ABSAUGWERK

OIL MIST SEPARATOR

O SERIES | E SERIES

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

How dangerous is oil mist?

PROBLEM

Metalworking fluids, particularly in the form of oil mist, pose a potential hazard to your employees. The fine oil mist droplets can penetrate deep into the lungs and cause long-term respiratory problems. The skin also suffers from contact with oil mist, often resulting in unpleasant oil acne and dermatitis.

Workplace safety is also at risk, as very high aerosol concentrations in the air and inside machines can cause severe fires and explosions. In addition, slippery surfaces and floors significantly increase the risk of *workplace accidents**.

However, it is not only health and occupational safety that are under threat. Modern machine parks, which form the backbone of many production facilities, are exposed to continuous stress due to permanent contact with oil mist. Costly contamination and damage are the result, which in turn negatively affect productivity.

Clean air is not only essential for your operation, but also for the environment. The filtration of emissions protects employees as well as nature and helps to comply with legal limit values while preserving a healthy living environment.

** Slip, trip and fall accidents have been among the most frequent causes of accidents for years according to the German Social Accident Insurance (DGUV) and account for more than one third of all reportable workplace accidents.*

OIL MIST SEPARATOR
O Series | E Series

SOLUTION

Oil mist separators from ABSAUGWERK are the solution for effectively filtering oils *(O series)* and emulsions *(E series)* as well as other harmful by-products directly at the machine tools. With a three-stage filtration process and a separation efficiency of up to 99.995%, they provide outstanding protection. Thanks to their high efficiency, the units are extremely low-maintenance and are characterized by an exceptionally long filter service life. In addition, odors are neutralized, making the working environment more pleasant while protecting both employees and machines.

The cleaned air can be returned to the production hall in recirculation mode to save heating costs. Thanks to automatic performance adjustment, our extraction systems consume only the energy that is actually required, making them extremely energy-efficient.

Performance:
2,400 – 17,900 m^3/h*
0.5 – 15 kW

** Systems connected in series have the potential to deliver virtually unlimited performance.*

Your benefits

- **Clean air & healthy workplaces**
- **Continuously high air quality**
- **BG-compliant operation**
- **Compliance with safety standards**
- **Reduced oil and lubricant consumption**
- **Protection of machinery & tools**
- **Low cleaning effort**
- **Fresh air supply & temperature reduction**
- **Quick, tool-free filter change**
- **Attractive cost-benefit ratio**

Application

During machining, forming or casting, the use of metalworking fluids generates fine oil and emulsion mists, aerosols and vapors that remain suspended in the air of the production hall. These liquid particles settle on machines, floors and walls, endangering employees, contaminating production processes and increasing the risk of fires and workplace accidents.

INDUSTRIES

Metal processing, plastics industry, extrusion, cable production, etc.

PROCESSES

- Turning
- Drilling
- Milling
- Grinding
- Sawing
- Cleaning
- Spraying
- Casting, etc.

MEDIA

- Aerosols
- Emulsion mist
- Spray mist
- Oil mist
- Oil vapor
- Oil smoke

Filter:

- Pre-filter: stainless-steel mesh filters
- Main filter: stainless-steel mesh filters
- Secondary filters: cartridge filters F9 / E11 / H14

Discharge:

- Siphon connection
- Individual discharge

Capture:

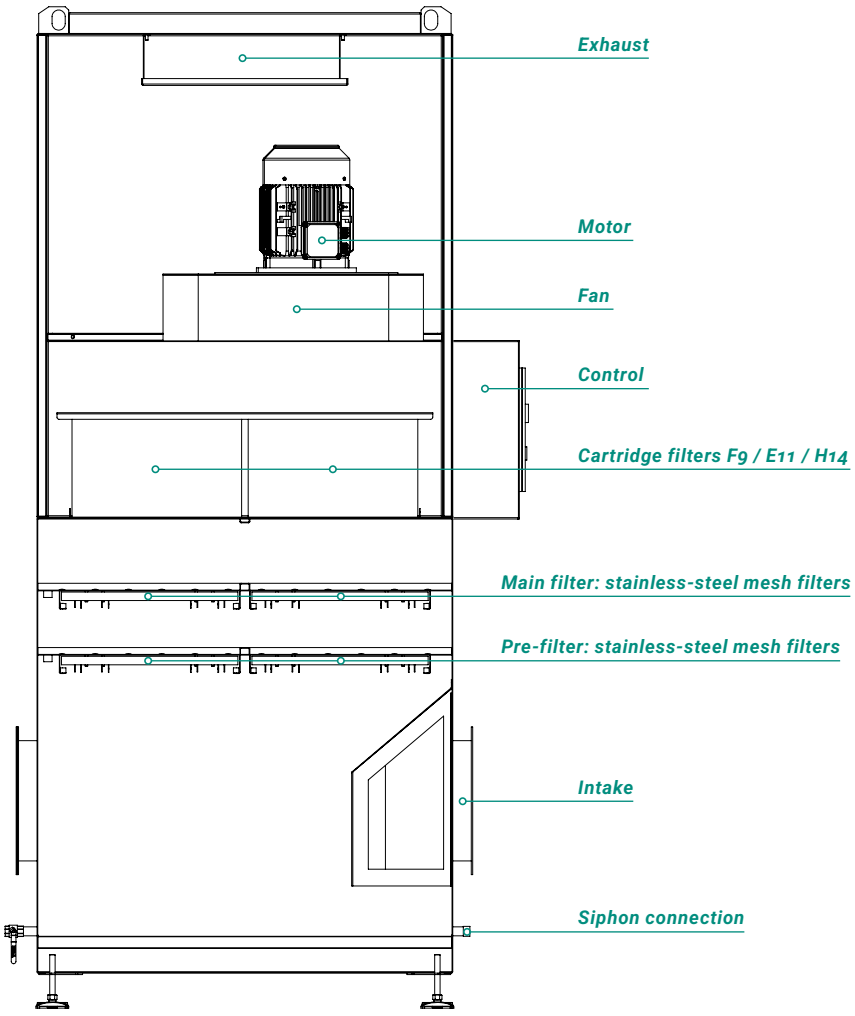
- Extraction arm
- Extraction table
- Extraction hood
- Pipe system
- Machine connection
- Room capturing
- Individual capturing system

