

KEMPER[®] automation

**WELDING and CUTTING
TECHNOLOGIES EFFICIENTLY
THOUGHT OUT**



WORTH KNOWING

Process automation increases productivity and has become an indispensable part in today's metalworking industry. However, even with automated processes such as laser, plasma and flame cutting as well as robot welding, high levels of fume and dust endanger the health of employees – and ultimately the service life of machines. Effective extraction technology that meets the high requirements of manufacturers and users is therefore a must in any process automation system.

With KEMPER Automation, we offer a comprehensive portfolio that is indispensable for efficient and legally compliant operation of automated welding and cutting systems. As a reliable OEM partner, we develop high-quality extraction and filter technology and provide the required technology according to the different needs of plasma, laser and robot manufacturers. Central to this are the filter systems PlasmaFil, PlasmaFil Pro, LaserFil, LaserFil Pro, ArcFil and ArcFil Pro as well as the extraction tables. In addition, we offer comprehensive accessories and optional equipment along the entire process chain, such as fully automatic disposal systems for large quantities of dust or digital components for equipment networking.

As a pioneer and technology leader in welding fume extraction, we have been developing extraction solutions for hazardous substances in metal processing since our company was founded in 1977. Trust our proven expertise and complement your welding and cutting portfolio with our automation solutions for air pollution control. With KEMPER as your reliable partner, you are always on the safe side – and so are your customers.

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Extraction systems

The extraction and filter systems of the Automation Line are ideally suited for the capture of hazardous substances in plasma, flame or laser cutting as well as in robot welding.

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Filter technology

The outstanding filter technology guarantees reliable health protection and captures even ultra-fine nanoparticles.

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Accessories

The accessories and supplementary products allow customised adaptation to your needs and those of your customers.

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KemTab extraction tables

The extraction and exhaust tables for cutting systems are particularly robust and always optimally adapted to the needs thanks to their modularity.

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VarioHood

Thanks to its modular design, the VarioHood extraction hood for welding robots can be configured in many sizes.

EXTRACTION SYSTEMS

HOW THEY WORK

- The contaminated air is extracted into the unit via ducting
- The dust is separated on the surface of the filter medium
- The automatic filter cleaning is based on need and carried out by compressed air
- The repelled dust is collected in the dust collection container for disposal



INTELLIGENT CONTROL

- Intelligent control is the heart of KEMPER extraction and filter systems (Pro series)
- All functions can be intuitively controlled
- A diagnostic system with various sensors monitors the proper functioning of the system
- The analytic function of the control system permanently adjusts the operating points to the conditions



GOOD CONNECTIONS

- Ready to connect with 16 A CEE plug
- Potential-free contacts for receiving an external on/off signal
- A second, external control terminal permits remote control



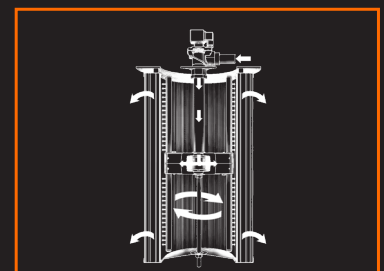
FILTER INSERTS

- Only high quality, tested and certified filters and filter media
- Surface filtration with KemTex® ePTFE membrane filter with laminated PTFE layer
- Best cleaning performance and long service life
- Other, high-quality filters and filter media available, depending on application



FILTER CLEANING

- Surface filtration enables efficient cleaning of the filter cartridges used
- Cleaning is performed using compressed air while the system is in use
- The repelled dust falls into a mobile dust collection container
- After automatic lowering of the dust container, the dust can easily be disposed of



PLASMAFIL

For plasma and flame cutting systems

The PlasmaFil filter system of the Automation-Line is supplied ready to use and can be set up and put into operation in just a few seconds thanks to its compact design.

The particularly large filter surface enables a long service life, even with large amounts of dust. This makes it particularly suitable for extraction during plasma or flame cutting processes. Due to the different pipe connection options, the PlasmaFil can be tailored to the needs.



