



# Industrial extraction systems

Effective removal of substances – right where they occur

About us

Core competence

Engineering & consultancy

Extraction systems

Centralised dust extractor systems

Engineering... Production... Assembly... Maintenance... **Worldwide!**

## MOTEC®-customers can relax

- Engineering
- In-house production
- Assembly
- Maintenance

### Controlled vortices for effective flow management

Our customers are among the most relaxed people you can meet. Because they know that we are always there for them.

MOTEC® is proud of its know-how and expertise gained over the last 20 years in the field of substance concentration reduction in product plants. Today, MOTEC® is a strategic, authorised supplier of many globally operating industrial corporations.

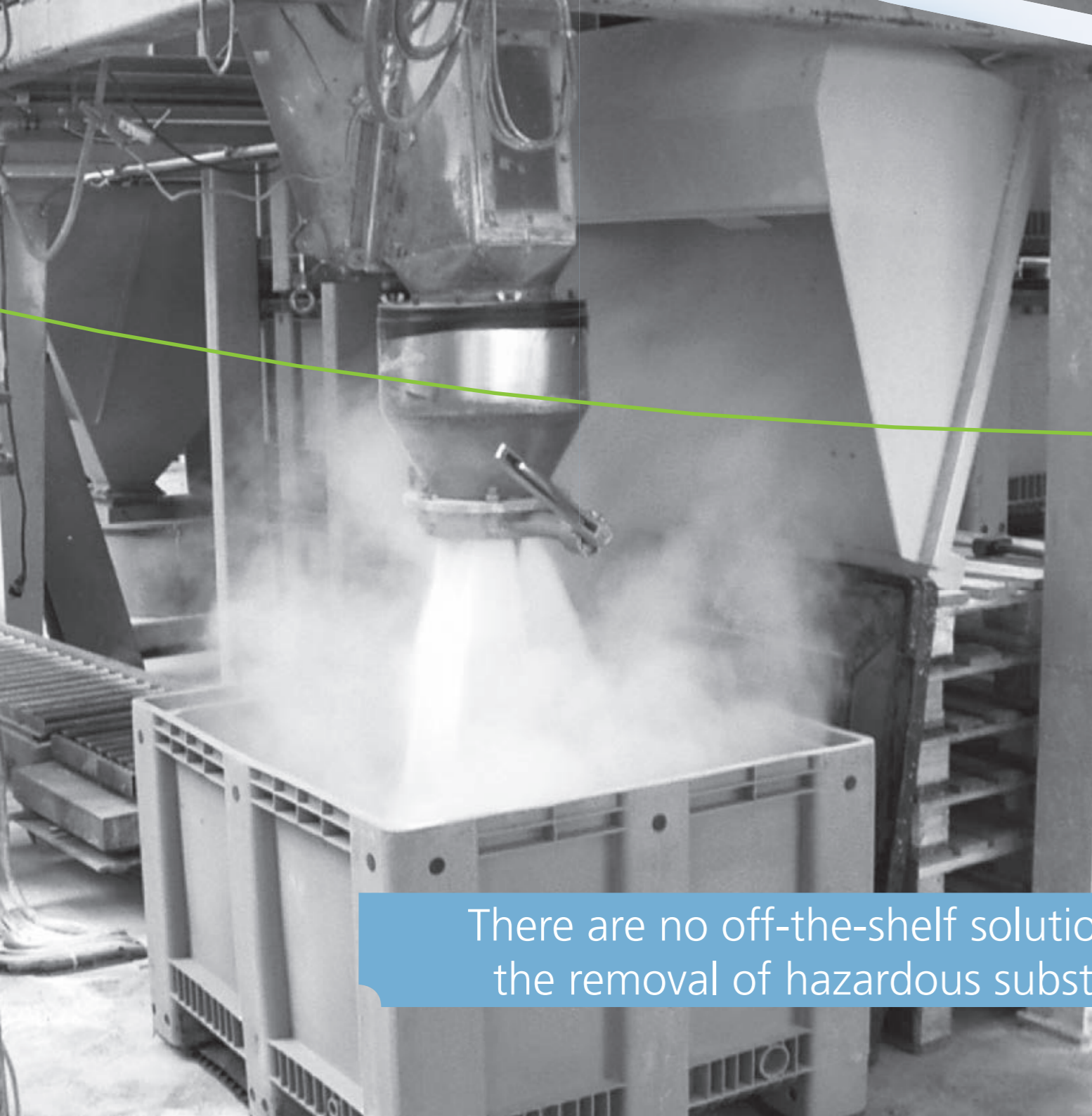
The company's strengths reveal themselves in its solution-oriented systems that are implemented to the highest standard on site. MOTEC® extraction systems are safe, designed for heavy-duty operation and incorporate many advanced features. The company handles all steps from planning to production, installation on site to maintenance. Many MOTEC® units have been setting new standards – for example in the chemical industry, in battery production, the food-processing sector or the building material industry. The highly qualified engineers, electrical technicians and fitters working for MOTEC® are used to talking with industry specialists from many different sectors. You can thus be rest assured that you will be given all information and data you need before you decide to install one of our solutions.