Equipment:

- 8 power levels
- Integrated pre-separator
- Multiple filter stages for max. degree of separation
- Washable filters
- IE-3 to IE-5 motors

Components

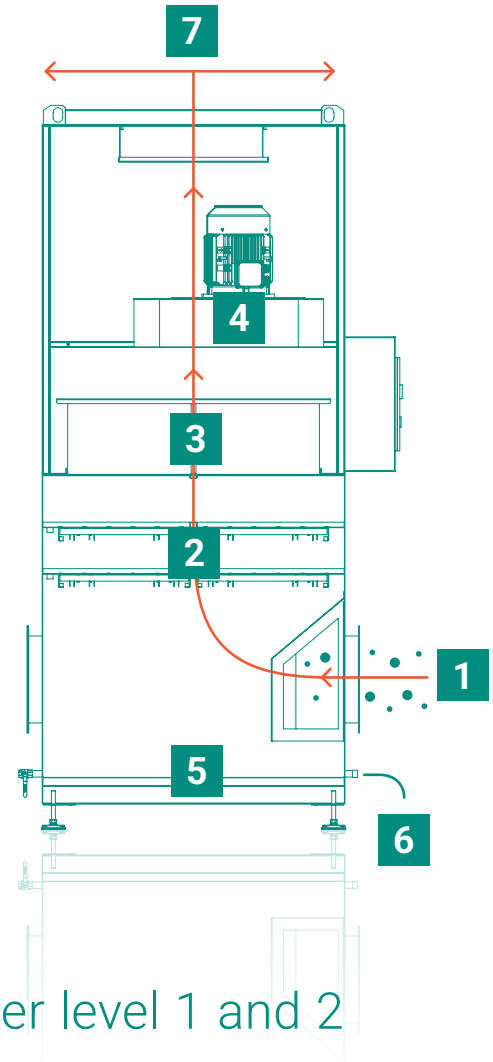
The oil mist separators are individually tailored to our customers' processes and contain several filter stages, including specially developed stainless steel mesh filters as well as optional HEPA H14 secondary filters for carcinogenic particles and activated carbon filters against unpleasant gases and odors.



With an integrated fresh air box, additional fresh air is fed into the hall from outside. This lowers the temperature and ensures a constant supply of oxygen.

Options:

- HEPA H14 filters for carcinogenic substances in recirculation mode
- Carbon filter for gases and odors
- ATEX-/fire protection execution
- Stainless steel execution
- Effective noise protection
- Filter monitoring
- Pre-separator
- Fresh air box
- Versatile smart controls
- Individual unit color and branding



Filter level 1 and 2 already remove up to 95 % of emulsions.

Functionality

The air is cleaned using a three-stage mechanical filtration process. The air flow rate automatically adapts to the respective process and ensures minimal energy consumption and costs. The stainless steel mesh filters from ABSAUGWERK can be washed out with a conventional high-pressure cleaner and are reusable.

1. SUCTION
The filter medium is drawn in via a direct machine connection or another capture.

2. FILTER STAGE 1+2
The air then passes through two filter levels made of a special stainless steel mesh.

3. FILTER STAGE 3
For fine dust, viruses, or carcinogenic stainless steel dust, an F9 / E11 / H14 secondary filter is also used.

4. FAN
The fan with IE5 technology is highly efficient, extremely quiet and powerful at the same time.

5. DRIP TAP
Cooling lubricants roll off the stainless steel mesh filters and are collected in a container.

6. DRAIN TAP
The filtered emulsion can be automatically fed back into the machine or drained.

7. EXHAUST
The cleaned air is led outside or back into the room in recirculation mode, which reduces heating and energy costs.

Technical knowledge

MECHANICAL VS. ELECTROSTATIC
There are two common types of oil filtration: mechanical extraction systems use physical barriers such as filter fibers, while electrostats bind oil particles using electrical charges. If the electrostat is clogged, no further particles can be absorbed. With mechanical separators, the particles act as an additional filter barrier and even increase their performance until the filter is changed. Filter cleaning and maintenance also involve less effort and costs with mechanical separators.

MECHANICAL	ELEKTROSTATIC
Optimum, even flow through the horizontal filters	Uneven flow through the vertical filters
Separation efficiency* up to 99.995 %	Separation efficiency* up to 97.1 %
Particles > 0.001 µm	Particles > 0.3 µm
Easy filter cleaning *(high-pressure cleaner)*	Complex filter cleaning *(ultrasonic bath)*
Cleaning time 5 min.	Cleaning time 20–60 min.
No formation of harmful ozone	Formation of harmful ozone
Recirculation and exhaust air	Exhaust air

** Air volume 4,000 m³/h*

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 increases performance while reducing long-term operating costs for maintenance and energy, without compromising productivity. It makes our systems a sustainable and cost-effective investment.

Accessories & options

To configure the right extraction system for every application, we offer a wide range of options and accessories for our extraction systems. These include capture systems for precise emission extraction, various discharge solutions for safe material disposal, efficient pipe systems for optimal air guidance, as well as pre-separators to extend filter service life.

This wide range of options provides maximum flexibility and adaptability to meet specific requirements such as process, material, and environment, ensuring reliable air cleaning.

Capture systems,
discharge solutions,
pre-separators,
pipe systems, etc.

Available in numerous sizes & variants!

Extraction arms

Extraction arms are used for the local capture of emissions directly at the point of origin. The flow-optimised design with low resistance prevents deposits and ensures consistently high extraction performance. Particularly smooth-running joints allow easy and precise positioning. Ergonomic handles, a large working radius, as well as optional switches, LED lighting and various capture hoods provide a high level of operating comfort.

