ABSAUGWERK

INDUSTRIAL EXTRACTION CABINS

The WERK

As a manufacturer of industrial extraction technology, we strive for a clean and healthy working environment. Our strength lies in the in-house development and production of customised extraction systems designed to protect employees, machines and workpieces.

From industrial dedusters and oil mist separators to complete hall extraction systems, we offer a comprehensive portfolio of solutions. We combine capture elements, extraction units and pipe systems into an integrated overall system that sets new standards in terms of energy efficiency and performance. In the field of explosion and fire protection, we are one of the few providers that fully meet all legal requirements and are able to ensure safe operation. With our many years of expertise, we develop special solutions for companies of all sizes and across all industries.

The production of our high-end systems takes place at our own WERK. Here, quality and precision are our top priorities. We support our customers throughout the entire service chain – from initial consultation through to installation and beyond. This ensures that their systems always operate at optimum performance.

Our network is particularly close to our hearts. Built on honesty and trust, we create long-term partnerships that lead to shared success.

»People, as customers, partners or employees, are always at the heart of our company.«

Michael Werz, Managing Director

Control Emissions!

PROBLEM

Many industrial processes such as welding, grinding, deburring or cutting generate large amounts of dust, fumes and aerosols. Local extraction systems are often not sufficient: Large workpieces, changing working positions or air turbulence caused by doors and hall air result in pollutants escaping uncontrollably and spreading throughout the entire room.

The consequences are serious. According to the DGUV, fine dust and welding fumes are among the most hazardous airborne pollutants in the workplace* and can cause respiratory diseases, skin problems or even cancer. Metallic dusts and sparks additionally increase the risk of fire and explosion. At the same time, particles settle on machines and surfaces, resulting in increased maintenance requirements, malfunctions and costly downtime.

Extraction booths are therefore necessary wherever emissions must be captured reliably and in a controlled manner or where legal limit values must be safely complied with. They partially or completely enclose the work area and prevent the spread of noise and emissions.

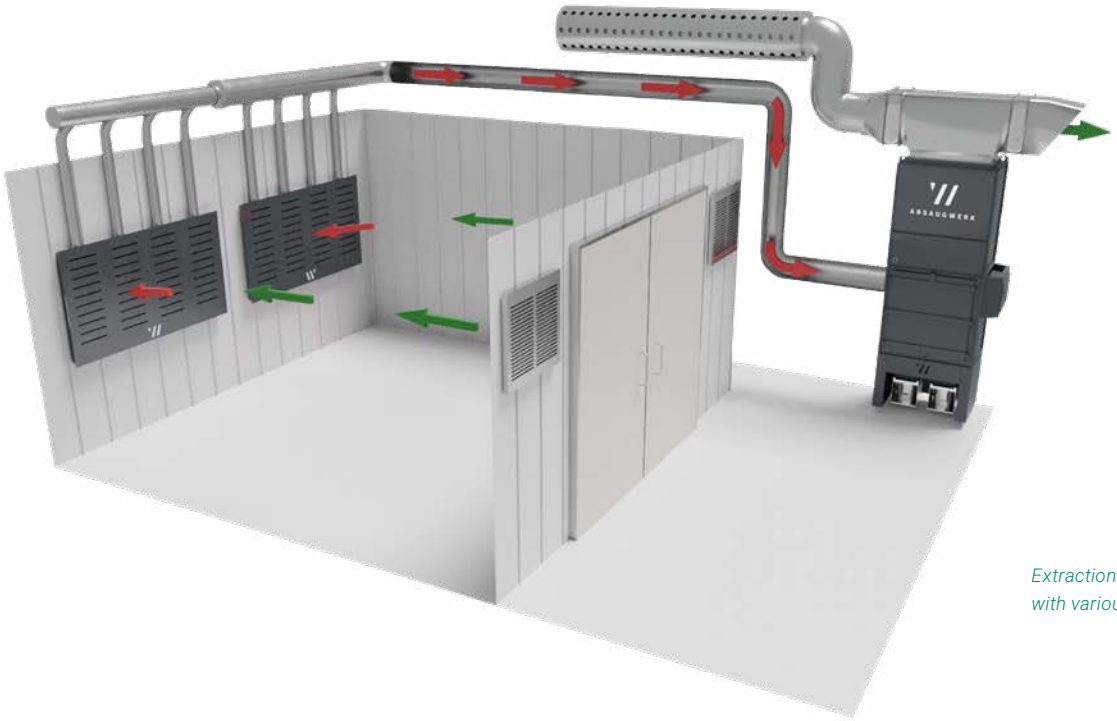
** Source: DGUV – Risk assessment for activities involving welding fumes / hazardous substances in the workplace.*

INDUSTRIAL
EXTRACTION CABINS

SOLUTION

The individually configurable extraction booths from ABSAUGWERK create a controlled, clearly defined work area in which emissions are captured directly at their source. Thanks to the confined air space, the extraction system operates with particularly high efficiency and optimized energy consumption, while the booth design effectively prevents disruptive crossflows. This ensures that capture performance remains stable, controlled and reliable at all times.

Hazardous pollutants do not enter the hall in the first place, legal limit values can be complied with easily and economically, and both heat and noise remain safely inside the booth. The result is not only noticeably better air quality, but also a significantly improved working environment for employees and processes as a whole.



Extraction booths can be equipped with various ventilation technologies.

