



FILTOVER

THE HALL VENTILATION SYSTEM FOR EXTRACTING
WELDING FUMES, DUST & OIL MIST

www.esta.com/en/filtower

FILTOWER hall ventilation system

Unique: the filter tower technology from ESTA

The FILTOWER series is the ideal solution if source collection of fumes, dust or oil emulsion mist alone is insufficient or direct collection is not practical when working on large or complex workpieces. Available in three performance levels, the towers ensure noticeably improved air quality, depending on the size of the hall.

Plug & Play: Quick and easy to install

The filter towers do not need a pipe system and can be put into operation in no time at all according to the "plug & play" principle: set up, connect electrical power and compressed air, and you're done! And because the towers can be arranged flexibly in the production areas, they are highly suitable for changing workplaces

Layered ventilation principle: Saves heating costs

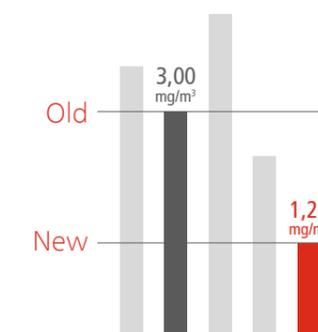
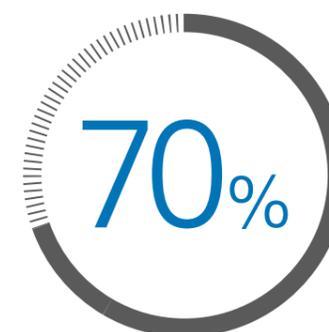
FILTOWERS from ESTA work according to the principle of layered ventilation recommended by the trade associations: they suck in the polluted air at the top of the system, filter it and conduct it directly into the working areas as clean breathing air, close to the floor, with minimal drafts. Thanks to the complete recirculation of the purified air, companies save up to 70% on heating costs in the cold season.

Dust limit values firmly under control

FILTOWER hall ventilation systems offer a twofold advantage: they effectively improve air quality for employees in production areas and make an important contribution to complying with the statutory dust limit values. In practice, the filter towers have often proved a useful support for existing extraction devices, after the General Dust Limit Value for alveolar dusts pursuant to TRGS 900 was drastically tightened up.

- 3** Various Applications
- Various performance Levels

FILTOWER-F	– Welding fume
FILTOWER-D	– Dust
FILTOWER-L	– Oil- & Emulsion mist
FILTOWER-100	– 12.000 m ³ /h
FILTOWER-160	– 17.000 m ³ /h
FILTOWER-200	– 22.000 m ³ /h



More powerful, more energy efficient and quieter than ever

The new ESTA filter towers are equipped with EC fans as standard, so that they are among the most powerful, energy-efficient and quietest towers on the market.



Highly efficient & economical

Users can regulate the extraction power as needed. This reduces the power consumption of the towers significantly. Compared to commercially available filter towers, which are equipped with radial fans, FILTOWERS achieve power savings of up to 50%.



Low operating noise

ESTA also sets new standards in terms of noise level thanks to optimised air circulation and particularly quiet fans: at a maximum of 70 dB (A), FILTOWERS are extremely quiet in operation and thus ensure a pleasant working environment.



Top-Performance

The new generation is available in three power levels up to a maximum airflow of 22,000 cubic metres per hour.

ESTA EASYCONTROL SYSTEM CONTROL

ESTA's own EasyControl control system allows efficient and controllable operation of the systems for all versions of the filter tower, assuring optimal processing of the sensor signals.