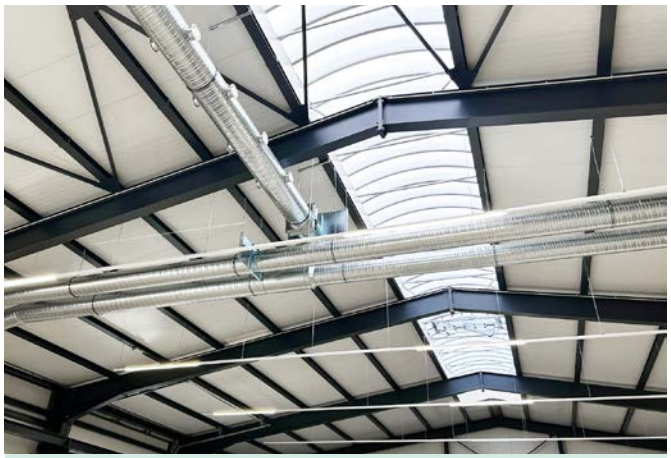
Extraction hoods

Overhead hoods are used for rising media with small particle sizes. They are available in various sizes with different mounting systems and accessories such as louvers or spark arresters.

Side hoods are ideally suited for horizontal or lateral emission sources. The rectangular hoods are versatile in use and can be operated open or equipped with protective or deflection plates.

Extraction cabins

Extraction cabins enable particularly efficient and energy-saving capture, as only a limited air volume needs to be circulated and filtered. Crossflows caused by doors, windows or movements within the hall are significantly reduced, resulting in much more stable capture performance. At the same time, *statutory workplace exposure limits** statutory workplace exposure limits* can be met more easily and cost-effectively. Noise and heat generated by many processes are also effectively contained within the cabin and continuously reduced.



Hall extraction

For large production areas, hall extraction with a central system and pipe system provides comprehensive air cleaning. Multiple workstations can be captured simultaneously and the entire hall air is continuously filtered. This enables the efficient removal of high pollutant loads. In recirculating air operation, the system operates particularly energy-efficiently and sustainably reduces operating costs.

We aim to cover every requirement and, in addition to standard versions, also offer cost-effective customised solutions.

** Companies are responsible for ensuring that statutory workplace exposure limits in accordance with TRGS 611, TRGS 900, TRGS 910, etc. are complied with in order to minimise risks to employees.*

Lack of space?

Our compact oil mist separator with 0.5 kW is a space-saving alternative. It can be installed directly on the machining center to save valuable production space. Like the larger models the system offers 3 filter levels and an optional H14 filter. Machine lubricants are automatically recirculated and the stainless steel mesh filters are easy to wash out. We also offer a individual color to perfectly match your machine tool.

OIL MIST SEPARATOR		COMPACT
Engine power	kW	0.5
Fan power max.	m³/h	2,100
Width (b)	mm	535
Depth (t)	mm	770
Height A	mm	625
Height B	mm	825
Height C (Intake)	mm	198

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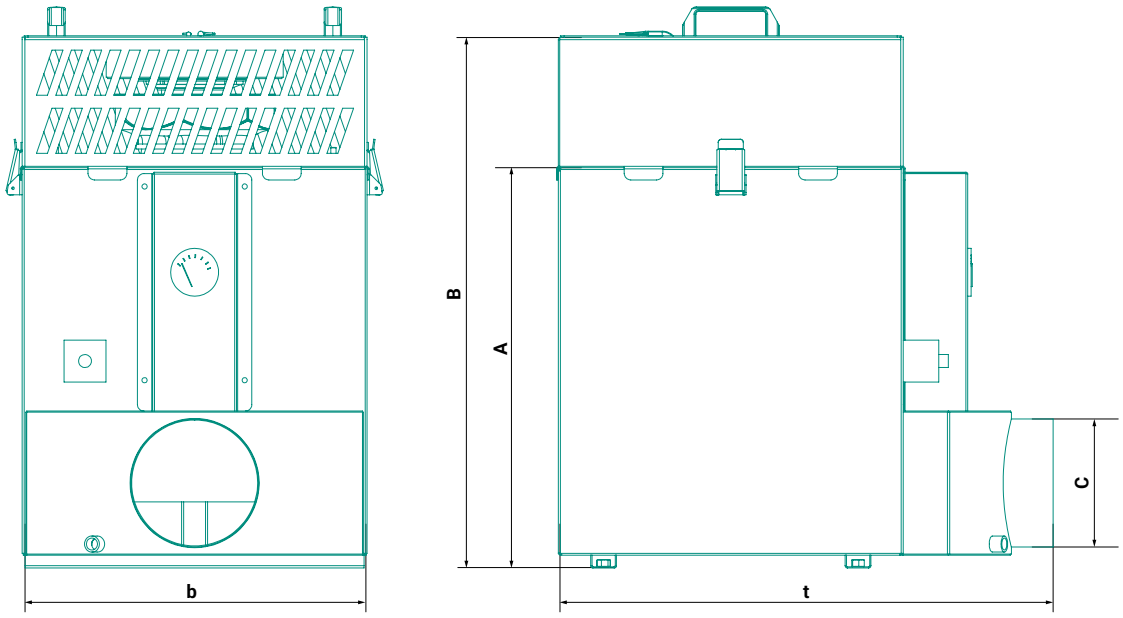


real. sustainable.

SUSTAINABLE EXTRACTION SOLUTIONS

Due to their high separation efficiency, our oil mist separators are ideally suited for *recirculation mode**. A frequency inverter adjusts the extraction performance to demand and saves energy. As early as the development stage, we focus on minimal flow resistance and efficient air guidance, resulting in high-performance systems with low energy consumption compared to standard systems. In addition, our oil mist separators are extremely low-maintenance and easy to clean. This further increases their cost-effectiveness and has a positive impact on our customers' energy balance.

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.

** The cleaned air is so pure that it can be returned directly to the working environment. Our recirculation system also enables the efficient return of metalworking fluids to the machine tool.*

Your benefits

- **Recirculation of cooling lubricants**
- **Washable stainless steel mesh filters**
- **Long filter service life**
- **Flow-optimized design**
- **Energy-saving & low-maintenance**
- **Recirculation mode with fresh air box**
- **Automatic power control**
- **Highly efficient IE5 fans**
- **Heat exchanger saves heating costs**
- **Minimized pollutant load**

Fire protection

In metalworking companies today, large quantities of non-water-miscible cooling lubricants are used for machining workpieces. The increasing use of low-viscosity, flammable cooling lubricants in particular increases the risk of fire, as reactive oil-air mixtures can occur during machining.

