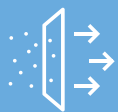




AIR FIL TER

STRONG PERFORMANCE – CLEAN AIR



Oil and emulsion
mist separator



Central extraction
systems



Ventilation and air-
conditioning systems



Energy saving
measures



Dust
separator

INHALT

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STRONG PERFORMANCE – CLEAN AIR

Does this sound familiar? It is (far too) warm and stuffy in your production shop, the level of humidity is high and it smells of cooling lubricant. Airborne pollutants in the form of oil and emulsion mist create an oppressive working environment, and temperatures of over 30°C are not uncommon in the production hall, even in spring. It has long since ceased to be the winter that causes problems for many manufacturing facilities in terms of temperature and heat, but rather the summer, since heat can often no longer be adequately dissipated from the workshop.

Air purification and ventilation are complex topics. Many factors, such as the detection of pollutants, the appropriate air purification process, the routing of ducts, the airflow of purified air, the inflow of fresh air and much more, must be taken into account and optimally combined with each other. The aim is to keep operating and investment costs as low as possible.

As a family-run company founded in 1996, AFS has proven itself with experience and competence in extraction, air purification and ventilation systems. Thanks to our holistic concepts and innovative products, AFS was named „Technology Leader of Baden-Württemberg“ in 2021 and as TOP100-Innovator.

We are one of the leading companies in Germany for air purification and ventilation in manufacturing facilities. Whether for distributed individual units on machine tools or central extraction systems, electrostatic or mechanical filtering units, atmospheric cooling or central workshop and machine cooling. AFS supplies everything from a single source.

We look at the conditions on site and develop the best solution for your needs jointly with you.

In order to stay on top of energy costs, it is important to always consider extraction, air purification, ventilation and cooling together.

Get in touch with us – we will be glad to provide you with advice.

