

# **LAS300.x-01**

**(ULT300-UM.x-HFM050)**

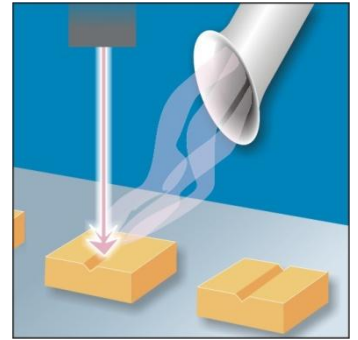
**Technical Documentation**

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



### LAS300.x-01 ULT300-UM.x-HFM050

#### 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 material of the filter element ensures effective filtering out of the various dust particle sizes. Pneumatic cleaning of the main filter element by the counter flow principle guarantees very long main filter lifetimes.



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 cartridge filter system  
robust steel housing, powder coated

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

#### Filter system:

cartridge filter system,  
cleanable filter element for high pollutant emission

#### Filter technology:

- (1) filter cartridge, 2 pcs.
- filter material: polyester fibre with teflon-coating (PTFE)
  - filter class: HEPA, filtration efficiency > 99% (at test dust 0.3µm)
  - filter area: 2.2m<sup>2</sup>, total filter area

#### Ausstattung:

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 loading 100%; operation status

#### vacuum module:

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



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# Technical documentation

## Air extraction and filtration unit



### LAS300.x-01 ULT300-UM.x-HFM050

ULT 300.x-HFM050		vacuum modules			
Parameter	unit	300.1	300.2	300.5	300.7
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	at the 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	1010			
weight	kg	approx. 60			
length of power cable	m	3			
filter structur	HFM050	main filter module			
		filter system: cartridge filter, automatic cleaning by compressed air			
		(1) cartridge filter; 2 pcs		ULT 02.1.579	
<b>additional options:</b>					
sound absorber	(1)	changed depth: 685 mm			
exhaust air connection	(2)	1 x Ø 100 mm			
intake module002	(3)	ALSIDENT-arm – direct mounting; 1x S75; optional further Ø			
intake module003	(4)	hose connection: 2x Ø 75mm; optional further Ø			



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laser smoke

#### Functional principle:

At the clean-air side of the filter cartridge, a vacuum generator with a maintenance-free EC drive and 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 pollutant air will be reliably extracted.

The **particles** are separated on a **filter cartridge** (Teflon (PTFE) coated polyester fibre) by the **surface filtration** principle. Clogged filter cartridges are **automatically and individually treated** on the basis of the **counter flow compressed-air pulse jet cleaning** principle. Operating such system requires compressed-air supply (4 – 5 bar). The **particles blown off** fall into a collecting drawer provided for the removal and disposal of the filter deposits.