Depending on the type of cooling lubricant used, additional safety measures must be taken. An emulsion with less than 15 % oil content does not pose an immediate danger, but requires regular coolant changes to prevent the oil content from increasing. If pure oil is used for lubrication instead of an emulsion, milling, turning and grinding machines must be specially designed to prevent fires.

Legal requirements

RESPONSIBILITIES OF OPERATORS & MANUFACTURERS
As part of a risk assessment *(suitability of the machines for the intended process)* and the preparation of an explosion protection document, the operator is required to assess whether there is a potential risk of fires or explosions.

The operator is required, as part of a risk assessment (assessment of the suitability of the machines for the intended process) and the preparation of an explosion protection document, to evaluate whether there is a potential risk of fires or explosions.

The manufacturer takes this information into account when defining an appropriate protection concept for the machine tool and aligns the operating and maintenance instructions accordingly.

There are various measures to minimize the existing risk of fire and explosion during operation, including the extraction of oil mist in the work area. Oil mist separators are used to capture, extract and separate combustible cooling lubricant emissions in order to reduce their accumulation and thus minimize the risk of fire.

Our systems themselves are equipped with special **fire protection components** that monitor and eliminate potential sources of fire, including:

- Spark detection
- Automatic extinguishing agent device: CO_2
- Smoke detector *(optical/thermal)*
- Shut-off valve
- Extinguishing flap *(man. extinguishing)*
- Automatic shutdown of the system
- Design ignition source-free and conductive
- Fan according to ATEX zone 2

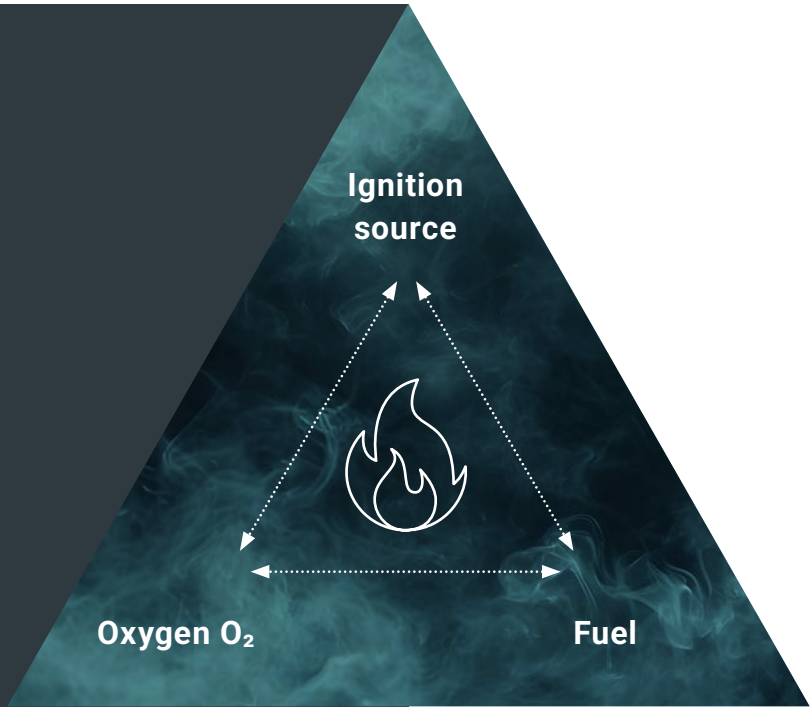
CHECKLIST

- ◯ **Selection of a cooling lubricant with low hazard potential**
- ◯ **Extraction of the oil mist in the work area**
- ◯ **Avoidance of oil pool formation**
- ◯ **Avoidance of ignition sources: Cooling of the cutting area through sufficient lubricoolant flooding, process monitoring**
- ◯ **Installation of an automatic fire extinguishing system**
- ◯ **Sufficient pressure resistance of the enclosure**
- ◯ **Flameproof door labyrinths**
- ◯ **Pressure relief flap, if the pressure resistance of the enclosure is not sufficient**

Knowledge

REQUIREMENTS FOR A FIRE

Glowing chips, sparks or hot surfaces can act as an ignition source and ignite a reactive mixture of cooling lubricant and air. In particular, technical advances in feed rates and cutting speeds, as well as the trend towards low-viscosity cooling lubricants with high pressure, increase the risk of fire. A fire can spread quickly inside the machine tool. When assessing the risk, it is important to consider whether a machine fire can also spread to other areas.



Technical data

5 different size variants
8 power levels

E Series 1000–5000

OIL MIST SEPARATOR SERIES		E 1000	E 2000	E 2000	E 3000	E 3000	E 4000	E 4000	E 5000
Engine power	kW	1.1	2.2	3	4	5.5	7.5	11	15
Fan power max.	m³/h	2,400	3,500	4,500	6,000	7,000	8,500	14,000	17,900
Width (b)	mm	550	850	850	1,250	1,250	1,250	1,250	1,850
Depth (t)	mm	650	850	850	850	850	1,350	1,350	1,350
Height A (Stainless steel mesh)	mm	1,750	1,940	2,000	2,220	2,340	2,340	2,480	2,480
Height B (H14 Filter)	mm	2,025	2,215	2,275	2,770	2,890	2,890	3,030	3,030
Height C (Intake)	mm	450	550	550	650	650	650	650	650