Multi-stage filter system. The result: pure air

1

Extraction of polluted air

2

Simple filter change thanks to the ESTA quick-change filter system

3

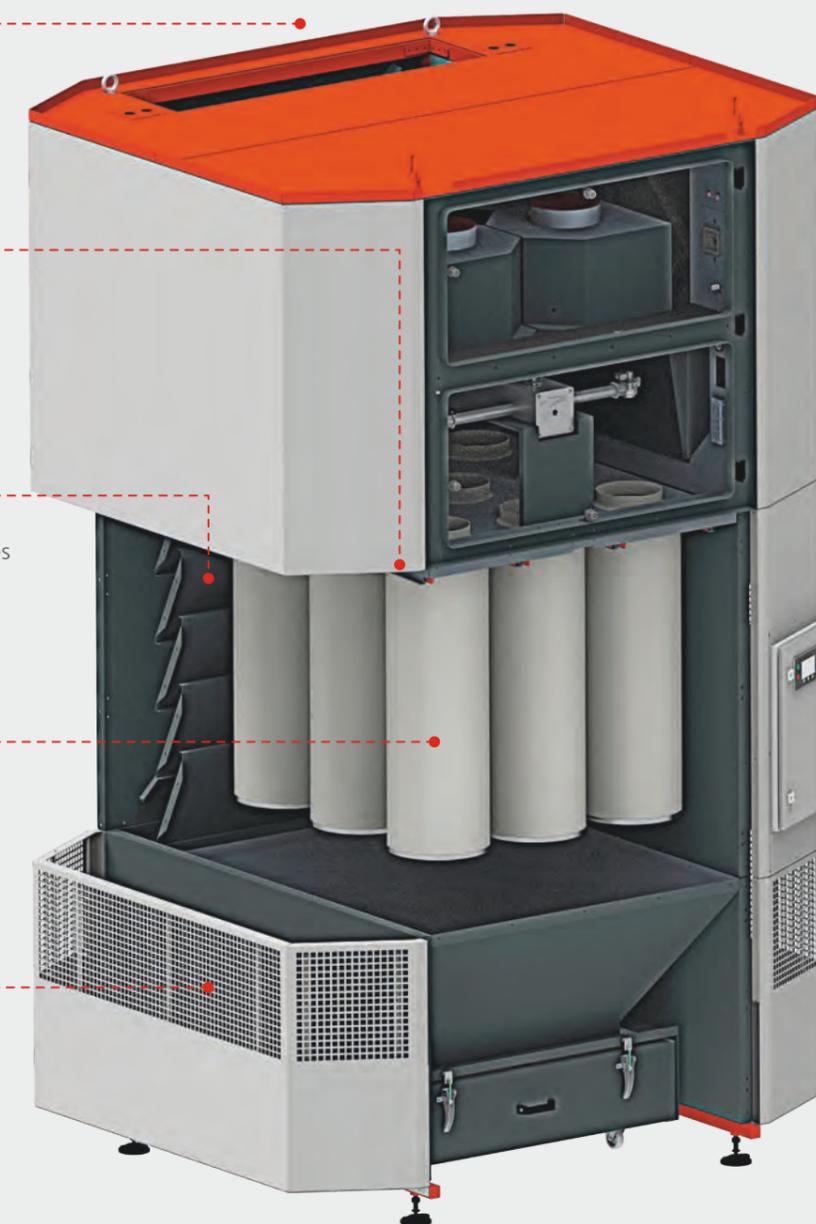
Pre-separation system for the filtration of coarse particles

4

Main filtration with separation efficiency 99.95 %

5

Low-draft clean air return



Fast installation, easy handling – the focus is on production

Housing construction

The sound-insulated housing construction and the low-draft clean air outlets ensure a pleasant working environment, even directly at the system.

Filter change system

The new **ESTA QuickChange filter change system** ensures dust-free and time-saving replacement of the filter cartridges.



Cleanable filter cartridges

The durable polyester spun-bonded fabric filter material is cleaned of adhering debris fully automatically by means of compressed air during extraction, resulting in low operating costs. This achieves continuous extraction at low operating costs.



Fans



The new generation filter towers are equipped with highly efficient EC fans for controllable and thus energy-saving system operation.

Intuitive control



The heart of the control system is the ESTA EasyControl system. It allows efficient device operation with optimal processing of sensor signals.

