KEMPER®

TÜV NORD
TÜV NORD CERT GmbH
ISO 9001

Product catalogue 2010

welding, cutting and more...

www.kemper.eu

KEMPER – the specialist for systematic air purification in the working environment

Clean air and safety at work: these have been the goal at *KEMPER* since the company was founded in 1977. Hazardous smoke and pollutants are generated during welding and cutting in the metal industry. Using our extraction and filtering equipment, we make sure that operators can still breathe in clean air. With an extensive range of health and safety equipment, we can provide protection against UV / IR ra-diation, heat, sparks and weld splatter, benefiting not only the operator but also the machinery and the environment.

These days, *KEMPER* stands for more than just clean air and safety in metalworking. Since 2008, we have been supplying the *KEMPER INTELLISTORE*® storage and retrieval system, an innovative, modular facility for the intelligent storage of sheet metal. Unlike conventional solutions, the system does not work with drawers, but provides access to the metal sheets individually, both when storing and retrieving from stock. The advantages are a more efficient use of storage capacity thanks to higher stock storage levels, more flexible use of compartments and faster handling.

Since the beginning of 2009, we have been making use of our years of experience in plant construction and our core competency in metalworking to develop tracking systems for photovoltaic modules. *Kem*TRACK determines the exact position of the sun from the location, date and time and thus ensures that the solar cells always have the optimum orientation. Compared to fixed installations, increases in power output of up to 40 percent can be achieved.

To ensure our products' high technical standards, we invest continually in research and development. We also work with universities, research institutes and technical monitoring agencies.
And with some success: we developed the *KEMPER INTELLISTORE*® storage and retrieval system in cooperation with the Fraunhofer Insti-tute for Material Flow and Logistics (IML), receiving the VDI Innovation Award in Spring 2009.

In addition to its headquarters in Vreden, *KEMPER* now maintains other production facilities in Shanghai (China) and Prague (Czech Republic). In addition, we have eight subsidiaries and a large number of business partners throughout the world. The heart of our business is and remains our headquarters in Vreden.

We will continue to develop and produce our products here in the future.

... and more.

Business

As an innovative company, *KEMPER* is constantly developing its business. At present we are active in three business segments on an international basis.

Welding & Cutting
The welding & cutting sector is the traditional core business of *KEMPER*. Ever since Gerd Kemper, the company's founder, developed his first welding fume extraction system in a garage in 1977, clean air and safety in metalworking have been at the centre of our activities.

Products range from small units such as the Filter-Master to large extraction and filtration systems. Many of the smaller units are produced in both mobile and stationary versions. *KEMPER* also supplies extraction tables, whether for large laser and plasma cutting machines, or for training purposes in schools and other educational institutions. Unlike conventional extraction tables, we use a surface extraction system, so that even the smallest particles are captured and directly separated in the filter system.

The protection of employees is of special importance in welding and cutting. That is why *KEMPER* has developed different systems with which you can protect yourself and your staff from radiation. Welding strip and curtain systems together with sound-insulating elements provide the necessary protection for the welder and his environment.

When welding, special protection from harmful rays is needed as the human eye is very sensitive. *KEMPER* offers just the right solution with autodark protective screens, which adapt to any shape of head and are suitable for constant use. Spectacle wearers also benefit from the best possible protection and a high level of comfort. The very low switching time (0.00008 seconds), a field of vision measuring 95 x 47 mm and the solar-powered cassette make working with *KEMPER* autodark even more agreeable.

When the work is carried out in confined spaces, it is not always possible to extract the harmful substances produced in welding, cutting or grinding. *KEMPER* respirator systems ensure that even under these conditions there is still a supply of clean air. *KEMPER* offers two different systems: *KEMPER* freshflow, which works with fresh air, and *KEMPER autoflow XP*® which provides the welder with breathable air using a fan with an integrated filter. Both devices are worn directly on the body and are noted for their comfort and freedom of movement.

Automation
With the introduction of the *KEMPER INTELLISTORE*® storage and retrieval system in 2008, for the first time we moved into the supply of automation products. The plant consists of a heavyduty shelf rack, an automated storage / retrieval system and specially developed control software.
The overall system can feed machines much faster thanks to its facility to access individual sheets.

Unlike conventional solutions, the storage and retrieval system does not use drawers. Instead, there is individual access to the metal sheets, both during storage and retrieval. The advantages are a more efficient use of storage capacity thanks to higher stock storage levels, more flexible use of compartments and faster handling.

The control system for the *KEMPER INTELLISTORE*® was developed in collaboration with the Fraunhofer Institute for Material Flow and Logistics. The software is modular and can be adapted to the needs of the customer, his processes and systems.

Solar
In early 2009, for the first time we offered *Kem*TRACK, a solar energy product. *Kem*TRACK determines the exact position of the sun from the location, date and time and thus ensures that the solar cells always have the optimum orientation.
Compared to fixed installations, increases in power output of up to 40 percent can be achieved. Thanks to its modular structure, the *Kem*TRACK tracking system saves space as well, making transportation and installation simple and inexpensive.

The *Kem*TRACK tracking system consists of a module platform mounted on a mast, a controller unit and a base. With its solid, torsion free construction, it can even be used under adverse conditions. Depending on the model, a wind protection position is usually required above 80 km/h, equivalent to a wind speed of nine. *KEMPER* solar systems are available with solar surfaces of 60 m² and 80 m².

High quality demands

Extraction and filtration equipment used in the metal industry must be flexible, reliable and above all, robust. That is why at *KEMPER* all filter plants are manufactured with sheet steel housings and highquality components. We carry out our own development and we manufacture the majority of the equipment and components in-house, ensuring excellent quality and product reliability. *KEMPER* has been certified according to DIN ISO 9001 and is committed to maintaining the highest standards.

Modern Manufacturing Processes

Not only do we take care with the quality of our own products but also with our manufacturing equipment. For the best possible results, we only use machinery that meets the highest standards. A fully automated powder coating line, advanced laser cutting systems, stamping, punching, shearing and the fully automated *KEMPER INTELLISTORE*® warehouse shelving are part of this, as is a welding robot with an extraction system.

Satisfied customers

KEMPER attaches the greatest importance to our customers' satisfaction. Your wish is our command. Across the world and on a daily basis, several hundred employees are committed to our customers' projects, again and again meeting their ever increasing technical demands. Talk to us. We want to help.

These are the ways you can order with us!

Telephone

Our customer service is daily at your disposal.
From Monday to Thursday from 7.00 to 18.00 and
on Friday from 7.00 to 17.00.

+49 (0) 2564 68-0

Fax

For purchase orders by fax you can use the order form,
which you will find on the last page.

+49 (0) 2564 68-120

E-Mail

Orders by email can be sent to the following address
at any time.

order@kemper.eu

Internet

24/7 our ordering system is available for orders from
registered traders. In the case of an order before 12.00 stock
items will be sent on the same day. The delivery time is
1 - 2 days.

www.kemper.eu

Con

Exhaust arms - exhaust cranes

Fans

Exhaust Set

Exhaust fans

Industrial vacuum cleaner

High-vacuum extraction

Mobile filter units

Stationary filter units

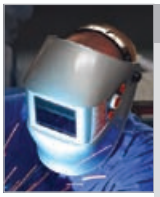
KEMPER Filter-Cell

Extraction and filter units

KEMPER vario*hood*

KEMPER robo*cab*

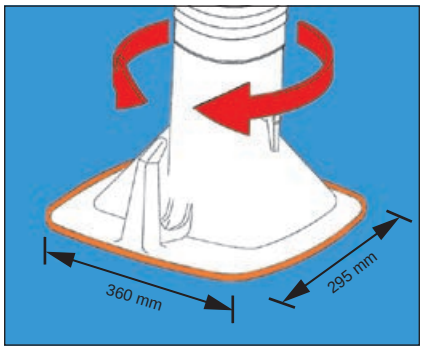
tent



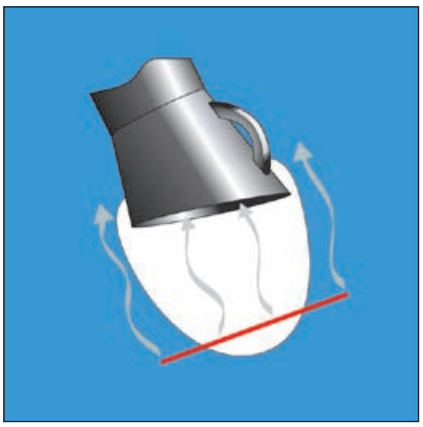
exhaust arms - exhaust cranes

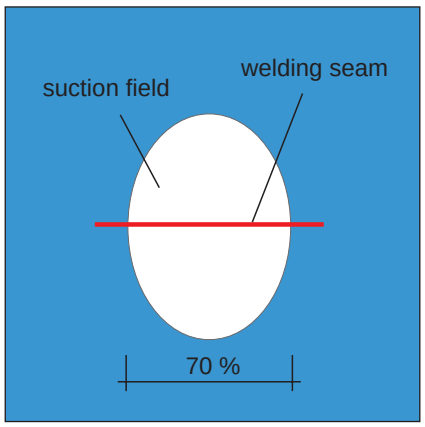
The exhaust hood and its effect

The acceptance of a welding smoke exhaust system depends very much on capturing the welding smoke as well as positioning and handling the exhaust hood easily.
The *KEMPER* exhaust hood has been designed to create an elongated extraction area and is therefore especially suitable for the extraction at welding seams. The exhaust hood can be revolved by 360°.



The exhaust hoods in comparison



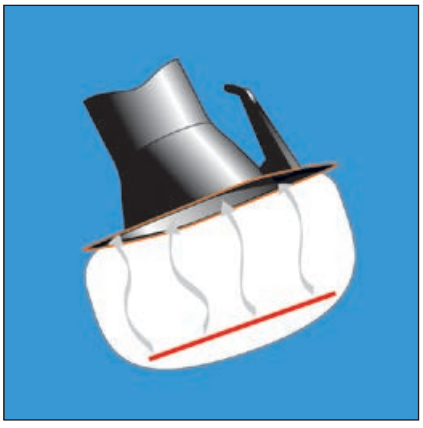


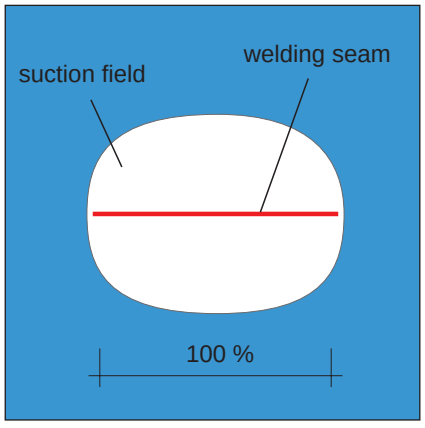
Poor shape forming of the exhaust hood.

The capturing will be effected according to an oval face, the extraction field is punctually aligned.

Due to the missing coping a huge amount of leak air will be aspirated.

The efficiency compared to the *KEMPER* exhaust hood is at most 70 %.





Optimal shape forming of the exhaust hood.

The extraction field is designed corresponding to the welded seam.

By means of revolvement of the exhaust hood, the shape is adapted to the welding seam at anytime.
The flange shape coping to the sides prevents the extraction of false air.

The efficiency of the *KEMPER* exhaust hood is about 40 % higher than with a conventional exhaust hood.

Rotating exhaust hoods

The exhaust hood, developed by *KEMPER*, is revolvable by 360° and can consequently be aligned optimally with the welding seam in every position. It is irrelevant whether the welder is standing at the side or behind the machine.

The filter unit has to be repositioned less often to work at optimum conditions. By the use of an ergonomically formed handle the hood can be brought into the designated position, which will retain self-supporting.

Regulations

European standardization bodies are currently developing specifications for capture instruments that can be used for the extraction of welding fumes.
These specifications will present the required suction performance (isotachs) of extraction hoods. The rotating *KEMPER* extraction hood already meets the anticipated requirements today.

Convenient equipment

The exhaust hoods or the exhaust machines can be provided with further equipment. For a better view on the welded joint a halogen lamp, which is integrated in the hood, is available. The lighting-kit includes a second on-/off-switch which is integrated in the hood to easily start and stop the machine.

The automatic start-stop is the best possibility to control the unit. A sensor is connected to the earth cable of the welding unit. The control switches the unit on when the welding process starts and switches it off when the process finishes. The *KEMPER* automatic start-stop makes the unit more comfortable.

That way time can be saved and there is no risk of welding without extraction system.

Flexible exhaust arms

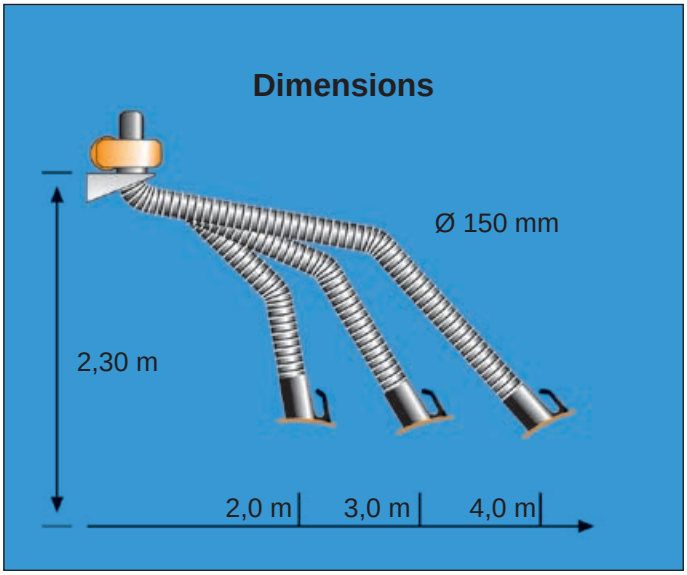
KEMPER exhaust arms are extremely suitable for extracting welding smoke, gases, damps, slight dusts and solvents.
The exhaust arm consists of an interior parallelogram which is spring supported, a fibre glass hose with a PVC coating and an internal steel wire spiral.
The exhaust hood with a damper is rotatable by 360° and can therefore be swivelled in all directions.
Due to its interior parallelogram the exhaust arm can be brought into any desired position within its reach without any additional support.
KEMPER exhaust arms can be connected to fans or to a ducting of a central filtration system.

Scope of delivery:
Exhaust arm incl. rotable exhaust hood and wall bracket

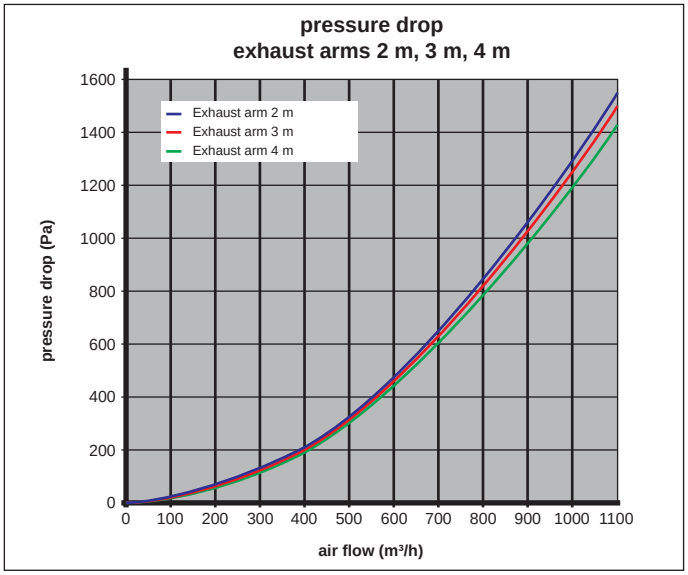
Technical data

Weight at a length of 2,0 m:	17,0 kg
Weight at a length of 3,0 m:	21,0 kg
Weight at a length of 4,0 m:	27,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
79 002	Length 2,0 m, Ø 150 mm
79 003	Length 3,0 m, Ø 150 mm
79 004	Length 4,0 m, Ø 150 mm



Suggested installation height



The digram indicates the pressure drop of the exhaust arms against the air flow.

For adequate fans see page 16.
For ducting systems see page 252.
For accessories and spare parts see page 13 / 14.

Flexible exhaust arms

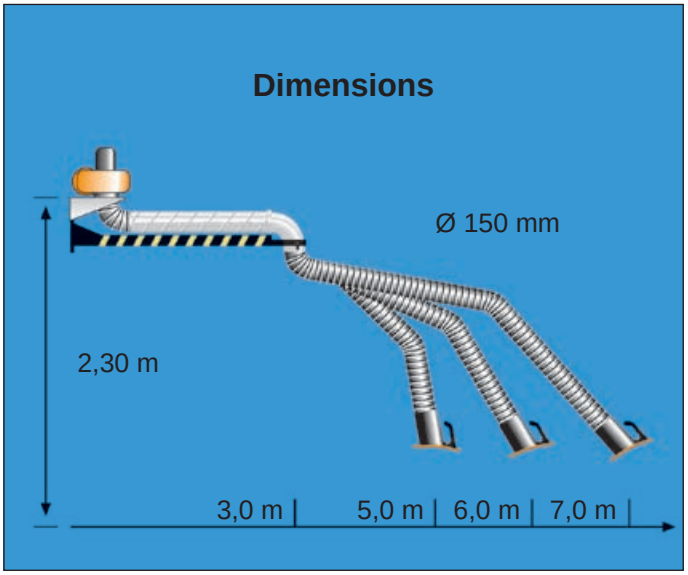
KEMPER exhaust arms with a length of 5 m, 6 m and 7 m are equipped with a ball-bearing swivelling wall extension boom. A standard swivelling exhaust arm with a length of 2 m, 3 m, or 4 m is fastened to this wall boom. The special way of fastening the arm to the boom allows to swivel the exhaust arm by 360°.
A C-profile is fastened to the bottom of the wallboom so that equipment or a wire feed unit up to 50 kg can be fixed to the included travellers. This makes work easier, helps to protect expensive material and prevents accidents being caused by tools and cables on the floor. *KEMPER* exhaust arms can be connected to fans or a ducting system.

Scope of delivery:
Exhaust arm incl. rotable exhaust hood, crane boom and wall bracket

Technical data

Weight at a length of 5,0 m:	75,0 kg
Weight at a length of 6,0 m:	79,0 kg
Weight at a length of 7,0 m:	85,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
79 005	Length 5,0 m Ø 150 mm
79 006	Length 6,0 m Ø 150 mm
79 007	Length 7,0 m Ø 150 mm



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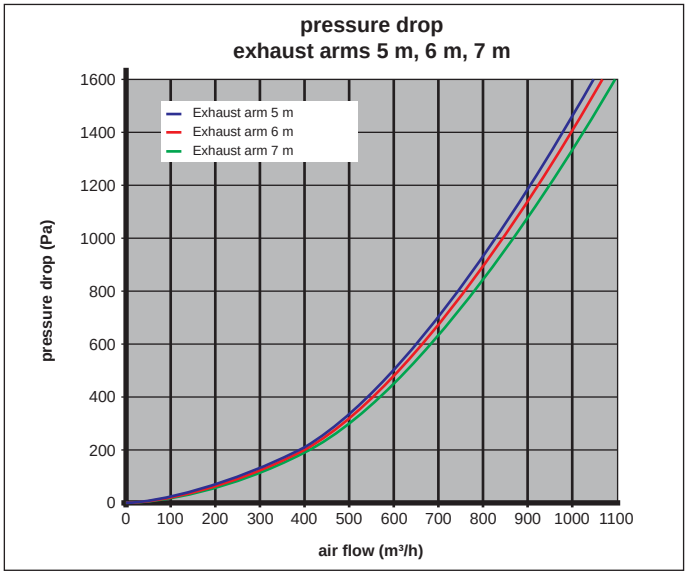

The digram indicates the pressure drop of the exhaust arms against the air flow.

For adequate fans see page 16.
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Rigid metal tube arms

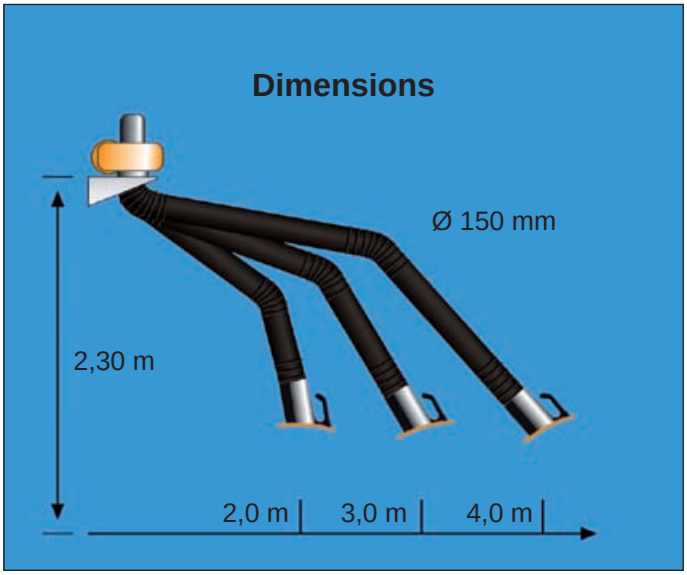
As well as the flexible exhaust arm, the rigid metal tube arm is extremely suitable for the local extraction of welding fumes, gases, damps, slight dusts and solvents.
The rigid metal tube arm consists of an interior spring supported parallelogram linkage and two epoxy-coated aluminium pipes as well as three flexible hose pieces at the joints. The exhaust hood with a damper can be swivelled by 360°.
The standard fan is fastened to the wall bracket with a toggle tip fastener.
Due to the construction of the parallelogram, the exhaust arm can easily be brought into every position without any additional support.
KEMPER exhaust arms can be connected to fans or to a central filtration system.

Scope of delivery:
Exhaust arm incl. rotable exhaust hood and wall bracket

Technical data

Weight at a length of 2,0 m:	17,0 kg
Weight at a length of 3,0 m:	21,0 kg
Weight at a length of 4,0 m:	27,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
79 502	Length 2,0 m, Ø 150 mm
79 503	Length 3,0 m, Ø 150 mm
79 504	Length 4,0 m, Ø 150 mm



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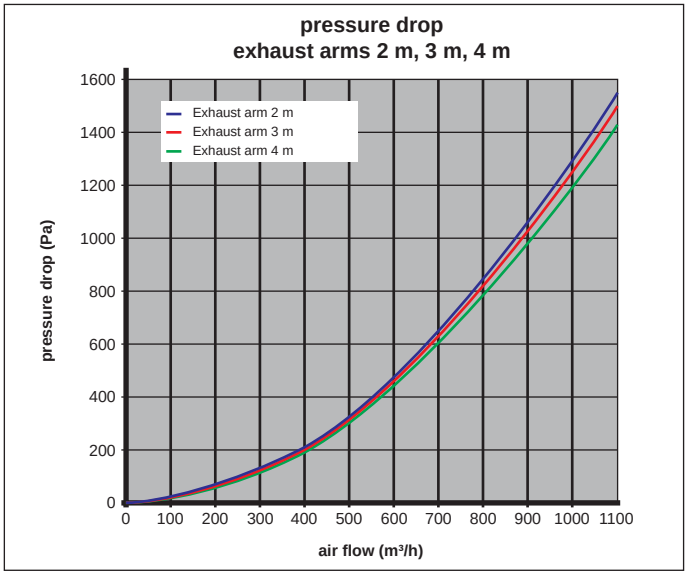


The digram indicates the pressure drop of the tube arms against the air flow.

For adequate fans see page 16.
For ducting systems see page 252.
For accessories and spare parts see page 13 / 14.

Rigid metal tube arms

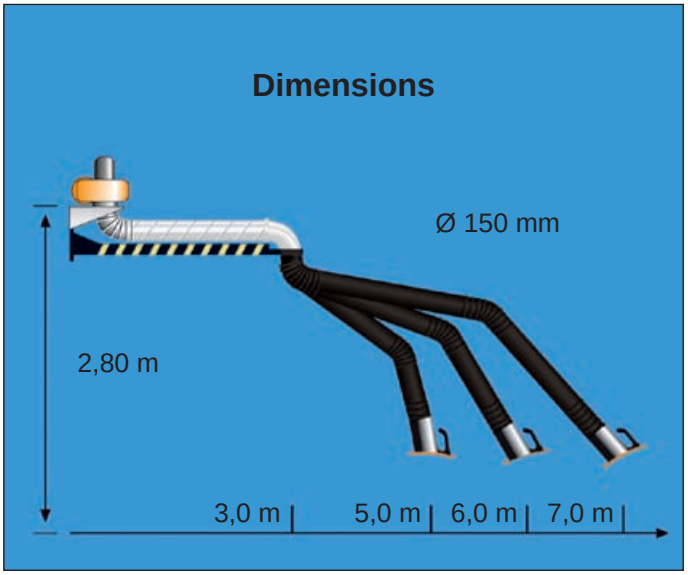
KEMPER exhaust arms with a length of 5 m, 6 m and 7 m are equipped with a ball-bearing swivelling wall extension boom. A standard swivelling exhaust arm with a length of 2 m, 3 m, or 4 m is fastened to this wall boom. The special way of fastening the arm to the boom allows to swivel the exhaust arm by 360°.
A C-profile is fastened to the bottom of the wallboom so that equipment or a wire feed unit up to 50 kg can be fixed to the included travellers. This makes work easier, helps to protect expensive material and prevents accidents being caused by tools and cables on the floor. *KEMPER* exhaust arms can be connected to fans or a ducting system.

Scope of delivery:
Exhaust arm incl. rotable exhaust hood, crane boom and wall bracket

Technical data

Weight at a length of 5,0 m:	75,0 kg
Weight at a length of 6,0 m:	79,0 kg
Weight at a length of 7,0 m:	85,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
79 505	Length 5,0 m, Ø 150 mm
79 506	Length 6,0 m, Ø 150 mm
79 507	Length 7,0 m, Ø 150 mm



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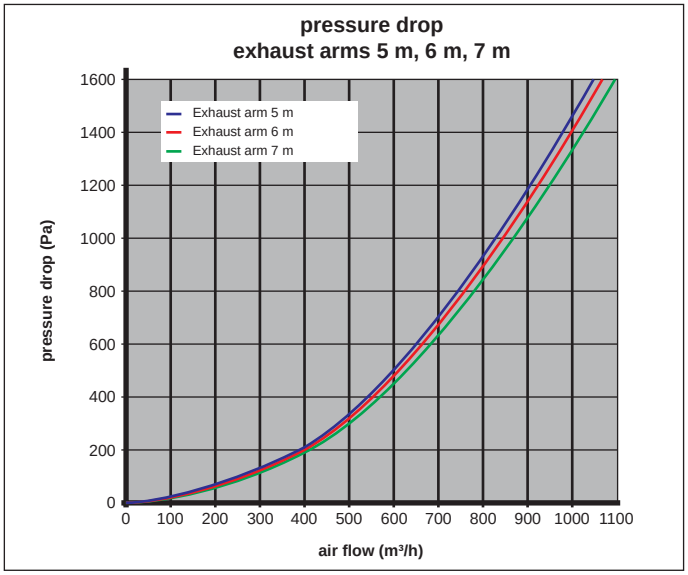

The digram indicates the pressure drop of the tube arms against the air flow.

For adequate fans see page 16.
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Telescopic exhaust arms

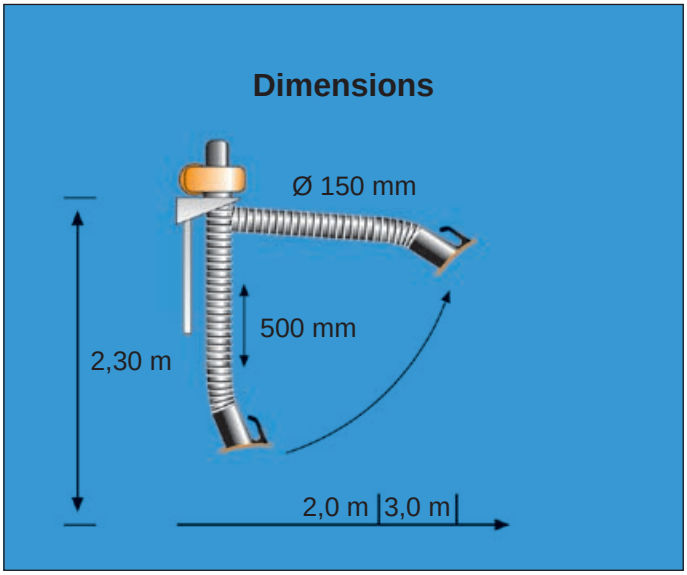
The telescopic arm has been designed especially for welding schools where small welding tables are in use.
In these places it is difficult to use the standard exhaust arm, which would disturb the trainee with its wide swivel range.
The telescopic arm allows a smooth vertical movement and can also be swiveled to the left and right.
The exhaust hood is fitted with an universal joint and allows also to be directed into any position.
These features make this arm the ideal solution for all applications with restricted space.

Scope of delivery:
Telescopic exhaust arm incl. rotable exhaust hood and wall bracket

Technical data

Weight at a length of 1,5 m:	16,0 kg
Weight at a length of 2,0 m:	18,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
91 315	Length 1,5 m, Ø 150 mm
91 320	Length 2,0 m, Ø 150 mm



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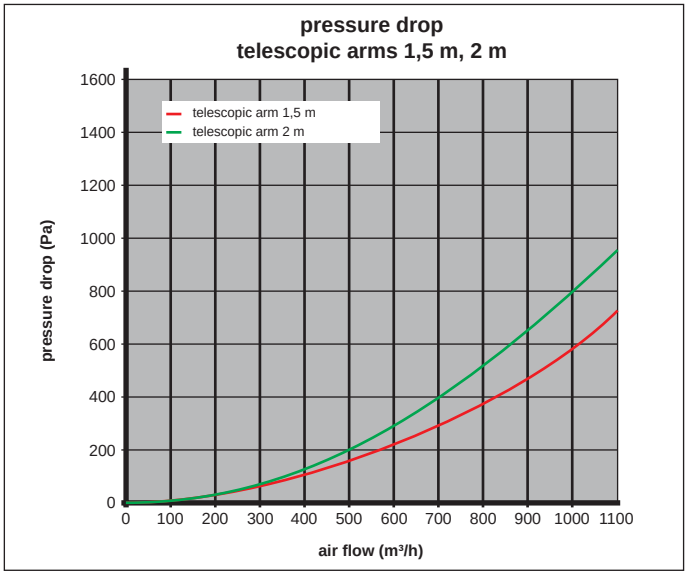

The digram indicates the pressure drop of the telescopic arms against the air flow.

For adequate fans see page 16.
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Exhaust arms for rail channels

In order to expand the range of the exhaust arms they can be connected to carriages on an extraction rail channel. Then, the exhaust arm can be moved across the full length of the channel. This is an advantage especially when working on huge workpieces.
The exhaust arm is rotatable by 360° underneath the carriage, so that every position within its range can easily be reached.
KEMPER rail channels can be connected to fans or to a central filtration system.

Technical data

Weight at a length of 2,0 m:	17,0 kg
Weight at a length of 3,0 m:	21,0 kg
Weight at a length of 4,0 m:	24,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
79 002 100	Length 2,0 m, Ø 150 mm
79 003 100	Length 3,0 m, Ø 150 mm
79 004 100	Length 4,0 m, Ø 150 mm
97 300 106	Carriage for extraction rail
97 200 135	Extraction rail channel, 3,0 m
97 200 150	End cap for rail channel
97 200 152	Connection piece at top side, Ø 160 mm

Exhaust arms for upright and suspended assemblies

The *KEMPER* exhaust arms for upright and suspended assemblies are very suitable for worktables, adequate exhaust appliances or existing exhaust machines.
The provided flange will be screwed directly on to corresponding machine and is rotatable by 360°.

Technical data

Weight at a length of 2,0 m:	17,0 kg
Weight at a length of 3,0 m:	21,0 kg
Weight at a length of 4,0 m:	24,0 kg
Diameter:	150 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
79 102	Length 2,0 m, Ø 150 mm, upright assemblies
79 103	Length 3,0 m, Ø 150 mm, upright assemblies
79 104	Length 4,0 m, Ø 150 mm, upright assemblies
79 052	Length 2,0 m, Ø 150 mm, suspended assemblies
79 053	Length 3,0 m, Ø 150 mm, suspended assemblies
79 054	Length 4,0 m, Ø 150 mm, suspended assemblies

Exhaust cranes

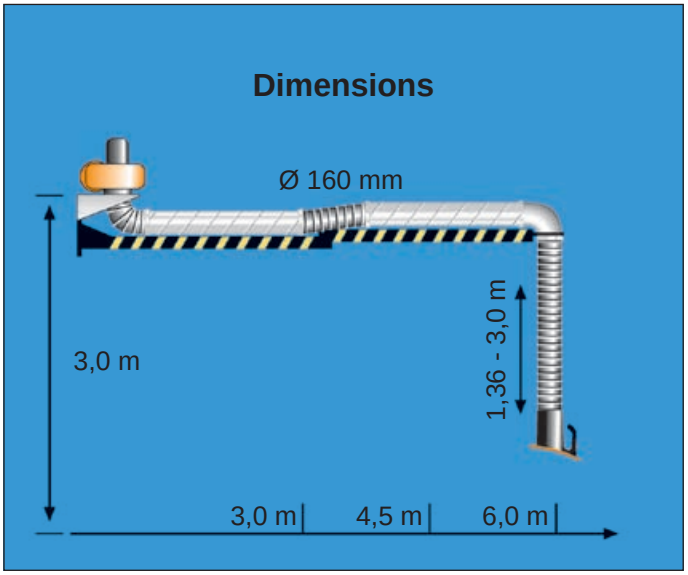
The ball bearing swivel exhaust crane is as well as the exhaust arm ideally suitable for local extraction of hazardous substances. The two part crane boom is suitable to suspend 50 kg from the first boom (e.g. wire feed unit) and 10 kg from the second. The complete profile steel construction is epoxy powder coated. The joints with adjustable snappers, an extraction pipe with flexible hoses at the joints and a self supporting telescopic arm including the exhaust hood guarantee a very high flexibility. The exhaust crane can be connected to fans with different performances and also to filter units via a ducting system. Accessories like automatic start-stop and lighting can be fitted.

Scope of delivery:
Exhaust crane incl. exhaust hood and wall bracket

Technical data

Weight at a length of 3,0 m:	68,0 kg
Weight at a length of 4,5 m:	81,0 kg
Weight at a length of 6,0 m:	114,0 kg
Diameter:	160 mm
Noise level at 1.000 m³/h:	aprox. 64 dB (A)

Part No.	Description
91 130	Length 3,0 m, Ø 160 mm
91 145	Length 4,5 m, Ø 160 mm
91 160	Length 6,0 m, Ø 160 mm



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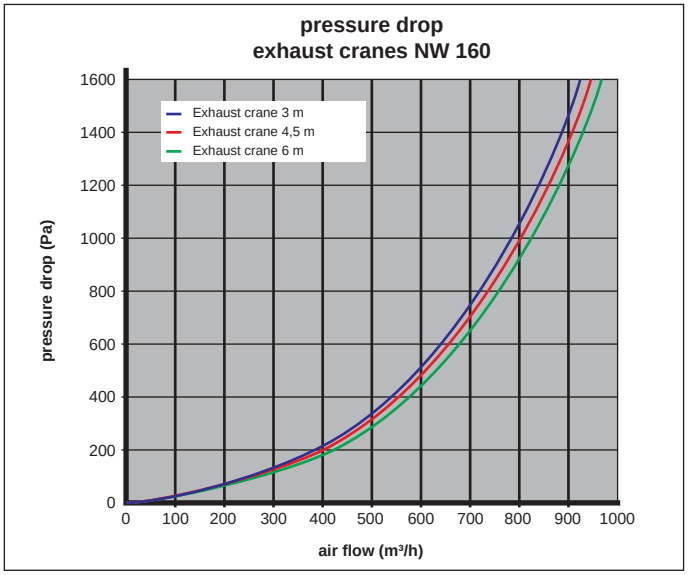

The digram indicates the pressure drop of the exhaust cranes against the air flow.

For adequate fans see page 16.
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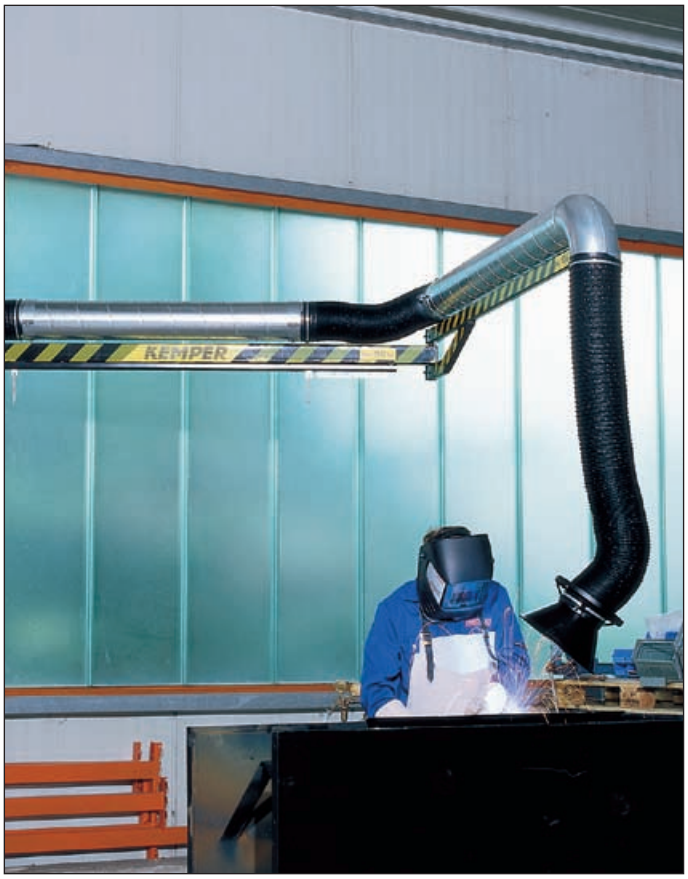
Exhaust cranes

The *KEMPER* exhaust cranes with a diameter of 250 mm are very suitable for the extraction of higher air flows. They can be used where huge amounts of dusts are produced during industrial processes.

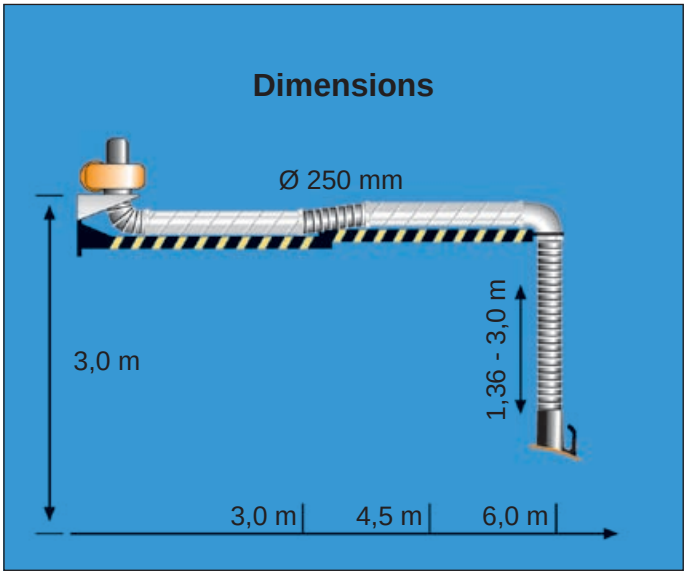


Scope of delivery:
Exhaust crane incl. exhaust hood and wall bracket

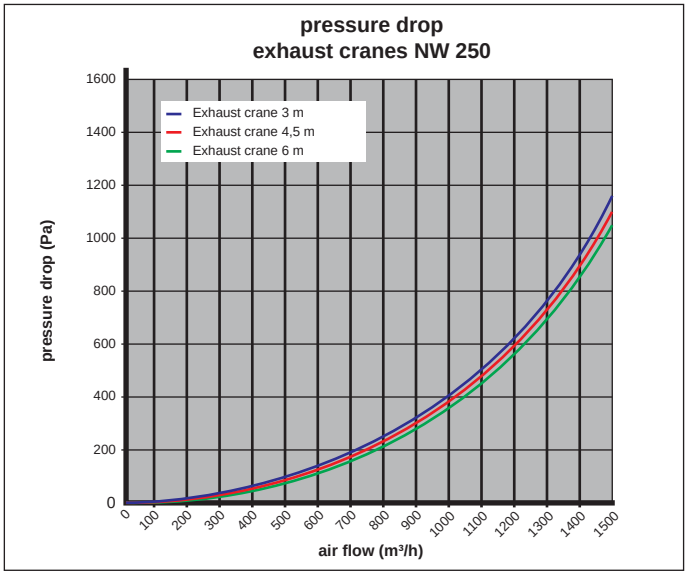
Technical data

Weight at a length of 3,0 m:	70,5 kg
Weight at a length of 4,5 m:	85,5 kg
Weight at a length of 6,0 m:	120,0 kg
Diameter:	250 mm
Noise level at 1.500 m³/h:	aprox. 67 dB (A)

Part No.	Description
91 230	Length 3,0 m, Ø 250 mm
91 245	Length 4,5 m, Ø 250 mm
91 260	Length 6,0 m, Ø 250 mm



Suggested installation height



The digram indicates the pressure drop of the exhaust cranes against the air flow.

