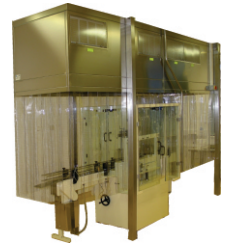




Iskra pio d.o.o.
Industrial equipment manufacturer

LAMINAR AIR-FLOW UNITS

LAF / UDF / RABS



Product protection
ISO 4 to ISO 8 (ISO 14644-1:1999)
Class A to D according to GMP



Laminar flow units assure clean conditions (Class A – GMP) in the required area. Controlled laminar H14 HEPA filtrated clean air flow – 0.45 m/s is assured on critical surface. Lights are placed over the distribution net for the correct illumination of the area. It is possible to hang the unit on the structure's ceiling or wall and even to design it as a mobile unit. External sides are closed with safety glass or PVC strip curtains.

LAF units - Laminar Air Flow

LAF unit is a device with a vertical laminar air flow ($0.45 \text{ m/s} \pm 20\%$), which provides protection for open materials in the working area. Protection offered by the device belongs to class 5 of ISO 14644 classification or to class A according to GMP guidelines.

Basic characteristics

- air is taken from the room of installation or from the ventilation system of the facilities
- controlled fans provide constant air flow, regardless changing pressure drops on filters
- filters H14 HEPA filters assure required clean air class
 - with prepared connections for testing
 - easy changeable
 - controlled pressure drop
- distribution net assures laminar air flow in working area
- curtains enable laminar air flow to critical surface area



Control system

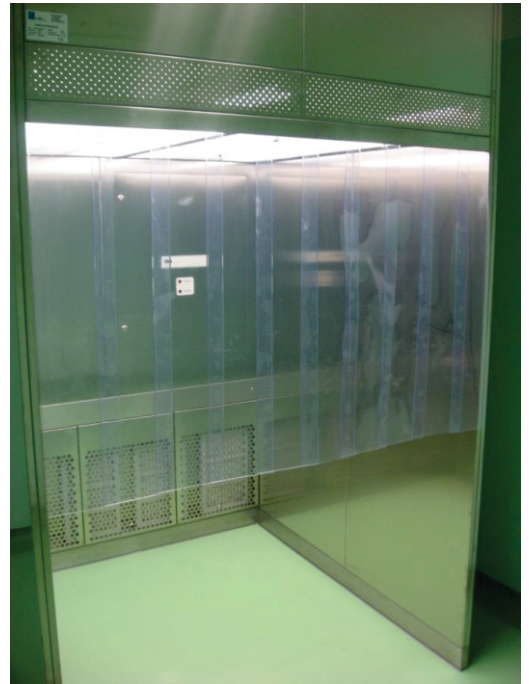
The command panel for the control and monitoring of the parameters is installed in the housing of the unit.

Possibility of SCADA/HMI concept of control system:

- PLC controlled system
- control and monitoring through touch screen HMI
- pressure switches for pressure drop on filters
- set alarms for critical values
- air speed
- pressure drop on filters
- base of events
- alarms and events
- option - 21 CFR part 11 compliant

UDF units - Unidirectional air Flow

UDF unit creates vertical unidirectional air flow that provides protection of pharmaceutical processes carried out within the protected area of the device. The protection offered by the device belongs to class 8 according to ISO 14644 classification or to class D according to GMP guidelines.



RABS - Restricted Access Barrier Systems

RABS unit is a self-standing device with a vertical laminar air flow that provides protection of pharmaceutical processes carried out within the protected area of the device. The critical point, where the substance and the packaging could potentially be exposed to contamination from the surroundings, is washed with a HEPA filtered laminar air flow generated by the RABS device. The protection offered by the device achieves class 5 of ISO 14644 classification or class A according to GMP guidelines.



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