units.

The activation units can be divided into two main types; automatic ones, which are installed mainly for doors used by the general public,

and manual ones for internal doors and for situations where people are acquainted with the premises. There are also possibilities to combine the two types for the same door.

For various needs and desires

A decisive factor in ensuring that automatic door operators work perfectly is of course your choice of the right activation unit. Choice of an activation unit of the same high

quality as the door operator is a prerequisite for avoiding operational problems and achieving maximum efficiency from the entire automatic door system.

Where activation units are concerned it is our aim to offer the best and most reliable ones on the market. Which one you choose depends on the requirements in your particular case. We have them all.

Automatic activation units

Combined presence and activation sensor for sliding doors

The intelligent sensor for sliding doors

Such a sensor is a combined approach and presence sensor. Snow build-up, placement and removal of walk-off mats and merchandise displays are no longer a problem.

The sensor is based upon the latest technology together with Besam's long experience of door automation. The sensor represents the result of an on-going development programme focused on continuous use, safety and maximum service life. The sensor is just as suitable for external and internal sliding doors

for nursing homes and hospital corridors – where the requirements are for safety and reliability – as it is for department stores, banks, hotels etc. with high density traffic and difficult operating conditions.

Safety is a trademark

The sensor offers a high degree of safety. It detects the presence of people or objects close to the door. The door is then prevented from closing on to somebody or something obstructing the door.

To meet the requirements of local authorities it may be necessary to incorporate additional safety units.

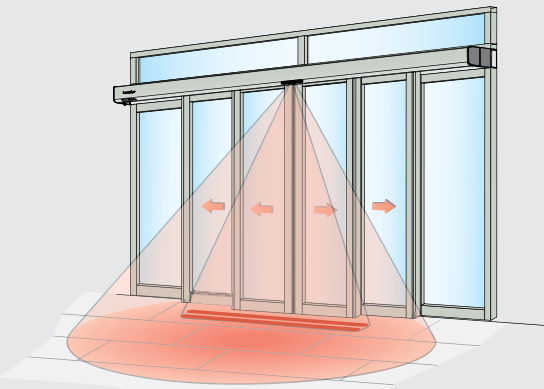
We recommend that you call your Besam area sales contact to assist you in specifying these products. We can help you to ensure that each installation meets the requirements and recommendations of national standards and regulations.

Reduces energy losses

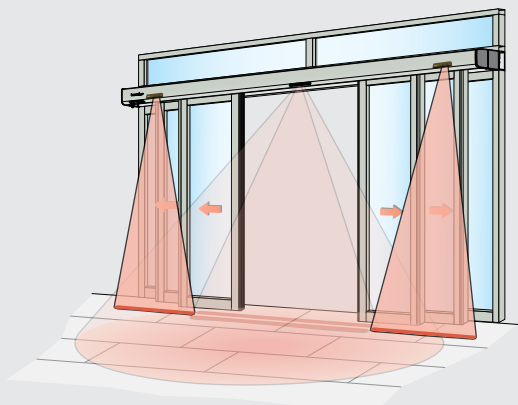
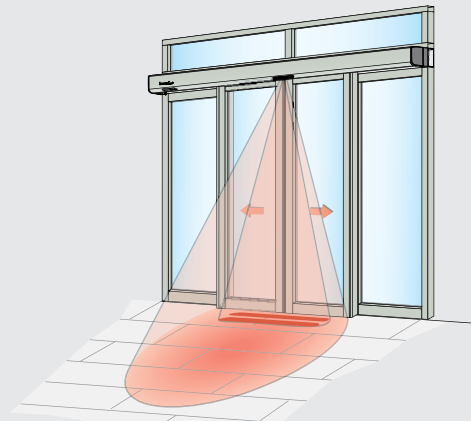
Advantages of using the intelligent sensor are that it is direction sensing and learns to ignore impulses from objects placed for a certain time in the approach zone. This decreases the time the door is open. Thus heat and energy losses are significantly reduced.

Sliding door operators

Wide detection zones



Narrow detection zones



Side presence detection for sliding doors

Side presence sensors are used to protect users from being struck by the doors during their opening cycle. Side presence sensors are always combined with threshold presence sensors.

If return wall/corridore - use pocket screens. Pocket screens can not be used with telescopic doors.