Dust removal



After the filtration process, the separated dust particles fall into a mobile 160 litre drawer below the filter chamber. Two collecting boxes inside are sealed with a lid before removal, which ensures low-dust disposal of the extracted material.* A new, additional collection container collects coarse particles and sparks to protect the main filter and minimise the risk of filter fires.

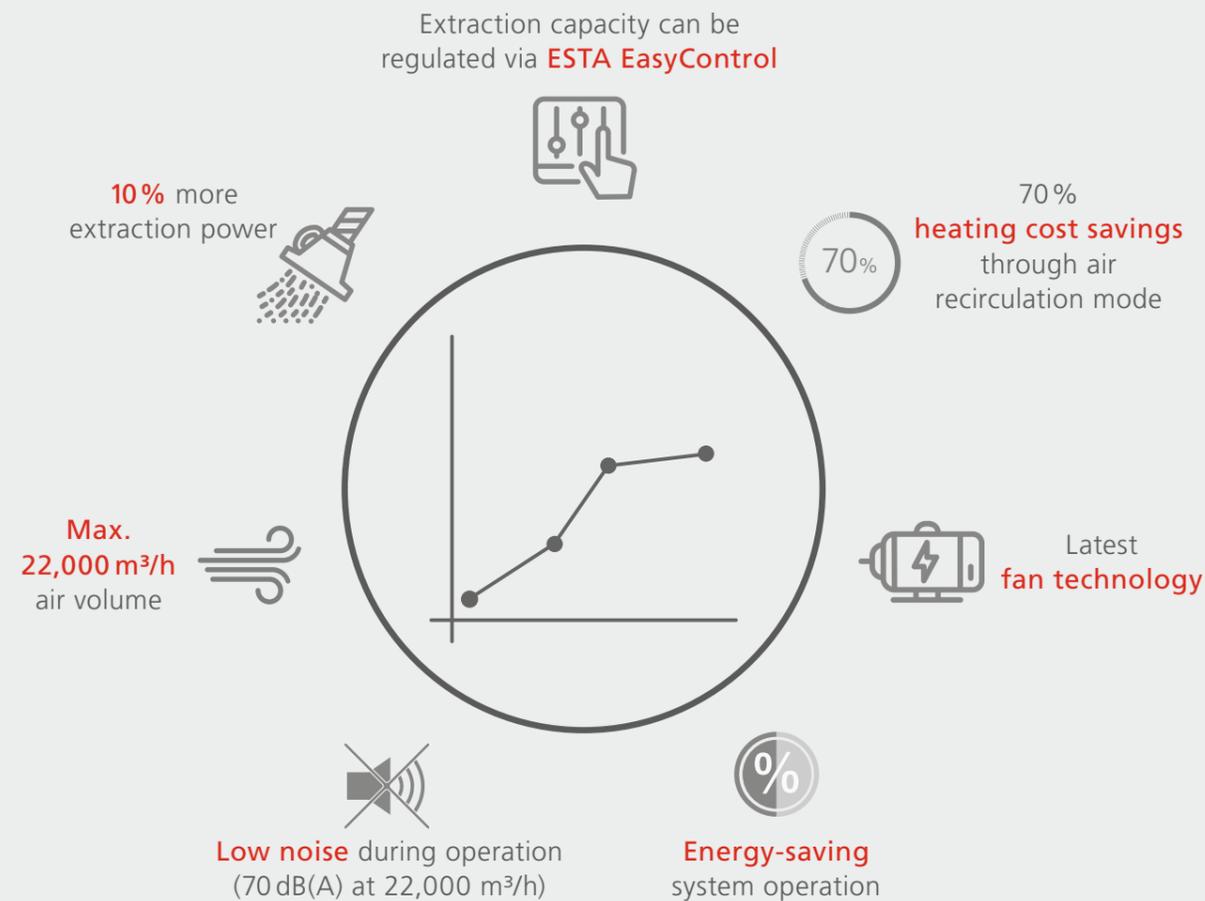
* Depending on device version

The original filter tower from ESTA

- » Flexible use for welding fumes, dust and oil emulsion mist
- » Better air quality for all employees in production halls
- » Supports compliance with the legally prescribed dust limit values
- » Controllable, energy-saving system operation thanks to highly efficient EC technology
- » Power savings of up to 50 % thanks to ESTA EasyControl control system
- » Powerful, with up to 22,000 m³/h air volume flow
- » Low noise during operation
- » Up to 70 % heating cost savings through recirculation mode
- » Plug & play filter tower: set up, connect electrical power and compressed air – done!
- » No pipe installation and assembly work necessary
- » Low operating costs thanks to cleanable permanent filter cartridges



