



Technical product description
High-speed spiral door
for areas with a potentially explo-
sive atmosphere

EN

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1 Short description

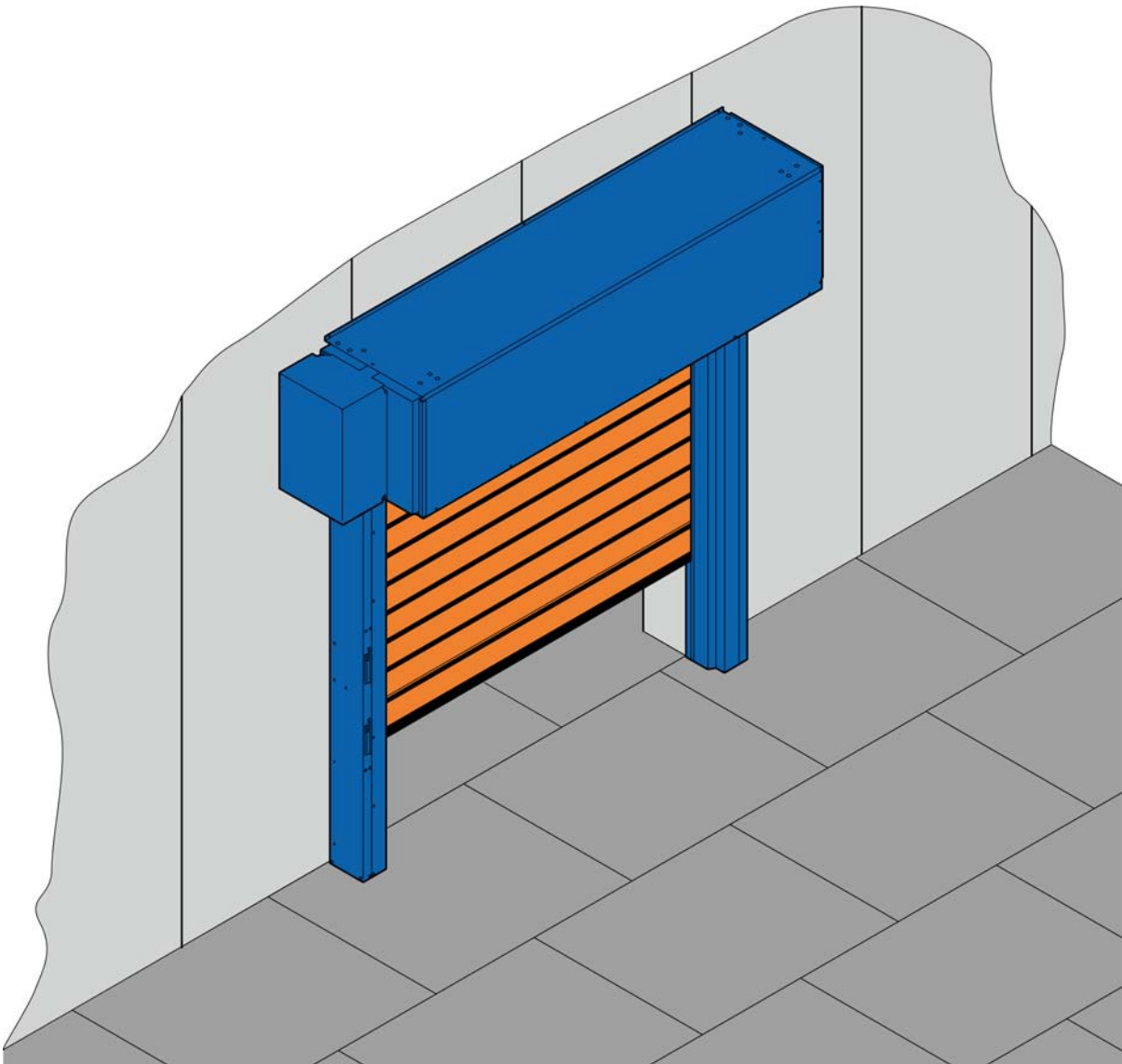


Fig. 1: High-speed spiral door for areas with a potentially explosive atmosphere

The high-speed spiral door for areas with a potentially explosive atmosphere (EFA-SST®-L EX) can be configured for EX applications in Zones 1 or Zone 2. The door system is available with proven round and oval-shaped spiral technology and is equipped with 20 mm aluminium slats with spacing of 151 mm. If required the door system can also be fitted with viewing slats (SAN or PC) or ventilation slats. Door systems with a round spiral can subsequently be fitted with optional 30 mm viewing slats (transparent/non-transparent SAN or PC) or ventilation slats spacing of 225 mm.