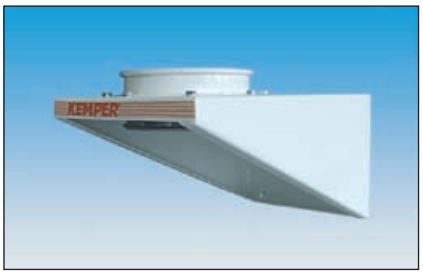
For adequate fans see page 16.
For ducting systems see page 252.
For accessories and spare parts see page 13 / 14.

Accessories for exhaust arms, telescopic arms and cranes

Lighting set

79 103 011 - Lighting set for *KEMPER* exhaust hood
2 x 12 V – 70 W, including transformer box
9 103 015 - Lighting set in combination with an automatic start-stop (see page 19).

Part No.	Description
79 103 011	Lighting set
79 103 015	Lighting set in combination with an automatic start-stop
79 103 013	Lighting set for retrofit
79 103 017	Lighting set for retrofit in combination with an automatic start-stop



Wall bracket for fans

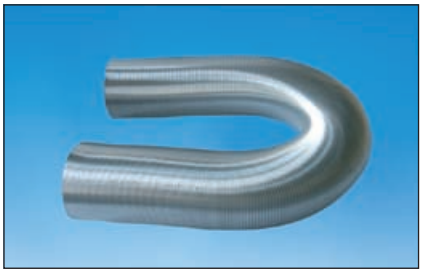
For the connection of hoses, for fans up to 2.200 m³/h.

Part No.	Description
93 002	For one hose Ø 100 mm
93 001	For one hose Ø 150 mm
93 005	For one hose Ø 160 mm
93 003	For two hoses Ø 100 mm
93 004	For two hoses Ø 150 mm
93 006	For two hoses Ø 160 mm

Connecting material

Complete set to fasten an outgoing air hose, Ø 160 mm, to the air escape side of the ventilator or to the wall bracket of an exhaust arm.

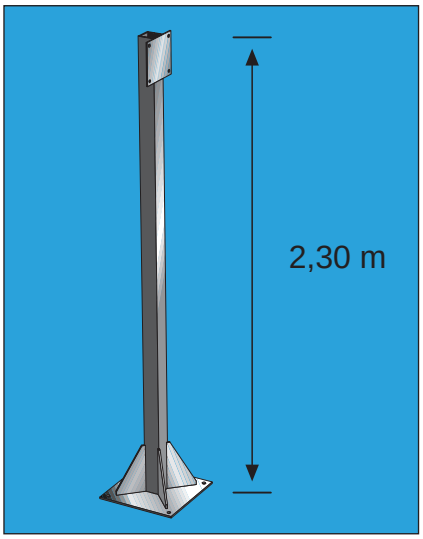
Part No.	Description
93 018	Set of connecting material



Connecting pipe

Ø 160 mm out of multilayer aluminium foil, extendable from 1,25 m to 5 m max.

Part No.	Description
93 200	Connecting pipe Ø 160 mm



Column

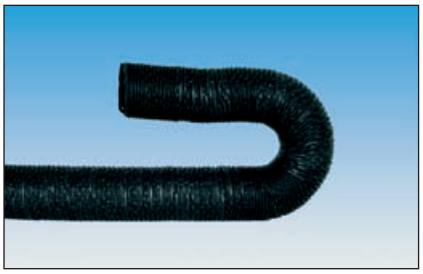
This column is the optimal solution, if there is no possibility to fasten the exhaust arm to the wall or a pillar.
An exhaust arm with a length of up to 4,0 m can be installed.

Part No.	Description
998 800 280	Column for exhaust arms up to 4,0 m

Spare parts for exhaust arms, telescopic arms and cranes

Replacement hoses for exhaust arms, telescopic arms and exhaust cranes
Replacement tubes for exhaust arms, telescopic exhaust arms and exhaust cranes. Polyester hose with PVC coating and an internal steel wire spiral.

Part No.	Description
114 0348	For exhaust arms 2,0 m and 5,0 m, Ø 150 mm
114 0349	For exhaust arms 3,0 m and 6,0 m, Ø 150 mm
114 0350	For exhaust arms 4,0 m and 7,0 m, Ø 150 mm



Replacement hoses for rigid metal tube arms
For rigid metal tube arms, polyester hose with PVC coating and an internal steel wire spiral.

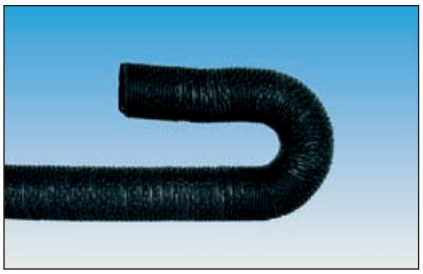
Part No.	Description
79 103 40	Set of replacement hoses (3 pcs.)

High temperature replacement hoses
For rigid metal tube arms, polyester hose with PVC coating and an internal steel wire spiral. High temperature version, heat resistant up to + 310 °C

Part No.	Description
79 103 10	Set of HT hoses (3 pcs.)

Replacement hoses for telescopic exhaust arms
Polyester hose with PVC coating and an internal steel wire spiral.

Part No.	Description
93 081 107	Length 1,5 m for telescopic exhaust arms, Ø 150 mm
93 081 106	Length 2,0 m for telescopic exhaust arms, Ø 150 mm
93 084 108	Length 3,0 m for telescopic part of the exhaust crane, Ø 160 mm
93 084 104	Length 3,0 m for telescopic part of the exhaust crane, Ø 250 mm

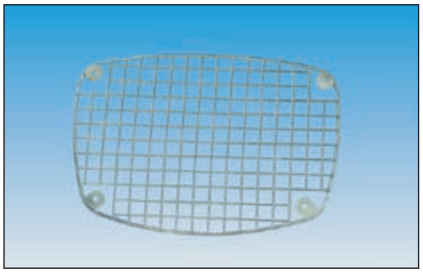


Exhaust hood
Replacement exhaust hood for exhaust arms and telescopic exhaust arms incl. swivel joint and fastening material.

Part No.	Description
79 103 00	Exhaust hood
79 103 010	Exhaust hood incl. lamps for lighting kit

Protective mesh
Replacement mesh for the *KEMPER* exhaust hood.

Part No.	Description
127 0091	Mesh for exhaust hood



Fans

Fans series M

These fans have especially been designed for the use with exhaust arms, telescopic arms and exhaust cranes.
The impeller wheel and the powder coated housing consist of spark proved aluminium casting. The impeller wheel is balanced statically and dynamically. Therefore, excellent operating characteristics are achieved and the fan produces a very low noise level.

The fan is supplied with toggle tip fasteners for an easy and fast installation to the wall bracket without any additional accessories. The air flow can be directed according to the requirements.

An extra wall bracket for the *KEMPER* fan will be required if being used together with the *KEMPER* exhaust cranes.
(see page 19)

Recommended fans

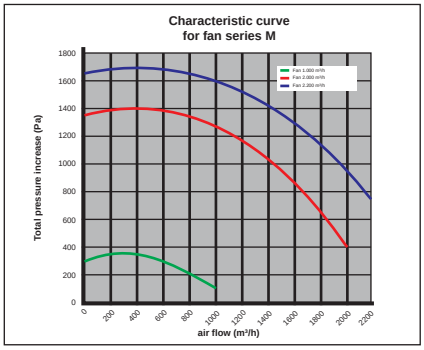
Telescopic exhaust arm:	1.000 m³/h
Exhaust arm 2 - 4 m long:	1.000 / 2.000 / 2.200 m³/h
Exhaust arm 5 - 7 m long:	2.000 / 2.200 m³/h
Exhaust crane Ø 160 mm:	2.200 / 3.000 m³/h

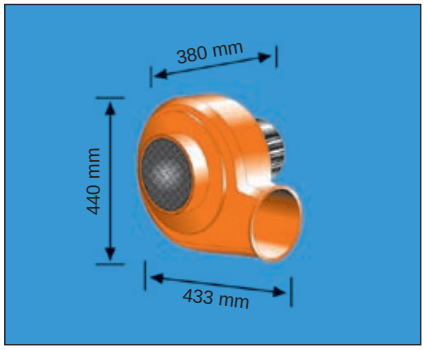
Fans series M

Part No.	Fan performance	Motor power	Voltage	Weight
92 101	1.000 m³/h	0,55 kW	3 x 400 V / 50 Hz	23 kg
92 102	1.000 m³/h	0,55 kW	1 x 230 V / 50 Hz	23 kg
92 103	1.000 m³/h	0,55 kW	3 x 500 V / 50 Hz	23 kg
92 104	2.000 m³/h	0,75 kW	3 x 400 V / 50 Hz	23 kg
92 105	2.000 m³/h	0,75 kW	1 x 230 V / 50 Hz	23 kg
92 106	2.000 m³/h	0,75 kW	3 x 500 V / 50 Hz	23 kg
92 104 100	2.200 m³/h	1,10 kW	3 x 400 V / 50 Hz	24 kg
92 104 116	2.200 m³/h	1,10 kW	3 x 500 V / 50 Hz	24 kg
		other voltages available on request		

Fans series M with explosion proof motor

Part No.	Fan performance	Motor power	Voltage	Weight
92 108	1.000 m³/h	0,55 kW	3 x 400 V / 50 Hz	24 kg
92 109	2.000 m³/h	0,75 kW	3 x 400 V / 50 Hz	24 kg
		other voltages available on request		





Fans series H

The fans of the series H are, as well as the fans of the series M, suitable for industrial application and the connection to *KEMPER* exhaust arms, telescopic exhaust arms and exhaust cranes.
The *KEMPER* fans are also suitable for transporting bulk solids, dusts or the like.

Recommended fans

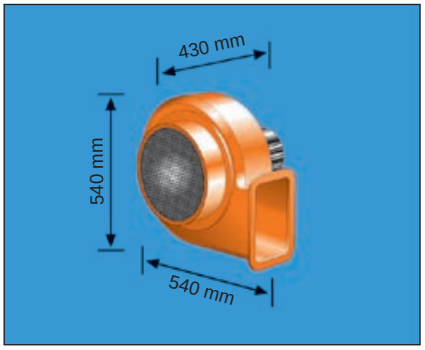
Exhaust crane Ø 160 mm:	2.000 / 3.000 m³/h
Exhaust crane Ø 250 mm:	3.000 m³/h

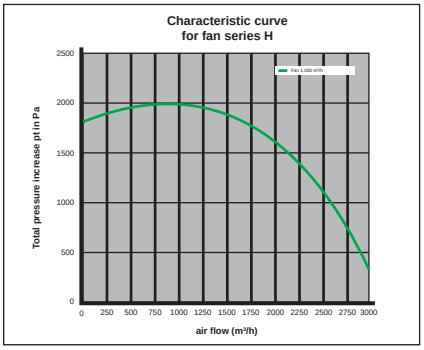
Fans series H

Part No.	Fan performance	Motor power	Voltage	Weight
92 215	3.000 m³/h	1,50 kW	3 x 400 V / 50 Hz	36 kg
92 215 100	3.000 m³/h	1,50 kW	3 x 500 V / 50 Hz	36 kg
92 215 111	3.000 m³/h	1,50 kW	1 x 230 V / 50 Hz	36 kg
		other voltages available on request		

Fans series H with explosion proof motor

Part No.	Fan performance	Motor power	Voltage	Weight
92 215 119	3.000 m³/h	1,50 kW	3 x 400 V / 50 Hz	37 kg
		other voltages available on request		





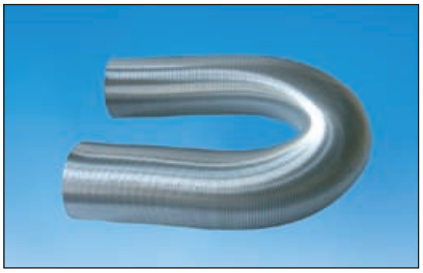
Accessories for fans

Automatic start-stop
The *KEMPER* automatic start-stop automatically switches the fan on or off, as soon as the welding process has been started or finished. Fans and automatic start-stop sensor will be connected to the provided control-box, which will be mounted to a wall or a column.

Part No.	Description
94 102	Automatic start-stop

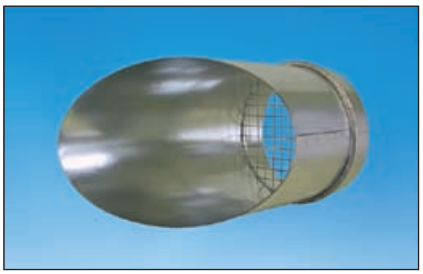
Connecting material
Complete set to fasten an outgoing air hose, Ø 160 mm, to the air escape side of the ventilator or to the wall bracket of an exhaust arm.

Part No.	Description
93 018	Set of connecting material



Connecting pipe
Ø 160 mm out of multilayer aluminium foil, extendable from 1,25 m to 5 m max.

Part No.	Description
93 200	Connecting pipe Ø 160 mm

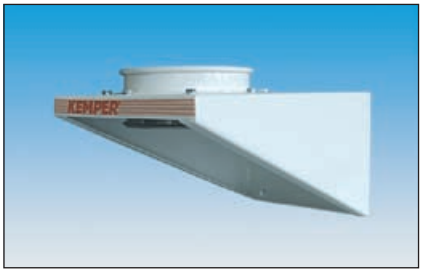


Blow out piece
Blow out piece with bird protective mesh, galvanised, Ø 160 mm

Part No.	Description
93 045	Blow out piece with bird protective mesh, galvanised

Silencer
For fans on page 17.

Part No.	Description
93 051	Silencer for fans

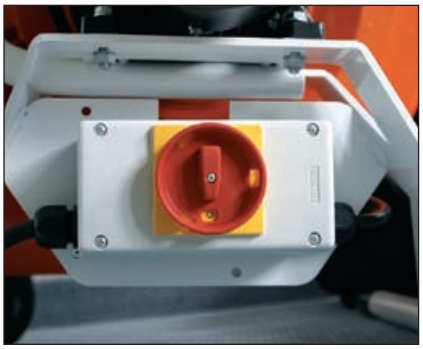


Wall bracket for fans
For the connection of hoses, for fans up to 2.200 m³/h.

Part No.	Description
93 002	For one hose Ø 100 mm
93 001	For one hose Ø 150 mm
93 005	For one hose Ø 160 mm
93 003	For two hoses Ø 100 mm
93 004	For two hoses Ø 150 mm
93 006	For two hoses Ø 160 mm

Motor protection switches

The following motor protection switches can be used for the electrical connection of *KEMPER* fans. In the following table you can find the corresponding switch easily.



Part No.	For fans	Voltage
94 170 124	92 101	0,55 kW · 3 x 400 V / 50 Hz
94 170 119	92 102	0,55 kW · 1 x 230 V / 50 Hz
94 170 124	92 103	0,55 kW · 3 x 500 V / 50 Hz
94 170 123	92 104	0,75 kW · 3 x 400 V / 50 Hz
94 170 118	92 105	0,75 kW · 1 x 230 V / 50 Hz
94 170 124	92 106	0,75 kW · 3 x 500 V / 50 Hz
94 170 121	92 104 100	1,10 kW · 3 x 400 V / 50 Hz
94 170 122	92 104 116	1,10 kW · 3 x 500 V / 50 Hz
94 170 104	92 108	0,55 kW · 3 x 400 V / 50 Hz
94 170 105	92 109	0,75 kW · 3 x 400 V / 50 Hz
94 170 120	92 215	1,50 kW · 3 x 400 V / 50 Hz
94 170 121	92 215 100	1,50 kW · 3 x 500 V / 50 Hz
94 170 116	92 215 111	1,50 kW · 1 x 230 V / 50 Hz
94 170 106	92 215 119	1,50 kW · 3 x 400 V / 50 Hz

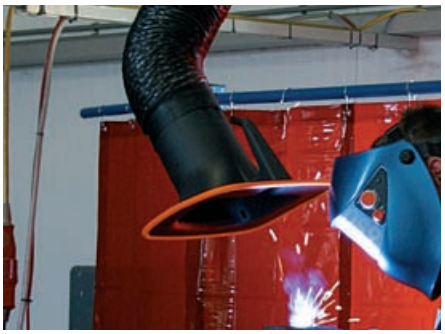
Exhaust hoses

In the following table you can find suitable hoses with exhaust hood for connection to the fans of the series H and M.

Part No.	Description
93 082	Exhaust hose, Ø 100 mm, length 6,0 m, fibre glass reinforcement with PVC coating and steel wire spiral incl. exhaust nozzle with magnetic foot
93 083	Exhaust hose, Ø 150 mm, length 6,0 m as described above

***KEMPER* exhaust hood with magnetic foot**

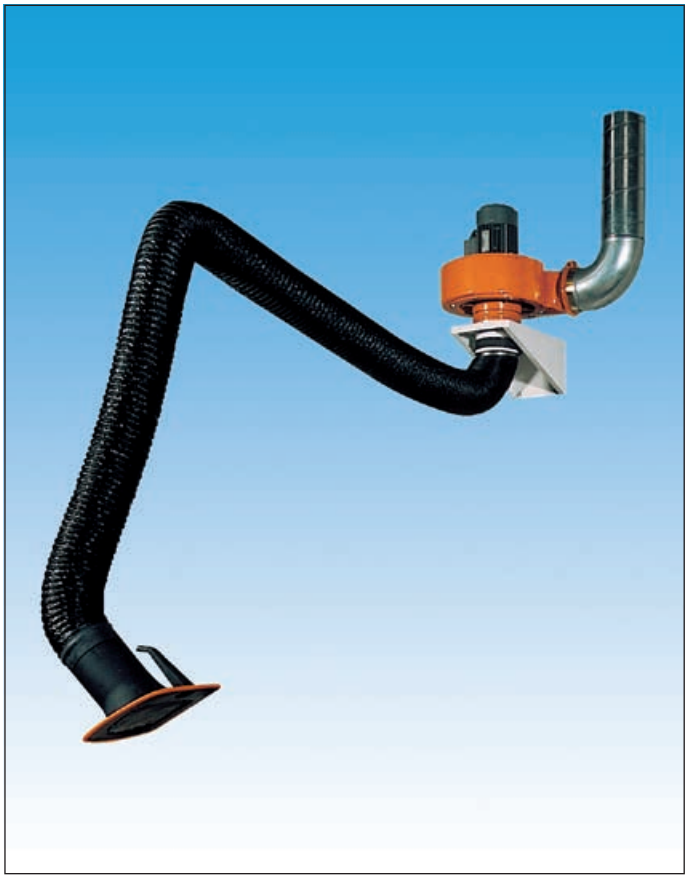
Part No.	Description
79 103 31	Exhaust hood with magnetic foot, including exhaust hose, Ø 150 mm, length 6,0 m



Exhaust set

Exhaust set

with flexible exhaust arm



The *KEMPER* exhaust set consists of a 2 m, 3 m or 4 m long evacuation arm, a fan with wall bracket and a motor protection switch. For use wherever it is not absolutely necessary to filter the exhaust air.

KEMPER evacuation arms are excellent for evacuation of welding smoke, gases, vapors, light dust and solvents.

The hose-type evacuation arm consists of an internal parallelogram support linkage with spring support and a polyester fabric reinforced hose with PVC coating with coiled steel wire bonded in. The 360° rotating evacuation hood with throttle valve can be swiveled in all directions.

The fans were designed especially for connection to *KEMPER* evacuation arms.
The housing and impeller consist of non-sparking, cast silumin. The impeller is balanced statically and dynamically.

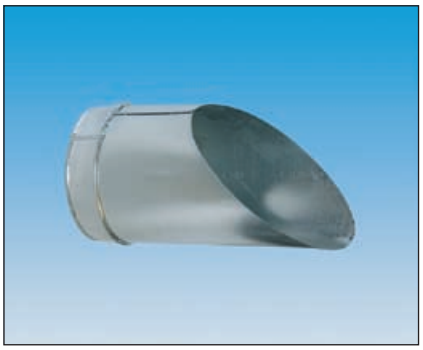
This ensures perfectly smooth operation and minimum noise development. The housing has a powder finish. Including connection flange for Ø 160 mm exhaust pipe.

Exhaust set with flexible exhaust arm

Part No.	Description
79 002 201	Exhaust set with flexible exhaust arm, Length 2 m, Ø150 mm Fan: 2.000 m³/h, 0,75 kW
79 003 201	Exhaust set with flexible exhaust arm, Length 3 m, Ø150 mm Fan: 2.000 m³/h, 0,75 kW
79 004 201	Exhaust set with flexible exhaust arm, Length 4 m, Ø150 mm Fan: 2.000 m³/h, 0,75 kW

Technical Data

Fan performance:	2.000 m³/h
Motor power:	0,75 kW
Volatge:	3 x 400 V / 50 Hz
Exhaust arm type:	Flexible exhaust arm
Length exhaust arm:	2 m, 3 m, 4 m



Exhaust set

with rigid metal tube arm

The *KEMPER* exhaust set consists of a 2 m, 3 m or 4 m long evacuation arm, a fan with wall bracket and a motor protection switch. For use wherever it is not absolutely necessary to filter the exhaust air.

KEMPER evacuation arms are excellent for evacuation of welding smoke, gases, vapors, light dust and solvents.

The hose-type evacuation arm consists of an internal parallelogram support linkage with spring support and a polyester fabric reinforced hose with PVC coating with coiled steel wire bonded in. The 360° rotating evacuation hood with throttle valve can be swiveled in all directions.

The fans were designed especially for connection to *KEMPER* evacuation arms.
The housing and impeller consist of non-sparking, cast silumin. The impeller is balanced statically and dynamically.

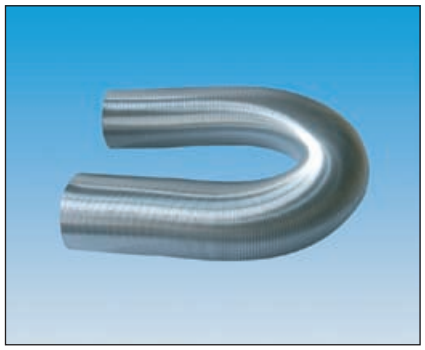
This ensures perfectly smooth operation and minimum noise development. The housing has a powder finish. Including connection flange for Ø 160 mm exhaust pipe.

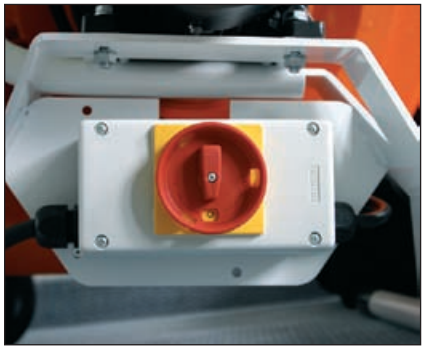
Technical Data

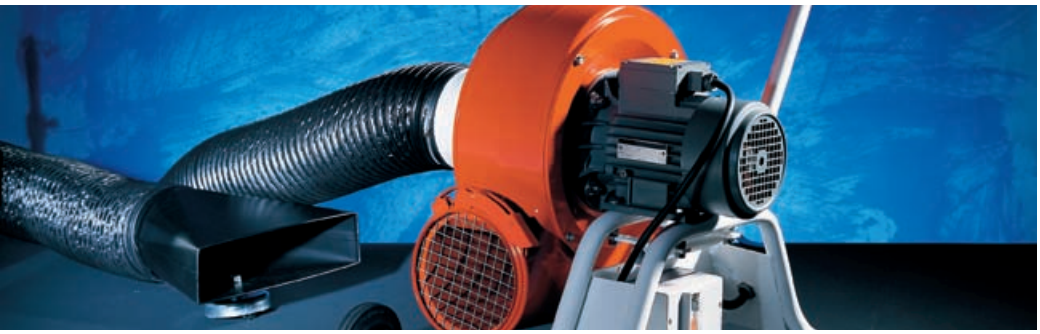
Fan performance:	2.000 m³/h
Motor power:	0,75 kW
Volatge:	3 x 400 V / 50 Hz
Exhaust arm type:	Rigid metal tube arm
Length exhaust arm:	2 m, 3 m, 4 m

Exhaust set with rigid metal tube arm

Part No.	Description
79 502 201	Exhaust set with rigid metal tube arm, Length 2 m, Ø150 mm Fan: 2.000 m³/h, 0,75 kW
79 503 201	Exhaust set with rigid metal tube arm, Length 3 m, Ø150 mm Fan: 2.000 m³/h, 0,75 kW
79 504 201	Exhaust set with rigid metal tube arm, Length 4 m, Ø150 mm Fan: 2.000 m³/h, 0,75 kW







Exhaust fans

Exhaust fan 2.000 m³/h

The exhaust fan 2.000 has a variety of multiple uses.
It can either be used for the extraction of welding fumes, dust, car exhaust gases or for the transport of packaging.

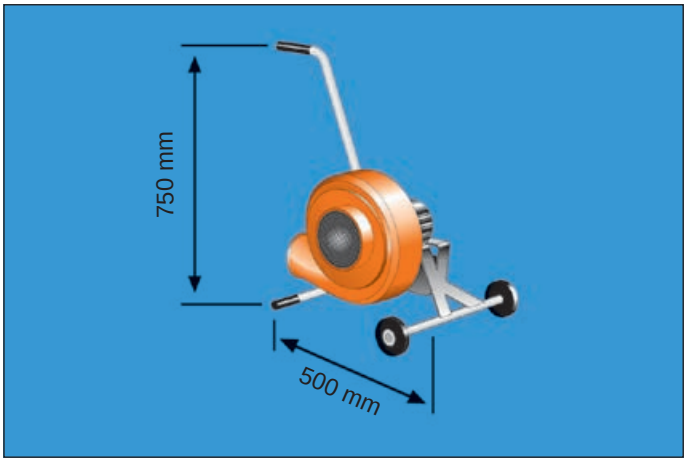
Other applications include the ventilation of containers or pipes.

The exhaust fan has been designed for tough industrial conditions. The housing and impeller wheel are made of aluminium casting. The rigid fan housing and trolley are epoxy powder coated.

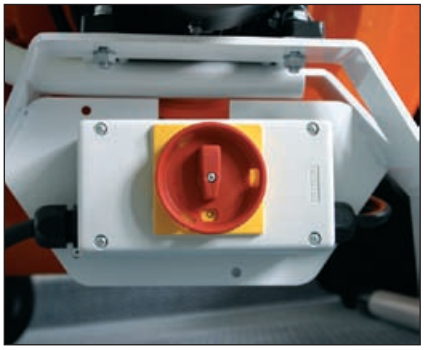
A variety of different extraction and pressure hoses are available.The exhaust fan comes as a complete kit with all necessary parts for mobile and portable applications.

Technical data

Weight:	30,0 kg
Noise level:	aprox. 68 dB (A)



Part No.	Description
91 623	Exhaust fan ventilator: 2.000 m³/h, motor: 0,75 kW · 3 x 400 V / 50 Hz
91 623 100	Exhaust fan ventilator: 2.000 m³/h, motor: 0,75 kW · 1 x 230 V / 50 Hz
93 082	Exhaust hose Ø 100 mm, length 6,0 m, incl. exhaust hood with magnetic foot
93 083	Exhaust hose Ø 150 mm, length 6,0 m, incl. exhaust hood with magnetic foot
79 103 31	Exhaust hose Ø 150 mm, length 6,0 m, incl. exhaust hood with magnetic foot
93 084	Outgoing air hose, Ø 160 mm, length 6,0 m



Exhaust fan 3.000 m³/h

The mobile exhaust fan 3.000 is perfect for moving large amounts of air, dusts, welding fumes or the like.

The housing consists of spark proof aluminium casting and the impeller wheel is made of steel.

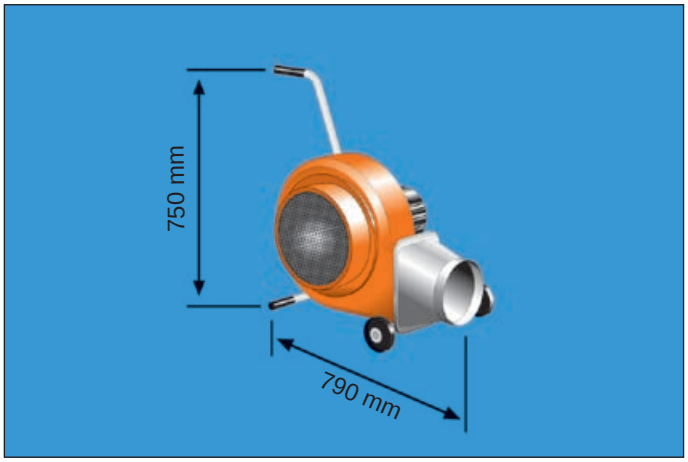
The unit includes a 5,0 m mains cable and a motor protection switch.

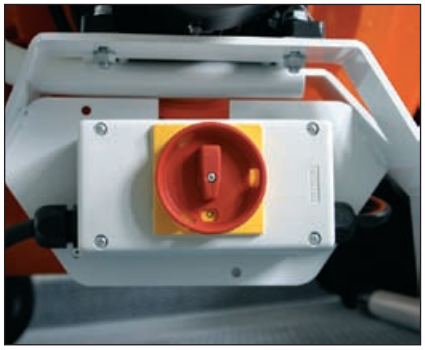
Different hoses of 250 mm are available and can be connected with a hose clamp either to the inlet and outlet opening of the mobile fan.

Technical data

Weight:	30,0 kg
Noise level:	aprox. 69 dB (A)

Part No.	Description
91 618	Exhaust fan ventilator: 3.000 m³/h, motor: 1,5 kW · 3 x 400 V / 50 Hz
91 618 100	Exhaust fan ventilator: 3.000 m³/h, motor: 1,5 kW · 1 x 230 V / 50 Hz
93 087	Exhaust hose, Ø 250 mm, length 6,0 m, incl. exhaust hood with magnetic foot
93 087 100	Exhaust hose Ø 250 mm, length 10,0 m, incl. exhaust hood with magnetic foot
93 088	Outgoing air hose Ø 250 mm, length 6,0 m





Industrial vacuum cleaner

KEMPER E-Vac 1000

The *KEMPER* E-Vac 1000 is a high performance industrial vacuum cleaner for dry material.

The low weight, large filter surface and specially tuned vacuum make this machine perfect for work in workshops and small plants. The two single-phase, 800 Watt bypass motors make it powerful and reliable. Thanks to the large filter surface with star-shaped filter for dust class M, the E-Vac 1000 is capable of holding back even the finest dust.

The housing, filter chamber and container are produced of light-weight, impact resistant plastic material, ideal for transport from one worksite to another.

The head is also impact resistant and contains a manual filter vibrator guaranteeing efficient cleaning of the standard star-shaped, class M filter.

As a standard feature, this vacuum is equipped with a Ø 50 mm adapter for connection to the intake pipe, which can be chosen from the wide range of *KEMPER* accessories.

- Motor head, filter chamber and container produced of tear and impact resistant PE plastic.
- Two high quality, individually switchable, heady duty vacuum elements.
- High air flow rate, powerful suction.
- Large filter surface, low approach velocity, minimum contamination of filter surface, long maintenance intervals, low service costs.
- Star-shaped, ‚M' class, polyester filter as standard feature.
- Manual filter vibrator to guarantee efficient filter cleaning.
- Low dust disposal system with insert bag in collection container.
- Large collection container, long operating intervals, minimum emptying.
- Level mechanism for easy removal of collection container.
- Two large fixed rear casters and two swiveling casters with arresting brake for secure mobility on uneven surfaces.

Technical Data

Airflow:	86 l/sek.
Inlet:	Ø 50 mm
Vacuum:	20.000 Pa
Voltage:	230 V / 50 Hz
Motor power:	2 x 0,8 kW
Protection class:	43
Insulation class:	F
Container capacity:	40 Liter
Filter surface:	15 m^2
Noise level:	78 db(A)
Weight:	38 kg
Dimensions (w x d x h):	550 x 640 x 1.000 mm

E-Vac 1000

Part No.	Description
63 400	*KEMPER* E-Vac 1000

KEMPER E-Vac 2000

The robust metal *KEMPER* E-Vac 2000 was designed especially for hard industrial use.

This high performance wet/dry vacuum is equipped with a vacuum unit consisting of three self-cooling bypass type electric motors.
The motors can be switched separately on the clear control panel and each is cooled separately. The machine is suitable for vacuuming dry dust as well as liquids, oil and chips.

The material vacuumed up is caught in the 100 liter steel container. The container indcludes industrial rollers and can be removed quickly and easily using the practical lever system.

The tubular shaped steel substructure makes the *KEMPER* E-Vac 2000 particularly sturdy and is equipped with a large holder for accessories. High quality industrial rollers ensure optimum mobility, even on uneven surfaces.

The entire vacuum cleaner is made of steel. The robust surfaces are finished with an epoxy coating. The large mobile connection container ensures long working intervals and less emptying. The exterior vibration filter restores the functional capability of the filter within a few seconds even after long work sessions.

- Entire motor head of robust metal, high performance vacuum units with separate motor cooling, individually switchable.
- High air flow rate, powerful suction.
- Suitable for vacuuming up liquids without pre-separator.
- Large filter surface (star-shaped), low approach velocity, minimum contamination of filter surface, long maintenance intervals, and low service costs.
- Manual, external filter vibrator, simple handling.
- Level mechanism for manual detachment, easy-to-remove collection container, chamber clamp and emptying bail make emptying easy, even with heavy material.
- Large fixed and swiveling casters ensure easy mobility even on uneven surfaces.
- Accessory storage tray for clear storage of required parts.

Technical Data

Airflow:	136 l/sek.
Inlet:	Ø 70 mm
Vacuum:	30.000 Pa
Voltage:	230 V / 50 Hz
Motor power:	3 x 1 kW
Protection class:	43
Insulation class:	E
Container capacity:	100 Liter
Filter surface:	19,5 m^2
Noise level:	70 db(A)
Weight:	76 kg
Dimensions (w x d x h):	670 x 850 x 1.580 mm

E-Vac 2000

Part No.	Description
63 401	*KEMPER* E-Vac 2000

KEMPER E-Vac 3000

The *KEMPER* E-Vac 3000 is the economical solution for vacuuming dry and liquid mediums. Sturdy design with direct drive.

This model was developed to meet the requirements for vacuuming dust and powder, solid and liquid materials and is equipped with a side channel compressor which requires no service whatsoever. It is extremely robust and therefore highly resistant even with intensive use. The frame with caster simultaneously provides for maximum stability and mobility of the vacuum.

The air is filtered by way of a polyester filter with large filter surface. The filter can be manually beaten out quickly and easily, to clean the filter and restore its full function within seconds.
The steel container is equipped with casters, has a storage capacity of 100 liters and serves for holding all types of liquid and solid wastes. The container is easy to remove and empty.

The frame consists of tubular steel and sheet metal with an epoxy power finish. A practical stand for working accessories is attached to the rear.

- Three-phase vacuum with sturdy steel design for particular stability.
- Vacuum unit with directly driven side channel fan, low noise, maintenance-free, suitable for continuous operation.
- High vacuum, excellent for heavy material.
- Large filter surface (star-shaped), low approach velocity, minimum contamination of filter surface, long maintenance intervals, and low service costs.
- Manual, external filter vibrator, simple handling.
- Large, mobile collection container for long operating intervals.
- Level mechanism for manual detachment, easy-to-remove collection container, chamber clamp and emptying bail make emptying easy, even with heavy material.
- Add-on cyclone for vacuuming liquids.
- Large fixed and swiveling casters ensure easy mobility even on uneven surfaces.
- Accessory storage tray for clear storage of required parts.

Technische Daten

Airflow:	143 l/sek.
Inlet:	Ø 70 mm
Vacuum:	30.000 Pa
Voltage:	400 V / 50 Hz
Motor power:	4 kW
Protection class:	55
Insulation class:	F
Container capacity:	100 Liter
Filter surface:	15 m^2
Noise level:	74 db(A)
Weight:	127 kg
Dimensions (w x d x h):	670 x 1.055 x 1.530 mm

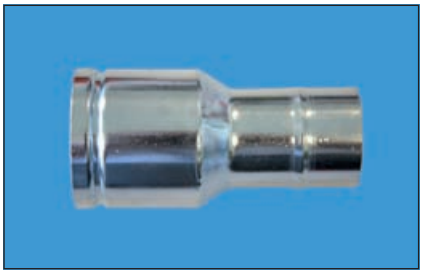
E-Vac 3000

Part No.	Description
63 402	*KEMPER* E-Vac 3000

Accessories and spare parts for KEMPER E-Vac

Reducer

Part No.	Description
128 0442	Reducer Ø 70 mm / Ø 50 mm

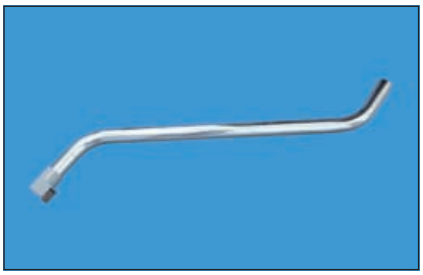


Flexible hose

Part No.	Description
114 0594	Flexible hose 3 m, Ø 50 mm with end profiles

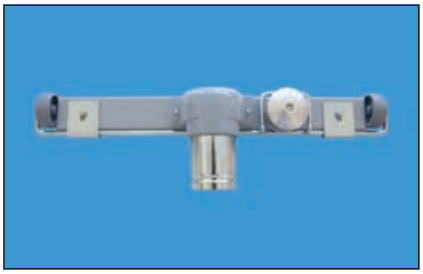
Hand pipe

Part No.	Description
106 0510	Hand pipe 2 bends, chrome, Ø 50 mm



Floor suction nozzle

Part No.	Description
101 1834	Floor suction nozzle 400 mm, FE brush Ø 50 mm



Crevice nozzle

Part No.	Description
101 1833	Crevice nozzle PVC 500 mm, Ø 50mm

High-vacuum extraction

KEMPER Dusty

Ultra light, flexible and powerful.

These are only some properties of this small power pack. Two strong turbines provide an excellent extraction efficiency and high static pressing. The minimum weight makes it very flexible and universal for many different applications.

A *Kem*Tex® ePTFE membrane filter cartridge provides the filtration of superfine dust below 0,1 µm. Thereby this unit is suitable for the separation of alveole exchangeable dusts. The advantage of surface filtration is that the filter cartridge can be cleaned.
In case of the Dusty, this happens manually in that minute when an essential cleaning will be indicated by the instrument itself. The collected dust can be removed easily from the lower part of the unit.

Different nozzles, welding torches with integrated extraction or mini exhaust arms of the extensive accessory programme can be connected to the two lugs of this extraction and filter unit. The extraction performance can be controlled steplessly and electronically.

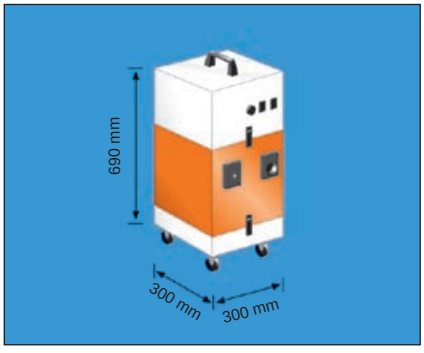
Part No.	Description
63 100	*KEMPER* Dusty 1,6 kW · 1 x 230 V / 50 Hz

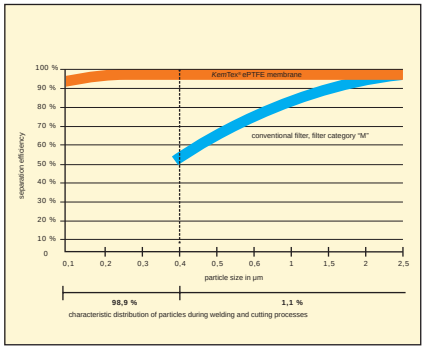
Spare filter

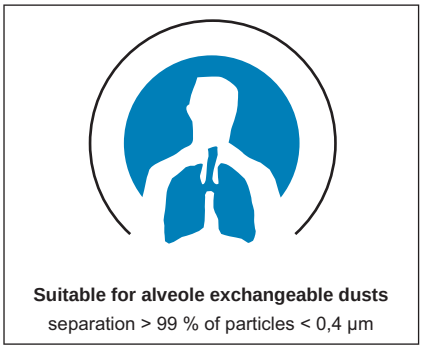
Part No.	Description
10 902 44	Spare filter for *KEMPER* Dusty

Technical data

Voltage:	1 x 230 V / 50 Hz
Extraction performance:	340 m³/h
Motor power:	1,6 kW
Noise level:	74 dB (A)
Filter efficiency:	> 99,9 %
Weight:	21 kg
Dimensions (w x d x h):	300 x 300 x 690 mm







Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

Mini-Weldmaster

This easy to transport high vacuum extraction and filter unit is ideal for the extraction of welding fumes at frequently changing work places.

