

**ACD 400 Ex**  
Technical documentation  
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# ULT 400



**Clean air,  
high performance.**

**ACD-series, mobile  
air extraction and  
filtration units for  
gases, fumes and  
odours.**



**Air handling equipment for environmental and health protection**

# Technical documentation

## Air extraction and filtration unit



# ACD 400 Ex

### Use and application

The **ACD 400 Ex** is suitable for the extraction and filtration of gases, vapours and odours. With its **explosion-proof vacuum generator** according to ATEX EEx e II 2G the device has superior safety properties for Ex-protection. All electrical controls and displays are placed in a remote control unit. Therefore no electrical ignition sources are present inside the device. Every filter element is connected to the grounding system of the device in order to prevent electrostatic charges or sparks. Hazardous **fumes and gases** ought to be extracted by collecting elements directly at their place of origin and can be filtered by the ACD 400 Ex. The filter combination with a large amount of activated carbon guarantees a high deposition rate of unhealthy gases and vapours. The thick layer of activated carbon enables a long contact time with the contaminated air flow. The gases and fumes are adsorbed effectively.



*gases, fumes and odours*

### Examples

- ⇒ sticking, pretreat
- ⇒ varnishing, imprinting
- ⇒ cleaning, laminating
- ⇒ casting

### ULT 400 mobile air extraction and filtration unit

mobile unit,  
with storage filter system  
robust steel housing, powder coated  
RAL 7035 light grey / RAL 5017 traffic blue

### Filter system:

Storage filter system  
Filters which are replaced once they are saturated.

### Filter technology:

Main filter module

- (1) filter mat M5  
filter class: M5 medium dust filter according to DIN EN 779
- (2) Adsorption filter cassette A14  
filter medium: activated carbon (14 kg)
- (3) Adsorption filter cassette A14  
filter medium: activated carbon (14 kg)



# Technical documentation

## Air extraction and filtration unit



# ACD 400 Ex

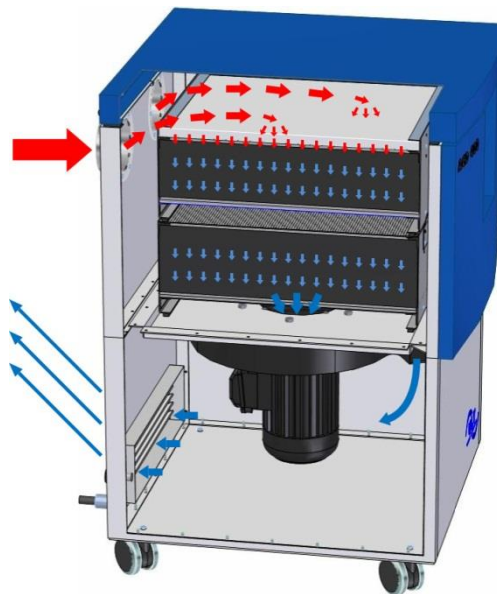
### technical Data

Parameter	unit	MD.43	MD.58
Max. air flow	m³/h	900	1.200
Max. vacuum	Pa	1.650	2.400
Nominal capacity	m³/h / Pa	400 / 1.400	600 / 1.800
Motor-nominal power	kW	0,55	1,5
Nominal voltage	V	3~ 400	3~ 400
Nominal current	A	1,5	3,3
Frequency	Hz	50	50
Protection class	IP	55	55
Type blower		ventilator	ventilator
Noise level (at 50 - 100%)	dB(A)	< 60	< 63
Weight	kgs	ca. 100	ca. 110
ATEX certification vacuum generator		EEx e II 2 G c T3	
Air intake		2x Ø 100 mm take off, optional further Ø	
	position	upper backside of the unit	
	optional position	2x Ø 100 mm take off, optional further Ø on top of the unit, other positions on request	
Air outlet		air exhaust louver	
	position	lower rear side	
Width	mm	600	
Depth	mm	660	
Height	mm	900	
Length of power cable	m	5	
Filter system		filter system: storage filter	
		filter set consisting of:	
	(1)	Filter mat M5	ULT 02.0.012
	(2)	Adsorption filter cassette A14	ULT 02.1.025
	(3)	Adsorption filter cassette A14	ULT 02.1.044

## ACD 400 Ex



gases, fumes and odours



-  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 by some units. Thus, the polluted air will be reliably extracted.

