



Technical product description
High-speed roll-up door
Soft Touch



For internal use only

This technical product description applies exclusively to
following door types:

282 EFA-SRT-L Soft Touch

289 EFA-SRT-S Soft Touch

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1 Short description

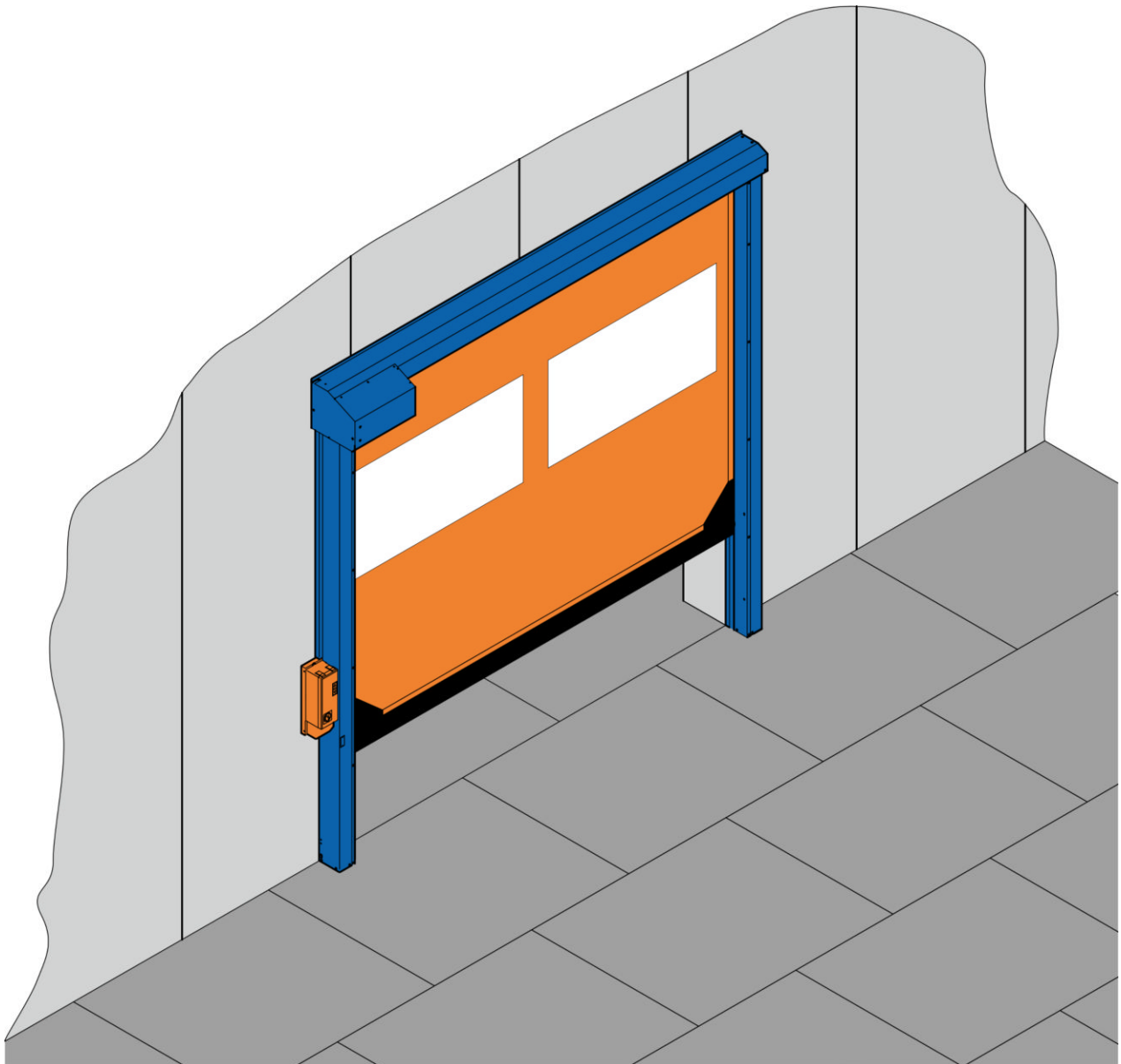


Fig. 1: EFA-SRT® Soft Touch high-speed roll-up door

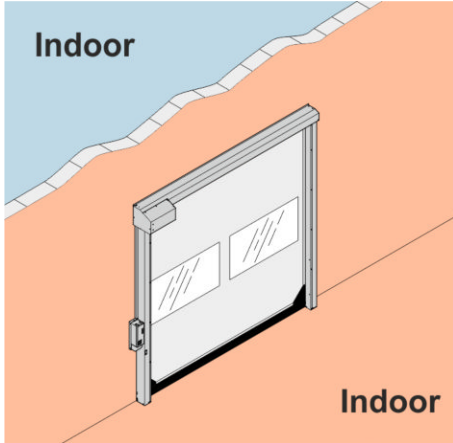
The EFA-SRT® Soft Touch high-speed roll-up door is a collision-resistant, functionally reliable, space-saving and low-maintenance inside door which has been specially engineered for intensive industrial use.