Extraction hoses with a diameter of 45 mm guarantee application at locations difficult to access.

Various extraction nozzles with a magnetic foot are available. It is also possible to connect one or two welding torches with integrated extraction.

The Mini-Weldmaster is equipped with a two stage filter and has a filter efficiency of 99,9 %. It is also possible to retrofit the unit with an activated charcoal filter. Cleaning of the filter inserts is not necessary.

Depending on the actual operating time and the substances to be captured the filter has to be changed once or twice a year. A filter monitor indicates a necessary filter change.

For more convenient handling a trolley with castor wheels and an automatic start-stop is available.

Technical data

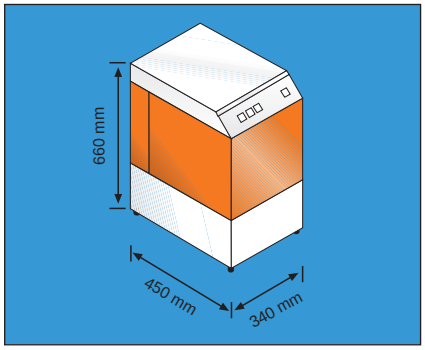
Voltage:	1 x 230 V / 50 Hz	3 x 400 V / 50 Hz
Extraction performance:	340 m³/h	270 m³/h
Motor power:	1,6 kW	1,1 kW
Noise level:	71 dB (A)	71 dB (A)
Filter efficiency:	> 99,9 % according to BGIA classification M	
Weight:	39 kg	49 kg
Dimensions (w x d x h):	340 x 450 x 660 mm	340 x 450 x 660 mm

Units

Part No.	Description
91 730	Mini-Weldmaster 1,6 kW · 1 x 230 V / 50 Hz
91 730 100	Mini-Weldmaster 1,1 kW · 3 x 400 V / 50 Hz
91 731	Mini-Weldmaster with activated charcoal 1,6 kW · 1 x 230 V / 50 Hz
91 731 100	Mini-Weldmaster with activated charcoal 1,1 kW · 3 x 400 V / 50 Hz

Spare filters

Part No.	Description
10 900 34	Pre-filter mats, (10 per set)
10 900 09	Main filter
10 900 08	Activated charcoal filter



High-vacuum extraction and filter unit

with a side channel compressor and four ports

With four suction port, this extraction and filter unit offers a flexible way of extracting the contaminated air directly at the source.

The system is equipped with a side channel compressor that remains effective even under extreme conditions.

The system can be used in almost any metalworking application. It is especially flexible when used with welding torches with integrated extraction and makes an updating of the extraction elements unnecessary. Naturally, all sorts of nozzles, high-vacuum exhaust arms or suction shields from the extensive range of accessories can be attached.

The rugged device has a 10 m² *Kem*Tex® ePTFE membrane filter cartridge, monitored by the electronic control system and, depending on the saturation level; it is automatically cleaned during operation. This is carried out by means of compressed air using a rotating nozzle.

The compressed air tank for this is also built-in, as is a large 40-liter dust collector.

The *KEMPER* high-vacuum extraction and filter unit is equipped with an automatic start / stop. With optional start / stop clamps, the high-vacuum extraction and filter unit can be switched on or off at four different locations.

Included with the unit:
Extraction plant with 16 A CEE socket, side channel compressor and start-/ stop module

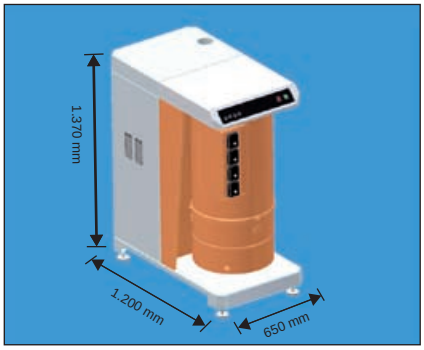
Part No.	Description
82 700	High vacuum extraction and filter unit 5,5 kW · 3 x 400 V / 50 Hz
94 102 600 02	Sensor clamp for the automatic start-stop

Spare filter

Part No.	Description
109 0333	10 m² *Kem*Tex® ePTFE membrane filter cartridge

Technical data

Fan performance:	max. 680 m³/h
Motor power:	5,5 kW
Amperage:	11 A
Pressure:	20.000 Pa
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 % (BGIA classification M)
For alveole exchangeable dusts	
Compressed air supply:	5,0 - 6,0 bar
Weight:	250 kg
Dimensions (w x d x h):	655 x 1.200 x 1.370 mm
Noise level:	74 dB (A)



Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

High-vacuum extraction and filter unit

with side channel compressor and Ø100 mm connection

This extraction and filter unit with a Ø100 mm connector provides the possibility of centrally extracting the contaminated air directly from where it is generated. Different workstations can be connected and exhausted centrally using piping systems.

The system is equipped with a side channel compressor that remains effective even under extreme conditions.

The system can be used in almost any metalworking application. It is especially flexible when used with welding torches with integrated extraction and makes an updating of the extraction elements unnecessary. Naturally, all sorts of nozzles, high-vacuum exhaust arms or suction shields from the extensive range of accessories can be attached.

The rugged device has a 10 m² *Kem*Tex® ePTFE membrane filter cartridge, monitored by the electronic control system and, depending on the saturation level; it is automatically cleaned during operation. This is carried out by means of compressed air using a rotating nozzle.

The compressed air tank for this is also built-in, as is a large 40-liter dust collector.

The *KEMPER* high-vacuum extraction and filter unit is equipped with an automatic start / stop. With optional start / stop clamps, the high-vacuum extraction and filter unit can be switched on or off at four different locations.

Included with the unit:
Extraction plant with 16 A CEE socket, side channel compressor and start-/ stop module

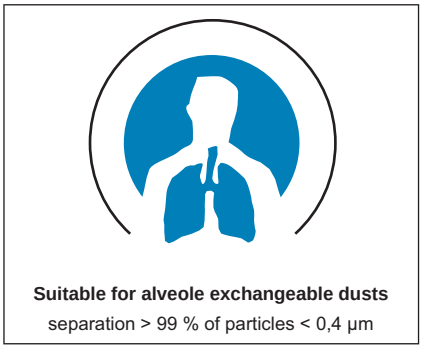
Technical data

Fan performance:	max. 680 m³/h
Motor power:	5,5 kW
Amperage:	11 A
Pressure:	20.000 Pa
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 % (BGIA classification M)
For alveole exchangeable dusts	
Compressed air supply:	5,0 - 6,0 bar
Weight:	250 kg
Dimensions (w x d x h):	655 x 1.200 x 1.370 mm
Noise level:	74 dB (A)

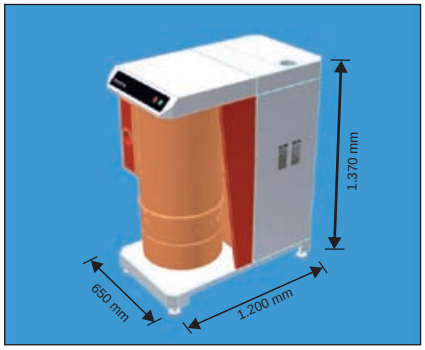
Part No.	Description
82 750	High vacuum extraction and filter unit 5,5 kW · 3 x 400 V / 50 Hz
94 102 600 02	Sensor clamp for the automatic start-stop

Spare filter

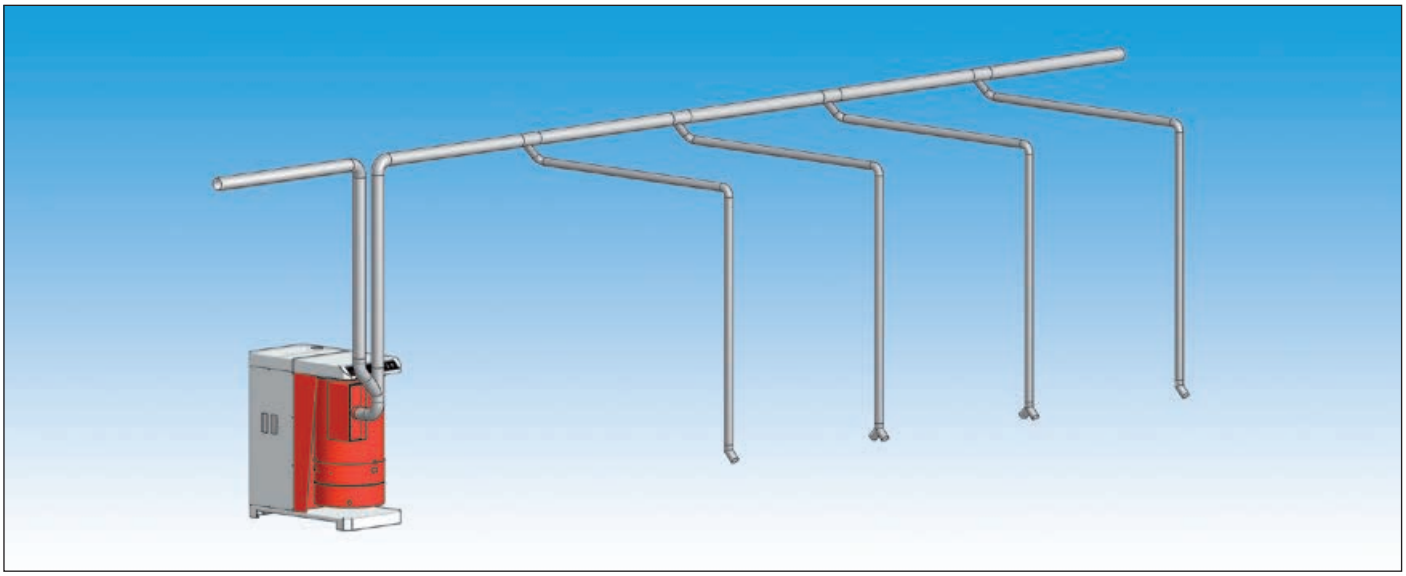
Part No.	Description
109 0333	10 m² *Kem*Tex® ePTFE membrane filter cartridge



Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm



Ducting systems for the high-vacuum extraction and filtration unit



A ducting system is used to transport the contaminated air from where it is collected to the extraction and filtration system. The system will be designed and assembled according to your wishes.

The complete system is galvanized and consists of pipes, clamps, connectors, T-pieces, reducers and all other necessary pipe parts.

All components are wear resistant because they are made of steel.

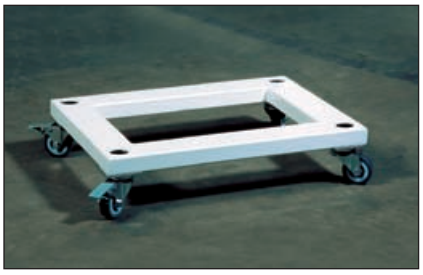
Piping systems for the high-vacuum extraction and filtration unit

No.	Part No.	Description
1	250 000 100 300	Duct, 3 m, of galvanised sheet steel according to DIN 24145, NW 100
1	250 000 100 600	Duct, 6 m, of galvanised sheet steel according to DIN 24145, NW 100
2	250 030 100 015	Bend 15°, pressed and seam welded, NW 100
2	250 030 100 030	Bend 30°, pressed and seam welded, NW 100
2	250 030 100 045	Bend 45°, pressed and seam welded, NW 100
2	250 030 100 060	Bend 60°, pressed and seam welded,, NW 100
2	250 030 100 090	Bend 90°, pressed and seam welded, NW 100
3	250 060 100 000	Male sleeve coupler for connecting of ducts, NW 100
4	250 070 100 000	Female sleeve coupler for connecting of formed pieces, NW 100
5	250 150 100 063	Y-pieces for the branching and reduction of ducting, NW 100
6	250 100 100 063	T-piece, Reducer centrical constructed, pressed out of 2 half shells NW 100
6	250 100 100 080	T-piece, Reducer centrical constructed, pressed out of 2 half shells NW 100
6	250 100 100 100	T-piece, Reducer centrical constructed, pressed out of 2 half shells NW 100
7	250 110 100 063	Branching saddle formed with an economical radius, NW 100
8	250 200 100 063	Reducer, concentric, NW 100
8	250 200 100 080	Reducer, concentric, NW 100
9	250 260 100 000	End caps for formed pieces, NW 100
10	250 250 100 000	End caps for ducts, NW 100

Accessories

Trolley

Part No.	Description
91 750 200	Trolley for Mini-Weldmaster incl. 4 guide rollers, with brakes



Extraction hose

Part No.	Description
93 070 004	Extraction hose Ø 45 mm, length: 2,5 m
93 070 005	Extraction hose Ø 45 mm, length: 5,0 m
93 070 006	Extraction hose Ø 45 mm, length: 10,0 m

Slit nozzle 300 mm

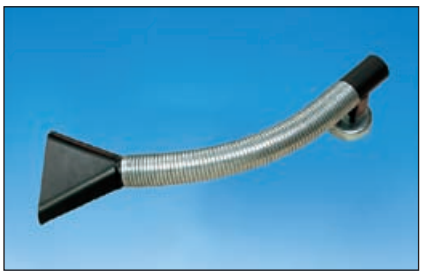
Part No.	Description
23 200 08	Slit nozzle, 300 mm, with magnetic foot

Slit nozzle 600 mm

Part No.	Description
23 200 09	Slit nozzle, 600 mm, with magnetic foot

Funnel nozzle

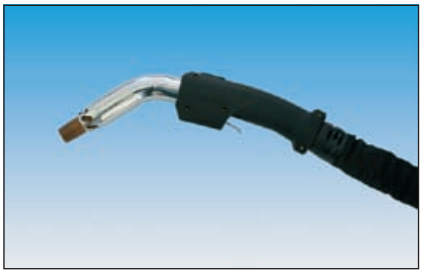
Part No.	Description
23 200 10	Funnel nozzle flexible, with magnetic foot



Welding shield

Part No.	Description
280 010 030	Welding shield with integrated extraction

Accessories

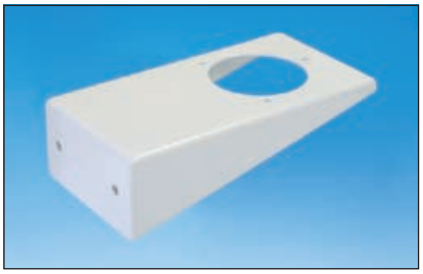


Adaptor for welding torches
For connection with a hose, Ø 45 mm.

Part No.	Description
10 600 71	Adaptor for welding torches with integrated extraction 42 - 44 mm
10 601 04	Adaptor for welding torches with integrated extraction 39 - 42 mm
10 600 84	Adaptor for welding torches with integrated extraction 30 - 38 mm

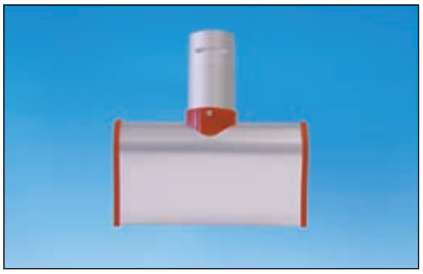
Mini-Exhaust arm

Part No.	Description
91 350	Exhaust arm, Ø 50 mm, length: 740 mm, without exhaust nozzle, swivelling to all directions, tubes made of aluminium, joints made of molded plastic incl. standard fixing device. *Other exhaust arm diameters on request.*



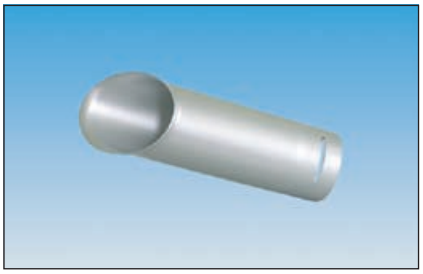
Mounting brackets

Part No.	Description
93 008 001	Table mounting bracket incl. two screw clamps
93 008 002	Wall mounting bracket incl. screws and rawlplugs



Nozzles

Part No.	Description
232 0002	Slit nozzle, width 200 mm
232 0004	Tube nozzle, Ø 50 mm
232 0005	Plexiglass nozzle, 245 x 220 mm
232 0006	Funnel nozzle, round, extraction hole Ø 210 mm



High-vacuum extraction and filter unit

Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

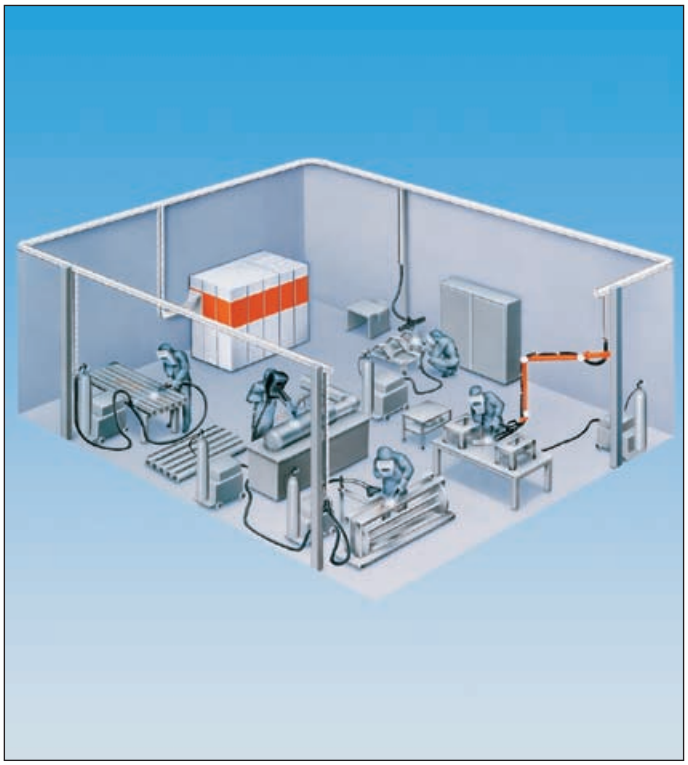
High-vacuum extraction and filter units of the system 9000 are very suitable for the connection of several extraction elements and for the construction of central extraction systems for welding workshops, grinding shops or the like.

The extracted harmful substances will be separated at the surface of the *Kem*Tex® ePTFE membrane filter. The control, based on a Siemens Simatec S7, monitors the collected dust on the surface of the cartridges. On reaching a certain limit it automatically activates the cleaning process during operation of the unit.

The robust filter unit, contructed of reinforced steel panels, consists of two parts being connected on site.

The following table gives an overview of the standard units. Units with higher outputs are available.

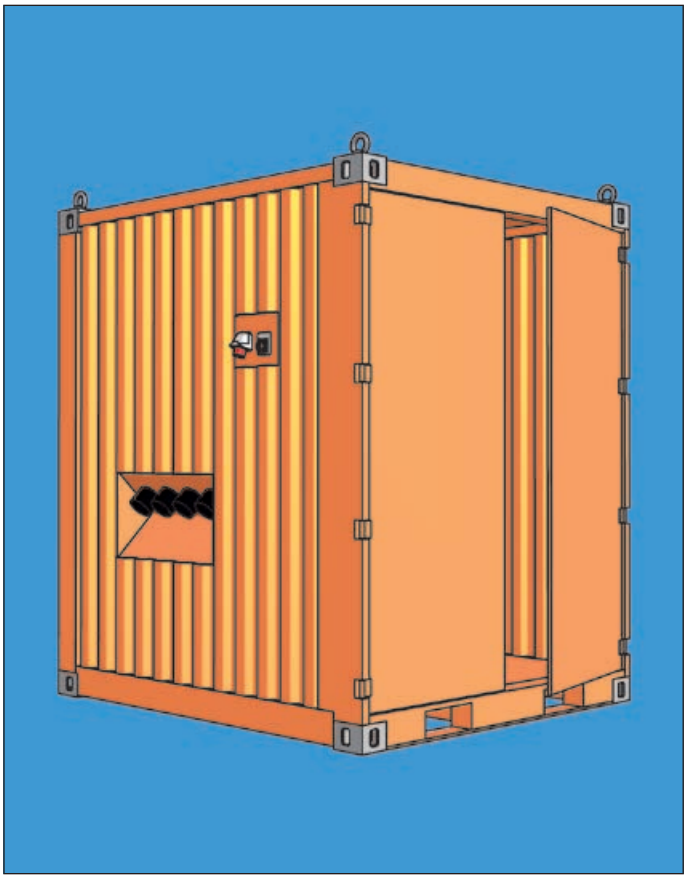
For further information on extraction and filtration units system 9000 see chapter „Extraction and filter units“.



Technical data

Part No.:	**91 0100 200**	**91 0200 200**	**91 0300 200**
Filter cartridges:		*Kem*Tex® ePTFE-membrane filter for surface filtration	
Filter efficiency:		> 99,99 % according to BGIA classification L, M	
Filter efficiency:		For alveole exchangeable dusts	
Extraction performance:	3.300 m³/h	4.000 m³/h	4.500 m³/h
Pressure:	18.000 Pa	18.000 Pa	20.000 Pa
Motor power:	22,0 kW	30,0 kW	37,0 kW
Voltage:	3 x 400 V / 50 Hz	3 x 400 V / 50 Hz	3 x 400 V / 50 Hz
Compressed air supply:	5,0 to 6,0 bar	5,0 to 6,0 bar	5,0 to 6,0 bar
Weight:	1.050 kg	1.150 kg	1.350 kg
Dimensions (w x d x h):	2.375 x 1.413 x 2.015 mm	2.826 x 1.413 x 2.015 mm	3.277 x 1.413 x 2.015 mm

Container type high-vacuum filtration system



KEMPER container type high-vacuum systems offer a flexible solution for workplaces where a stationary filter cannot be installed, or where the filter is only required temporarily.

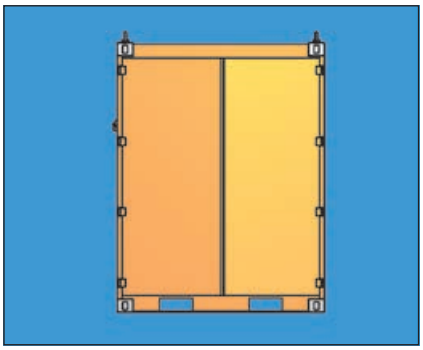
The system features a compact and robust container construction that is ideal for heavy industry, such as in shipyards or on construction sites.

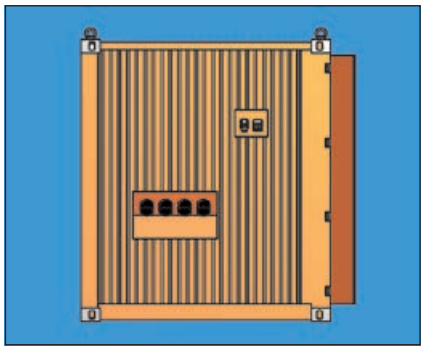
The container type high vacuum system can be easily transported by a crane or a forklift truck to its destination and be set up there. Its extremely compact and rugged design makes it possible to set it up anywhere under difficult conditions and put it into use immediately.

*Kem*Tex® ePTFE membrane filter cartridges are used to clean the contaminated air. These filters have high filtration efficiency, and can separate out even the smallest particles with a size of less than 0,4 µ.

*Kem*Tex® ePTFE filter cartridges work on the surface filtration principle. The contaminants accumulate on the surface of the filter and can therefore be removed easily and automatically by cleaning with a rotating nozzle. Careful dedusting substantially extends the life of the filter and reduces repair and maintenance costs.

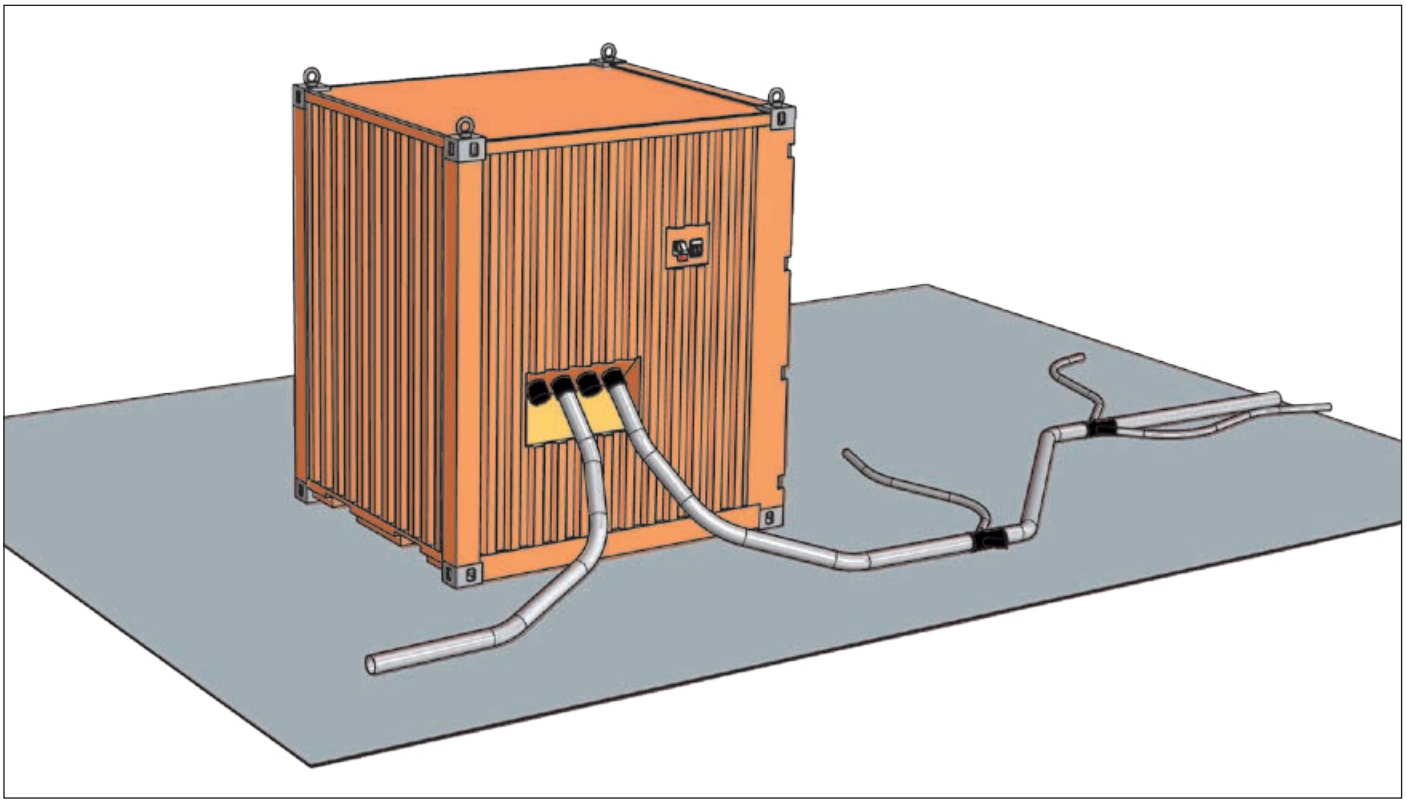
Everything needed for effective and powerful extraction is provided in the container, including a high vacuum extraction unit and the control system. As the technical equipment is protected by being in the container, the system can also be positioned outdoors.





Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

Container type high-vacuum filtration system



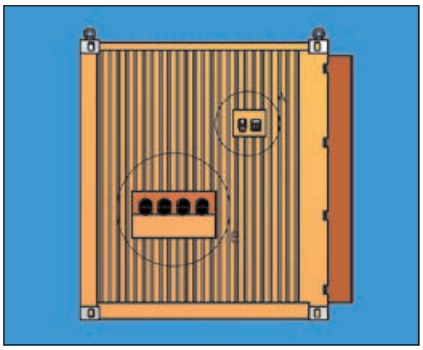
The *KEMPER* container type high-vacuum system is available in two models. Either 15 or 25 suction devcies can be connected, each of which can be operated at the same time. The number of connections depends on the applications and the number of sensing elements required.

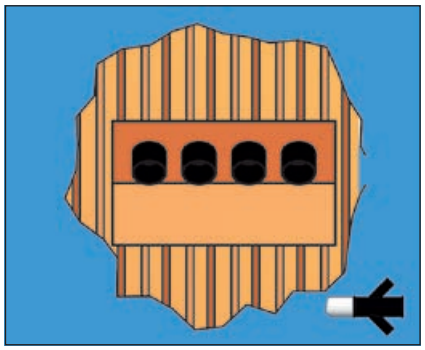
There are four inlets on the outside of the container, each equipped with flanges to which hoses and connectors are directly connected.

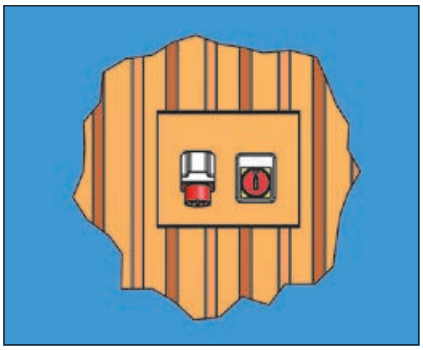
It is possible to fit a main extraction hose to each inlet, to which a further five individual extraction units can be attached.

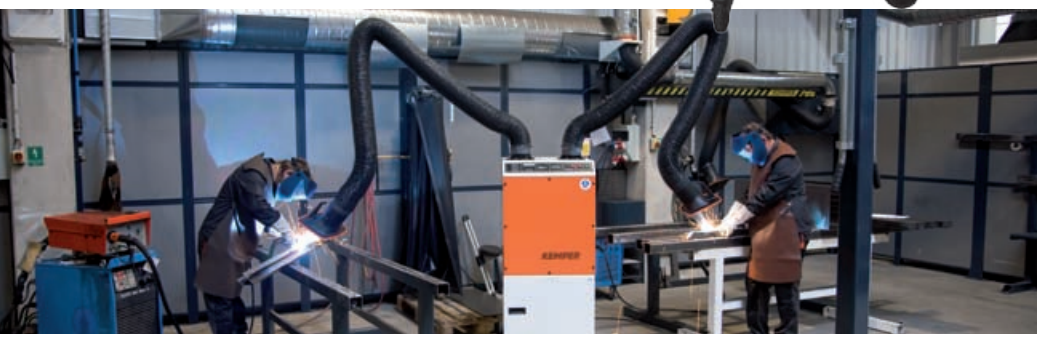
The power switch and supply are also on the outside of the system, so that the container need not be opened to switch on the plant.

Large service doors secure easy maintenance of the system.









Mobile filter units

Selection criteria for mobile filter equipment

Welding fumes – what are they?

When welding metals, different sizes of dust particles are generated. The diameter of the particles is between 0,1 microns and 1,0 microns, mainly in the range under 0,4 microns.

Typical distribution of particles in welding fumes

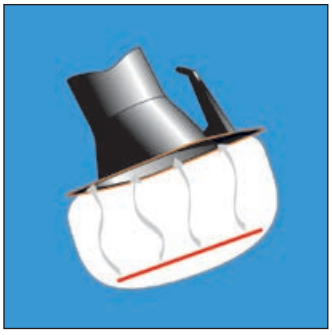
particle Ø in µm	< 0,2	< 0,4	< 0,6	< 0,8	< 1,0	> 1,0
number	800	251	9	0	1	2
% of the number	75,3	23,6	0,9	0	0,1	0,2
% of the mass	15,9	38,7	7,5	0	8,2	29,7

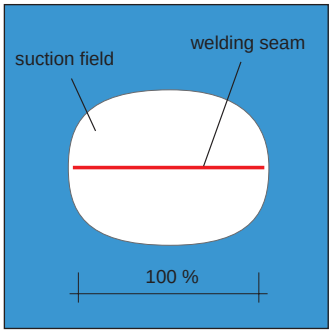
Source: Spiegel-Ciobanu (AWS-study)

The table shows that **98,9 %** of the particles fall in the range of up to 0,4 microns.
These particles are hardly removed at all by class M filters.

➡ **Class „M“ filters are not sufficient to protect your employees!**

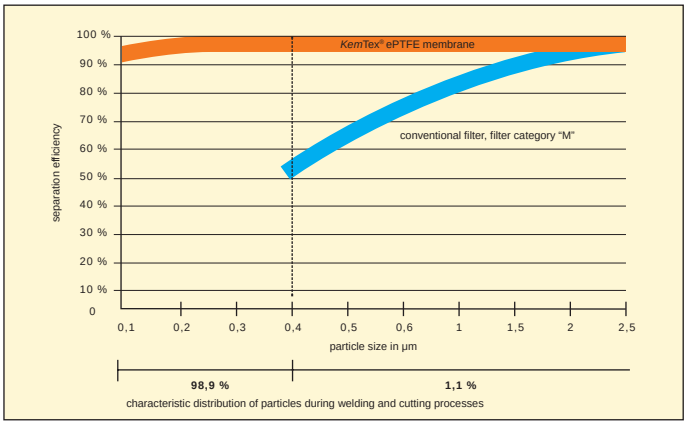
➡ **It is essential that you use state of the art technology!**





Correct capturing of contaminants during welding

- Capture at source
- Easily controlled hood
- Rotating hood
- Alignment of the hood to correspond to the weld
- Making secure Investments: meeting future regulations



Filtration efficiency

- 98,9 % of the contaminants created are in the nanoparticle range, i.e. less than 400 nanometres
- These particles are alveolar and cause cancer
- The usual filtration efficiency measurements of 99 % for particles of over 0,4 microns are not sufficient, and do not include the nanoparticles
- *KEMPER* plants with ePTFE filters achieve filtration efficiencies of over 99 % even with particles under 0,4 µ

Selection criteria for mobile filter equipment

Welding procedure	Welding procedure on alternating work stations
Arc welding - non alloy materials - low alloy materials - Aluminium	· Filter-Master XL · Filter-Master · Mechanical welding smoke filters, BGIA-certified · Mechanical welding smoke filters, mobile · Cartridge filter units, BGIA-certified · Cartridge filter units, mobile · Electrostatic filter units, mobile · Dusty · Mini-Weldmaster
Manual arc welding - high alloy materials - non - ferrous materials	· Mechanical welding smoke filters, BGIA-certified · Cartridge filter units, BGIA-certified · Filter-Master XL
MIG - MAG welding - non alloy materials - low alloy materials - Aluminium	· Filter-Master XL · Filter-Master · Mechanical welding smoke filters, BGIA-certified · Mechanical welding smoke filters, mobile · Cartridge filter units, BGIA-certified · Cartridge filter units, mobile · Electrostatic filter units, mobile · Dusty · Mini-Weldmaster
MIG - MAG welding - high alloy materials - non - ferrous materials	· Mechanical welding smoke filters, BGIA-certified · Cartridge filter units, BGIA-certified · Filter-Master XL
TIG welding - non alloy materials - low alloy materials - Aluminium	· Filter-Master XL · Filter-Master · Mechanical welding smoke filters, BGIA-certified · Mechanical welding smoke filters, mobile · Cartridge filter units, BGIA-certified · Cartridge filter units, mobile · Electrostatic filter units, mobile · Dusty · Mini-Weldmaster
TIG welding - high alloy materials - non - ferrous materials	· Mechanical welding smoke filters, BGIA-certified · Cartridge filter units, BGIA-certified · Filter-Master XL

Filter-Master

The Filter-Master, a mobile mechanical filter, is designed and ideally suitable for use at various welding workplaces and conditions. Built of rigid sheet metal construction and finished with incorporating anti corrosive powder coating with the Filter-Master is designed for every day use. Four heavy duty rubber castors allow ease of movement within the factory and the extraction arm can be swiveled by 360°. It is therefore very easy to direct the arm into any desired position. The Filter-Master is the ideal solution to your extraction problems.

The contaminated air captured by the extraction hood is separated from rough particles by a prefilter. Thus, the prefiltered air is directed through the subsequent main filter with a filter efficiency of more than 99,9 % and the clean air is fed back to the workshop by two lateral blow-grids integrated in the machine. A control light indicates a necessary replacement of the filter insert. To replace the filter, the top cover is folded back. The life expectance of the filter is subject to the application of the Filter-Master.

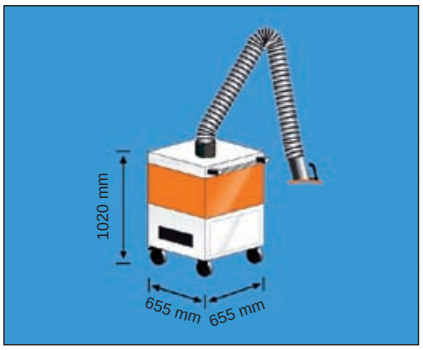
When not in use the mains cable can be stored on the cable holder. All necessary controls, indicators and instructions are shown on the detailled control panel.

Units

Part No.	Description
64 100 100	Filter-Master with one exhaust arm, 2,0 m, Ø 150 mm
64 100 101	Filter-Master with one exhaust arm, 3,0 m, Ø 150 mm
64 100 102	Filter-Master with one exhaust arm, 4,0 m, Ø 150 mm
21 400	Spare filter
109 0033	Pre-filter mats, (set of 10 pieces)

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	68 dB (A)
Weight (without extraction arm):	80 kg
Dimensions (w x d x h):	655 x 655 x 1.020 mm



Mechanical welding smoke filters, mobile

with one exhaust arm

This mobile welding smoke filter with one exhaust arm offers many advantages for use at changing welding workstations.

The flexible exhaust arms are swivelling by 360° and guarantee easy handling. The flexible exhaust arm can be supplied in lengths of 2 m, 3 m and 4 m with a diameter of 150 mm.

Either the flexible exhaust arm or the rigid metal tube arm can be chosen for a welding smoke filter. First the extracted air is fed to the prefilter where larger particles are captured. The main filter guarantees an effective cleaning of the welding smoke with a filter efficiency above 99,9 %.

This means that even the smallest particles down to a size of 0,3 micron are filtered. Depending to the number of working hours and the substances to be captured the filter needs to be replaced once or twice a year. The unit is equipped with a control panel featuring:

- On/Off switch
- Operating control light
- Filter monitor
- Fan rotation direction indicator
- Plug for automatic start-stop

Units with flexible exhaust arms

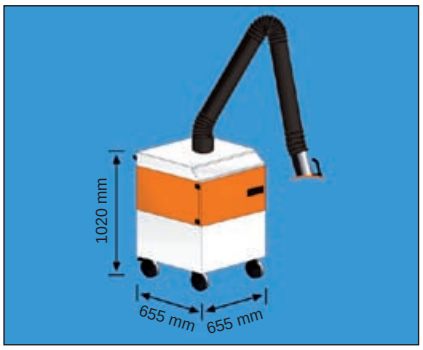
Part No.	Description
84 100 100	Welding smoke filter with one exhaust arm, 2,0 m, Ø 150 mm
84 100 101	Welding smoke filter with one exhaust arm, 3,0 m, Ø 150 mm
84 100 102	Welding smoke filter with one exhaust arm, 4,0 m, Ø 150 mm

Units with rigid metal tube arms

Part No.	Description
84 100 103	Welding smoke filter with one exhaust arm, 2,0 m, Ø 150 mm
84 100 104	Welding smoke filter with one exhaust arm, 3,0 m, Ø 150 mm
84 100 105	Welding smoke filter with one exhaust arm, 4,0 m, Ø 150 mm
109 0033	Pre-filter mats (set of 10 pieces)
109 0010	Main filter
92 919	Additional cost for activated charcoal filter

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without extraction arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.020 mm



Mechanical welding smoke filters, mobile

with two exhaust arms

This mobile welding smoke filter with two exhaust arms offers many advantages for use at changing welding workstations.

The flexible exhaust arms are swivelling by 360° and guarantee easy handling. The flexible exhaust arm can be supplied in lengths of 2 m, 3 m and 4 m with a diameter of 150 mm.

Either flexible exhaust arms or rigid metal tube arms can be chosen for a welding smoke filter. First, the extracted air is fed to the prefilter where larger particles are captured. The main filter guarantees an effective cleaning of the welding smoke with a filter efficiency above 99,9 %.