The medium sized **particles** are separated and held back at the first filtration level by a filter mat. **Gaseous air pollutants, odours and fumes** are separated (adsorbed) in the activated carbon filter.

The filtering effect of activated carbon is based on adsorption, 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.

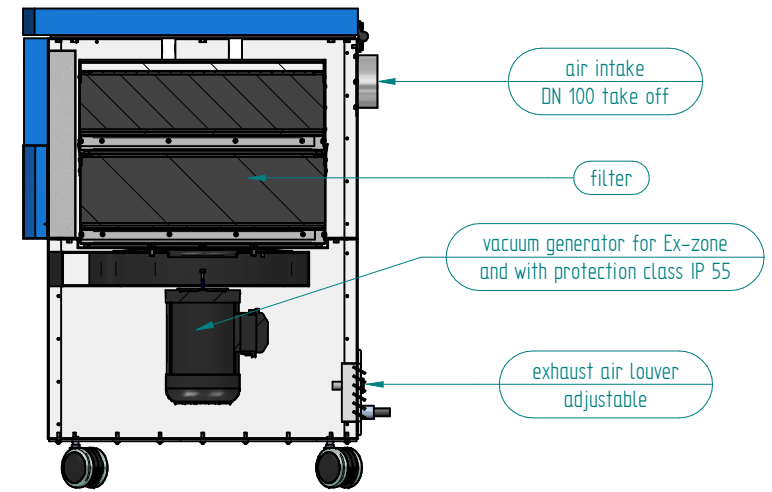
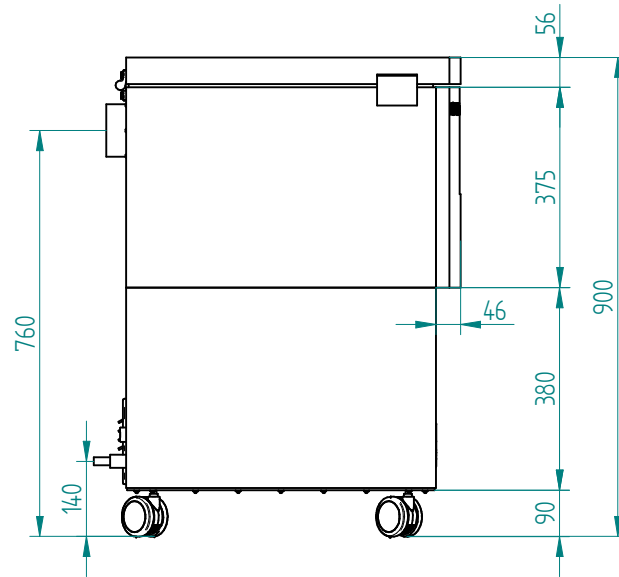
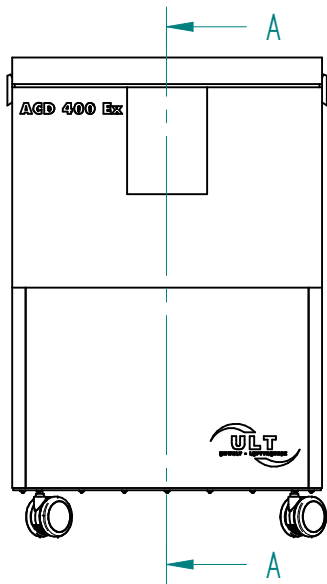
Storage filter system

Filters which are replaced once they are saturated.

