



Laminar Flow Module

Laminar Flow Modules are used to ensure high quality of incoming air, as required for instance for sterile filling lines in the pharmaceuticals industry. These modules deliver a low-turbulence displacement airflow which prevents the ingress of contamination into the product area.

The **clean-tek** LFM can be suspended directly under the clean room ceiling and used as a recirculation module. In this mode it draws air from the clean area and filters it. Alternatively the LFM can be installed on supports, thus avoiding the need to suspend it from the ceiling. This variant is also offered by **clean-tek** as a RAP system.

The **clean-tek** Laminar Flow Modul can also be incorporated as a flush unit in our clean room ceiling systems.



Laminar Flow module via a packaging unit suspended from the ceiling

Use of sterile air filters

So as to achieve an air flow that is even more stable, sterile air distributors of polyester fabric, finely woven stainless steel mesh or perforated stainless steel sheet are used. Optionally air guidance vanes of PVC or glass (ESG/VSG) can also be fitted to ensure that large distances between the outlets are reliably spanned (where the ceiling is high) and thus eliminate possible dead areas where microbes might build up.

The **clean-tek** LFM is constructed of materials suitable for use in clean room environments. **No flammable materials** are used. All components within the **clean-tek** LFM satisfy the hygiene standard, i.e. that are easy to clean, can be disinfected and do not release any sort of particles.

The main housing with the fan and speed regulator is accessible at all times for inspection. The cladding sheets are attached without screws, thus allowing quick access for any necessary requalification.

The LFM uses standard commercially-available filters that incorporate a liquid seal (biologically inactive gel). Filters are accessible from either the clean room side or the dirty side, and can be quickly removed and fitted with mounting plates (handling protection on both sides).

Air speed control

The required value can be input via a control and input unit; the actual value must be readjusted manually. Optionally the required value can be adjusted automatically using an air speed sensor.



Laminar Flow module incorporated flush-mounted in the grid ceiling



Technical data

Size

LFM 2013

Width a, min.	575 mm
Width b, min.	575 mm
Width a/b, max.	1500 mm
Height, min.	612 mm
Discharge area	1,44 m²

Material

Housing	Stainless steel 1.4301
Colour	RAL 9002, 9010 or brushed

Weight

Weight	38 kg
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Operating data

Volumetric flow max.	2400 m³/h bei 250 Pa
Power consumption max.	400 W
Thermal load max.	225 W
Noise level	70 dB(A)

Electrical data

Voltage	230 V AC
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Filter

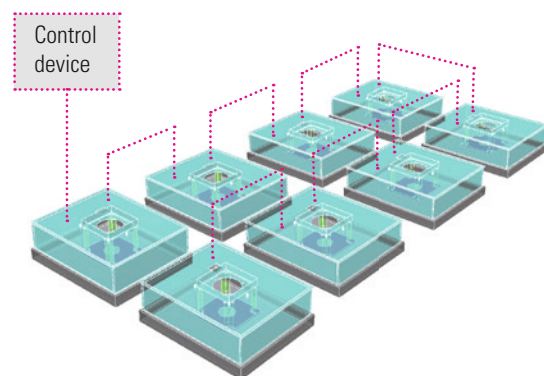
Filter class	H14
Filter height	80 mm
Initial pressure differential	95 Pa
Filtration efficiency 0.3 µm	99,995 %
Type of seal	Gel seal

Optional accessories

- External cladding perforated recirculation in the clean room) or plain
- Filter pressure differential by Magnehelic incorporated in the external cladding
- Automatic speed control
- Digital display for air speed measurement (incl. flow sensor)
- Floor support on stainless steel frame



Connection box with two RS-485 connections for looping through of FFUs



The LFM 2013 is controlled by MODBUS