This means that even the smallest particles down to a size of 0,3 micron are filtered. Depending to the number of working hours and the substances to be captured the filter needs to be replaced once or twice a year. The unit is equipped with a control panel featuring:

- On/Off switch
- Operating control light
- Filter monitor
- Fan rotation direction indicator
- Plug for automatic start-stop

Units with two flexible exhaust arms

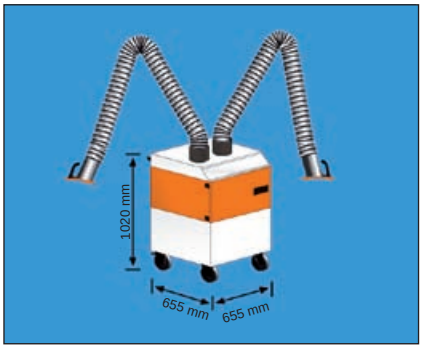
Part No.	Description
84 200 100	Welding smoke filter with two exhaust arms, 2,0 m, Ø 150 mm
84 200 101	Welding smoke filter with two exhaust arms, 3,0 m, Ø 150 mm
84 200 102	Welding smoke filter with two exhaust arms, 4,0 m, Ø 150 mm

Units with two rigid metal tube arms

Part No.	Description
84 200 103	Welding smoke filter with two exhaust arms, 2,0 m, Ø 150 mm
84 200 104	Welding smoke filter with two exhaust arms, 3,0 m, Ø 150 mm
84 200 105	Welding smoke filter with two exhaust arms, 4,0 m, Ø 150 mm
109 0033	Pre-filter mats (set of 10 pieces)
109 0010	Main filter
92 919	Additional cost for activated charcoal filter

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without extraction arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.020 mm



Mechanical welding smoke filter, mobile, BGIA-certified

When welding high alloy materials, eg. Chrom Nickel Steel, harmful substances are set free that are highly carcinogenic.

A recycling of extracted and filtered clean air to the worshop is only allowed, when the extraction unit has been tested and certified by the BGIA (government safety orginisation and institute for occupational health safety).

The BGIA certified, mobile welding fume extraction filter with one ehaust arm meets several test criteria according to the highest level (W3) for the extracting of welding fumes from high alloy steels also with over 30 % chrom- and nickel content. They are available in 2 m, 3 m or 4 m long flexible or rigid exthaust arm lengths.

The resulting harmful gas emission is captured by means of an exhaust hood and fed to a Pre-filter, in which the largest contamination are captured. Therby the endurance of the main filter is considerably lengthened. The pre-filtered air is then passed through the main filter with a filtration efficiency of > 99,9 %, the filtered air is then replaced into the workshop.

All operation and monitoring elements are clearly arranged on a display. The maintanance of the mandatory airflow, as well as a necessary filter change are reliably monitered and displayed. The unit can also be fitted with an appropriate Start-/Stop Automatic. The integrated rotation field monitor controls the phase sequence and warns of a wrong fan rotation.

Units with flexible exhaust arms

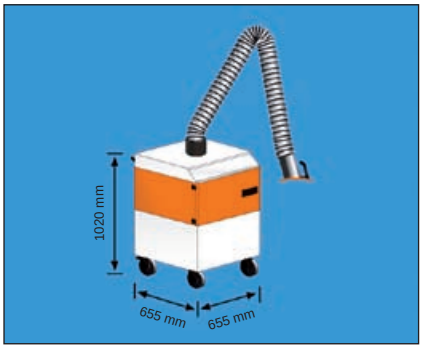
Part No.	Description
84 150 100	Welding smoke filter with one exhaust arm, 2,0 m, Ø 150 mm
84 150 101	Welding smoke filter with one exhaust arm, 3,0 m, Ø 150 mm
84 150 102	Welding smoke filter with one exhaust arm, 4,0 m, Ø 150 mm

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Noise level:	aprox. 68 dB (A)
Filter efficiency:	> 99,9 %
Weight (without extraction arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.020 mm
BGIA-Registration:	200823484/1140

Units with rigid metal tube arms

Part No.	Description
84 150 103	Welding smoke filter with one exhaust arm, 2,0 m, Ø 150 mm
84 150 104	Welding smoke filter with one exhaust arm, 3,0 m, Ø 150 mm
84 150 105	Welding smoke filter with one exhaust arm,4,0 m, Ø 150 mm
109 0033	Pre-filter mats (set of 10 pieces)
109 0227	Main filter



Electrostatic filter units, mobile

with one exhaust arm

The *KEMPER* electrostatic filter unit is suitable for use at changing workplaces.

Bigger particles are captured in a prefilter. The main filter works according to a two step-system of ionisation and purification.

With the airflow the remaining particles are carried to the ionisation wires where they are charged positive.

The collecting sheets in the main filter are negatively charged and separate the particles from the air.

All operation functions as well as the control lights for monitoring the high voltages operating control and the on/off switch are clearly arranged on the display. A connection port for the automatic start stop and lighting kit is also integrated into the display.

One exhaust arm with 2 m, 3 m or 4 m length can be installed. Both, a rigid metal tube arm or a flexible exhaust arm is available.

Units with flexible exhaust arms

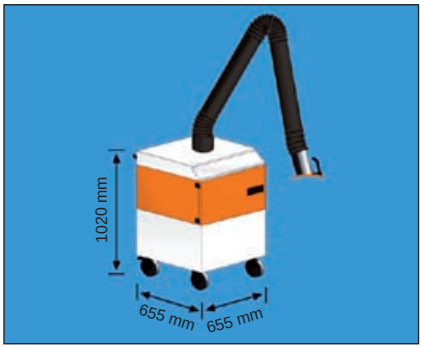
Part No.	Description
86 100 100	Electrostatic filter with one exhaust arm, 2,0 m, Ø 150 mm
86 100 101	Electrostatic filter with one exhaust arm, 3,0 m, Ø 150 mm
86 100 102	Electrostatic filter with one exhaust arm, 4,0 m, Ø 150 mm

Units with rigid metal tube arms

Part No.	Description
86 100 103	Electrostatic filter with one exhaust arm, 2,0 m, Ø 150 mm
86 100 104	Electrostatic filter with one exhaust arm, 3,0 m, Ø 150 mm
86 100 105	Electrostatic filter with one exhaust arm, 4,0 m, Ø 150 mm
94 104 100	Automatic saturation control, switches off the unit when the main filter is saturated
92 919	Additional cost for activated charcoal filter

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	1 x 230 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without extraction arm):	105 kg
Dimensions (w x d x h):	655 x 655 x 1.020 mm



Electrostatic filter units, mobile

with two exhaust arms

The *KEMPER* electrostatic filter unit is suitable for use at changing workplaces.

Bigger particles are captured in a prefilter. The main filter works according to a twostep-system of ionisation and purification. With the airflow the remaining particles are carried to the ionisation wires where they are charged positive.

The collecting sheets in the main filter are charged negative and separate the particles from the air.

All operation functions as well as the control lights for monitoring the high voltages operating control and the on/off switch are clearly arranged on the display. A connection port for the automatic start stop and lighting kit is also integrated into the display.

Two exhaust arms with 2 m, 3 m or 4 m length can be installed. Both, rigid metal tube arms or flexible exhaust arms are available

Units with two flexible exhaust arms

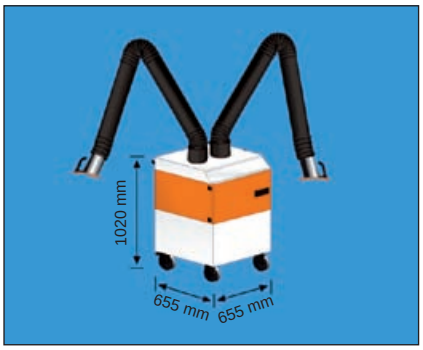
Part No.	Description
86 200 100	Electrostatic filter with two exhaust arms, 2,0 m, Ø 150 mm
86 200 101	Electrostatic filter with two exhaust arms, 3,0 m, Ø 150 mm
86 200 102	Electrostatic filter with two exhaust arms, 4,0 m, Ø 150 mm

Units with two rigid metal tube arms

Part No.	Description
86 200 103	Electrostatic filter with two exhaust arms, 2,0 m, Ø 150 mm
86 200 104	Electrostatic filter with two exhaust arms, 3,0 m, Ø 150 mm
86 200 105	Electrostatic filter with two exhaust arms, 4,0 m, Ø 150 mm
94 104 100	Automatic saturation control, switches off the unit when the main filter is saturated
92 919	Additional cost for activated charcoal filter

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,1 kW
Voltage:	1 x 230 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without extraction arm):	105 kg
Dimensions (w x d x h):	655 x 655 x 1.020 mm



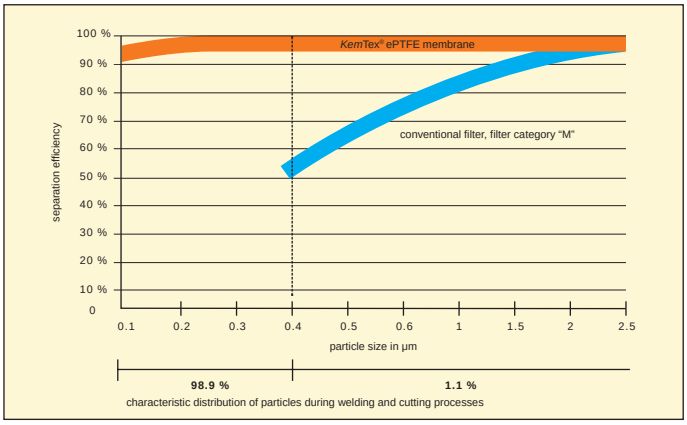
KemTex® ePTFE membrane filter

Due to the *Kem*Tex® ePTFE membrane filter the *KEMPER* extraction and filtration systems act as reference for all extraction units.

KEMPER extraction and filtration systems are yet efficient where other filtration units are no longer able to filter even the smallest particles. Especially the range of particle sizes smaller than 0,4 µm is very important for the filtration of dusts generated during welding and cutting processes. Because the particles below 0,4 µm are alveole exchangeable.

Pulmonary alveoli are the smallest units in the human lung where oxygen is exchanged between the inhaled air and the human blood. Particles reaching the pulmonary alveoli can also diffuse into the bloodstream, form deposits all over the body and, depending on the chemical structure of the particles, can cause cancer.

It is absolutely essential for extraction and filtration systems to filter even those finest particles since it is the only possibility to protect your employees and yourself against serious diseases.



The AWS tests on the particle size distribution of welding smoke has shown the following results (E308-16).

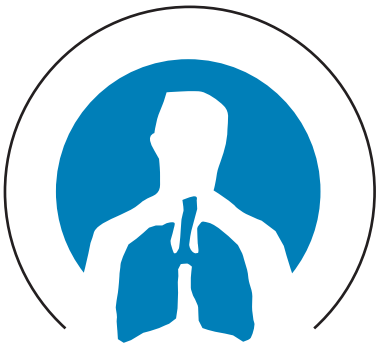
Particles Ø in µm	<0,2	<0,4	<0,6	<0,8	<1,0	>1,0
Quantity	800	251	9	0	1	2
% of the quantity	75,3	23,6	0,9	0	0,1	0,2
% of the mass	15,9	38,7	7,5	0	8,2	29,7

Source: Spiegel-Ciobanu (AWS-study)

The *Kem*Tex® ePTFE membrane filters can filter particles smaller than 0,4 µm, which represent 98,9 % of the total dust particles, according to AWS tests.

The effective pore size of the *Kem*Tex® ePTFE membrane filter is that small, that even particles with 0,1 µm already will be filtered up to 92 %. The equal zero-emission of the *Kem*Tex® ePTFE membrane surpasses all current regulations even for superfine particles. Especially with superfine dusts the *Kem*Tex® ePTFE membrane filters prevent a penetration of the particles.

*Kem*Tex® ePTFE membrane filters are therefore the ultimate technology concerning all applications. They are yet efficient where conventional filters of the filter class “M” reach their limit. About 90 % less particles reach the air in comparison with conventional filters.
Trust in the experience of *KEMPER* and keep your air clean with *Kem*Tex® ePTFE membrane filters!



Please pay special attention to the blue symbol for alveole exchangeable dusts.
You can be assured, that all filters showing this symbol separate even the finest dust particles.

Filter-Master XL

The Filter-Master XL is the basic type of filter units with high efficient *Kem*Tex® ePTFE membrane filter cartridges.

A great advantage of *Kem*Tex® ePTFE membrane filter cartridges - in addition to its high separation efficiency - is the possibility of cleaning them.

The control of the Filter-Master XL monitors the collected dust on the surface of the filter media and activates the neccesary cleaning cycle.

The unit can be equipped with a 2 m, 3 m or 4 m exhaust arm. Within its range, it can easily be brought in every position, which remains self-supporting.

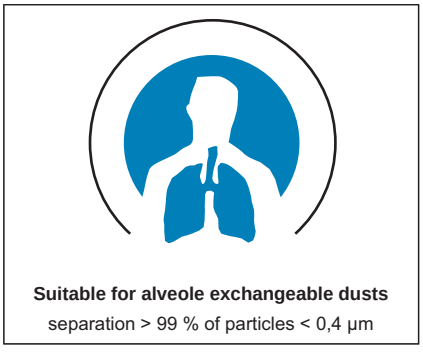
The included *KEMPER* exhaust hood is rotatable by 360° and can be adapted to the welding joint because of its rectangular shape.

Technical data

Fan performance:	3.000 m³/h
Extraction capacity:	1.000 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Number of cartridges:	1
Compressed air supply:	5 - 6 bar
Noise level:	69 dB (A)
Weight (without extraction arm):	135 kg
Dimensions (w x d x h):	655 x 655 x 1.460 mm
BGIA-Registration:	200522453/1140

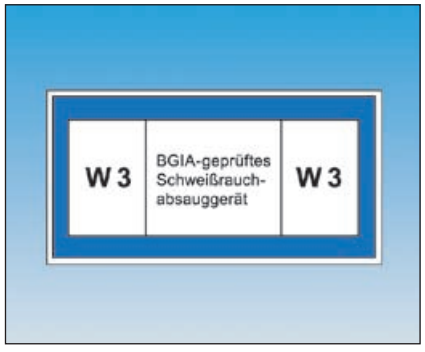
Units

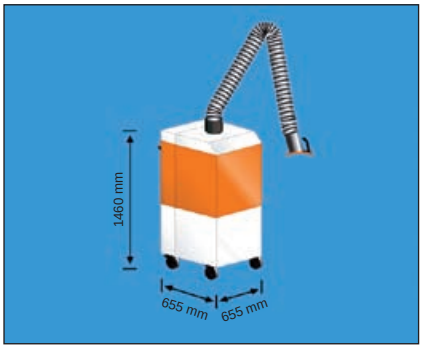
Part No.	Description
62 100 100	Filter-Master XL with one exhaust arm, 2,0 m, Ø 150 mm
62 100 101	Filter-Master XL with one exhaust arm, 3,0 m, Ø 150 mm
62 100 102	Filter-Master XL with one exhaust arm, 4,0 m, Ø 150 mm
109 0300	Spare filter



Suitable for alveole exchangeable dusts

separation > 99 % of particles < 0,4 µm





Cartridge filter units, mobile

with one exhaust arm

Contrary to mechanical or electrostatical filter units, where the filters have to be replaced periodically, this work is not necessary when using a cartridge filter unit equipped with *Kem*Tex® ePTFE membrane filter cartridges.

The filter cartridge works according to the principle of surface filtration. The harmful substances are separated at the *Kem*Tex® ePTFE membrane. The unit is therefore especially suitable for the extraction of welding fumes.

The control of the cartridge filter unit monitors the collected dust on the surface of the filter media and a cleaning cycle will be started automatically.

The unit can be equipped with a 2 m, 3 m or 4 m exhaust arm. Within its range, it can easily be brought in every position, which remains self-supporting.

The included *KEMPER* exhaust hood is rotatable by 360° and can be adapted to the welding joint because of its rectangular shape.

Units with flexible exhaust arms

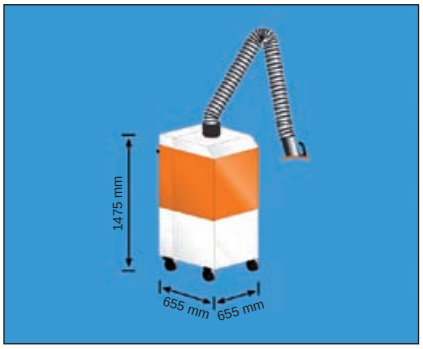
Part No.	Description
82 100 100	Cartridge filter unit with one exhaust arm, 2,0 m, Ø 150 mm
82 100 101	Cartridge filter unit with one exhaust arm, 3,0 m, Ø 150 mm
82 100 102	Cartridge filter unit with one exhaust arm, 4,0 m, Ø 150 mm

Units with rigid metal tube arms

Part No.	Description
82 100 103	Cartridge filter unit with one exhaust arm, 2,0 m, Ø 150 mm
82 100 104	Cartridge filter unit with one exhaust arm, 3,0 m, Ø 150 mm
82 100 105	Cartridge filter unit with one exhaust arm, 4,0 m, Ø 150 mm

Technical data

Fan performance:	3.000 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Cleaning:	pneumatical by means of rotating nozzles
Filter classification:	L, M
Filter efficiency:	> 99,9 %
Number of cartridges:	2
Compressed air supply reservoir:	25 l
Compressed air supply:	5 - 6 bar
Dust collecting container:	11 l
Noise level:	70 dB(A)
Weight (incl. exhaust arm):	140 kg
Dimensions (w x d x h):	655 x 855 x 1.475 mm



Suitable for alveole exchangeable dusts

separation > 99 % of particles < 0,4 µm

Cartridge filter units, mobile

with two exhaust arms

Mobile cartridge filter unit with two exhaust arms are suitable for use at changing workplaces. The unit can either be equipped with two flexible exhaust arms or rigid metal tube arms, both rotatable by 360°.

One damper per hood allows to adapt the air flow between the two exhausts to the individual requirements.

If the unit is equipped with an optional automatic start-stop, two start-stop clamps will be provided, so that the start of the welding process can be recognised at both welding places.

The control of the cartridge filter unit monitors the collected dust on the surface of the filter media and a cleaning cycle will be started automatically

Technical data

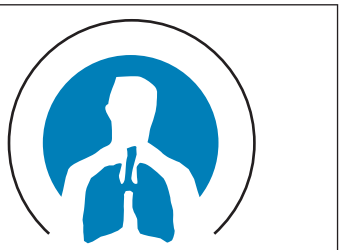
Fan performance:	3.000 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Cleaning:	pneumatical by means of rotating nozzles
Filter classification:	L, M
Filter efficiency:	> 99,9 %
Number of cartridges:	2
Compressed air supply reservoir:	25 l
Compressed air supply:	5 - 6 bar
Dust collecting container:	11 l
Noise level:	70 dB(A)
Weight (incl. exhaust arm):	140 kg
Dimensions (w x d x h):	655 x 855 x 1.475 mm

Units with flexible exhaust arms

Part No.	Description
82 200 100	Cartridge filter unit with two exhaust arms, 2,0 m, Ø 150 mm
82 200 101	FCartridge filter unit with two exhaust arms, 3,0 m, Ø 150 mm
82 200 102	Cartridge filter unit with two exhaust arms, 4,0 m, Ø 150 mm

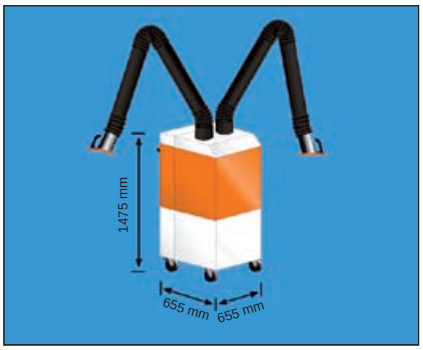
Units with rigid metal tube arms

Part No.	Description
82 200 103	Cartridge filter unit with two exhaust arms, 2,0 m, Ø 150 mm
82 200 104	Cartridge filter unit with two exhaust arms, 3,0 m, Ø 150 mm
82 200 105	Cartridge filter unit with two exhaust arms, 4,0 m, Ø 150 mm



Suitable for alveole exchangeable dusts

separation > 99 % of particles < 0,4 µm



Cartridge filter, mobile, BGIA certified

When welding high alloy materials,eg. Chrom Nickel Steel, harmful substances are set free that are highly carcinogenic.

A recycling of extracted and filtered cleaned air to the worshop is only allowed, when the extraction unit has been tested and certified by the BGIA (government safety orginisation and institute for occupational health safety).

The BGIA certified, mobile Cartridge filter with one ehaust arm meets several test criteria according to the highest level (W3) for the extracting of welding fumes from high alloy steels also with over 30 % chrom- and nickel content. They are available in 2 m, 3 m or 4 m long flexible or rigid arm exthaust arm lengths.

The filter status as well as all other funktions will be monitored by the intigrated control. Reaching a certain limit value the unit will, without an unecessary break in the work, automatically start the self-cleaning of the Cartridge filter during operation, therfore maintaining the mandatory air flow. The collected particles can easily be disposed of using the integrated dust collecting bin.

Units with flexible exhaust arms

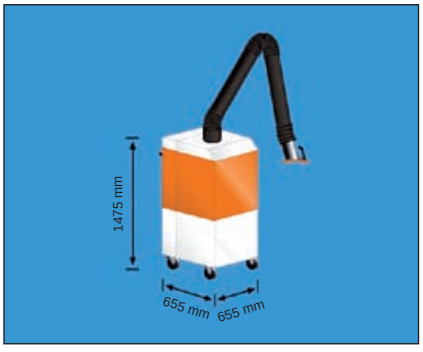
Part No.	Description
82 150 100	Cartridge filter unit with one exhaust arm, 2,0 m, Ø 150 mm
82 150 101	Cartridge filter unit with one exhaust arm, 3,0 m, Ø 150 mm
82 150 102	Cartridge filter unit with one exhaust arm, 4,0 m, Ø 150 mm

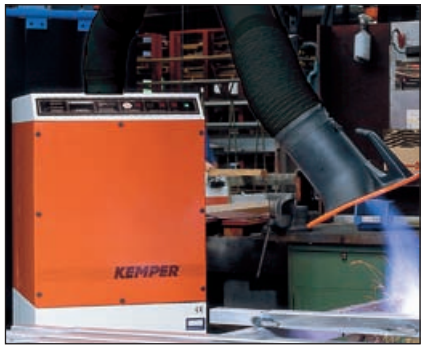
Units with rigid metal tube arms

Part No.	Description
82 150 103	Cartridge filter unit with one exhaust arm, 2,0 m, Ø 150 mm
82 150 104	Cartridge filter unit with one exhaust arm, 3,0 m, Ø 150 mm
82 150 105	Cartridge filter unit with one exhaust arm, 4,0 m, Ø 150 mm

Technical data

Fan performance:	3.000 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Cleaning:	pneumatical by means of rotating nozzles
Filter classification:	L, M
Filter efficiency:	> 99,9 %
Number of cartridges:	2
Compressed air supply reservoir:	25 l
Compressed air supply:	5 - 6 bar
Dust collecting container:	11 l
Noise level:	70 dB(A)
Weight (incl. exhaust arm):	140 kg
Dimensions (w x d x h):	655 x 855 x 1.475 mm
BGIA-Registration:	200822693/1140





Accessories and spare parts for mobile filter units

Lighting set for the exhaust hood

Part No.	Description
79 103 015	Complete lighting set, 2 x 12 V, 70 W for units with one exhaust arm, incl. on/off switch on the exhaust hood
79 103 016	Complete lighting set, 2 x 12 V, 70 W for units with two exhaust arms, incl. on/off switch on the exhaust hood

Automatic start-stop

Part No.	Description
94 102 10	Automatic start-stop for units with one exhaust arm switches the ventilator via a sensor connected to the earthing wire of the welding machine
94 102 11	Automatic start-stop for units with two exhaust arms switches the ventilator via a sensor connected to the earthing wire of the welding machine

Replacement hood

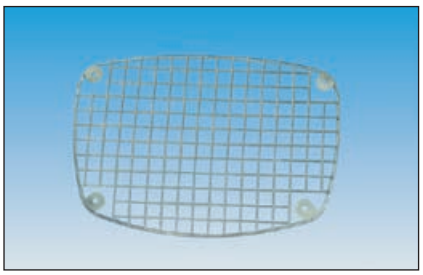
Exhaust hood as replacement for exhaust arms and telescopic exhaust arms, incl. swivel joint and fastening

Part No.	Description
79 103 00	Exhaust hood
79 103 010	Exhaust hood incl. lamps for lighting kit

Protective mesh

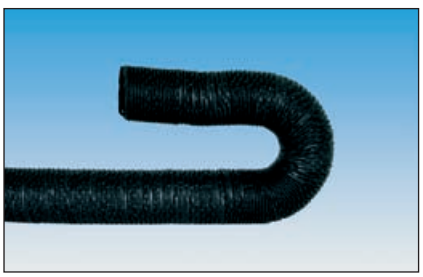
Replacement mesh for exhaust hood

Part No.	Description
127 0091	Mesh as replacement for the exhaust hood



Replacement hoses for *KEMPER* flexible exhaust arms

Part No.	Description
114 0348	For exhaust arms 2,0 m, Ø 150 mm
114 0349	For exhaust arms 3,0 m, Ø 150 mm
114 0350	For exhaust arms 4,0 m, Ø 150 mm



Replacement hoses for *KEMPER* rigid metal tube arms

Part No.	Description
79 103 40	Set of replacement hoses (3 pcs.)
79 103 10	Set of HT hoses (3 pcs.), heat resistant up to + 310 °C

Spare filters for mobile filter units

Spare filters for mechanical filter units

Part No.	Description
109 0033	Pre-filter mats (10 per set)
109 0010	Main filter
109 0005	Activated charcoal filter
21 400	Spare filter

Spare filters for electrostatic filter units

Part No.	Description
10 903 14	Pre and after filter set
10 904 00	Filter cell for electrostatic filter unit
10 900 05	Activated charcoal filter
91 450 000 09	Set of ionisation wires (set of 5)

Spare filters for cartridge filter units

Part No.	Description
109 0313	Spare filters, for mobile and stationary cartridge filter unit
109 0300	Spare filter for Filter-Master XL

Stationary filter units

Selection criteria for stationary filter equipment

Welding fumes – what are they?

When welding metals, different sizes of dust particles are generated. The diameter of the particles is between 0,1 microns and 1,0 microns, mainly in the range under 0,4 microns.

Typical distribution of particles in welding fumes

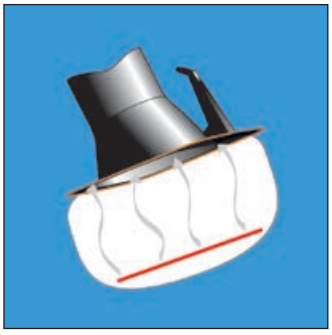
particle Ø in µm	< 0,2	< 0,4	< 0,6	< 0,8	< 1,0	> 1,0
number	800	251	9	0	1	2
% of the number	75,3	23,6	0,9	0	0,1	0,2
% of the mass	15,9	38,7	7,5	0	8,2	29,7

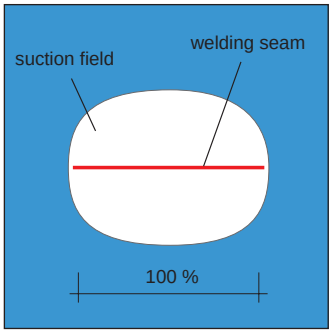
Source: Spiegel-Ciobanu (AWS-study)

The table shows that **98,9 %** of the particles fall in the range of up to 0,4 microns.
These particles are hardly removed at all by class M filters.

➡ **Class „M“ filters are not sufficient to protect your employees!**

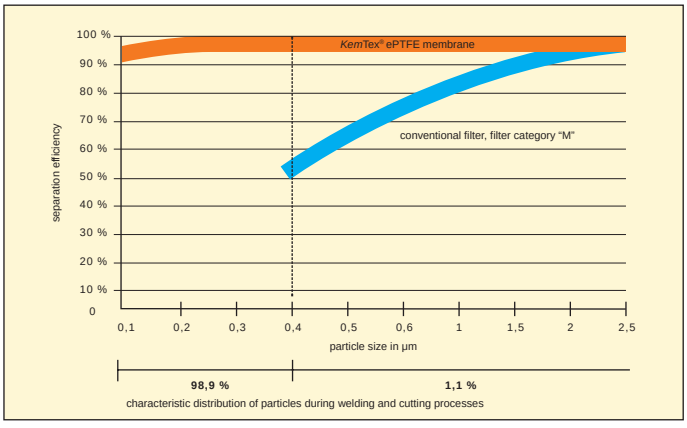
➡ **It is essential that you use state of the art technology!**





Correct capturing of contaminants during welding

- Capture at source
- Easily controlled hood
- Rotating hood
- Alignment of the hood to correspond to the weld
- Making secure Investments: meeting future regulations



Filtration efficiency

- 98,9 % of the contaminants created are in the nanoparticle range, i.e. less than 400 nanometres
- These particles are alveolar and cause cancer
- The usual filtration efficiency measurements of 99 % for particles of over 0,4 microns are not sufficient, and do not include the nanoparticles
- *KEMPER* plants with ePTFE filters achieve filtration efficiencies of over 99 % even with particles under 0,4 µ

Selection criteria for stationary filter equipment

Welding procedure	Welding procedure on stationary work stations
Arc welding - non alloy materials - low alloy materials - Aluminium	· Mechanical welding smoke filter, stationary · Cartridge filter unit, stationary · Electrostatic welding smoke filter, stationary
Manual arc welding - high alloy materials - non - ferrous materials	· Mechanical welding smoke filter, stationary* · Cartridge filter unit, stationary* · Electrostatic welding smoke filter, stationary* * ***each with exhaust duct***
MIG - MAG welding - non alloy materials - low alloy materials - Aluminium	· Mechanical welding smoke filter, stationary · Cartridge filter unit, stationary · Electrostatic welding smoke filter, stationary · Dusty · Mini-Weldmaster
MIG - MAG welding - high alloy materials - non - ferrous materials	· Mechanical welding smoke filter, stationary* · Cartridge filter unit, stationary* · Electrostatic welding smoke filter, stationary* * ***each with exhaust duct***
TIG welding - non alloy materials - low alloy materials - Aluminium	· Mechanical welding smoke filter, stationary · Cartridge filter unit, stationary · Electrostatic welding smoke filter, stationary
TIG welding - high alloy materials - non - ferrous materials	· Mechanical welding smoke filter, stationary* · Cartridge filter unit, stationary* · Electrostatic welding smoke filter, stationary* * ***each with exhaust duct***

Mechanical welding smoke filter, stationary

with one exhaust arm

Stationary welding smoke filters have been developed to be used at fixed welding stations, in welding cabins or training workshops. They can be mounted to a wall, a column or a free-standing pillar.

The stationary welding smoke filter can be equipped with flexible exhaust arms or rigid metal tube arms. In addition to the 2 m, 3 m and 4 m exhaust arms, also 5 m, 6 m, or 7 m exhaust arms can be connected. Those will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or a standard rigid metal tube arm.

The stationary unit comes with a control-box that can be mounted at a comfortable height. The control of the machine is located inside the box, so that it can be switched on from there. The display for the filter monitor and the connecting plug for the clamp of the optional automatic start-stop is also located there.

A preliminary filter cleans the polluted air from coarse particles, before the main filter seperates the finest dust particles. The filter insert of the welding smoke filter works according to the principle of depth filtration and will be replaced after saturation by a new one.

Units with one flexible exhaust arm

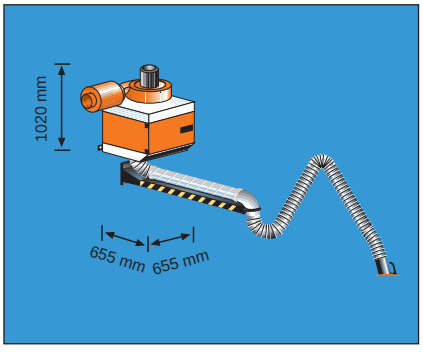
Part No.	Description
85 100 100	Welding smoke filter, one arm, 2,0 m
85 100 101	Welding smoke filter, one arm, 3,0 m
85 100 102	Welding smoke filter, one arm, 4,0 m
85 100 103	Welding smoke filter, one arm, 5,0 m
85 100 104	Welding smoke filter, one arm, 6,0 m
85 100 132	Welding smoke filter, one arm, 7,0 m
92 919	Additional cost for activated charcoal filter

Units with one rigid metal tube arm

Part No.	Description
85 100 105	Welding smoke filter, one arm, 2,0 m
85 100 106	Welding smoke filter, one arm, 3,0 m
85 100 107	Welding smoke filter, one arm, 4,0 m
85 100 108	Welding smoke filter, one arm, 5,0 m
85 100 109	Welding smoke filter, one arm, 6,0 m
85 100 133	Welding smoke filter, one arm, 7,0 m
92 919	Additional cost for activated charcoal filter

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	85 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm



Mechanical welding smoke filter, stationary

with two exhaust arms

For the use at changing working positions or at two workstations stationary welding smoke filters with two exhaust arms are a cost-saving alternative to two separate units and are very suitable for flexible use in workshops, training workstations or in the industry.

They are equipped with two exhaust arms, either flexible or rigid metal tube arms with a length of 2 m, 3 m or 4 m. 5 m, 6 m or 7 m long exhaust arms will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or rather a standard rigid metal tube arm.

The version with two exhaust arms can also be equipped with an automatic start-stop. Two start-stop clamps will be supplied, so that it is equipped for the use at two welding places with two welding machines. Both of them can be connected to the control box of the welding smoke filter.

The welding smoke filters with two exhaust arms are available in two different versions to adapt the extraction volume to the welding application, the material and the process.
If you want to use both of the exhaust arms at the same time, you should choose the unit with the higher capacity.

Technical data 2.200 m³/h

Fan performance:	2.200 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	85 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm

Units with two flexible exhaust arms 2.200 m³/h

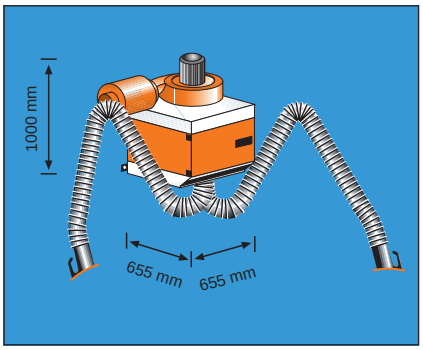
Part No.	Description
85 200 100	Welding smoke filter, two arms, 2,0 m
85 200 101	Welding smoke filter, two arms, 3,0 m
85 200 102	Welding smoke filter, two arms, 4,0 m
85 200 109	Welding smoke filter, two arms, 5,0 m
85 200 110	Welding smoke filter, two arms, 6,0 m
85 200 122	Welding smoke filter, two arms, 7,0 m
92 919	Additional cost for activated charcoal filter

Technical data 3.000 m³/h

Fan performance:	3.000 m³/h
Extraction capacity:	2 x 1.000 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 71 dB (A)
Weight (without exhaust arm):	91 kg
Dimensions (w x d x h):	655 x 655 x 1.050 mm

Units with two flexible exhaust arms 3.000 m³/h

Part No.	Description
85 300 100	Welding smoke filter, two arms, 2,0 m
85 300 101	Welding smoke filter, two arms, 3,0 m
85 300 102	Welding smoke filter, two arms, 4,0 m
85 300 103	Welding smoke filter, two arms, 5,0 m
85 300 104	Welding smoke filter, two arms, 6,0 m
85 300 118	Welding smoke filter, two arms, 7,0 m
92 919	Additional cost for activated charcoal filter



Mechanical welding smoke filter, stationary

with two exhaust arms

For the use at changing working positions or at two workstations stationary welding smoke filters with two exhaust arms are a cost-saving alternative to two separate units and are very suitable for flexible use in workshops, training workstations or in the industry.

They are equipped with two exhaust arms, either flexible or rigid metal tube arms with a length of 2 m, 3 m or 4 m. 5 m, 6 m or 7 m long exhaust arms will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or rather a standard rigid metal tube arm.

The version with two exhaust arms can also be equipped with an automatic start-stop. Two start-stop clamps will be supplied, so that it is equipped for the use at two welding places with two welding machines. Both of them can be connected to the control box of the welding smoke filter.

The welding smoke filters with two exhaust arms are available in two different versions to adapt the extraction volume to the welding application, the material and the process.
If you want to use both of the exhaust arms at the same time, you should choose the unit with the higher capacity.

Units with two rigid metal tube arms 2.200 m³/h

Part No.	Description
85 200 103	Welding smoke filter, two arms, 2,0 m
85 200 104	Welding smoke filter, two arms, 3,0 m
85 200 105	Welding smoke filter, two arms, 4,0 m
85 200 111	Welding smoke filter, two arms, 5,0 m
85 200 112	Welding smoke filter, two arms, 6,0 m
85 200 123	Welding smoke filter, two arms, 7,0 m
92 919	Additional cost for activated charcoal filter

Technical data 2.200 m³/h

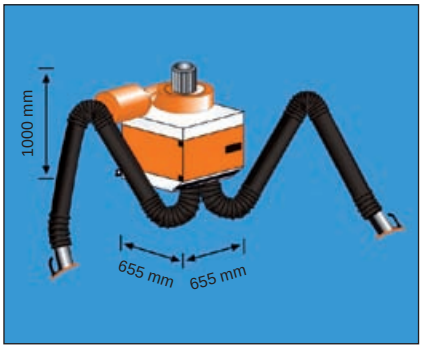
Fan performance:	2.200 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	85 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm

Units with two rigid metal tube arms 3.000 m³/h

Part No.	Description
85 300 105	Welding smoke filter, two arms, 2,0 m
85 300 106	Welding smoke filter, two arms, 3,0 m
85 300 107	Welding smoke filter, two arms, 4,0 m
85 300 108	Welding smoke filter, two arms, 5,0 m
85 300 109	Welding smoke filter, two arms, 6,0 m
85 300 119	Welding smoke filter, two arms, 7,0 m
92 919	Additional cost for activated charcoal filter

Technical data 3.000 m³/h

Fan performance:	3.000 m³/h
Extraction capacity:	2 x 1.000 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 71 dB (A)
Weight (without exhaust arm):	91 kg
Dimensions (w x d x h):	655 x 655 x 1.050 mm



Mechanical welding smoke filter, stationary

with one exhaust crane

Better coverage and more flexibility will be achieved with welding smoke filters, which are equipped with a *KEMPER* exhaust crane. The exhaust cranes with a length of 3 m, 4,5 m or 6 m will be fixed to a second bracket and consist of two parts which are ball bearing swivelling.
The swivelling exhaust hood can be adjusted in height, so that an optimal position can be reached at any time.

Weights up to 50 kg, e.g. a wire feed unit, could be supported to carriages at the boom arm extension.
The second extension carries up to 10 kg, sufficient for a welding torch package, so that the welding torch is always on the spot. That way, falling traps will be avoided and the exhaust hood always is at the right place for the optimal capturing of harmful substances.

The exhaust crane is also available with a diameter of 250 mm, in which case the welding smoke filter is equipped with a more powerful fan to extract larger quantities of dust.
The unit can be connected to an outgoing air duct if the filtered air needs to be vented to the outside.
Stationary welding smoke filters are also available with two exhaust cranes.

Technical data 2.200 m³/h

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	85 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm

Units with 2.200 m³/h

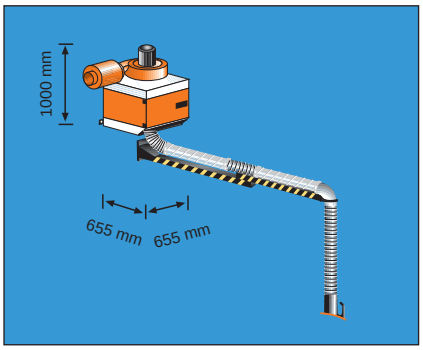
Part No.	Description
85 100 110	Welding smoke filter with one exhaust crane, 3,0 m, Ø 160 mm
85 100 111	Welding smoke filter with one exhaust crane, 4,5 m, Ø 160 mm
85 100 112	Welding smoke filter with one exhaust crane, 6,0 m, Ø 160 mm
92 919	Additional cost for activated charcoal filter

Technical data 3.000 m³/h

Fan performance:	3.000 m³/h
Extraction capacity:	1.500 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Noise level:	aprox. 71 dB (A)
Weight (without exhaust arm):	91 kg
Dimensions (w x d x h):	655 x 655 x 1.050 mm

Units with 3.000 m³/h

Part No.	Description
85 100 117	Welding smoke filter with one exhaust crane, 4,5 m, Ø 250 mm
85 100 118	Welding smoke filter with one exhaust crane, 6,0 m, Ø 250 mm
92 919	Additional cost for activated charcoal filter



Electrostatic welding smoke filter, stationary

with one exhaust arm

Stationary electostatic filter units, as well as the stationary welding smoke filter, have been developed for the use at fixed welding workstations, welding cabins or training workshops. They can be mounted to the wall, a column or a freestanding pillar.

The electostatic filter can be connected to exhaust arms, either flexible or rigid metal tube arms with a length of 2 m, 3 m or 4 m. 5 m, 6 m or 7 m long exhaust arms will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or rather a standard rigid metal tube arm.

The stationary unit comes with a control-box that can be mounted at a comfortable height. The control of the machine is located inside the box, so that it can be switched on from there. The display for the filter monitor and the connecting plug for the clamp of the optional automatic start-stop is also located there.