PROPERTIES

- Demand-controlled automatic filter cleaning
- KemTex® PE-M / ePTFE cartridges
- Highly effective and even filter cleaning using a rotating nozzle
- Easy to use: Intuitive & ergonomic one-button operation
- Low noise emission thanks to a particularly low noise level
- Simple and quick installation thanks to user-friendly preparation
- Minimum required space due to compact construction

BENEFITS

- Contamination-free dust collection due to lever fixing of the dust collection container
- Considerable energy cost savings by using the optional automatic volume control through demand-based extraction capacity regulation
- Uninterrupted continuous operation due to automatic, demand-oriented filter cleaning

OPTIONAL ACCESSORIES

- Automatic extraction capacity regulation, can be retrofitted at any time
- Automatic start/stop using contact
- Dosing unit for pre-coating the filter cartridges
- Including SparkTrap

up to
5.500
m³/h

Up to
105 m²

Plug &
Play

76
dB(A)

PLASMAFIL PRO

For plasma and flame cutting systems

The PlasmaFil Pro filter system of the Automation-Line can be set up and put into operation in just a few seconds thanks to its compact design. The particularly large filter surface enables a long service life, even with large amounts of dust. This makes it particularly suitable for extraction during plasma or flame cutting processes. The filter unit is connected to the plasma or flame cutting table by means of a ducting system.

The system is flexible in design and can be set up in many different locations. Thanks to the W3 certification (DIN EN ISO 21904) of the PlasmaFil Pro, it is possible to feed the filtered air directly back into the production hall, which makes it particularly energy-efficient.



PROPERTIES

- Demand-controlled automatic filter cleaning
- KemTex® ePTFE cartridges
- Highly effective and even filter cleaning using a rotating nozzle
- Controlled using a compact touch information display
- Low noise emission thanks to a particularly low noise level
- Simple and quick installation thanks to user-friendly preparation
- Minimum required space due to compact construction

BENEFITS

- Recirculation mode even possible when using chrome-nickel steel thanks to W3 certification
- Uninterrupted continuous operation due to automatic, demand-oriented filter cleaning
- Contamination free dust collection due to compressed air fixation of dust collection container
- Considerable energy cost savings when using the optional automatic extraction capacity regulation

OPTIONAL ACCESSORIES

- Automatic extraction capacity regulation
- Automatic start/stop using contact
- Dosing unit for pre-coating the filter cartridges
- Weather protection roof for outdoor installation
- Additional display with full operating function
- Including SparkTrap

W3 ap-
proved

up to
17.280
m³/h

Up to
360 m²

65
dB(A)

Plug &
Play



LASERFIL

For laser cutting systems

The LaserFil filter system of the Automation-Line is supplied ready to use and can be set up and put into operation in just a few seconds thanks to its compact design. The particularly large filter surface is optimally adapted to the laser cutting process and enables an effective extraction capacity.

The unit is connected via various duct connection options directly to a laser cabin that covers the entire working area. This is essential to prevent the cutting fume from spreading into the production hall.



PROPERTIES

- Demand-controlled automatic filter cleaning
- KemTex® PE-M / ePTFE cartridges
- Highly effective and even filter cleaning using a rotating nozzle
- Easy to use: Intuitive & ergonomic one-button operation
- Low noise emission thanks to a particularly low noise level
- Simple and quick installation thanks to user-friendly preparation
- Minimum required space due to compact construction

BENEFITS

- Contamination-free dust collection due to lever fixing of the dust collection container
- Considerable energy cost savings by using the optional automatic volume control through demand-based extraction capacity regulation
- Uninterrupted continuous operation due to automatic, demand-oriented filter cleaning

OPTIONAL ACCESSORIES

- Automatic extraction capacity regulation, can be retrofitted at any time
- Automatic start/stop using contact
- Dosing unit for pre-coating the filter cartridges
- Including SparkTrap

up to
5.500
m³/h

Up to
120 m²

Plug &
Play

76
dB(A)

LASERFIL PRO

For laser cutting systems

The LaserFil Pro filter system of the Automation-Line is supplied ready to use and can be set up and put into operation in just a few seconds thanks to its compact design. The particularly large filter surface is optimally adapted to the laser cutting process and enables an effective extraction capacity.