Warm regards,

Dipl.-Ing. Kai Kuppinger
Managing Director

Dr.-Ing. Jan Kuppinger
Managing Director



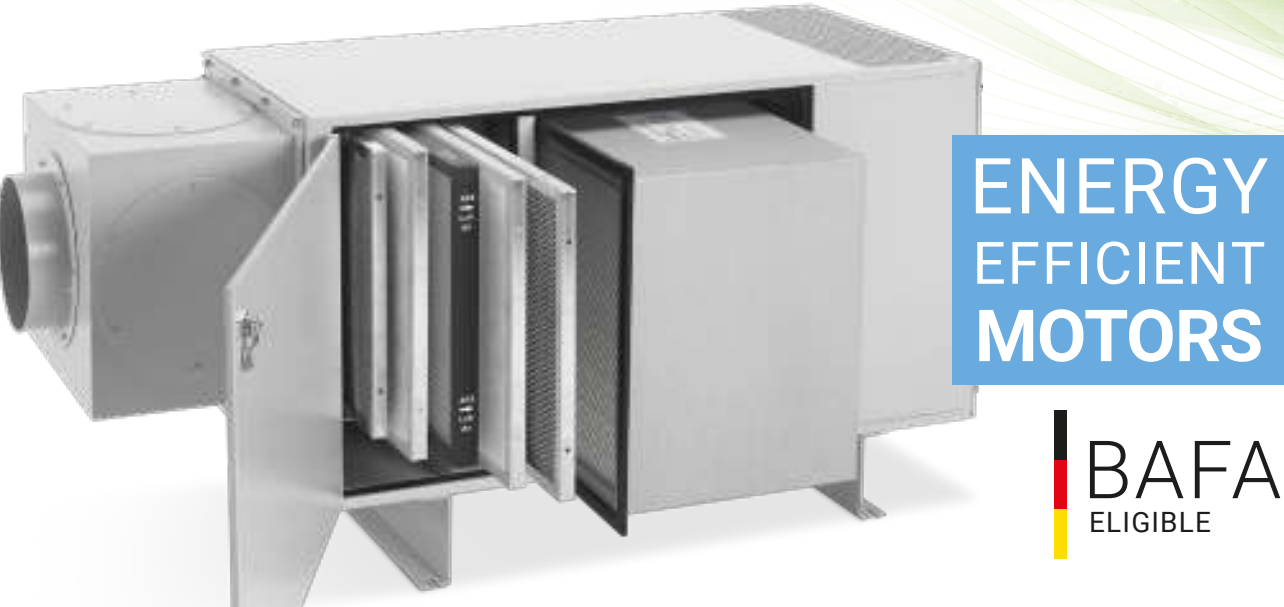
AIR PURIFICATION UNITS

FROM PROPRIETARY DEVELOPMENT & REGIONAL PRODUCTION

MECHANICAL AIR PURIFIERS

FOR EXTRACTING AND REMOVING EMULSION MIST FROM WATER-BASED COOLING LUBRICANTS

Various filters and separators are ideally adapted to the respective application scenario in a 6-stage purification process. All aerosols and particles are almost completely separated in a 5-stage pre-separation process. The centrepiece is our proprietary long-life baffle plate separator, which is maintenance-free. A HEPA H13 class high-efficiency particulate air filter is installed at the final filter stage as a secondary filter, filtering 99.95% of all remaining residual aerosols from the air (based on MPPS, 0.3 µm).



Type	Air volume ¹⁾ [m³/h]	Dimensions [mm]			Weight [kg]	Power consumption [kW] ¹⁾	Electr. connection ²⁾ 3~, ...	Energy efficiency class
		Length	Width	Height				
AFS 600	600	825	400	520	50	0,5 0,86	230/400 V ± 10%, 50/60 Hz 460 V ± 10%, 60 Hz	ErP 2015
AFS 10M	1.100	1.315	470	625	80	0,37	380 ... 480 V, 50/60 Hz ³⁾	ErP 2015
AFS 11M	1.600	1.315	470	625	80	0,79	380 ... 480 V, 50/60 Hz ³⁾	ErP 2015
AFS 3000	3.000	1.635	750	785	150	1,6	380 ... 480 V, 50/60 Hz	ErP 2015
AFS 4000	4.000	1.635	750	785	150	2,7	380 ... 480 V, 50/60 Hz	ErP 2015
AFS 6/8000	8.000	2.080	930	1.115	300	6,0	380 ... 480 V, 50/60 Hz	ErP 2015
AFS 12000	12.000	3.010	1.390	1.455	850	8,6	208 ... 480 V ± 10 %, 50/60 Hz	IE 4 ³⁾
AFS 16000	16.000	3.010	1.390	1.455	850	16,8	208 ... 480 V ± 10 %, 50/60 Hz	IE 4 ³⁾

¹⁾ Incl. H13 filter and 5-stage pre-separation ²⁾ UL version on request ³⁾ Incl. frequency converter We reserve the right to make changes

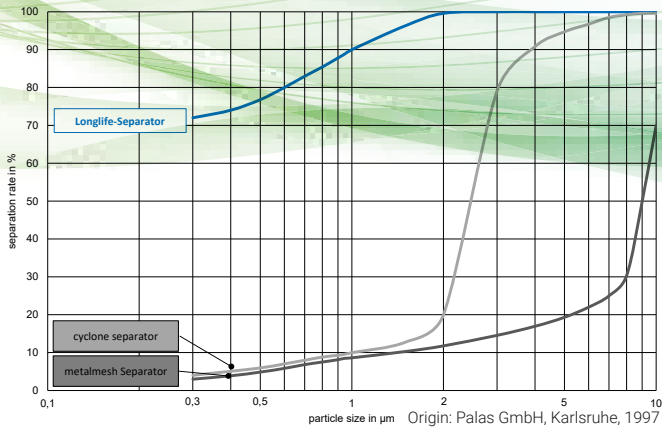
THE LONG-LIFE SEPARATOR

THE CORE ELEMENT OF THE MECHANICAL AFS AIR PURIFICATION UNITS

- self-cleaning
- maintenance-free
- high separation efficiency

The core element in the AFS mechanical air purification units is the long-life separator developed by us. A sophisticated airflow system ensures that all particles > 2.0 µm are almost completely separated from the air stream.

Independent tests confirm the high separation efficiency of the AFS long-life separator:



ELECTROSTATIC UNITS / E-SERIES

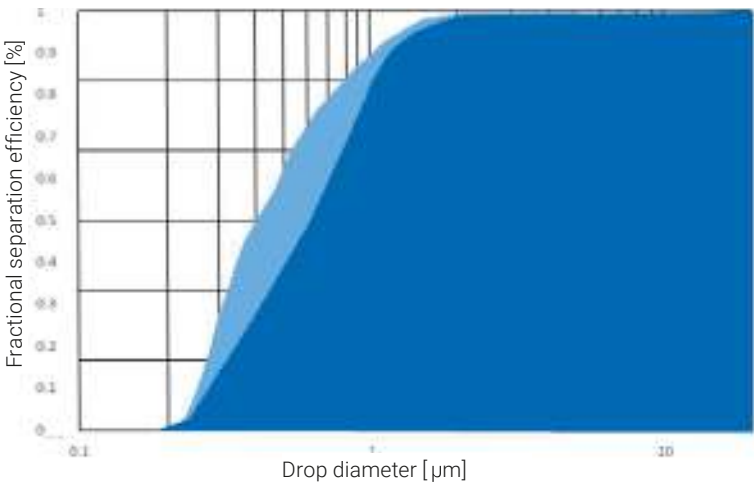
FOR EXTRACTION AND REMOVAL OF OIL MIST AND OIL SMOKE

The AFS E-Series air purification units combine proven and efficient mechanical pre-separation with an electrostatic post-separation module, resulting in significantly higher separation efficiency and longer filter life compared to plain electrostatic separators.

A large part of the oil mist is already separated by filter fleece material specially optimised for oil applications, without any noticeable change in pressure loss and energy consumption. This puts less strain on the electrostatic stage and significantly increases the service life of the unit.

With electrostatic units, high-voltage flashovers or reduced separation efficiency can occur from time to time due to lack of maintenance. Whereas that leaves conventional electrostatic units with almost no cleaning performance, AFS electrostatic units still provide a reliably high level of air cleaning – see diagram.

- Mass-related part separated in the electrostatic stage.
- Mass-related part separated by the pre-separation.



Type	Air volume ¹⁾ [m³/h]	Dimensions [mm]			Weight [kg]	Power consumption ¹⁾ [kW]	Electr. connection ²⁾ 3~, ...	Energy efficiency class
		Length	Width	Height				
AFS 1000 E	500 - 2.000	1.360	485	655	115	0,15 @ 1.000 m³/h 1,18 @ 2.000 m³/h	380 ... 480 V, 50/60 Hz ²⁾	ErP 2015
AFS 4000 E	4.000	1.685	1.060	665	220	1,6	380 ... 480 V, 50/60 Hz	ErP 2015
AFS 8000 E	8.000	2.570	1.100	1.320	300	4,4	380 ... 480 V, 50/60 Hz	ErP 2015
AFS 12000 E	12.000	3.030	1.565	1.510	950	7,9	380 ... 480 V, 50/60 Hz	IE 4 ³⁾
AFS 18000 E	18.000	3.340	1.565	1.800	1.055	17,9	380 ... 480 V, 50/60 Hz	IE 3 ³⁾

¹⁾ incl. all filters ²⁾ UL version on request ³⁾ incl. frequency converter We reserve the right to make changes





CENTRAL EXTRACTION AND AIR PURIFICATION SYSTEMS

THE ENERGY-EFFICIENT ALTERNATIVE TO INDIVIDUAL UNITS

ONE CONCEPT – ONE SYSTEM

EXTRACTION – AIR PURIFICATION – WORKSHOP VENTILATION

It is essential that air purification and workshop ventilation are considered together and coordinated in a holistic concept. Otherwise, there is a risk of high operating and investment costs. Due to increasingly better insulated workshops and the high heat input from machine tools, hardly any factory has a heat issue in winter. However, many facilities have a problem in summer: the heat in the workshop! There is a risk of dimensional inaccuracies and production losses due to machine breakdowns. Employees are also exposed to high temperatures and high humidity.

AFS has the right solutions for this: central extraction systems. Whether with an extracted air / recirculated air concept or with a supply air system, the air in the workshop is always exchanged simultaneously with the extraction and purification of the machine tool exhaust air. The result are stable processes, a good working atmosphere, low maintenance costs and satisfied employees.