**We look after your dust problems –  
while you save time and money.**

# ABOUT US

- Chemical industry
  - Battery production
  - Food-processing industry
  - Building material industry
  - Bulk material handling
  - Plastics processing
  - Pharmaceutical industry
  - Civil engineering
- etc.

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Centralised dust  
extractor systems



There are no off-the-shelf solutions for the removal of hazardous substances

# CORE COMPETENCE

**MOTEC® systems are installed right at the point where substances are emitted.**

What is more: MOTEC® never pretends that there is an off-the-shelf solution available for your specific extraction task. The effective and efficient removal of substances (solid, liquid or gaseous) requires customised solutions that are best installed at the point where these substances first occur.

Optimised intake elements guarantee that substances are removed as quickly and effectively as possible. What is more: they also ensure best energy efficiency and minimum interference with the actual production workflow.

MOTEC® units are high-end products based on advanced flow and vortex control technology.

This has many obvious advantages:

- Low energy consumption
- No need for full encasing of all equipment
- No or only minimum deposits
- Less servicing and cleaning
- Compact design as the units do not include unnecessary standard filter systems
- Cost savings thanks to material re-use (if possible)

**Custom-engineered MOTEC® solutions are more efficient and economical.**

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Planning is only the first step.

**We offer advice. We produce.  
We assemble. We excite.**

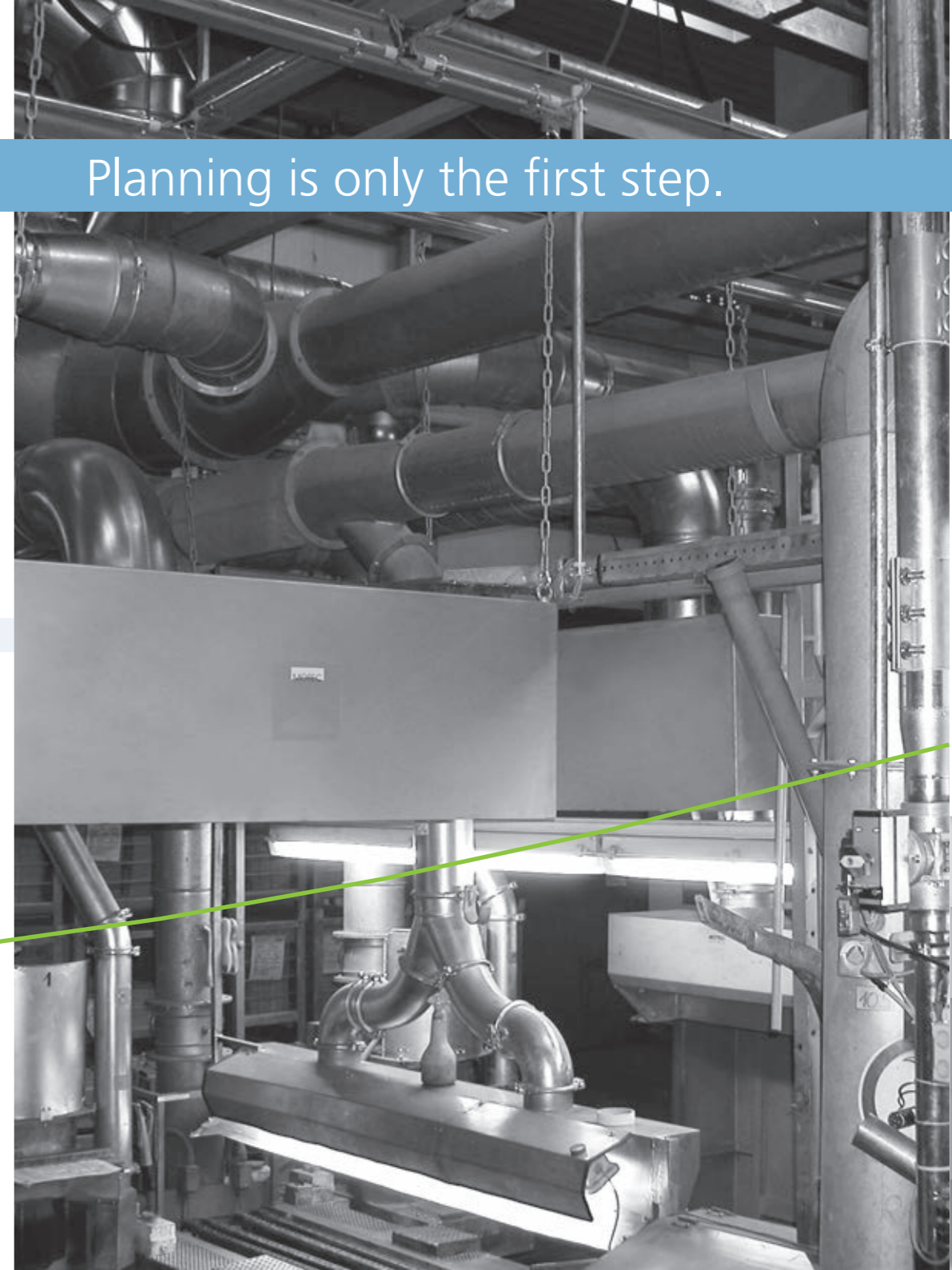
Visionary engineering and stringent quality requirements are at the heart of our corporate culture. It is our aim to provide customers with top-quality products and services that offer them the greatest possible benefit.