The filter unit filters the polluted air according to the principle of electrical charging. A preliminary filter cleans the polluted air from coarse particles, before they will be charged by the ionisation wire of the filter cell and deposit on the charged collector plates. The filter cell can be taken out for cleaning.

Units with one flexible exhaust arm

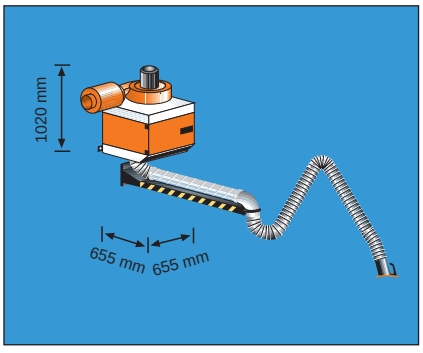
Part No.	Description
87 100 100	Electrostatic filter with one arm, 2,0 m
87 100 101	Electrostatic filter with one arm, 3,0 m
87 100 102	Electrostatic filter with one arm, 4,0 m
87 100 103	Electrostatic filter with one arm, 5,0 m
87 100 104	Electrostatic filter with one arm, 6,0 m
87 100 121	Electrostatic filter with one arm, 7,0 m

Units with one rigid metal tube arm

Part No.	Description
87 100 105	Electrostatic filter with one arm, 2,0 m
87 100 106	Electrostatic filter with one arm, 3,0 m
87 100 107	Electrostatic filter with one arm, 4,0 m
87 100 108	Electrostatic filter with one arm, 5,0 m
87 100 109	Electrostatic filter with one arm, 6,0 m
87 100 122	Electrostatic filter with one arm, 7,0 m

Technical data

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	1 x 230 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm



Electrostatic welding smoke filter, stationary

with two exhaust arms

For the use at changing working positions or at two workstations stationary welding smoke filters with two exhaust arms are a cost-saving alternative to two separate units and are very suitable for flexible use in workshops, training workstations or in the industry.

They are equipped with two exhaust arms, either flexible or rigid metal tube arms with a length of 2 m, 3 m or 4 m. 5 m, 6 m or 7 m long exhaust arms will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or rather a standard rigid metal tube arm.

The version with two exhaust arms can also be equipped with an automatic start-stop. Two start-stop clamps will be supplied, so that it is equipped for the use at two welding places with two welding machines. Both of them can be connected to the control box of the welding smoke filter.

The welding smoke filters with two exhaust arms are available in two different versions to adapt the extraction volume to the welding application, the material and the process.
If you want to use both of the exhaust arms at the same time, you should choose the unit with the higher capacity.

Technical data 2.200 m³/h

Fan performance:	2.200 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,1 kW
Voltage:	1 x 230 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm

Units with two flexible exhaust arms 2.200 m³/h

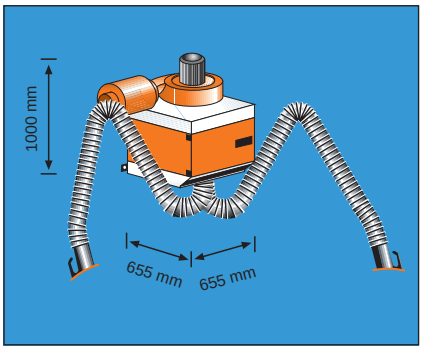
Part No.	Description
87 200 100	Electrostatic filter, two arms, 2,0 m
87 200 101	Electrostatic filter, two arms, 3,0 m
87 200 102	Electrostatic filter, two arms, 4,0 m
87 200 108	Electrostatic filter, two arms, 5,0 m
87 200 109	Electrostatic filter, two arms, 6,0 m
87 200 111	Electrostatic filter, two arms, 7,0 m

Technical data 3.000 m³/h

Fan performance:	3.000 m³/h
Extraction capacity:	2 x 1.000 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 71 dB (A)
Weight (without exhaust arm):	101 kg
Dimensions (w x d x h):	655 x 655 x 1.050 mm

Units with two flexible exhaust arms 3.000 m³/h

Part No.	Description
87 300 100	Electrostatic filter, two arms, 2,0 m
87 300 101	Electrostatic filter, two arms, 3,0 m
87 300 102	Electrostatic filter, two arms, 4,0 m
87 300 103	Electrostatic filter, two arms, 5,0 m
87 300 104	Electrostatic filter, two arms, 6,0 m
87 300 116	Electrostatic filter, two arms, 7,0 m



Electrostatic welding smoke filter, stationary

with two exhaust arms

For the use at changing working positions or at two workstations stationary electrostatic welding smoke filters with two exhaust arms are a cost-saving alternative to two separate units and are very suitable for flexible use in workshops, training workstations or in the industry.

They are equipped with two exhaust arms, either flexible or rigid metal tube arms with a length of 2 m, 3 m or 4 m. 5 m, 6 m or 7 m long exhaust arms will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or rather a standard rigid metal tube arm.

The version with two exhaust arms can also be equipped with an automatic start-stop. Two start-stop clamps will be supplied, so that it is equipped for the use at two welding places with two welding machines. Both of them can be connected to the control box of the welding smoke filter.

The welding smoke filters with two exhaust arms are available in two different versions to adapt the extraction volume to the welding application, the material and the process.
If you want to use both of the exhaust arms at the same time, you should choose the unit with the higher capacity.

Units with two rigid metal tube arms 2.200 m³/h

Part No.	Description
87 200 103	Electrostatic filter with two arms, 2,0 m
87 200 104	Electrostatic filter with two arms, 3,0 m
87 200 105	Electrostatic filter with two arms, 4,0 m
87 200 106	Electrostatic filter with two arms, 5,0 m
87 200 107	Electrostatic filter with two arms, 6,0 m
87 200 112	Electrostatic filter with two arms, 7,0 m

Technical data 2.200 m³/h

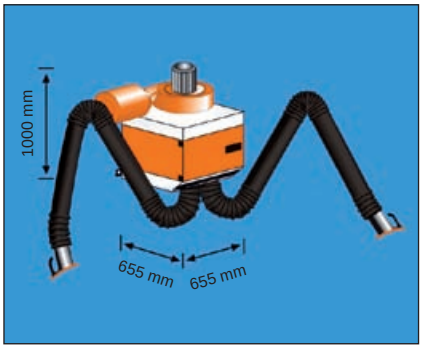
Fan performance:	2.200 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,1 kW
Voltage:	1 x 230 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm

Units with two rigid metal tube arms 3.000 m³/h

Part No.	Description
87 300 105	Electrostatic filter with two arms, 2,0 m
87 300 106	Electrostatic filter with two arms, 3,0 m
87 300 107	Electrostatic filter with two arms, 4,0 m
87 300 108	Electrostatic filter with two arms, 5,0 m
87 300 109	Electrostatic filter with two arms, 6,0 m
87 300 117	Electrostatic filter with two arms, 7,0 m

Technical data 3.000 m³/h

Fan performance:	3.000 m³/h
Extraction capacity:	2 x 1.000 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 71 dB (A)
Weight (without exhaust arm):	101 kg
Dimensions (w x d x h):	655 x 655 x 1.050 mm



Electrostatic welding smoke filter, stationary

with one exhaust crane

Better coverage and more flexibility will be achieved with electrostatic welding smoke filters, which are equipped with a *KEMPER* exhaust crane. The exhaust cranes with a length of 3 m, 4,5 m or 6 m will be fixed to a second bracket and consist of two parts which are ball bearing swivelling.
The swivelling exhaust hood can be adjusted in height, so that an optimal position can be reached at any time.

Weights up to 50 kg, e.g. a wire feed unit, could be supported to carriages at the boom arm extension.
The second extension carries up to 10 kg, sufficient for a welding torch package, so that the welding torch is always on the spot. That way, falling traps will be avoided and the exhaust hood always is at the right place for the optimal capturing of harmful substances.

The exhaust crane is also available with a diameter of 250 mm, in which case the welding smoke filter is equipped with a more powerful fan to extract larger quantities of dust.
The unit can be connected to an outgoing air duct if the filtered air needs to be vented to the outside.
Stationary welding smoke filters are also available with two exhaust cranes.

Technical data 2.200 m³/h

Fan performance:	2.200 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,1 kW
Voltage:	1 x 230 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 68 dB (A)
Weight (without exhaust arm):	95 kg
Dimensions (w x d x h):	655 x 655 x 1.000 mm

Units with 2.200 m³/h

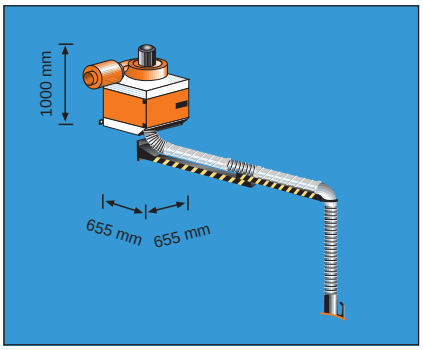
Part No.	Description
87 100 110	Electrostatic filter with one exhaust crane, 3,0 m, Ø 160 mm
87 100 111	Electrostatic filter with one exhaust crane, 4,5 m, Ø 160 mm
87 100 112	Electrostatic filter with one exhaust crane, 6,0 m, Ø 160 mm

Technical data 3.000 m³/h

Fan performance:	3.000 m³/h
Extraction capacity:	1.500 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 98 %
Noise level:	aprox. 71 dB (A)
Weight (without exhaust arm):	101 kg
Dimensions (w x d x h):	655 x 655 x 1.050 mm

Units with 3.000 m³/h

Part No.	Description
87 100 114	Electrostatic filter with one exhaust crane, 4,5 m, Ø 250 mm
87 100 115	Electrostatic filter with one exhaust crane, 6,0 m, Ø 250 mm



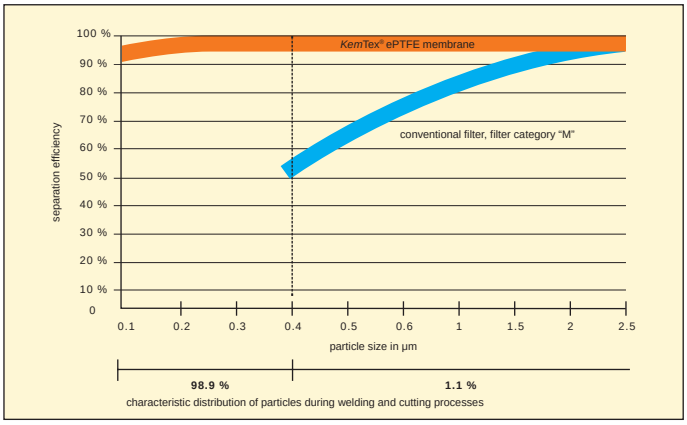
KemTex® ePTFE membrane filter

Due to the *Kem*Tex® ePTFE membrane filter the *KEMPER* extraction and filtration systems act as reference for all extraction units.

KEMPER extraction and filtration systems are yet efficient where other filtration units are no longer able to filter even the smallest particles. Especially the range of particle sizes smaller than 0,4 µm is very important for the filtration of dusts generated during welding and cutting processes. Because the particles below 0,4 µm are alveole exchangeable.

Pulmonary alveoli are the smallest units in the human lung where oxygen is exchanged between the inhaled air and the human blood. Particles reaching the pulmonary alveoli can also diffuse into the bloodstream, form deposits all over the body and, depending on the chemical structure of the particles, can cause cancer.

It is absolutely essential for extraction and filtration systems to filter even those finest particles since it is the only possibility to protect your employees and yourself against serious diseases.



The AWS tests on the particle size distribution of welding smoke has shown the following results (E308-16).

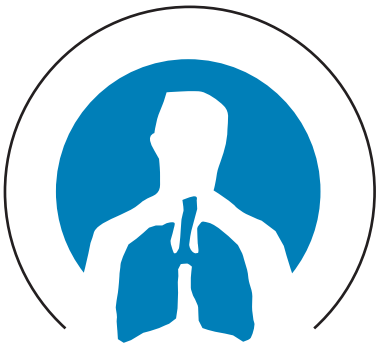
Particles Ø in µm	<0,2	<0,4	<0,6	<0,8	<1,0	>1,0
Quantity	800	251	9	0	1	2
% of the quantity	75,3	23,6	0,9	0	0,1	0,2
% of the mass	15,9	38,7	7,5	0	8,2	29,7

Source: Spiegel-Ciobanu (AWS-study)

The *Kem*Tex® ePTFE membrane filters can filter particles smaller than 0,4 µm, which represent 98,9 % of the total dust particles, according to AWS tests.

The effective pore size of the *Kem*Tex® ePTFE membrane filter is that small, that even particles with 0,1 µm already will be filtered up to 92 %. The equal zero-emission of the *Kem*Tex® ePTFE membrane surpasses all current regulations even for superfine particles. Especially with superfine dusts the *Kem*Tex® ePTFE membrane filters prevent a penetration of the particles.

*Kem*Tex® ePTFE membrane filters are therefore the ultimate technology concerning all applications. They are yet efficient where conventional filters of the filter class “M” reach their limit. About 90 % less particles reach the air in comparison with conventional filters.
Trust in the experience of *KEMPER* and keep your air clean with *Kem*Tex® ePTFE membrane filters!



Please pay special attention to the blue symbol for alveole exchangeable dusts.
You can be assured, that all filters showing this symbol separate even the finest dust particles.

Cartridge filter unit, stationary

with one exhaust arm

Stationary cartridge filter units with two *Kem*Tex® ePTFE filter cartridges are developed for industrial use. Due to self-cleaning filter cartridges it is suitable for the frequent use at heavy duty applications. It can be mounted to the wall, a column or a free-standing pillar.

The filter cartridges work according to the principle of surface filtration, the captured dust particles cannot penetrate the filter media. This is achieved by an *Kem*Tex® ePTFE membrane which is laminated onto the actual cartridge filter material.

The unique microstructure of the *Kem*Tex® ePTFE-membrane consists of millions of fine fibres, which hold back even the smallest particles. Especially during the welding and cutting process superfine particles are generated, which are averaged between 0,1 µm and 1,0 µm. They are therefore alveole exchangeable. Especially those particles deposit on the alveole (pulmonary alveoli), reach the bloodstream, could diffuse through the vascular wall and then deposit in the body.

The filter status, as well as all the other functions will be controlled by the integrated control. Reaching a certain limit value, the filter cartridges will gently be cleaned one after another and the collected dust can easily be disposed by the dust collecting bin. The stationary cartridge filter could directly be equipped with a flexible exhaust or a rigid metal tube arm with a length of 2 m, 3 m and 4 m or by means of a console with 5 m, 6 m and 7 m long arms.

Technical data

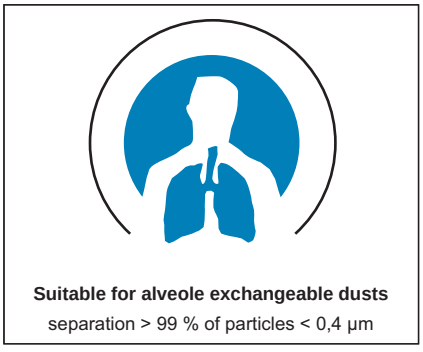
Fan performance:	3.000 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Cleaning:	pneumatical by means of rotating nozzles
Compressed air reservoir:	25 l
Compressed air supply:	5 - 6 bar
Dust collecting container:	11 l
Filter efficiency:	> 99,9 %
Noise level:	71 dB (A)
Weight (incl. exhaust arm):	142 kg
Number of cartridges:	2
Filter classification:	L, M
Dimensions (w x d x h):	655 x 655 x 1.355 mm

Units with flexible exhaust arms

Part No.	Description
83 100 100	Cartridge filter, with one exhaust arm, 2,0 m
83 100 101	Cartridge filter, with one exhaust arm, 3,0 m
83 100 102	Cartridge filter, with one exhaust arm, 4,0 m
83 100 103	Cartridge filter, with one exhaust arm, 5,0 m
83 100 104	Cartridge filter, with one exhaust arm, 6,0 m
83 100 105	Cartridge filter, with one exhaust arm, 7,0 m

Units with rigid metal tube arms

Part No.	Description
83 100 106	Cartridge filter, with one exhaust arm, 2,0 m
83 100 107	Cartridge filter, with one exhaust arm, 3,0 m
83 100 108	Cartridge filter, with one exhaust arm, 4,0 m
83 100 109	Cartridge filter, with one exhaust arm, 5,0 m
83 100 110	Cartridge filter, with one exhaust arm, 6,0 m
83 100 111	Cartridge filter, with one exhaust arm, 7,0 m



Suitable for alveole exchangeable dusts

separation > 99 % of particles < 0,4 µm

Cartridge filter unit, stationary

with two exhaust arms

For the use at changing working positions or at two workstations stationary cartridge filter units with two exhaust arms are a cost-saving alternative to two separate units and are very suitable for flexible use in workshops, training workstations or in the industry.

They are equipped with two exhaust arms, either flexible or rigid metal tube arms with a length of 2 m, 3 m or 4 m. 5 m, 6 m or 7 m long exhaust arms will be fixed with an additional console and consist of a 3 m long extension and a standard flexible exhaust arm or rather a standard rigid metal tube arm.

The version with two exhaust arms can also be equipped with an automatic start-stop. Two start-stop clamps will be supplied, so that it is equipped for the use at two welding places with two welding machines. Both of them can be connected to the control box of the welding smoke filter.

Units with two flexible exhaust arms

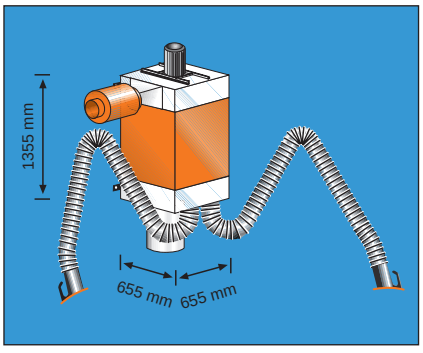
Part No.	Description
83 200 100	Cartridge filter with two exhaust arms, 2,0 m
83 200 101	Cartridge filter with two exhaust arms, 3,0 m
83 200 102	Cartridge filter with two exhaust arms, 4,0 m
83 200 103	Cartridge filter with two exhaust arms, 5,0 m
83 200 104	Cartridge filter with two exhaust arms, 6,0 m
83 200 105	Cartridge filter with two exhaust arms, 7,0 m

Units with two rigid metal tube arms

Part No.	Description
83 200 106	Cartridge filter with two exhaust arms, 2,0 m
83 200 107	Cartridge filter with two exhaust arms, 3,0 m
83 200 108	Cartridge filter with two exhaust arms, 4,0 m
83 200 109	Cartridge filter with two exhaust arms, 5,0 m
83 200 110	Cartridge filter with two exhaust arms, 6,0 m
83 200 111	Cartridge filter with two exhaust arms, 7,0 m

Technical data

Fan performance:	3.000 m³/h
Extraction capacity:	2 x 700 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Cleaning:	pneumatical by means of rotating nozzles
Compressed air reservoir:	25 l
Compressed air supply:	5 - 6 bar
Dust collecting container:	11 l
Filter efficiency:	> 99,9 %
Noise level:	71 dB (A)
Weight (incl. exhaust arm):	142 kg
Number of cartridges:	2
Filter classification:	L, M
Dimensions (w x d x h):	655 x 655 x 1.355 mm



Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

Cartridge filter unit, stationary

with exhaust crane

Better coverage and more flexibility will be achieved with cartridge filter units, which are equipped with a *KEMPER* exhaust crane. The exhaust cranes with a length of 3 m, 4,5 m or 6 m will be fixed to a second bracket and consist of two parts which are ball bearing swivelling.
The swivelling exhaust hood can be adjusted in height, so that an optimal position can be reached at any time.

Weights up to 50 kg, e.g. a wire feed unit, can be supported to carriages at the boom arm extension.
The second extension carries up to 10 kg, sufficient for a welding torch package, so that the welding torch is always on the spot. That way, falling traps will be avoided and the exhaust hood always is at the right place for the optimal capturing of harmful substances.

The exhaust crane is also available with a diameter of 250 mm. Stationary cartridge filter units are also available with two exhaust cranes.

Technical data

Fan performance:	3.000 m³/h
Extraction capacity:	1.200 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Cleaning:	pneumatical by means of rotating nozzles
Compressed air reservoir:	25 l
Compressed air supply:	5 - 6 bar
Dust collecting container:	11 l
Filter efficiency:	> 99,9 %
Noise level:	71 dB (A)
Weight (incl. exhaust arm):	aprox. 170 kg
Number of cartridges:	2
Filter classification:	L, M
Dimensions (w x d x h):	655 x 655 x 1.355 mm

Units with one exhaust crane

Part No.	Description
83 100 112	Cartridge filter with one exhaust crane, 3,0 m, Ø 160 mm
83 100 113	Cartridge filter with one exhaust crane, 4,5 m, Ø 160 mm
83 100 114	Cartridge filter with one exhaust crane, 6,0 m, Ø 160 mm
83 300 100	Cartridge filter with one exhaust crane, 4,5 m, Ø 250 mm
83 300 101	Cartridge filter with one exhaust crane, 6,0 m, Ø 250 mm

Units with two exhaust cranes

Part No.	Description
83 200 112	Cartridge filter with two exhaust cranes, 3,0 m, Ø 160 mm
83 200 113	Cartridge filter with two exhaust cranes, 4,5 m, Ø 160 mm
83 200 114	Cartridge filter with two exhaust cranes, 6,0 m, Ø 160 mm

Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

Accessories and spare parts for stationary filter units

Lighting set for the exhaust hood

Part No.	Description
79 103 015	Complete lighting set, 2 x 12 V, 70 W for units with one exhaust arm, incl. on/off switch on the exhaust hood
79 103 016	Complete lighting set, 2 x 12 V, 70 W for units with two exhaust arms, incl. on/off switch on the exhaust hood
94 101 302	Complete lighting set, 2 x 12 V, 70 W for units with one exhaust crane, incl. on/off switch on the exhaust hood
94 101 303	Complete lighting set, 2 x 12 V, 70 W for units with two exhaust cranes, incl. on/off switch on the exhaust hood

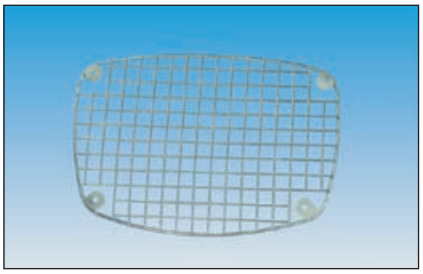
Automatic start-stop

Part No.	Description
94 102 10	Automatic start-stop for units with one exhaust arm switches the ventilator via a sensor connected to the earthing wire of the welding machine
94 102 11	Automatic start-stop for units with two exhaust arms switches the ventilator via a sensor connected to the earthing wire of the welding machine

Replacement hood

Exhaust hood as replacement for the exhaust arms and telescopic exhaust arms, incl. swivel joint and fastening.

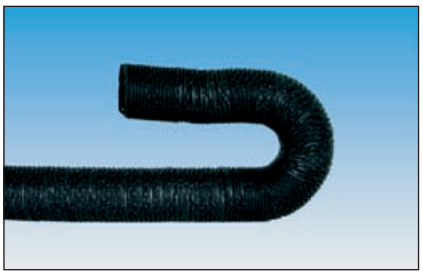
Part No.	Description
79 103 00	Exhaust hood
79 103 010	Exhaust hood incl. lamps for lighting kit



Replacement mesh

Mesh as replacement for the exhaust hood

Part No.	Description
127 0091	Mesh as replacement for the exhaust hood



Replacement hoses for *KEMPER* flexible exhaust arms

Part No.	Description
114 0348	For exhaust arms 2,0 m and 5,0 m, Ø 150 mm
114 0349	For exhaust arms 3,0 m and 6,0 m, Ø 150 mm
114 0350	For exhaust arms 4,0 m and 7,0 m, Ø 150 mm

Replacement hoses for *KEMPER* rigid metal tube arms

Part No.	Description
79 103 40	Set of replacement hoses (3 pcs.)
79 103 10	Set of HT hoses (3 pcs.), heat resistant up to + 310 °C

Spare filters for stationary filter units

Spare filters for mechanical filter units

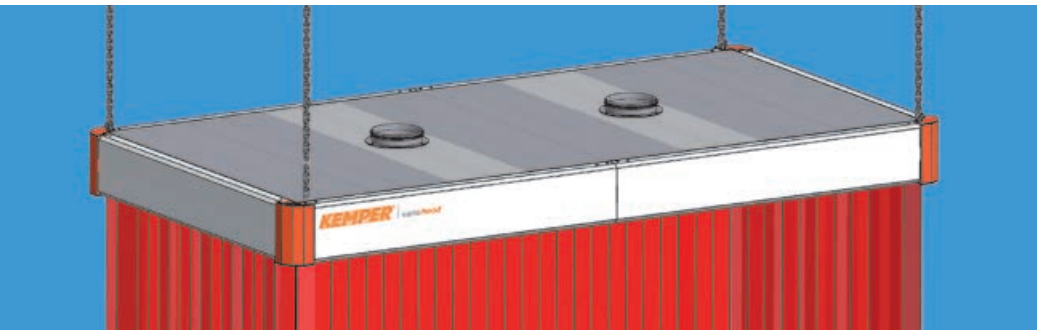
Part No.	Description
109 0033	Pre-filter mats (10 per set)
109 0010	Main filter
109 0005	Activated charcoal filter

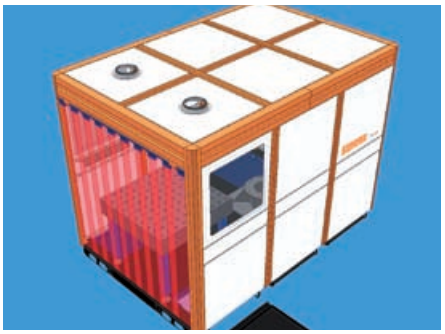
Spare filters for electrostatic filter units

Part No.	Description
109 0314	Pre and after filter set
109 0400	Filter cell for electrostatic filter unit
109 0005	Activated charcoal filter
91 450 000 09	Set of ionisation wires (set of 5)

Spare filters for cartridge filter units

Part No.	Description
109 0313	Spare filters for mobile and stationary cartridge filter units





KEMPER Filter-Cell

KEMPER Filter-Cell

The *KEMPER* Filter-Cell is a highly compact, stationary filter unit for use on extraction hoods, evacuation tables and production systems.

Small, compact extraction hoods or evacuation tables require matching exhaust and filter systems. The *KEMPER* Filter-Cell is ideal for such applications. The unit can be connected directly to the collection unit offering optimum protection against welding smoke, cutting dust and other pollutants. With its space-saving design it can even be set up at locations offering little space or, for example, positioned directly next to or on a robot cell or production line.

Filtration
The contaminated air is filtered in two steps:
The air entering the filter cell is first purified coarsely by a prefilter to precipitate the larger particles. In the second step, the finer particles are separated out by a suspended particle filter. This ensures effective purification of the contaminated air.

Evacuation
The *KEMPER* Filter-Cell is equipped with a connection fitting with nominal width of 160 mm for easy connection to a duct system.

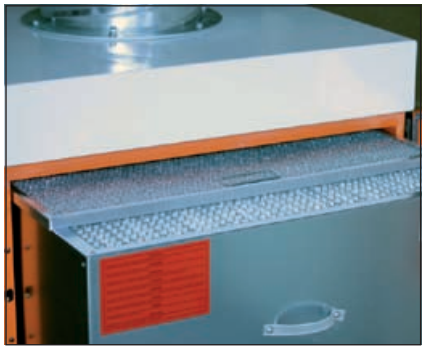
Stability
The feet of the filter cell are rubber coated and the height is adjustable so that the unit stands securely and straight even on uneven floors.

Filter-Cell

Part No.	Description
60 100	*KEMPER* Filter-Cell with bag filter
60 103	*KEMPER* Filter-Cell with aluminium pre-filter
109 0345	activated chacoal filter (optional)

Technical Data

Fan performance:	3.000 m³/h
Extraction capacity:	1.400 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Noise level:	71 dB(A)
Filter efficiency:	99,9 %
Weight Part.-No. 60 100:	150 kg
Weight Part.-No. 60 103:	130 kg
Dimensions Part.-No. 60 100 (w x d x h):	655 x 655 x 1.370 mm
Dimensions Part.-No. 60 103 (w x d x h):	655 x 655 x 1.000 mm



KEMPER Filter-Cell XL

The *KEMPER* Filter-Cell XL is a compact, stationary filter unit with self-cleaning filter for use on extraction hoods, evacuation tables and production systems.

Small, compact extraction hoods or evacuation tables require matching exhaust and filter systems. The *KEMPER* Filter-Cell XL is ideal for such applications. The unit can be connected directly to the collection unit offering optimum protection against welding smoke, cutting dust and other pollutants. With its space-saving design, it can even be set up at locations offering little space or, for example, positioned directly next to or on a robot cell or production line.

Filtration

The unit is equipped with a *Kem*Tex® ePTFE diaphragm filter cartridge for industrial use. The self-cleaning filter cartridge makes it excellent for frequent use and high loads. The filter cartridges work according to the surface filtration principle, so that the dust particles sucked in are deposited on the surface and not do not penetrate into the filter material itself.
The enormously high degree of separation achieved by *KEMPER* filter cartridges for particles less than 0,4 µm ensures maximum security. Because 98,9% of the particles in welding smoke are within this range and, moreover they are alveolar, i.e. are absorbed by the blood in the lungs.

Evacuation

The *KEMPER* Filter-Cell is equipped with a connection fitting with nominal width of 160 mm for easy connection to a duct system.

Stability

The feet of the filter cell are rubber coated and the height is adjustable so that the unit stands securely and straight even on uneven floors.

Technical Data

Fan performance:	3.000 m³/h
Extraction capacity:	1.000 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Noise level:	69 dB(A)
Filter efficiency:	99,9 %
Weight:	135 kg
Dimensions (w x d x h):	655 x 655 x 1.460 mm

Filter-Cell XL

Part No.	Description
60 200	*KEMPER* Filter-Cell XL

Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

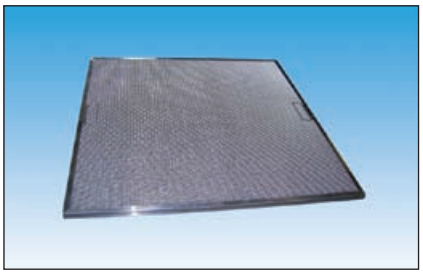
Spare parts for Filter-Cell

Main filter for Filter-Cell

Part No.	Description
109 0010	Main filter

Bag filter for Filter-Cell

Part No.	Description
21 102	Bag filter



Aluminium pre-filter for Filter-Cell

Part No.	Description
109 0013	Aluminium pre-filter

Filter cartridge for Filter-Cell XL

Part No.	Description
109 0300	Filter cartridge

Extraction and filter units

Plant types

KEMPER extraction systems with automatic cleaning can be customized to suit your requirements. Whether as a central extraction and filtration system with associated piping, a vacuum table or in conjunction with a variety of collection elements, such as extraction hoods.

KEMPER offers three different systems to choose from:

KEMPER System 6000

The *KEMPER* System 6000 is the base model in the *KEMPER* extraction and filter system range. It consists of a fan that is built on or next to the plant, one or more filter sections and a dust collector for each filter section.

The System 6000 has a weather-resistant powder coating. It may be installed externally at any time.

Thanks to the modular construction the outlet can be fitted as required.

KEMPER System 8000

The 8000 Series systems are plug-in plants with a capacity of up to 13.000 m³ / h. They feature a compact design, with forklift pockets allowing for easy transport with a fork lift truck.

The low noise level of below 65 dB (A) is particularly appealing. This has been achieved by the special design combined with a sophisticated sound insulation inside the plant.

All plants in the system 8000 range have been tested by the BGIA, the German Institute for Occupational Safety and Health, and thus meet the safety requirements for equipment to Class W3 - high-alloy steels.

KEMPER System 9000

System 9000 filtration plant consist of several modules, which can be connected together on site.

The main components of such a plant are the fan unit with integrated sound insulation and one or more filter units with a cleaning device and a dust collector.

Thanks to the modular construction the output can be raised as required.

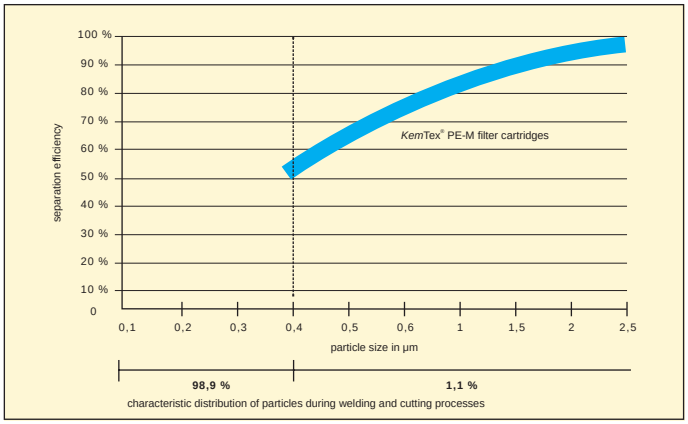
Selection criteria

With filtration units, the most important selection criterion is filter efficiency. The size and performance of a filter system depends on the type of application, the number and size of the capture elements and the procedures used.

Series 6000 filtration units are fitted with *Kem*Tex® PE-M filter cartridges.

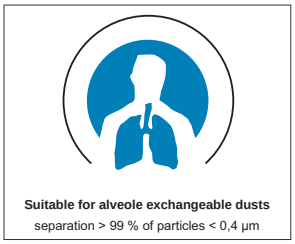
The filtration efficiency meets the regulations that are currently in force in Germany. The air is cleansed by about 99,97% of particles > 0,5 micron.

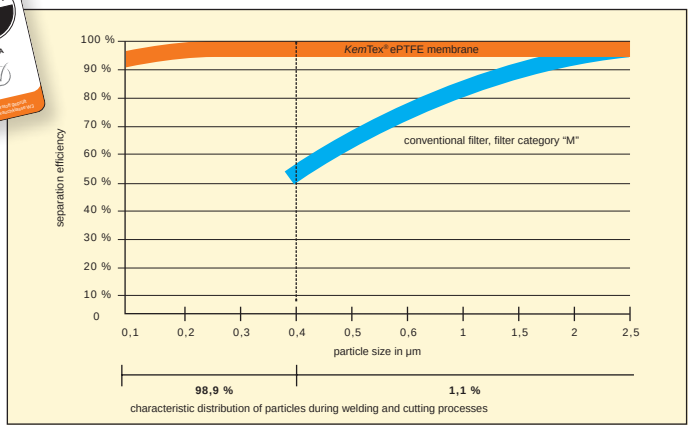
According to the German Institute for Occupational Safety and Health (BGIA) the filter is Class „M“. Nevertheless, the recirculation of air in the work area should be generally avoided, as the separation of particles is too low, especially in the respirable range.



This extraction and filtration units are fitted internally with *Kem*Tex® ePTFE membranes as standard.
The efficiency of these filter cartridges exceeds 99,99% for particles of far less than 0.5 microns, thus meeting the regulations currently in force and representing the current state of the art.

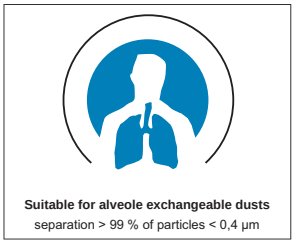
All System 8000 installations are tested by the BGIA. They are therefore suitable for air recirculation in the work area taking into account the regulatory requirements, even Class „W3“ welding fumes from high-alloy steel.

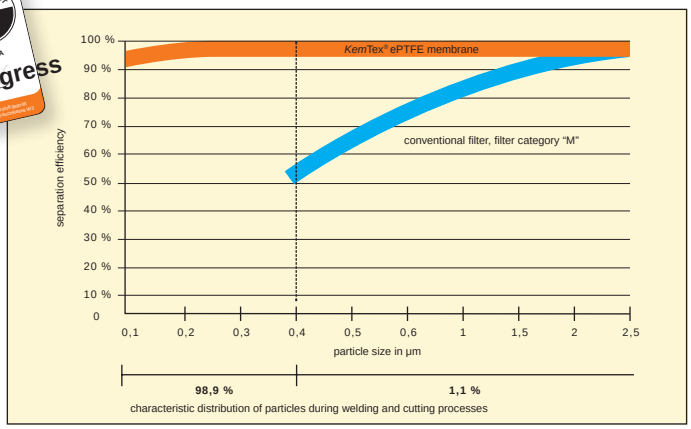




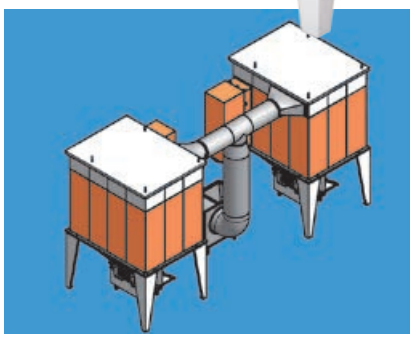
The system 9000 differs from 8000 in size.

The *Kem*Tex® ePTFE filter cartridges that are also used in this plant have a very high filtration efficiency in the alveolar range.





KEMPER System 6000



KEMPER Extraction and Filtration system 6000

The new *KEMPER* System 6000 is an innovative new generation of extraction and filtration systems. It is an excellent choice for connecting extraction tables for plasma and laser cutting units or for flexible configuration of central extraction installations.

Due to the modular design it is possible to perfectly adjust the System 6000 to nearly every application and requirements. The filters of the System 6000 are manufactured out of high quality materials using the most modern manufacturing technologies. Reliability and stability are very significant in modern filter technology.

Functionality
The contaminated air is extracted via a duct system. The dust will be deposited in the filter media.

The intelligent control monitors the accumulation of dust and starts a cleaning process by means of compressed air as soon as the limit value for the filters has been reached. This all takes place without interrupting the operation of the unit. The cleaned off dust falls into the dust collecting container from where it can be easily disposed of.

***Kem*Tex® PE-M filter catridges**
The *KEMPER* System 6000 extraction and filtration units feature high quality *Kem*Tex® PE-M cartridge filters. This allows for a filtration of at least 99,99% at 0,5 µm particle size and therefore conforms to filter classification M.
The cleaning of the cartridges, which is activated and monitored by the intelligent control, automatically takes place by means of rotating nozzles. Once the cartridges are loaded with dust, the cartridges get cleaned, one after the other, during normal operation.

System 6000 Controls
The System 6000 controls are well-protected in a separate, robust control box. The main switch and the on / off switch are attached to the door of the switch box. Three additional control lamps provide information on the current state of the system:

Green: plant operating, fan running
Yellow: filter change needed soon
Red: indicates a fault in the system

The core of the System 6000 controls is a Siemens Logo module.

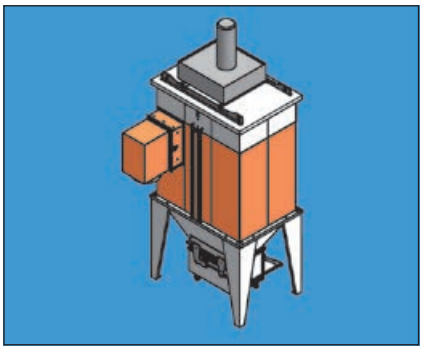
KEMPER Extraction and Filtration system 6000

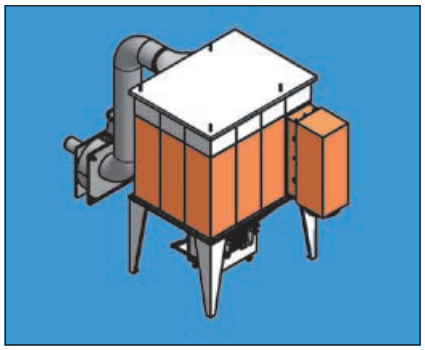
System 6000 at a glance
The *KEMPER* System 6000 extraction and filtration units are, as a standard, supplied in six types, ranging from 6.000 m³/h - 18.000 m³/h. Needless to say that by the combination of fans and filter units a finer adjustment or a larger extraction volume can be attained. The modular and flexible method of construction of the *KEMPER* System 6000 makes it possible.

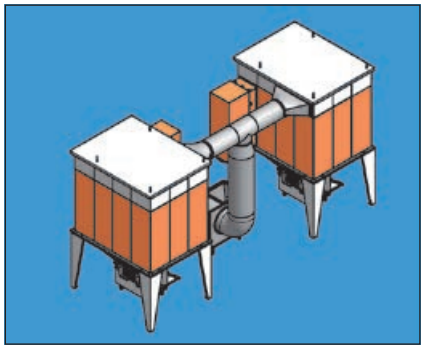
Advantages
Due to the use of modular fans it is possible to mount the fan either on or adjacent to the unit.
Therefore, it is possible to combine several filter modules and connect them to a central fan. The large mobile dust container is easily accessible and can be removed from the unit manually. The installation of the system is also very flexible. The unit can be installed indoors as well as outdoors. The System 6000 extraction and filtration units are delivered in modules to keep transportation simple. The unit can be easily put together on site. Needless to say that the *KEMPER* System 6000 filter units, as well as all other *KEMPER* systems, are made out of a rigid metal construction. For lasting durability the unit is finished with an epoxy powder coating.

