



MecLock[®] Safeguards
with integrated operator protection

BROCHURE

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"Nothing is more powerful
than an idea whose time has come."

Victor Hugo



Excellent technology

Ernst Pfister, the Minister for Economic Affairs, bestows the Innovation Award of Baden-Württemberg to Strasser Maschinenbau GmbH for the invention of MecLock safeguards.

MecLock - the new benchmark for operator protection

MecLock technology

The core element of the patented MecLock technology forms a purely mechanical contact strip which stops the safety equipment with no overrun. The anti-trap system is implemented without electronics or control signals. The MecLock system is integrated in all Strasser safety equipment, such as safety doors or safety lifting columns.

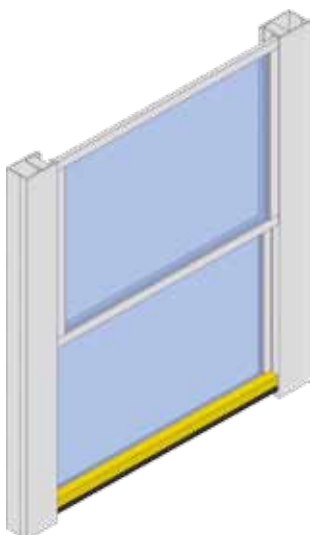


How does MecLock work?

During the loading processes on machines it is necessary to close moving guards quickly and safely.

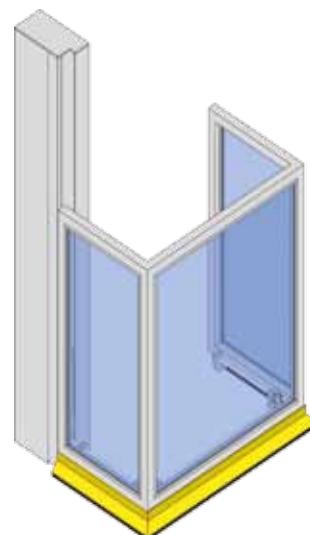
To achieve this, the door panel or protection field is operated pneumatically or electrically. If the worker or robot reaches into the moving protective guard while it is closing, the contact strip is turned mechanically. This turning triggers an immediate, self-restraining block of the guard in the guidance system. The actuator system disconnects itself automatically and moves back into the end position. The overrun-free stop of the door panel or protective field prevents trapping the operating personnel in the guard. During the return Stroke of the actuator, the guard is automatically recoupled.

One safety system - numerous possibilities



Safety doors

Overview on page 12



Safety lifting columns

Overview on page 14

Work station safety

The new machine guideline

Since Dec 29, 2009 the new EC machine guideline 2006/42/EC is mandatory for all machine manufacturers. The reason for updating this EC law was the increased number of work accidents, especially with so-called "incomplete machines". The modification of the machine guideline has extensive safety-related and liability legal consequences for both manufacturers and suppliers, across a variety of industries. Along with the required risk assessment, requirements for ergonomics, machine controls or safety equipment were also newly regulated.

To meet the increasing requirements for machine safety, even suppliers of "incomplete machines" must perform a risk analysis and take the corresponding safety measures. As specialist for safety equipment, Strasser offers with the MecLock system a solution ready for installation and thus saves you the struggle through the jungle of standards.

Investment in safety is worth it

An exact estimate of return on investment in work safety is difficult, of course.

However, investments in reliable safety technology are not only morally mandatory, but also beneficial in economical aspects:

Example case

Your company's sales: 10 million euro
Return on sales: 5%

Compensation for damages
for the loss of one finger: 20,000 euro

**Additional sales required to pay
for the work accident: 400,000 euro**

In this case example already 4% of future sales growth is necessary to pay for the damages.

