LFE-Series

For laser applications with increased dust generation, suitable for continuous use.

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 accomplished.

In order to preseparate 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 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.

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 monitoring of the final filter stage is carried out by means of an additional control lamp and via the SUB D9 interface. A great advantage of



Filter cartridge unit LFE-series

	①	②	③	④	⑤ EX
TECHNICAL DATA	**LFE 101**	**LFE 201**	**LFE 301**	**LFE 301**	**LFE 301 for ST 1***
Fan performance [m³/h]	50–280	100–500	80–400	80–400	80–400
Pressure [Pa]	15.000	15.000	15.000	15.000	15.000
Suction inlet	2 x dia. 50 or 1 x dia. 71 or 1 x dia. 100				
Sound level [dB(A)]	approx. 68	approx. 68	approx. 68	approx. 68	ca. 68
Separation efficiency [%]	≥ 99,95	≥ 99,95	≥ 99,95	≥ 99,95	≥ 99,95
Filter equipment	Baffle plate, 3 Filter cartridges, Activated carbon filter, final filter stage				
Drive type	Continuous operation motor				
Drive power [kW]	0,6 (115V/230V)	2 x 1,2 (230V)	2 x 0,6 (115V/230V)	2 x 1,2 (115V/230V)	2 x 1,2 (230V)
Dimensions (W x D x H) [mm]	751 x 400 x 1590	751 x 400 x 1590	751 x 400 x 1590	751 x 400 x 1590	751 x 400 x 1590
Weight [kg]	approx. 168	approx. 168	approx. 168	approx. 168	ca. 168

* Dust explosion class



Rear view with optional Shut-off valve



Integrated Siemens S7 Control

this system is that it is equipped with a universal voltage input of 115V and 230V (only for items 1, 2 and 4). This allows the system to be used flexibly in all countries even without additional transformers.

The extraction unit is equipped with a powerful high-pressure turbine. The suction capacity can be adjusted variably. 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 a comfortable height.

An automatic filter monitoring indicates when a replacement of the filter is necessary. The particle sensor is automatically monitored, and on particle detection, an error message is displayed on the control display and the unit shuts off. Controlling the filter unit via a connected laser machine can be accomplished by means of the Harting interface. A 2.5m power cord with plug and inlet socket is included.