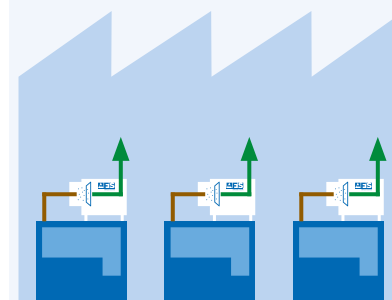


AIR PURIFICATION

DECENTRALISED SINGLE UNITS recirculating air only

High expenditure on additional workshop ventilation, thus

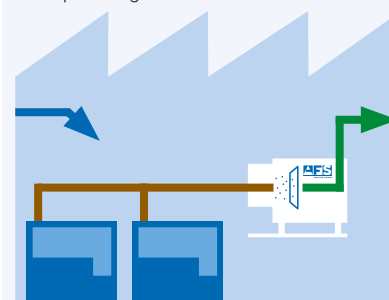
- High air quantities required
- High energy input



CENTRAL EXTRACTION SYSTEM with air exchange

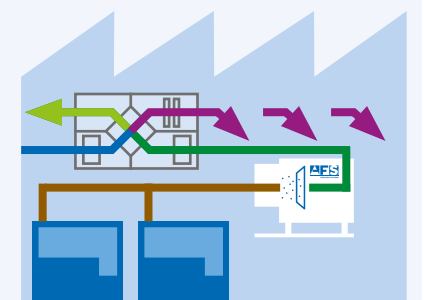
WITH EXTRACTED AIR / RECIRCULATED AIR

- Heat dissipation in summer
- Less energy required for optional external air conditioning¹⁾
- In winter, additional heating may be necessary
- Air exchange rate depending on operating mode



WITH SUPPLY AIR SYSTEM AND HEAT RECOVERY

- Heat dissipation in summer
- Less energy required for cooling¹⁾
- Complete air exchange all year round
- Conditioning of supply air possible (heating, cooling, humidification)



¹⁾ Compared to single units

CENTRAL EXTRACTION SYSTEM

WITH EXTRACTED AIR / RECIRCULATED AIR CONCEPT



- ① Suction piping
- ② AFS air purification unit
- ③ Silencer
- ④ Switch flap
- ⑤ H13 Filter box
- ⑥ Auffangbehälter
- Extracted air
- Purified air
- Exhaust air (purified)
- Recirculated air
- Outdoor air

EXTRACTION – AIR PURIFICATION – WORKSHOP VENTILATION

Whenever there are several machine tools in a workshop, this system is the more sensible alternative to individual units.

- A central air purification unit.
- Lower maintenance costs compared to individual units.
- Purified exhaust air can be discharged into the atmosphere as extracted air or fed back proportionally into the workshop as recirculated air.
- Increased process stability.
- Reduction of odours and relative humidity
- Pipework with flared pipe system:
 - Leakproof and oil-tight.
 - Modular principle.
- Can be extended by a supply air system at any time

CENTRAL EXTRACTION SYSTEM

WITH SUPPLY AIR SYSTEM AND HEAT RECOVERY



- 1 Suction piping
- 2 AFS air purification unit
- 3 Ventilation unit
- 4 Heat exchanger
- 5 HVAC system with heat exchanger
- 6 Collection container
- Extracted air
- Purified air
- Exhaust air (purified)
- Supply air (heating / cooling)
- Outdoor air

EXTRACTION – AIR PURIFICATION – WORKSHOP VENTILATION – HEATING – COOLING (OPTION)

Ideal for new buildings, renovations or as an extension to an AFS extracted air recirculation system.