Thanks to the W3 certification (DIN EN ISO 21904) of the LaserFil Pro, it is possible to feed the filtered air directly back into the production hall, which makes it particularly energy efficient.

The unit is connected directly to a laser cabin that covers the entire working area. This is essential to prevent the cutting fume from spreading into the production hall.



PROPERTIES

- Demand-controlled automatic filter cleaning
- KemTex® ePTFE cartridges
- Highly effective and even filter cleaning using a rotating nozzle
- Controlled using a compact touch information display
- Low noise emission thanks to a particularly low noise level
- Simple and quick installation thanks to user-friendly preparation
- Minimum required space due to compact construction

BENEFITS

- Recirculation mode even possible when using chrome-nickel steel thanks to W3 certification
- Uninterrupted continuous operation due to automatic, demand-oriented filter cleaning
- Contamination free dust collection due to compressed air fixation of dust collection container
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OPTIONAL ACCESSORIES

- Automatic extraction capacity regulation
- Automatic start/stop using contact
- Dosing unit for pre-coating the filter cartridges
- Weather protection roof for outdoor installation
- Additional display with full operating function
- Including SparkTrap

W3 ap-
proved

65
dB(A)

up to
5.000
m³/h

Up to
90 m²

Plug &
Play

ARCFIL

Automated welding equipment

The ArcFil filter system of the Automation-Line is supplied ready to use and can be set up and put into operation in just a few seconds thanks to its compact design. Thanks to the high and effective extraction capacity, it is particularly suitable for robot welding applications of various processes, such as laser welding.

The unit is connected via various duct connection options directly to an extraction hood or laser cabin that covers the entire working area of the robot. This is essential to prevent the cutting fume from spreading into the production hall.



PROPERTIES

- Demand-controlled automatic filter cleaning
- KemTex® PE-M / ePTFE cartridges
- Highly effective and even filter cleaning using a rotating nozzle
- Easy to use: Intuitive & ergonomic one-button operation
- Low noise emission thanks to a particularly low noise level
- Simple and quick installation thanks to user-friendly preparation
- Minimum required space due to compact construction

BENEFITS

- Contamination-free dust collection due to lever fixing of the dust collection container
- Considerable energy cost savings by using the optional automatic volume control through demand-based extraction capacity regulation
- Uninterrupted continuous operation due to automatic, demand-oriented filter cleaning

OPTIONAL ACCESSORIES

- Automatic extraction capacity regulation, can be retrofitted at any time
- Automatic start/stop using contact
- Dosing unit for pre-coating the filter cartridges
- Including SparkTrap

up to
5.500
m³/h

Up to
90 m²

Plug &
Play

76
dB(A)

ARCFIL PRO

For robot welding systems

The ArcFil Pro filter system of the Automation-Line can be set up and put into operation in just a few seconds thanks to its compact design. Thanks to the high and effective extraction capacity, it is particularly suitable for robot welding applications of various processes, such as laser welding.

Thanks to the W3 certification (DIN EN ISO 21904) of the ArcFil Pro, it is possible to feed the filtered air directly back into the production hall, which makes it particularly energy efficient. The unit is connected directly to an extraction hood or cabin that covers the entire working area of the robot. This is essential to prevent the cutting fume from spreading into the production hall.



PROPERTIES

- Demand-controlled automatic filter cleaning
- KemTex® ePTFE cartridges
- Highly effective and even filter cleaning using a rotating nozzle
- Controlled using a compact touch information display
- Low noise emission thanks to a particularly low noise level
- Simple and quick installation thanks to user-friendly preparation
- Minimum required space due to compact construction

BENEFITS

- Recirculation mode even possible when using chrome-nickel steel thanks to W3 certification
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OPTIONAL ACCESSORIES

- Automatic extraction capacity regulation
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- Dosing unit for pre-coating the filter cartridges
- Weather protection roof for outdoor installation
- Additional display with full operating function
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Up to
120 m²

