

Airshower Cubicle 2400

Task

To enter or leave a cleanroom usually Airshowers are used.

The Airshower Cubicle 2400 therefore has important tasks:

- First, the Airshower Cubicle 2400 should protect the cleanroom from contaminated air and prohibit that contaminated air gets in when persons enter or leave the cleanroom.
- Second, the Airshower Cubicle 2400 should blow away particles which adhere on working clothes.
- Third, it should be possible that more persons enter or leave the cleanroom at the same time

When establishing the Airshower Cubicle 2400 all these tasks can be solved good.

Design

The Airshower Cubicle 2400 consists of 1 part.

The doors are out of safety glass and open to the outside.

There is a maintenance door on the grey side.

Inside along the side walls there are 40 nozzles from top to bottom.

2 lightings are located in the ceiling.

6 preliminary filters class EU4 are located in the bottom part of the side walls. The main filter class H13 is located in the top part of the Airshower Cubicle 2400.

Pushing an emergency stop shuts down the Airshower Cubicle 2400. Emergency stops are located on the grey side, white side and inside the Airshower Cubicle 2400.

brief description

Having entered the Airshower Cubicle 2400 the doors will be locked. The working clothes are subject to an intensive and purified air stream from the side walls with 40 nozzles.

To achieve an optimal decontamination of working clothes the person should slowly turn around when moving arms up and down.

While doing this the fan takes in the contaminated air, used as circulation air, in the floor area. Because of the special location of the preliminary filters to the nozzles there is no horizontal stream build up

inside the Airshower Cubicle 2400. The preliminary filters eliminate the larger particles from the contaminated air. There after the pre-cleaned air flows through the main filter and is distributed to the side walls. From there, the purified air is blown back into to Airshower Cubicle 2400.

This way a forced current of air is generated blowing from top to bottom. The dust laden air from the air stream cleaning process and other airborne particles are caught by the forced air current, pulled downwards, and immediately evacuated.

Handling

The handling of the Airshower Cubicle 2400 is easy.

There are interlocking doors. In the initial position the door on the grey side is released and the door on the white side is locked. Red and green LEDs display inside, on grey side and white side if a door is released or locked.



Airshower Cubicle 2400 (white side)

Operating mode

from grey side (contaminated area) to white side (cleanroom)

- Airshower in initial position
- person opens door on grey side
- person stands in the Airshower to be detected by a light barrier
- door closes automatically
- when the person is detected by a light barrier the door on grey side is locked
- fan motor starts running, blowing time begins
- after 30 seconds the door on the white side is released
- person opens the door of the white side and exits
- door closes automatically and is locked
- door on the grey side is released
- Airshower is back to initial position
- after-running time of fan motor starts
- after lapse of after-running time fan motor stops

from white side (cleanroom) to grey side (contaminated area)

- Airshower in initial position
- person presses the push button for request
- door on the grey side is locked, fan motor starts running
- after 3 seconds door on white side is released
- white side door is opened
- person stands in the Airshower to be detected by a light barrier
- door closes automatically and is locked
- After 3 seconds the door on the grey side is released
- person opens the door on the grey side and exits
- door on the grey side closes automatically
- Airshower is back to initial position
- after-running time of fan motor starts
- after lapse of after-running time fan motor stops