Your benefits

- **Compatible with all extraction systems**
- **Optimal dust & welding fume capture**
- **Effective noise protection**
- **Targeted temperature control**
- **Energy & heating cost savings**
- **Compliance with workplace regulations**
- **Individual configuration & special solutions**
- **Recirculation mode for carcinogens**
- **Flexibly expandable**
- **Remote maintenance & remote access**

Application

During welding, grinding, milling, or laser processing, large amounts of emissions are often generated, so that source capture alone is not always sufficient. Large workpieces, changing processing positions, or high noise levels can further complicate open capture.

Extraction cabins create a confined working area in which fumes, dust, and noise are reliably contained and directly captured. This keeps the production hall free of emissions, reduces the burden on employees, and makes the entire working area significantly safer and more efficient.

INDUSTRIES

Automotive, welding specialist companies, food industry, pharmaceutical industry, chemical industry, plastics industry, etc.

PROCESSES

- Welding
- Grinding
- Deburring
- Milling
- Cutting
- Laser processing, etc.

MEDIA

- Dust & fine dust
- Fumes & welding fumes
- Oil mist & emulsions
- Paint mist
- Vapors
- Aerosols
- Chips
- Odors

Areas of application

Extraction cabins are used wherever work areas need to be spatially separated or processes must be protected from external influences. Depending on the application, the focus is on clean air, noise protection, or the enclosure of machines and systems.

Working cabin

Working cabins are available in various designs and are used for manual tasks such as welding, grinding, deburring, or assembly. They capture fumes, dust, and noise directly in the working area, ensuring a safe and enclosed working environment.

Sound insulation cabin

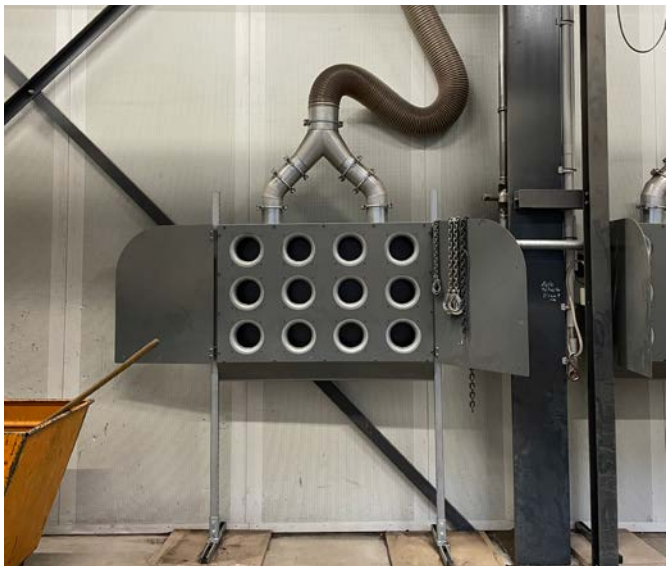
Sound insulation cabins are ideal for work areas with high noise levels, such as loud processing operations or machines. They significantly reduce noise levels and enable focused work. In combination with suitable extraction technology, noise and emissions are safely captured.

Machine enclosure

Machine enclosures are used for automated systems, robots, or processing machines. They prevent the spread of emissions, protect the surroundings, and contribute to increased safety as well as stable, reproducible processes.

Custom Design

The requirements for extraction cabins vary considerably depending on the production environment and the processes carried out within them. Therefore, a careful analysis of the conditions and precise technical design are essential. Depending on factors such as the number of workstations, shift operation and process duration, emissions such as fumes, dust or oil mist are generated in varying concentrations. If these involve hazardous or potentially explosive substances, appropriate filter stages and safety-related components must be taken into account.
As an experienced manufacturer of extraction cabins, we incorporate all relevant parameters into the planning and design process to ensure an optimal and safe solution.



Technical Planning:

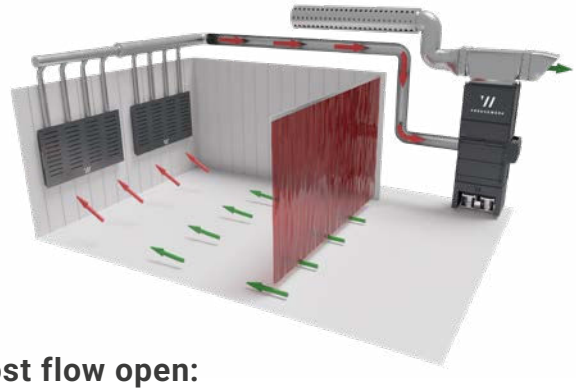
- Optimal design of the air volume flow
- Efficient airflow management and flow concepts
- Selection of the appropriate filtration technology
- Consideration of sound and pressure conditions
- Dimensioning according to application and pollutant load

Flexible System Design:

- Flexible sizes and designs
- Integration into existing production environments
- Doors, windows and access solutions
- Lighting and ergonomic equipment
- Automation and control technology
- Special solutions *(e.g. ATEX, cleanroom)*

4 Techniques for extraction cabins

ABSAUGWERK develops extraction cabins that are precisely tailored to the process, workpiece, and emission behavior. The airflow is designed so that fumes and dust are safely contained within the cabin and captured directly. Depending on the application, different ventilation and capture techniques are used, which can be combined with modern system technology, recirculation or exhaust air mode, and optional heat recovery. This results in a cabin that is efficient, safe, and optimally adapted to the respective process.