LFE with optional spark trap



Intake housing version 1,
2 x dia. 50 mm



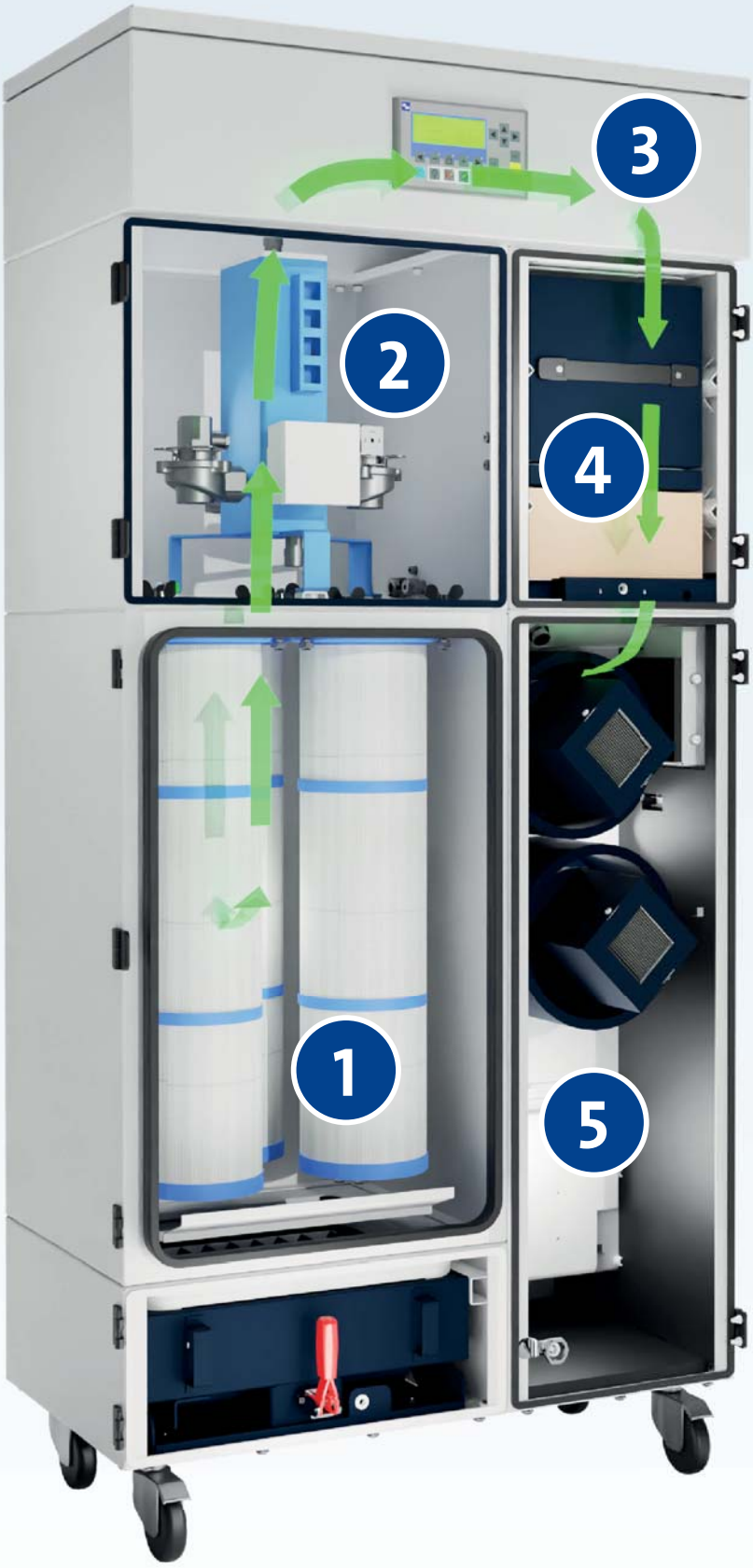
Intake housing version 2,
1 x dia. 71 mm



Intake housing version 3,
1 x dia. 100 mm

AIR FLOW

INSIDE THE LFE



1. The process air enters from the rear side into the filter section.
2. The pre-cleaned air passes the compressed air section ...
3. ... and is deflected 180° before the electronics section.
4. From there, the air is drawn into the activated carbon filter and the HEPA final stage.
5. Behind the turbines, the air is blown out at the back.

	TYPE	ART. NO.
1	LFE 101 - 115/230V, 60/50 Hz	9731015
2	LFE 201 - 230V, 60/50 Hz	97310201
3	LFE 301 - 230V, 50 Hz	973103015
4	LFE 301 - 115/230V, 60/50 Hz	97310301015
5	LFE 301 for ST-1-Dust MIE >10 mJ - 230V, 60/50 Hz	9731030201524

ACCESSORIES AND SPARE FILTERS		ART. NO.
Filter cartridge, type easy clean nano, 145 x 600 mm, filter surface: 2,7 m², (3 pieces required)		6160600302708
Filter cartridge, type easy clean nano, antistatic (3 pieces required)		6160609302706
HEPA filter H13, 337 x 230 x 100 mm		100350004
Ulpafilter U16, 337 x 230 x 100 mm		100350005
Activated carbon cassette		97059
Activated carbon filling incl. fleece cover		100197310
Suction housing (One version of choice is included in the delivery)	Version 1, for 2 x dia. 50 mm	9731001
	Version 2, for 1 x dia. 71 mm	9731002
	Version 3, for 1 x dia. 100 mm	9731003
Cooling filter for turbine		100350008
Filter mats for ventilation grille		5020007079

OPTIONS	ART. NO.
Automatic precoating system dia. 80 / 60 l barrel + flap trap	96300063
Shut-off valve LFE, dia. 100mm, 24V DC, incl. pressure reducer	97310010
Vent outlet dia. 100	9731005
Vent. outlet dia 125	9731006
Spark trap for mounting on LFE system	973100606