W3 ap-
proved

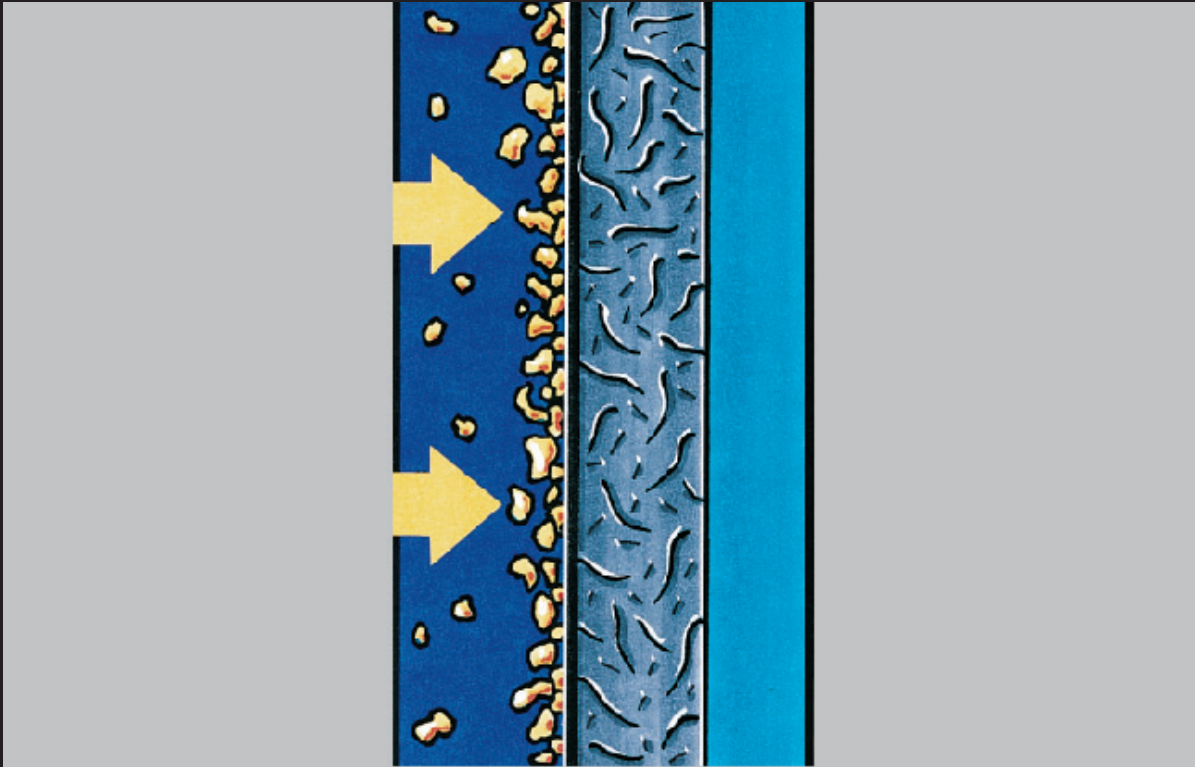
65
dB(A)

up to
8.640
m³/h

Plug &
Play

FILTER TECHNOLOGY

Very long service life due to laminated membrane layer



THE SURFACE FILTRATION

- KemTex® ePTFE filter medium with laminated membrane layer
- Unique microstructure of millions of randomly arranged fine fibres
- Optimal filter cleaning properties as opposed to depth filtration
- Separation even of ultra fine nanoparticles of up to 100 nanometres

IDEAL FOR WELDING AND CUTTING

Study by the AWS (American Welding Society) on particle distribution:

- 98.9 % of the dust particles generated are smaller than 400 nanometres
- Ultra fine nanoparticles can penetrate into human cells
- KemTex® ePTFE membrane filters already have high separation in the nanoscale range

FILTER CARTRIDGE

Filter cartridges are used depending on the filter system



PROPERTIES

- Large pleat distance while having the same filter surface per cartridge
- Flexible filter pleats support filter cleaning
- Even and gentle cleaning using rotating nozzle
- Vertical installation in filter systems

