

# Separation technology dust collector L-CUT



**Effective and hazard-free filtration and separation of combustible dusts from thermal processes.**

Metal oxides created during laser processes can be separated safely and space-saving.



TRGS 560 requirements are met with the optional H13 secondary filter and clean air recirculation back into the room is possible.

# Compact and efficient

## Applications

All metals and non-metals	
Joining	soldering, welding
Separation	cutting, milling, grinding
Surface Treatment	hardening, engraving, laminating

## The Task

The L-CUT series has been specially developed for the collection of dust and fumes caused by thermal processes such as joining, separating, or surface treatment by laser, plasma or gases, to separate the finest of metal

oxide particles. These units are compact and have a very low profile. Therefore, they can be installed in tight spaces. The spark pre-separator KSE is already integrated in the housing.

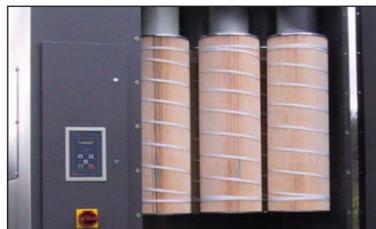
## Filter housing

The housing is of welded design with a variable dirty air inlet opening. The integrated spark pre-separator protects the filter elements against damage that could be caused by coarse, potentially glowing particles. All rel-

evant components, i.e. disposal bin, filter elements, motor-impeller section, solenoid valves, electrical switch and control system are accessible for servicing from the front.

## Filter cartridges

The cartridges consist of a star-shaped folded filtering material which is molded at the bottom and top into an end plate made of sheet steel. A basket of perforated metal plate or wire mesh is installed in the clean air zone which ensures form stability.



Filter cartridges

## Electrical Switch and Control system

The cleaning intervals can be adjusted individually for each type of application by means of an integrated control. The fan's volume flow almost remains constant. Optionally, the cleaning process can be released either via an electronical differential

pressure measuring gauge or an additional cleaning can be programmed in the offline follow-up. Equipped with high-quality components according to VDE guidelines.



Electrical Switch

## Waste disposal

The one-way dust collection bins form an air-tight connection to the filter hoppers by means of a clamping device.



Waste disposal and fan

## Fan

The built-in, directly driven radial fan operates at very low sound levels. The cleaned air is directed upward through an integrated silencer.

Unit type L-CUT		0,5	1	2	4
Airflow	m <sup>3</sup> /h	approx. 500-1000	approx. 1000-1800	approx. 2000-3000	approx. 3200-4500
Sound Level	dB(A) <sup>1)</sup>	70	70	< 75	< 78
Size	L x B x H (mm)	950 x 950 x 2000	1050 x 1200 x 2000	1400 x 1400 x 2000	1600 x 1600 x 2900
Weight	kg	550	850	1025	1550

<sup>1)</sup> 1 m in front of the door, measured according to DIN EN ISO 3744, with connected suction ductwork.

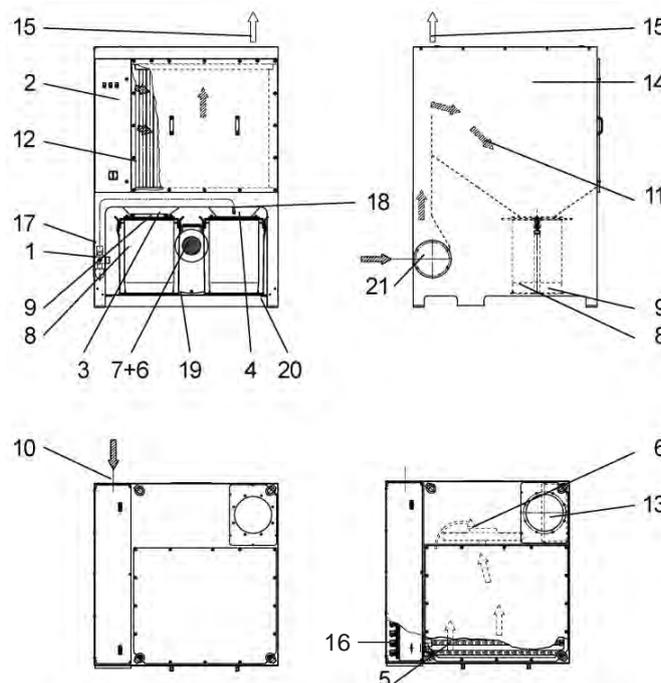
Subject to modification

## Functional description

Dirty air flows through the dirty air inlet (10) into the spark pre-separator (11) where larger particles are separated. The collected dust can be emptied during operation by closing the manual slide gate. The separated dust is compressed in the disposal container (8) by means of a dust compression nozzle (18).

Air is deflected after the spark pre-separator (11) which reduces speed when the air contacts the filter elements (12). The dust particles settle onto the surface of the filter elements, are cleaned off by compressed air pulses and then fall into the two disposal containers.

The cleaned air flows through an intermediate level (5) into the clean air chamber where it is pulled through the fan (6) and then exits through the silencer (13).



- 1 Compressed air connection
- 2 Electrical switch and control unit
- 3 Slide gate valve
- 4 Shut-off valve (standard)
- 5 Clean air plenum
- 6 Radial fan
- 7 Motor with 3 attached temperature sensors as motor protection
- 8 Dust collection container (60 liter bin)
- 9 Clamping device for dust collection container
- 10 Dirty air inlet
- 11 Spark pre-separator
- 12 Filter elements
- 13 Silencer
- 14 Filter plenum
- 15 Clean air outlet
- 16 Solenoid valves (de-dusting)
- 17 Solenoid valves (dust compression)
- 18 Dust compression nozzle
- 19 Bottom plate
- 20 Transport bar (position after installation)
- 21 Dirty air connection (2nd alternative)

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## References



L-CUT 0.5



L-CUT 1



L-CUT 2



L-CUT 4



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