Radar units

Available as motion or direction sensing. The radar unit acts as both transmitter and receiver and detects moving persons or moving objects in a suitable area close to the automatic door. It operates with the microwave principle.

Included in the Besam range of radar units there are models which, when combined with a Besam micro-processor-controlled door operator, can have their function constantly monitored.

If any malfunction on the radar

unit is detected the door will open and stay open, thus indicating a problem, together with ensuring a safe exit route.

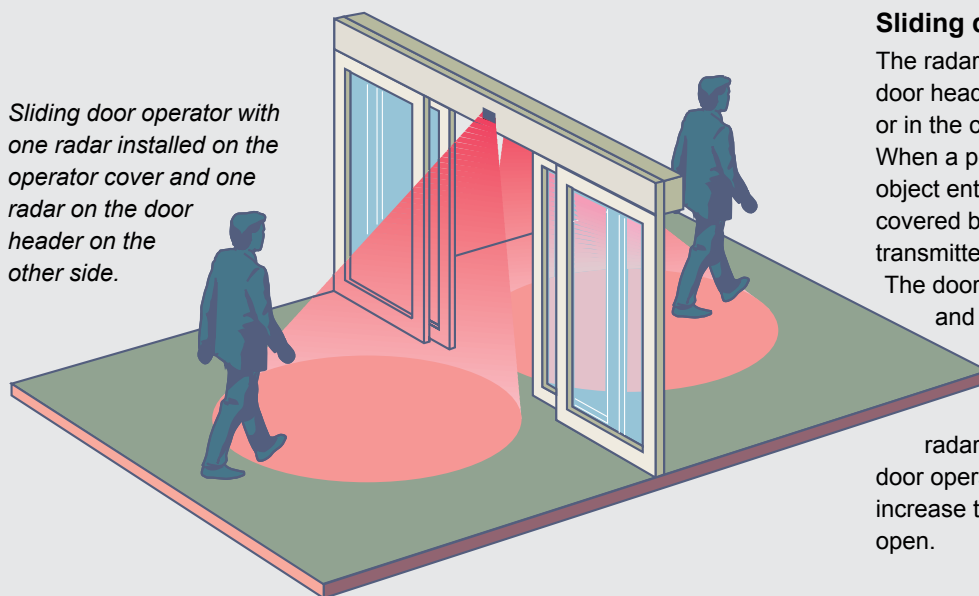
Differences between motion and direction-sensing radars

A conventional type of radar activates the automatic door when someone is moving inside the detection area, regardless of whether the person is moving away from or approaching the door.

The direction-sensing radar can

tell whether somebody is approaching the door or going away from it. It detects the direction of the movement.

A person approaching the door (and the radar) triggers the door operator. If the person moves away from the radar, no impulse to the automatic door is triggered. The time the door is kept open is substantially decreased compared with a conventional radar. The energy losses from heating and air-conditioning systems are noticeably reduced.