BENEFITS

- Less choking up of the filter pleats due to larger distance between pleats
- Very long service life of the filter elements and rotating nozzles
- Cost savings due to optimal cleaning properties
- Less dust deposition due to vertical installation

AUTOMATIC FILTER CLEANING

- Cleaning is based on need and differential pressure-controlled by compressed air
- A blast of compressed air from the integrated compressed air tank flows sets the rotating nozzle in motion
- The rotational movement of the rotating nozzle creates an even flow
- This achieves the optimal cleaning performance of the KemTex® ePTFE filter cartridges

INDUSTRY 4.0*

Extraction systems with Internet of Things technology

The extraction and filter systems are equipped with various sensors and digital components. The systems can be integrated into the cloud based control portal KEMPER-Connect. The portal networks extraction systems, general ventilation systems and other devices, including market leaders, on the basis of mobile radio connectivity. Various dashboards provide you with an overview of relevant process data in real time. For extraction systems, this is important information such as motor temperature, differential pressure, motor power, operating hours or control status messages.

BENEFITS AND PROPERTIES AT A GLANCE

- Overview of relevant process data in real time in the cloud
- Optimum control and regulation of the systems regardless of location
- Reduced downtime of filter systems due to predictive maintenance
- Machine-to-machine communication
- Rule-based functions for the automation of extraction technology
- Fleet management
- Manufacturer-neutral networking



EXTRACTION CAPACITY REGULATION

Energy and cost savings through automatic extraction capacity control

THE FUNCTIONS IN DETAIL:

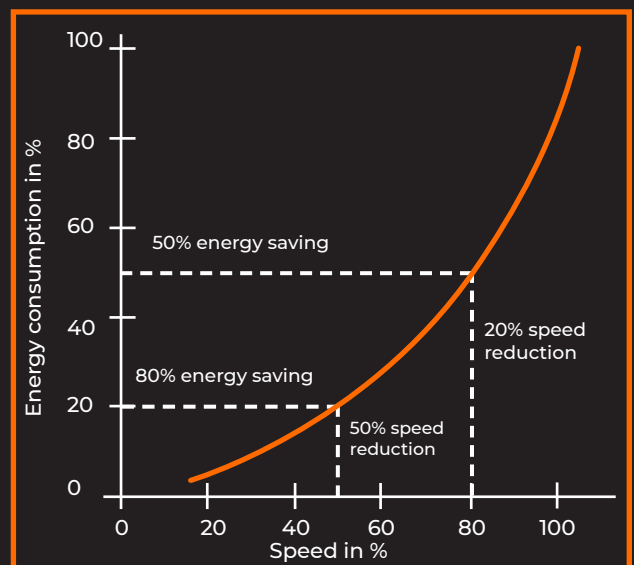
- A frequency inverter* adapts the motor speed and the power consumption to the current demand.
- An extraction unit seldom requires the maximum motor power. With a frequency inverter, no unnecessary energy is consumed for most of the operating time.
- Components are protected by slowly starting the motor. Service life is increased and maintenance costs are reduced.
- Noise emissions from the fan are significantly reduced and employee protection improved.
- In addition to the over-proportional reduction in power consumption, a frequency inverter takes the individual characteristics of the motors into account and adjusts itself accordingly. This increases efficiency and reduces energy consumption by a further 3-4 %.
- When operated by a frequency inverter, the current consumption does not rise above the rated current of the motor.
- Reduced CO₂ emissions protect the environment. Government support in the form of grants or subsidised loans can be made available through subsidy programmes.

50 % ENERGY SAVING

If the motor speed is reduced by 20 %, for example, the power consumption, i.e. the energy consumption, decreases over-proportionally by about 50 %.

WHAT OTHER ADVANTAGES DO THE FILTER CARTRIDGES IN THE EXTRACTION UNIT HAVE?

- The power control ensures that no more air is extracted than necessary. New filter cartridges with very low flow resistance are not damaged by excessive volume flow. A guideline: Halving the volume flow leads to a quadrupling of the filter life.
- As the filter resistance increases, the extraction capacity automatically remains constant. This is convenient and ensures consistently good capture of hazardous substances.



