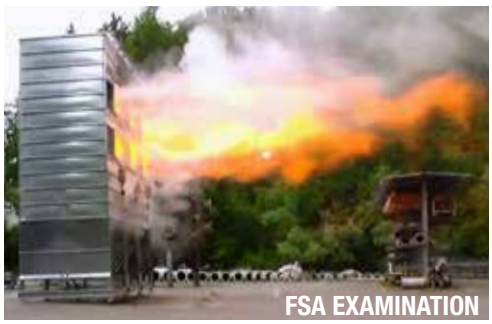
For the safety of your company and your employees

FIRE AND EXPLOSION PROTECTION for extraction and filter systems



FSA EXAMINATION

Schuko

Dust extraction and filter technology

SAFETY IS NO COINCIDENCE

Dust and chips made of wood, plastic, paper, mixed materials such as CFRP and GFRP as well as metal are one thing above all: flammable and explosive! For this reason, extraction and filtration systems must always be planned and built safely.

The general conditions for this is provided by laws, regulations and standards, such as **DIN EN 12779** and **DGUV 209-045**.
Considering the fire protection zones, ignition protection types, as well as the specific use of various technical fire and explosion protection solutions, we always plan and build to suit the customers specific needs.

With every system planned, we pay meticulous attention to the safe construction of all necessary components as early as the project and quotation phase. We support you, as the operator and user of the system, in fulfilling all obligations, regulations and standards - for the safety of your system, your employees and your company.

The systems, components and parts listed hereinafter comply with the current regulations, which must be observed when planning and implementing extraction and filter systems in your production area.

Fire and explosion protection are obligatory for you as the operator and for us as the manufacturer of your extraction and filter system!

FIRE PROTECTION

For the extraction of fire-hazardous or explosive types of dust as well as gases and vapours, an investment in filter systems with constructive fire and explosion protection is unavoidable for occupational and operational safety. Our fire protection policies are examined in more detail below:

1

EW90 FILTER HOUSING

Reduction of fire risk due to fire-resistant housing according to fire resistance class EW90 (analogous to fire resistance class F90).

2

DRY EXTINGUISHING LINE

A dry extinguishing line with a standardised coupling is installed at an easily accessible point on the filter.
The fire brigade can simply connect a fire hose here to extinguish a fire in the filter room via the pre-installed sprinkler system.

3

SMOKE DETECTOR

Sensitive sensors detect smoke and report developing fires at an early stage, this renders the system inoperative.

4

SPARK EXTINGUISHING SYSTEM (OPTIONAL)

The system is used for preventive fire and explosion protection. It detects ignition sources in the ducting and eliminates them at an early stage by extinguishing them before they reach the filter system (see page 5).

5

FIRE PROTECTION FLAP

In the event of fire or explosion it automatically closes the return air ducts, thus preventing the transmission into the factory or workplace.