Savings possibilities by using the MecLock system

Design	Procurement	Start-up	Operation
Risk analysis Standards research Documentation in accordance with MD TÜV inspection	Configurable product modules 100% functional testing Turnkey system	Simple and fast machine connection Reduced programming expenditure Preset speed profile	Maintenance-free safety system Minimum machine cycle times High protection against manipulation Optimum ergonomics

MecLock - Safeguards without overrun

Advantages of safeguards with integrated MecLock technology



self-retention of the door panel



automatic decoupling of the actuator

Safety

Inherent safety through self-locking mechanical anti-trap protection

Trap protection remains even with total loss of energy or PLC malfunctions

Minimal stop force which is independent from door panel weight or speed

No increase of overrun at higher speed or weight

Reliable protection against shatter, noise, liquids or radiation

High protection against manipulation through built-in system

TÜV-certified safety system

Productivity

Reduction of cycle time through high door speed and minimal loading distance

Easy commissioning and documentation through ready-to-install system

Compact design saves expensive production area and improves working ergonomics (reaching depth)

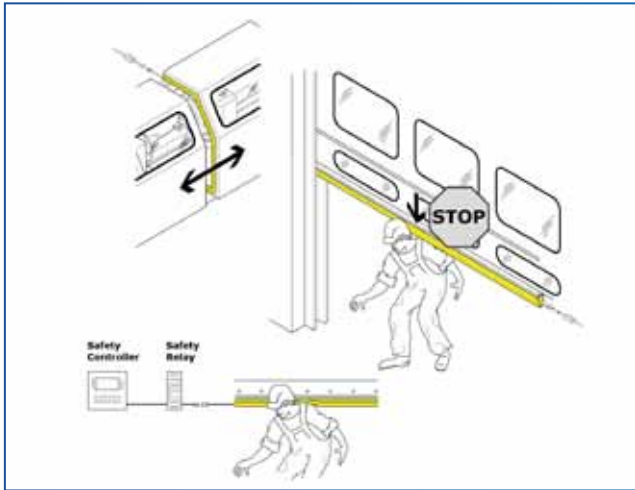
Maintenance-free safety system without annual maintenance costs

No process interruption through unintended staff interference in light curtains

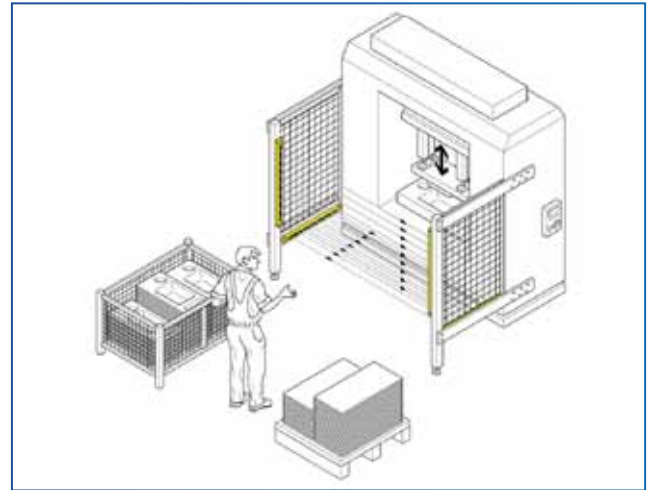
No machine down time due to broken sensor cables

MecLock - symbiosis of safety and productivity

Operator protection with conventional safety guards



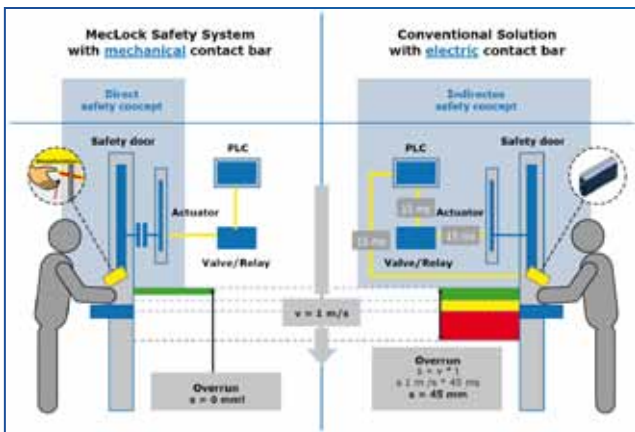
Safeguards with electric safety edges or bumpers