We therefore endeavour to identify and analyse potential problems before they actually occur so that we can devise a customised solution to effectively prevent them. During the initial planning phase of a project, we therefore discuss all issues and requirements with the customer and evaluate all aspects of the actual production environment.

**MOTEC® plans and designs customised solutions, produces the documentation for approval and then builds the plant:**

- Ventilation units
- Customised extraction solutions for production plants
- Centralised vacuum extraction units
- Vacuum conveying systems
- Dust removal units
- Air supply and extraction systems, clean rooms
- Production of complete documentation for approval procedure
- Planning of complete plants
- System modifications
- Investment advice

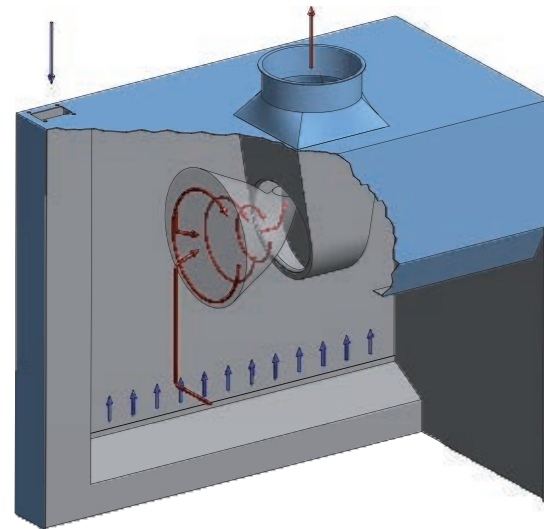
# ENGINEERING & CONSULTING



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## Intake, filtration, air supply

### From individual components to comprehensive extraction systems



Principle behind vortex extraction hood

#### Intake elements/hoods

Effective control of the extracted substances begins with their collection in a suitable hood. MOTEC® intake elements are designed according to the vortex principle.

By controlling the air flow in a clever manner, even micro particles can be effectively taken in by vacuum and extracted. MOTEC® intake elements are normally much smaller than conventional intake systems, consume less energy and work much more efficiently.