***KEMPER* System 6000**
Technical data for the commonly available systems.
Other systems and configurations available on request

Part No.	Extraction capacity (max.)	Motor capacity	Filter component	Number of filters	Filter surface	Width x Depth x Height (in mm)
62 0600 080	6.000 m³/h	7,5 kW	1	4	80 m²	1.060 x 1.511 x 2.885 mm
62 0900 120	9.000 m³/h	7,5 kW	1	6	120 m²	1.511 x 1.511 x 2.885 mm
62 1200 180	12.000 m³/h	7,5 kW	1	9	180 m²	1.511 x 1.962 x 2.885 mm
62 1500 240	15.000 m³/h	15 kW	2	12	240 m²	5.500 x 1.972 x 2.885 mm
62 1800 300	18.000 m³/h	15 kW	2	15	300 m²	5.500 x 1.972 x 2.885 mm
62 2100 360	21.000 m³/h	15 kW	2	18	360 m²	5.500 x 1.972 x 2.885 mm







KEMPER System 8000/9000

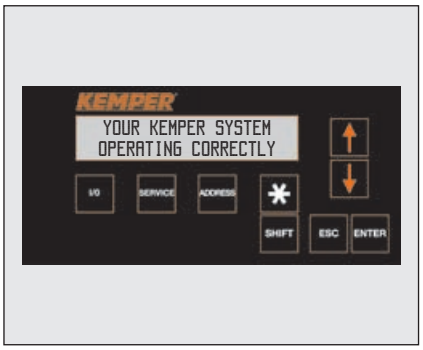
Filtration units with *Kem*Tex® ePTFE filter cartridges for particle separation, especially in the alveolar range.

All System 8000 installations are tested by the German Institute for Occupational Safety and Health (BGIA) and are suitable for air recirculation in the work area, taking into account the regulatory requirements, even Class „W3“ welding fumes from high-alloy steel.

The German Institute for Occupational Safety and Health (BGIA) tests for the *KEMPER* System 9000 are currently in progress.

KEMPER extracti
System 8000 an

The functionality
The contaminated air is extracted via a duct system and led in to the filter unit. The dust will be precipitated on the surface of the filter media. The intelligent control monitors the settlement of dust on the filter surface and starts a cleaning process by means of compressed air as soon as the limit value has been reached. This all takes place without interrupting the operation of the unit. The cleaned off dust falls into the dust collecting container from where it can be disposed easily.



Intelligent control
The core of *KEMPER* extraction and filter units is the intelligent control based on a Simatic S7 by Siemens. All functions can be accessed via the control panel of the especially designed control unit via a clear text display. An integrated diagnostic system controls all functions of the filter unit and reports possible malfunctions to the clear text display. The analytic function of the control aligns the duty points of the filter unit to the local circumstances to prolong the service and maintenance intervals as well as the life time of the filters.

Exact adjustment
As an option the extraction and filter unit of *KEMPER* can be fitted with a extraction dependent control which aligns the capacity to the real demand and cuts the running cost enormously. Sensors permanently control the required capacity and the inverter aligns the speed of the ventilator.
The principle: As much as necessary and as little as possible. This has a direct influence to the power consumption and will reduce also the wear and tear of the filter unit. The extra investment will be realised in no time at all.

Good connections
System 8000 machines are supplied ready for use with 3 phase socket and plug. Both, system 8000 and 9000 have potential free contacts which can be connected to external controls of e.g. cutting machines. That way the filter unit can be started by the cutting machine which will reduce the running costs again. If the filter unit and the control need to be installed in different rooms or buildings, a second mobile control terminal can be connected. By connecting a modem to the *KEMPER* control, remote diagnostics can be undertaken.

on and filter units
nd 9000 in detail

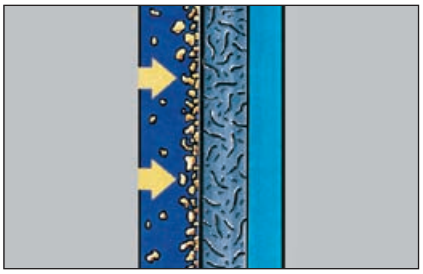
The ”upper precipators”
The filter cartridges used by *KEMPER* belong to the “upper class” in two ways. Firstly they work to the principle of surface filtration. That means that the extracted dusts can not penetrate the filter media. Secondly, the used filter cartridges belong to the absolute prime class. Because of achieving the surface filtration only filters with a laminated *Kem*Tex® ePTFE membrane are good enough. This method is very complex, but it is the only reasonable way of filter units of this kind.
You will find further information on the following pages.

The cleaning
The advantage of the surface filtration principle used by *KEMPER* is the possibility to clean the filter cartridges. This is taking place during the operation of the filter unit by means of compressed air. Thus, a non-interrupted operation of the filter unit is possible and the filter cartridges are only cleaned when necessary. This procedure of course is controlled and monitored by the integrated microprocessor control.

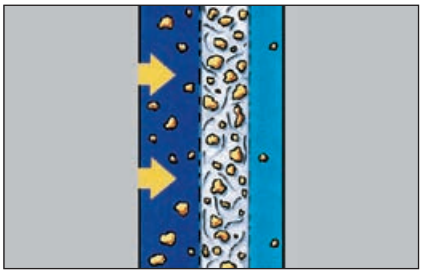
The disposal
After the dust has been cleaned of the cartridges, it falls into the dust collecting container. From here the dust can easily be removed and disposed. On the system 8000 one or two dust buckets are lifted and pressed pneumatically to the dust hopper from where they can be removed very easily. The system 9000 has a dust collecting container which is larger in size and has castors for easy transport.
Also the bigger dust collecting container has pneumatic lift.

The maintenance
As a health and safety relevant device, a filter unit has to be inspected and maintained and documented on a regular basis following the current legislation. *KEMPER* is therefore offering different service and maintenance packages to comply with the regulations. From a yearly inspection up to a full service contract including all necessary labour and parts. That way you are always on the safe side, and the running cost of your unit can be kept on a permanent low and calculable level.

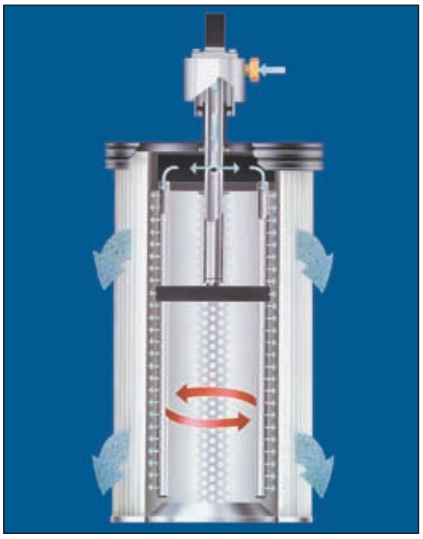
Intelligent filtration technology



With the surface filtration, the harmful substances are seperated at the surface of the filter medium. The filter can easily be cleaned.



With depth filtration, the harmful substances penetrate the filter medium.
A cleaning of the filter is not possible.



The surface filtration
After the pre-seperation of the coarse particles the remaining particles will be precipitated according to the principle of the surface filtration. *Kem*Tex® ePTFE-membrane is laminated on the surface of the filter media, which is used for the filter cartridge.
The unique microstructure of the *Kem*Tex® ePTFE-membrane consists of millions of fine fibres, which hold back even the smallest particles.
Especially during the welding and cutting process superfine particles are generated which are averaged between 0,1 µm and 1,0 µm. They are therefore alveole exchangeable. Especially those particles deposit on the alveole (pulmonary alveoli), reach the bloodstream, can diffuse through the vascular wall and then deposit in the body. Tests of the AWS for the particle size distribution during the welding process have shown the following results

Particles Ø in µm	<0,2	<0,4	<0,6	<0,8	<1,0	>1,0
Quantity	800	251	9	0	1	2
% of the quantity	75,3	23,6	0,9	0	0,1	0,2
% of the mass	15,9	38,7	7,5	0	8,2	29,7

Source: Spiegel-Ciobanu (Auszug AWS Untersuchung)

The result is, that consequently 98,9 % of the particles arise in the region smaller than 0,4 µm which represent (ultra-particulate matter) 54 % of the total volume because of their acuteness. Therefore the precipitation of the particles in the region smaller than 0,4 µm is very important. Usual filters, which come indeed up to category M, reach their limitations at this point. Therefore the effective pore size of the *Kem*Tex® ePTFEmembrane is that small, that even particles with 0,1 µm already will be filtered up to 92 %.

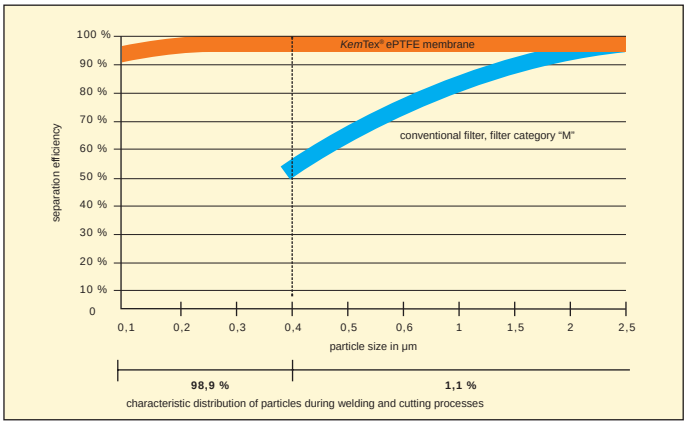
The nearly zero-emission of the *Kem*Tex® ePTFE-membrane is exceeding all current regulations, also those for superfine particles.The *Kem*Tex® ePTFE-membrane filters are therefore the ultimate technology concerning welding and cutting processes.

Consequently, the high efficiency membrane guarantees an excellent filtration performance and has got outstanding cleaning characteristics. This is the basic requirement for a long-lasting filter durability at an excellent air purification.

These results can not be achieved by cartridges, which are PTFE impregnated nor with standard deep bed filtration filters.

Automatic filter cleaning
The cleaning of the cartridges, which is activated and controlled by the intelligent control, automatically takes place by means of rotating nozzles.
Once the cartridges are loaded with dust, the cartridges get cleaned, one after the other, during the normal operation.
A compressed air shot is released from the internal compressed air reservoir of the filter unit. The rotation nozzle starts spinning and gently blows off the dust.

Due to the numerous small openings in the nozzle sticks, the inner surface of the cartridge is evenly cleaned.
Only by reaching the complete inner surface evenly, together with the ePTFE-membrane, a filter can be cleaned efficiently.
Commonly used reverse jet technique cannot nearly achieve the same results.



characteristic distribution of particles during welding and cutting processes

Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

System 8000 with KemTex® ePTFE membrane filter catrridges

Due to the diversity of types and the compact construction of the systems 8000 and 9000, they are very suitable for the design of central extraction and filter systems. Whether in large welding or grinding shops, training shops, robot lines or other installations.

For the design of the central extraction systems the filter unit will be connected to the corresponding capturing elements of the *KEMPER* range together with an exactly dimensioned and optimal ducting.

The different capturing elements for welding workstations are e.g. exhaust arms/cranes or telescopic arms. Due to its parallelogram the exhaust arm can be brought into any desired position within its reach without any additional support. Furthermore, they can be equipped with workplace lighting.

Welding and grinding tables of the *KEMPER* standard range could be connected in the same manner as the especially developed training tables with extraction. Extraction tables for workshops are available in different variations and sizes and could therefore be arranged to the respective requirement. Extractions for robots in cabins or in a production line could also be realised easily with the *KEMPER* extraction and filter system. Therefore special exhaust hoods will be produced individually to the requirements. Another possibility is to connect the cabin to the ducting if it is already roofed.

A versatile range of optional equipment as well as an extensive accessory program is available for the extraction systems. Large units with many extraction elements the filter unit should be equipped with an automatic extraction control.

Thereby the air flow is adjusted to the actual requirement. That way, only as much air as necessary will be extracted. Thus, energy and costs will be saved.

You will find further equipment possibilities in this catalogue.

Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

Table System 8000
The following table shows the standard product range of the system 8000.
For further technical details please ask for the corresponding data sheet.

Part No.	Extraction capacity (max.)	Motor capacity	Filter surface (in m²)	Width x Depth x Height (in mm)	Weight (in kg)
81 0250 030	2.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	30	962 x 962 x 2.110	410
81 0300 030	3.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	30	962 x 962 x 2.110	410
81 0350 040	3.500 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	40	962 x 1.413 x 2.110	590
81 0400 040	4.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	40	962 x 1.413 x 2.110	590
81 0450 050	4.500 m³/h	4,0 kW · 3 x 400 V / 50 Hz · 7,8 A	50	1.413 x 1.413 x 2.110	620
81 0500 050	5.000 m³/h	4,0 kW · 3 x 400 V / 50 Hz · 7,8 A	50	1.413 x 1.413 x 2.110	620
81 0550 060	5.500 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	60	1.413 x 1.413 x 2.110	630
81 0600 060	6.000 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	60	1.413 x 1.413 x 2.110	630
81 0650 070	6.500 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	70	1.413 x 1.864 x 2.110	760
81 0700 070	7.000 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	70	1.413 x 1.864 x 2.110	770
81 0800 080	8.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	80	1.413 x 1.864 x 2.110	780
81 0900 090	9.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	90	1.413 x 1.864 x 2.110	790
81 1000 100	10.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	100	2.375 x 1.864 x 2.110	1.200
81 1100 110	11.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	110	2.375 x 1.864 x 2.110	1.210
81 1200 120	12.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,6 A	120	2.375 x 1.864 x 2.110	1.220
81 1300 120	13.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,6 A	120	2.375 x 1.864 x 2.110	1.230

System 9000 with KemTex® ePTFE membrane filter catrridges

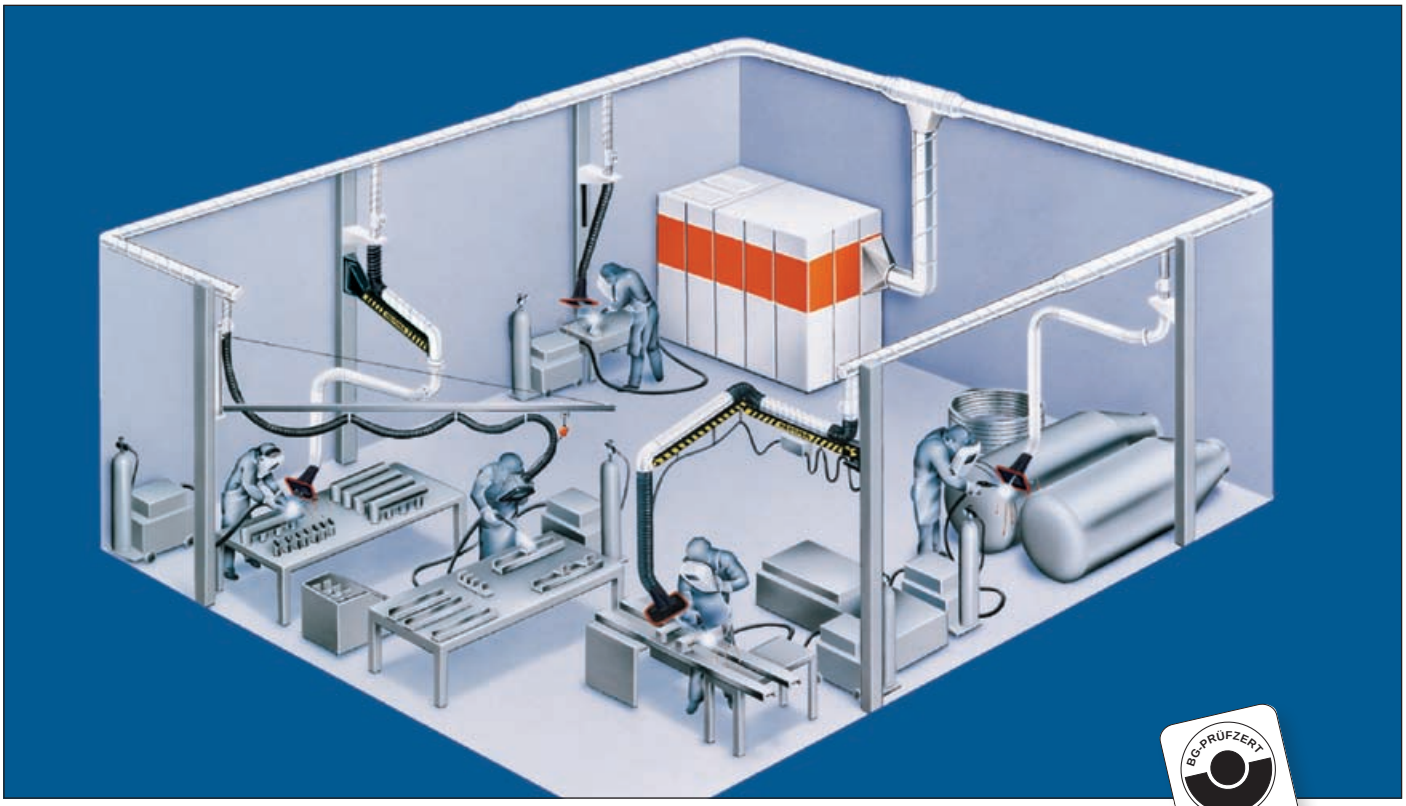


Table System 9000
The following table shows an extract of the standard product range of the system 9000.
Further details on filter systems with higher capacity are available on request.

Part No.	Extraction capacity (max.)	Motor capacity	Filter surface (in m²)	Width x Depth x Height (in mm)	Weight (in kg)
91 1300 160	13.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,0 A	160	2.826 x 1.864 x 2.670	1.550
91 1400 140	14.000 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	140	2.826 x 1.864 x 2.670	1.560
91 1500 140	15.500 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	140	2.826 x 1.864 x 2.670	1.560
91 1600 160	16.000 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	160	2.826 x 1.864 x 2.670	1.580
91 1700 160	17.500 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	160	2.826 x 1.864 x 2.670	1.600
91 1800 180	18.000 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	180	2.826 x 1.864 x 2.670	1.630
91 1900 180	19.500 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	180	2.826 x 1.864 x 2.670	1.630
91 2000 200	20.000 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	200	4.239 x 1.864 x 2.670	2.250
91 2100 200	21.500 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	200	4.239 x 1.864 x 2.670	2.250
91 2200 220	22.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	220	4.239 x 1.864 x 2.670	2.280
91 2300 220	23.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	220	4.239 x 1.864 x 2.670	2.290
91 2400 240	24.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	240	4.239 x 1.864 x 2.670	2.300
91 2500 240	25.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	240	4.239 x 1.864 x 2.670	2.300
91 2600 260	26.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	260	4.239 x 1.864 x 2.670	2.320
91 2700 260	27.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	260	4.239 x 1.864 x 2.670	2.320
91 2800 280	28.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	280	4.239 x 1.864 x 2.670	2.330
91 2900 280	29.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	280	4.239 x 1.864 x 2.670	2.360
91 3000 300	30.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	300	4.239 x 1.864 x 2.670	2.380
91 3100 300	31.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	300	4.239 x 1.864 x 2.670	2.380
91 3200 320	32.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	320	4.239 x 1.864 x 2.670	2.390
91 3300 320	33.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	320	4.239 x 1.864 x 2.670	2.410
91 3400 340	34.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	340	4.239 x 1.864 x 2.670	2.430
91 3500 340	35.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	340	4.239 x 1.864 x 2.670	2.430
91 3600 360	36.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	360	4.239 x 1.864 x 2.670	2.450
91 3700 360	37.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	360	4.239 x 1.864 x 2.670	2.450
91 3800 380	38.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	380	5.652 x 1.864 x 2.670	3.110
91 3900 380	39.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	380	5.652 x 1.864 x 2.670	3.110
91 4000 400	40.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	400	5.652 x 1.864 x 2.670	3.130

Extraction and filter units for the design of central extraction systems

Due to the diversity of types and the compact construction of the systems 8000 and 9000, they are very suitable for the design of central extraction and filter systems. Whether in large welding or grinding shops, training shops, robot lines or other installations.

For the design of the central extraction systems the filter unit will be connected to the corresponding capturing elements of the *KEMPER* range together with an exactly dimensioned and optimal ducting.

The different capturing elements for welding workstations are e.g. exhaust arms/cranes or telescopic arms. Due to its parallelogram the exhaust arm can be brought into any desired position within its reach without any additional support. Furthermore, they can be equipped with workplace lighting.

Welding and grinding tables of the *KEMPER* standard range could be connected in the same manner as the especially developed training tables with extraction. Extraction tables for workshops are available in different variations and sizes and could therefore be arranged to the respective requirement. Extractions for robots in cabins or in a production line could also be realised easily with the *KEMPER* extraction and filter system. Therefore special exhaust hoods will be produced individually to the requirements. Another possibility is to connect the cabin to the ducting if it is already roofed.

A versatile range of optional equipment as well as an extensive accessory program is available for the extraction systems. Large units with many extraction elements the filter unit should be equipped with an automatic extraction control.

Thereby the air flow is adjusted to the actual requirement. That way, only as much air as necessary will be extracted. Thus, energy and costs will be saved.

You will find further equipment possibilities in this catalogue.

System 8000 with KemTex® PE-M filter cartridges

The extraction and filtration systems from the *KEMPER* System 8000 and 9000 range with *Kem*Tex® ePTFE filter cartridges represent the best technology available today. Because of their high filtration efficiency, they also able filter out fine particles that would otherwise enter into the recirculated air in the work area. In the case of System 8000 installations, the recirculation of air is allowed as long as certain regulations are adhered to, as these systems have been certified to DIN EN ISO 15012-1 by the BGIA (the German Institute for Occupational Safety and Health).

Even where there is an exhaust system, we recommend the use of high-quality filter cartridges, because according to national and international laws, the operator of any facility is obliged to maintain emissions at as low a level as possible.

The System 8000 and 9000 filtration units are also available with *Kem*Tex® PE-M filter inserts and meet the requirements of filter class M.
In spite of a more limited filter efficiency of particles in the nanometre range, they meet the legal requirements.

KEMPER recommends that this filter is only used for extraction, even if this is not mandatory by law. For example filtration units using *Kem*Tex® PE-M filters may only be used for processes in which much heat is generated anyway, therefore incurring no additional heating costs when the purified air is emitted to the surroundings.

Thus the System 8000 and 9000 filtration units with *Kem*Tex® PE-M filter cartridges are a less expensive alternative, without losing all the other benefits of *KEMPER* filtration.

Table System 8000
The following table shows the standard product range of the system 8000.
For further technical details please ask for the corresponding data sheet.

Part No.	Extraction capacity (max.)	Motor capacity	Width x Depth x Height (in mm)	Weight (in kg)
82 0250 030	2.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 962 x 2.110	410
82 0300 030	3.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 962 x 2.110	410
82 0350 040	3.500 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 1.413 x 2.110	590
82 0400 040	4.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 1.413 x 2.110	590
82 0450 050	4.500 m³/h	4,0 kW · 3 x 400 V / 50 Hz · 7,8 A	1.413 x 1.413 x 2.110	620
82 0500 050	5.000 m³/h	4,0 kW · 3 x 400 V / 50 Hz · 7,8 A	1.413 x 1.413 x 2.110	620
82 0550 060	5.500 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	1.413 x 1.413 x 2.110	630
82 0600 060	6.000 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	1.413 x 1.413 x 2.110	630
82 0650 070	6.500 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	1.413 x 1.864 x 2.110	760
82 0700 070	7.000 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	1.413 x 1.864 x 2.110	770
82 0800 080	8.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	1.413 x 1.864 x 2.110	780
82 0900 090	9.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	1.413 x 1.864 x 2.110	790
82 1000 100	10.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	2.375 x 1.864 x 2.110	1.200
82 1100 110	11.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	2.375 x 1.864 x 2.110	1.210
82 1200 120	12.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,6 A	2.375 x 1.864 x 2.110	1.220
82 1300 120	13.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,6 A	2.375 x 1.864 x 2.110	1.230

System 9000 with KemTex® PE-M filter cartridges

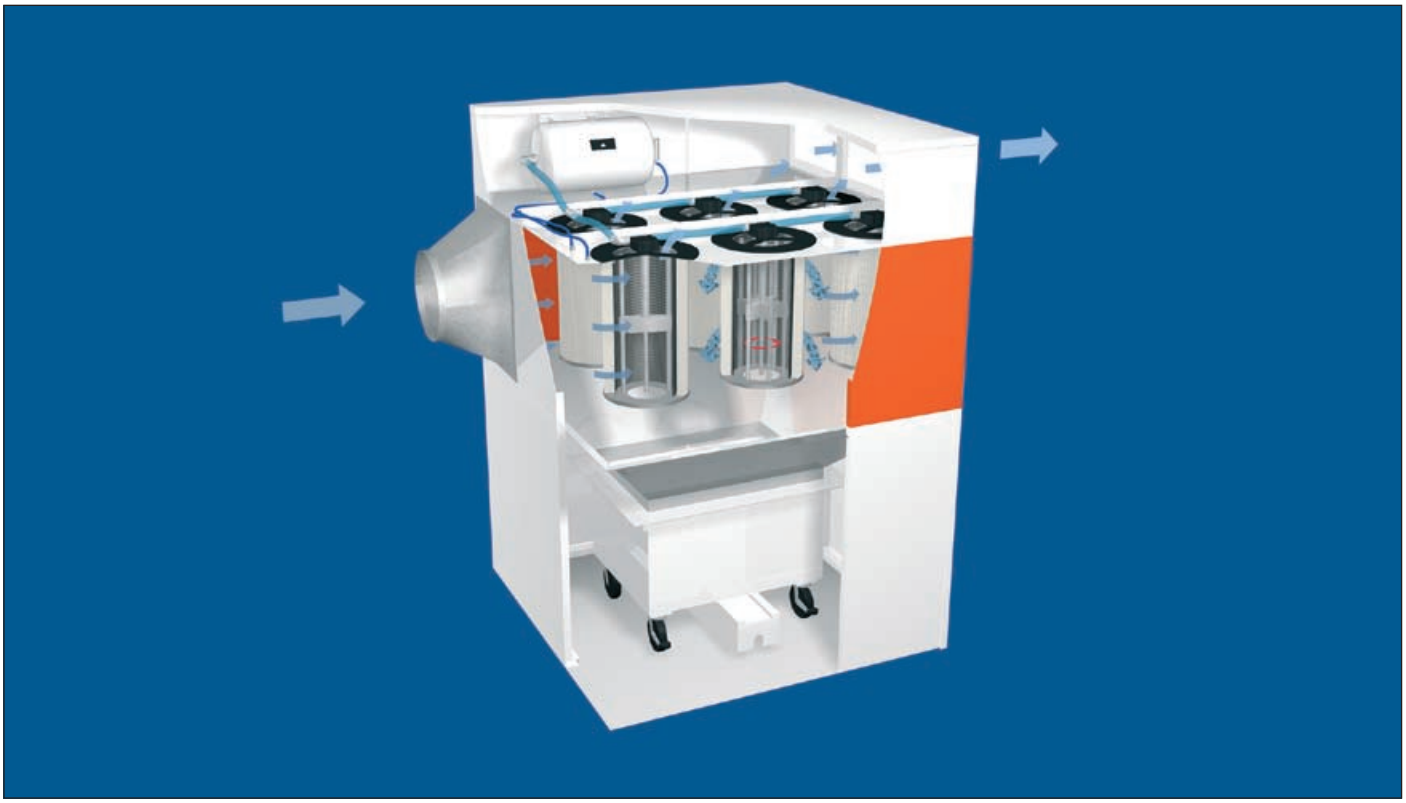


Table System 9000
The following table shows an extract of the standard product range of the system 9000.
Further details on filter systems with higher capacity are available on request.

Part No.	Extraction capacity (max.)	Motor capacity	Filter surface (in m²)	Width x Depth x Height (in mm)	Weight (in kg)
92 1300 160	13.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,0 A	160	2.826 x 1.864 x 2.670	1.550
92 1400 140	14.000 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	140	2.826 x 1.864 x 2.670	1.560
92 1500 140	15.500 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	140	2.826 x 1.864 x 2.670	1.560
92 1600 160	16.000 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	160	2.826 x 1.864 x 2.670	1.580
92 1700 160	17.500 m³/h	15,0 kW · 3 x 400 V / 50 Hz · 26,5 A	160	2.826 x 1.864 x 2.670	1.600
92 1800 180	18.000 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	180	2.826 x 1.864 x 2.670	1.630
92 1900 180	19.500 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	180	2.826 x 1.864 x 2.670	1.630
92 2000 200	20.000 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	200	4.239 x 1.864 x 2.670	2.250
92 2100 200	21.500 m³/h	18,5 kW · 3 x 400 V / 50 Hz · 32,5 A	200	4.239 x 1.864 x 2.670	2.250
92 2200 220	22.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	220	4.239 x 1.864 x 2.670	2.280
92 2300 220	23.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	220	4.239 x 1.864 x 2.670	2.290
92 2400 240	24.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	240	4.239 x 1.864 x 2.670	2.300
92 2500 240	25.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	240	4.239 x 1.864 x 2.670	2.300
92 2600 260	26.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	260	4.239 x 1.864 x 2.670	2.320
92 2700 260	27.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	260	4.239 x 1.864 x 2.670	2.320
92 2800 280	28.000 m³/h	22,0 kW · 3 x 400 V / 50 Hz · 40,0 A	280	4.239 x 1.864 x 2.670	2.330
92 2900 280	29.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	280	4.239 x 1.864 x 2.670	2.360
92 3000 300	30.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	300	4.239 x 1.864 x 2.670	2.380
92 3100 300	31.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	300	4.239 x 1.864 x 2.670	2.380
92 3200 320	32.000 m³/h	30,0 kW · 3 x 400 V / 50 Hz · 53,0 A	320	4.239 x 1.864 x 2.670	2.390
92 3300 320	33.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	320	4.239 x 1.864 x 2.670	2.410
92 3400 340	34.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	340	4.239 x 1.864 x 2.670	2.430
92 3500 340	35.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	340	4.239 x 1.864 x 2.670	2.430
92 3600 360	36.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	360	4.239 x 1.864 x 2.670	2.450
92 3700 360	37.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	360	4.239 x 1.864 x 2.670	2.450
92 3800 380	38.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	380	5.652 x 1.864 x 2.670	3.110
92 3900 380	39.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	380	5.652 x 1.864 x 2.670	3.110
92 4000 400	40.000 m³/h	37,0 kW · 3 x 400 V / 50 Hz · 64,0 A	400	5.652 x 1.864 x 2.670	3.130

Accessories

Accessories
It is possible to fit the *KEMPER* extraction and filter units with a lot of different accessories to customize them for your individual requirements. Below you will find an overview of all available accessories.

Automatic Extraction Control
The adjustment of the extraction capacity to the actual needed requirement, helps to reduce the energy costs. An inverter in connection with the intelligent adaptive control reduces the speed of the ventilator automatically and steplessly to the actual demand. Other advantages, next to energy saving, are the lower wear and tear, longer filter lifetime and a lower noise level. Furthermore the lifetime of the motor is prolonged by the integrated soft start function.

External On/Off Switch
The unit can be switched on and off by an external potential free contact. For example in connection with a plasma/flame cutting unit. The unit is only running when it is necessary.

External Control Panel
Additional control panel to operate and monitor the *KEMPER* extraction and filter unit. Ideal if the unit is installed in separate rooms or outside in connection with a weather proofed housing.

External Monitoring
Fitting the unit with a modem for connection of your unit to the *KEMPER* remote diagnosis and maintenance system. Enables a fast analysis of the fault message and the remedy of the problem.

External Alarm
With an ancillary module, the fault message can be sent direct as a text message or by email. This is very useful, if the unit can not be controlled personally.

Weather Proofed Housing
If it is not possible to install the unit inside, despite the compact design the system can be installed outside. To do this, the unit will be equipped with a weather proofed housing which protects the system reliably against all weather forces. An integrated heating system prevents the compressed air system from freezing.

Explosion Protection
The *KEMPER* systems 8000 and 9000 can be equipped with explosion relief panels to lower the risks associated with a dust explosion.
This outfit is absolute necessary in certain work environments where dust explosion proofed equipment are a legal direction.

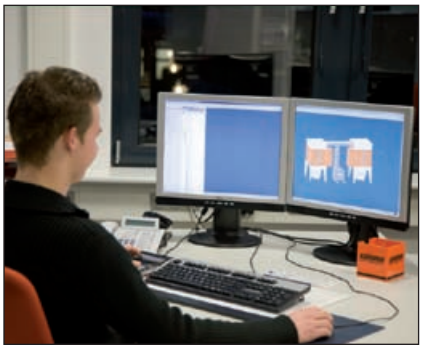
Spark Extinguishing System
The risk of filter fires in extraction and filter units of *KEMPER* are reduced to a minimum anyway. But such a scenario can not be excluded totally.
Therefore *KEMPER* offers the spark extinguishing system as an accessory. This system controls by means of sensors in the extraction duct if the extracted air carries sparks or hot particles which cause a filter fire. An individual control from the filter system starts the extinguishing of the sparks immediately after they have been recognised. Additionally the ventilator can be switched of or alarm messages can be given or transmitted via modem to a mobile phone or email account. All these functions are related to certain limits set to the individual requirements.

Temperature Sensors in the Filter Unit
In connection with the spark extinguishing system an additional temperature sensor can be installed inside the filter unit to increase the safety.
If certain temperatures in the filter unit are reached, the filter system switches off and sends an alarm.

Temperature Sensors in the Ventilator Unit
The motor of the ventilator can be additionally equipped with temperature sensors in the windings. This enables the unit to get switched off automatically if the motor temperature is to high. Bigger motor damages can be avoided.

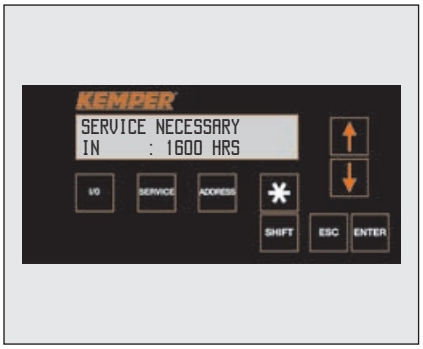
Pre- and after sales service

Planning and Installation
Good planning is essential to meet the high expectations of the customer and legislation. The development and planning department analyses the individual requirement and develops an optimal solution, using the *KEMPER* filters systems 8000 and 9000 and other components of the *KEMPER* product range. Beyond this, we recommend that all *KEMPER* components like filter units, exhaust arms, welding tables and the referring ducting are installed by our qualified and experienced *KEMPER* personnel.
The commissioning of the system and a training for the users are of course part of the installation.



The *KEMPER* Maintenance
Extraction and filter units are health and safety relevant devices and must therefore be tested and maintained on a regular basis. This legislation has to be observed. The control of the system 8000 and 9000 shows a message when the next service is necessary.

The *KEMPER* service team can carry out the maintenace at the *KEMPER* filter units and all related components.
Regular maintenance is recommended, for a long and optimal operation of the filter unit.



Maintenance
To ensure the optimal durable operation of the unit, we recommend a service contract for your *KEMPER* extraction and filter unit.
Furthermore, the compliance with all current legislations is assured.
According to that, a yearly maintenance and test, documented in an inspection book, is prescribed by law.
During this yearly maintenance visit, all functions are tested and required adjustments are carried out.
The service contract covers all labour, changing of worn out parts and travel expenses. Only the spare parts themselves are charged separately.

Full Service
So that you do not need to take care to meet the statutorily deadlines, *KEMPER* can offer a complete service for your extraction and filter unit.
You can fully concentrate on your tasks, we take care of the optimal operation of the *KEMPER* unit. From the first day on we look after the filter unit and already 50 hours after commissioning the unit will be visually inspected.
After that, the unit will be tested and serviced on a regular basis following the individual requirements.
If necessary, worn out parts or the filter cartridges will be exchanged.
In case of malfunctions we will be on site in the shortest possible time to solve the problem. The full service covers all wear and tear parts, filter cartridges and travel expenses. The only pre-condition is that the unit is equipped with a modem for telediagnosis.
The costs for this service consist of a basic lump sum depending to the type of unit and a running time part.

Extraction and
for cutti

During the thermal cutting process of metal a large amount of fine dusts are generated which are harmful for the user, his environment and the machines. Therefore it is indispensable to provide an optimal extraction as well as clean air at the working place.

The generated amount of dust depends on the process and the material which has to be cut. The health risk during the oxy-fuel cutting, plasma cutting and laser cutting is exceptionally high, due to the size of the generated particles.

Especially during these processes a large amount of extremely fine particles is generated.
For these applications *KEMPER* offers especially adapted filter units of the systems 8000 and 9000.

They are especially designed for the dust exposures, which are generated during the cutting process and by means of graduation they can be adapted to the output of the respective cutting unit. The small foot print as well as the low noise level - clearly below 65 dB (A) - speak for all *KEMPER* filter units. That corresponds approximately to the sound level of a shaver.

Regarding the extraction and filter systems, *KEMPER* exclusively deploys cartridge filters with *Kem*Tex® ePTFE membrane. The inimitable microstructure
of the *Kem*Tex® ePTFE membrane consists of unarranged finest fibres, which prevent even the smallest particles. Especially during the cutting process superfine particles arise which have a diameter between 0,1 µm and 1,0 µm and which are therefore alveole exchangeable.
Especially these particles arrive at the alveole, diffuse to the bloodstream and deposit in the body.

The extraction begins in the cutting table of the cutting unit, which either already exists or which is also provided by *KEMPER*. The polluted air arrives at the filter unit through a duct. After a pre-separation of the coarse particles the other dust particles will be separated at the filter cartridge according to the principle of surface filtration.

The filter cartridges are always mounted vertically on the *KEMPER* filter systems, so that the dust is not in a position to deposit long-lasting and minimise the filter surface.

The integrated control, based on a Siemens Simatic S7, monitors and

l filter systems
ng units

observes all the functions of the unit. Information about the condition of the unit and possible error messages are given on a clear arranged display. Optionally the extraction and filter unit for example can be equipped with an external on-off-switch, so that it will be extracted only during the cutting process.
That reduces the costs, increases the durability of the filters and again makes the handling more comfortable.

Selection table for filter units
In addition to extraction and filter systems *KEMPER* also produces extraction tables for cutting units. These are available in different widths and lengths and are composed by modules. In the following table you will find the combinations of extraction table and filter unit. Thereby the respective filter unit is optimally adapted to the table, the length of the table up to 20 m is irrelevant.

KEMPER **extraction table with width of**	**Required *KEMPER* filter unit**	**Extraction capacity (max.)**	**Motor capacity**	**Width x Depth x Height (in mm)**
1.100 mm	81 0250 030	2.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 962 x 2.110
1.350 mm	81 0350 040	3.500 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 1.413 x 2.110
1.600 mm	81 0400 040	4.000 m³/h	3,0 kW · 3 x 400 V / 50 Hz · 6,5 A	962 x 1.413 x 2.110
2.100 mm	81 0550 060	5.500 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	1.413 x 1.413 x 2.110
2.600 mm	81 0700 070	7.000 m³/h	5,5 kW · 3 x 400 V / 50 Hz · 10,7 A	1.413 x 1.864 x 2.110
3.100 mm	81 0800 080	8.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	1.413 x 1.864 x 2.110
3.700 mm	81 0900 090	9.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	1.413 x 1.864 x 2.110
4.200 mm	81 1000 100	10.000 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	2.375 x 1.864 x 2.110
4.700 mm	81 1100 110	11.500 m³/h	7,5 kW · 3 x 400 V / 50 Hz · 13,8 A	2.375 x 1.864 x 2.110
5.200 mm	81 1200 120	12.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,6 A	2.375 x 1.864 x 2.110
5.700 mm	81 1300 120	13.000 m³/h	11,0 kW · 3 x 400 V / 50 Hz · 20,6 A	2.375 x 1.864 x 2.110

Suitable for alveole exchangeable dusts
separation > 99 % of particles < 0,4 µm

KEMPER extraction tables with cutting portal

KEMPER extraction tables

Extraction for robotic units

Different possibilities to extract the polluted air with the systems 8000 and 9000 are available for the extraction of robotic welding stations in the industrial production.

According to the type and the method of operation of the robotic unit the extraction at source with capturing elements of the *KEMPER* standard program can be realised. Or individually designed and manufactured exhaust hoods come into operation.

The hoods will be mounted above the workplace and will be connected to a central extraction and filter system by means of a ducting. To reach more flexibility, the exhaust hoods can be built free swivelling. For the protection against hazardous radiant emissions and spatters the hoods can be equipped with *KEMPER* welding protection strips.