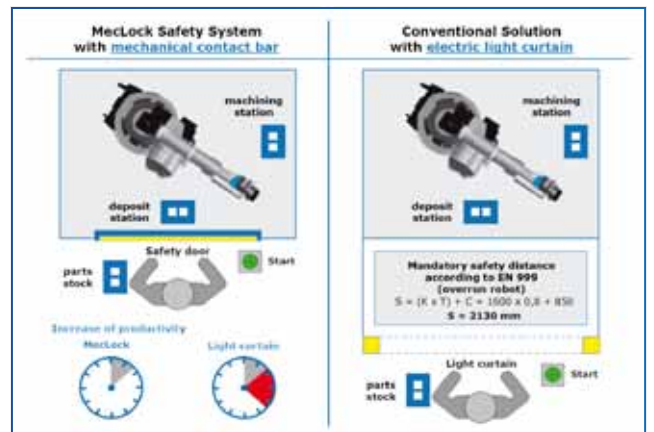
Safeguard with electric safety light curtains

Disadvantages:
low closing speed

Disadvantages:
large loading distance

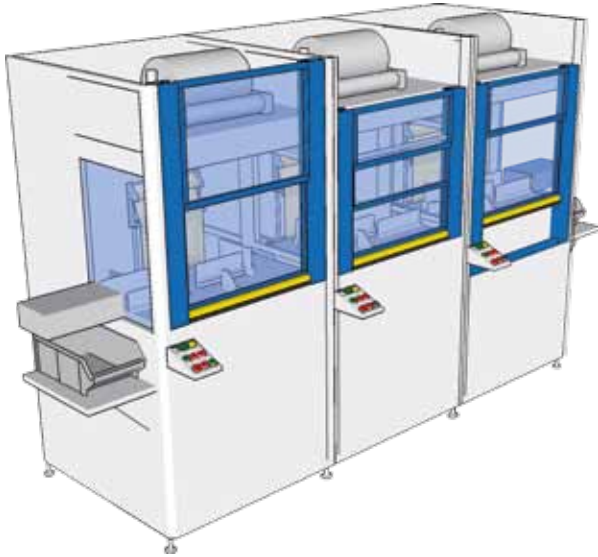


close faster



load faster

Possible applications for MecLock safety doors



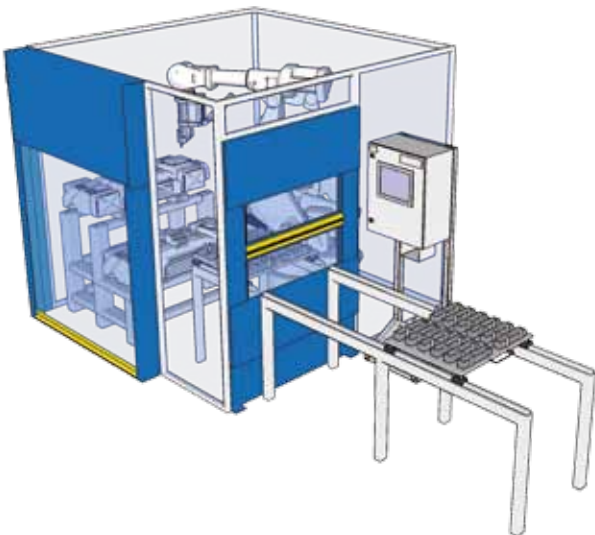
Assembly cell

Assembly cells with different versions of MecLock safety windows (FLTR standard, telescopic, shortenend frame).



Laser labeling station

Vertical safety window impermeable to light in a tilted mounting position for optimal working-ergonomics.