Improved performance



FILTOWER eco⁺

The highest level of efficiency.

When it comes to the energy efficiency of extraction systems, the eco + series is a real trailblazer: The integrated ESTA EasyControl device control system, combined with sophisticated sensor technology, ensures sustained energy efficiency during extraction operations.

The eco + filter towers do not permanently resort to the maximum possible output, but conform strictly to the currently required air volume flow. Thanks to intelligent sensors and measurement of the volume flow, they automatically adjust performance based on the operating parameters.

Result: A power saving of up to 50 % compared to extraction systems with conventional device control. This reduces operating costs significantly.

These advantages are offered by the FILTOWER eco⁺:

- » Automatic regulation of extraction power by means of dust sensors
- » Residual dust and filter breakage monitoring
- » Collection container level measurement
- » Energy-efficient system operation
- » Timer
- » Fire sensor with extinguishing system



FILTOWER 4.0

Intelligently networked into the future.

The hall ventilation system in the Industrie 4.0 version has integrated network and protocol functions and can thus be perfectly incorporated into a 4.0 environment. This is implemented by any data connection such as LAN, WLAN or LTE. Users can then access and monitor the most important operating data such as air flow, operating hours or filter status at any location – including via tablet and smartphone.

In this way, companies proactively avoid machine breakdowns that could lead to a standstill in the entire production chain. The measuring data also shortens the time spent troubleshooting by service technicians. And spare parts procurement can also be planned more efficiently.

The result is that operating costs are considerably reduced. In addition, all measuring and operating data are permanently logged.

We offer you predictive maintenance together with our partner Advanced Industry Analytics. Contact us at: esta@industry-analytics.com.

These advantages are offered by the FILTOWER 4.0:

- » Simple coupling of the filter tower to company-specific network infrastructure via LAN / WLAN
- » Remote access and monitoring of all operating data worldwide possible, including by the user himself
- » Reduction of the risk of malfunction by permanent logging and monitoring of operating parameters
- » Reduction of maintenance and service costs by remote monitoring and maintenance



FILTOWER ecotemp



Cleans, cools or heats the hall air at the same time.

With the ecotemp filter towers, users regulate the temperature of the filtered air themselves. Depending on the season, cool or warm air flows back into the working area. The ecotemp version is the optimal solution especially for production areas with a high heat load, such as CNC turning or milling centres: companies benefit from noticeable energy savings, and employees from comfortably air-conditioned work areas all year round.

The cooling air flow also has a positive effect on the machine, tool and parts temperature in terms of productivity and precision. In winter, the ecotemp filter towers provide warm return air. This is particularly useful for companies with frequently opened hall doors or insufficiently insulated workshops.