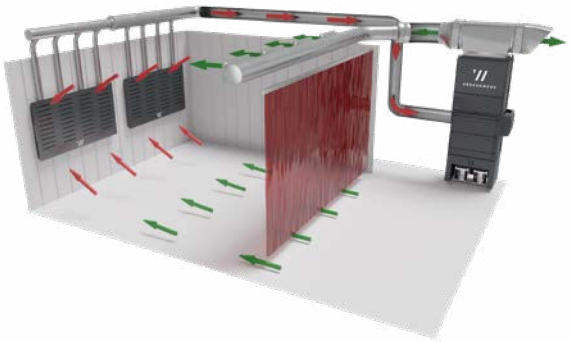


Post flow open:

In open post flow, the cabin is supplied with supply air via a partition curtain. The air flows in freely and supports simple, one-sided capture. This variant is suitable for processes with moderate emission levels and provides a solid basic solution without air recirculation.

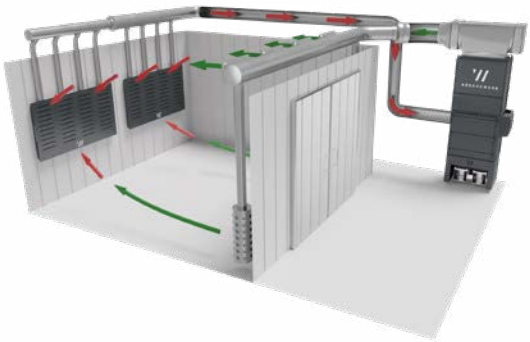
Post flow targeted:

In targeted post flow, the supply air is not introduced openly but guided into the cabin via defined inlets. This creates a constant airflow that directs emissions more effectively toward capture. This technique increases efficiency without requiring complex air duct routing.



Post flow mixed:

Mixed post flow combines a partition curtain with additional displacement outlets or long-throw nozzles. The resulting air guidance is more uniform and controlled. Through air recirculation, energy remains within the system, making this variant particularly efficient.



Post flow closed:

In closed post flow, the supply air enters the booth exclusively via displacement air outlets or long-throw nozzles. The airflow is directed and controlled, moving emissions very reliably towards the capture system. In combination with air recirculation, this technology offers maximum efficiency and the highest level of process reliability. This method is recommended by the IFA*.

** Recommendation according to the Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): Defined, directed airflow for effective emission control at industrial workplaces.*

Components

An extraction cabin consists of several interlocking components that together ensure safe and efficient capture. These include the cabin construction, suitable capture systems, flow-optimized air guidance, the extraction system with integrated control, as well as appropriate discharge solutions and air return solutions. Only their interaction enables a cabin that reliably contains emissions within the working area and safely removes them.

1 STRUCTURE & ENCLOSURE

- Steel or aluminum construction
- Modular wall and ceiling elements
- Partial or full cladding

2 DOORS, OPENINGS & ACCESS

- Sliding, hinged, or roller doors
- Manual or automatic doors
- Large front or side openings
- Safety interlocks

3 SICHTFENSTER & TRANSPARENZ

- Clear or tinted safety glazing
- Welding protection or UV protection windows
- Large-area viewing sections

4 ERGONOMICS & EQUIPMENT

- Integrated lighting systems
- Ergonomic working openings
- Adaptation to operator and process

5 CAPTURE SYSTEMS

- Rear wall extraction
- Floor or floor slot extraction
- Side or ceiling extraction
- Combination of multiple capture systems

6 SYSTEM & CONTROL TECHNOLOGY

- Multi-stage filtration with HEPA H14 and activated carbon
- Energy-efficient radial fans and flow-optimized air guidance
- Intelligent control *(Siemens LOGO! 8 / Siemens SIMATIC S7)* with process integration and air quality monitoring

7 SAFETY & PROTECTION

- Fire & explosion protection components
- Spark monitoring
- Emergency stop devices
- Silencers

8 MAINTENANCE & SERVICE

- Filter differential pressure monitoring
- Easily accessible maintenance openings
- Filter change and cleaning systems

The ABSAUGWERK Principle

A high-performance and energy-efficient extraction system consists of several components that must work in perfect harmony. If elements such as capture systems or the pipe system reduce performance, this can not only impair functionality but also lead to deposits and dangerous fires. As every application is unique, we develop and manufacture customised extraction systems tailored precisely to our customers' requirements. For an optimal extraction solution, we also take care of pipe system design, installation and, optionally, maintenance and after-sales service.

Everything from a single source directly from our WERK.

Capture + **Pipe system** + **Extraction system** + **Custom solution**




Explosion (ATEX) + fire protection + noise protection
Special safety devices prevent fires and explosions proactively. In addition, noise protection measures minimise noise levels in working areas and create a pleasant working environment.

Where standard ends, we begin!

The result is a holistic extraction solution from start to finish. This allows us to increase performance and minimize operating costs in the long term with regard to maintenance and energy, while maintaining consistently high productivity. This makes it a sustainable and economical investment.

Our Extraction Systems

Clean booth air requires the right extraction technology. ABSAUGWERK supplies high-performance systems that are precisely matched to the booth airflow and reliably capture and filter emissions. Seamlessly integrable. Efficient. Made in Neu-Ulm.

Wet Separator

For flying sparks, combustible and explosive dusts (ATEX).

Fume Filter

For welding fumes and metallic vapours.

Deduster

For dry dusts and abrasive particles.

Oil mist separator

For emulsions, aerosols and metalworking fluids.

Filter Units

Modular filter units with separate fan – individually or combined.

