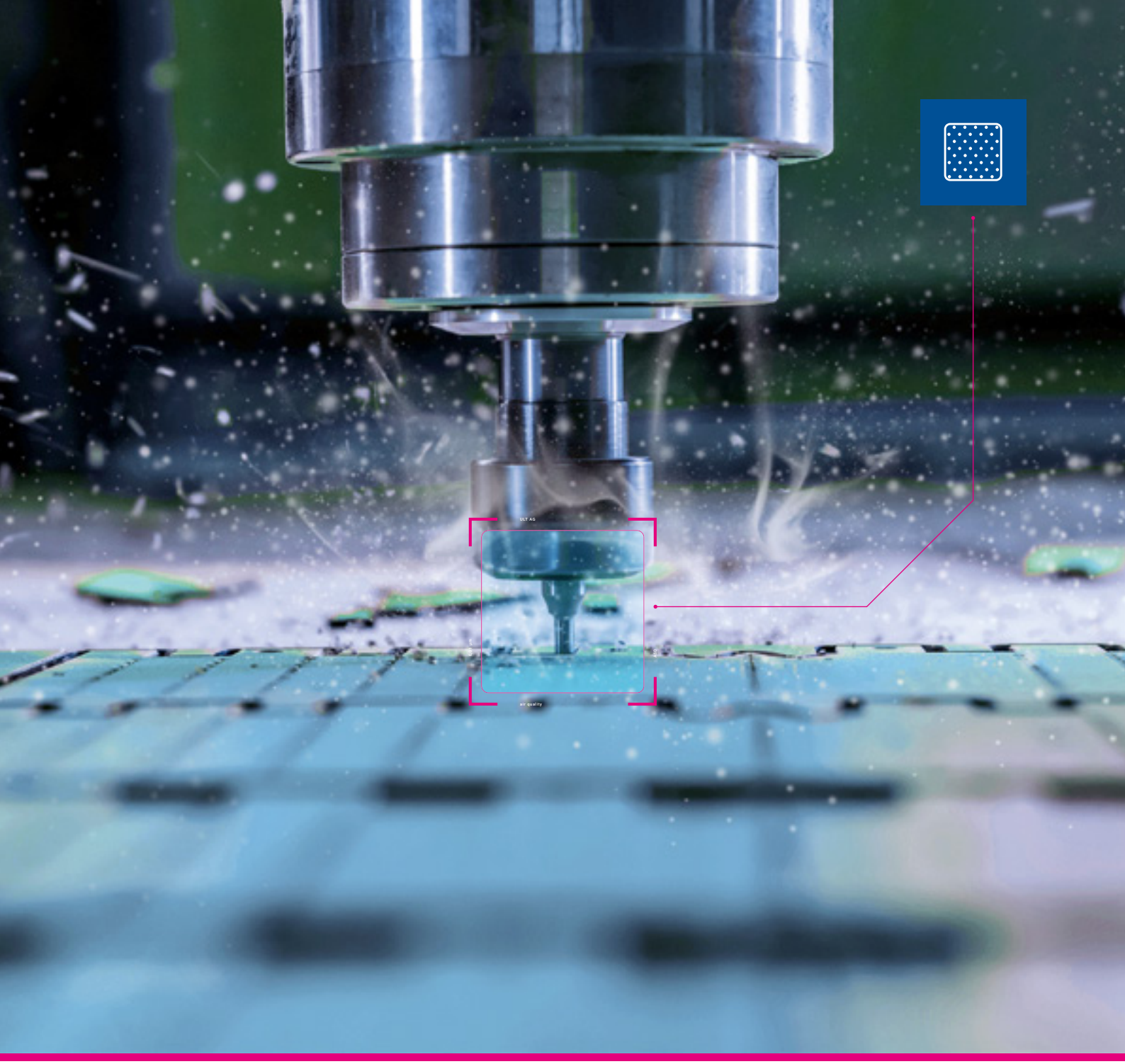


Extraction and filtration technology for dust extraction/dust removal

Air pollution control in industrial
and craft processes with dust formation

ULT
air quality

The dust must go

Dust extraction in industrial environments: A comprehensive overview

Dust and smoke extraction plays a critical role in many industrial processes. It is not only necessary to improve working conditions but is often required by law as part of occupational health and safety. It also supports the protection of production equipment, contributes to optimal product quality and helps to prevent environmental damage.

