

LAS 300 MD/HD K

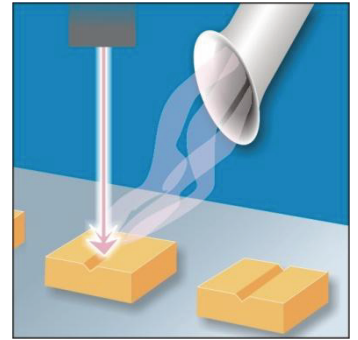
Technical Documentation

Date of issue: 08 / 2010



ULT 300

Modular system



*clean air,
strong performance*

*LAS-series,
modular air
extraction and
filtration units for
laser smoke*



Air handling equipment for environmental and health protection

Technical documentation

Air extraction and filtration unit

LAS 300 MD/HD K



Use and application

The **LAS300** is suitable for collecting and filtering dry and non-combustible types of dust contained in non-explosive air mixtures produced during laser machining. Any emitted and partially unhealthy **types of dust** ought to be extracted by collecting elements directly at their places of origin and be filtered by the **LAS300**. The combination of a sublimation filter, a preliminary filter, a main filter and of an adsorption filter guarantees a precipitation rate of clearly better than 99 %, due to multiple air cleaning.



laser smoke

Examples

- ⇒ laser cutting
- ⇒ laser engraving
- ⇒ laser structuring

ULT 300 modular air extraction and filtration unit

mobile unit,
with vacuum and filter modules and storage filter system
robust steel housing, powder coated

- filter module RAL 7035, silver grey
- vacuum generator module RAL 7001, light grey



Filter system:

Storage filter system,
filters which are replaced once they are saturated.

Filter technical:

- (1) expanded metal pre-filter
filter medium metal knitting sublimation-filter, spark protection filter
- (2) pre filter mats
filter class F5/F7 fine dust filter, according to DIN EN 779
- (3) HEPA filter H13
filter class H13 HEPA filter, according to DIN EN 1822
- (4) adsorption filter
filter medium activated charcoal, 5 kgs

Components:

Air flow controller
stepless adjustment for the suction power,
Loaded particle filter indicator
optical signal shows the particle filter condition,
Interface SUB D9
remote ON/OFF; filter 100%; operation status



Vacuum modules:

High performance blower and turbines with maintenance-free EC-technology.

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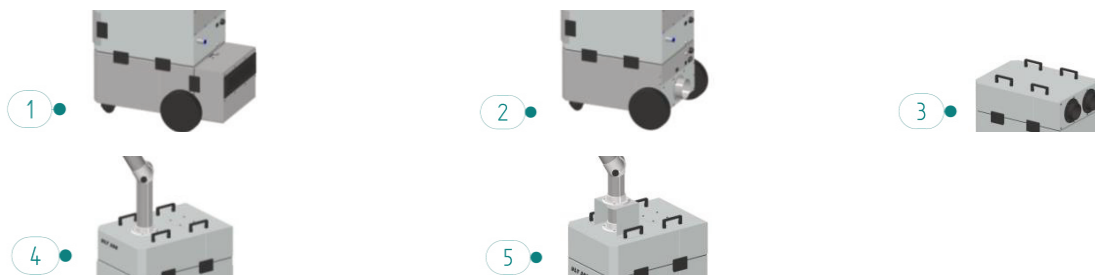
Technical documentation

Air extraction and filtration unit



LAS 300 MD/HD K

LAS 0300.0-aa.bb.11.6005		vacuum modules			
Parameter	unit	MD.14	MD.16	HD.12	HD.13
max. air flow	m³/h	635	900	220	400
max. vacuum	Pa	3.200	3.650	22.000	12.000
nominal capacity	m³/h at Pa	250 / 2.200	250 / 3.500	120 / 12.000	200 / 7.500
	m³/h at Pa	400 / 1.700	400 / 3.200	200 / 3.500	250 / 5.000
motor nominal power	kW	0,4	1,3	1,3	1,3
nominal voltage	V	230	230	230	230
nominal current	A	2,2	10,0	11,0	11,0
frequency	Hz	50 / 60	50 / 60	50 / 60	50 / 60
protection class	IP	54	54	54	54
typ blower		EC-blower	EC-blower	EC-turbine	EC-turbine
noise level (bei 50 - 100%)	dB(A)	52 – 56	65 – 71	60 - 70	60 – 71
with sound absorber(at 50 - 100%)	dB(A)	48 - 51	62 - 65	57 - 67	59 - 68
air flow controller		incl.	incl.	incl.	incl.
loaded filter indicator		incl.	incl.	incl.	incl.
SUB D9 interface		incl.	incl.	incl.	incl.
air intake	Ø	2x Ø 75 mm; optional: further Ø			
	position	on the top or on the rear side			
air outlet		air exhaust louver; optional: exhaust air connection			
	position	on the rear side of the vacuum module			
length	mm	475			
width	mm	625			
height	mm	1016			
weight	kg	approx. 50			
length of power cable	m	3			
filter structure	HFM K	main filter module			
		filter system: storage filter			
		ULT200 Filter LAS/LRA complete			ULT 02.1.420
		(1) expanded metal pre-filter			ULT 02.0.476
		(2) pre-filter mat; F5/F7			ULT 02.0.474
(3) particle filter H13			ULT 02.1.421		
(4) adsorption filter; activated charcoal filter					
additional options:					
sound absorber	(1)	changed depth: 745 mm			
exhaust air connection	(2)	1 x Ø 100 mm			
intake module 002	(3)	hose connection: 2x Ø 75mm; optional further Ø			
intake module 003	(4)	ALSIDENT-arm – direct mounting; 1x S75; optional further Ø			
mounting bracket for ALSIDENT-arm	(5)	Alsident-U-Profil S50/75; for max. 2 ALSIDENT arms			



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laser smoke

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 in a multi-stage saturation-type filtering system. **Gaseous and vaporous air pollutants** are precipitated (adsorbed) in an activated charcoal filter. The filtering effect of activated charcoal is based on adsorption, i. e. an accumulation of substances (to be filtered out) on the surface of the activated charcoal.