The EFA Soft Touch system which has been registered for patenting uniquely meets the demands made of a door leaf which maintains its shape even in the event of draughts and pressure differences and the requirements for high speed, easy manual opening when required, collision prevention and personal safety. The innovative technology combines door leaf tensioning, counterbalancing and crash and contact detection in one complete system. This ensures the safety of persons and effectively prevents damage to goods and to the door system.

The EFA-SRT 289 EFA-SRT-S Soft Touch (extended performance) version of the product covers a greater range of door sizes and has faster opening speeds.

2 Technical properties

Use



	Indoor area
	Indoor area

Use

- Inside door
- Area of application
 - Industrial applications
 - Warehouses
- Temperature range for use
 - +5 °C to +50 °C

Fig. 2: Use

Dimensions

Door height in cm

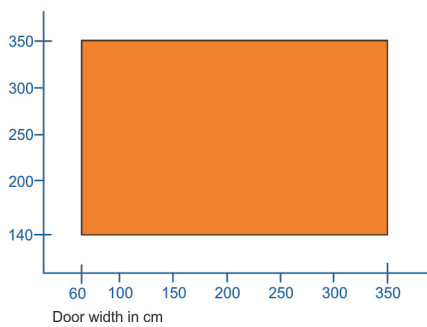


Fig. 3: Diagram of possible door heights and door widths for 282 EFA-SRT-L Soft Touch

Door height in cm

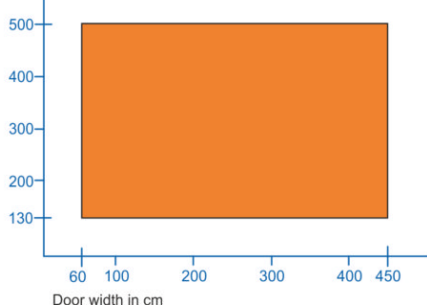


Fig. 4: Diagram of possible door heights and door widths for 289 EFA-SRT-S Soft Touch

282 EFA-SRT-L Soft Touch

Indication	Value	Unit
Door width	600–3500	mm
Door height	1400–3500	mm

289 EFA-SRT-S Soft Touch

Indication	Value	Unit
Door width	600–4500	mm
Door height	1300–5000	mm

Speeds

282 EFA-SRT-L Soft Touch

Indication	Value	Unit
Opening speed	approx. 1.5	m/s
Closing speed	approx. 0.75	m/s

289 EFA-SRT-S Soft Touch

Indication	Value	Unit
Opening speed	approx. 2	m/s
Closing speed	approx. 1.0	m/s

Performance properties

Data	Value
Air permeability as per DIN EN 12426	Class 0
Resistance to wind load as per DIN EN 12424	Class 0
Airborne sound insulation as per EN ISO 717-1	12 dB

Fire performance as per DIN 4102

Data	Value
Material class	B2 normally inflammable

Applied safety standards

The following standard was applied for planning, engineering and production: DIN EN 13241-1 Doors – Product standard

