

Safety Roller Door

Approvals:



Applications:

In and out passage to risk area

Protects from outflying particles e.g. chips and welding splash

Features:

Highest safety level according to EN 954-1

Prevents unintentional start

Manages harsh environments

Fast

High reliability

Noise absorbing

Roller door for short safety distances and narrow spaces

Safety Roller Doors make it possible to have a short safety distance to the machine. The noise absorbing roller door is compact and it can therefore be placed in narrow spaces. It is easy and quick to access the machine or the service place with the Safety Roller Door.

It demands a minimum of maintenance and it is reliable in running. To be able to start the machine/plant the door has to be completely closed. The closed position is monitored by the Eden non-contact sensor from Jokab Safety. As soon as the door begins to open Eden sends a signal to the machine/plant via the Pluto Safety-PLC from Jokab Safety. The roller door fulfills safety category 4 together with Eden and Pluto.

Protects against welding splash

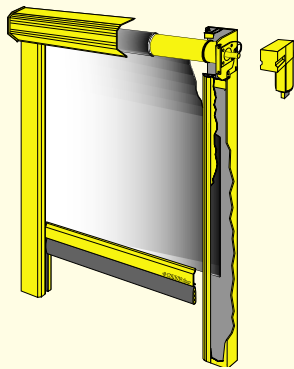
The roller door protects against outflying particles, such as chips and welding splash. The roller door fabric is also resistant towards a great number of chemicals which enables it to be installed in harsh environments.

Simple assembly

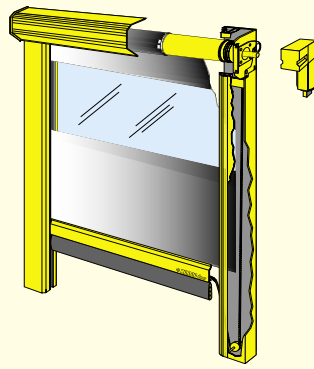
The Safety Roller Door is simple to assemble because it consists of few components and it is supplied partly pre-assembled. It can be integrated into the Quick-Guard fencing system from Jokab Safety as well as in other types of fencing systems. It can also be installed on the machine or other permanent construction.

Customized roller door

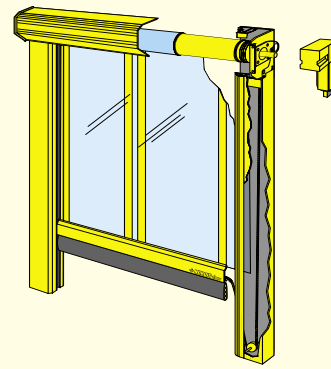
There are good possibilities to customize the door. The largest possible opening width is 4000 mm and the largest possible opening height is 3000 mm. The maximum size of the door-cloth is 10 m². If a larger door-cloth is desired, contact Jokab Safety. The door is supplied as standard with a light-grey door-cloth. Other colours are possible as well. The roller door can be supplied with a sight window in full width and at an optional height. The sight window can also be made in a special material that protects from welding splash. The door cloth can also be made completely transparent with yellow vertical enforcements.



Standard cloth



With sight window



Fully transparent

Function

Highest protection according to EN 954-1

The monitoring of the door's position by two Eden sensors together with monitoring unit Pluto fulfills category 4 according to EN 954-1. These units are certified by TÜV and DNV.

Functions

The door protects against access to moving parts in the machine/plant. The production can begin when the door is fully closed. The closed position is monitored by an Eden sensor on both sides of the door. Because the door is monitored on both sides it is impossible to lift the door on one side and reach into the risk area without the machine/plant stopping. When the door has moved a maximum of 10 mm upwards a stop signal is sent to the protected machine/plant. The Eden sensors are monitored by a Pluto Safety-PLC which has failsafe outputs for stopping the machine/plant in the risk area and to control the door.

The door also protects from outflying particles from the production process, e.g. chips and welding splash. It has a good sound absorbing ability. Because the door is fast, 0.8-1.0 m/s, the operator has a good access to the machine area. The door is equipped with a safety contact

strip in the bottom preventing it from causing injury on any person. When the safety contact strip is affected the door is reversed to its upper position. The opening and closing of the door can be controlled via the buttons or via the signals from the control system of the machine.

Prevent unintentional start

When the door is assembled in front of the machine/plant where the operator can enter the area with his entire body a safe interlocking of the door's downward movement is needed. This is to prevent the machine from being started from the outside when somebody is inside the roller door.

One way to solve this is to use a horizontal light curtain which covers the area which the operator can occupy within the risk area. Another solution is to place double light beams in the opening combined with reset. Yet another solution is to use time-reset. A time-reset button is placed inside the risk area and a button is placed outside the risk area. First, the button in the risk area should be pressed and thereafter (within a certain amount of time e.g. 5 second) the button outside should be pressed. After this the door can be manoeuvred downwards.

Safety distances & standards

Minimum safety distance

For the roller door to be able to provide good protection it has to be assembled a sufficient distance away from moving machine parts.

Useful standards

EN 294 Safety of machinery – The safety distances preventing the risk area to be reached by the upper body.

EN 811 Safety of machinery – The safety distances preventing the risk area to be reached by the lower body.

Note. The roller door has good protection against welding splash and smaller outflying particles from the production. The roller door is not intended as a collision protection. The installer of the roller door has the responsibility to ensure that sufficient safety distance against moving machine parts has been taken.

Technical data – Safety Roller Door

Manufacturer	JOKAB SAFETY AB, Sweden
Colour	Frame - yellow, door cloth - grey Other colours available on request.
Ordering data	Safety Roller door +sight window, fully transparent or sight window with protection from welding splash. Daylight width & height.
Maximum size, door cloth	10 m ² If larger size is needed, contact Jokab Safety AB.
Maximum width	4000 mm
Maximum height	3000 mm
Driving unit	Three phase motor 200-415 VAC 50-60 Hz, 0,65 kW GFA
Speed, roller door	0,8 – 1,0 m/s up/down
Max. number of cycles/minute	3 (during continuous operation 24 h a day)
Material door cloth	Multi-layer polyester cloth with PVC, 2 mm thick or transparent PVC. The sight window can also be supplied with protection against welding flash light. (Removes 99% of the UV-transmission from the welding process)
Colour of door cloth	Grey (RAL 7038), can be supplied with recessed window (only in full width). Other colours are possible. Can even be made transparent. (with yellow vertical enforcements)
Material frames	Aluminum extrusion
Material covering plates	PVC-covered steel sheet metal laquered with RAL 1023
Material upper wall-mounting	5 mm sheet metal covered with Zink
Sound absorption	approx. 10dB
Ambient temperature	0°C to +55° When operating in temperatures below -5°C, the oil in the gear-box should be replaced with an oil adapted for low temperatures.
Safety level	Category 4 according to EN 954-1
Durability towards chemicals	Ammoniac, sodium hydrate, phosphoric acid, tartaric acid, oxalic acid, chlorhydric acid, citric acid, acetic acid, oil, detergent, calcium chloride (contact Jokab Safety for more specifications)
Control monitoring unit for roller door	Jokab Safety's Safety-PLC, Pluto
Outputs	4 safe outputs for connection to machine/plant.
Monitoring of position of the roller door	2 Eden-sensors, one on each side of the door.
Contact strip	GP25-40 in the bottom frame of the door cloth. The door is reversed when affected.