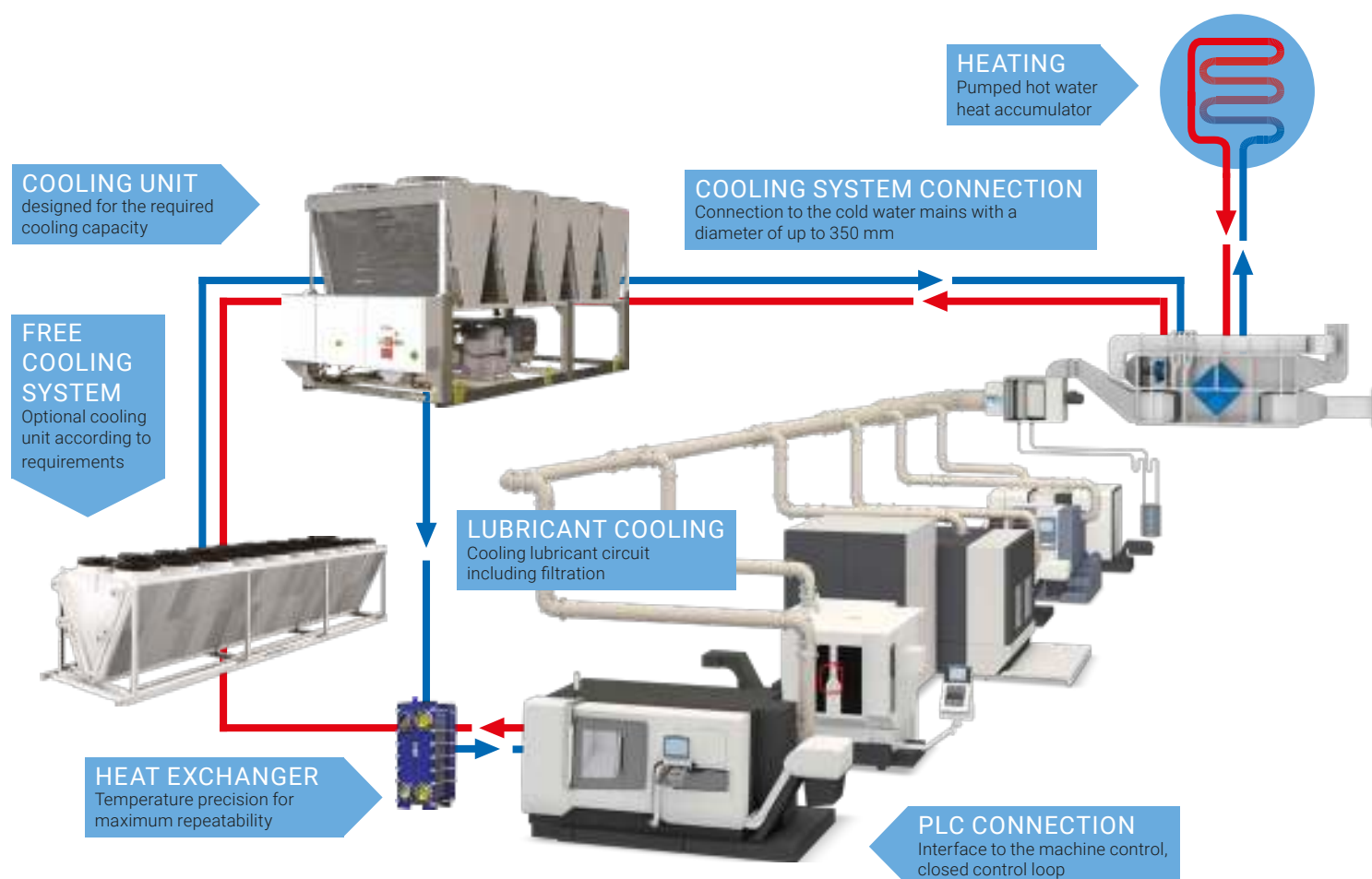
- Closed loop system.
- A central air purification unit.
- Purified exhaust air is completely vented to the outside all year round.
- Constant, complete air exchange.
- Reduction of odours and relative humidity.
- Outdoor air can be pre-heated in winter via heat exchangers.
- Recovery of the heat present in the extracted air (in winter).
- Increased process stability.
- Pipework with flared pipe system:
 - Leakproof and oil-tight.
 - Modular principle.
- Atmospheric cooling.

EXTRACTION, VENTILATION AND MACHINE COOLING

ONE SOLUTION WITH OUR PARTNER HSS GMBH

UP TO
70%
ENERGY
SAVING

Together with our partner HSS Industrietechnik GmbH Kälte- & Wärmetechnik, we create customised solutions that include air purification, workshop ventilation / air conditioning and machine cooling. They often enable investment and operating costs to be significantly reduced while maintaining constant production conditions.

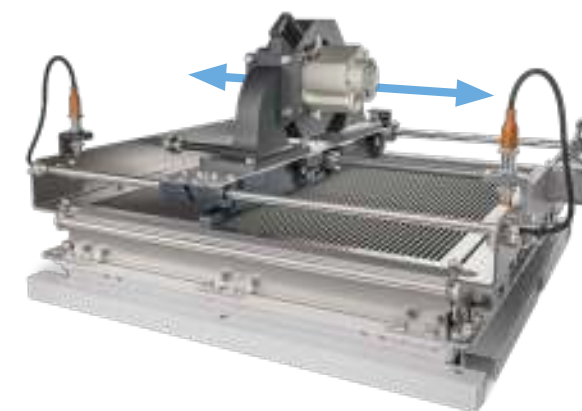


WEAR-FREE DUST SEPARATION

WITH THE AFS LBP SERIES

WITHOUT
FILTER
CARTRIDGES

The innovative AFS LBP dust separators remove dust from process exhaust air efficiently and without wear, even at high dust concentrations. Thanks to the HEPA H13-quality filter medium, air purity is achieved that meets the highest requirements – without the use of conventional filter cartridges.