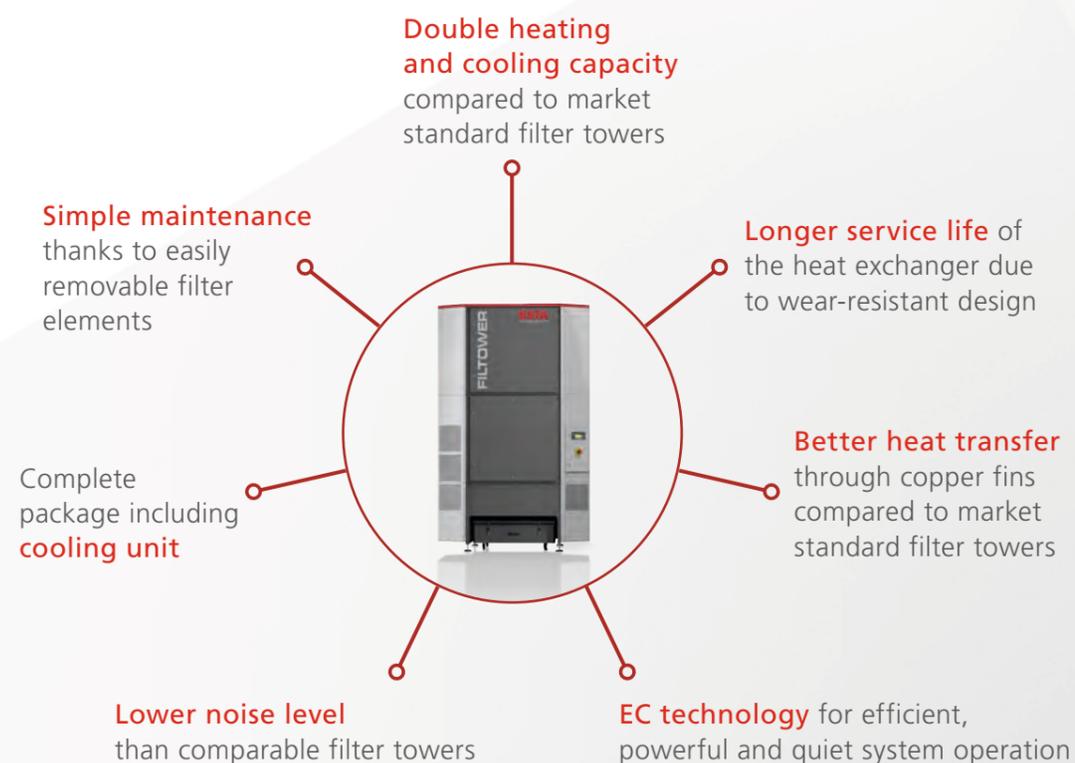
We are happy to help you with the best and most optimal design of your cooling capacity – based on VDI 2078.



FILTOWER ecotemp

These advantages are offered by the FILTOWER ecotemp:

- » Clean and comfortably temperature-controlled workshop air
- » Two finned heat exchangers cool or heat the filtered air as needed
- » Infinitely variable temperature control
- » Supports existing air conditioning and heating technology for additional energy savings
- » Environmentally friendly and safe: water circulation system and no need for coolant, connection: 2 × 1 inch
- » Low maintenance due to installation of the heat exchanger on the clean gas side
- » Drain valves for condensate
- » Stainless steel drip tray
- » Low pressure loss due to large surface area of the heat exchangers



References

Wilhelm Siebelist GmbH & Co. KG, Plaue Metal Industry/Precision Turning

- » Two FILTOWER ecotemp with separate Euro cooler
- » Emission: oil mist
- » 30% state subsidy



„The workshop climate improved significantly last summer and we were able to maintain our process efficiency at a high level.“

Michael Marquardt, Managing Director



Dr.-Ing. Ulrich Esterer GmbH & Co. KG, Helsa Mechanical engineering/vehicle bodies and plants

- » Three FILTOWERS with heating function
- » Emission: welding fumes
- » 30% state subsidy

Pfaff Industrial, Kaiserslautern

Sewing and welding technology/
industrial sewing machines

- » FILTOWER
- » Emission: welding fumes
- » 30% state subsidy



„We are very satisfied with the products and service, and in ESTA, have a supplier who can assist us with all the different applications we have.“

Helmut Pfänder

Head of maintenance, environmental protection, occupational health and safety and operational safety