Filter Tower FlowX

Flexible hall extraction for welding fumes without permanently installed ductwork.

Filters:

- Cartridge filter
- Hose filter
- Stainless steel mesh filter
- Cassette filter

Discharge:

- Drawer
- Container
- Bucket
- Ball valve
- Automatic discharge
- Custom discharge
  and much more.

Capture:

- Extraction arm
- Extraction table
- Extraction hood
- Duct system
- Machine connection
- Ambient air capture
- Custom capture

Equipment:

- Various performance levels
- Multi-stage filtration for
  maximum separation efficiency
- Washable permanent filters
- Jet-pulse filter cleaning
- IE3 to IE5 motors

Options:

- HEPA H14 filter for carcinogenic
  substances in recirculation mode
- Activated carbon filter for gases & odours
- ATEX / fire protection design
- Pre-separator
- Stainless steel design
- Filter monitoring
- Effective noise protection
- Cross-flow heat exchanger
- Precoat unit
- Various fans
  (medium pressure, high pressure)
- Heat recovery
- Pressure & airflow control
- Versatile intelligent control systems
- Custom system colour & branding

ATEX

1.4301
1.4401

real. sustainable.

SUSTAINABLE EXTRACTION SOLUTIONS

With their high separation efficiency, our dedusters are ideally suited for *recirculating air operation*,* even in processes involving carcinogenic substances. A frequency inverter adjusts the extraction performance to actual demand, saving energy. From the very beginning of development, we focus on minimal flow resistance and efficient airflow design. The result: high-performance systems with very low energy consumption and an exceptionally durable, sustainable design. In this way, our dedusters make an important contribution to resource-efficient and energy-efficient production.

RESPONSIBILITY WITHIN THE COMPANY

All of our entrepreneurial activities are based on ecological, social and economic responsibility. Clean air in production halls protects the health of employees, helps prevent illness and makes workplaces safer. At the same time, machinery, tools and workpieces are protected, significantly extending their service life and increasing the economic efficiency of the entire operation.

Your benefits

- **High-quality & durable**
- **Low energy & operating costs**
- **Low maintenance & personnel-friendly**
- **Cleanable permanent filters**
- **Flexible system components**
- **Winter/summer mode *(opt.)***
- **Frequency inverter *(opt.)***
- **Cross-flow heat exchanger *(opt.)***
- **Primary explosion protection**

** The cleaned air is so clean that it can be returned directly to the working environment. An integrated cross-flow heat exchanger uses the heat of the exhaust air for energy recovery, further reducing heating energy consumption.*

greener.
healthier.
better.

Noise protection

Noise is one of the most common health risks in the workplace. Continuous exposure can lead to hearing damage, stress and impaired concentration. That is why our extraction systems are designed to operate particularly quietly and can be equipped with additional noise protection components – ensuring that noise exposure remains reliably below statutory limit values.

LIMIT VALUES & MEASURES

A daily noise exposure level LEX,8h **of 80 dB(A)** or a peak sound pressure level LpCpeak **of 135 dB(C)** requires:

- Information for employees *(when the action value is reached)*
- Provision of hearing protection *(when the action value is exceeded)*
- Offer of occupational medical health surveillance *(when the action value is exceeded)*

A daily noise exposure level LEX,8h **of 85 dB(A)** or a peak sound pressure level LpCpeak **of 137 dB(C)** requires:

- Mandatory use of hearing protection *(when the action value is reached)*
- Initiation of occupational medical health surveillance *(mandatory surveillance when the action value is reached)*
- Identification and marking of noise areas *(when the action value is exceeded)*
- Implementation of a noise reduction programme *(when the action value is exceeded)*

Legal requirements

Workplace Ordinance
ArbStättV

Noise and Vibration Occupational Safety Ordinance
LärmVibrationsArbSchV

Technical Rules for the Noise and Vibration Occupational Safety Ordinance
TRLV Noise

Your benefits

Optimised flow geometry

Smooth-running compressors

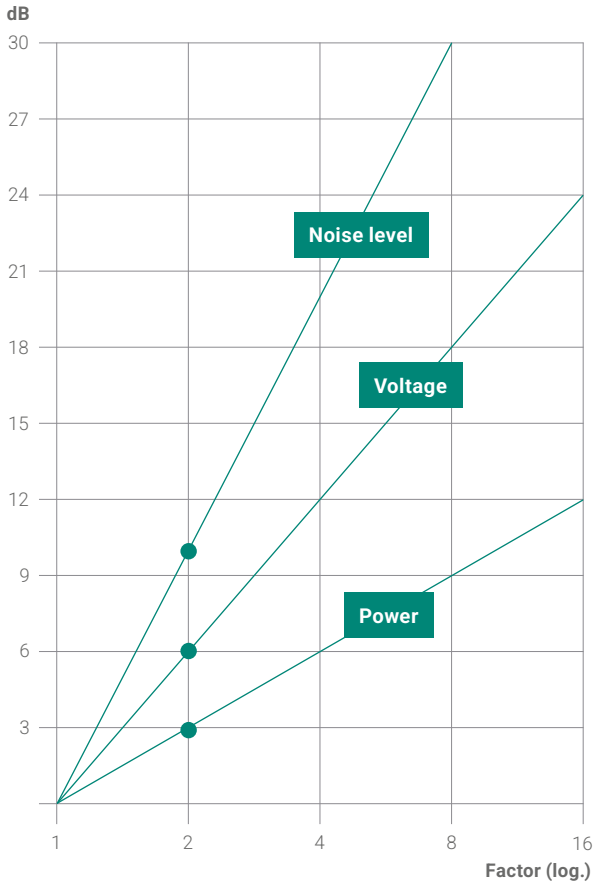
Maximum extraction performance

Low energy consumption

Noise exposure below 80 dB(A)

We offer a range of specialised **noise protection components** that can be precisely adapted to the process, room size and system performance, including:

- Baffle silencers
- Duct silencers
- Machine enclosures
- Noise protection cabins



An increase in the noise level of just 3 dB already means a doubling of the sound power and is perceived as significantly louder.