ENERGY-SAVING AND LOW MAINTENANCE

When required, a cleaning carriage cleans the filter medium with high pressure. Depending on ATEX, this can even be done without interrupting the extraction performance. Cleaning is carried out completely without compressed air, which makes the operation particularly energy-efficient. This means you benefit from low operating costs and minimal maintenance.

POWER THAT GROWS WITH YOU

With a capacity of up to 1,500 m³/h per module, our AFS LBP-10S already offers powerful performance. Thanks to its modular design, it can be flexibly expanded at any time – for tailor-made solutions that meet your requirements..



THE INNOVATIVE HOSE CONNECTION

LEAK-FREE AND CLEAN

TWIST CONNECT

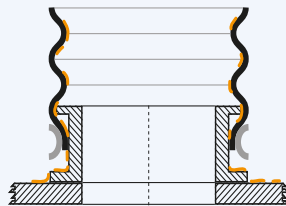
- Screw-in hose connection
- No leakage, no dripping
- No cooling lubricant spillage
- Quick installation
- Compatible with common flared pipe systems
- Clean solution
- High operational reliability
- Available in numerous diameters and variants

With conventional hose connections, the hose is pushed over a connector and secured with a clamp. However, spiral wires, vibrations and wear prevent a completely tight connection. Coolant can leak out, compromising cleanliness and operational safety. TwistConnect allows spiral hoses to be connected to machines and pipes in a form-fitting, reliable and permanently sealed manner. This prevents leaks and keeps processes and operations stable and clean.

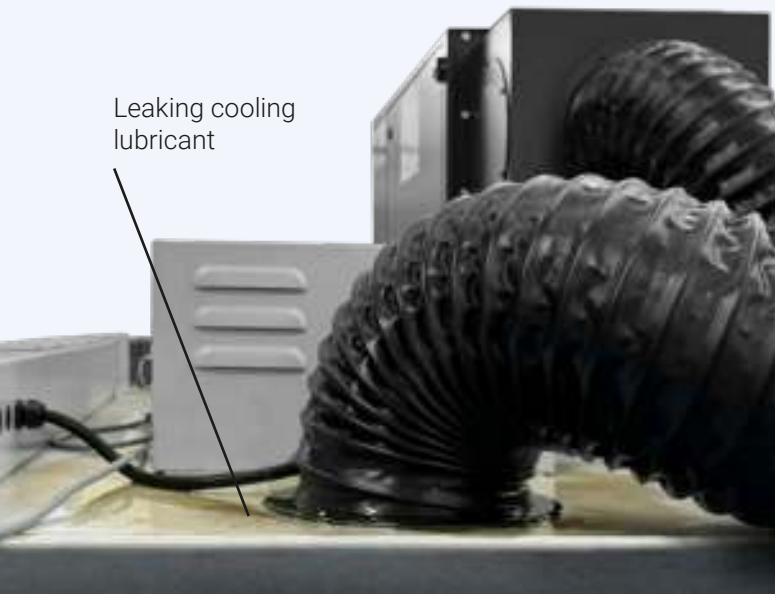
THE PROBLEM

The hose is attached to the outside of the connection piece.

- Cooling lubricant runs down the outside of the connection piece
- Contamination of the machine by cooling lubricant



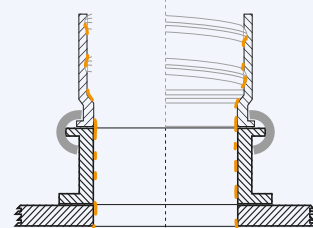
Leaking cooling
lubricant



THE SOLUTION

TwistConnect allows the spiral hose in place inside.

- Cooling lubricant flows at inside of the connector
- No contamination from cooling lubricant on the machine



OUR SERVICE FOR MORE SUSTAINABILITY

CLEAN INSTEAD OF DISPOSING

Filter elements and separators can be cleaned gently and thoroughly in our own washing machine and ultrasonic system. With our innovative cleaning processes the elements are then almost like new again. After a comprehensive quality check, the cleaned elements can be put back into your system.



MAINTENANCE

On request, we can offer you complete servicing and maintenance of the AFS air purification devices and systems as well as the HVAC systems. Whether regular maintenance, system overhaul, inspection or cleaning, we will be happy to take care of this for you. If you sign a maintenance contract with us, we will take care of organization, on-schedule maintenance, filter delivery, replacement and cleaning.