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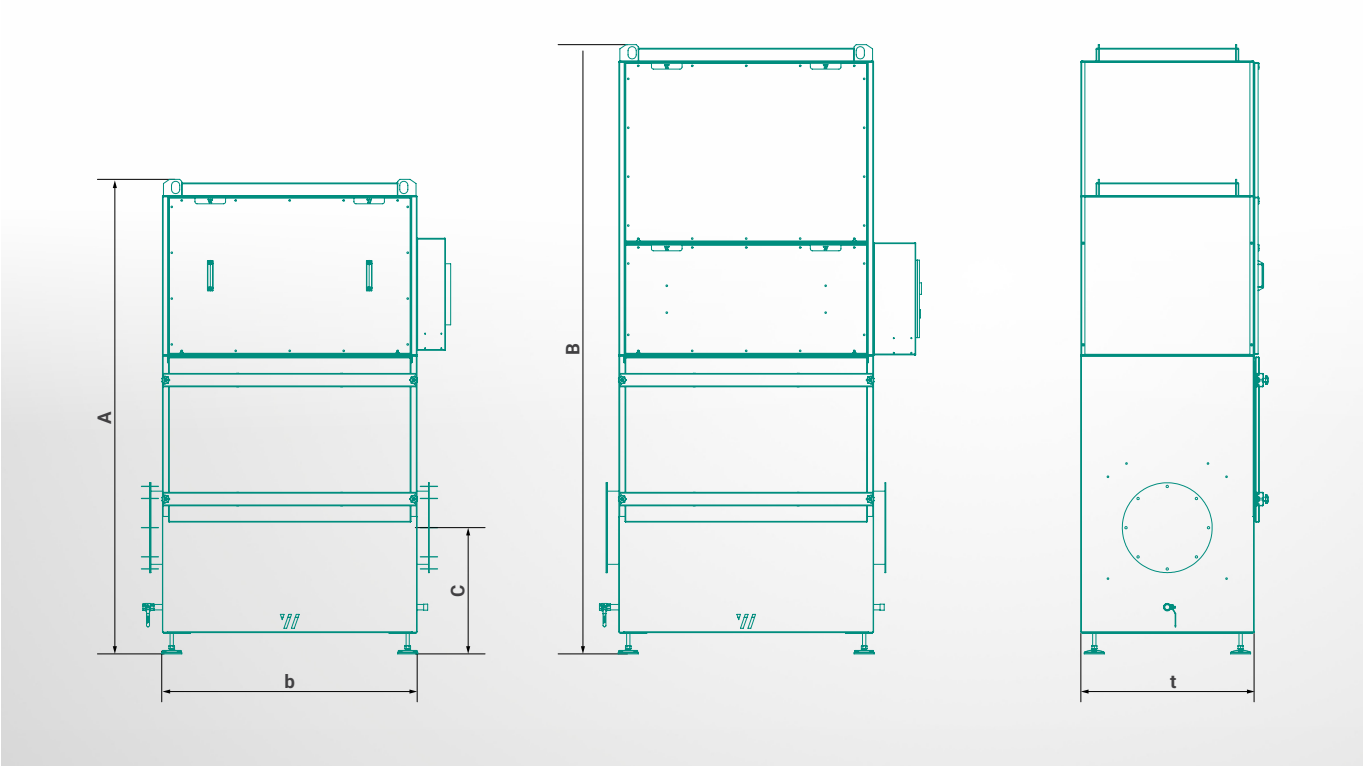
E *E Series oil mist separators are more powerful and can move larger volumes of air through the system.*



O Series 1000–5000

OIL MIST SEPARATOR SERIES		O 1000	O 2000	O 2000	O 3000	O 4000	O 5000
Engine power	kW	1.1	2.2	3	4	5.5	7.5
Fan power max.	m³/h	2,400	3,500	4,500	6,000	7,000	8,500
Width (b)	mm	550	850	850	850	1,250	1,250
Depth (t)	mm	650	850	850	850	850	1,350
Height A (Stainless steel mesh)	mm	1,750	1,940	2,000	2,220	2,340	2,340
Height B (H14 Filter)	mm	2,025	2,215	2,275	2,770	2,890	2,890
Height C (Intake)	mm	450	550	550	550	650	650

Status June 2026 | Subject to change

O *O Series oil mist separators are designed for oils and emulsions with fine particles. The air flows through more slowly in order to achieve maximum separation.*