***+3 dB** = double sound power*
***+6 dB** = double sound pressure*
***+10 dB** = double perceived loudness*

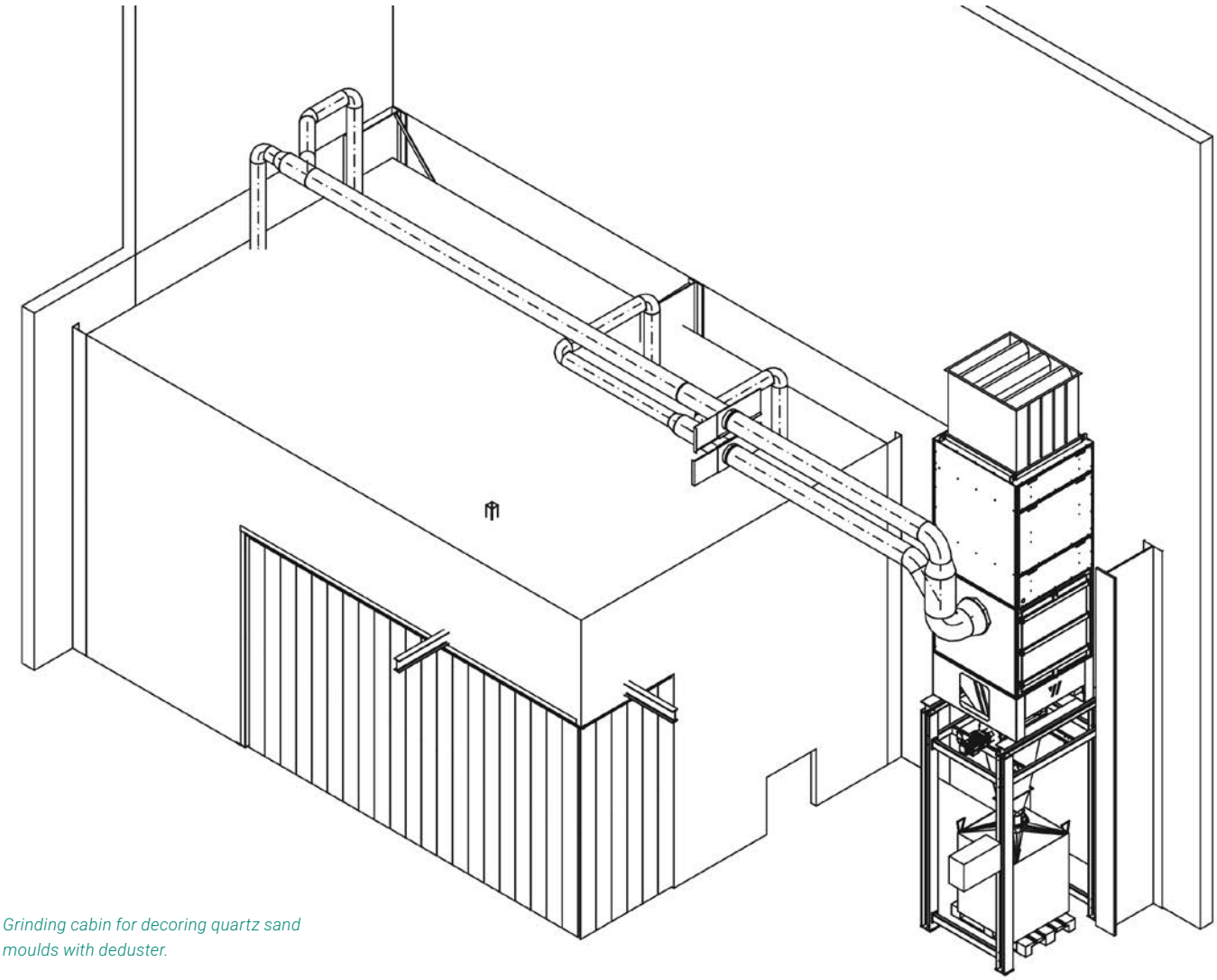
Reference

ATEX dedusters and grinding cabins for indoor installation at Ohm & Häner

Ohm & Häner Metallwerk GmbH & Co. KG, based in South Westphalia, is one of the leading companies in the foundry industry. With around 650 employees, the family-owned company manufactures high-quality aluminium cast components and supplies customers worldwide with precisely machined raw castings, sand castings and permanent mould castings. During decoring, fettling and grinding processes, hazardous and potentially explosive dusts are generated. For this purpose, Ohm & Häner was looking for a high-performance extraction solution for safe indoor installation directly at the points of origin.

»What we particularly appreciated was how little space the system requires. Indoor installation saves energy and ensures a uniform appearance.«

Dr. Georg Wilhelm Dieckhues,
Managing Director Ohm & Häner Metallwerk GmbH & Co. KG



Grinding cabin for decoring quartz sand moulds with deduster.