#### Extraction unit with filters

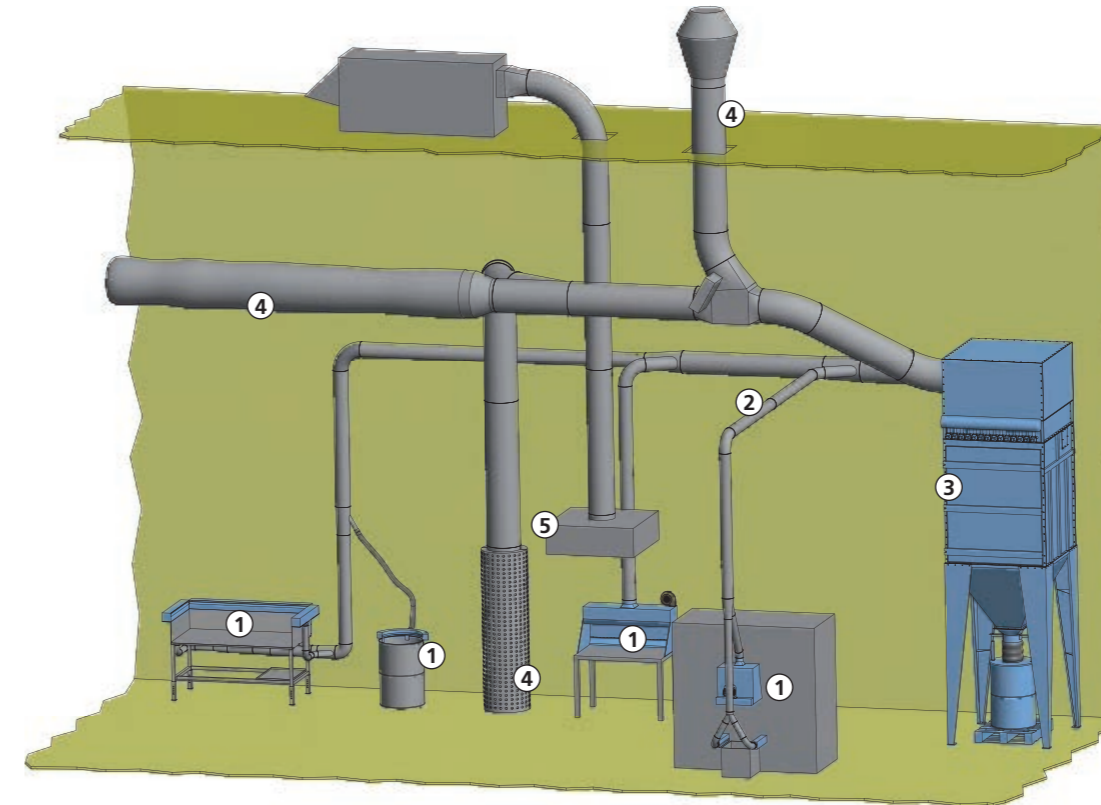
MOTEC® filter units are individually designed depending on the substance to be removed and the statutory requirements in the country of installation. Where required, they are designed to conform to the relevant explosion protection standards and regulations.

In its 500 sqm warehouse, MOTEC® keeps a stock of virtually every consumable and spare part for just-in-time dispatch to customers all over the world.

#### Combined ventilation and extraction system

One aspect that is often neglected in the design of ventilation and extraction systems is the design of the pipeline system. Both its layout and dimensions have a crucial effect on the efficiency of such systems.

MOTEC® ventilation and extraction systems feature extraction pipes whose diameters vary depending on the actual volumetric flow. This is achieved by means of stepped pipe cross-sections.



#### Diagram of comprehensive system with:

- ① Customised intake elements, including elements designed according to the vortex principle
- ② Extraction pipes with a diameter that is adjustable depending on the actual volumetric flow (stepped cross-sections)
- ③ Extraction filter unit customised for the substances to be removed, and designed in compliance with national legislation
- ④ Recirculation of clean air from filter system with summer/winter switching option and low-pulse air outlets
- ⑤ Fresh air inlet with air supply unit and air shower with low flow rate