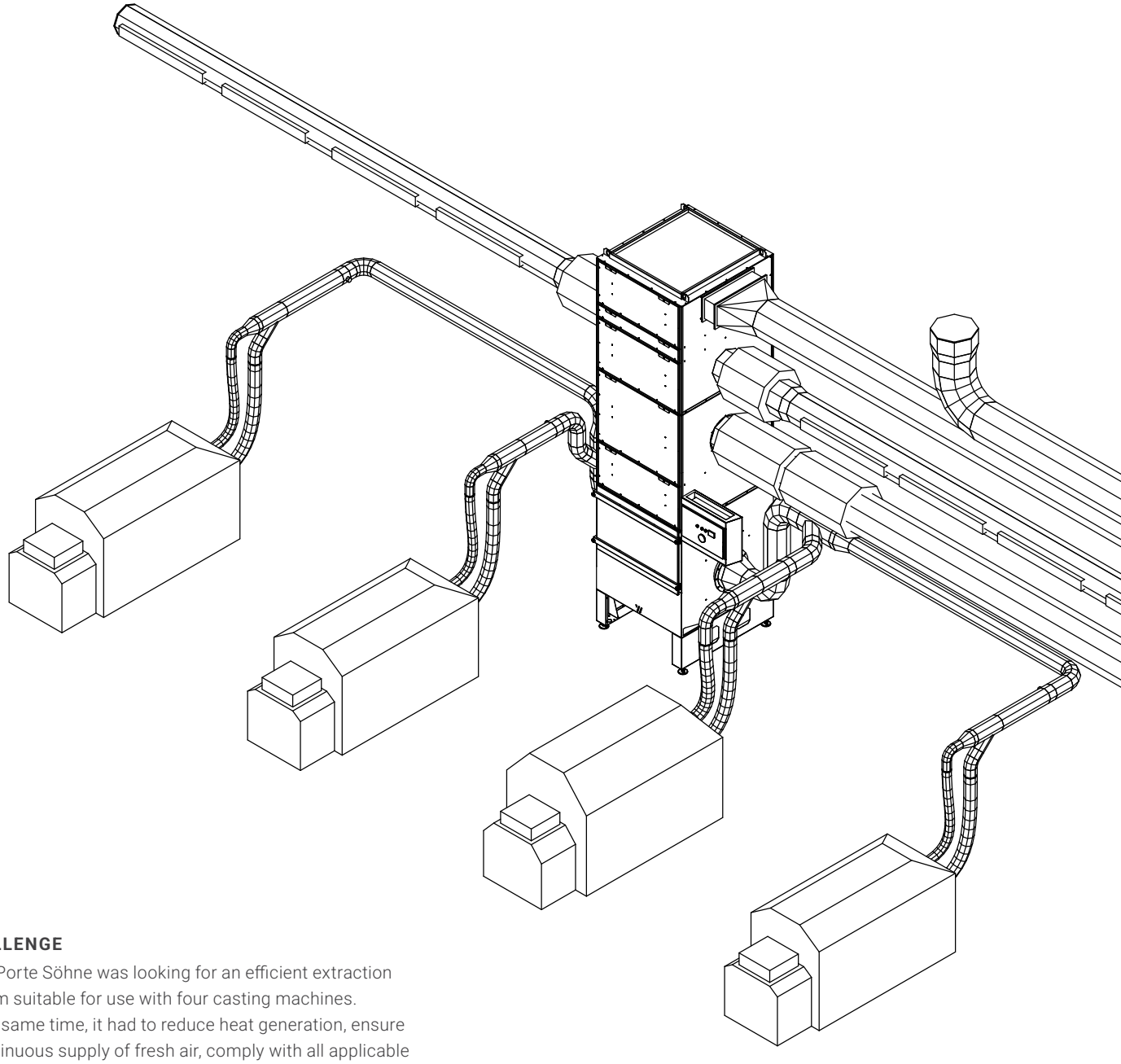
Reference

Clean air & cool breeze at D. La Porte Söhne

D. La Porte Söhne GmbH produces high-precision locks and fittings for the commercial vehicle and automotive industry. In its die-casting foundry, seven casting machines operate simultaneously in two-shift operation. To prevent the parts from sticking, cooling lubricants or release oil are used as a spray mist. The fine aerosols and oil mist in the hall air posed a health hazard to em-ployees and were deposited on surfaces and floors.

»The difference is clearly noticeable! The air quality and temperature in the hall have improved enormously.«

Joachim Pirdzuns,
Operations Manager D. La Porte Söhne GmbH



CHALLENGE

D. La Porte Söhne was looking for an efficient extraction system suitable for use with four casting machines. At the same time, it had to reduce heat generation, ensure a continuous supply of fresh air, comply with all applicable workplace regulations, and offer a long filter service life with minimal cleaning effort.

SOLUTION

We developed an extraction solution consisting of an E Series 4000 oil mist separator with a maximum air volume of 15,000 m³/h, a pipe system and a fresh air box. Fine oil particles are extracted directly at the machines, filtered in the system and fed back into the hall enriched with fresh air. The lubricants used are automatically returned to the machines

After one year of use, the filters show hardly any wear and *the extraction performance has dropped by only 2%*. An alarm is triggered if a filter becomes blocked; however, maintenance requirements and replacement filter costs are low and usually only arise after several years.

MEDIA	• Oil vapor, aerosols
PROCESSES	• Spraying of cooling lubricants and release oil, die casting
PERFORMANCE	• Motor power: 11 kW • Max. air volume: 15,000 m³/h • Operating point: 5,800 – 7,200 m³/h
SERVICE	Personal consultation, technical design, pipe system planning, production, installation, pipe system, commissioning, maintenance and after-sales support

»(…) The employers' liability insurance association was also impressed. This was particularly important to us, because our employees are our most important asset.«

Joachim Pirdzuns,
Operations Manager D. La Porte Söhne GmbH

Fig. 1
O Series 3000, 3 kW

Process: Milling with minimum quantity lubrication
Material: Aluminum
Medium: Emulsion mist
Capture: Direct connection

Fig. 2
Compact, 0,5 kW

Process: Milling with emulsion
Material: Aluminum, copper, steel
Medium: Emulsion mist
Capture: Direct connection

Fig. 3
E Series 2000, 3 kW

Process: Turning with emulsion
Material: Steel
Medium: Emulsion mist
Capture: Extraction arm, direct connection, room capture

Fig. 4 (right)
E SeriesE 3000, 7,5 kW

Process: Spraying with weld bead release agent
Material: Steel
Medium: Vapor
Capture: Direct connection

360° all-round service

Consulting

Free needs analysis and individual quotation by our sales team.

Project planning

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

Installation

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

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.

After-Sales

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

Training

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

Marketing

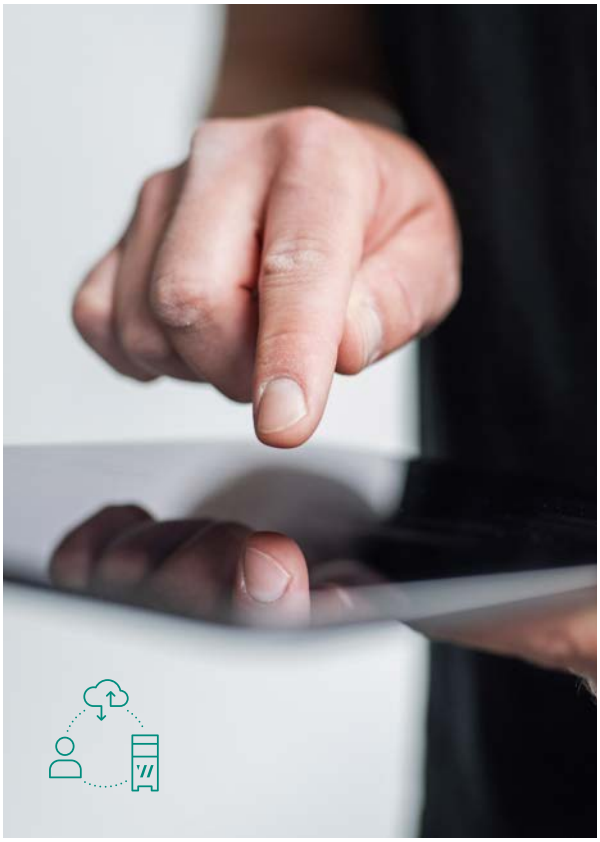
Support in marketing through videos as well as customised design and branding.