WHY IS DUST EXTRACTION SO IMPORTANT?

- Health protection
- Process quality
- Environmental protection
- Product quality
- Explosion protection

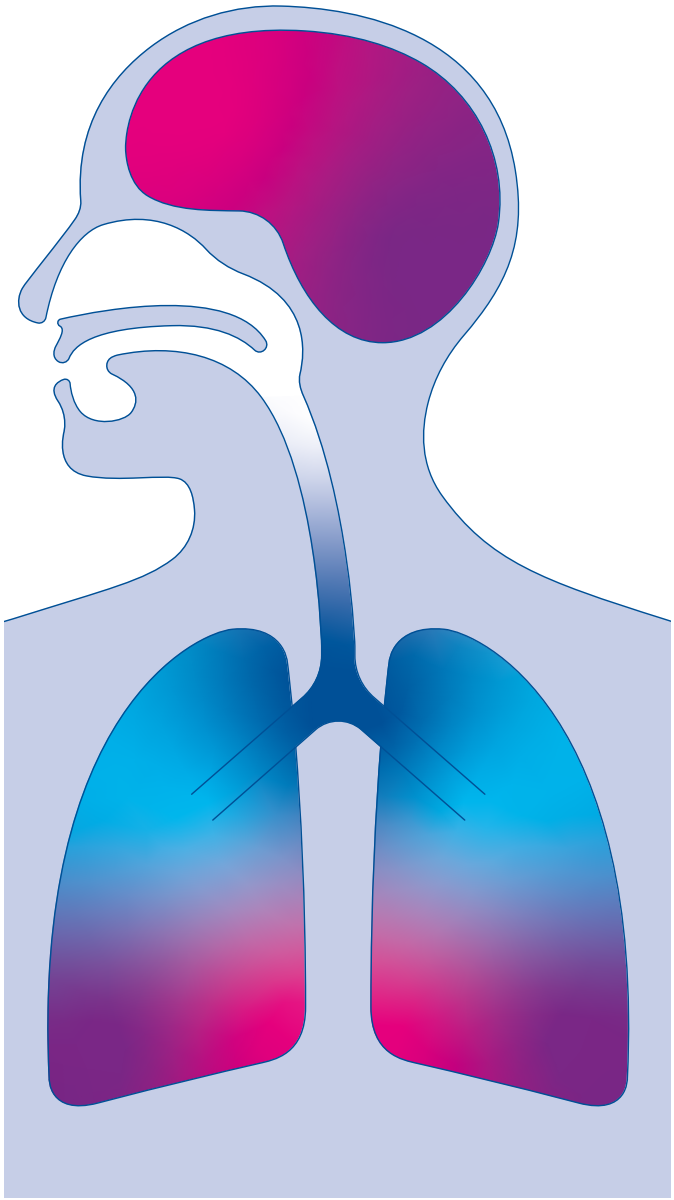
Application fields for industrial dust extraction

Dust extraction is utilized in many industries, including:

- Recycling processes: Mechanical shredding and separation of materials
- Metalworking: Grinding, drilling, sawing, welding
- Pharmaceutical industry: Compliance with strict purity standards
- Assembly cleaning: Brushing, grinding, surface blasting
- Chemical industry: Formation of dusty by-products
- Food industry: Processing or filling/transferring powdered foodstuffs

Health risks and legal basis

In many countries there is a number of legal regulations that prescribe how airborne pollutants in the process air must be removed. A distinction is made as to whether the substances are harmful to the brain, nerves or respiratory tract, or whether they are inhalable or alveolar.



