

ISSUE 01

What are the distinguishing characteristics of the new EFA-STT CR as a clean room door?

The door was especially developed for different clean rooms on the basis of a STT-L (231). The maximum door size is similar to the STT-L (231) **4000 x 5000 mm**.

1.Design

Door leaf

The door leaf is additionally sealed with sealing elements in the hinge chain area between the laths. The sealing elements prevent the exchange of air between the two door sides. The air can no longer penetrate between the laths into the frame and exit to the other side. (Figure 1)

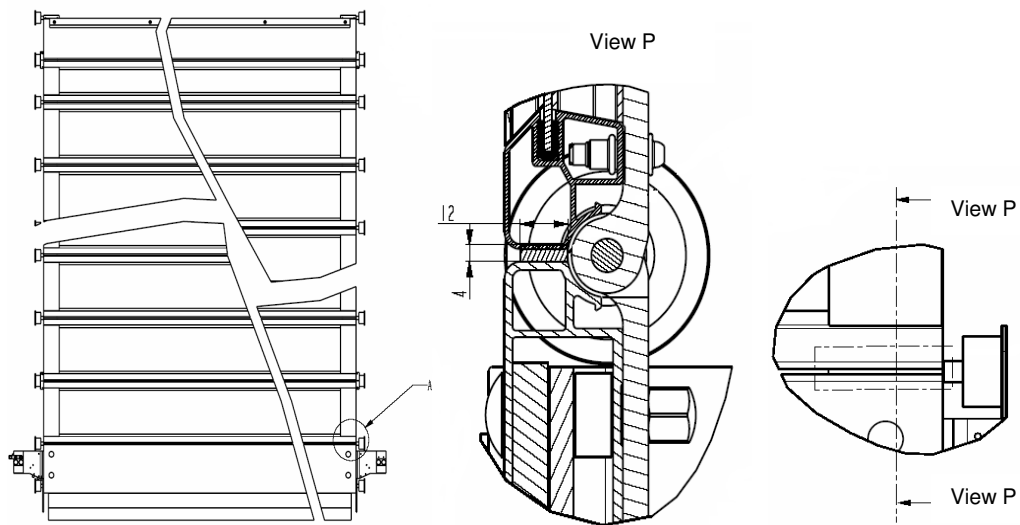


Figure 1

At the top lath, an additional horizontal rubber sealing strip is fitted. This enables excellent sealing between the door leaf and the lintel. (Figure 2)

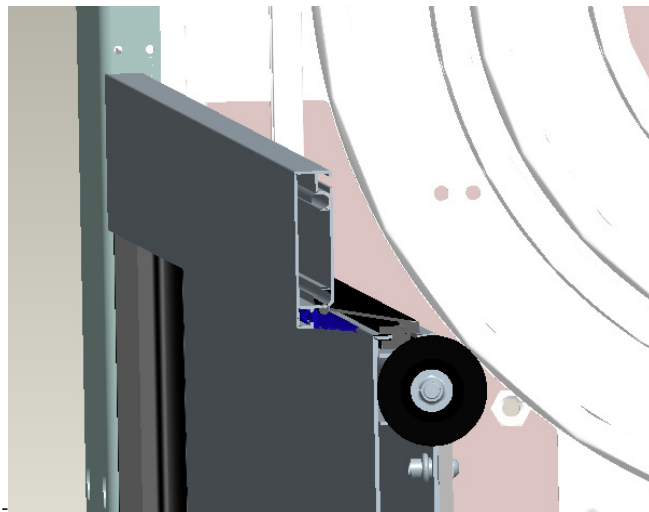


Figure 2

Frame, hood, cover

Both consoles were optimised so that no large opening and/or boreholes exist.
The motor cover was changed according to the clean room standards. On the assembly of the motor cover, addition sealing mass was used.
The top and front cover was newly designed. They are pre-mounted at the hood as a standard and sealed using a sealing mass. Figure 3)