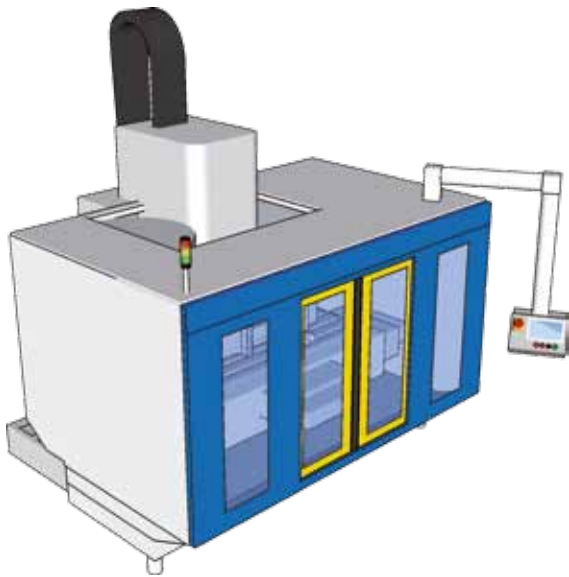
Robot cell

Robot welding cell with vertical safety gate and double safety window with posts for simple loading and unloading.



Testing cell

Steel vertical safety window with integrated observation window.



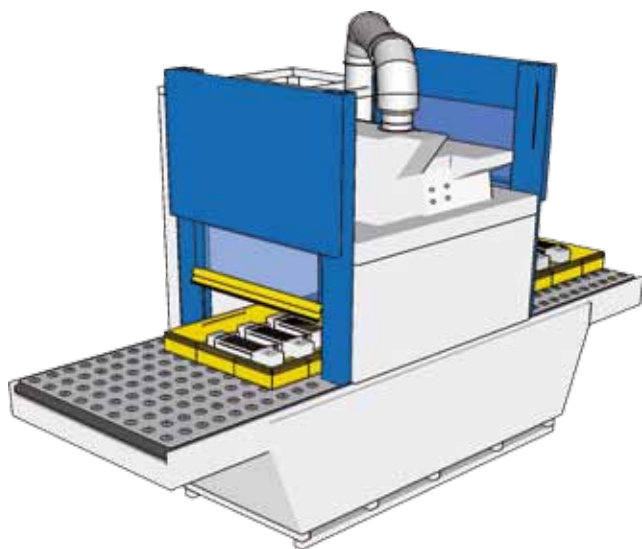
Machine tool

Machine tool with integrated horizontal safety window for fast loading and unloading.



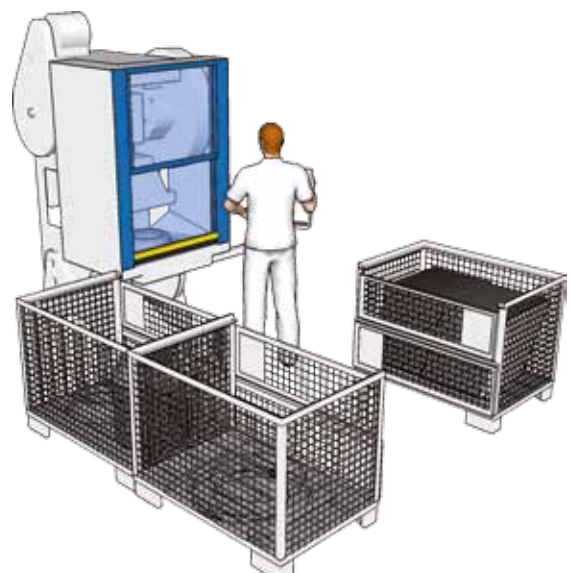
Punching machine

Sand-protected safety window with viewing window.