Basic construction performance

Data	Value
Loadings per year	150 000
Service life	10 years

3 Construction of the Soft Touch high-speed roll-up door

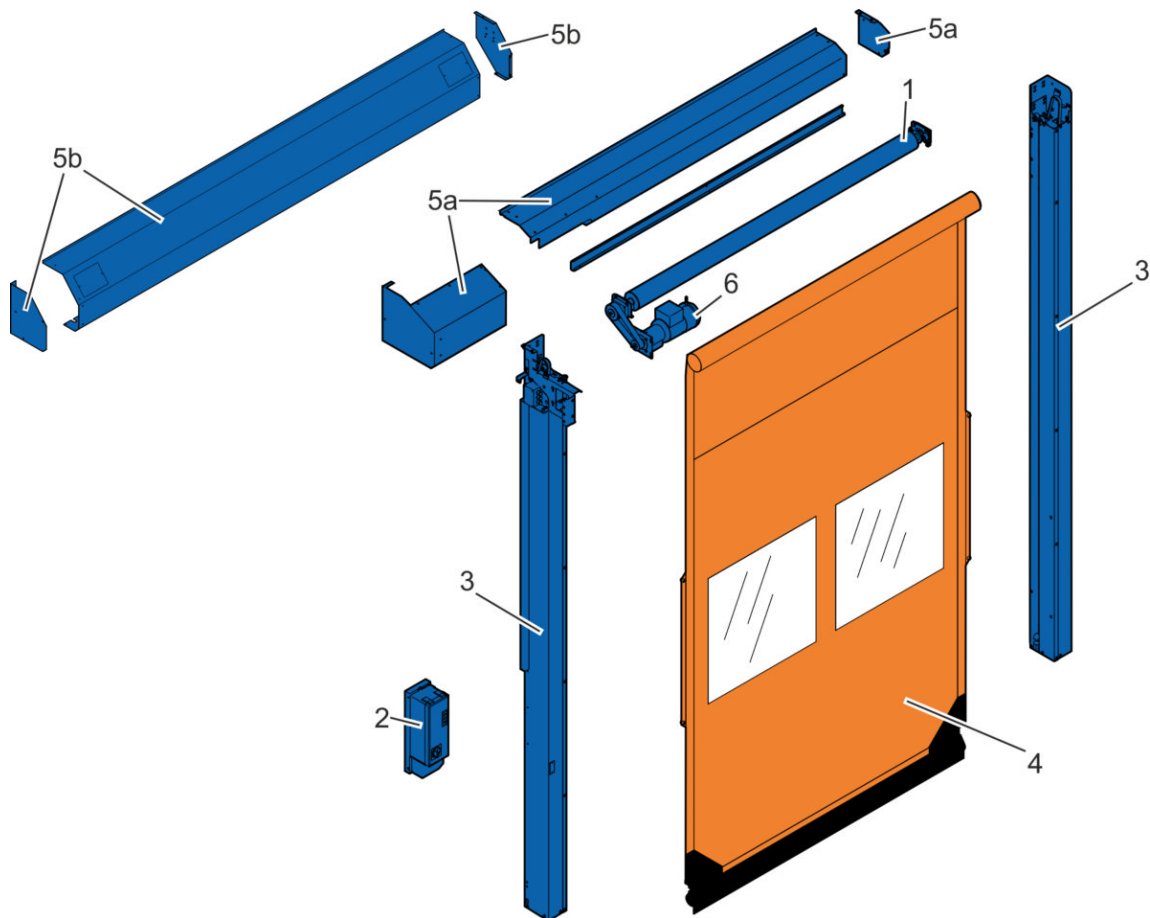


Fig. 5: Assemblies

1	Winding shaft	↳ 'Winding shaft unit' on page 9
2	Control unit	↳ 'Control unit' on page 17
3	Side frames with vertical door leaf guide, drum support, safety light barriers, door leaf tensioner and counterbalance	↳ Chapter 4 'Door safety' on page 18 ↳ 'Frame sides' on page 11 ↳ 'Counterbalance and door leaf tensioner' on page 14
4	Door leaf with curtain and flexible closing edge	↳ 'Door leaf' on page 12 ↳ Chapter 4 'Door safety' on page 18
5a	Casing (282 EFA-SRT-L Soft Touch)	↳ 'Casing' on page 9
5b	Casing (289 EFA-SRT-S Soft Touch)	
6	Drive	↳ 'Drive' on page 17

Winding shaft unit

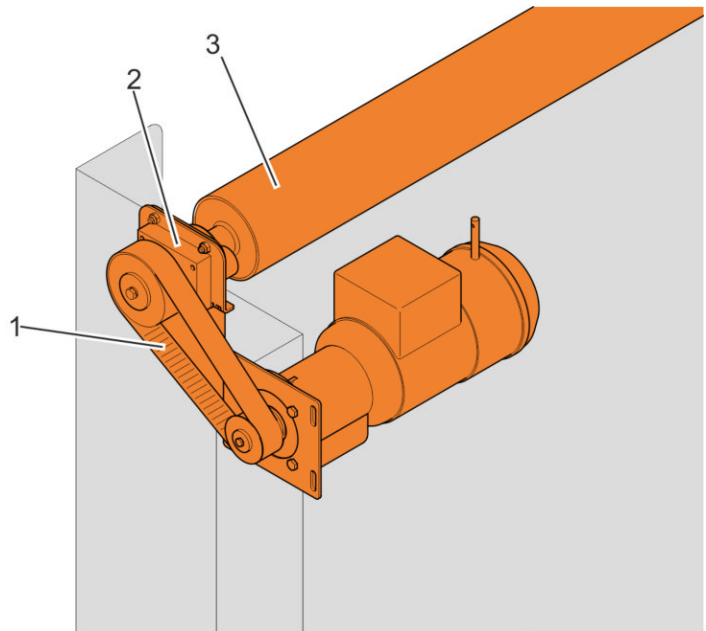


Fig. 6: Winding shaft with belt drive and drive motor

The winding shaft unit comprises:

- Winding shaft (tube \varnothing 114 mm) (282 EFA-SRT-L Soft Touch) (Fig. 6/3)
- Winding shaft (tube \varnothing 159 mm) (289 EFA-SRT-S Soft Touch) (Fig. 6/3)
- High-grade industrial bearings (Fig. 6/2)
- Belt drive and drive motor (Fig. 6/1)

The drive motor is installed in front of the winding shaft which makes for lateral space savings. The belt drive distinguishes itself with its very smooth and quiet running.

Casing

The winding shaft unit can be covered in different panelling to meet the requirements for functionality, room conditions and the desired appearance. The following options are available:

- Complete covering
- Belt cover (standard)

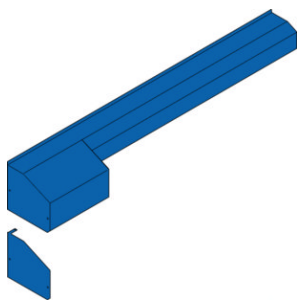


Fig. 7: Casing (282 EFA-SRT-L Soft Touch)

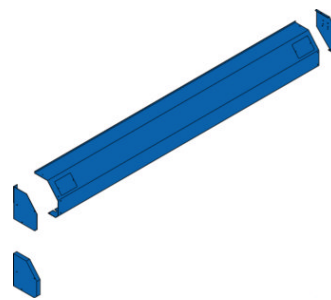


Fig. 8: Casing (289 EFA-SRT-S Soft Touch)