*Frequency inverter is optional



SPARKTRAP

Pre-separation and elimination of sparks and coarse particles

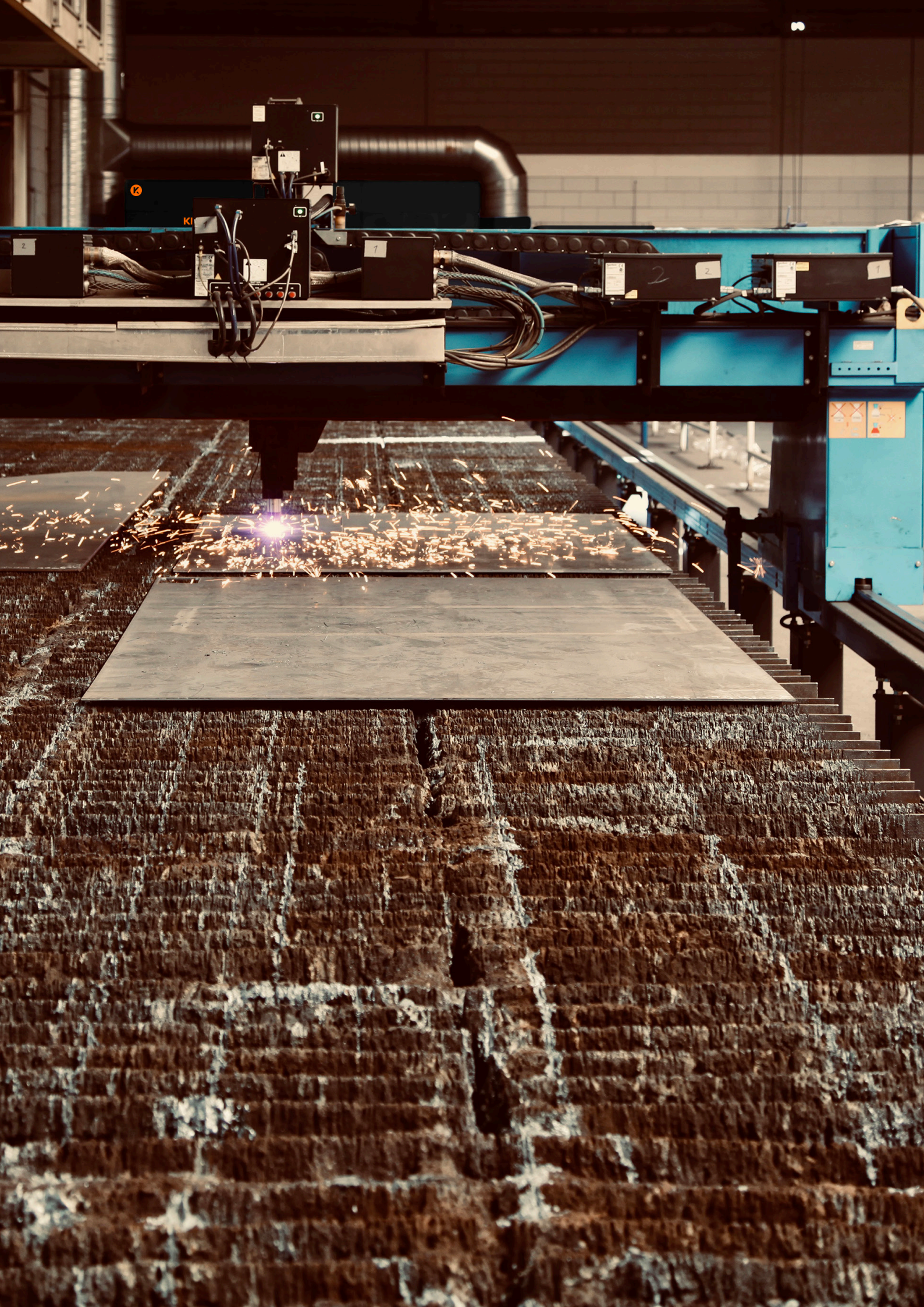


PROPERTIES

- Separation of sparks, glowing particles and cigarette butts
- Swirl nozzle with annular gap spark trap
- Can be combined with a spark extinguishing system
- Dust collection container and gate valve in the downpipe

