

series 160
LAS 160 MD K



LASER
FUMES



DUST AND
SMOKE



SOLDERING
FUMES



ODORS,
GASES, AND
VAPORS



CLEANING
INDUSTRIAL
GASES



NEW
EMISSIONS



WELDING
FUMES



OIL AND
EMULSION
MISTS



COMPLETE
SOLUTIONS

Date of issue: 01/2016





Use and application

The **LAS 160 MD K** is suitable for collecting and filtering dry and non-combustible emissions contained in non-explosive air mixtures produced during laser machining. Any emitted and partially unhealthy **types of dust, fumes and gases** ought to be extracted by collecting elements directly at their place of origin and filtered by the LAS 160 MD K. Provided that the filters are maintained or replaced at regular intervals, the combination of pre filter elements, a main filter element and an adsorption filter guarantees a **separation efficiency of 99.95 %**, due to multiple air cleaning. Already during pre-filtration a much higher separation level is reached thanks to the utilized **high-quality filter pleat** with a tighter folding resulting in a **larger filtration surface**. This protects the following main filter element from early saturation leading to a **longer filter lifetime**.

application examples

- ➔ laser engraving,
- ➔ laser structuring
- ➔ laser-welding

ULT 160 special features

- ➔ mobile unit with two castors and 2 adjustable feet for secure standing
- ➔ replacement filter system – separately exchangeable filter elements
- ➔ control panel on the front side
- ➔ easy filter handling, accessible from the top through hinged lid
- ➔ exhaust air outlet adjustable to the right or left side
- ➔ robust steel housing
- ➔ powder coated RAL 7035 light grey

Filter system:

option: Expanded metal filter

metal knitting, condensation filter, spark protection

- (1) Panel filter F9
filter class: F9 fine dust filter according to DIN EN 779
- (2) Filter mat M5
filter class: M5 medium dust filter according to DIN EN 779
- (3) Combined filter cassette H13A
 - (3.1) Particle filter H13
filter class: H13 HEPA-filter according to DIN EN 1822
 - (3.2) Adsorption filter A
filter medium: activated carbon

Control elements

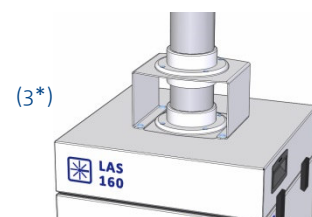
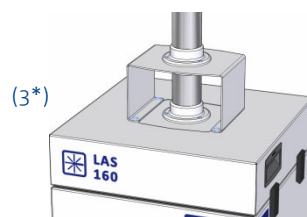
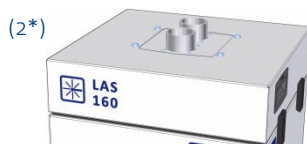
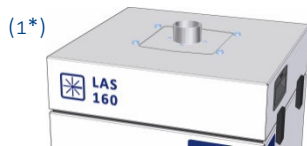
- ➔ Air flow controller: suction power is continuously adjustable
- ➔ Loaded particle filter indicator: visualization of the particle filter condition
- ➔ Option: Interface SUB D9: remote ON/OFF, operation status, filter saturation 100%