FILTOWER series at a glance

	Standard	eco ⁺	4.0
ESTA QuickChange filter change system	●	●	●
Jet pulse filter cleaning	●	●	●
Fans with IE3 motor drive	●	●	●
ESTA EasyControl control system	●	●	●
Simple volume flow control	●	●	●
Timer	●	●	●
Automatic regulation of extraction power by means of dust sensors	×	●	●
Residual dust and filter monitoring	×	●	●
Dust collection container level measurement	×	●	●
Digital installation aid	●	●	●
Operating data recording	×	○	●
Remote maintenance and control by LAN/WLAN	×	×	●
ecotemp*	○	○	○

● = included ○ = optional × = not included



Technical Data

		Series 100	Series 160	Series 200
Max. Airflow	m ³ /h	12,000	17,000	22,000
Voltage	V	400	400	400
Motor	kW	2 × 3.7	4 × 3.7	4 × 3.7
Filter surface	m ²	100	160	200
Filter elements	Piece	9	9	9
Dust collection container l		160	160	160
Dimensions (L/W/H)	mm	1,790 × 2,090 × 3,020	1,790 × 2,090 × 3,420	1,790 × 2,090 × 3,820
Weight	kg	1,200	1,400	1,500
Sound emission	dB(A)	63	66	72

FILTOWER F 100	FILTOWER F 160	FILTOWER F 200
eco ⁺	eco ⁺	eco ⁺
ecotemp	ecotemp	ecotemp
4.0	4.0	4.0
ecotemp + 4.0	ecotemp + 4.0	ecotemp + 4.0
With test certificate W3*	With test certificate W3*	With test certificate W3*

FILTOWER D 100	FILTOWER D 160	FILTOWER D 200
eco ⁺	eco ⁺	eco ⁺
ecotemp	ecotemp	ecotemp
4.0	4.0	4.0
ecotemp + 4.0	ecotemp + 4.0	ecotemp + 4.0

FILTOWER L 100	FILTOWER L 160	FILTOWER L 200
eco ⁺	eco ⁺	eco ⁺
ecotemp	ecotemp	ecotemp
4.0	4.0	4.0
ecotemp + 4.0	ecotemp + 4.0	ecotemp + 4.0

* For extracting welding fumes from high-alloy steels

ESTA – the specialist for extraction technology

ESTA extraction technology has been providing comprehensive solutions for all application areas for more than 45 years. From individual devices for a wide variety of purposes to complex extraction systems – we ensure a consistently clean working environment.

This protects machines, serves to keep your employees healthy and creates the conditions for efficient and quality-oriented working.



HIGHEST QUALITY

We manufacture and test our extraction devices and filter systems subject to the strictest quality criteria at our headquarters in Senden (Bavaria). All our products are certified according to ISO 9001, so we can continuously guarantee you the highest quality.



45 YEARS OF EXPERTISE

With 45 years of experience and over 125,000 installations and extraction systems worldwide, ESTA is your competent partner for clean air at the workplace. We are one of the leading manufacturers of extraction technology thanks to our wide range of standard equipment, but also our tailor-made solutions.



TECHNOLOGY PIONEER

Our passion is smart extraction technology that meets all your needs. Through permanent monitoring of the system parameters, the ESTA EasyControl control system developed by us allows optimal operation and, for example, predictive maintenance.



RESPONSIBILITY (CSR)

We have made sustainable business, namely, the right balance of economy, ecology and social issues, our primary task. That's why, for example, we invest continuously in the development of resource-efficient products and are involved in numerous environmental initiatives.

What sets us apart



COMPETENT CONSULTING & PLANNING

In addition to comprehensive professional advice, a design that is tailored precisely to your individual requirements is important. Our engineers use state-of-the-art software to produce detailed 3D drawings that are exactly tailored to your application.