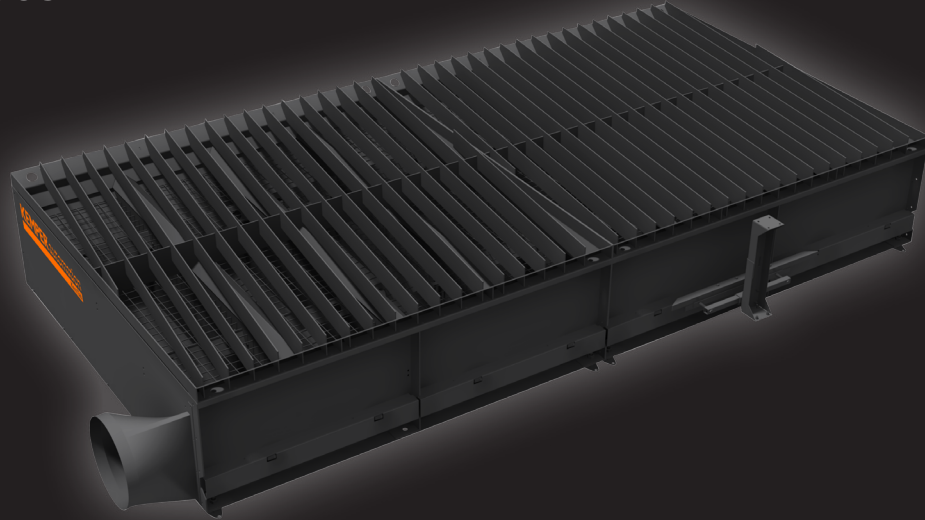
BENEFITS

- Drastic reduction of running costs due to longer filter life
- Easy integration also into existing systems of any type or brand thanks to retrofitting
- Savings resulting from less compressed air consumption and lower energy costs
- Minimising the fire risk by pre-separating sparks, glowing particles and cigarette butts



KEMTAB EXTRACTION TABLES

Solid extraction tables for cutting applications for all application cases



APPLICATIONS

- For plasma cutting of up to 300 amperes
- For flame cutting with sheet metal up to 150 mm

PROPERTIES

- The new modular system, which enables the right equipment for all applications. This offers configuration options from a low-cost entry (for lower requirements) up to a fully equipped table (for high requirements)
- Section widths of 515 mm, 687 mm or 1030 mm possible
- Thanks to the modular design, any table size can be created
- Energy cost savings due to low extraction volume thanks to individual control of the extraction dampers of the section in use
- Mechanical, mechanical-pneumatic or E-pneumatic flap control available
- Innovative new flap system optimised for air technology
- Flow-optimised air guidance for low losses
- Particularly large extraction channel for low resistance
- Integrated spark elimination for more safety
- Sturdy, self-supporting material support surface
- Low service requirement due to separation of air flow and external actuators
- Adjustable control slide that can be adapted to different conditions

BENEFITS

- Better cutting quality thanks to the innovative shape of the material support
- No external follow-up costs for in-house production of wear parts due to pluggable design of material support
- Time and cost savings when cleaning the table due to large slag boxes and thus longer cleaning intervals
- Crane lugs on all components that have to be removed for cleaning
- Intelligent guide plates within the support frame, which effectively protect the table construction and thus ensure a long service life



A large, black industrial range hood with a prominent orange logo that reads "KEMPER automation VarioHood". The hood is suspended by chains from a ceiling with exposed wooden beams. Below the hood, a large, red, vertically-ribbed curtain hangs down. The background shows a dark, industrial interior with a concrete floor and a dark wall.

KEMPER automation
VarioHood

VARIOHOOD

Modular extraction hood for welding robots

The VarioHood extraction hood for welding robots can be configured in a number of sizes due to its modular design. Due to the innovative air flow principle, the extraction hood requires only a low flow rate to operate effectively. Flexible installation options, for instance mounting on stands, suspended from the ceiling or integrated into a movable robot gantry, offer plenty of scope for plant design.