CHALLENGE

For two grinding cabins, an extraction solution was required for quartz dust and explosive aluminium dust. The systems needed to be installed indoors in a space-saving manner, operated energy-efficiently and equipped with automatic discharge.

SOLUTION

For the new work area, ABSAUGWERK installed two sound-insulated grinding cabins with side hoods and worktables for precise dust capture. One cabin is used for decoring quartz sand moulds, while the other is used for grinding aluminium cast components. An ATEX deduster captures the aluminium dust, while a second deduster reliably filters quartz dust. The multi-stage filter system with HEPA H14 technology and automatic rotary valves ensures reliable air cleaning and safe material disposal.

Filter performance, fill levels and filter cleaning are automatically monitored via SIEMENS LOGO! 8. As a result, the system operates efficiently, safely and with low maintenance requirements, fully meeting the demands of modern ATEX dry extraction.

The Ohm & Häner reference video at
absaugwerk.de/en/ohm-und-haener

MEDIA	• Quartz dust, aluminium dust *(explosive & combustible)*
PROCESSES	• Decoring, grinding, fettling
PERFORMANCE	• Motor power: 11 kW + 30 kW • Max. airflow: 15.000 m³/h + 31.000 m³/h
SERVICE	Personal consultation, technical design, pipe system planning, production, installation, pipe system, commissioning, maintenance and after-sales support

»ABSAUGWERK was the only manufacturer able to truly meet our requirements.«

Dr. Georg Wilhelm Dieckhues,
Managing Director Ohm & Häner Metallwerk GmbH & Co. KG

Fig. 1


Fig. 2


Fig. 3

Fig. 4

Fig. 1
2× P Series 4000, 22 kW
Side cyclone pre-separator

Process: Grinding
Material: Aluminium *(ATEX)*
Medium: Dry dust
Capture: 5× extraction tables
Discharge: Dust collection buckets

Fig. 2
P Series 3000, 11 kW
Side cyclone pre-separator

Process: Deburring
Material: Aluminium, stainless steel, carbon steel *(ATEX)*
Medium: Dry dust
Capture: Direct connection
Discharge: Dust collection buckets

Fig. 3
S Series 4000, 7,5 kW
Side cyclone pre-separator

Process: Grinding, polishing
Material: Lint, polishing compound, glas *(ATEX)*
Medium: Dry dust
Capture: 2× Extraction cabins
Discharge: Dust collection buckets

Fig. 4
R Series 2000, 4 kW
Side cyclone pre-separator

Process: Grinding
Material: Aluminium *(ATEX)*
Medium: Dry dust
Capture: 12× Hopper provided by customer
Discharge: Dust collection buckets

360° all-round service

Consulting

Free needs analysis and individual quotation by our sales team.

Marketing

Support in marketing through videos as well as customised design and branding.

Project planning

Personal support including an on-site inspection and the specification of technical parameters.

Training

Introduction to system components and performance of minor service and maintenance tasks.

Installation

Delivery and installation of the extraction system, including installation of the pipe system.

After-Sales

The full range: Spare and wear parts, cleaning, training, repairs and retrofitting.

Commissioning

Mechanical and electrical system briefing covering functionality, safety and control.

Maintenance

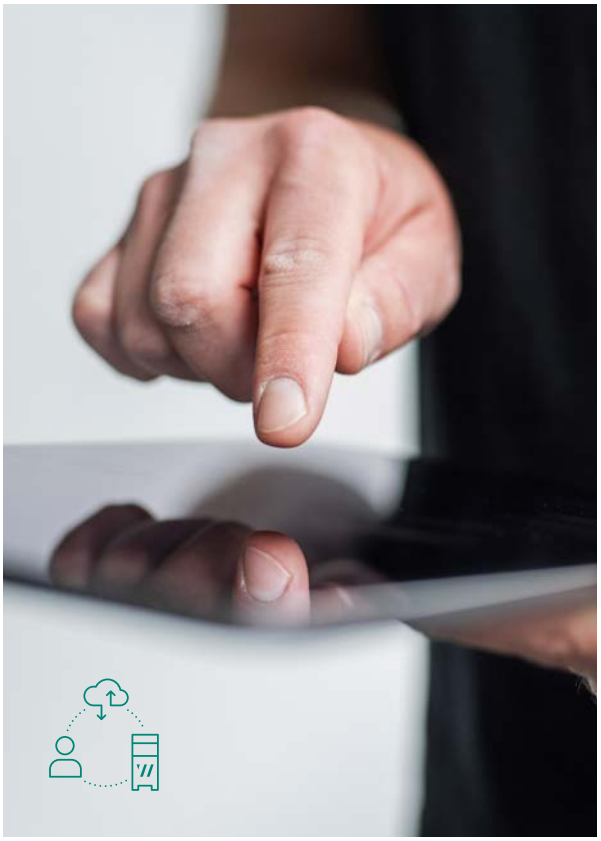
Comprehensive service for third-party and in-house systems to ensure smooth operation.