Main filter module K

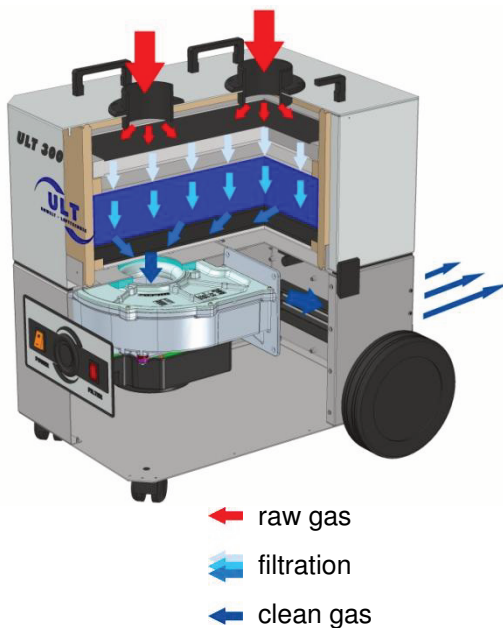
ULT 300 Filter LAS/LRA

- | | |
|--------------------------------|-------------------------|
| (1) spark protection. | expended metal filter |
| (2) fine dust filter | filter mats F5/F7 |
| (3) particulates filter | HEPA H13 |
| (4) gas filtration | activated carbon, 5 kgs |

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

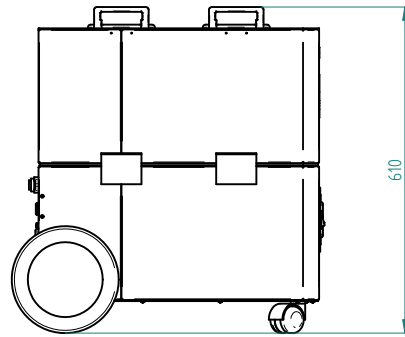
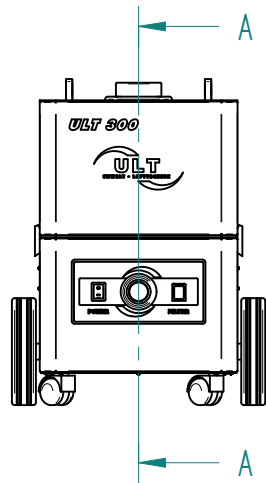
Further additional options can be connected to the unit. These are to be selected according to the respective requirements.

For the extraction and filtration from pollutants varying from this application case, other module combinations are available.



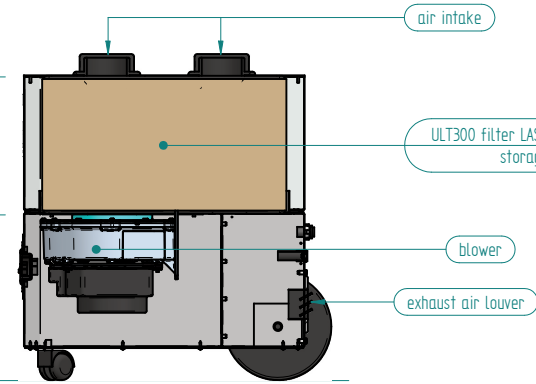
- ← raw gas
- ← filtration
- ← clean gas

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main filter module HFM020

vacuum module



section A-A

air intake

ULT300 filter LAS/LRA complete ULT 02.1420
storage filter element

blower

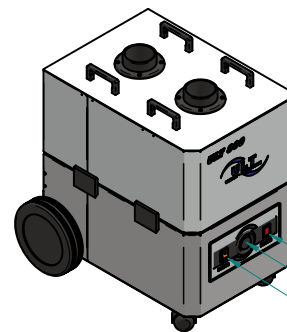
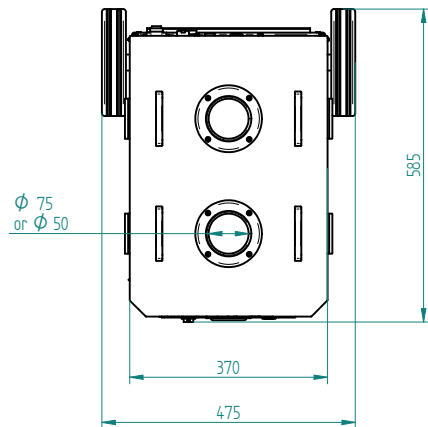
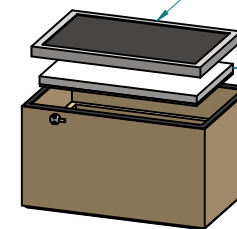
exhaust air Louver

individual components

ULT300 filter expanded metal
ULT 02.1476

ULT300 filter mats F5/F7
ULT 02.1474

ULT300 filter LAS/LRA base
ULT 02.1421



loaded particle filter indicator

air flow controller

on/off switch



				ULT AG Am Gopelreich 1 D-02708 Lobau		Benennung: ULT 300.x K Gesamtzeichnung	
				2010	Datum	Name	Zeichnungsnummer:
				Bearb.	25.05	R. Schütze	ULT 300_00_002_120
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