6

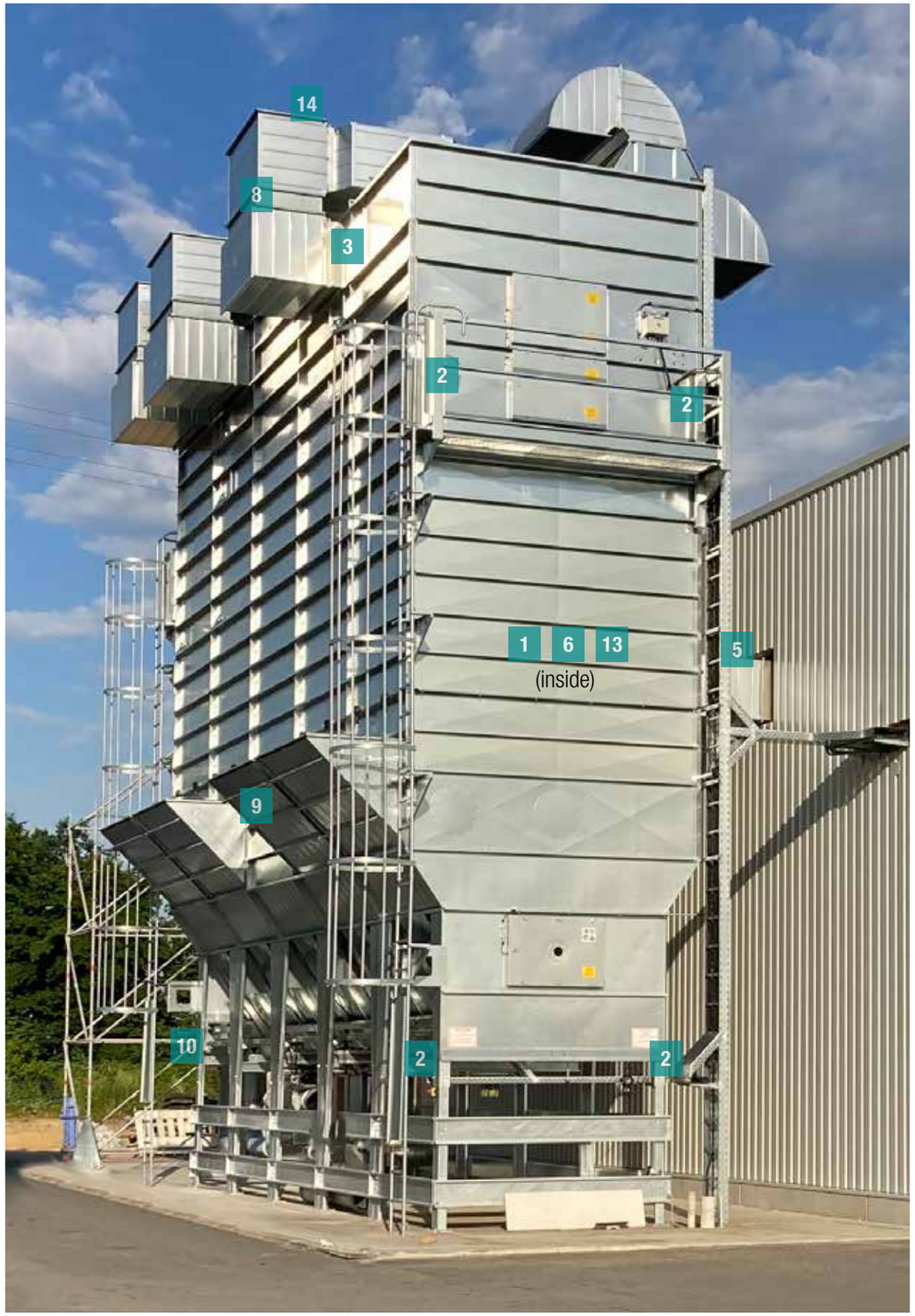
BACKFLOW FLAP

It prevents dust and chip material from flowing back into the ducting and thus serves to prevent an increased risk of fire and explosion due to deposits.

7

FIRE PROTECTION COLLECTION / CONVEYOR SYSTEM CLOSURE

In the event of a fire, it serves to seal off the pipeline if it passes through different fire compartments. The fire can no longer spread through the ducting. (Not on photo)



EXPLOSION PROTECTION

According to the regulations, extraction and filter systems must always be built to withstand the pressure rebound! The filter must withstand the pressure rebound in the event of an explosion, in order to protect people and the environment from flying debris and the pressure rebound. The following points show the Schuko policies for explosion safety:

8

Two 90-DEGREE DEFLECTIONS

To prevent the explosion pressure from penetrating into the working spaces, two 90° deflections of the return air ducts ensure direct pressure decoupling.

9

PRESSURE RELIEF SURFACES

In the event of an explosion, they ensure controlled and targeted dissipation of the pressure wave and the subsequent flame front.

10

ATEX ROTARY VALVE

The ATEX-certified rotary valve is used to decouple pressure and explosion decoupling, so that the downstream disposal component is also separated from the system.

11

FILTER PRESSURE MONITOR

It is used for permanent monitoring and indication of pressure conditions in the filter system, which may increase, for example, due to heavy contamination, saturation or wear of the filter material. (Not on photo)

12

ATEX PIPE CHECK VALVE

It is used for explosion decoupling of the ducting and prevents pressure rebound. (Not on photo)

13

ANTISTATIC FILTER MATERIAL

It prevents the formation of dangerous ignition sources, which can be caused by an electrostatic charge or discharge of the separated dust particles. Particularly important, as the filter is generally subject to ATEX Zone 21.

14

RESIDUAL DUST CONTENT MONITORING

It constantly monitors the dust concentration in the return air. If this deviates from the setpoint (e.g. in the event of filter breakage), the filter system is switched off to prevent unhealthy return air and the risk of explosion.