Cleaning unit

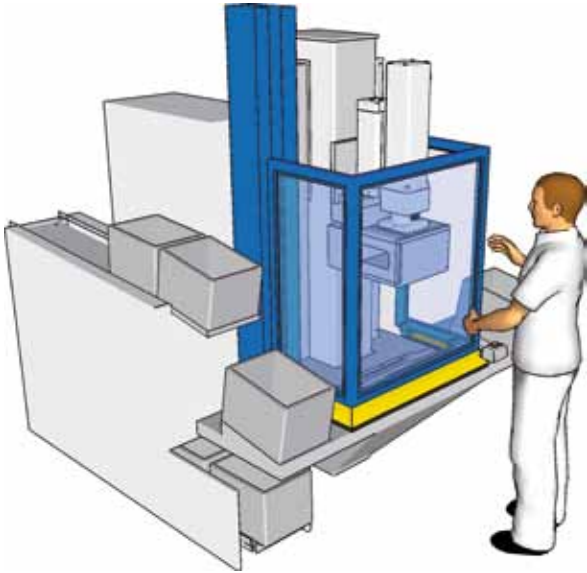
Cleaning unit with splash-proofed stainless steel safety window without bottom strut.



Excentric press

Vertical safety window mounted on an excentric press with lateral protective plates.

Possible applications for MecLock safety lifting columns



Assembly station

Assembly station with U-shaped protection field.



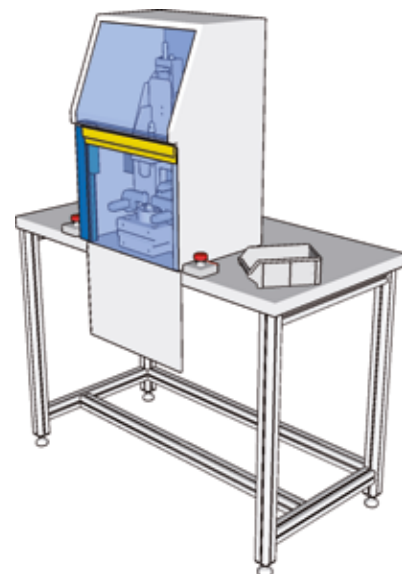
Checking station

L-shaped protection field for two-sided approach.



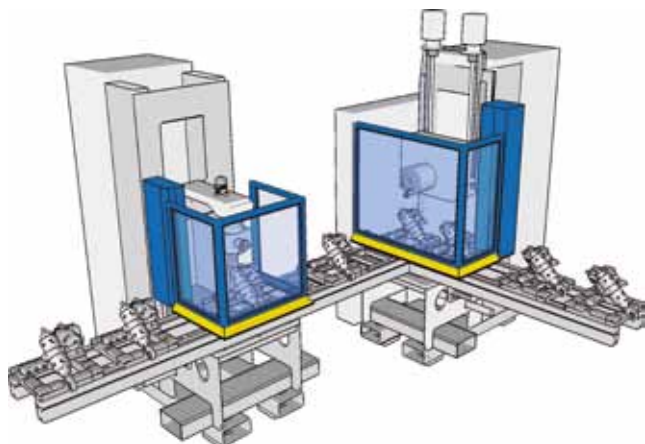
Press-in device

Manual work station with integrated safety lifting column in a tilted mounting position for optimal working-ergonomics.



Manual work station

Joining device with I-shaped, downward moving protection field.



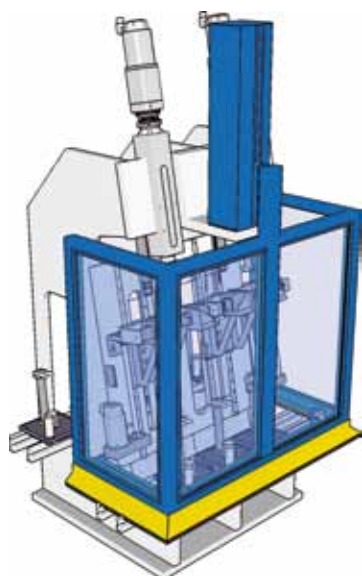
Assembly line

Safety lifting columns (left and right version) integrated in a chained assembly line.