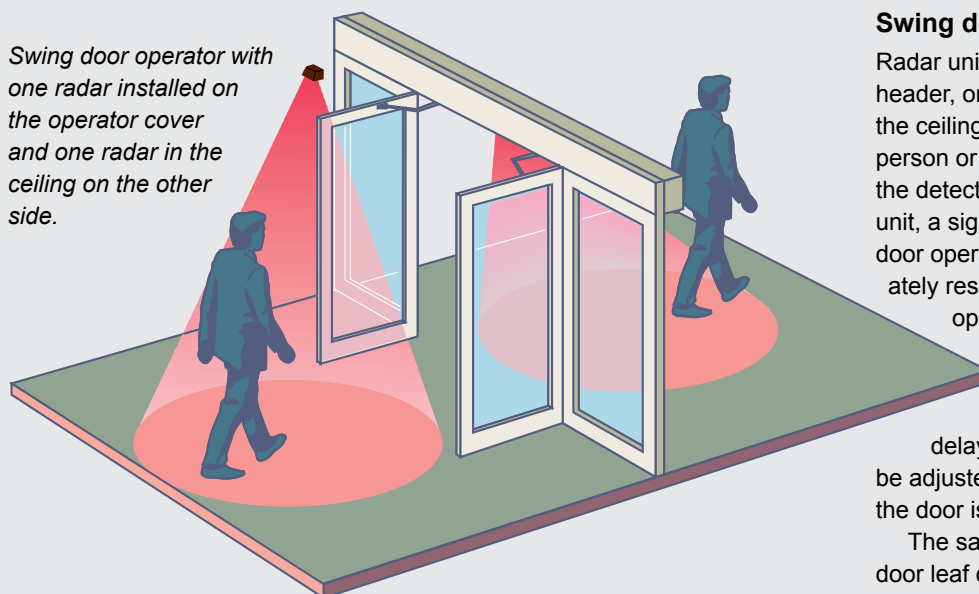


Sliding door operator with one radar installed on the operator cover and one radar on the door header on the other side.

Sliding doors

The radar units are placed on the door header, on the operator cover or in the ceiling close to the door. When a person or any moving object enters the detection area covered by the unit, a signal is transmitted to the door operator.

The door immediately responds and moves to the open position. The door closes when no movement is recognized by the radar. The time delay in the door operator can be adjusted to increase the time the door is kept open.



Swing door operator with one radar installed on the operator cover and one radar in the ceiling on the other side.

Swing doors

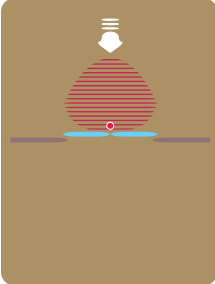
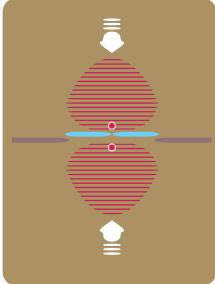
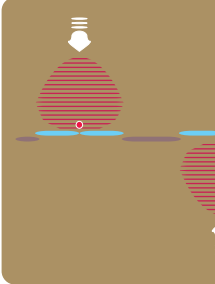
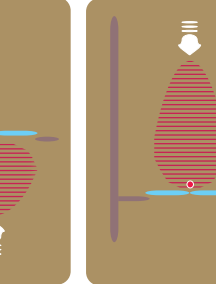

Radar units are placed on the door header, on the operator cover, in the ceiling or on the wall. When a person or any moving object enters the detection area covered by the unit, a signal is transmitted to the door operator. The door immediately responds and swings to the open position.

The door closes when no movement is recognized by the radar. The time delay in the door operator can be adjusted to increase the time the door is kept open.

The safety on both sides of the door leaf can be enhanced by door mounted presence sensors.

Applications to meet various traffic situations using radar units

The illustrations show some common radar applications and the importance of having the correct detection area to avoid disturbances in the traffic flow.

One-way traffic	Two-way traffic	In-Out traffic	Narrow openings	Wide openings
				
<p>One radar unit on one side of the door. Used where there are separate doors for entering and leaving the building.</p>	<p>Radar units on both sides of the door. Used on most entrances.</p>	<p>One radar unit on the outside of the entrance door and one on the inside of the exit door.</p>	<p>Radar units with long and narrow detection areas.</p>	<p>Radar units with short and wide detection areas to prevent passing traffic from activating the door.</p>