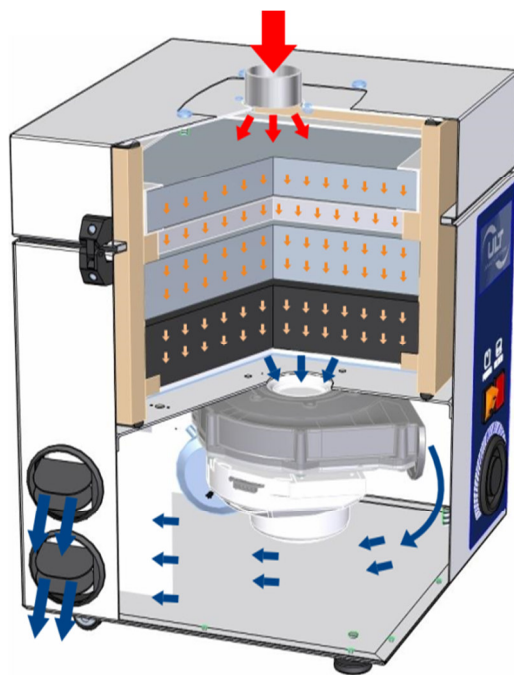


LAS 0160.0-MD.bb.cc.dddd

Parameter	unit	-MD.11.10.dddd	-MD.13.10.dddd
Max. air flow	m ³ / hr	190	250
Max. vacuum	Pa	3.200	7.500
Nominal capacity	m ³ /hr / Pa	80 / 1.900	180 / 2.700
Motor-nominal power	kW	0,15	0,55
Nominal voltage	V	1~ 230	1~ 230
Nominal current	A	1	4,8
Frequency	Hz	50 / 60	50 / 60
Protection class	IP	54	54
Type blower		EC-blower	EC-blower
Noise level (at 50 - 100%)	dB(A)	45 - 49	59 - 61
Air flow controller		yes	yes
Loaded particle filter indicator	optical	yes	yes
SUB D9 interface	MD.bb.11	option	option
Air intake	∅	1x 50 mm; 2x 50 mm; 1x 75 mm	
	position	on top of the unit	
Air outlet		4 exhaust air openings, adjustable	
	position	on the right and on the left side	
Width	mm	400	
Depth	mm	350	
Height	mm	500	
Weight	kgs	ca. 35	
Length of power cable	m	3,0	
Filter system		filter system: storage filter filter set complete consisting of:	
for processes with the risk of spark development: (-MD.bb.cc.6018)	(0)	Expanded metal filter	ULT 02.0.576
	(1)	Panel filter F9	ULT 02.0.581
	(2)	Filter mat M5	ULT 02.0.572
for all other laser processes: (-MD.bb.cc.6010)	(1)	Panel filter F9	ULT 02.0.579
	(2)	Filter mat M5	ULT 02.0.572
	(3.1)	Combined filter cassette H13A: Particle filter H13	
	(3.2)	Adsorption filter A	
Options:			
hose connection 1x	(1*)	on top; ∅50mm; optional further ∅	
hose connection 2x	(2*)	on top; ∅50mm	
mounting bracket for ALSIDENT-arm	(3*)	ALSIDENT System 50/75; for max. 1 extraction arm	



lid with mounting bracket for ALSIDENT arm removable – no hinges mounted



- raw gas
- filtration
- clean gas

Functional principle:

At the clean-air side of the filter, a vacuum generator with a high pressure reserve produces a volume flow matched to the respective application.

This volume flow can be individually and infinitely variably regulated. Thus, the polluted air will be reliably extracted.

The **particles** are separated and held back at the first filtration level in multiple stages. **Gaseous and vaporous air pollutants** are separated (adsorbed) in an activated carbon filter.

The filtering effect of activated carbon is based on the adsorption-principle, i. e. an accumulation of substances (to be filtered out) on the surface of the activated carbon. During this process there are no chemical reactions and changes of the captured substances. The construction of the filter elements underlies the volume flow of the unit; the contact time is based on a medium adsorption reaction.

Storage filter system

Filters which are replaced once they are saturated.

Filtration set complete:

Pre-filtration

- (1) **fine dust filter** panel filter F9
- (2) **medium class filter** filter mat M5