RESPONSIBILITY FOR YOUR SAFETY

A SECURE BUSINESS

- is security for you, your family and your employees
- is profitable in the long term with calculable risk
- is the basis for your success and your future security
- is perceived as an attractive employer

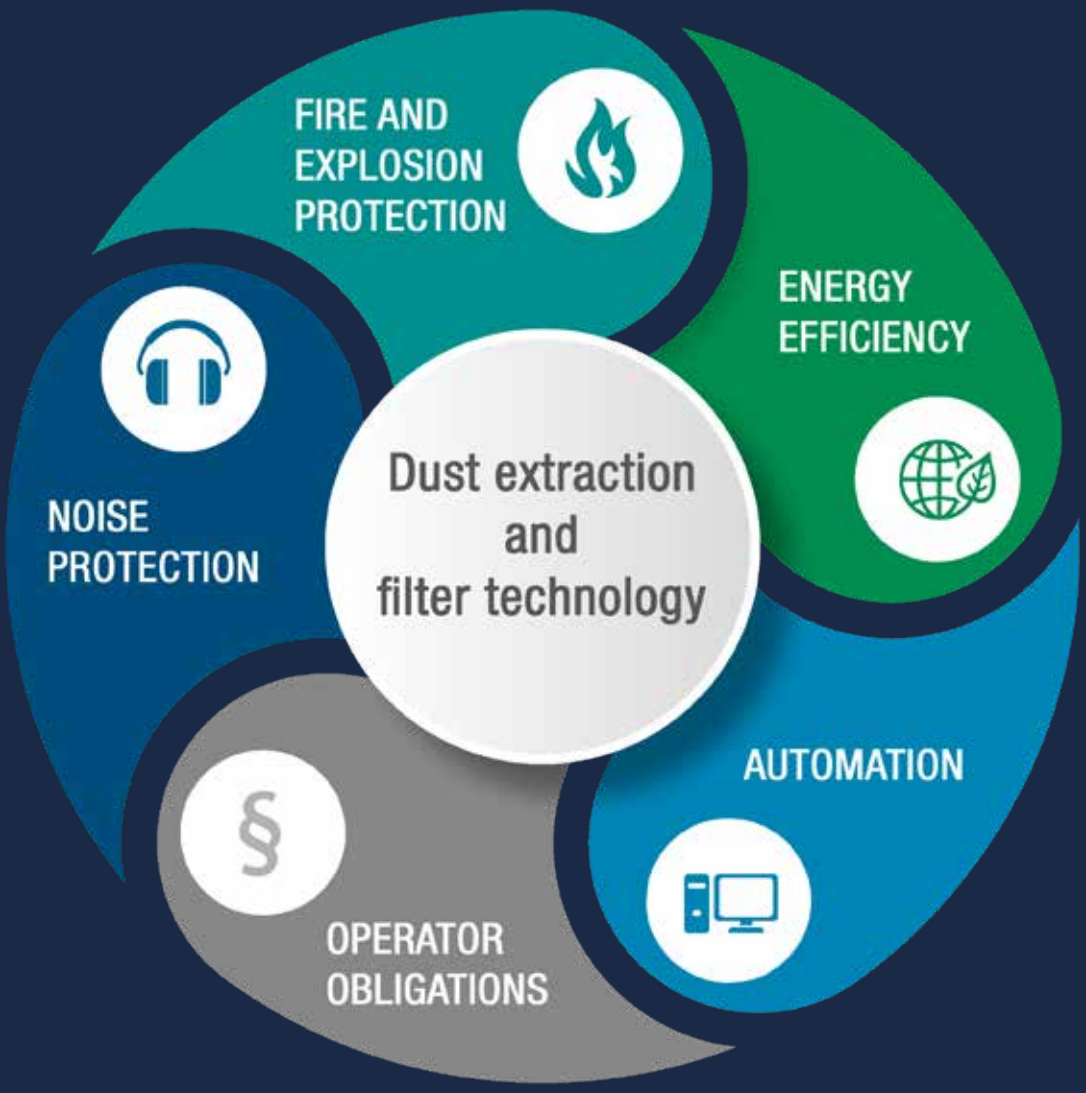
SAFETY REDUCES COSTS

- lower insurance premiums
- lower level of damage in the event of a loss event
- lower risk of breakdown - operational safety of your production

Compliance with safety regulations

- supports and fulfils your operator responsibility
- fulfils the legal requirements
- safeguards you in your dealings with authorities and control institutions
- gives you legal security for the operation of your facility

There is not just one reason to talk to Schuko about fire and explosion protection - there are many!



YOU CAN COUNT ON US

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Printed in Germany /2023/07/01/Technical changes and errors excepted.
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