

LAS 300 MD/HD 2Pa

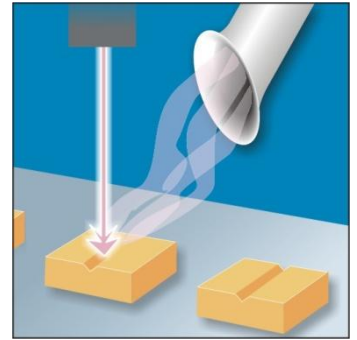
Technical Documentation

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 2Pa

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: 2.2m², 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



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| LAS 0300.0-aa.bb.11.4005 | | 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 | 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 | HFM 2Pa | main filter module | | | |
| | | filter system: cartridge filter, automatic cleaning by compressed air (1) cartridge filter; 2 pcs ULT 02.1.579 | | | |
| additional options: | | | | | |
| sound absorber | (1) | changed depth: 685 mm | | | |
| exhaust air connection | (2) | 1 x Ø 100 mm | | | |
| intake module003 | (3) | 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.

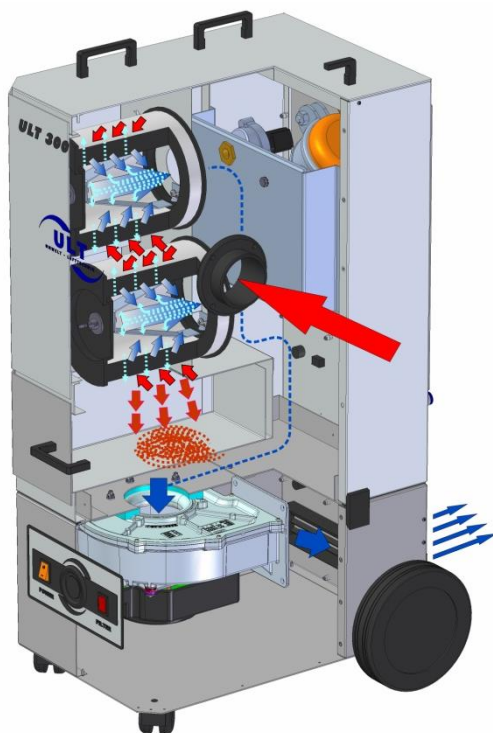
Main filter module ULT 300 2Pa






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

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

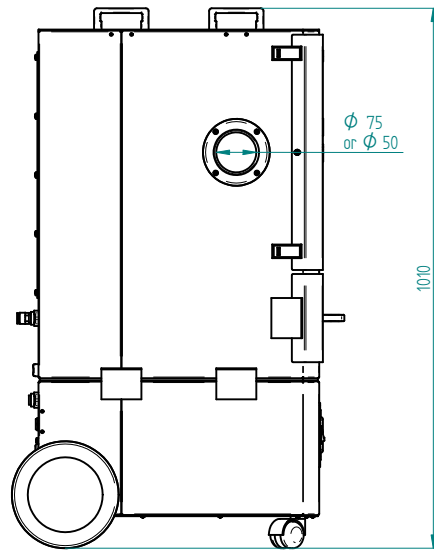
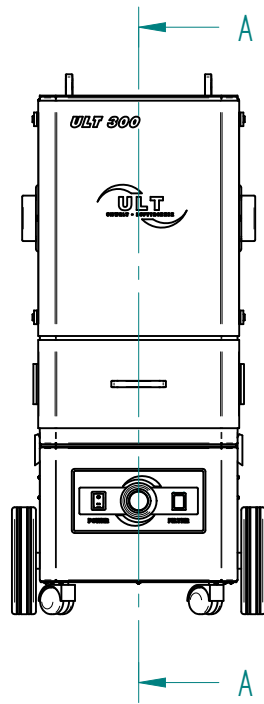
Further additional options can be connected to the unit. These are to be selected according to the respective requirements.

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



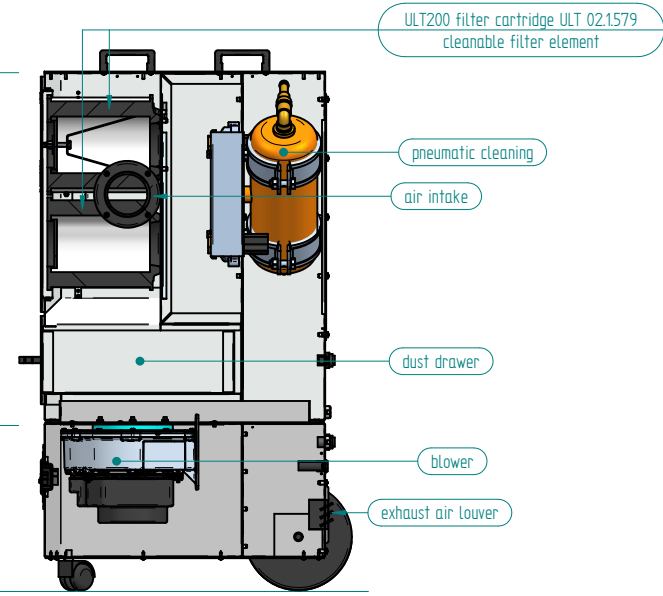
-  raw gas
-  clean gas
-  dedusting pressure
-  fallen filter material
-  collected filter material

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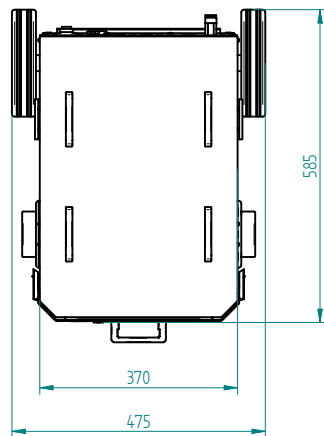


main filter module HFM050

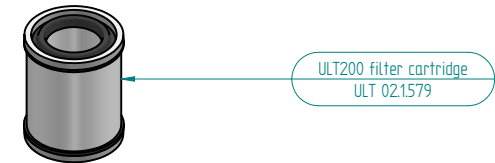
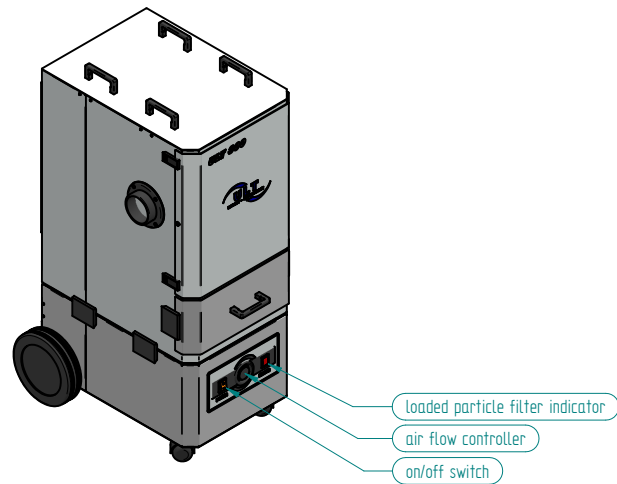
vacuum module



section A-A



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|---------|----------|-----|------|--|-------|---|-------------------|
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