The air purifiers

Extraction unit type LFE 301 for ST1 dust MIE>10mJ



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Product No.: 9731030201524

Description

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The mobile mid vacuum cartridge filter unit is especially designed for applications in which the rate of particles is relatively high. (laser engravings, laser cleaning, laser cutting)

The casing of the unit is made of stable sheet steel and is finished with powder coating inside and outside. Due to the special design of the unit with a separated air duct of the turbines a very low noise level of the filter unit is reached. Thus even the application in very sensitive areas with low noise emissions can be recommended without any hesitation.

In order to pre separate the dust, the airflow is led onto a baffle plate. Then the raw airflow strikes the filter cartridges. The dust is cleaned with a jet of high-pressure air and collected in a generously sized dust collector with a capacity of about 9 litres.The unit is equipped with maintenance doors in order to increase the ease of operation of the system. The dust collector is pressed tightly against the filter casing by means of a clamping system.

The filter cartridges work according to the principle of surface filtration, i.e. the particles deposit on the filter cartridges and do not penetrate the filter medium. The new generation LFE is equipped with filter cartridges of the easy clean nano type. These cartridges do not require an initial precoating. Nevertheless a permanent precoating system can optionally be connected if required by the process.

Due to the three filter cartridges the unit works very steadily at the operating point because during the cleaning of one cartridge the process air is at the same time extracted by the two remaining cartridges. Thanks to the new mode of attachment of the filter cartridges which are now attached from the clean air side in the pneumatic area the unit is easier to maintain than conventional systems.

The unit is equipped with an additional activated carbon filter to separate most of the gases. The unit is also equipped with a HEPA final filter stage.

The extraction unit is equipped with a powerful high-pressure turbine. The suction capacity can be adjusted steplessly. The minimal rate of rotation of the turbine is 20%. All operating conditions of the unit can be set and shown on the display of the S7 control unit by Siemens which is located in the cover of the filter unit at operational height.

An automatic filter monitoring indicates when a replacement of the filter is necessary. The particle sensor is monitored automatically. If a dust particle is detected, an error message appears on the control display and the device switches off.

If the operator wants to control the filter system via the laser, this can be done with the help of the Harting interface. The scope of delivery includes a 2.5 m power cable with a Schuko plug and IEC connector.

This special version of the system is suitable for ST 1 dusts with an MIE (minimum ignition energy) > 10mJ due to the implementation of the structural measures with an ignition source-free design:

- Use of antistatic filter cartridges, type easy clean nano
- Solenoid valves according to ATEX 3D (Zone 22)

Properties

Blower type:	Continuous-flow turbine, single-stage
Control interface:	Harting
Interface description:	Pin 1&2=Start-stop Pin 3&4=Collective fault signal (NO contact) Pin 5&6=Operation control Pin 7&8=Not assigned Pin 9=Ground (GND)
Main filter quantity:	3
Volumetric flow (m³/h):	500
max. pressure (Pa):	11,000
Engine power (kW):	2

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Properties

Supply voltage (V):	230
Connection frequency (Hz):	60/50
Current consumption (A):	1.4
Automatic cleaning:	Yes
Filter control:	Siemens (S7 + LOGO)
Pre-filter:	deflector plate
Vorfilter:	deflector plate
main filter:	filter cartridge
Filter class:	Dust class M (in accordance with DIN EN 60335-2-69)
Cartridges number:	3
Filter surface (m²):	2.7
final filter:	H13 and activated carbon cartridge
Ausblas:	through the vent openings in the sound-absorbing baffle
Weight (kg):	168
Width (mm):	751
Depth (mm):	400
Height (mm):	1,590
Colour:	RAL 7035
Ausführung:	anti-static

Replacement parts



Activated carbon filter 337 x 230 x 212 mm
Product No.: 97059



Hepa filter H13, size 337 x 230 x 100 mm
Product No.: 100350004



Ulpa filter U16, size 337 x 230 x 100 mm
Product No.: 100350005

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Activated carbon 7,5 kg for LFE unit
Product No.: 100197310



Macrofalt filter G3, 62x62x48mm,
Product No.: 100350008



Spare filter mat for Rittal-exhaust fan
Product No.: 5020007079

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