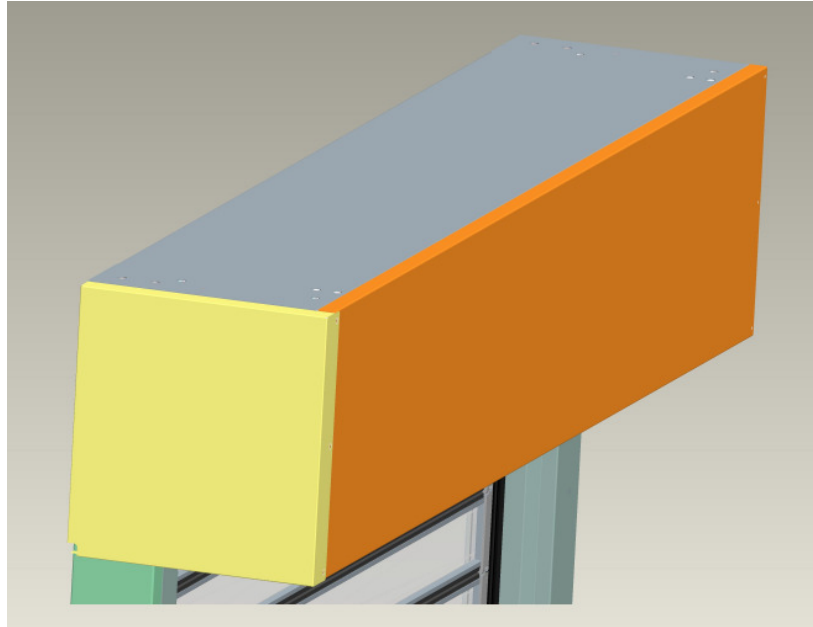


Figure 3

The lower cover is fitted with hinges to the hood to enable maintenance work. This enables easy and quick access to the drive elements in the clean room, where all covers are sealed with sealing mass. (Figure 4)
The base plates must be sealed with a sealing mass after assembly.

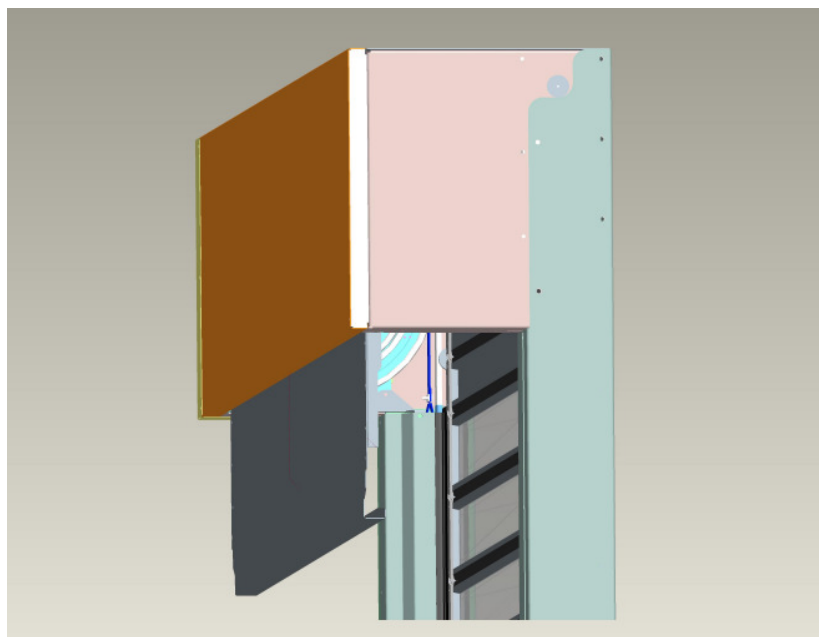


Figure 4, cover bottom, opened

2. Fitted situation

The clean room door forms a unit together with the walls and the ceiling and is part of the clean room. The best results and characteristics depend on the proper installation. The door seals all four edges of the clear passage opening. The hood is well sealed in the factory. Additional sealing of the door system must be carried out during the installation work, depending on the installation situation. As a rule, the door should be fitted against the clean room zone. Figures 5 and 6 are only examples. Design and assembly of the door system must be planned and implemented exclusively according to customer requirements with the target of satisfying the customer in the long run.