Material processing releases pollutants

The use of professional extraction and filtration technology is therefore imperative. Due to the different compositions of dust and smoke, a comprehensive analysis and implementation process is required to define the ideal collection, separation and exhaust solution.

Pollutant collection

The filtration process begins with the capture

Air pollutants are collected before filtration, because only what is captured can be filtered. The degree of capture forms the basis for the subsequent optimal filtration. Consequently, this results in the efficiency of the entire system and therefore the pollutant residues in the recirculated exhaust air.

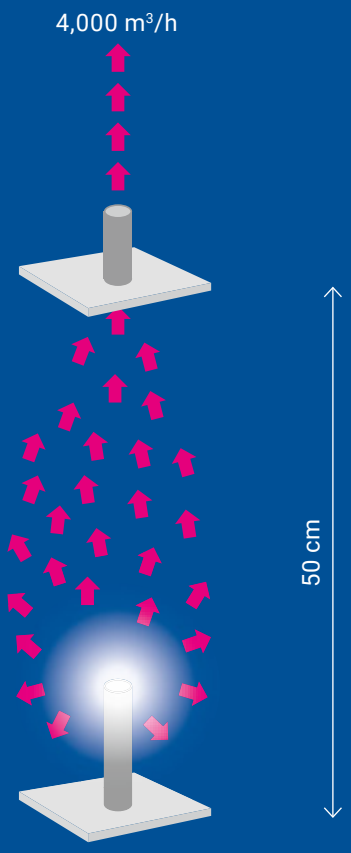
The greatest proximity to the pollutant source is crucial here.

The selection of the best-suited collection element is also of great importance. ULT is at the customer's side to provide advice and support.

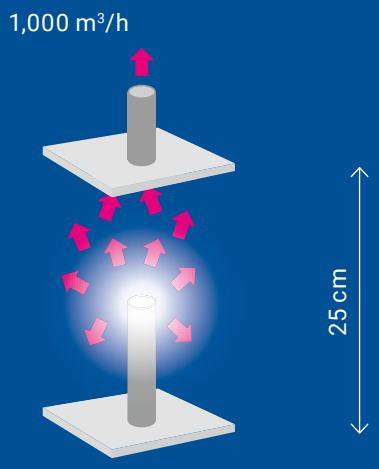
Further information on the capture of airborne pollutants:

COMPETENCE BROCHURE ON POLLUTANT CAPTURE FROM ULT

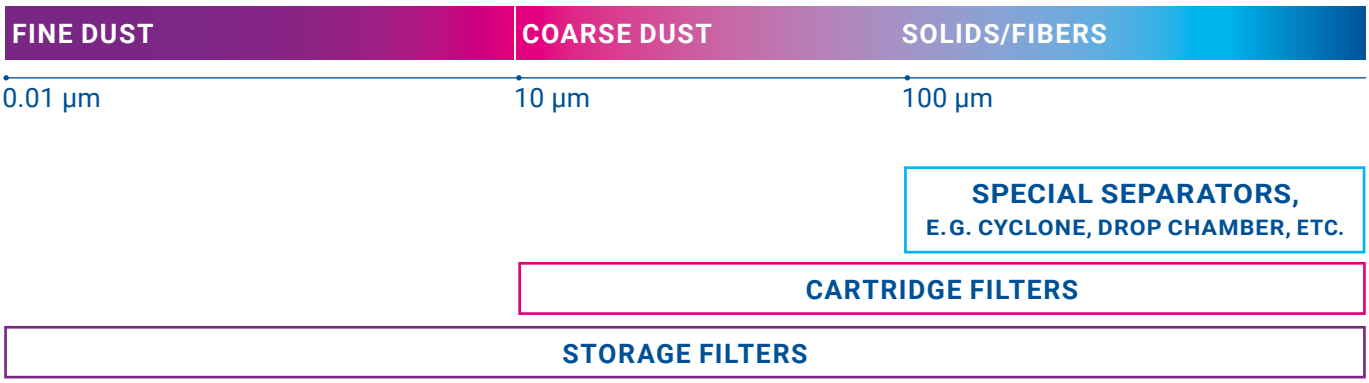
BROCHURE BY THE GERMAN PROFESSIONAL ASSOCIATION VDMA



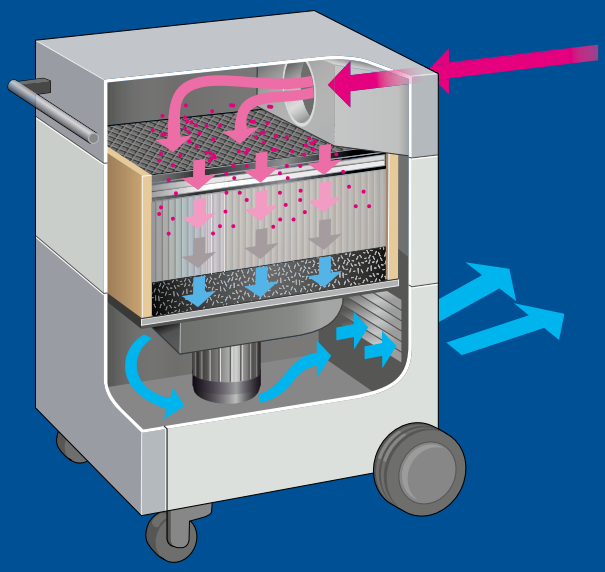
Rule of thumb: Doubling the distance between the collecting element and the pollutant source means quadrupling the energy requirement of the filter system.

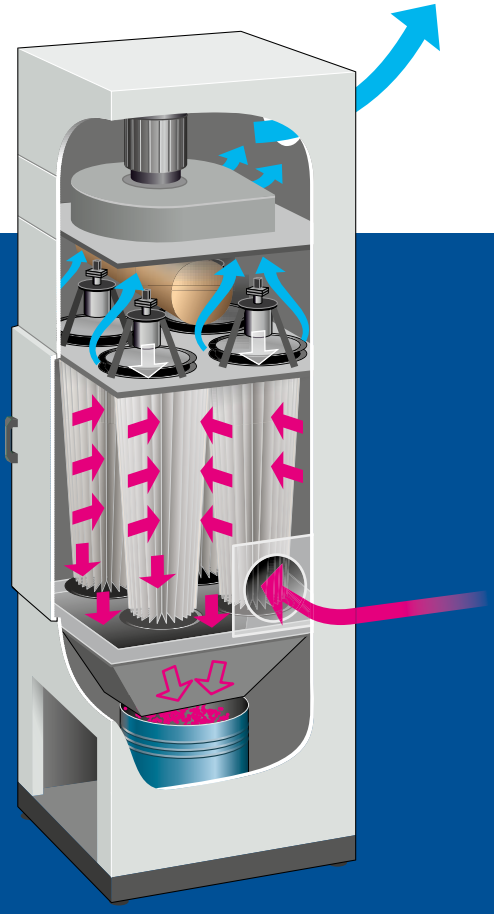


Filtertypes and particle sizes



Filtration principles





STORAGE FILTER
· For low dust concentration and sporadic use
· Low investment costs
· High flexibility

CARTRIDGE FILTER
· For higher dust concentrations and continuous use
· Low maintenance requirement
· High operating point stability

The right plant design for optimum air pollution control

The dimensioning of the plant technology is derived from a fundamental analysis of the production and pollutant situation. This should be prepared by experts together with the users