Your benefits

- **Everything from a single source**
- **In-house & third-party maintenance**
- **Free process analysis**
- **Personal on-site appointment**
- **Smooth & safe operation**
- **Avoidance of downtime & follow-up costs**
- **Worldwide support**
- **Remote diagnostics & maintenance**

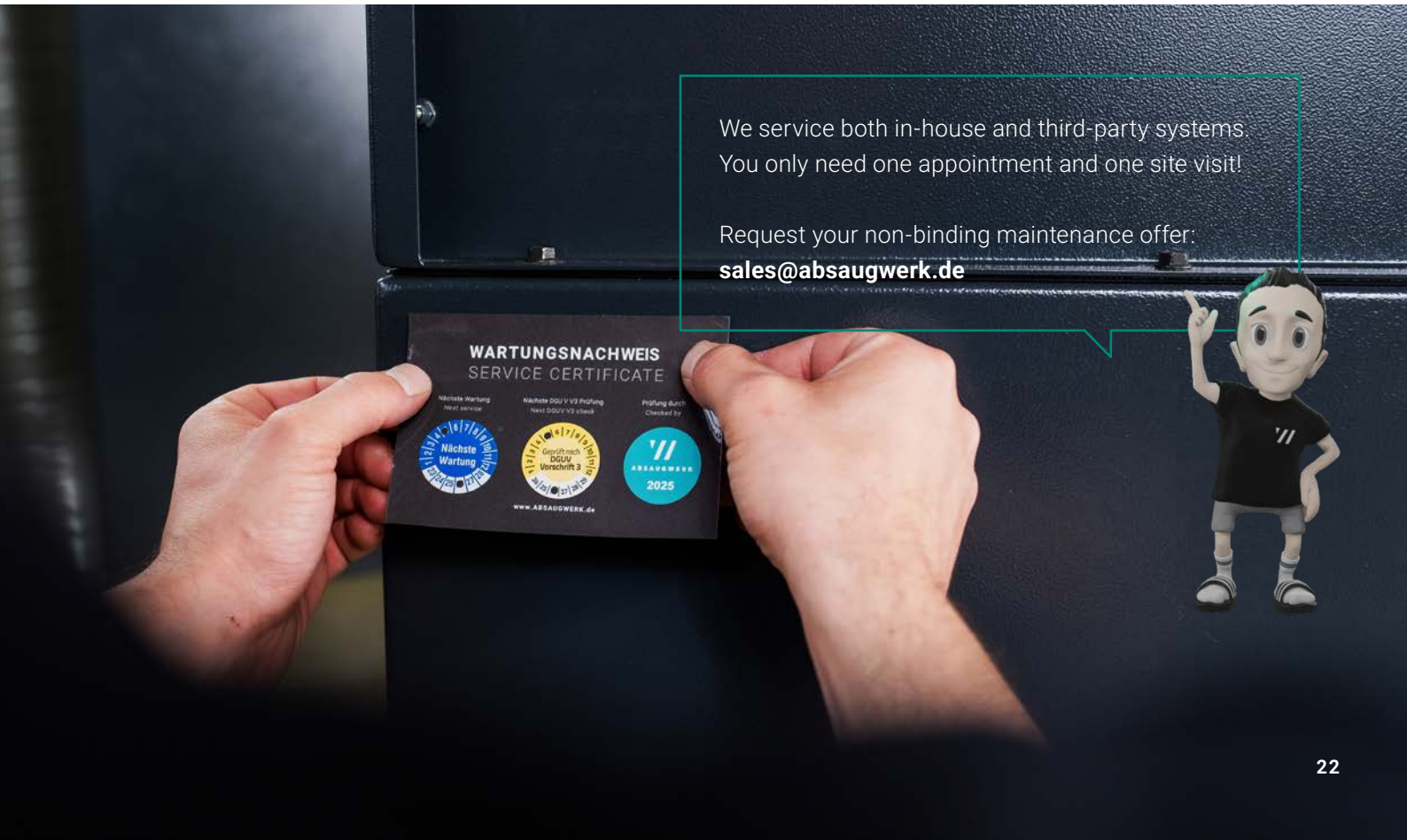
Maintenance

Unplanned system downtime can not only cause high costs, but also put employee safety at risk. To ensure that your extraction systems operate efficiently and reliably over the long term, ABSAUGWERK offers a comprehensive maintenance service. Regular inspections allow technical deviations to be identified at an early stage, before they develop into costly or safety-critical issues. Our many years of expertise and a well-structured service organisation ensure short response times and rapid fault resolution.



REMOTE MAINTENANCE – WORLD WIDE WERK

In automated production environments, reliability is essential. Our remote maintenance systems monitor system parameters in real time and automatically notify us of critical deviations. This enables our service technicians to respond immediately, regardless of location. Intelligent monitoring, modern alarm functions and secure VPN encryption provide fast support, protect your data and offer maximum flexibility at the same time.



We service both in-house and third-party systems.
You only need one appointment and one site visit!

Request your non-binding maintenance offer:
sales@absaugwerk.de

Quality from Neu-Ulm!

Our WERKER are professionals in their field and see themselves as part of the overall WERK. With more than 200 years of combined experience in extraction technology, we create durable and robust extraction systems handcrafted and »MADE IN NEU-ULM«! Every system undergoes strict quality and safety testing before it leaves our WERK.