Manual emergency operation

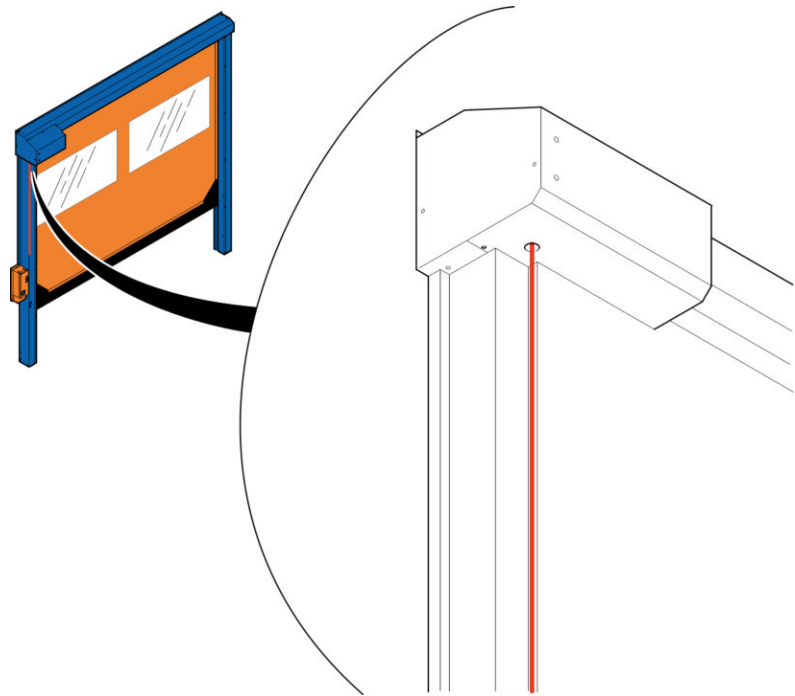


Fig. 9: Manual emergency operation

In emergency situations the drive brake can simply be triggered mechanically by pulling the hand rope, thus causing the door to open automatically due to the force of its counterweight and the counterbalance spring. The control unit is in emergency stop status during this operation.

Option: Emergency release on console

Frame sides

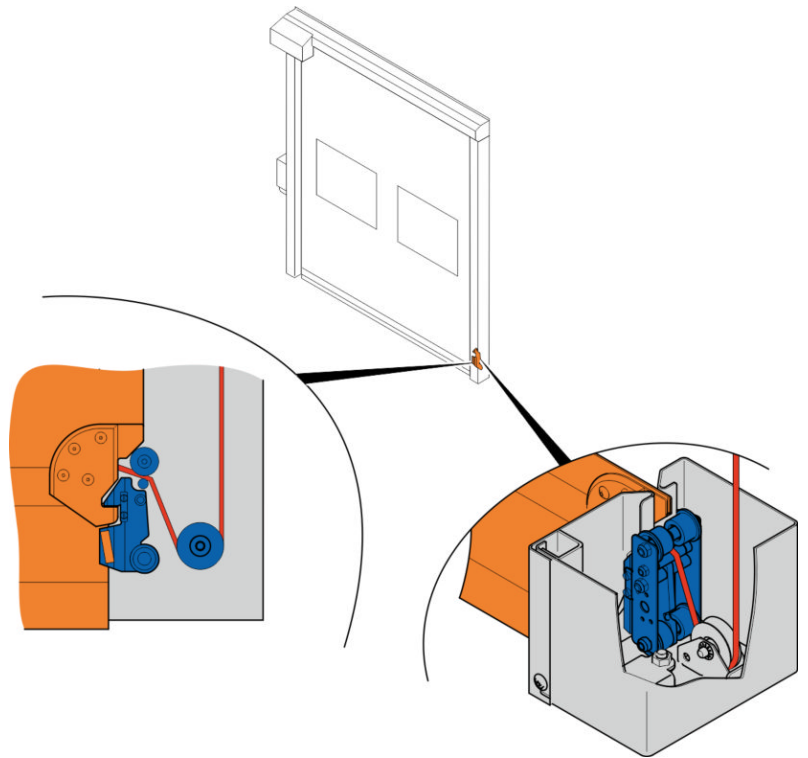


Fig. 10: Frame side

The side frames each comprise a bevelled main profile and a bevelled cover plate profile which also form the guide. The all-round closed construction of the side frames minimises penetration of soiling and the risk of injury.

The door leaf is guided in the side frames by a sensor-equipped carriage on each side. The edges of the door leaf are latched to the carriages.

Door leaf

The upper edge of the door leaf is permanently connected to the winding shaft. The shaft is rotated by the drive motor and can wind the door up and down problem-free at any time.

The door leaf is guided at the sides by the side frames with securing studs on the outer edge of the door curtain holding it securely in the guide even in the event of wind, draughts and drops in air pressure.

The lower edge of the door leaf is formed by a flexible, elastic and highly malleable closing edge. It is free of electrical components and comprises only a foam-filled PVC fabric and thus prevents personal injuries and damage to goods or the door system.

The door leaf tensioner which is integrated into the EFA Soft Touch system ensures that the curtain is pulled down taut and the closing edge is constantly tensioned crossways.