1) ANALYSIS STAGE

2) COLLECTION DETERMINING

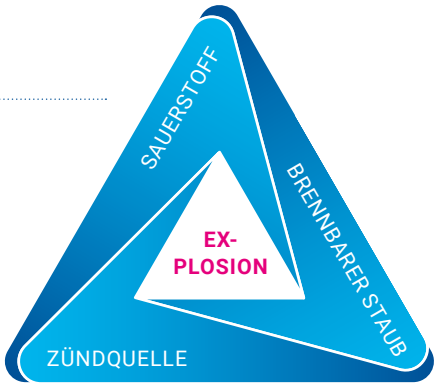
3) TRANSMISSION ELEMENT DETERMINING

4) DEVICE AND TECHNOLOGY DETERMINING

5) WASTE HANDLING AND MAINTENANCE

For your safety — avoiding explosions and fires

Combustible or explosive dusts pose a significant danger in many industrial sectors. In order to ensure safety in the workplace, avoid production downtime and damage to equipment, comprehensive protective measures are required.



Other important parameters with regard to the explosiveness of dusts:

DUST CHARACTERISTICS
· Particle size
· Surface
· Electrical conductivity

IGNITION SOURCES
· Mechanical
· Thermal
· Electrical

Dust extractors with explosion protection

In addition to general system and process safety measures, the utilization of dust control systems with fire or explosion protection makes sense.

On the one hand, ULT offers specially developed, ignition source-free extraction systems with appropriate certifications (Ex, ATEX, H/Ex, VDI 2263).

On the other hand, there is a range of accessories to ensure process process safety, e. g. spark extinguishing systems, spark arresters, spark detectors, pressure valves, isolation flaps.

BROCHURE ON FIRE AND EXPLOSION PROTECTION IN DUST EXTRACTION BY THE VDMA

ASD 300 Ex

Undesirable dangers — what should be considered?

Question:

What pollutants are produced? The Gestis database of the DGUV provides necessary information.

DGUV GESTIS DATABASE

Based on hazardous material checklists and risk assessments, we develop a comprehensive concept for your ideal extraction and filtration solution.

Analysis stage and questions

Structural analysis
Functional analysis

Fault analysis

Action analysis
and evaluation

Optimization

- ☑ Are the substances flammable or explosive?
- ☑ Which explosion protection zones are there?
- ☑ Are spark traps or filter aids necessary?
- ☑ What laws and guidelines must be followed?
- ☑ What are the parameters regarding volume flow, vacuum, hose lengths?
- ☑ Does the filtered air have to be discharged to the outside?
- ☑ Which signals are important for a higher control system?
- ☑ What are the risks and where is prevention important?

These and other questions need to be answered. ULT supports users in hazard analysis and elimination, and offers individual solutions if required.

ULT dust removal systems

ULT offers a wide range of mobile and stationary dust extraction systems. Depending on the application, the modular extraction systems in the ASD series can be expanded or customized. Safety aspects also play an important role.

Thanks to our many years of experience, we know that each process must be specifically analyzed in order to select the optimum filter system. ULT is here to advise its customers.

Storage filter devices

Thanks to our specially developed "Silent Technology", ULT's fume and dust extraction systems are considered to be the quietest on the market.

ASD 160.1

Max. air flow in m³/h 190
Max. vacuum in Pa 3,200
Dimensions (W×D×H) in mm ..... 405×355×545
Noise level in db(A) 49

ASD 200.1

Max. air flow in m³/h 320
Max. vacuum in Pa 9,000
Dimensions (W×D×H) in mm ..... 390×400×620
Noise level in db(A) 47

ASD 400.1

Max. air flow in m³/h 600–1,000
Max. vacuum in Pa 2,600–9,800
Dimensions (W×D×H) in mm ..... 652×600×867/1,140
Noise level in db(A) ..... < 60

ASD 1200

Max. air flow in m³/h 1,500
Max. vacuum in Pa 3,250
Dimensions (W×D×H) in mm ..... 790×820×1,040
Noise level in db(A) 55

Cartridge filter units

ASD 300

Max. air flow in m³/h 400–900
Max. vacuum in Pa 3,650–12,000
Dimensions (W×D×H) in mm ..... 475×625×1,010
Nominal motor power in kW 0.36–1.3