Photocell units

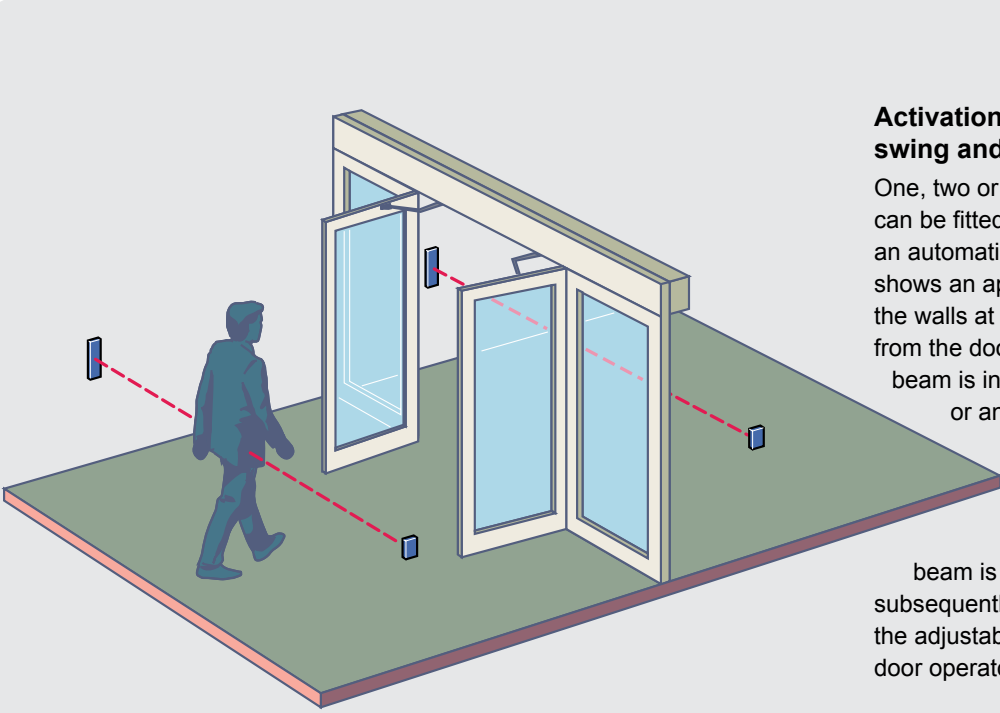
The photocell units, working with modulated infra-red light, consist of one transmitter and one receiver. The photocells can be used as activation units for automatic doors or as presence detection units to prevent

the door from closing.

If the photocell units are fitted for presence detection together with a microprocessor-controlled Besam automatic door operator the function of the photocell system can be con-

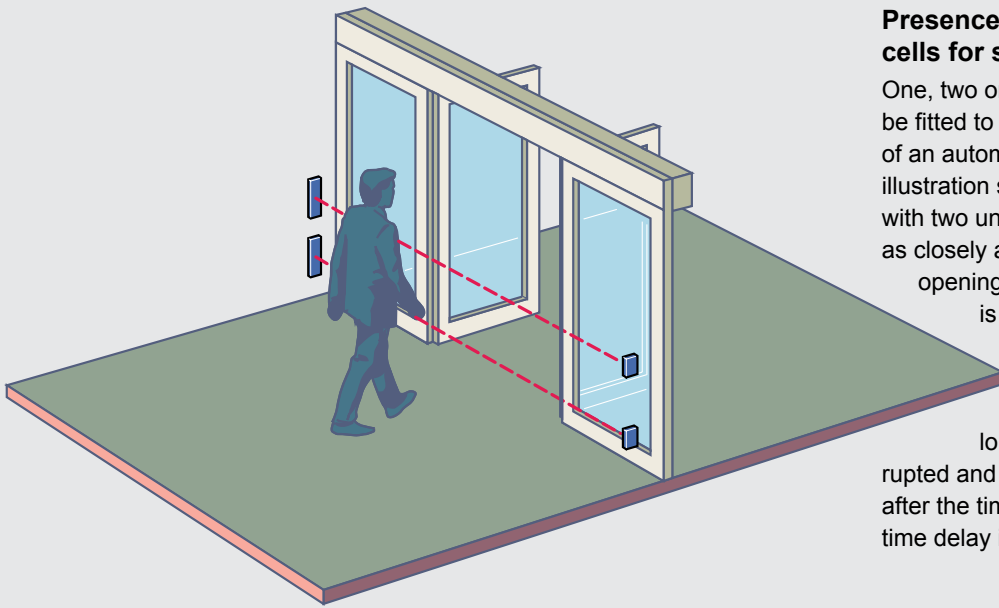
stantly monitored.

Before every closing cycle the function of the photocell is checked. If the function is faulty the door will stay open.