# EXTRACTION SYSTEMS

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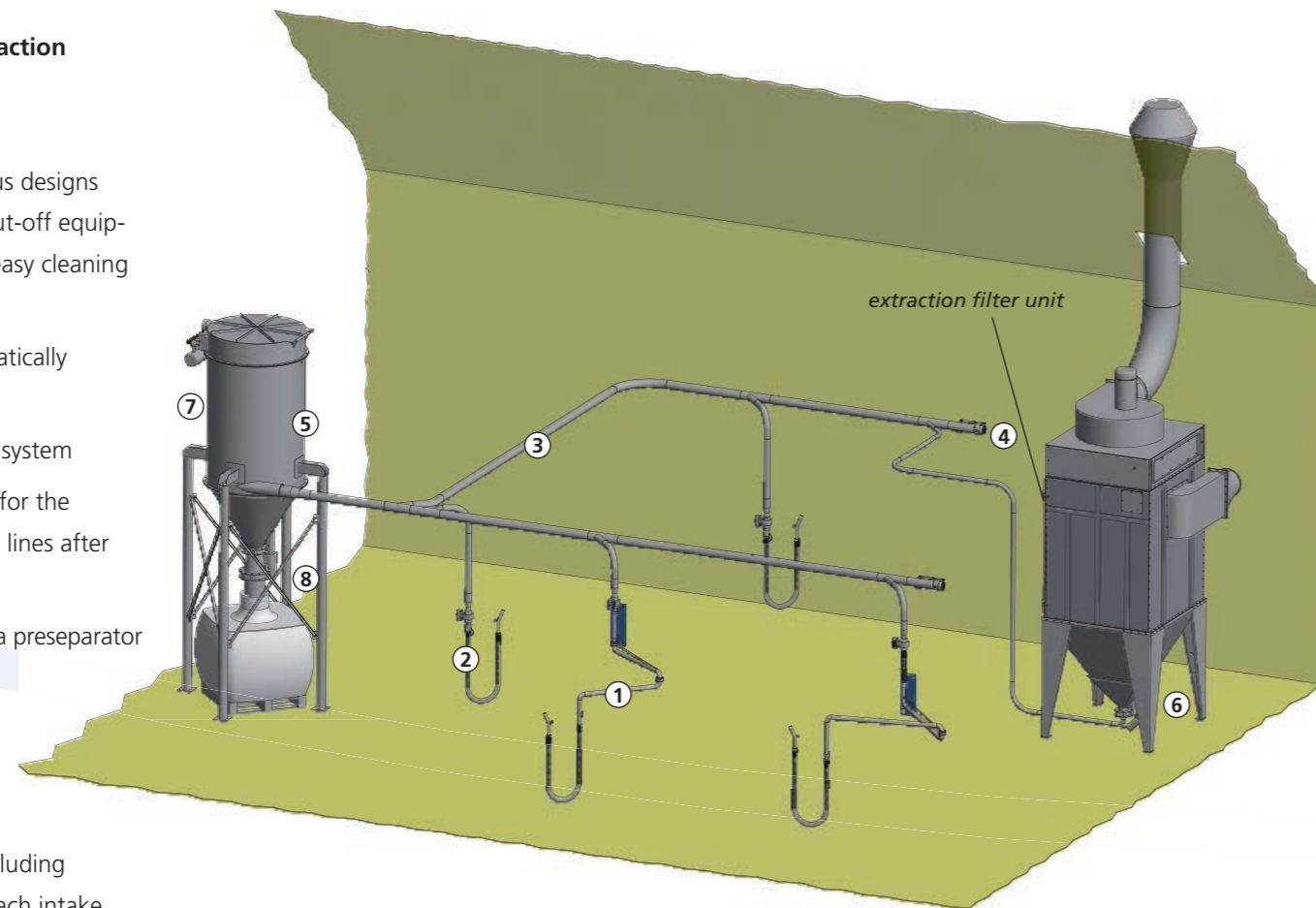
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**Diagram of centralised dust extraction system with:**

- ① Expanding suction arms of various designs with pneumatically operating shut-off equipment for flexible operation and easy cleaning of production plant
- ② Fixed suction points with pneumatically operated shut-off equipment
- ③ Sleeveless stainless steel pipeline system
- ④ Mechanical operated flush valve for the automated cleaning of collecting lines after intake process
- ⑤ Integrated cyclone unit acting as a preseparator in the central filter of the dust extraction unit
- ⑥ Automated dust removal through aspiration filter system.
- ⑦ Customised control functions including automated filter cleaning after each intake process
- ⑧ Dust removal in big bag or similar container through cycle lock



Everybody benefits from extraction

**Clean workplaces.  
Healthy workers.  
Low costs.**

Centralised dust extraction systems are a great way of keeping workplaces free of dust and hazardous substances – at reasonable expense.

By installing such systems, the concentrations of hazardous and noxious substances can be significantly reduced. This helps lowering the costs for time-consuming cleaning and servicing of the production plants.

Small-scale solutions can be implemented by connecting an ejector to an existing extraction and filtration system. Larger units require separate centralised system devices.

The following units are suitable for integration into existing centralised systems:

- Permanently installed MOTEC® extraction points
- Movable MOTEC® extended vacuum arms
- Existing intake points from other manufacturers

# CENTRALISED DUST EXTRACTOR SYSTEMS

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**MOTEC**

Leading in industrial extraction

MOTEC® Gesellschaft für Industrietechnik, Umwelt- und Arbeitsschutz mbH

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