PROPERTIES

- Modular design
- Mounted on stands, suspended from the ceiling, or integrated into a movable robot gantry
- Innovative air flow principle
- Insertable

BENEFITS

- Low flow rate required due to innovative flow principle
- Plenty of scope for plant design due to variety of mounting options
- Low transport costs and easy installation thanks to assembly set
- Many different sizes available due to the modular design
- Increased health protection because dust can be sucked up directly at source
- Protection against welding spatter for staff and equipment thanks to KEMPER welding strips

VARIOHOOD

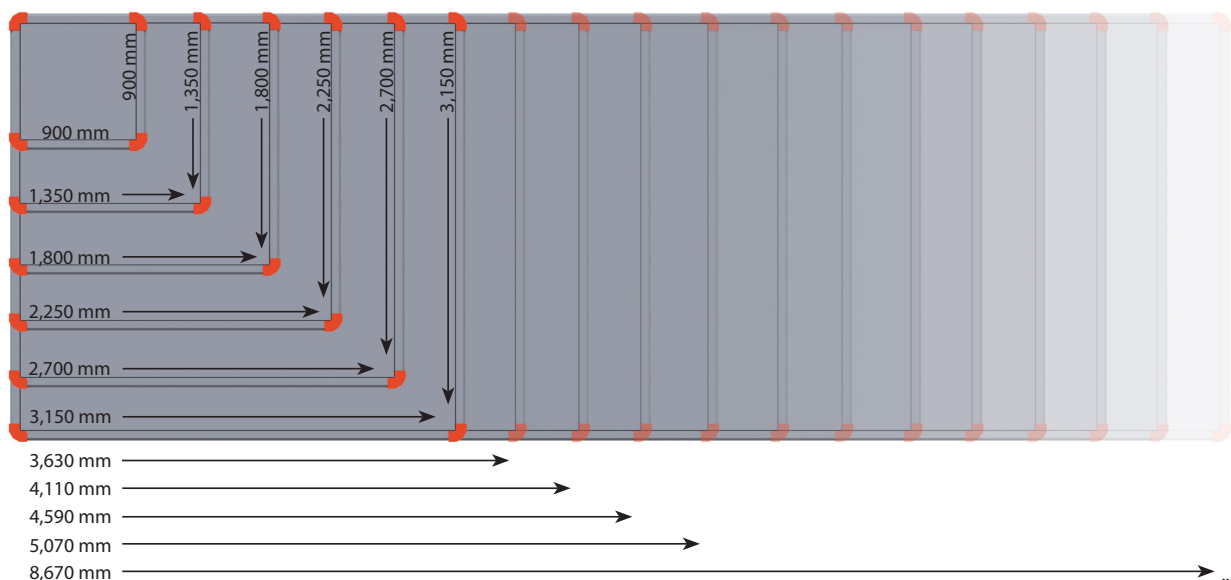
Modular extraction hood for welding robots

The VarioHood extraction hood is ideally suited for connection to KEMPER PlasmaFil, PlasmaFil Pro, ArcFil, ArcFil Pro, LaserFil and LaserFil Pro extraction systems using pipes. Various installation options allow for a lot of leeway when planning the system and selecting the right plant size.

Whether elevated in the room, suspended from the hall ceiling or integrated into a movable robot portal – the innovative air flow principle is always guaranteed.

The VarioHood is equipped with welding protection strips from the KEMPER range with an overlap degree of 33 %, 66 % or 100 %. These can be individually adjusted in length to your needs. The strips are crucial for optimal air intake and ensure that the polluted air does not pollute other areas.

The VarioHood modular extraction hood can be individually configured in grid dimensions of 450 mm x 450 mm up to a maximum width of 3,150 mm. The length doesn't matter. KEMPER has already realised extraction hoods with a length of more than 20 metres. Thanks to the pluggable design, assembly is child's play and transport costs are low.





INTERNATIONALLY REPRESENTED WITH EXPERT ADVICE EVERYWHERE

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