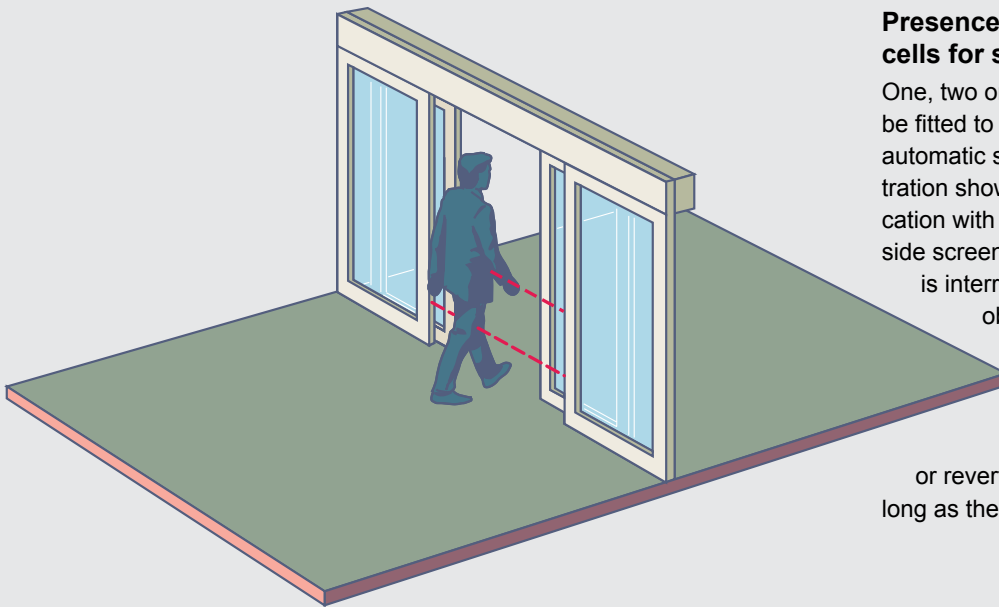
Activation photocells for swing and sliding doors

One, two or more photocell units can be fitted as activation units of an automatic door. The illustration shows an application, installed on the walls at an appropriate distance from the doors. If the photocell beam is interrupted by a person or an object, a signal is sent to the door operator to open the door. The door remains open as long as the beam is interrupted and closes subsequently after the time set by the adjustable time delay in the door operator.



Presence detection photocells for swing doors

One, two or more photocells can be fitted to enhance the safety of an automatic swing door. The illustration shows an application with two units installed on the walls as closely as possible to the door opening. If the photocell beam is interrupted by a person or an object when the door is open, the door is kept open as long as the beam is interrupted and closes subsequently after the time set by the adjustable time delay in the door operator.



Presence detection photocells for sliding doors

One, two or more photocells can be fitted to enhance the safety of automatic sliding doors. The illustration shows a sliding door application with two units installed in the side screens. If a photocell beam is interrupted by a person or an object when the door is in open position or during the time the door is closing, the door leaves will remain open or revert to the open position as long as the beam is interrupted.

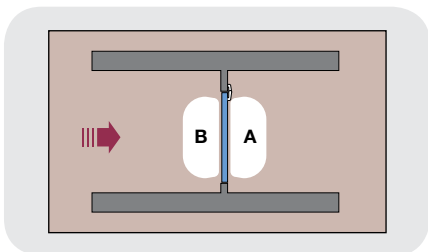
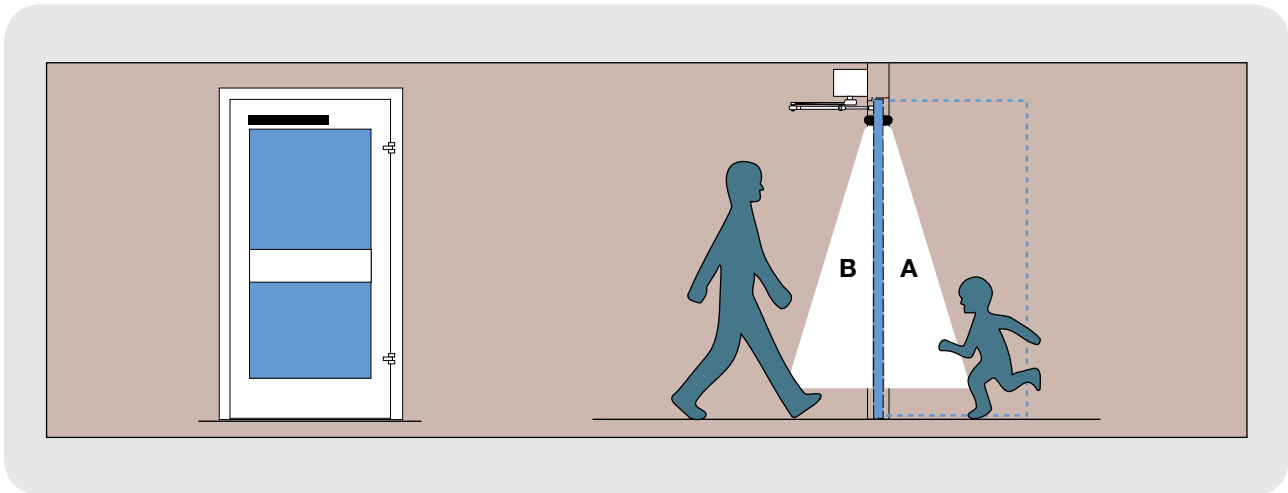
Presence and activation sensor for swing doors