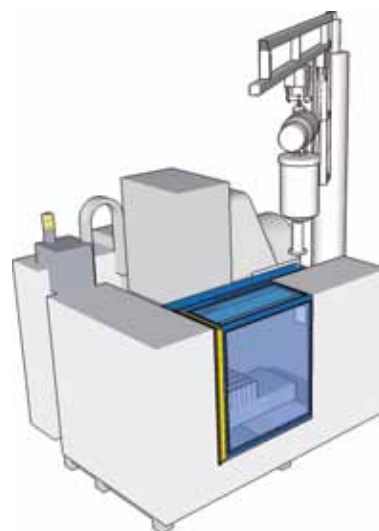
Test apparatus

MecLock safety lifting column with built-on safety cover and without mechanic contact strip.



Automatic assembly machine

Fully automated assembly station with lifting column above for readily accessible working space.



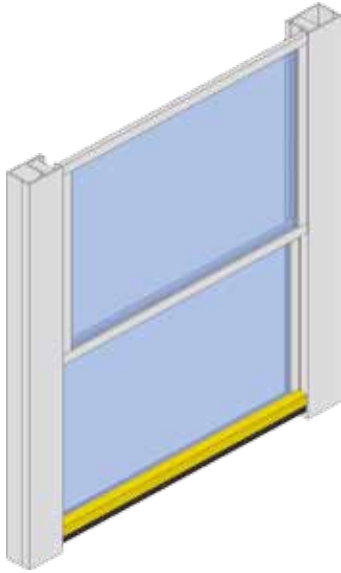
Machine tool

Minimal non-productive time due to horizontal mounted safety lifting column on a milling center.

Overview MecLock safety doors

Vertical safety window

Series C



SFV.C-1500

middle protection range
available with shortened panel
regular speed

Technical Data

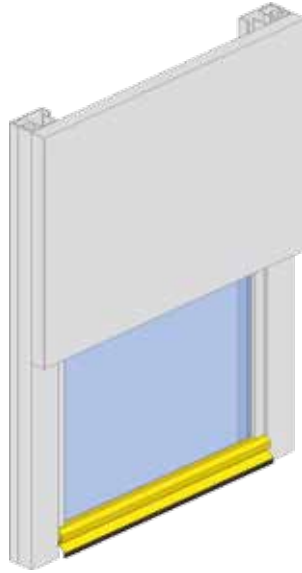
Mounting position	vertical
Actuator	pneumatic
Stroke	max. 1200 mm
Clear width	max. 2000 mm
Average closing speed	max. 0,8 m/s max. 2,63 ft/s
Door panel weight	max. 60 kg max. 132,28 lbs

Versions

Vertical safety window
with posts
with shortened panel

Vertical safety window

Series B



SFV.B-950 / 2350

large protection range
available without bottom strut
regular speed

Technical Data

Mounting position	vertical
Actuator	pneumatic
Stroke	max. 1500 mm
Clear width	max. 4000 mm
Average closing speed	max. 0,8 m/s max. 2,63 ft/s
Door panel weight	max. 95 kg max. 209,44 lbs

Versions

Vertical safety window
with posts
without bottom strut
size 950
size 2350

Telescopic safety window



SFV.C-....-FT12

middle protection range
low clearance
high speed

Technical Data

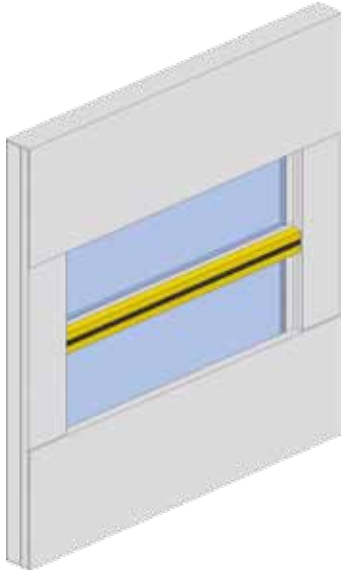
Mounting position	vertical
Actuator	pneumatic
Stroke	max. 1200 mm
Clear width	max. 2000 mm
Average closing speed	max. 1,2 m/s max. 3,94 ft/s
Door panel weight	max. 60 kg max. 132,28 lbs

Versions

Vertical safety window

Some models of this series are also available with electric actuator. Please contact our sales department for more information.