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**

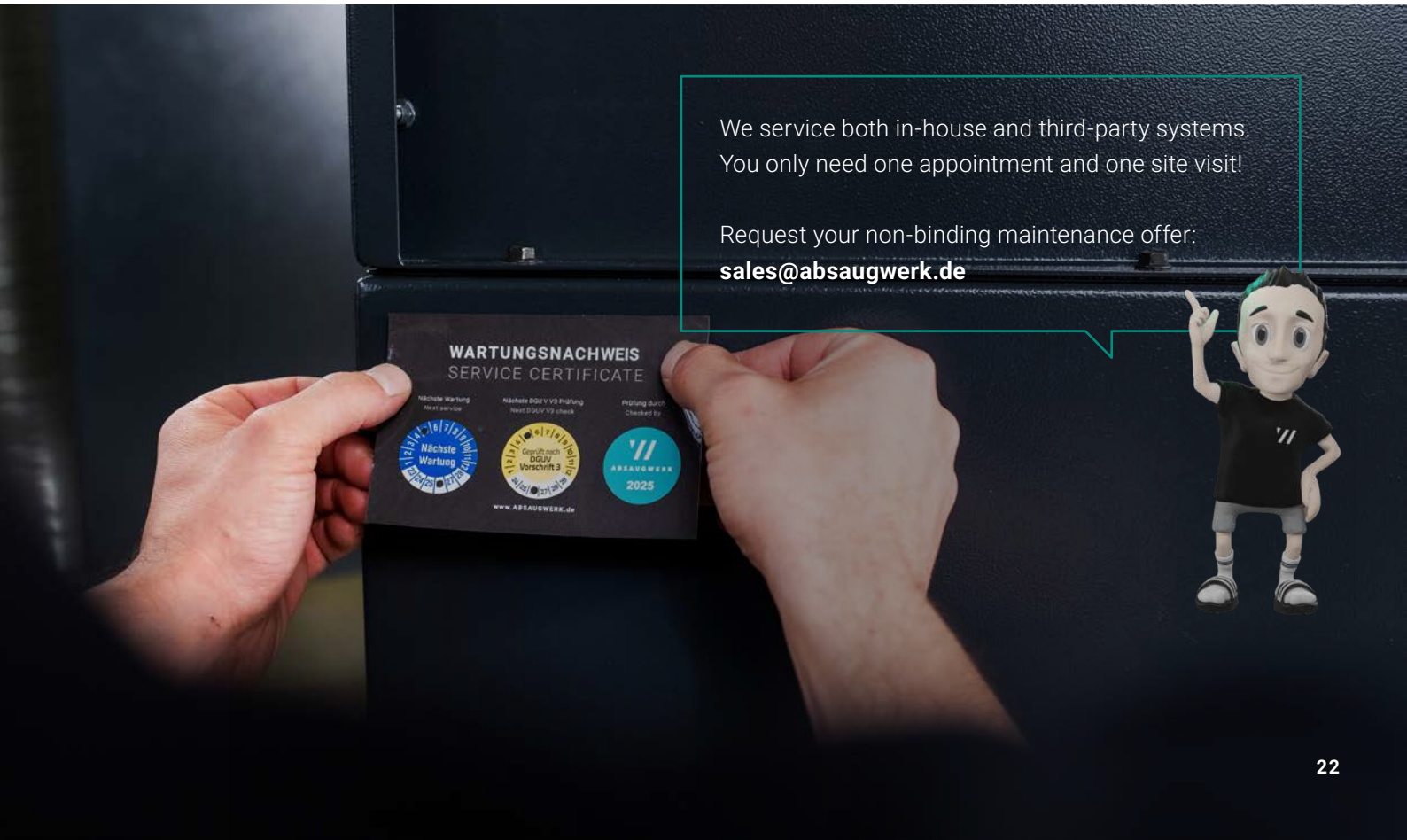
Maintenance

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

»Even after several years of use, we haven’t had to replace a filter yet.«

Mohammad Moghimian,
Managing Director AWZ KG

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.