The Besam active infra-red presence and activation sensor improves the safety for the traffic around and through the automatic swing door. It makes sure that the door is opened automatically, but at the same time it inhibits unwanted movement of the door. The sensor prohibits the door from opening if an obstacle is detected in the zone A or from closing if an

obstacle is detected in the zone B. If an obstacle is detected during door opening, the door ceases its motion. If an obstacle is detected during door closing, the door will reopen.

The transmitter and receiver units are integrated inside the sensor. The transmitter emits a pulsating infra-red (IR) light, invisible to the eye. The IR light is reflected against

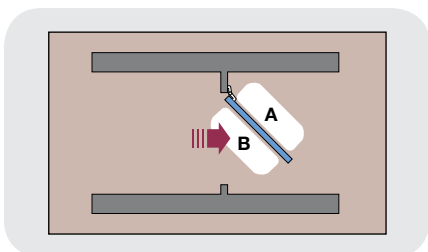
objects or persons in the detection zone. The reflected light is picked up by the receiver and converted into an electric signal, which gives a signal to the control unit of the door operator. The system is designed to suppress all light that does not originate from its own transmitter. The sensor detects presence, also stationary objects in the zone are detected.



Closed door

The unit on the B side, working as an activation unit, gives a signal to the operator to open the door if a person or an object enters the detection zone B.

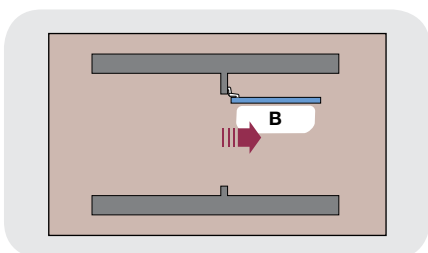
The unit on the A side, working as a presence detection unit prevents the door from opening if an obstacle is present in the detection zone A.



Opening and closing door

During the closing cycle the unit on the B side is working as a presence impulse unit. If a person or an object is detected within the zone B a signal is generated to the door operator to reopen the door.

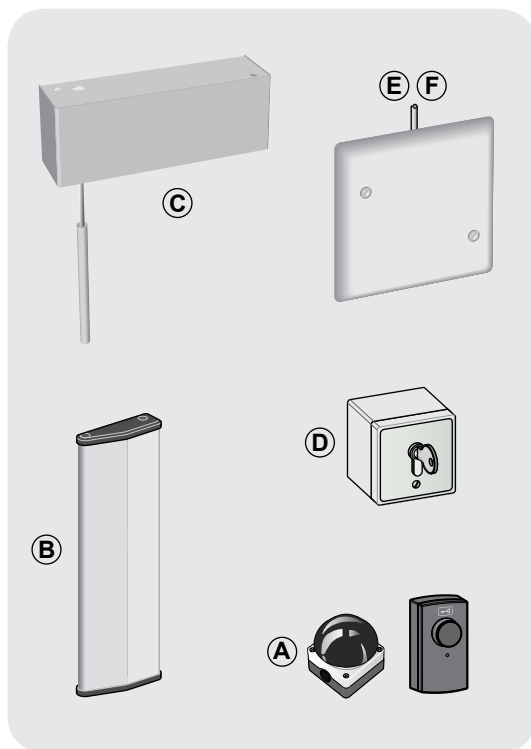
The unit on the A side, prevents the door from reopening if a person or an object is detected within the zone A.



Open door

The detection zone A has been disconnected to prohibit activation by the wall. The unit on the B side is now working as a presence impulse unit. If anyone stops in front of the open door, closing is prevented.