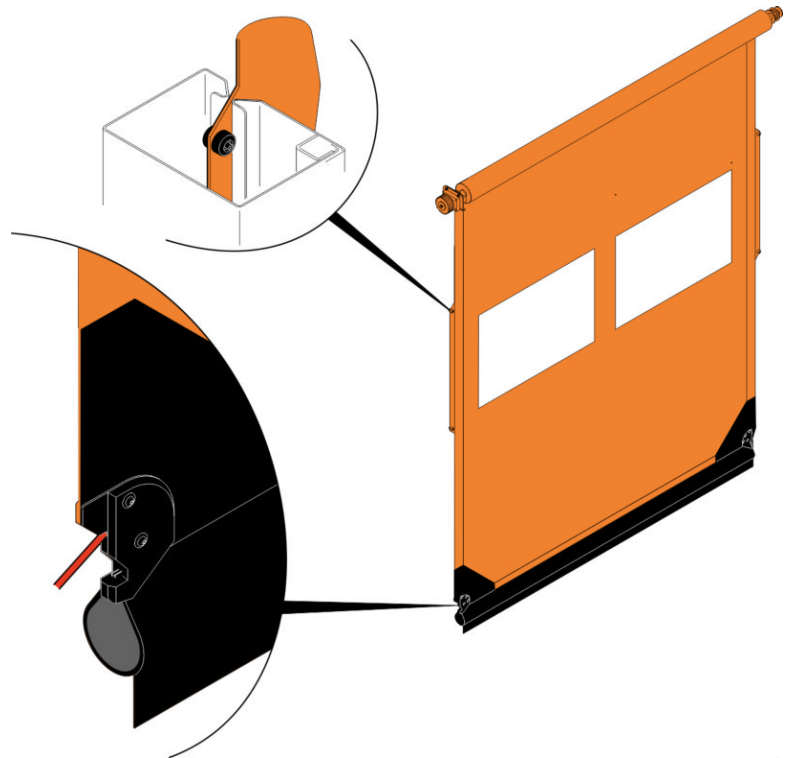


Fig. 11: Door leaf

Door leaf versions

0.8 mm thick curtain, made of PVC-coated woven polyester fabric, smooth on both sides, with and without viewing window

- Blue, similar to RAL 5002
- Green, similar to RAL 6005
- Orange, similar to RAL 2004
- Red, similar to RAL 3002
- Yellow, similar to RAL 1003
- Light grey, similar to RAL 7035
- Agate grey, similar to RAL 7038
- Black, similar to RAL 9005
- White, similar to RAL 9016
- Soft PVC viewing window, transparent

2 mm thick curtain made of soft transparent PVC with warning stripes

- Blue, similar to RAL 5002
- Green, similar to RAL 6005
- Orange, similar to RAL 2008
- White, similar to RAL 9016
- Yellow, similar to RAL 1021
- Light grey, similar to RAL 7035
- Red, similar to RAL 3002

2 mm thick curtain, made of PVC-coated woven polyester fabric, laterally stable, textured on both sides, with and without viewing window

- Blue, similar to RAL 5002 ^{1,2}
- Yellow, similar to RAL 1021 ²
- Orange, similar to RAL 2008 ²
- Red, similar to RAL 3002 ²
- Papyrus white, similar to RAL 9018 standard ^{1,2}
- Light grey, similar to RAL 7035 ^{1,2}
- Signal grey, similar to RAL 7004 ²
- Soft PVC viewing window

¹ anti-static finish

² meets with the requirements of the directive of the FDA (U.S. Food and Drug Administration) for transportation of bulk food products with regard to the extraction behaviour

³ Silicone-free

Crash function

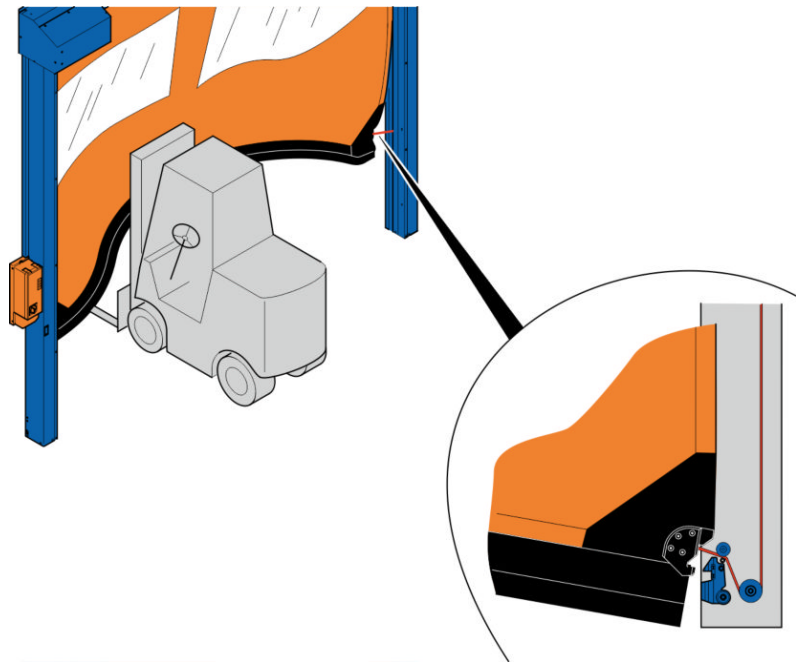


Fig. 12: Crash function

If an obstruction collides with the flexible closing edge, a sensor detects the collision instantly because the left-hand and/or right-hand edge of the door leaf unlatches from the carriage. The movement is stopped immediately and the door leaf moves up immediately.