Double safety window



SFVC-...-FS21

middle protection range
middle clearance
high speed

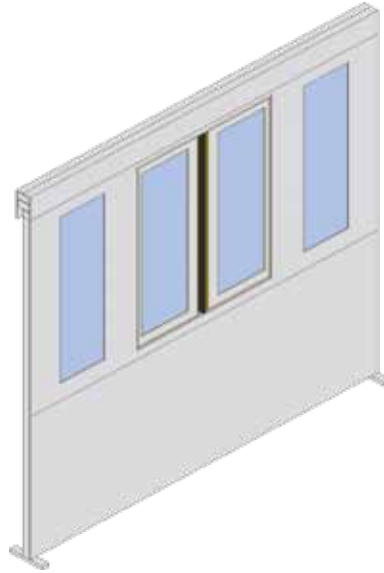
Technical Data

Mounting position	vertical
Actuator	pneumatic
Stroke	max. 1200 mm
Clear width	max. 2000 mm
Average closing speed	max. 1,5 m/s max. 4,92 ft/s
Door panel weight	max. 60 kg max. 132,28 lbs

Versions

Vertical safety window
with posts

Horizontal safety window



5SFH.B-0750

middle protection range
middle clearance
high speed

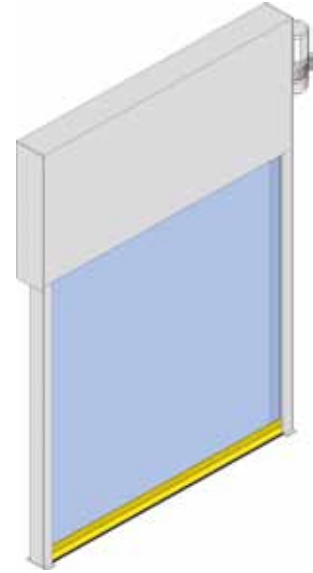
Technical Data

Mounting position	horizontal
Actuator	pneumatic
Stroke	max. 2000 mm
Clear width	max. 2200 mm
Average closing speed	max. 1,5 m/s max. 4,92 ft/s
Door panel weight	max. 50 kg max. 110,23 lbs

Versions

Horizontal safety window
with posts
without bottom strut (door)
without upper strut
with posts
single panel (left/right)
with posts

Vertical safety gate



STV.A

large protection range
low clearance
very high speed

Technical Data

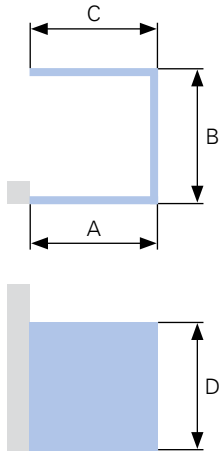
Mounting position	vertical
Actuator	electric
Stroke	max. 2500 mm
Clear width	max. 3000 mm
Average closing speed	max. 2,0 m/s max. 6,56 ft/s
Door panel weight	max. 45 kg max. 99,21 lbs

Versions

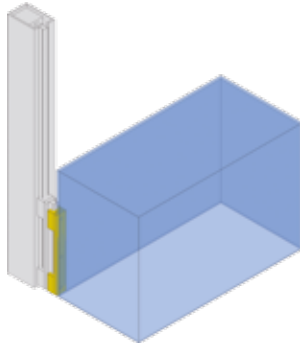
Vertical safety gate

Overview MecLock safety lifting columns

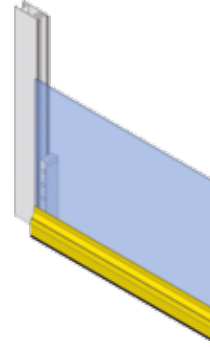
Protection field



Protection field



Protection field



Design

Type

Dimensions (max.)

Dimension A

Dimension B

Dimension C

Dimension D

Individual shape

SSV.A-X-B01-0300

500 mm

500 mm

500 mm

500 mm

I-shape (straight)

SSV.A-I-B01-0300

600 mm

1000 mm

Safety actuator

Type / Size

Stroke

Average closing speed (max.)

