High-speed clean room doors in premium quality

Your reliable clean room partner for over 20 years

EFAFLEX
safe high-speed doors

Electrical engineering

Biotechnology

Aerospace

Nanotechnology

Optical industry

Pharma

Medical technology

Solar/photovoltaics

Cosmetics

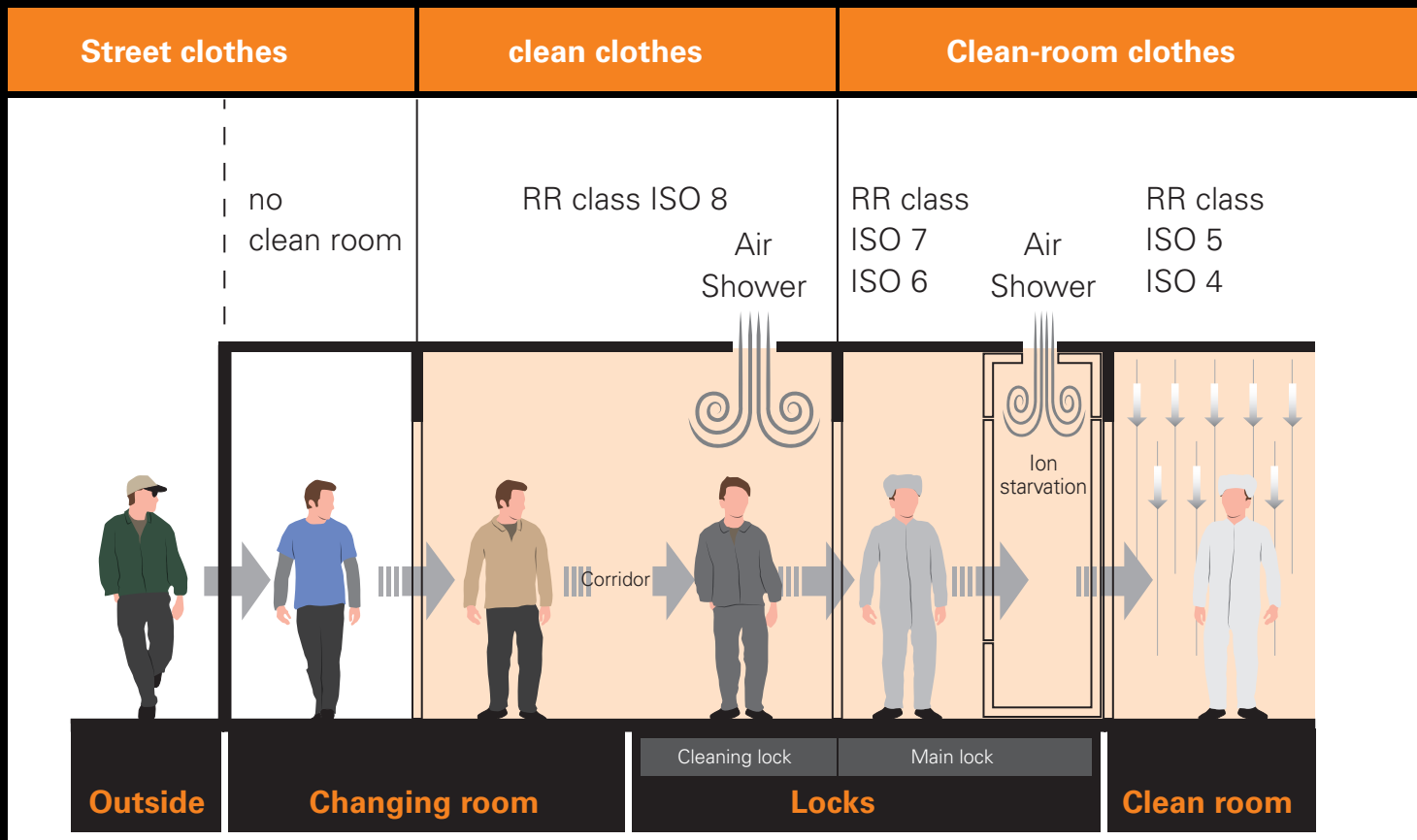
Packaging technology

Plastic mouldings

Chemical environmental analysis

Where are clean rooms used?

Clean rooms are mainly used in the semiconductor and pharmaceutical industry, in medical and biotechnology, aerospace and at producers in the life science sector (food & luxury foods and related fields).



What characterises a clean room?

- Personnel and material locks are used to maintain a pressure cascade. This is a prerequisite for preventing the introduction of particles and thus contamination in the clean room.
- A targeted air flow can be realised by means of the pressure difference.
- There are constant ambient conditions (temperature, light, pressure, humidity).
- Staff wear protective clothing.
- Access by persons and material introduction only via lock.


ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ CERTIFICAT

Zertifikat

Die TÜV SÜD Industrie Service GmbH bescheinigt hiermit der

EFAFLEX Tor- und Sicherheitssysteme GmbH & Co. KG
Fliederstraße 14
D-84079 Bruckberg

für ihr Produkt

Schnellauftor EFA-SRT CR Premium
Serienummer: 8000048868

die Reinraumtauglichkeit des Betriebsmittels für die ISO Klasse 5.

Reinheitsklasse gemäß ISO 14644-1 Juli 1999 für den Partikelgrößenbereich ≥ 0,3 µm.

Das Zertifikat ist beschränkt auf die Luftpartikelreinheit.
Das Produkt wurde geprüft nach VDI 2083 Blatt 9.1 im Oktober 2009.

Registriernummer: 2013 / 176-27/11
Zugehöriger Bericht: 200861 vom 16.11.2009
Datum des Zertifikats: 21. Februar 2013

Dipl. Ing. Reiner Hoffstadt

Essen, 21. Februar 2013

Zertifizierungsstelle
TÜV SÜD Industrie Service GmbH
Kruppstr. 82-100
45145 Essen

EFA-SRT® CR Premium

What are clean room classes?

According to EN ISO 14644-1, clean rooms are divided into classes that determine the degree of cleanliness (number and size of particles). The classification ranges from ISO 1 (the highest standard) to ISO 9 (equivalent to clean air).

The EFAFLEX CR Series high-speed doors have been certified by the TÜV for use in clean rooms.

ISO CLASSES ACCORDING TO DIN EN ISO 14644-1

Cleanroom Classification	Concentration limits (particles/m³)					
	≥ 0.1 µm	≥ 0.2 µm	≥ 0.3 µm	≥ 0.5 µm	≥ 1.0 µm	≥ 5.0 µm
ISO Class 1	10	2				
ISO Class 2	100	24	10	4		
ISO Class 3	1,000	237	102	35	8	
ISO Class 4	10,000	2,370	1,020	352	83	
ISO Class 5	100,000	23,700	10,200	3,520	832	29
ISO Class 6	1,000,000	237,000	102,000	35,200	8,320	293
ISO Class 7				352,000	83,200	2,930
ISO Class 8				3,520,000	832,000	29,300
ISO Class 9				35,200,000	8,320,000	293,000

EFAFLEX

Clean room doors from EFAFLEX

EFA-SRT® CR PREMIUM

type 254

EFA-SRT® CR-C

type 679

EFA-SRT® CR EFFICIENT

type 678

EFA-STT® CR

type 675

Overview product portfolio
clean room

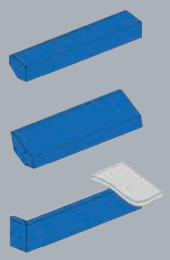
		CR Series			
		EFA-SRT® CR Premium	EFA-SRT® CR-C	EFA-SRT® CR Efficient	EFA-STT® CR
Clean room class according to EN ISO 14644-1 and VDI 2083 sheet 9.1		ISO Class 5	ISO Class 6 Optional: ISO Class 7	ISO Class 6	ISO Class 6
Control arrangement		Integrated into motor case	Integrated into complete covering (ISO 6) Optional: External (ISO 7)	external	external
Average speed	Opens in m/s	1.0	2.0	0.8	2.5
	Closes in m/s	0.5	0.75	0.5	0.75
Door size (in mm)	Width W max.	2,500	3,500	3,000	4,000
	Height H max.	3,000	3,500	3,500	5,000
Maximum permanent compressive strength		30 Pa	30 Pa	30 Pa	50 Pa
Air permeability		In the event of overpressure: <12 m³/m²h (class 2) In the event of underpressure: <20 m³/m²h (class 1)	In the event of overpressure: <20 m³/m²h (class 1) In the event of underpressure: <50 m³/m²h (class 0)	In the event of overpressure: <12 m³/m²h (class 2) In the event of underpressure: <50 m³/m²h (class 0)	<12 m³/m²h (class 2)
Weight counterbalance		Tension springs	Tension springs	–	Tension springs
Mechanical emergency operation		Pull-knob (possible on both sides)	Emergency lever (possible on both sides)	Hand crank (only on the assembly side)	Emergency lever (possible on both sides)
Uninterruptible power supply optional (EFA-UPS)		Integrated into motor case	External	External	External
Door leaf		Transversely stable polyester fabric, 2 mm thick Optional: Window Compliance: FDA total migration test	Transversely stable polyester fabric, 2 mm thick Optional: Window Compliance: FDA total migration test	Transversely stable polyester fabric, 2 mm thick Optional: Window Compliance: FDA total migration test	Single-walled sight laths made of SAN or polycarbonate with *aluminium profiles, anodised Optional: Powder coating
Curtain colour optionally in	Pure white	•	•	•	-
	Papyrus white	•	•	•	-
	Light grey	•	•	•	-
	Signal grey	•	•	•	-
	Anthracite grey	•	•	•	-
	Moss green	•	•	•	-
	Blue	•	•	•	-
	Red	•	•	•	-
	Yellow	•	•	•	-
	Orange	•	•	•	-
End-shield		Stainless steel Optional: Powder coating	Stainless steel Optional: Powder coating	Powder coating Optional: Stainless steel	Aluminium Optional: Powder coating
Protection of closing level		Safety edge + light barrier Optional: Door light grid (TLG)	Door light grid (TLG)	Safety edge + light barrier	Safety edge + light barrier Optional: Door light grid (TLG)
Design of steel parts		Stainless steel Optional: Powder coating	Stainless steel Optional: Powder coating	Powder coating Optional: Stainless steel	Galvanised Optional: Powder coating / stainless steel
Frame size (in mm)	Width B	280 (motor side) 200 (opposite side)	120	75	240
	Depth T	300 (motor side) 220 (opposite side)	220	100	235
Load cycles per year (with 10 years PLC)		200,000	200,000	100,000	200,000