Damage is prevented in the event of a collision by the door-leaf closing edge immediately disengaging from the latch connections on the carriages. In the process it rests elastically on or around the object causing the collision and the curtain slides out of the frame guide.

The process for latching back up again is almost automatic and very straightforward as the door-leaf tensioning rope remains connected to the closing edge. It is sufficient to move the door into the closed final position using manual operation in order to allow it to engage again automatically.

Counterbalance and door leaf tensioner

The counterbalance aids the drive motor in normal mode so that it requires less power. In the event of manual emergency opening operation, it raises the door leaf immediately.

The integrated door leaf tensioner keeps the curtain taut when in normal status and briefly yields in the event of contact and thus helps the door leaf to latch up again easily after a collision.

EFA Soft Touch system (282 EFA-SRT-L Soft Touch)

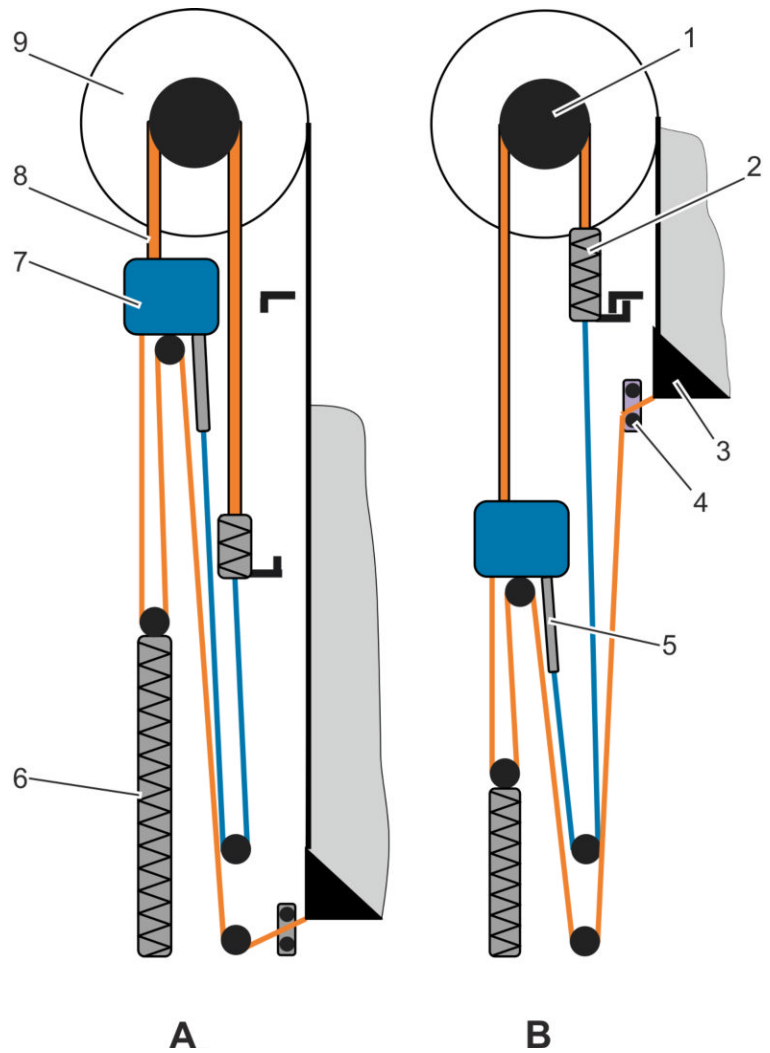


Fig. 13: Door leaf tensioner and counterbalance

- A Status: Door closed
- B Status: Door open
- 1 Belt pulley
- 2 Buffer spring
- 3 Door leaf
- 4 Carriage
- 5 Expander
- 6 Spring for counterbalance and door leaf tensioner
- 7 Counterweight
- 8 Belt
- 9 Winding shaft with curtain

EFA Soft Touch system (289 EFA-SRT-S Soft Touch)

