High-speed clean room doors in premium quality

Your reliable clean room partner for over 20 years

EFAFLEX
safe high-speed doors
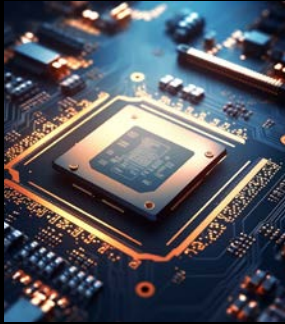
Electrical engineering

Biotechnology

Aerospace

Nanotechnology

Optical industry

Pharma

Medical technology

Solar/photovoltaics

Cosmetics

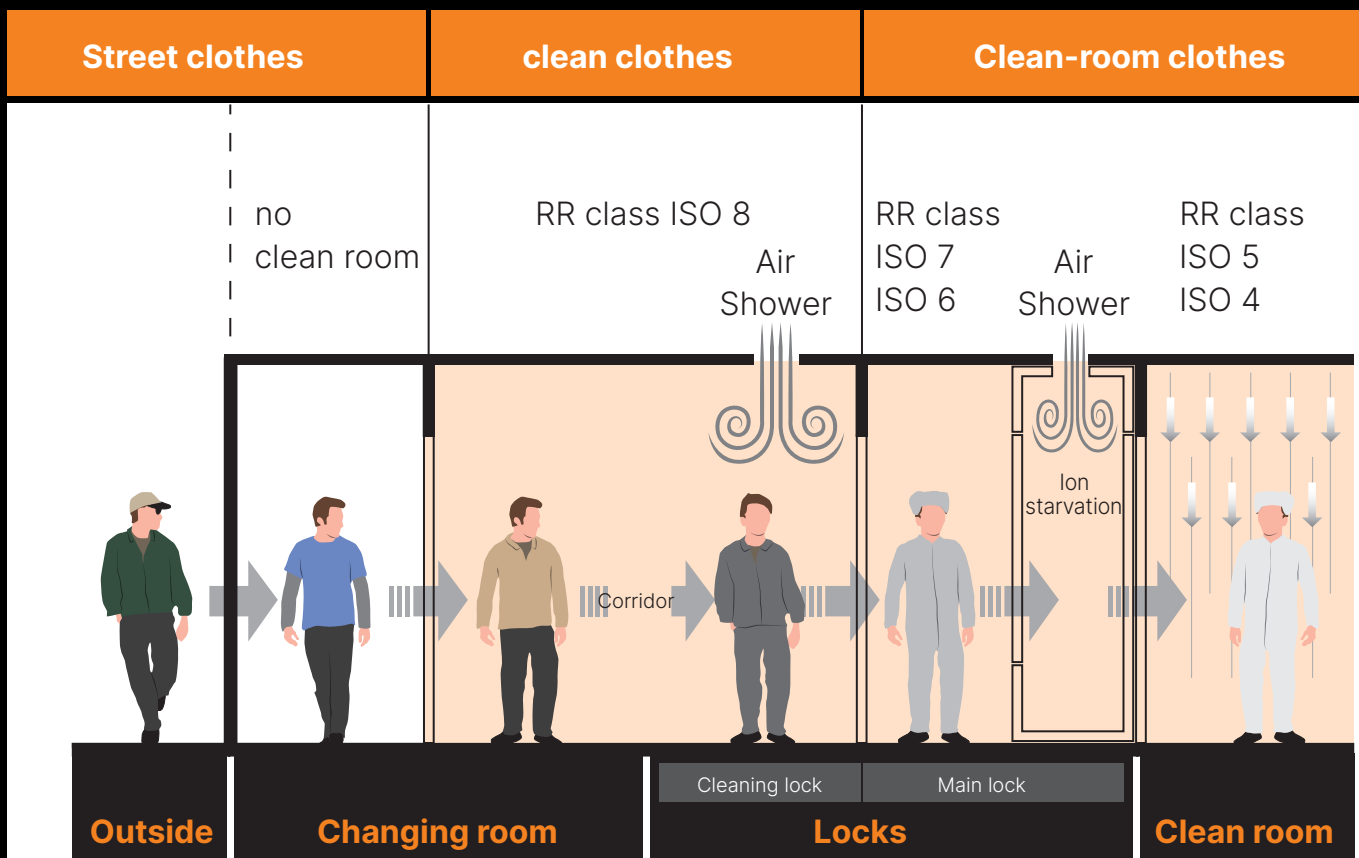**Packaging technology**

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).

Street clothes	clean clothes	Clean-room clothes

no clean room

RR class ISO 8

Air Shower

RR class ISO 7 ISO 6

Air Shower

Ion starvation

RR class ISO 5 ISO 4

Corridor

Cleaning lock | Main lock

Outside | **Changing room** | **Locks** | **Clean room**

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.

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
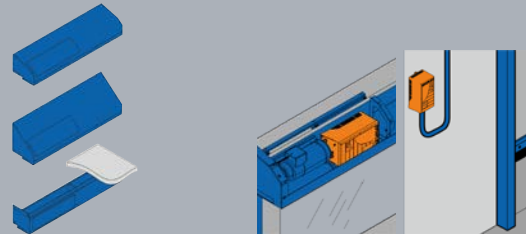vertical to ceiling

Control
EFA-TRONIC®
integrated into motor case
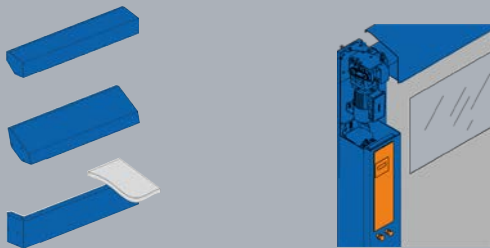
EFA-SRT® CR C

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

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

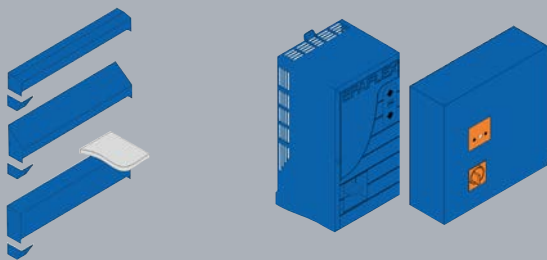Version ISO 7:
external EFA-TRONIC®
or EFA-TRONIC® Professional

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
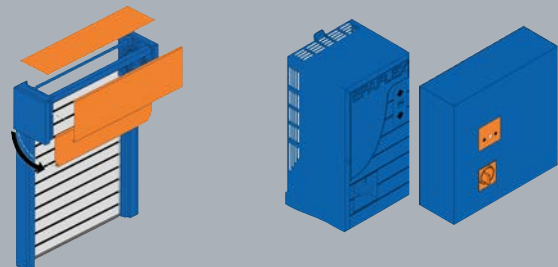RAL or in stainless steel

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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safe high-speed doors