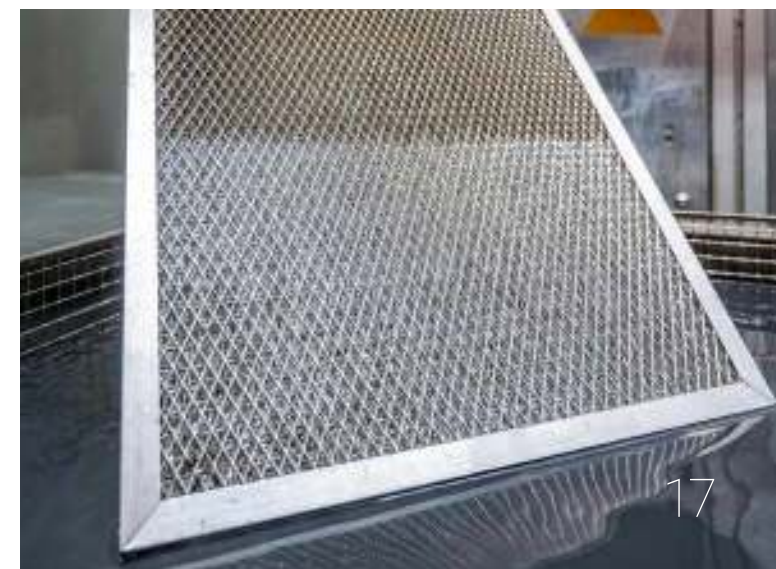


REPLACEMENT AND SPARE PARTS

All spare and wear parts for the AFS air purification devices and systems are available directly available to us. Most spare and wear parts are in stock and ready for dispatch within 1 to 2 working days.

ORIGINALS

The service life and functionality of the AFS air cleaning devices can only be guaranteed with AFS original filters guaranteed. Third-party filters are rarely suitable for use in machine tools.



WE TAKE CARE

DISCOVER OUR SOLUTIONS

GET HELP

Good is not good enough for us. We offer you numerous services relating to optimal air purification and air supply as well as specific energy concepts.

With us, you get ideal solutions – beginning from planning, till installation and to service. We organize a lot in the background and coordinate with other companies, so that you can concentrate fully on your day-to-day business. You can rely on us.

QUALITY

We set the highest standards for ourselves and the quality of our products. Resource-saving production with short supply chains by local suppliers and components from the region are top priorities at AFS. All AFS devices are assembled at our site in Übrigshausen and are subject to a 100% outgoing inspection before they leave our premises.

INNOVATION & DEVELOPMENT

With our team and many years of know-how, as well as in close cooperation with our partners, we are constantly working on improving our filters, air purifiers and systems in order to achieve even better separation rates with even lower energy consumption.

PLANNING

From the first inspection to the complete realization of air purification systems: We advise and support you even before the offer is made and develop specific concepts. The consideration of operational requirements, legal guidelines and environmental protection are the basis of every system.



INSTALLATION AND COMMISSIONING

We assemble the AFS air purification devices and systems with our own competent specialists. Customers benefit from professional and quick installation. AFS usually assembles the systems during ongoing operation without disrupting the production processes. Commissioning takes place immediately after assembly.

AFS AS GENERAL CONTRACTOR

As general contractor for AFS air purification systems, we take care on the entire project management. Our AFS engineers coordinate the construction process, assembly and commissioning and coordinate closely with any other companies involved in the project.

RESPONSIBILITY

DRIVES US TO ACT

SUSTAINABILITY, CLIMATE

We are a certified Klimafit-company. Since 2023, we have been calculating our annual carbon footprint in order to transparently record emissions and continuously reduce them. Our photovoltaic system produces more electricity than we consume ourselves. We are clearly committed to our region and "made in Germany". The majority of our suppliers come from the surrounding area, which means we support short supply chains and a strong local economy. Treating each other with respect is just as important to us: we promote diversity, respect the rights of minorities and are committed to fair and social standards, not only in our supply chain. In this way, we combine ecological commitment with social responsibility – for a future worth living.



SOCIAL COMMITMENT

As an owner-managed, medium-sized company with local roots, we feel particularly connected to our region and the local people. Thus, supporting social projects outside of premises everyday work is a very important and self-evident factor for us.





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