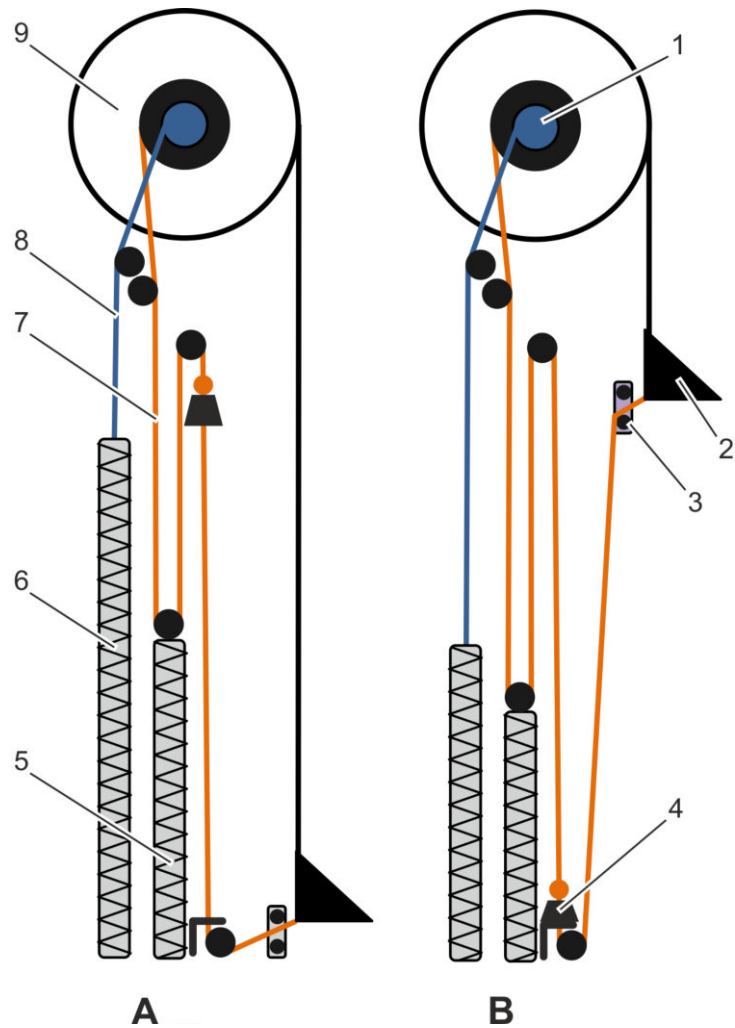


Fig. 14: Door leaf tensioner and counterbalance

- A Status: Door closed
- B Status: Door open
- 1 Rope and belt winder
- 2 Door leaf mount
- 3 Guide carriage
- 4 End position buffer
- 5 Door leaf tensioning spring
- 6 Counterbalance spring
- 7 Rope
- 8 Belt
- 9 Winding shaft with curtain

Construction of the Soft Touch high-speed roll-u...

Drive

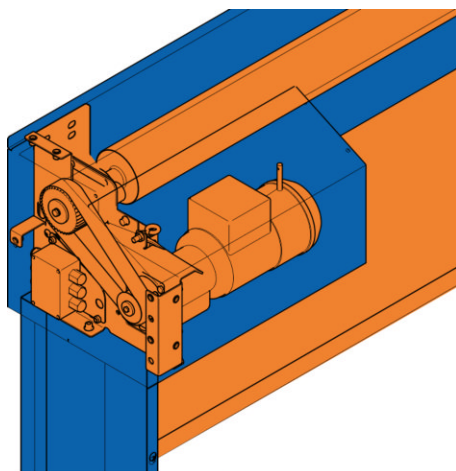


Fig. 15: Drive

Drive type	Drive motor with belt transmission
Power classes	0.75 kW, 50–60 Hz, 230 V (282 EFA-SRT-L Soft Touch) 1.5 kW, 50–60 Hz, 230 V (289 EFA-SRT-S Soft Touch)
Protection type	IP55
Position detection	Incremental encoder (282 EFA-SRT-L Soft Touch) Absolute encoder (289 EFA-SRT-S Soft Touch) (no reference run required)

The drive is equipped with a magnetic brake. The movement is transferred to the winding shaft via a belt which distinguishes itself with its very smooth and quiet running. The motor is positioned parallel to the winding shaft which reduces the space requirement at the sides.

Control unit

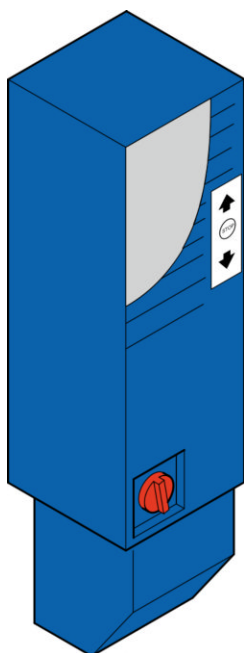


Fig. 16: Control unit

Control unit	EFA-CON®
Size	160x160x530 mm
Protection type	IP54
Functional elements accessible from the outside	Viewing window for displaying status and fault messages Membrane keypad for parameterising the door system
Master switch	on the control unit cover
Supply voltage	230 V AC +/- 10 %
Frequency	50-60 Hz
Supply cable	Fuse protection of 16 A to be provided by the user (K characteristic)
With residual-current circuit breaker (RCCD) as necessary	300 mA as per DIN VDE 0100-530 (AC/DC sensitive)
Positioning of the control unit	on the motor-side side frame unit