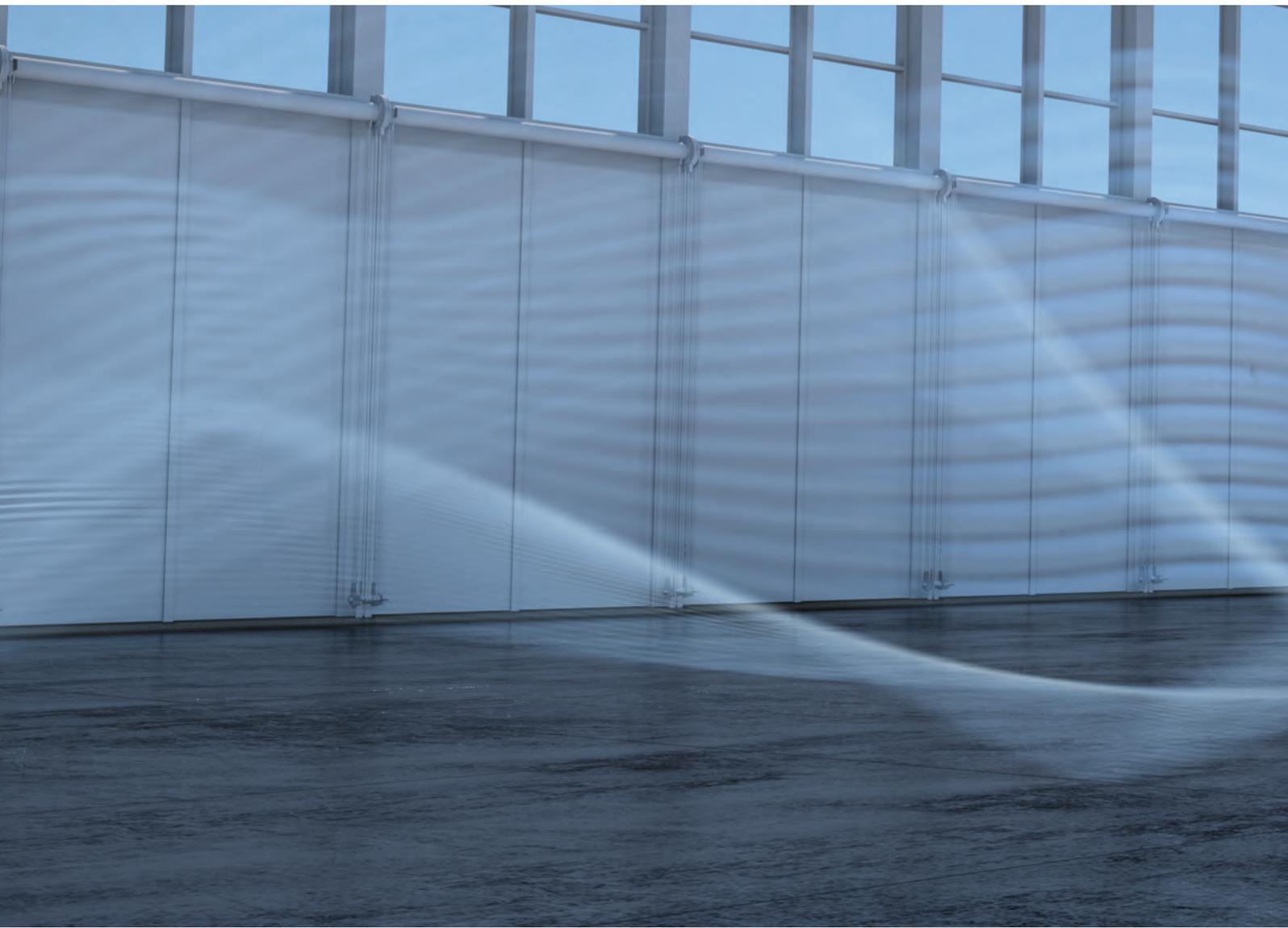


AFTER-SALES-SERVICE

The ESTA service team reliably ensures that your extraction system delivers consistently optimal results. We guarantee this through our comprehensive after-sale service, such as long term support, a competent maintenance service and an extensive stock of spare parts.

ESTA

THE WORLD OF EXTRACTION



ESTA Apparatebau GmbH & Co. KG

Gotenstraße 2–6

89250 Senden/Germany

Phone +49 73 073 40 96 80-0

Fax +49 73 07 804-500

E-Mail info@esta.com

www.esta.com