ATEX directive

The ATEX directive (94/9/EC) regulates the use of devices and protective systems in areas with a potentially explosive atmosphere. The owner assigns the zones as per the requirements of the devices being operated in the areas with a potentially explosive atmosphere. The marking on the devices is divided up into the group, device category, device group and temperature class and thus indicates where the respective device can be operated.

2 Technical properties

Use

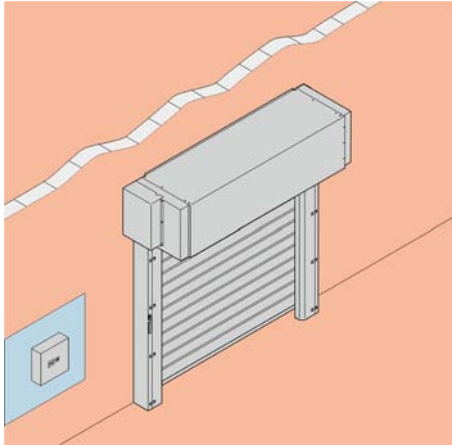


Fig. 2: Use

Use

- Industrial applications
- Hall door
- Outdoor installation under a canopy provided by the owner (installation location of the control unit: $> +5\text{ °C}$)

Area of application

- Door for outdoor and indoor use
- II 2G IIB T4 X (EX Zone 1)
- II 2G IIB T4 X (EX Zone 2)

Temperature range for use

- -15 °C to $+50\text{ °C}$

	Area without a potentially explosive atmosphere
	Area with a potentially explosive atmosphere

The control unit must be installed outside of the area with a potentially explosive atmosphere.

Dimensions

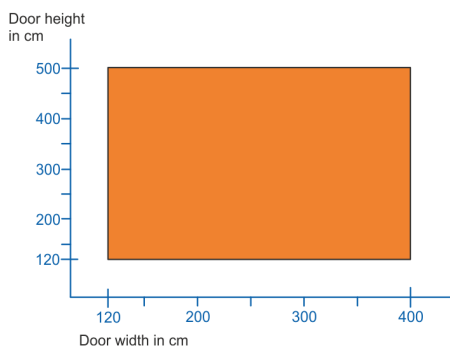


Fig. 3: Diagram of possible door heights and door widths

Data	Value	Unit
Door width	1200–4000	mm
Door height	1200–5000	mm

Speeds

Data	Value	Unit
Opening speed (max.)	1.0	m/s
Closing speed	approx. 0.5	m/s

Performance properties as per DIN EN 13241-1

20 mm door leaf with 151 mm spacing (AST)		
Indication	Door width/door size/ other indications	Value
Resistance to wind load as per DIN EN 12424	$1200 \text{ mm} \leq B \leq 3100 \text{ mm}$	Class 4
	$3100 \text{ mm} < B \leq 3500 \text{ mm}$	Class 3
	$3500 \text{ mm} < B \leq 4000 \text{ mm}$	Class 2
Resistance to water penetration as per DIN EN 12425	-	Class 0
Air permeability as per DIN EN 12426	-	Class 2
Airborne sound insulation as per EN ISO 717-1	-	Rw = 23 dB
Thermal insulation as per DIN EN 12428	at 4000 mm × 5000 mm	U = 5.8 W/m ² K

30 mm door leaf with 225 mm spacing (LKZ)		
Indication	Door width/door size/ other indications	Value
Resistance to wind load as per DIN EN 12424	$1200 \text{ mm} \leq B \leq 3500 \text{ mm}$	Class 4
	$3500 \text{ mm} < B \leq 4000 \text{ mm}$	Class 3
Resistance to water penetration as per DIN EN 12425	-	Class 0
Air permeability as per DIN EN 12426	-	Class 2
Airborne sound insulation as per EN ISO 717-1	-	Rw = 20 dB
Thermal insulation as per DIN EN 12428	at 4000 mm × 5000 mm	U = 6.5 W/m ² K

Fire performance as per DIN 4102

Data	Value
Material class	B2 normally inflammable

Technical properties

Applied safety standards

The following standards were applied for planning, engineering and production:

DIN EN 13241-1	Doors – Product standard
DIN EN 12453	Doors – Safety in use of power operated doors – Requirements
DIN EN 12445	Doors – Safety in use of power operated doors – Test methods
DIN EN 12604	Doors – Mechanical aspects – Requirements
DIN EN 12605	Doors – Mechanical aspects – Test methods
DIN EN 12978	Doors and gates – Safety devices for power operated doors and gates – Requirements and test methods
94/9/EC	DIRECTIVE 94/9/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL from 23rd March 1994 for alignment of the legal requirements of member states regarding devices and protective systems for proper use in areas with a potentially explosive atmosphere
2004/108/EC	DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL from 15th December 2004 for alignment of the legal requirements of member states for electromagnet compatibility and withdrawal of Directive 89/336/EEC
2006/42/EC	DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL from 17th May 2006 on machines and for amendment of Directive 95/16/EC (new release)
2006/95/EC	DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL from 12th December 2006 for alignment of the legal requirements of member states regarding electrical equipment for use within certain voltage limits
DIN EN ISO 12100	Safety of machinery – General design principles – Risk assessment and risk reduction
DIN EN 13463-1	Non-electrical equipment for use in potentially explosive atmospheres – Part 1: Basic method and requirements
DIN EN 13463-5	Non-electrical equipment for use in potentially explosive atmospheres – Part 5: Protection by constructional safety "C"
DIN EN 14986	Design of fans working in potentially explosive atmospheres
DIN EN ISO 13849-1	Safety of machinery – Safety-related parts of control systems – Part 1: General design principles
DIN EN 60079-14	Explosive atmospheres – Part 14: Electrical installations design, selection and erection

Performance

Data	Value
Load changes per year	200 000
Service life	10 years

Classification as per directive 94/9/EC (ATEX directive)

The door is suitable for operation in explosive atmospheres as per following classification as per directive 94/9/EC (ATEX directive):

Data	Value
Zone 1	II 2G IIB T4 X
Zone 2	II 3G IIB T4 X

5 Equipment

Standard equipment

- Basic door construction, galvanised (275 g/m²)
- Round spiral door leaf guide
- Slat 20 x 151 mm (AST)
- Equipment for EX Zone 2 (II 3G IIB T4)
- Drive
- mcp2 control unit in steel control cabinet

Optional equipment (special equipment subject to surcharge)

- Basic door construction, galvanised (275 g/m²), with powder-coated finish as per RAL
- Basic stainless steel (V2A 1.4301) door construction, corrosion resistant, ground (grain 220)
- EFA-® slat, painted as per RAL
- mcp2 control unit in stainless steel control cabinet
- EX command device: Push-buttons, pull switches, key switches etc.
- Oval spiral (for AST slat)
- Slat variants ↪ *'Door leaf' on page 17*
- Spiral console cover (bottom, front, top)
- Equipment for EX Zone 1 (II 2G IIB T4)
- Up to 2 EX safety light barriers

Special constructions

Special constructions/special orders are design types which are not covered, either mechanically or electrically, by standard versions in the sales price lists or by a design from the technology variants table. They have to be requested specifically. Surcharges and extended delivery times are calculated for special designs in accordance with the actual expenditure.

6 Packaging units

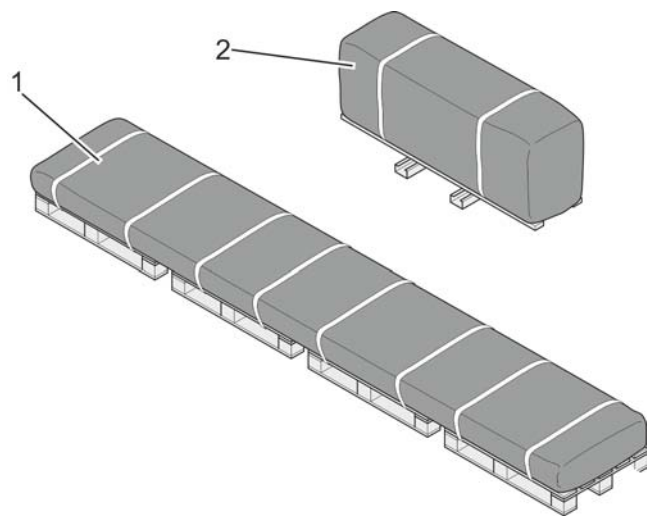


Fig. 24: Scope of delivery (standard transport units)

- 1 Transport unit 1 (example): Side frame sections with covers, control unit, accessories
- 2 Transport unit 2 (example): Spiral console with door leaf, drive

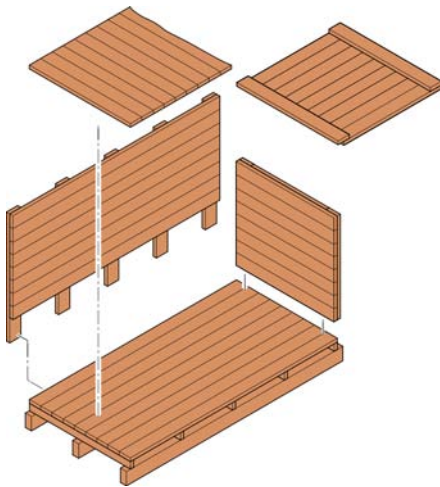


Fig. 25: Wooden crate

Number of transport units

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 depends 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.

Packaging units

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.

EFAFLEX 
safe high-speed doors

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