Manual activation units



- Ⓐ **Push buttons** for flush and surface mounting internally. For emergency use, stop buttons (twist release and non-locking) are available.
- Ⓑ **Elbow switches** for surface mounting on the wall. Different versions are available; made of grey impact-resistant plastic, or of clear anodized aluminium.
- Ⓒ **Pull-cord switches** for installation in the ceiling. Light-duty version for pedestrian traffic and heavy-duty version for vehicular and fork-lift traffic.
- Ⓓ **Key switches** for flush and surface mounting.
- Ⓔ **Kick switch** in stainless steel for surface mounting on the wall. The transmitted signal is pneumatic which makes the kick switch "explosion proof".
- Ⓕ **Push plates** in stainless steel for flush or surface mounting.

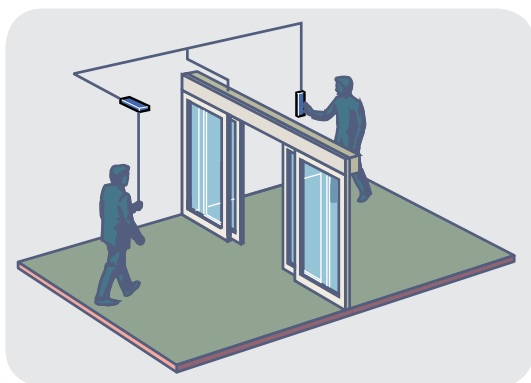
Special applications:

Handicapped – due to the varying specific needs of the handicapped a wide range of special activation units are available. All these units can be interfaced to activate Besam automatic door systems.

Access control – card readers and access control systems are other suitable activators for Besam automatic door systems.

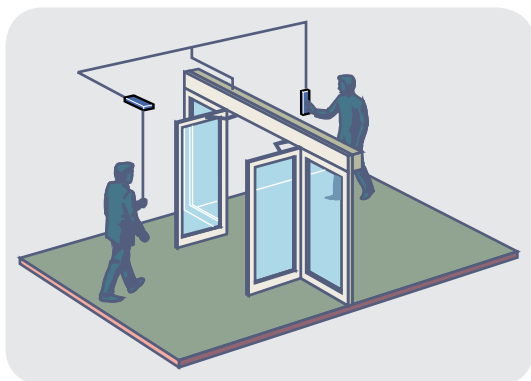
Remote control – all types of audio, radio or infra-red remote control activators are also available for use with Besam automatic door operators.

The Besam operators all have built-in power supplies for external activation units and electric locks.



Sliding doors

Push buttons, elbow switches and key switches are placed on the wall while pull cord switches are fitted in the ceiling, all at an appropriate distance from the door. When a person pushes the button, turns the key or pulls the cord, a signal is transmitted to the operator. The door then immediately moves to the open position. The door closing is automatic by an adjustable time delay in the door operator or manual with the next push or pull.



Swing doors

Push buttons, elbow switches and key switches are placed on the wall while pull cord switches are fitted in the ceiling, all at an appropriate distance from the door taking into consideration the swinging arc of the door. When a person pushes the button, turns the key or pulls the cord, a signal is transmitted to the operator. The door immediately responds and moves to the fully open position. The door closing is automatic by an adjustable time delay in the door operator or manual with the next push or pull. The safety on both sides of the door leaf can be enhanced by door-mounted presence sensors.

Besam opens all doors

Besam has a complete range of automatic door operators for sliding doors, curved sliding doors, swing doors, balance door systems and revolving doors. The door operators are adapted to suit all applications from low use, light weight doors suitable for the disabled, through high activity equipment for airports, supermarkets, hospitals

etc. Functioning in virtually every operating environment of the world an automatic door from Besam will meet or exceed all the operating standards of every country they operate in.

To ensure that the equipment meets the operating parameters of each particular project our automatic operators are complemented by a

wide range of accessories including activation units – from simple push buttons to sophisticated radars – electric locks, programme selectors etc.

Considerable expertise is required to ensure the right choice of equipment and Besam is always pleased to provide technical and application advice.



For every automatic opening of ...



Sliding doors ...



Curved sliding doors ...



Swing doors ...



Balance doors ...



Revolving doors ...



Besam always delivers a reliable operator.

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