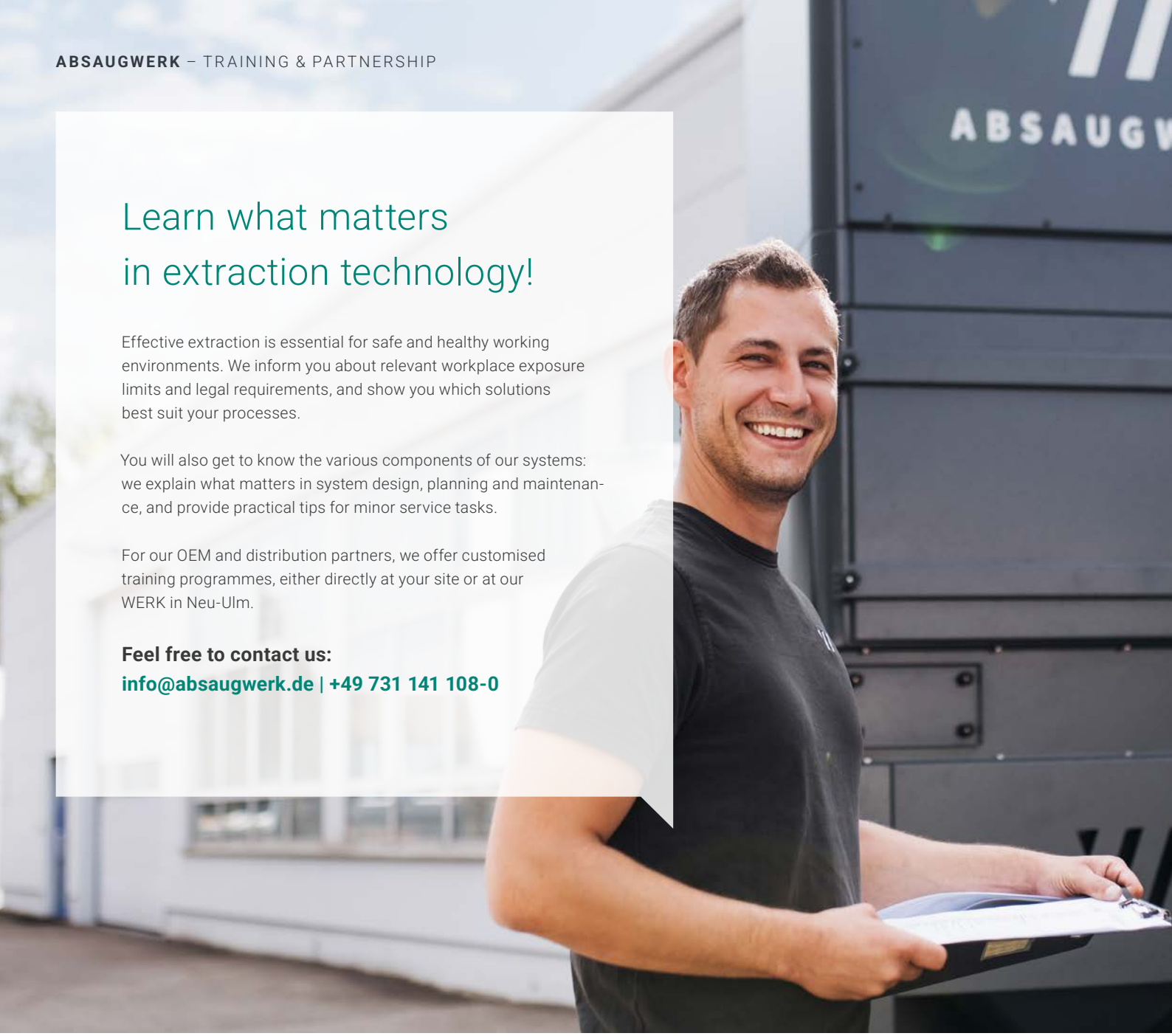
We continuously invest in training and technology to keep moving the market forward. Our innovative strength has been recognised with the BSFZ seal – a mark of research-based development and publicly funded innovation. Our goal: better working conditions, sustainable environmental protection and your success with perfect workpieces.

We configure extraction systems individually and provide premium service directly from our WERK. That's what makes our solutions **real. better.**

FuE BSFZ - 2025 -

Every WERKER considers themselves part of a responsible society and a healthy environment.

MADE IN GERMANY



Learn what matters in extraction technology!

Effective extraction is essential for safe and healthy working environments. We inform you about relevant workplace exposure limits and legal requirements, and show you which solutions best suit your processes.

You will also get to know the various components of our systems: we explain what matters in system design, planning and maintenance, and provide practical tips for minor service tasks.

For our OEM and distribution partners, we offer customised training programmes, either directly at your site or at our WERK in Neu-Ulm.

Feel free to contact us:
info@absaugwerk.de | +49 731 141 108-0

real. personal.

ABSAUGWERK stands for lived values that go far beyond technology. Our employees share not only expertise, but also common values of teamwork, responsibility and trust. This culture forms the foundation of our success and our »feel-good philosophy«.

Within our network, we also focus on genuine partnerships: open, respectful and on equal footing. We believe in long-term relationships built on reliability and mutual appreciation, because only together can something be created that truly lasts.

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Project process

5 steps to your perfect extraction solution!

01

Process analysis

In the first step, your work processes are analysed, pollutant sources are identified and existing extraction systems are reviewed in order to determine the exact extraction requirements.

02

Personal on-site visit

Our experts assess the local conditions directly at your site and take precise measurements to plan the ideal solution for your operation.

03

Individual quotation

Based on the analysis and technical drawings, you will receive a customised quotation within a short time, offering the most economical solution for your needs.

04

Production

Once the technical drawings have been approved and the order placed, we immediately begin procurement, manufacturing and scheduling for installation.

05

Installation

Our installers set up the complete extraction system, including pipe system, and support you during commissioning. Performance and functionality are carefully tested and documented – ensuring a smooth start-up.

absaugwerk.de

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