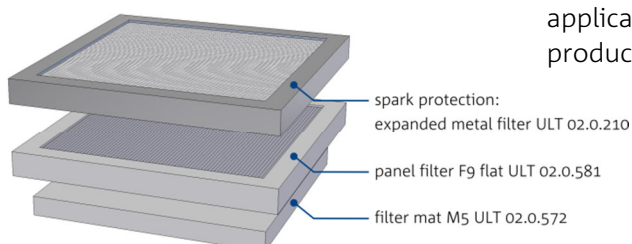
Combined filter cassette

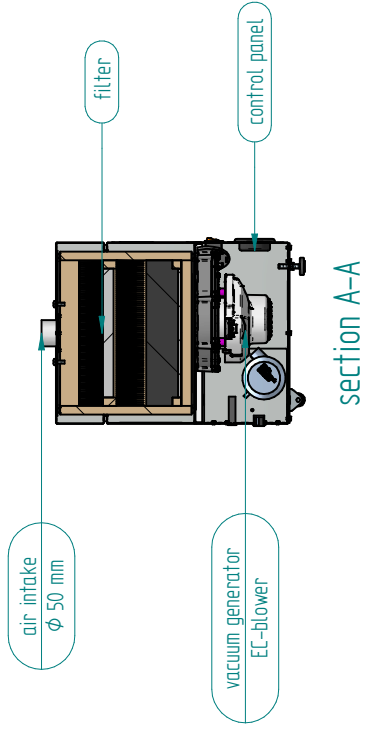
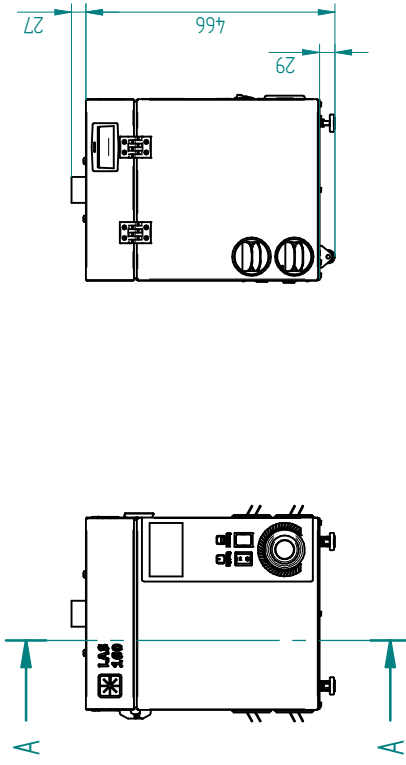
- (3.1) **particulate filter** HEPA filter H13
- (3.2) **gas filtration** Adsorption filter A (layer of activated carbon)

This excellent filter efficiency makes it possible to recirculate the **filtered air** and reduce energy costs.

optional pre-filtration set

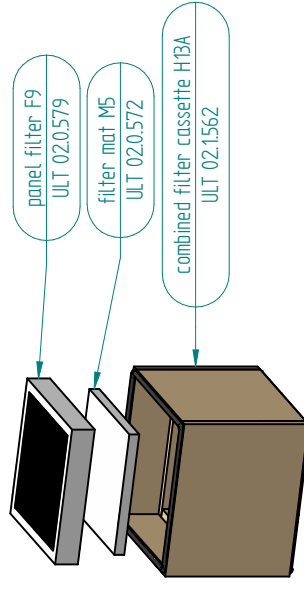
application for processes with the risk of spark production or hot chips



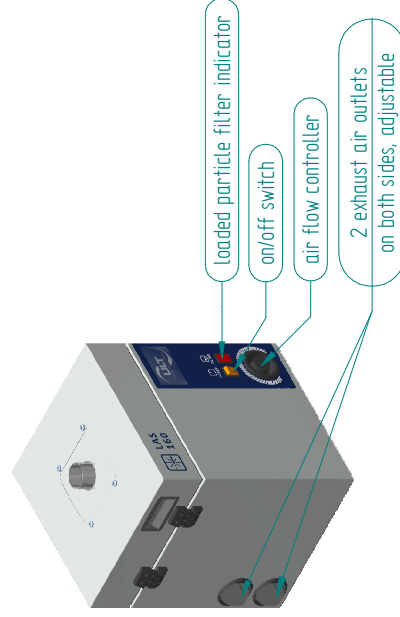
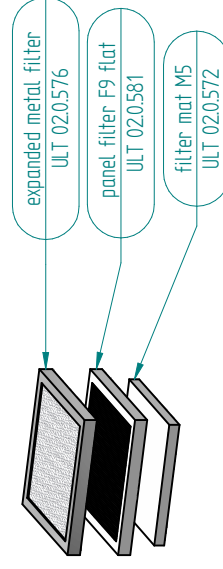


section A-A

filter consisting of:



pre filter combination with spark protection:



Allgemeintoleranzen DIN ISO 2768-mK

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002	bestimmung	16.03.2015	setz	an bauteil nr 1	ULT AG	bezeichnung	LAS 160 MD K
001	entwurf	19.05.2014	ra, rei	2014	date	name	drwing number
000	date	24.03.2014	ra, rei	entf	24.03	x, rei	ULT0160_00_301
issr	revision	day	name	verf	norm		scale
							1:5