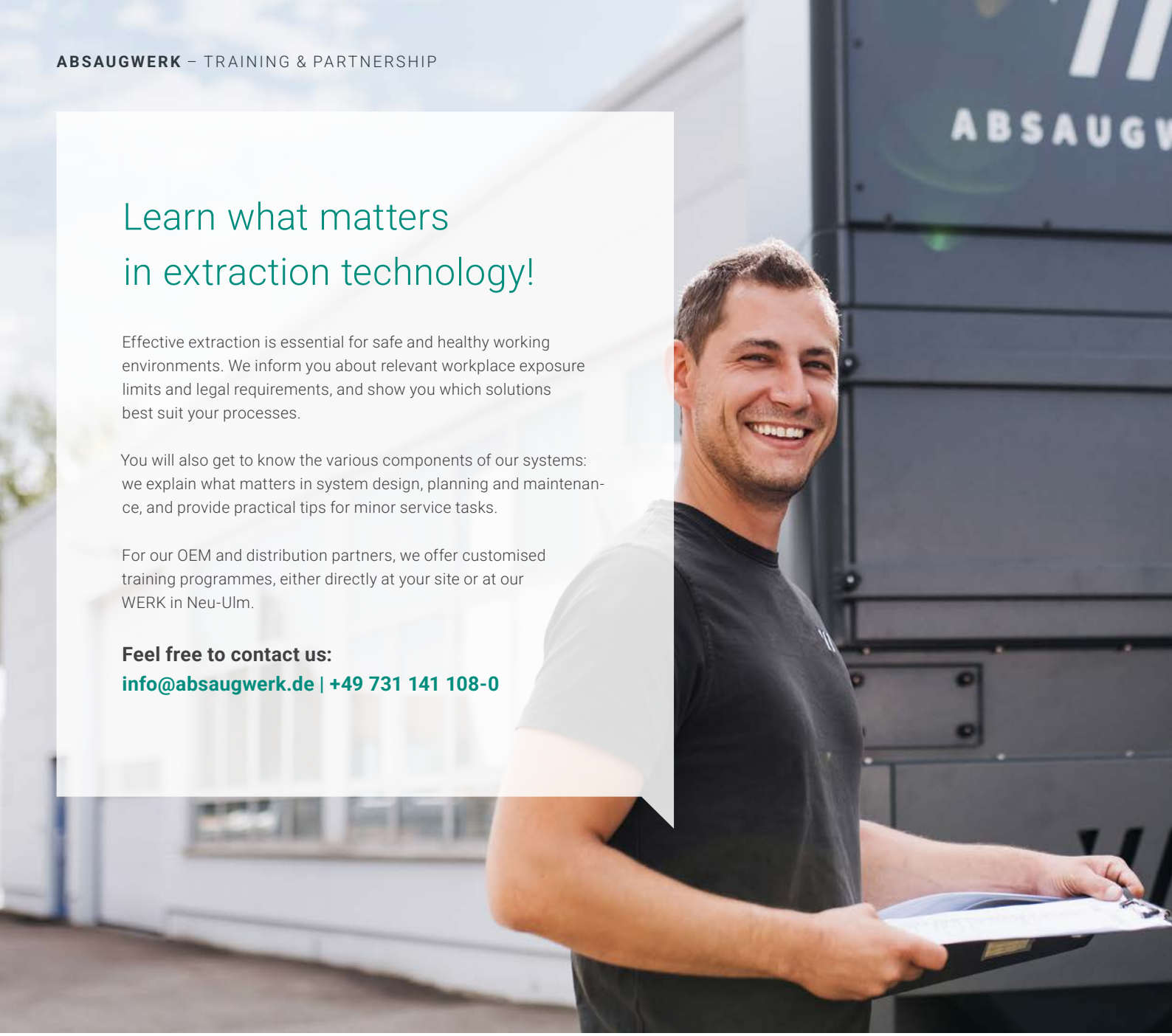
We continuously invest in training and technology to keep moving the market forward. Our innovative strength has been recognised with the BSFZ seal – a mark of research-based development and publicly funded innovation. Our goal: better working conditions, sustainable environmental protection and your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

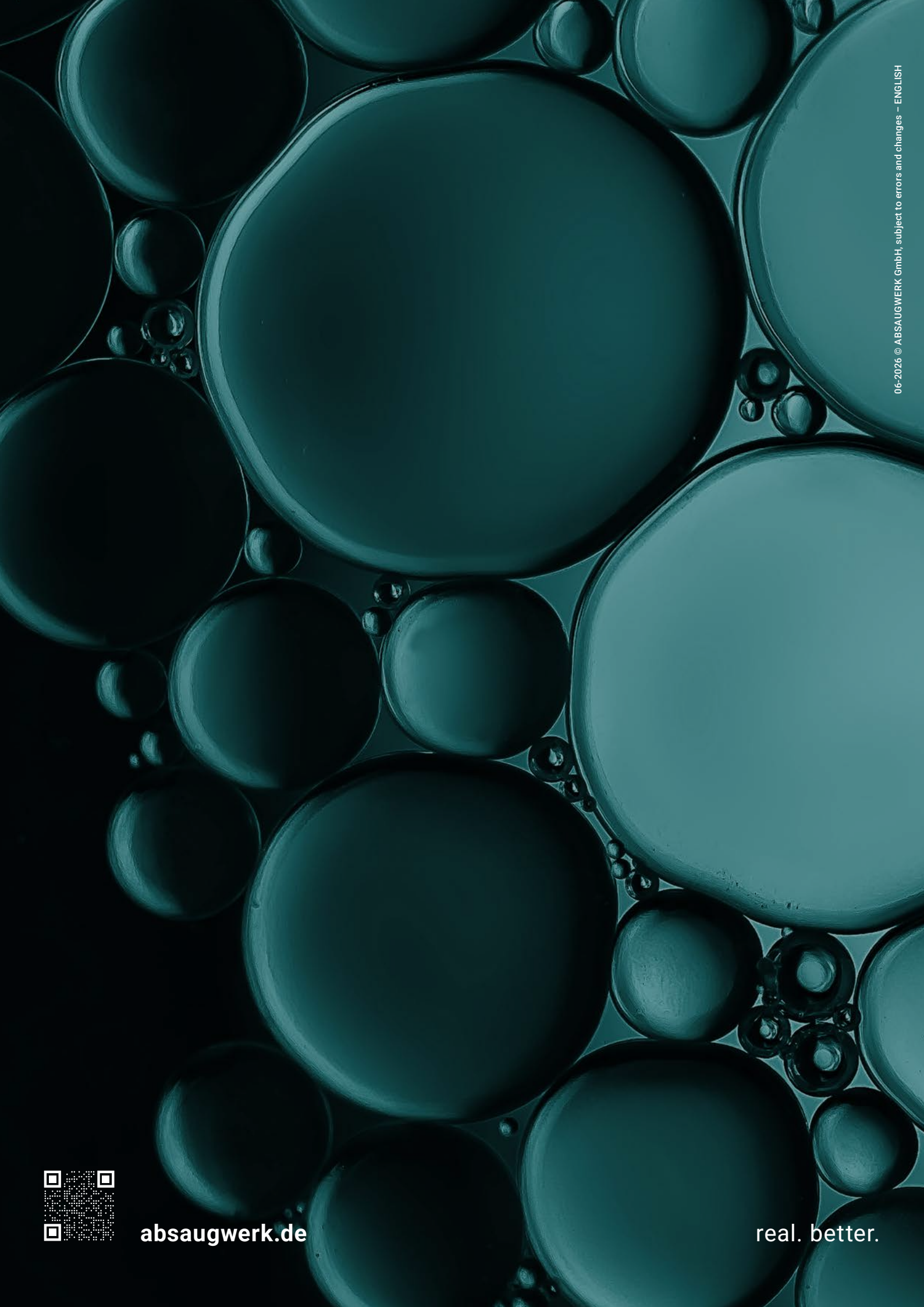
Production

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.



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