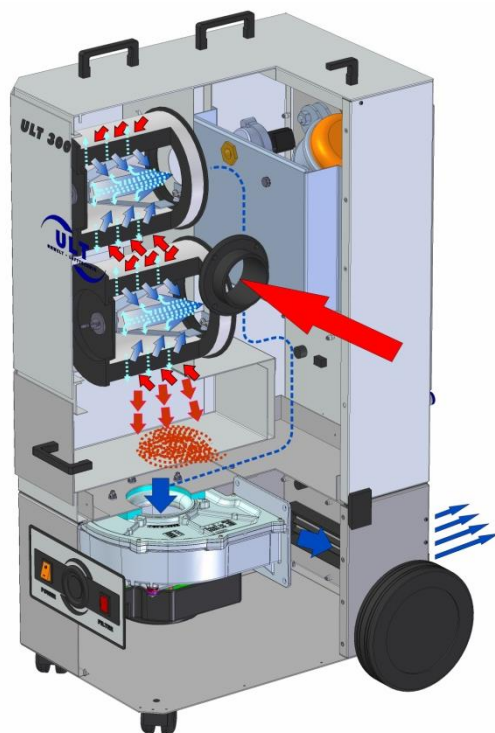
Main filter module ULT 300 Filter






(1) **dust-filter** cartridge filter

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

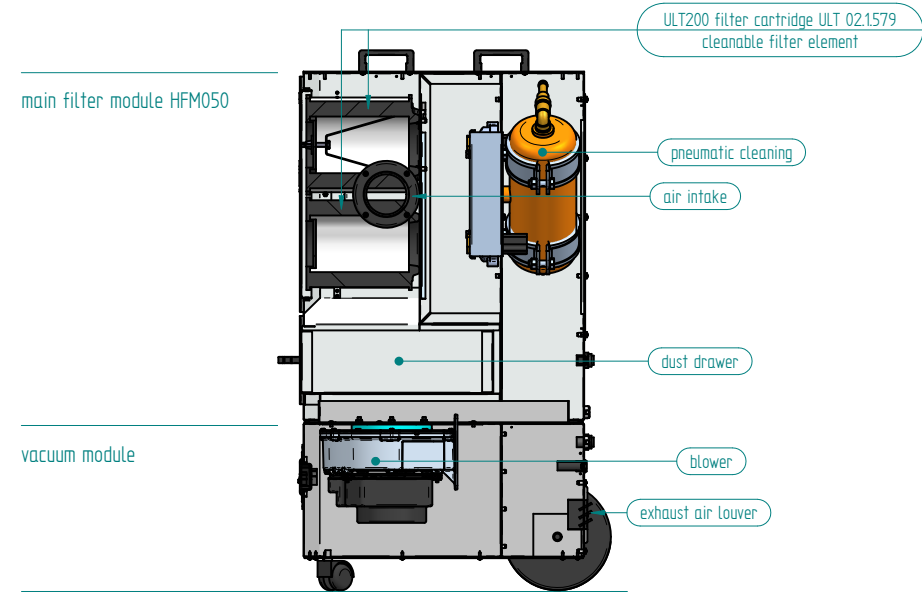
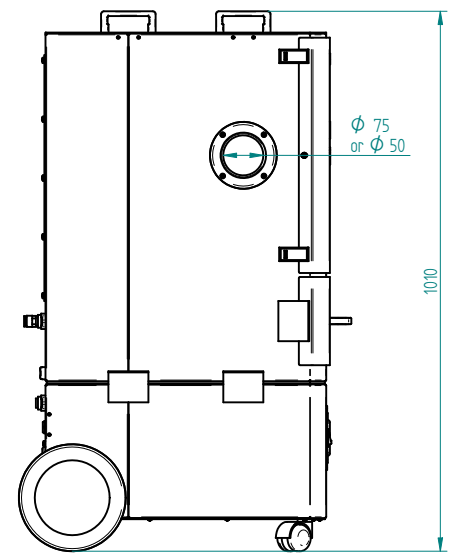
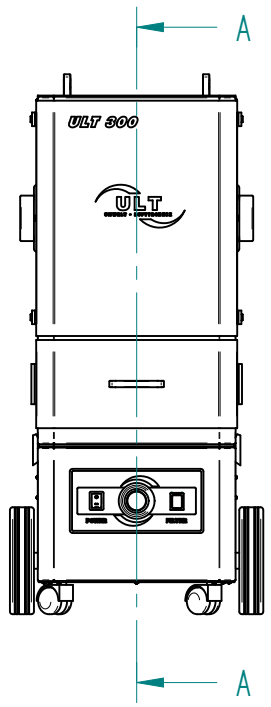
Further additional options can be connected to the LAS300.x-01 unit. These are to be selected according to the respective requirements.

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

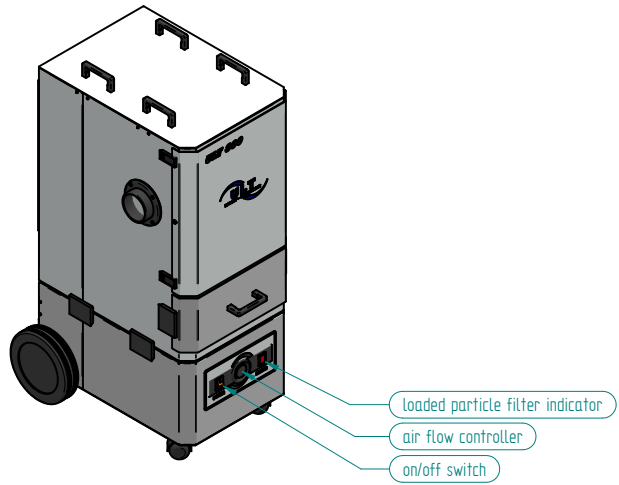
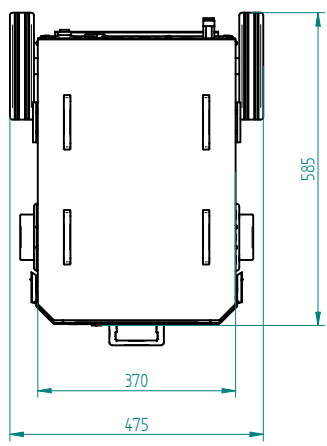


-  raw gas
-  clean gas
-  dedusting pressure
-  fallen filter material
-  collected filter material

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section A-A



				ULT AG Am Gopelreich 1 D-02708 Lobau		Benennung: ULT 300x HFM050 Gesamtzeichnung	
				2010	Datum	Name	
				Bearb.	10.05	R. Schütze	
				Zeichnungsnummer:			
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Ausgabe	Änderung	Tag	Name				