4 Door safety

Flexible closing edge and light barrier

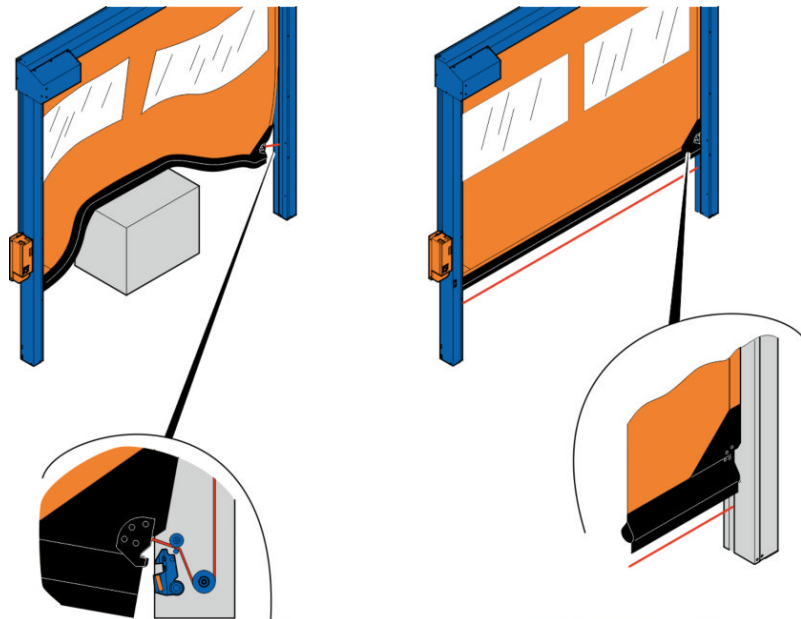


Fig. 17: Flexible closing edge and light barrier

Closing edge safeguard	Flexible closing edge with sensor equipment in the carriage and signal transfer via energy chain
Light barrier (optional)	Light barriers (IP67) installed in the door side frame, max. 2

The door is safeguarded by the combination of a malleable and energy-absorbing closing edge with a light barrier. This achieves the minimum protection level as per EN 12453. (On doors which are not used as a passageway for personnel, the light barrier can be omitted.)

When the elastic closing edge changes shape, the left-hand and/or right-hand side of the edge of the door leaf is disengaged from the carriages and this is detected by sensors. The downwards movement is stopped immediately and the door leaf moves up immediately. The door is moved into the closed final position using manual operation and it latches up again automatically.

In addition the owner and the manufacturer have to consult with each other in order to provide a safeguard for the manoeuvring area. This will be based on the owner's risk assessment.

5 Equipment

Standard equipment

- Basic door construction, galvanised (275 g/m²)
- Winding drum, galvanised design
- PES curtain, 0.8 mm, without viewing window
- EFA-CON® control unit
- Drive motor with belt transmission
- Emergency release rope for emergency opening
- EFA Soft Touch system
- Belt cover
- Closing edge in black with sealing lip

Optional equipment (special equipment subject to surcharge)

- Basic stainless steel (V2A 1.4301) door construction, corrosion resistant, ground (grain 220)
(The following parts are not available in V2A: drive motor, plastic parts, electrical parts)
- Powder coated finish as per RAL
- All the curtain variants described in ↗ *'Door leaf versions' on page 13*
- Complete covering
- Up to 2 safety light barriers (one of which may be angled)
- Command devices: Push-buttons, pull switches, key switches etc.
- Command devices/safety: Radar detector, EFA-SCAN®, IR (infrared presence sensor)
- Emergency release on console
- EFA-CON® control unit, Industrial or mcp2
- Closing edge in black or grey, with and without sealing lip

Special constructions

Special constructions/special orders are design types which are not covered, either mechanically or electrically or in terms of materials or colours, by standard versions in the sales price lists or by a design from the technology variants table. Special enquiries have to be made for these designs which will also be subject to surcharges and longer delivery times in accordance with expenditure.

6 Packaging units

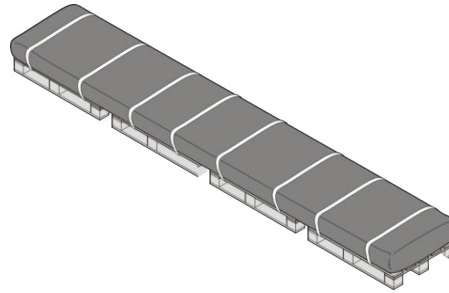


Fig. 18: Scope of delivery (standard transport unit)

Transport unit (example): Side frames with covers, control unit, winding shaft with curtain, accessories

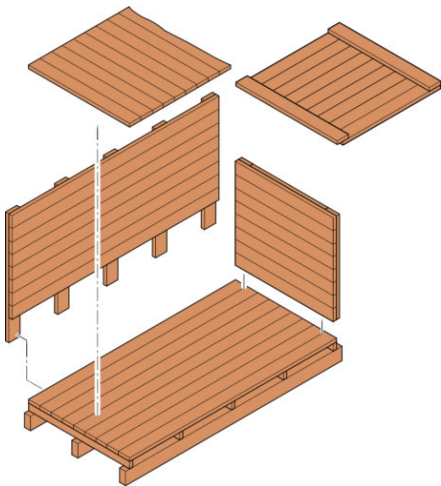


Fig. 19: Wooden crate

The number of transport units depends on the selected configuration.

The transport units can also be delivered in a wooden crate. The number of wooden crates depend on the dimensions of the standard transport units.

The wood for the wooden crates complies with the IPPC standard. The wooden crates are lined with film to protect them from moisture and are thus suitable for sea freight.

Packages which are fastened to pallets can be transported by fork lift under the following conditions:

- The fork lift must have the appropriate capacity for the weight of the packages.
- The package must be securely fastened to the pallet.
- The fork lift driver must be authorised to drive industrial trucks with a driver's seat or driver's station in accordance with the local regulations.

The transport units are not stackable.

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