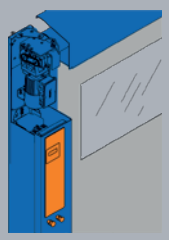
EFAFLEX CR Series
equipment and features

EFA-SRT® CR PREMIUM

Winding shaft covering
Standard: 15° slanted
Optional: 45° slanted or vertical to ceiling

Control
EFA-TRONIC®
integrated into motor case



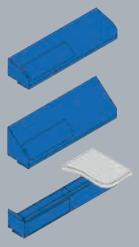


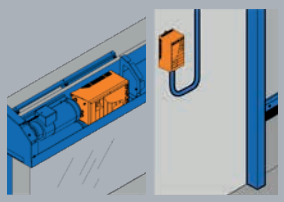
EFA-SRT® CR-C

Winding shaft covering
Standard: 15° slanted
Optional: 40° slanted or vertical to ceiling

Control
Version ISO 6:
EFA-TRONIC®
integrated in covering

Version ISO 7:
external EFA-TRONIC®
or EFA-TRONIC® Professional





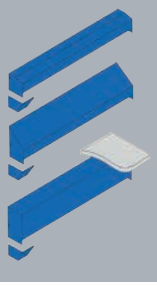
EFA-SRT® CR EFFICIENT

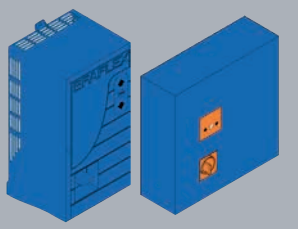
Winding shaft covering
Standard: 15° slanted
Optional: 45° slanted or vertical to ceiling

Control
external EFA-TRONIC® (standard)

external EFA-TRONIC® Professional
Steel, RAL 7035

Optional: Painted according to RAL or in stainless steel





EFA-STT® CR

Covering
Standard: Complete cover of the round spiral

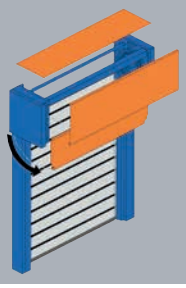
Special design:
45° slanted or

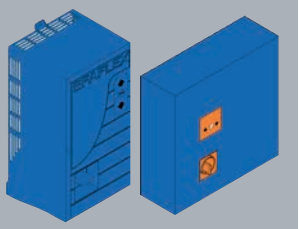
vertical to ceiling

Control
external EFA-TRONIC® (standard)

external EFA-TRONIC® Professional
Steel, RAL 7035

Optional: Painted according to RAL or in stainless steel





ACCESSORIES

COMMAND ENCODERS / INDICATORS

Command encoder:
- Contactless opening solution with radar technology
- Pull switch with clean room-compliant PVC cord
- Rocker switch and other push buttons
- Radio control
- Infrared / radar sensor
- Human Door Interface (HDI) with membrane keyboard and information display (e.g. when mounting the control unit in the false ceiling)

Indicators:
- LED-CR traffic light (red/green)
- LED bar (RGB multicolour)
- Flashing lamps

APPROACH AREA PROTECTION

- Infrared presence detector
- Radar sensor
- Combined radar / infrared sensor
- Laser scanner

CONTROL EXTENSIONS

- Air-lock control
- Conveyor technology interface incl. potential-free messages and potential inputs
- Limit switch for messages "Door opened" (type 254) and "Door closed" (type 254, 675)

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EFAFLEX® is a registered and legally protected trademark.
Subject to technical changes. Some diagrams depict special features.
Overall design:
www.creativconcept.de 03 | 2025

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