Figure 5 Fitting before lintel without suspended sealing

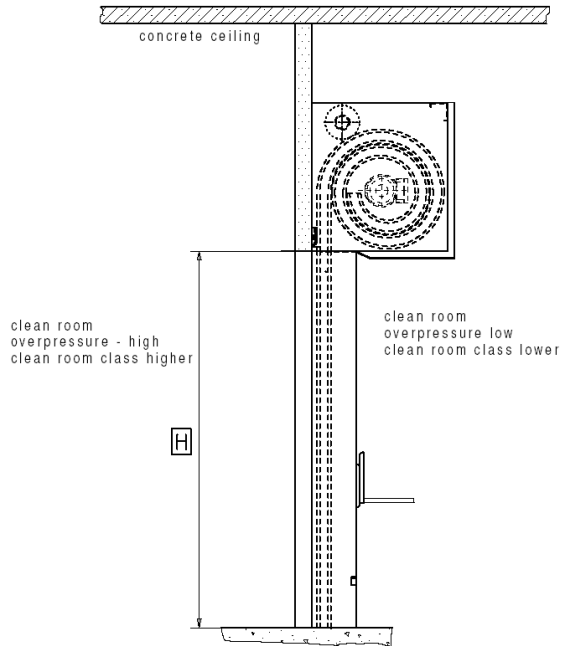


Figure 5

Figure 6 Fitting before lintel with suspended sealing

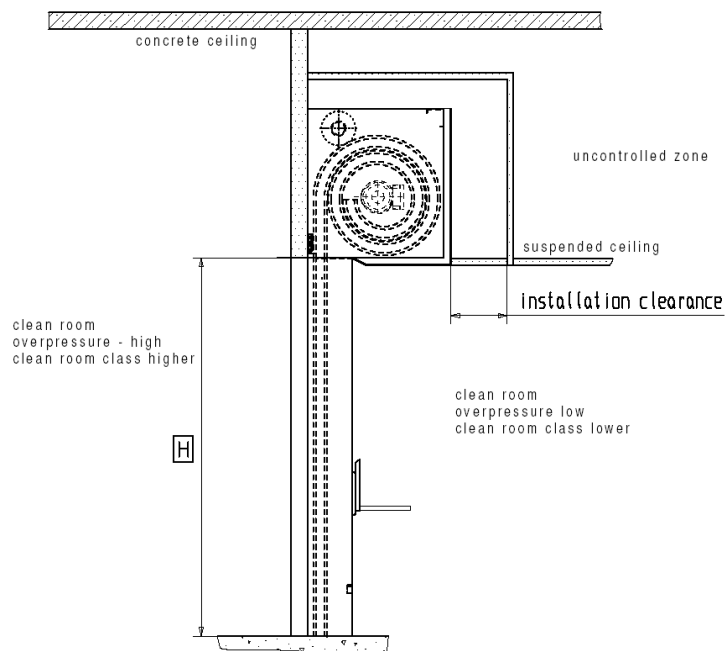


Figure 6

3. Design requirements

- **High air tightness**

This criterion is particularly considered in the development of additional sealing elements at the door leaf as well as at the hood. With the EFA-STT CR series we guarantee air losses of less than 100 m³/h at a maximum air pressure difference of 30 Pa.

- **Minimum particle emission of the door system**

Through the non-contacting winding up of the laths in the patented spiral, no abrasion and no particle emission develop. All laths are guided with ball bearing runners in extruded aluminium guides. Through this, rubbing of the parts is considerably minimised. On the development of all movable components, rubbing and thus a minimum particle emission were an priority issue.

- **Cleaning**

Due to the large transparent share at the entire door surface, dirt is easily recognised and removed. The thoroughness of the cleaners contributes considerably to the cleanliness of the door system.

- **Horizontal surfaces for particle depositions**

There are hardly any horizontal surfaces or they can be easily cleaned. Deposits of particles are usually caused by electrostatic charging and not, as in the case of visible dirt, by gravity. All horizontal surfaces at the door are made of well conductive materials, such as steel and aluminium.

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