ASD 300 Ex

Max. air flow in m³/h 220–450
Max. vacuum in Pa 2,600–22,800
Dimensions (W×D×H) in mm ..... 430×550×1,340
Nominal motor power in kW 0.37–1.1

ASD 300.81 HFM 054 H-Ex

Max. air flow in m³/h 220–450
Max. vacuum in Pa 2,600–22,800
Dimensions (W×D×H) in mm ..... 390×590×1,810
Nominal motor power in kW 1.8

ASD 1200

Max. air flow in m³/h 1,500
Max. vacuum in Pa 3,250
Dimensions (W×D×H) in mm ..... 790×820×1,040
Nominal motor power in kW 0.86–1.5

ASD 500

Max. air flow in m³/h 400–2,100
Max. vacuum in Pa 2,880–22,200
Dimensions (W×D×H) in mm ..... 60×590×2,050–2,280
Nominal motor power in kW 1.5–2.2

ASD 1500

Max. air flow in m³/h 220–450
Max. vacuum in Pa 2,600–22,800
Dimensions (W×D×H) in mm ..... 680×750×2,920
Nominal motor power in kW 1.5–2.2

ASD 2000

Max. air flow in m³/h 3,300–4,000
Max. vacuum in Pa 3,550–4,630
Dimensions (W×D×H) in mm ..... 1,200×760×2,500
Nominal motor power in kW 2.2–3.0

ASD 2500

Max. air flow in m³/h 3,250
Max. vacuum in Pa 5,000
Dimensions (W×D×H) in mm ..... 900×1,000×3,120
Nominal motor power in kW 4.0

Additional dust extraction solutions

Application-oriented/ customized solutions

If no extraction system from the available series can be used for particular applications, but special filter combinations, geometries, device functions, design variants or markings are required: We develop and manufacture application-oriented solutions according to your requirements or the pollutant situation.

Dust extraction with solutions from Novus air

Our sister company Novus air GmbH is a leader in the field of filter towers. These solutions primarily support higher air volume flows of up to 20,000 m³/h and therefore the extraction and filtration of large quantities of dust.

AIRTOWER

Max. air flow in m³/h 5,000–20,000
Dimensions (W×D×H) in mm ..... 1,096–2,066×1,018–1,756×2,025–2,733
Nominal motor power in kW 3.9–15.6

AIRLINE

Max. air flow in m³/h 3,000–6,800
Dimensions (W×D×H) in mm ..... 1,620–2,066×1,675–1,756×1,993–2,733
Nominal motor power in kW 4.6–14.6

We are your partner!

Our performance promise

Our team of experts for service and maintenance covers all services for the ULT AG/Novus air GmbH group of companies.

Intelligent solutions for best air quality

ULT — air quality

Since the air quality is of fundamental importance for work and production processes, ULT, as a full-service provider, develops air purication solutions for the highest demands — to protect employees, equipment, products, and the environment.

The reliability of our products ensures manufacturing processes and the profitability of our customers.

The proximity of the ULT experts to the processes and requirements of our customers enables the development of tailor-made and needs-oriented solutions — from the standard product to the individual system.

Our own research and development department as well as numerous cooperations with professional associations, education institutions and industry form the basis for the permanent further development of our ventilation systems and solutions for the best air quality of tomorrow.

ULT AG

ULT headquarters in Löbau/Germany

Use of an ASD series dust collector with ducting for transfer and mixing processes

Solutions — unique and customer-oriented

Why our solutions for dust and smoke extraction are special:

· Complete system solutions: filter types, safety technology, accessories
· Low-noise operation
· Low operating costs

ULT DUST EXTRACTION SYSTEMS

Made in Germany.

Edition: March 2025

ULT AG
Am Göpelteich 1
02708 Löbau
Germany

Phone: +49 3585 4128 0
Fax: +49 3585 4128 11
Email: ult@ult.de
Web: www.ult-airtec.com