Load (max.)

Guide

Connection

Mounting position

Actuator

pneumatic

electric

Safety actuator

SAV.A-BX1-0300

200 - 1000 mm

0,2 m/s
0,66 ft/s

10 kg
22,05 lbs

roller guide

without contact strip

vertical

●

Safety actuator

SAV.A-B01-0300

200 - 1000 mm

0,3 m/s
0,98 ft/s

10 kg
22,05 lbs

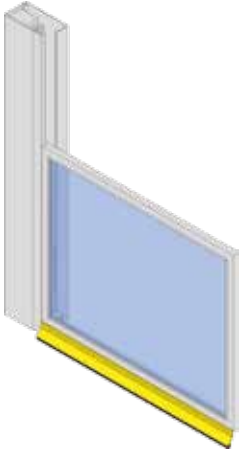
roller guide

with contact strip

vertical

●

Protection field



I-shape (straight)

SSV.A-I-B01-0750	SSV.A-I-B01-1100
------------------	------------------

1000 mm	1400 mm
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1400 mm	

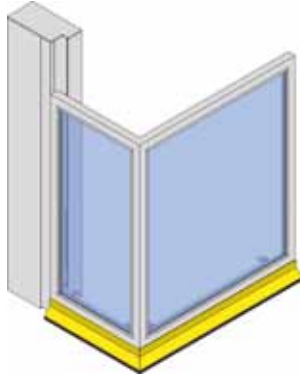
Safety actuator

SAV.C-B01-0750	SAV.A-B01-1100
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400 - 1200 mm	
0,8 m/s 2,62 ft/s	
30 kg 66,14 lbs	45 kg 99,21 lbs
recirculating ball bearing	
with contact strip	
vertical	

●	---
●	●

Protection field



L-shape (angular)

SSV.A-L-B01-0750	SSV.A-L-B01-1100
------------------	------------------

800 mm	800 mm
800 mm	1200 mm
---	---
1400 mm	

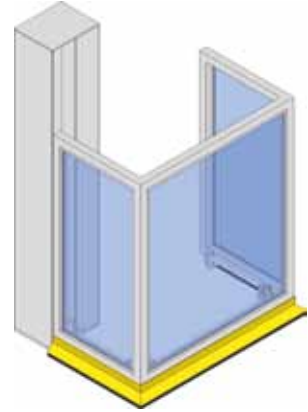
Safety actuator

SAV.A-B01-750	SAV.A-B01-1100
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400 - 1200 mm	
0,8 m/s 2,62 ft/s	
30 kg 66,14 lbs	45 kg 99,21 lbs
recirculating ball bearing	
with contact strip	
vertical	

●	---
●	●

Protection field



U-shape (circumferential)

SSV.A-U-B01-0750	SSV.A-U-B01-1100
------------------	------------------

600 mm	800 mm
800 mm	1200 mm
600 mm	800 mm
1400 mm	

Safety actuator

SAV.A-B01-0750	SAV.A-B01-1100
----------------	----------------

400 - 1200 mm	
0,8 m/s 2,62 ft/s	
30 kg 66,14 lbs	45 kg 99,21 lbs
recirculating ball bearing	
with contact strip	
vertical	

●	---
●	●

inspired by ideas

Since 1996 Strasser GmbH has stood for new ideas in the area of automation technology and machine design. Our guiding principle since the very beginning has been to offer our customers both economical solutions and innovative products that inspire them. The pioneer spirit of the company founder, Karl-Heinz Strasser, led to a unique product line that reflects itself in over 25 patents.

Today, Strasser offers comprehensive automation solutions from components to systems based on carbon and stainless steel modular profiles. The spectrum of products ranges from base profiles, to preassembled machine frames up to complete conveyor systems or handling units. Furthermore, with the MecLock safety system, Strasser is a leader in the area of machine safety.

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