Extraction for robotic cells

By using robotic cells in closed or opened top design, different options for the extraction with the *KEMPER* systems 8000 and 9000 are available.
If the robotic cell is completely enclosed, the extraction via the provided ducting connection can be affected.

The required extraction capacity depends to the room volume of the robotic cell. If the cell is opened at the top, it can either be extracted at the source or by means of a hood, which will be installed above the robotic cell.

Depending on the mode of operation the area above the robot has to stay clear for loading and unloading the robot by a crane. For this application pneumatically driven exhaust hoods come into operation. These hoods can be controlled via the control of the robot.

Extraction and Filter Technology in Practice

Welding training centre
Task:
A set-up of more than 25 welding workstations with extraction via telescopic arms and grinding and cutting tables.

Solution:
The capacity of the complete installation is 20.000 m³/h and can be achieved by a capacity of 15.000 m³/h of the system 9000 unit and a capacity of 5.000 m³/h of the system 8000 unit.
High-alloyed steel will be processed at some of the workstations. This is the reason why we have chosen for an installation with two separate units.
Also for this case the filtered air has to be delivered outside during processing of high-alloyed steel. In order to save some energy only the system 8000 is running on exhaust to outside modus. Because of this only a part of the total extraction capacity will be delivered to outside.

We have installed an automatic control for the extraction capacity to minimize the costs during the operation of the unit. By means of this control the extraction capacity can be adjusted steplessly and fully automatically to the actual requirements. And not only energy costs will be reduced but also costs for mechanical wear of the unit. Furthermore by regulating the extraction rate the filter and fan life are prolonged.

The unit was placed in a detached room and controlled via an external control panel which is installed at the workstation of the tutor. He can control the unit from this panel.

Telescopic arms were chosen as main extraction devices for the welding cabins at this installation. These are part of the *KEMPER* standard product range as well as the connected grinding tables for training in welding with integrated extraction (these tables are called Tavolextables) and the welding tables with training clamp integrated into welding cabins.

The welding cabins separate the welding stations which are built of acoustic panels are also part of our *KEMPER* product range.
These welding cabins can be supplied with rigid screens and/or lateral sliding welding protection strips.

All together this is a complete and high quality solution from *KEMPER*.

Extraction and filter technology in practice

Equipment for a welding and grinding workshop in a metal processing operation.

The challenge:
Set up 22 welding and grinding booths with low pressure and high vacuum extraction including exhaust arms, telescopic arms, welding tables and grinding tables.

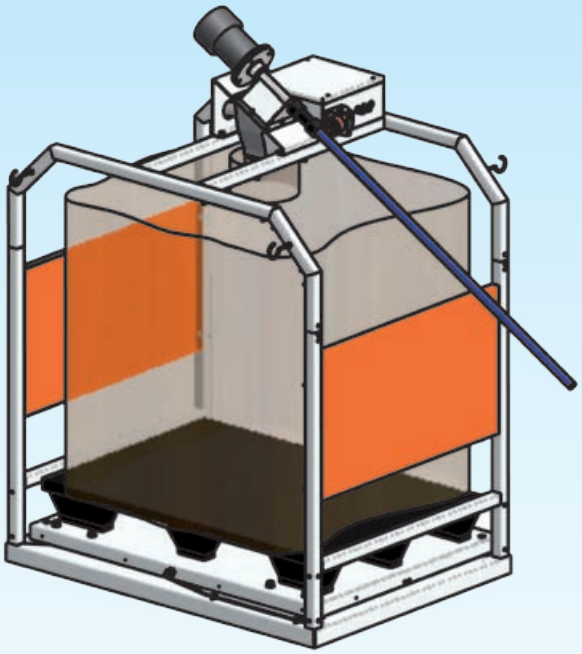
The solution:
12 welding booths were constructed using black suspended curtains. Convenient access to the booth was provided by red strips on the front that could be pushed to one side.

The booths are evacuated using a high vacuum system, so that extraction takes place directly at source. There was a direct extraction connection to the welding gun.

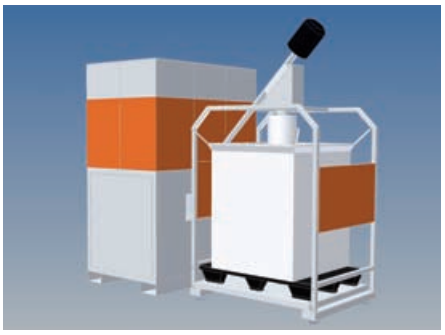
In addition, a piping system was installed above all the booths. Depending on the requirements, exhaust arms or telescopic arms were attached to the piping of each booth. This allowed the workspace to be equipped in a space-saving manner and ensured high contaminant capture efficiency.

Soundproofed booths were built in the central part of the workshop. Each of these booths was connected via a central piping system to a System 9000 with 25.000 m³/h. The booths were specially designed as grinding booths and thus equipped with the best possible sound insulation. In the booths *KEMPER* grinding tables were set up and connected to the pipe work.

By combining welding work stations with different job extraction methods together with grinding, the best possible work processing was achieved with short distances. The combination of the filter systems is also very flexible and cost saving in operation.



*KEMPER easy*DUST



*KEMPER easy*DUST

Automatic dust discharge for *KEMPER* System 8000 and System 9000 extraction and filtration systems.

*KEMPER easy*DUST enables the automatic discharge of dust from a *KEMPER* extraction and filtration system without having to interrupt the production process. Ideally the system can be used where high costs are generated due to large amounts of dust and down times. The System ensures an easier and professional disposal of the dust as well as increased safety for the employees

Advantages

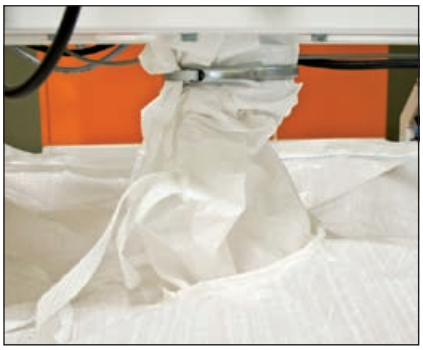
- Ideal for large amounts of dust and critical production processes
- More than 5 times the capacity of standard containers
- More practical – maximum safety

*KEMPER easy*DUST

Part No.	Description
90 800 550	*KEMPER easy*DUST for System 6000
90 800 600	*KEMPER easy*DUST for System 8000 81 0200 xxx - 81 0400 xxx
90 800 650	*KEMPER easy*DUST for System 8000 81 0450 xxx - 81 0600 xxx
90 800 500	*KEMPER easy*DUST for System 8000 81 0650 xxx - 81 1300 xxx and System 9000

Technical Data

Max. conveying capacity:	approx. 80 liters/h (for laser cutting dust with bulk weight of 0,24 kg/liter)
Conveyer worm speed:	825 RPM
Length of conveyer worm:	approx. 3.000 mm
Diameter of conveyer worm:	DN 25
Motor power:	0,25 KW
Connection voltage:	3 x 400 V / 50 Hz
Weight including conveyer worm:	approx. 155 kg
Dimensions: (w x d x h):	1.300 x 960 x 1.900 mm
BIG-BAG volume:	approx. 825 liters
BIG-BAG dimensions:	approx. 89 cm x 89 cm x 95 cm



*KEMPER easy*DUST

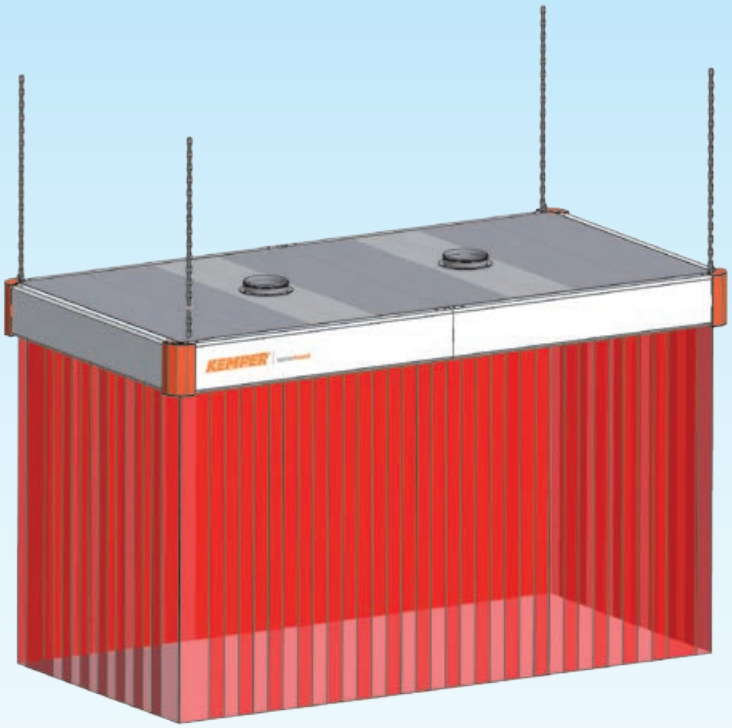
Application

The rapid change in cutting technology leads to a higher cutting speed. This also means a highly increased amount of dust that has to be captured and filtered. The safe disposal of dust hazardous for environment and health represents another challenge. As a standard, *KEMPER* already offers extraction and filtration systems with large dust collecting boxes that ensure a safe disposal.

With *easy*DUST *KEMPER* has developed a system that enables a permanent discharge during production and as well features a larger collecting capacity of the dust. The dust is continuously transported out of the system and stored in a Big-Bag. The dust can therefore be disposed of safe and easy with almost any contamination.

Instead of the standard dust collecting box the system has a rotary feeder that is situated underneath the dust chute of the extraction and filtration unit. By means of a screw conveyer the dust is then transported out of the unit and dumped into a Big Bag.

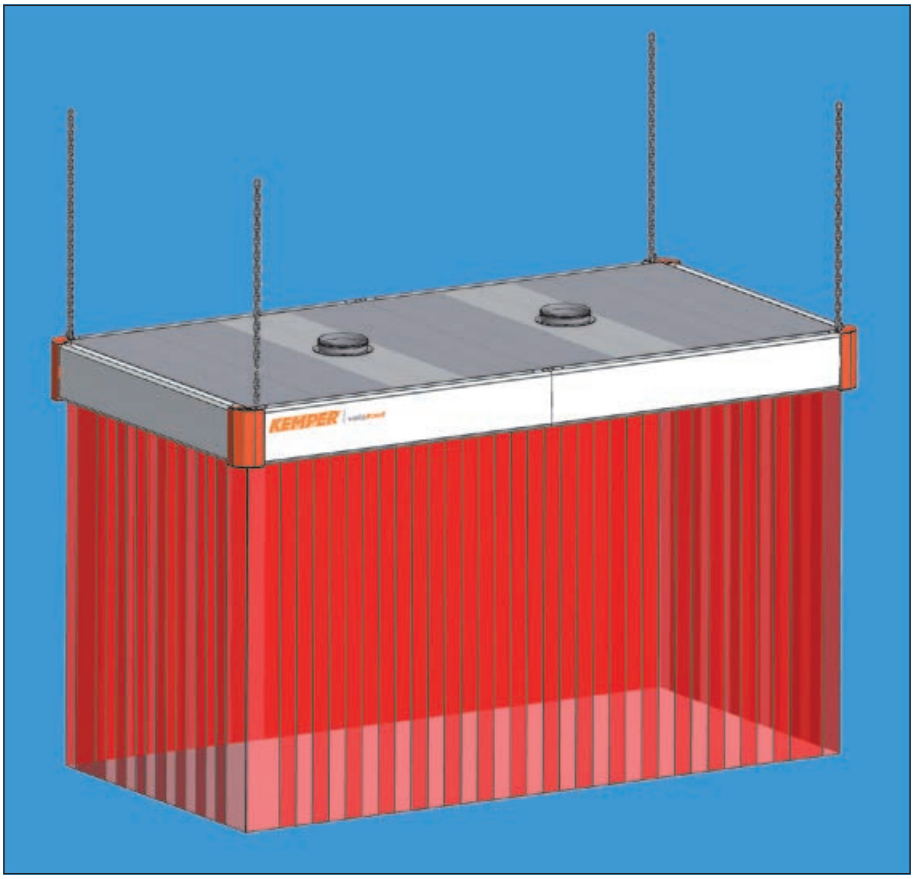
*KEMPER easy*DUST is available for existing 8000 and 9000 extraction and filtration systems as well as for new installations. *Easy*DUST is managed and monitored through the control system of the filter unit. A level meter informs in adequate time that the Big Bag has to be changed.



KEMPER vario*hood*

KEMPER vario*hood*

Modular extraction hood

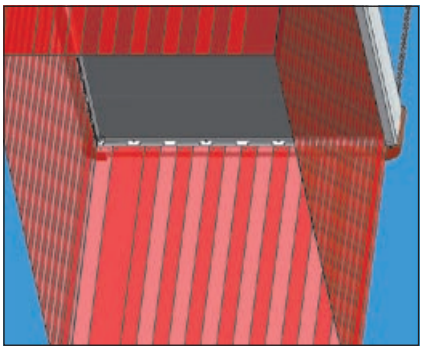


The new modular extraction hood from *KEMPER* can be adapted to fit any individual requirement. It is available in different sizes as standard.

The modular extraction can be set up on supporting stands or suspended from the ceiling, allowing the hood to be placed where it is not possible to position the extraction directly at source.

The extraction hood can fitted with welder protection strips from the *KEMPER* range. The suspension of the extraction hood with strips ensures the best possible protection from glare and welding spatter. The *KEMPER* strips meet DIN EN 1598.

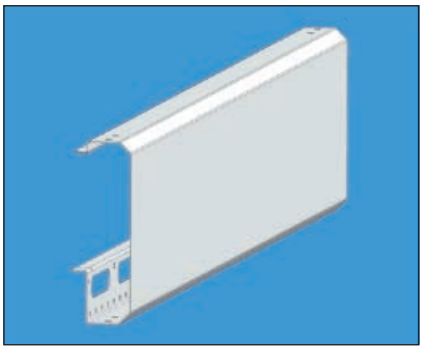
The *KEMPER* extraction hood has an innovative flow principle, giving it a particularly high extraction efficiency at very low air volumes, and thus lower energy consumption.

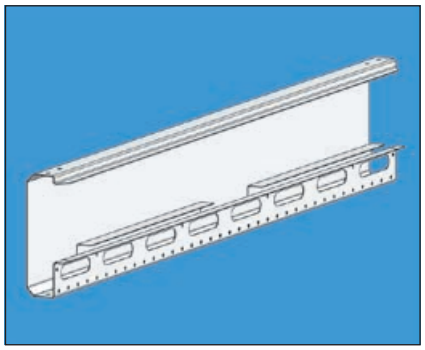


Mode of operation

Thanks to the unique flow principle it is possible to achieve a high extraction efficiency at a very low air volume. The dust produced is drawn through small, elongated openings on the inner edges of the extraction hood.

The extraction hood can be fully fitted out with strips to reduce the occurrence of sparks, thus protecting not only the staff but the entire equipment. Furthermore, the dust incurred during welding and cutting cannot escape through the hanging strips. The length of the strips can be individually altered to suit your requirements.





KEMPER vario*hood*

Modular extraction hood

Modular design

The extraction hood is very easy to assemble, consisting mainly of parts that push fit together. The modular extraction hood consists of an intermediate profile that is available in three different lengths (900 mm, 1.350 mm and 1.800 mm).

The intermediate profiles are connected together using connection profiles and corner connectors. This procedure allows the hood size to be varied almost infinitely.

The extraction hood is available in various sizes from 1.350 x 900 mm up to 2.700 x 1.800 mm.
KEMPER can supply the extraction hood as either a suspended variant or on supports.

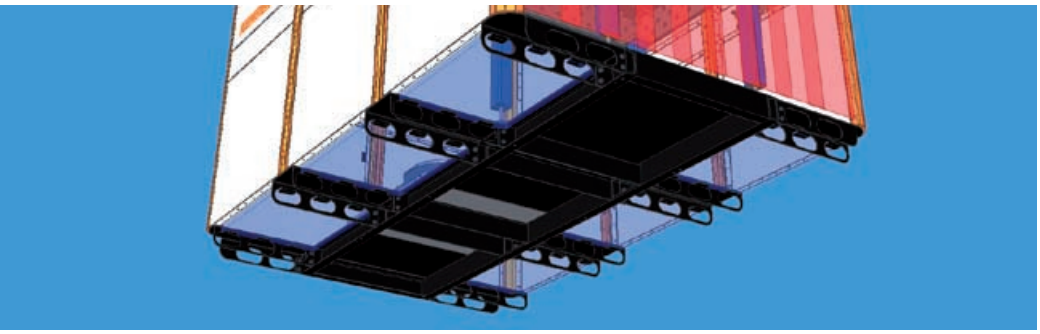
Other sizes are available upon request.

Benefits

- Easy integration of the suspension strips without any additional accessories
- High extraction efficiency at a very low air volume
- Flexible design of the extraction hood by using a modular construction
- Extraction of welding fumes where it would not be possible otherwise to remove them at the point of generation
- Glare protection from the optional *KEMPER* strips
- Protection for employees and welding equipment
- Reduced fire risk

Dimensions	1.350 mm x 900 mm	1.800 mm x 900 mm	2.250 mm x 900 mm	2.700 mm x 900 mm	1.350 mm x 1.350 mm	1.800 mm x 1.350 mm	2.250 mm x 1.350 mm	2.700 mm x 1.350 mm	1.800 mm x 1.800 mm	2.250 mm x 1.800 mm	2.700 mm x 1.800 mm
Part No.	232 0302	232 0402	232 0502	232 0602	232 0303	232 0403	232 0503	232 0603	232 0404	232 0504	232 0604
Required airflow (m^3/h)	600 - 950	800 - 1.300	1.000 - 1.600	1.200 - 2.000	900 - 1.500	1.200 - 2.000	1.500 - 2.400	1.800 - 2.900	1.600 - 2.600	2.000 - 3.200	2.400 - 3.900
Number of suction spigots diam. 250mm	1	1	2	2	1	2	2	3	2	3	3
Pressure loss((Pa)	200	200	200	200	200	200	200	200	200	200	200
Weight without strip curtains (kg)	56	66	91	101	69	83	114	128	100	138	156

For adequate welding strips 300 x 2 mm, with overlap 33 % see page 176.



KEMPER robo*cab*

KEMPER robo*cab*

The *KEMPER* robo*cab* is a robot booth with integrated extraction. Its modular design allows the size of the booth to be adapted to the size of the welding robot. The robo*cab* is suitable for the robotic welding of small to medium sized components.

The booth consists of a self supporting base frame with a walkable floor onto which the side walls, the robot, its base and the welding equipment are permanently fixed.

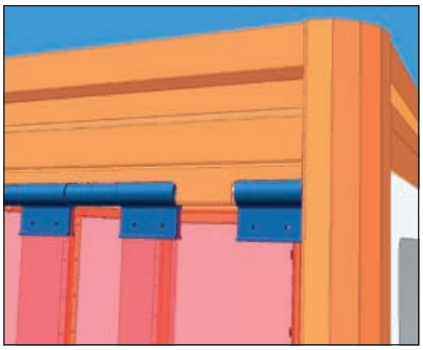
The *KEMPER* robo*cab* is specially designed for welding robots. In addition to the assembly units for the robot, floor gratings are fitted as standard, so that dust and slag can fall through the bottom.

A dust collector is fitted under the *KEMPER* robo*cab* for easy cleaning. This conveniently disposes of the smaller particles. The booth is quickly cleared of troublesome welding debris. The dust collector is positioned directly between the integrated forklift pockets and may be pulled out on a rail if required. This also ensures the correct positioning.

The individual powder-coated cartridges are embedded in steel struts. At the front the *KEMPER* robo*cab* is either suspended with strips down to the floor or a revolving wall with the welding equipment is installed.

The welding equipment can be controlled manually or in conjunction with the robot controller. Thus employees are protected from dangerous radiation and welding sparks and spatter.
On the rear side there is a door to allow staff to enter the booth, making the *KEMPER* robo*cab* and the robot easily accessible for repair and maintenance.

The *KEMPER* robo*cab* has NW 250 mm connections, allowing an existing or a new extractor to be fitted to the robot booth. The recommended size of plant depends on the size of the cabin and the welding methods in use.



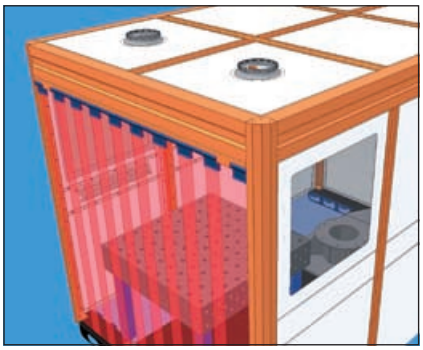
KEMPER robo*cab*

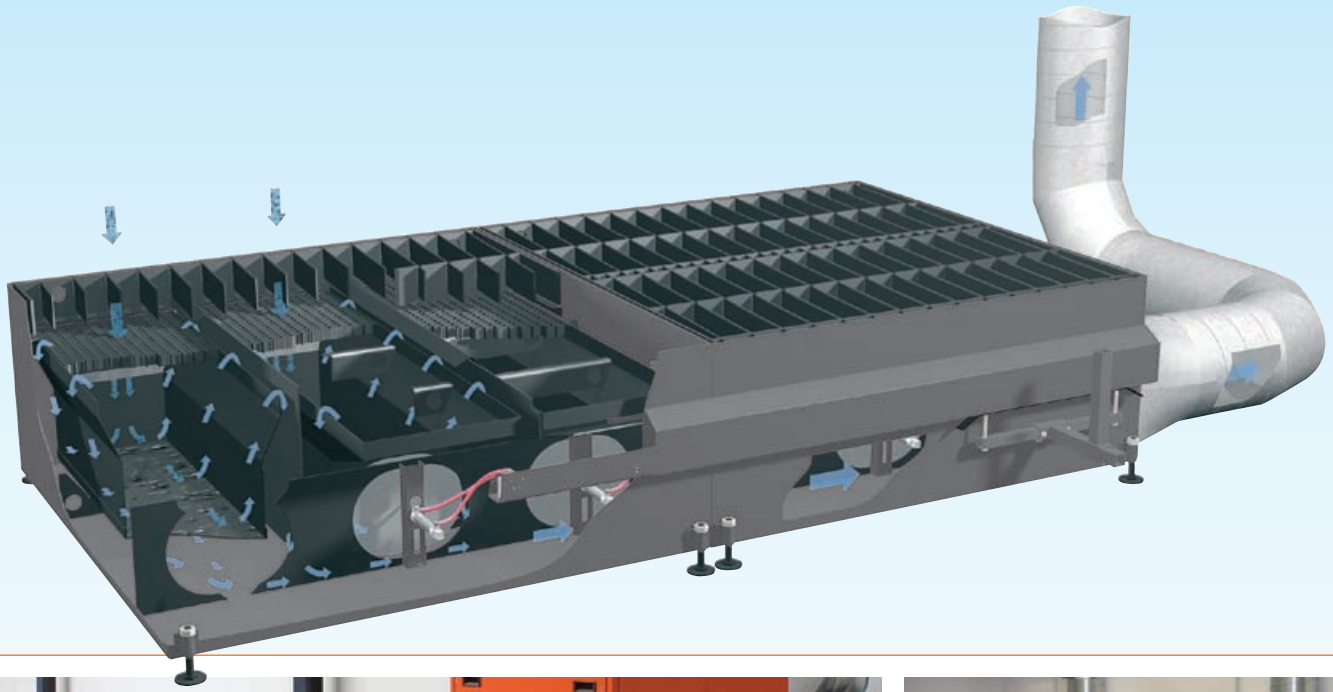
The installation of the robot is tailored to your requirements.

The *KEMPER* robo*cab* has a stable and compact construction. Supplied in a container construction, the welding robot booth requires little space and can be easily positioned in the workshop. A side window allows the robot to be observed during operation. A webcam can be installed in the robot booth to monitor the entire production sequence.

The *KEMPER* robo*cab* can be moved using a forklift truck and positioned in the production area. The booth is fitted into the floor with anchor bolts, requiring no further installation work. The power, compressed air and welding gases are then connected up. After installing the desired robot, the booth is ready for use.

Part No.	Dimensions in mm
75 100 31 21 23	3.100 x 2.100 x 2.320
75 100 31 31 23	3.100 x 3.100 x 2.320
75 100 41 21 23	4.100 x 2.100 x 2.320
75 100 41 31 23	4.100 x 3.100 x 2.320
75 100 41 41 23	4.100 x 4.100 x 2.320





Extraction table

What you should know about extraction tables:

A cutting machine, doesn't matter what type or make, has to do one thing primarily: to cut effectively at high quality.
To achieve this, not only a high quality flame-, plasma- or laser cutting unit is required. Also a cutting table of higher value is needed.

Furthermore, the smoke created during cutting metal needs to be extracted, to protect the people within the workshop.
But the dust, sparks and fumes will also harm the cutting machine itself and affect the performance or even could cause a break down.
For this reason extraction is irreplaceable.

The performance of an extraction system is very much dependent on the design of the extraction table. To keep the extraction rate as low as possible, the table has to be divided in individual extraction segments.
As a matter of course, the individual segments should be controlled automatically via the control of the cutting machine.

To avoid filter fires, normally triggered by sparks and hot particles, the table should be constructed in such a manner that pre-separation occur within the table itself. By ensuring this, the level of dust reaching the filter unit is reduced.
This provides an extended filter life and in turn lower maintenance costs.

Maintenance is also important for the smooth operation of the complete system. The table should be easy to maintain as maintenance of a cutting table often means cleaning.
The cleaning should be carried out as simply as possible by means of removable steel support frames and slag/dust boxes.

Take advantage of a problem

During the plasma-, laser- or flame cutting process a problem occurs. Due to the high cutting pressure, the dust, sparks and fumes are pushed into the table and get swirlled up again to the top.

A conventional extraction from the bottom or the side of the table would not be sufficient and will lead to an increased exposure of the employees to the fumes and strong contamination of machines and buildings.

KEMPER designed an extraction table, which takes advantage of the dust raised in the table: Due to the high cutting pressure a type of cyclone is created. Thereby coarse particles and sparks are pre-separated in the bottom part of the dust boxes and gases and finer particles will rise to the top of the table.

Here they will be captured by the integrated surface extraction and separated by the connected filter unit.

Big or bigger
The modular design of the *KEMPER* table makes it possible to build nearly every required size from our standard modules. So far the biggest table has a surface of 260 m².
You need a bigger table or much smaller? Challenge us!

Solid
The *KEMPER* extraction tables are extremely well built and therefore also flexible with regard to the thickness of the material which will be cut. Steel plates up to a thickness of 250 mm are no problem for the table. In technical terms: A surface load of 20 kN/m².

Reliable
All used parts and components meet the high quality standard at *KEMPER*.
A reliable function of the table also with permanent usage is therefore guaranteed.

Airflow in KEMPER extraction tables

KEMPER extraction tables

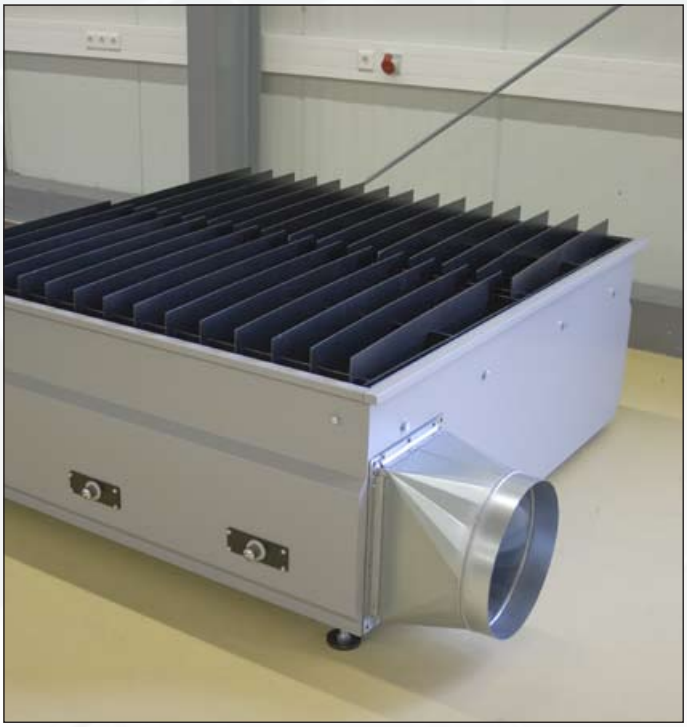
The following models of extraction tables are available

Flame cutting tables:

in comparison to conventional extraction tables, *KEMPER* extraction tables make it possible to have a more uniform and more efficient suction. The tables consist of individual modules, allowing virtually any size to be built. The individual modules are divided into segments. It is possible to have a segment control that only opens the section just above where cutting is taking place. This gives the best possible extraction and saves on energy costs.

Cleaning intervals are greater thanks to the large dust and slag collector.

The various cutting supports that are available as options make it possible to improve the cutting quality.



***KEMPER* eco-tables:**

The *KEMPER* eco-table is for cutting pieces up to 55 mm thick. Thanks to the standard dimensions, these tables can be produced more cheaply than conventional ones, whilst providing the usual high quality expected from *KEMPER*.

The extraction flaps are mechanically actuated using a control carriage. The standard package includes mechanical controls, material supports and slag trays.

KEMPER extraction tables

The following models of extraction tables are available

***KEMPER easy*SHUTTLE:**

The *KEMPER easy*SHUTTLE consists of two shuttle frames with cutting supports. This allows one table to be loaded while the other is run into the cutting area, making better use of valuable time.

The control of the *easy*SHUTTLE can be linked to the control of the cutting machine. The shuttle table can also be manually controlled.

***KEMPER* water cutting tables:**

KEMPER water cutting tables have been specially developed for plasma cutting.

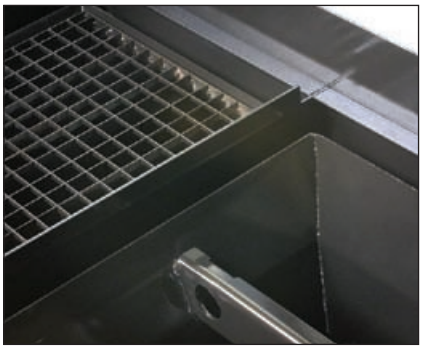
By cutting sheet metal plates under water, the cutting dust is largely absorbed and noise levels greatly reduced. Two further benefits of *KEMPER* water cutting tables are the very low material distortion and the high quality of cut.

Options include a water cutting table with level control, automatic discharge or hydraulic level control and automatic discharge.

KEMPER extr

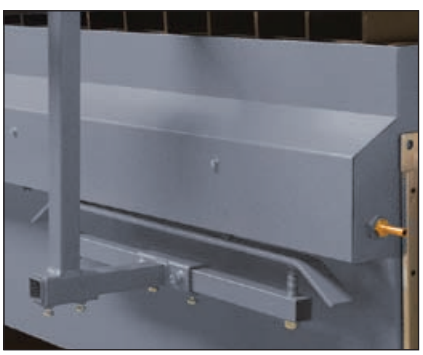
Plasma and flame cutting tables from *KEMPER* offer an optimal e
innovative construction of the table features surface extraction whic
At the same time the risk of sparks reaching the extraction and filter un
KEMPER. Sparks entering to the filter unit are the most common reaso
possible to create an extraction bed in nearly every re
high and constant *KEMP*

Surface extraction
The individual modules of the system are divided in sections. This allows local extraction of the fumes and gases directly at source. At the same time the extraction capacity can be reduced to lower the costs.



Surface extraction
Due to the unique design of the *KEMPER* extraction table, the fumes and gases are extracted evenly at the surface of the table. This ensures an efficient and safe extraction of the arising dusts without sparks reaching the filter unit.

Material support
The material support designed by *KEMPER* has two major advantages. Firstly, by using thin flat steel bars installed at an angle, the cutting quality on the underside of the material is enhanced.
Secondly, the bars can be exchanged easily and therefore facilitate the cleaning of the table.

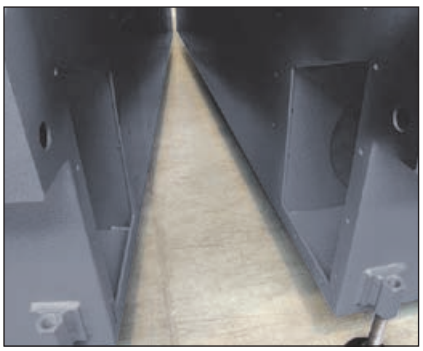


The control
The sectionalised extraction is controlled by a control bar and a slide which is usually installed at the cutting portal. Or activation of the extraction is integrated electronically in the control of the cutting machine.

raction tables

xtraction, highest possible security and ease of maintenance. The
ch is more consistent and efficient compared to conventional tables.
it is reduced to a minimum due to the unique construction designed by
ns for dangerous filter fires. Due to the modular design of the table, it is
equired size. By using modules in standard sizes, the
ER quality is guaranteed.

The modular design
The cutting tables of *KEMPER* consist of individual standard modules which can be joined together. That way, every desired cutting bed size can be built. The standardised modules can be joined quickly and easily.



The dust and slag boxes
Due to the large slag boxes of the *KEMPER* cutting tables, the maintenance/cleaning intervals are less frequent. On conventional tables the dust boxes need to be emptied up to six times more often. This, of course, will cost time and money.

The cleaning
All components of the cutting bed have eyelets. This makes it very easy to take out the material support frame, grating and the dust/slag boxes. The design of the dust/slag boxes enables very easy emptying.

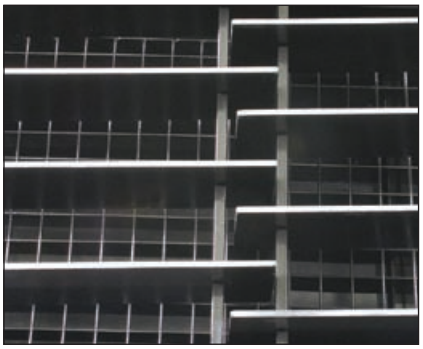
The extraction
The extraction tables from *KEMPER* could be connected to existing extraction systems, but an optimal result can be achieved if the table is connected to a *KEMPER* filter system 8000 or 9000. Please contact our local *KEMPER* distributor for details of the *KEMPER* filter unit or call us directly.

Configuration of the extraction tables

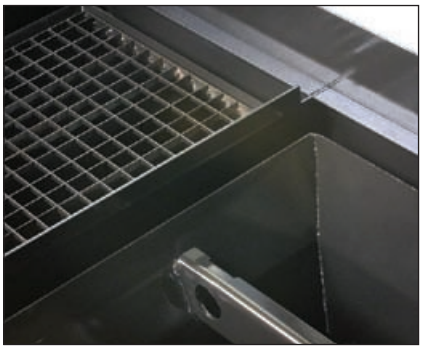
The modular design of the *KEMPER* extraction tables allows to realise every desired size and configuration.
That way you can order the table which suits perfectly to the configuration of your cutting machine.

The tables always consist of the following modules:

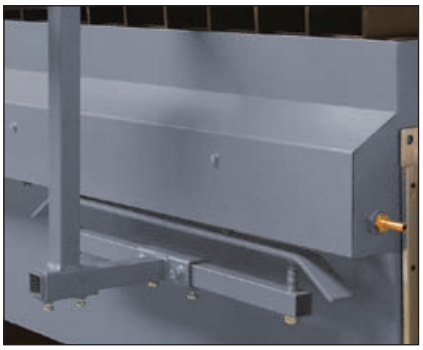
Table modules with sectional extraction
The table modules which are divided in sections, are available in different widths and lengths. *KEMPER* extraction tables are assembled on site out of those modules. That facilitates the delivery and the assembly and assures a constant high quality standard.



Material support
The material support is adapted to the size of the table modules and is available in different versions. The variety depends on the cutting process and the material which has to be cut.



Grating
The gratings, which are situated underneath the material support, stop small particles from falling in the dust/slag boxes. They are also available in different versions. Alternatively delivery is also possible without gratings.



Control
The segments can be controlled mechanically pneumatically by means of a control slide or electrically pneumatically in connection with the cutting machine control.

Selection of the suitable extraction table

Technical data

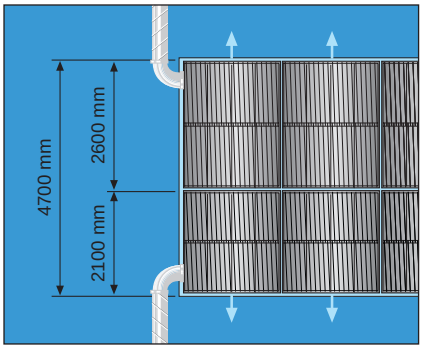
Height of table:	700 mm
Section width:	515 mm
Sections per module:	4
Loading capacity:	20 kN/m²
Height adjustment:	40 mm

Width of the extraction table

The following width of modules are available.
Every width of table within a certain pattern can be realised.

1.100 mm 1.600 mm 2.100 mm 2.600 mm 3.100 mm

E.g. a 4.700 mm wide table consists of a 2.600 mm and a 2.100 mm wide module.

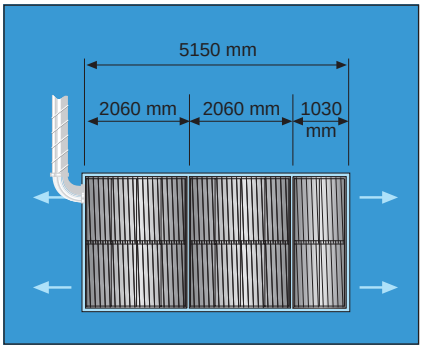


Length of the extraction table

The following length of modules are available.
Every length of table within a certain pattern can be realised.

2.060 mm 1.030 mm

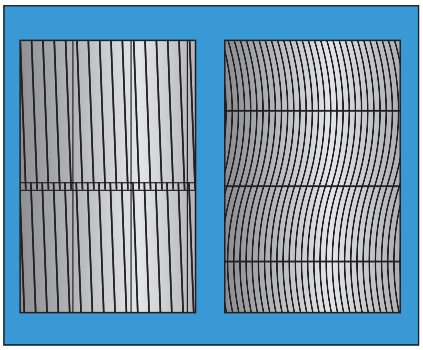
E.g. a 5.150 mm long table consists of two 2.060 mm and one 1.030 mm long module.



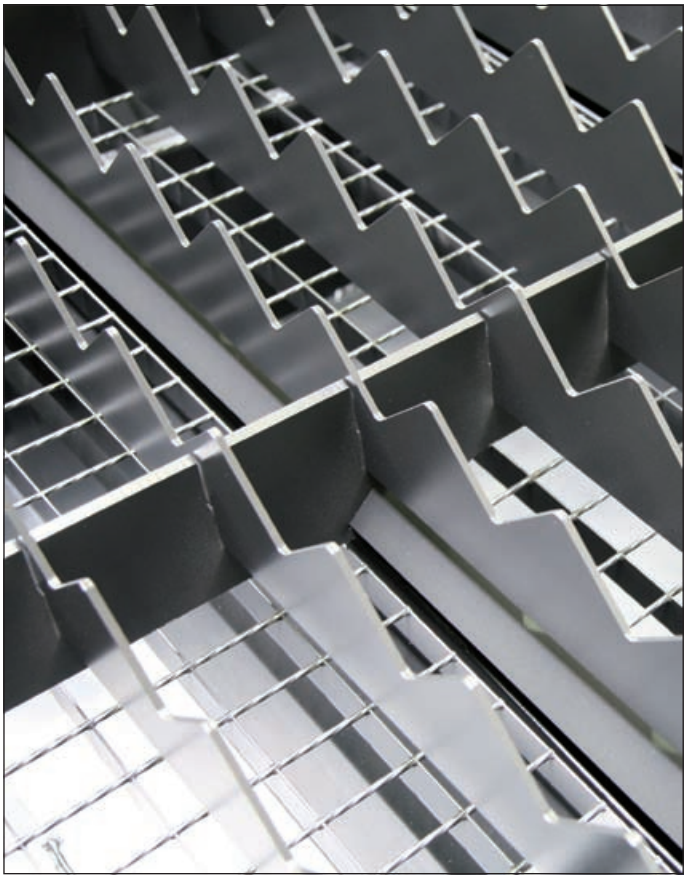
Material support

To offer the right solution for every application *KEMPER* offers two different material support versions.

Type	Cutting bars	Distance of cutting bars
A	100 mm x 5 mm	100 mm
B	100 mm x 1,5 mm	50 mm



KEMPER easyFRAME



Plasma cutting at high amperage leads to enormous cutting speeds and clean cuts. But it also leads to a higher strain on the material supports as well as a larger amount of slag. Conventional material supports cannot keep up with the rapid changes in the plasma cutting technology. A short lifespan caused by high erosion and stuck support frames are the result.