Filtration set complete

- |                             |  |
|-----------------------------|--|
| (1) <b>fine dust filter</b> | Filter mat M5  |
| (2) <b>gas filtration</b>   | Adsorption filter cassette A14<br>(14 kg activated carbon) |
| (3) <b>gas filtration</b>   | Adsorption filter cassette A14<br>(14 kg activated carbon) |

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



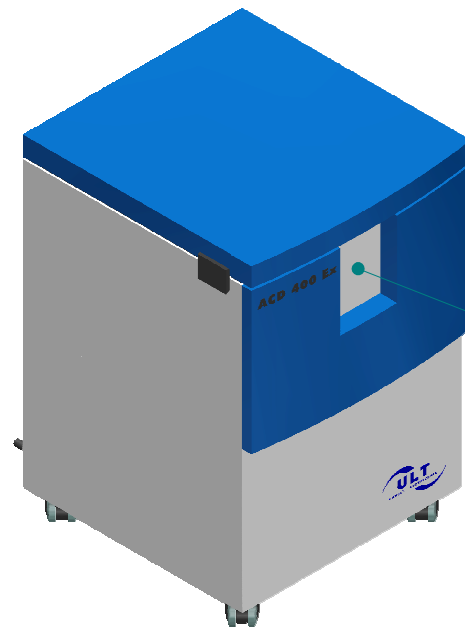
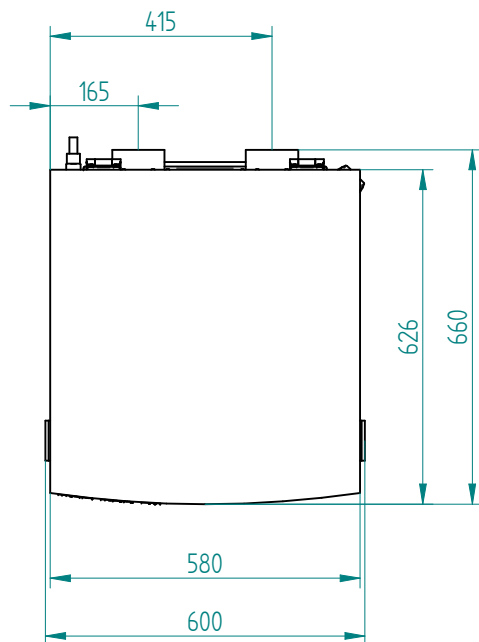
cutaway A-A

air intake  
DN 100 take off

filter

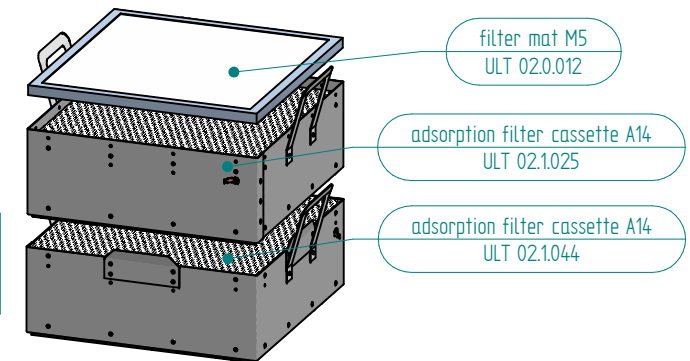
vacuum generator for Ex-zone  
and with protection class IP 55

exhaust air lower  
adjustable



controls and displays are  
placed in a remote control  
unit outside the hazardous zone

filter set consisting of:



filter mat M5  
ULT 02.0.012

adsorption filter cassette A14  
ULT 02.1.025

adsorption filter cassette A14  
ULT 02.1.044

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				ULT AG Am Gopelreich 1 D-02708 Lobau		designation ACD 400 Ex	
				2014	date	name	drawing number:
				edit.	02.06.	JSACZ	scale:
001	base	02.06.14	JSACZ	verf.			1 : 15
issue	revision	day	name	Norm			
drawing number: ULT 400_00_002_002							