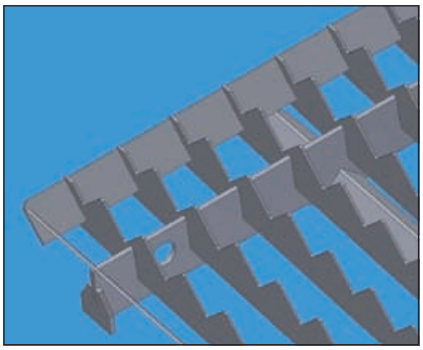
With *easy*FRAME *KEMPER* has developed a material support that is beyond its time. The material support is up to date and will keep up with the expected increasing demand of the plasma cutting technology in the next years.

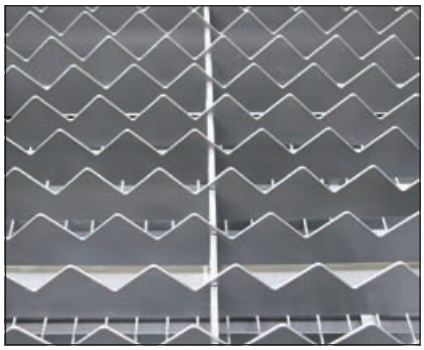
The *KEMPER* material support

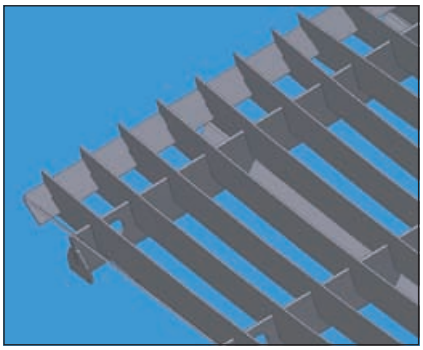
The *KEMPER easy*FRAME material support is made up of interlocking support bars and deflector plates. The result is a self supporting construction it without any support frames and requires no welding work.
The support is quickly and easily put together. Due to the construction there is a smaller contact surface for the cutting beam. This leads to less reflection and therefore less erosion and better cutting quality.
There is no requirement to clean or service the support, because after the support is worn out it will be completely disposed. The customer can then either purchase a new support or make one on his own cutting units. Necessary drawings or programs are available from *KEMPER*.

Overview of the *KEMPER easy*FRAME material support

- Self-supporting material supports, no welded frames
- Material supports can be completely disposed
- No possibility of accumulation of slag in the corners and pockets
- Less reflection of the cutting beam
- The material support can be made by the customer
- Cleaner and simpler installation of new frame without any welding work
- Time-saving disposal of the old frame and installation of the new frame
- Cleaning of the material support is no longer necessary







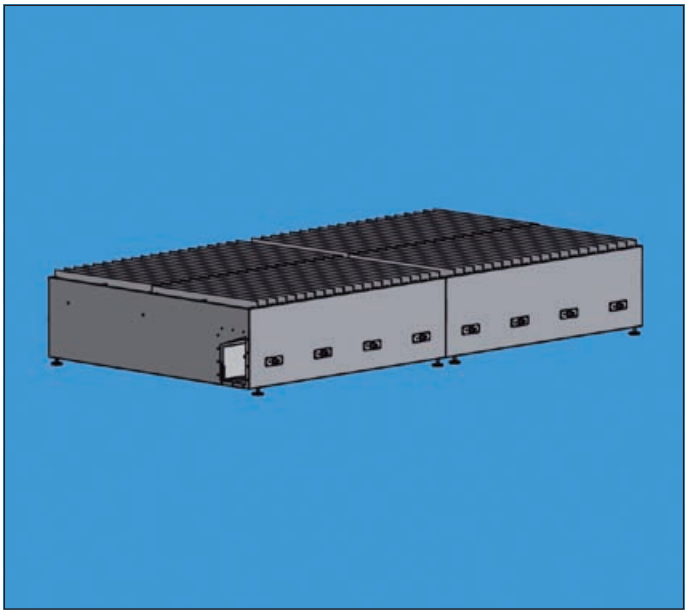
KEMPER eco-table

KEMPER eco-tables are the intelligent, affordable solution for cutting pieces up to 55 mm thick, supplied in the usual high quality expected from *KEMPER*. Thanks to the fixed standard widths and lengths, the eco-table can be produced more cheaply than conventional tables.

The standard package includes a mechanical control for the extraction flaps, support frames for the material and slag trays.

The individual modules of the system are divided into segments. The control of each segment's flaps is via a control carriage. The control of the extraction flaps allows only that section to be open where cutting is taking place. The tables can be used with low extraction flow rates, contributing significant energy savings.

The eco-table's support frame consists of thin, obliquely set flat bars. This significantly improves the cut quality on the underside of the material and makes cleaning or replacing the support frames easier. The slag falls through the frame into the slag collector, which can be removed for cleaning using the lifting eyes.



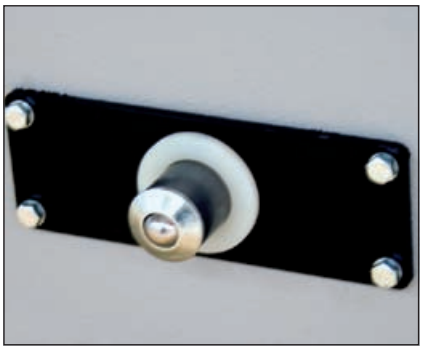
Function

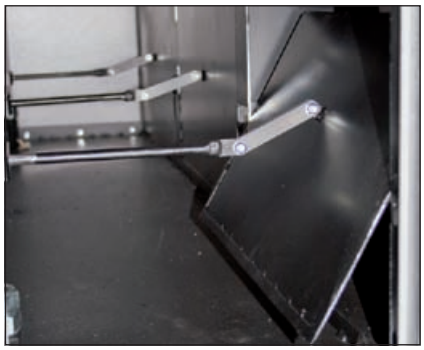
Due to the downward pressure during the cutting of metals, traditional extraction tables stir up dust and sparks, so that they rise again. With *KEMPER* extraction tables a kind of cyclone is formed in the interior of the table. This results in the coarse particles and sparks being deposited at the bottom of the slag collector, and only the finer dust that remains rises upwards, where it is captured by a surface extraction system and separated out in the connected filter system.

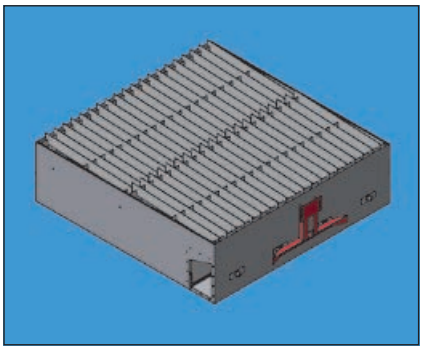
Each section is equipped with an internal, integrated extraction channel. The inside flaps are opened mechanically and the cutting dust is then removed where cutting is taking place. Thus a lower exhaust pressure is needed, whilst at the same time having the best possible extraction performance, significantly reducing energy costs.

Benefits

- Greater interval between cleaning operations by using large slag collectors, leading to savings in time and cost
- Easy cleaning of the table
- Increased cutting quality due to the innovative support design
- The *KEMPER* eco-table can be used with existing extraction systems
- The surface extraction leads to an efficient and safe extraction of dust, without sparks entering the filter.







*KEMPER easy*SHUTTLE

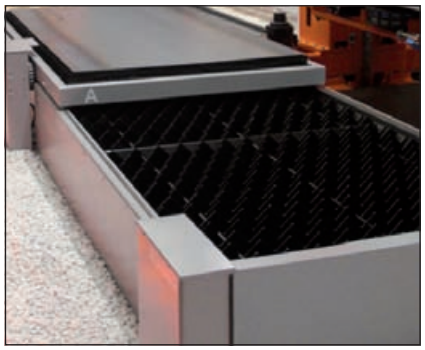
With *easy*SHUTTLE *KEMPER* introduces automation into Plasma cutting. The system is equipped with two exchanging frames including material support,each of which runs into the cutting area of the cutting units.

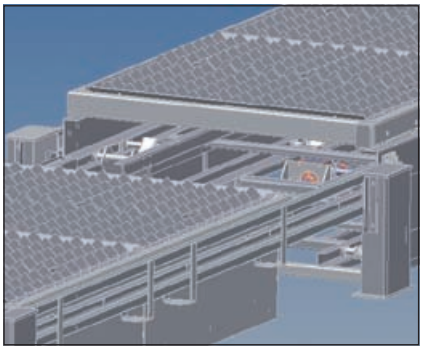
Therefore, it is possible to unload and load one material support frame while cutting is in progress on the other one. This way valuable time is used at its best. In addition, it is much easier to remove the cut out pieces from the unit.

The *easy*SHUTTLE has its own control which can be integrated into the control of the cutting unit. Alternatively, the shuttle table can be operated manually.

There is also a *KEMPER* extraction table with surface extraction integrated into the system. In conjunction with *KEMPER* extraction and filtration systems it is the perfect solution for capturing the cutting dust.

Depending on the application and on the customers' requirements, the type ofintegrated material support for the exchange frame can be chosen from the *KEMPER* range. At the same time the *easy*SHUTTLE is prepared for the new *KEMPER easy*FRAME material support, especially designed for high capacity plasma cutting.





KEMPER dry table with discharge

For plasma cutting machines with high cutting performance

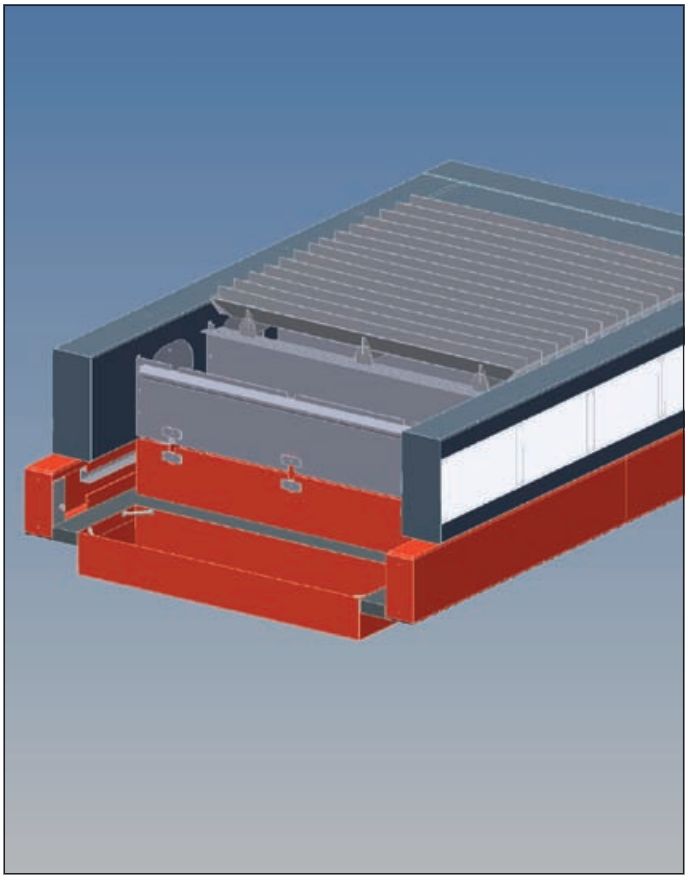
The latest plasma cutting processes work with high cutting power and thus operate at high cutting speeds and correspondingly high temperatures.

Traditional cutting tables are not suitable for the very high temperatures generated on the cutting support. Even with modern techniques and standard cutting tables, the disposal of cutting waste and slag has also been problematic until now.

Benefits

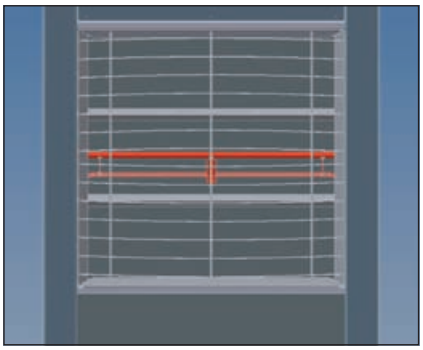
Small waste particles that fall into the table and cutting slag are transported to a collecting bin with a discharge system.

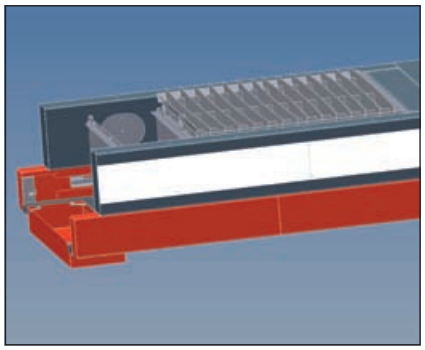
- Cross conveyers for containers possible.
- The discharge system always works between the individual cutting jobs, the control being from the cutting plant.
- Integrated suction
- No moving parts (flaps, valves, cylinders, hoses) in the suction channel.
- Special screed on the bottom of the table.
- Eliminates the distortion of the table due to temperature and provides a high cutting quality.
- Eliminates the liquid metal “baking” onto the table and thus sudden, jerky separation from the base. The table maintains its shape.
- Cutting table is fitted with *easy*Frame cutting supports.

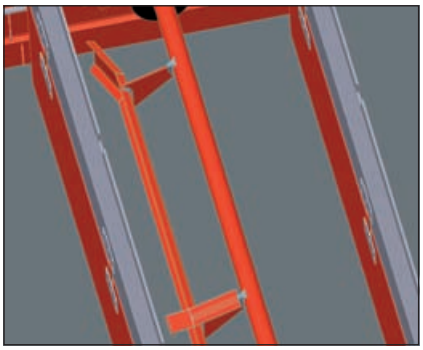


Cutting table dimensions

Width: up to 3.650 mm. For sheets up to 3.000 mm
Length: up to 30.000 mm
Height: approx.. 800 mm







KEMPER Water cutting beds

Integrated air chambers

The *KEMPER* Water cutting bed with level control is equipped with air chambers by which the water level can be varied. By feeding or draining air in or out of the integrated air chambers it is possible to change the water level of the unit. With a low water level it is possible to cut on the water surface. *KEMPER* also has the suitable solution for capturing the dust at the surface area.

The slag generated while cutting is collected in slag boxes underneath the material supports. These can easily be lifted out and cleaned after the material supports have been taken away and the water level has been reduced.

Water cutting beds with automatic discharge

KEMPER water cutting beds with automatic discharge are equipped with a rake conveyer system to discharge slag and small cut out pieces. They are discharged out of the water cutting bed during the cutting process and collected in an adjacent container.

Water cutting unit with automatic discharge and hydraulic level control

As opposed to the above mentioned unit, the *KEMPER* water cutting bed with level control and automatic discharge has no fixed material supports but rather an adjustable support. This way it is possible to cut material above as well as under water.

The material support is mounted on hydraulic cylinders and can be adjusted stepless in height. Together with the automatic discharge of slag, the bed offers an optimal solution for cutting under and above water. Small cut out pieces as well as the generated slag are discharged out of the water cutting bed during the cutting process and collected in an adjacent container.

KEMPER Water cutting beds

The *KEMPER* water cutting bed is suitable for Plasma cutting of sheet metal above as well as under water. Plasma cutting above or under water offers many advantages. Besides the considerable noise reduction and the absorption of cutting dust, the material has very low distortion levels. Last but not least, cutting above and under water guarantees for a high quality in cutting.

For cutting above or under water it is essential to have a table with a variable water level.

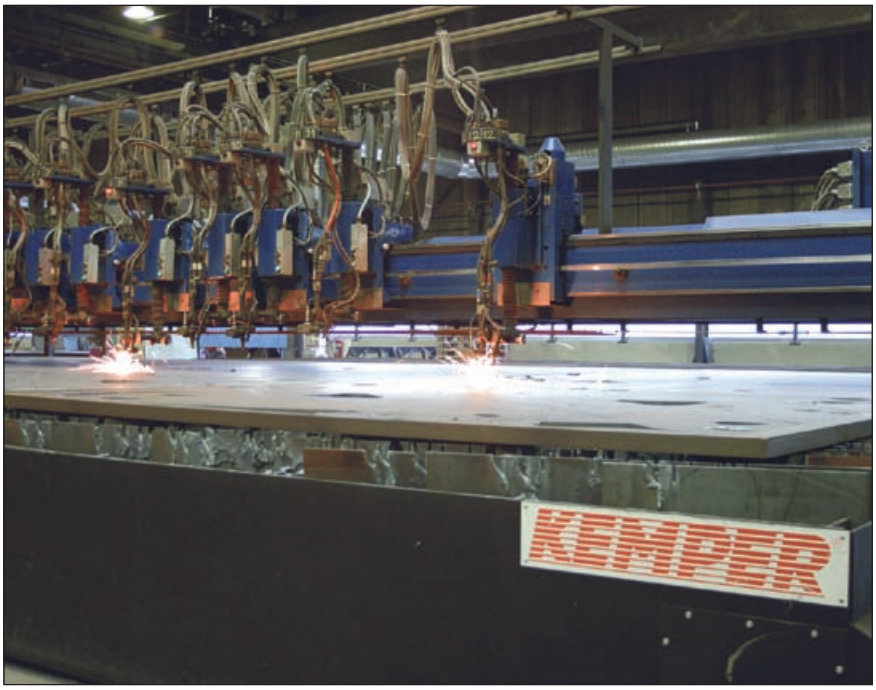
Advantages:

- Marginal deformation of the cut material
- High quality of cutting
- Nearly no burr accumulation at the plate underside
- The water absorbs the cutting dust
- Minimal noise exposure

Controls

The Water cutting bed has its own operating controls. This can either be operated manually or be connected to the control of the cutting unit. Consequently a simple and automatic operation is guaranteed.

Extraction and filter techniques in use



12 m long, 10 m wide, 12 burners
The table: *KEMPER*
The extraction: *KEMPER*
The combination: Perfect

At *KEMPER* you will get a perfectly tuned combination of cutting table and filter unit.

This can be confirmed by Laura Metaal Eygelshoven BV, Netherlands. They are cutting 24 hours a day on a table of 12 m x 10 m with 12 no. cutting heads, steel plate with a thickness of up to 55 mm.

It is obvious that a lot of dust will be dispersed. The optimal solution to this dust problem offers a filter unit type 9000 from *KEMPER* with an extraction capacity of 15.000 m³/h.

By using a *KEMPER* extraction table, even with high dust amounts the filter load can be kept low, which helps reducing the costs.

Plasma cutting installation
Task:
Construction of an extraction bed for a plasma cutting installation with two cutting portals and 9 cutting heads together with a suitable extraction and filter unit.

Solution:
An extraction unit with automatic filter purification according to our system 9000 units and an extraction bed for cutting installations out of our standardised *KEMPER* modular system.

The extraction capacity is 15.000 m³/h. This particular table is constructed with a length of 20,6 m and a width of 4,2 m. To minimise the required extraction capacity of the complete installation the table is divided into sections. These sections are controlled by the cutting machines and are extracted separately.

Extraction starts within the *KEMPER* table, where the fine particles are separated from the larger ones.
By doing this, filter life is prolonged and the risk of filter fires is further reduced.

The suitable filter unit for your table

The filter unit for the table
Every cutting system is different. The size of the cutting table, the cutting process and the material which will be cut are factors, which have to be considered for the selection of the right filter unit.

With the system 8000 and 9000 *KEMPER* is offering the possibility, to choose the optimal filter unit for different applications whilst being very cost effective and flexible.

Costs can also be saved during the operation as it switches off automatically and saves energy costs. Certainly this is only the case if the machine is not cutting at that moment. For this purpose only a signal from the cutting machine is needed.

KEMPER extraction tables (table width)	Suitable *KEMPER* filter unit	Extraction capacity (max.)	Width x Depth x Height (in mm)
1.100 mm	81 0250 030	2.000 m³/h	962 x 962 x 2.110
1.350 mm	81 0350 040	3.500 m³/h	962 x 1.413 x 2.110
1.600 mm	81 0400 040	4.000 m³/h	962 x 1.413 x 2.110
2.100 mm	81 0550 060	5.500 m³/h	1.413 x 1.413 x 2.110
2.600 mm	81 0700 070	7.000 m³/h	1.413 x 1.864 x 2.110
3.100 mm	81 0800 080	8.000 m³/h	1.413 x 1.864 x 2.110
3.700 mm	81 0900 090	9.000 m³/h	1.413 x 1.864 x 2.110
4.200 mm	81 1000 100	10.000 m³/h	2.375 x 1.864 x 2.110
4.700 mm	81 1100 110	11.500 m³/h	2.375 x 1.864 x 2.110
5.200 mm	81 1200 120	12.000 m³/h	2.375 x 1.864 x 2.110
5.700 mm	81 1300 120	13.000 m³/h	2.375 x 1.864 x 2.110

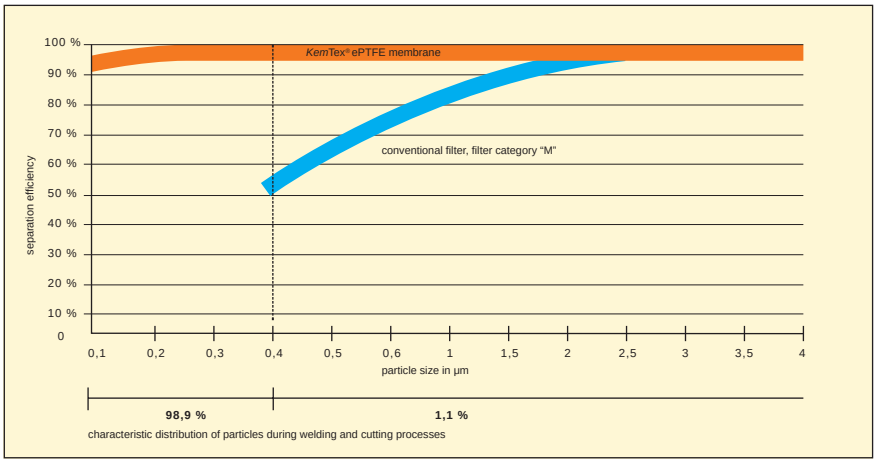
The core piece
No perfect filter unit without perfect filters.

First of all: *KEMPER* only uses high-class filter material and exceeds tight legal requirements.

At the separation of cutting dust the actual filter efficiency is important. The filters used by *KEMPER* do have a filter efficiency of more than 99,99 %.

98,9 % of the particles can be found in the range particles with a size of < 0,4 µm. *Kem*Tex® ePTFE membrane filters can achieve effective air purification due to their excellent filter efficiency. Normal filters, those filters which correspond to filter category M, do not meet this requirement.

The filter material consists of laminated *Kem*Tex® ePTFE-membrane which holds back the smallest dust particles, while the air is passing through the filter unhindered.
This attribute leads to a much better cleaning characteristics and an extended filter lifetime. This is conterminous to a massive energy saving which cannot be achieved with conventional filters even if they are “PTFE impregnated”.

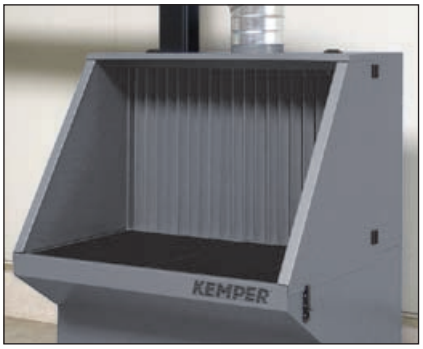


Grinding table with extraction

Grinding table with extraction
At welding workstations grinding has to be done very often as well. Whether before or after the welding work - by using *KEMPER* grinding tables it is always clean and save.

The tables, which are available in different sizes, can be connected to a central extraction and consequently be integrated in the whole extraction concept.

Made of a welded sheet steel construction, they are very robust and very suitable for the industrial application.
The side walls out of sound insulating material are swivelable for larger workpieces.
A dust collecting drawer enables an easy cleaning of the table.



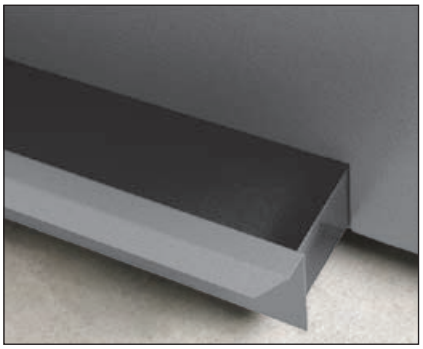
Grinding table
Grinding bench with work surface and back wall extraction. The table is equipped with swivelable sound insulating side walls and dust collecting drawer.

Part No.	Description
99 820 0004	Table dimensions: w = 1.010 mm, d = 1.060 mm, h = 1.700 mm
99 820 0023	Table dimensions: w = 1.360 mm, d = 1.060 mm, h = 1.700 mm
99 820 0029	Table dimensions: w = 1.510 mm, d = 1.060 mm, h = 1.700 mm
99 820 0016	Table dimensions: w = 2.000 mm, d = 1.060 mm, h = 1.700 mm

Suitable filter units

Table	Extraction capacity (max.)	Part No.
99 820 0004	2.000 m³/h	81 0200 020
99 820 0023	2.500 m³/h	81 0250 030
99 820 0029	3.000 m³/h	81 0300 030
99 820 0016	3.500 m³/h	81 0350 040

The airflow which is needed to connect several tables to a filter unit can be calculated by adding the required airflow per table. For corresponding filter units see page 102.

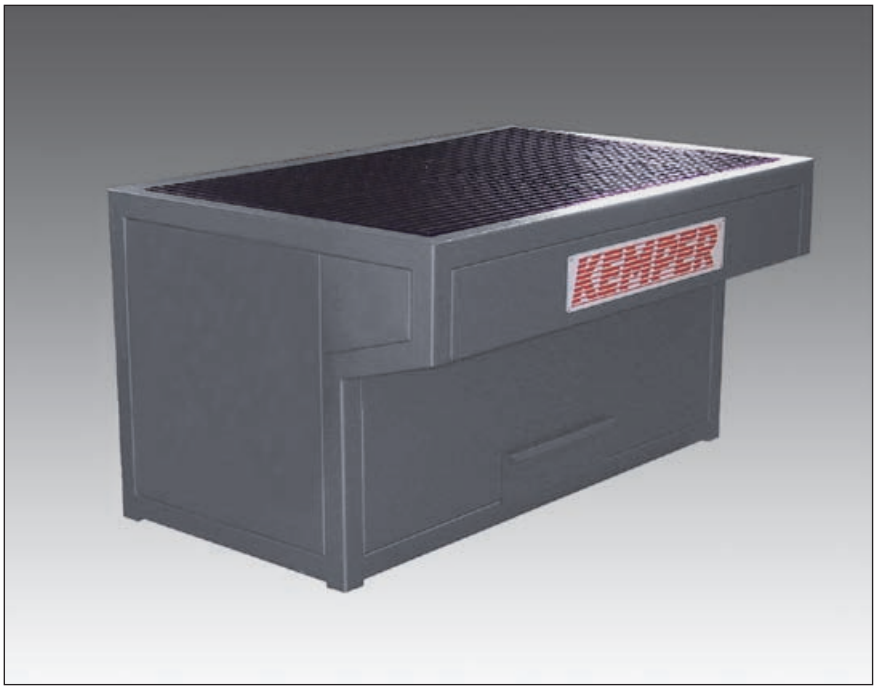


Welding tables with extraction

Welding tables
These extraction tables have especially been developed for the handling of smaller metal workpieces.

The ergonomical adapted stable sheet steel construction and the robust material support enable a comfortable and safe functioning.

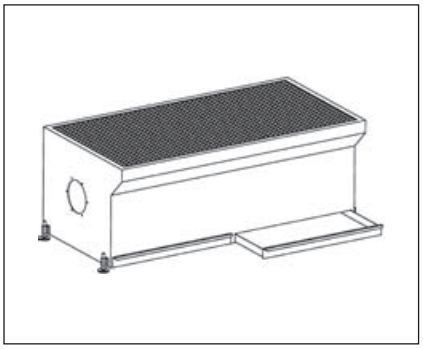
A dust collecting drawer allows a safe cleaning of the table. The welding tables, which are available in different sizes, can be connected to fans or to a central extraction and filter system.



Welding table
Stable welded steel table with multi layerd paint, grating, dust collection drawer.

Part No.	Description
950 490 047	Table dimensions: w = 1.000 mm, d = 800 mm, h = 850 mm K-adapter: Ø 160 mm*2
950 490 048	Table dimensions: w = 1.500 mm, d = 800 mm, h = 850 mm Suction opening: Ø 250 mm*1
950 490 049	Table dimensions: w = 2.000 mm, d = 800 mm, h = 850 mm Suction opening: Ø 250 mm*1

*1 Not included are: take off and flange (page 174)
*2 Connection material 93018 is not included



Welding table with fan
Stable welded steel table with multi layerd paint, grating, dust collection drawer.
The table is equipped with a direct driven fan at the side of the table.

Part No.	Description
95 021 111	Extraction capacity: 2.200 m³/h · 1,1 kW · 3 x 400 V · 50 Hz table dimensions: w = 1.000 mm, d = 800 mm, h = 850 mm
95 021 112	Extraction capacity: 3.000 m³/h · 1,5 kW · 3 x 400 V · 50 Hz table dimensions: w = 1.500 mm, d = 800 mm, h = 850 mm
95 021 113	Extraction capacity: 3.000 m³/h · 1,5 kW · 3 x 400 V · 50 Hz table dimensions: w = 2.000 mm, d = 800 mm, h = 850 mm

Suitable filter units

Table	Extraction capacity (max.)	Part No.
950 490 047	2.000 m³/h	81 0200 020
950 490 048	2.500 m³/h	81 0250 030
950 490 049	3.000 m³/h	81 0300 030

The airflow which is needed to connect several tables to a filter unit can be calculated by adding the required airflow per table. For corresponding filter units see page 102.

KEMPER Filter-Table

***KEMPER* filter table with integral fan**

The *KEMPER* filter table consists of a sturdy steel construction with a particularly robust material support. The housing is treated with a very durable powder coating.

With its integrated filter system, this table is an effective solution for the extraction of harmful particles generated during welding and cutting.

The equipment has a two-step filter as standard. The prefilter is made of a woven aluminium wire mesh to protect the main filter from flying sparks. The prefiltered air then flows through the main filter (which has an efficiency of over 99,9 %), in which the hazardous particles are removed. The *KEMPER* filter table can, as an option, be fitted with an activated carbon filter.

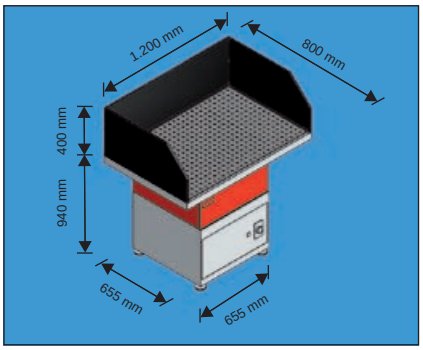
The package includes the filter system with a class M filter and prefilter together with filter monitoring, motor overload switch and a 5 m cable with a 16 A CEE plug.

Filter-Table

Part No.	Description
950 400 001	*KEMPER* Filter-Table
109 0010	Main filter
109 0013	Aluminium-pre-filter
109 0345	Activated charcoal filter (optional)

Technical Data

Fan performance:	3.000 m³/h
Extraction capacity (max.):	1.400 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Noise level:	71 dB(A)
Filter efficiency:	99,9 %
Weight:	155 kg
Dimensions (w x d x h):	1.200 x 800 x 1.340 mm
Tischgröße (w x d):	1.200 x 800 mm



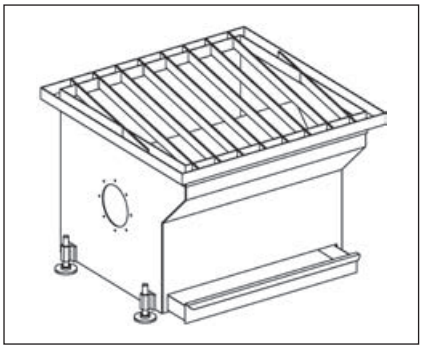
Hand plasma tables

***KEMPER* hand plasma tables**
These extraction tables have especially been developed for the cutting of smaller workpieces.

The ergonomically adapted, stable sheet steel construction and the robust material support of flat steel enable a comfortable and safe functioning.

The table which is available in different sizes can be connected to an extraction unit.

Hand plasma tables
Solidly built hand plasma table with strong steel supports and grating for smaller cut out parts.



Part No.	Description
197 0033	Table dimensions: w = 800 mm, d = 600 mm, h = 800 mm connection spigot: Ø 160 mm
197 0002	Table dimensions: w = 1.000 mm, d = 800 mm, h = 800 mm connection spigot: Ø 160 mm

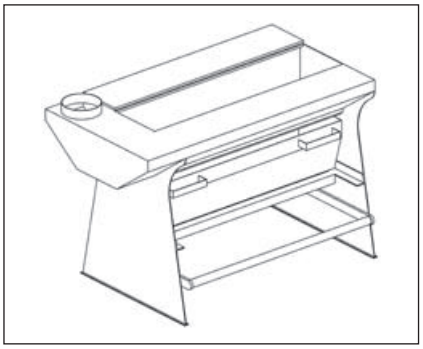
Suitable filter units

Table	Extraction capacity (max.)	Part No.
197 0033	2.000 m³/h	81 0200 020
197 0002	2.500 m³/h	81 0250 030

The airflow which is needed to connect several tables to a filter unit can be calculated by adding the required airflow per table. For corresponding filter units see page 102.

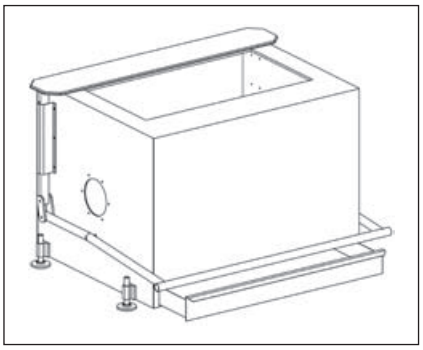
Hand plasma tables

Hand plasma tables
These tables have mainly been developed for the use in training workshops.
The workpiece clamping unit can be operated comfortably, so that both hands keep free.
The workpiece clamping unit is made out of 10 mm steel and is suitable to take hand plasma unit to cut workpieces for the welding preparation.
The table will be connected to a central extraction and filter unit or a fan so that generated dusts are not able to pollute the working environment. A large dust collecting drawer facilitate the cleaning of the tables which are available in two different sizes.

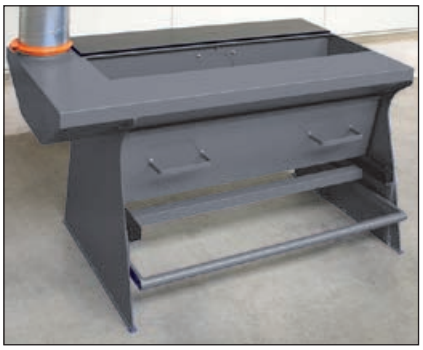


Hand plasma tables
This table is made out of 3 mm strong sheet metal. The workpieces clamp device can be lifted by means of a foot pedal. The scrap metal container is removable.

Part No.	Description
99 841	Table dimensions: w = 1.000 mm, d = 650 mm, h = 800 mm connection spigot: Ø 160 mm



Part No.	Description
99 840 0259	Table dimensions: w = 1.050 mm, d = 850 mm, h = 800 mm connection spigot: Ø 160 mm
99 840 0260	Table dimensions: w = 1.500 mm, d = 850 mm, h = 800 mm connection spigot: Ø 160 mm



Suitable filter units

Table	Extraction capacity (max.)	Part No.
99 841	2.000 m³/h	81 0200 020
99 840 0259	2.000 m³/h	81 0200 020
99 840 0260	2.500 m³/h	81 0250 030

The airflow which is needed to connect several tables to a filter unit can be calculated by adding the required airflow per table. For corresponding filter units see page 102.

Training tables
KEMPER training tables are an optimal workplace for the welding training in vocational schools, the industry or similar organisations. Due to its stable steel construction, the table is best suitable for the daily use.

The surface of the table is divided into two sections. A sheet steel support with fireclay bricks for flat welding and a bar iron rust for the penetration welding. The optional work piece clamp completes the training table, which is available in three different sizes.

Training tables
Stable welded steel table suitable for various welding applications.

Part No.	Description
95 020	Table dimensions: w = 600 mm, d = 600 mm, h = 800 mm
95 021	Table dimensions: w = 900 mm, d = 600 mm, h = 800 mm
95 026	Table dimensions: w = 1.200 mm, d = 600 mm, h = 800 mm
998 800 011	Work piece clamp

Extraction systems for the electronic industry

Extraction and filter unit for soldering workstations

Parallel to the progressing electro and electronic industry also soldering work is taking an important place.
However, during the soldering process smokes, gases and particulates are generated which affect the health of the operater. Depending to the used materials, additives and the soldering temperature, different hazardous materials, culminating in high-toxically or carcinogenic substances, could arise.

Therefore an adequate extraction during all soldering processes is indispensable. A local extraction directly at source is the most suitable possibility, due to the fact that it is very effective and easy to realise.

KEMPER has different units for one, two or more workstations as well as the corresponding accessories for all soldering workshop. By means of equivalent capturing elements, ductings or tubes, the toxic air will be extracted at the soldering station and afterwards cleaned by the combined gas and particle filter.

All filter units have an integrated control with filter monitor, which indicates the filter saturation and guarantees the work safety at any time.

Part. No.	Description
91 830 105	Extraction capacity: 340 m³/h power: 1,6 kW · 1 x 230 V / 50 Hz The capacity can be adjusted steplessly
91 830 200	Extraction capacity: 270 m³/h operation with threephase Motor power, power: 1,1 kW · 3 x 400 V / 50 Hz

Technical data

Voltage:	1 x 230 V / 50 Hz	3 x 400 V / 50 Hz
Extraction capacity:	340 m³/h	270 m³/h
Motor power:	1,6 kW	1,1 kW
Niose level:	71 dB (A)	
Filter efficiency:	> 99,9 % according to BGIA classification M	
Weight:	39 kg	49 kg
Dimensions (w x d x h):	340 x 450 x 660 mm	

Extraction and filter set for 1 or 2 hand soldering stations

Consisting of one *KEMPER* extraction and filter unit, two exhaust arms with slit nozzle and table clamp, as well as the corresponding connecting hose, the extraction and filter set is a cost-saving access for the extraction at one or two soldering workstations.

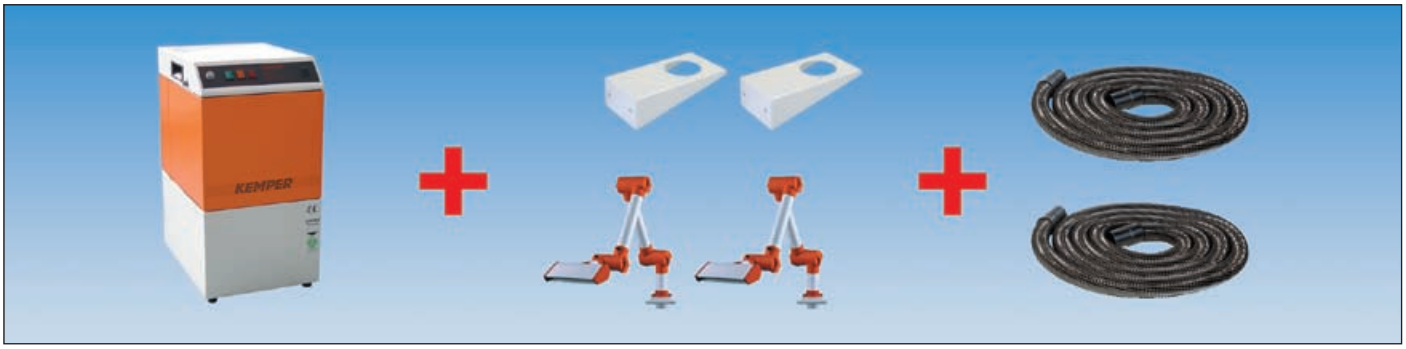
The filter unit can easily be installed and connected to the exhaust arms which will be fixed with the brackets to a table.

The suction capacity of the unit is variable and can always be adapted to the individual requirements, so that sufficient suction output at both of the exhaust arms is available at any time.

All filter units have an integrated control with filter monitor, which indicates the filter saturation and guarantees the work safety at any time.

Fume extraction set for 1-2 hand soldering workstations

Part. No.	Description
91 830 105 KIT	Including: 1 suction and filter unit, (Part No. 91 830 105) motor: 1 x 230 V, 50 Hz, 1,6 kW 2 table brackets (Part No. 93 008 001) 2 exhaust arms (Part No. 91 350) 2 slit nozzles (Part No. 232 0002) 2 flexible hoses (Part No. 93 070 004) extraction capacity: 0 - 240 m³/h



Soldering smoke extraction systems

The *KEMPER* soldering smoke extraction system is suitable for the extraction of up to 15 hand soldering workstations or for the connection to an automatic soldering unit. The unit is equipped with a combined gas and particle filter and can be adapted to the requirements by means of a damper in the air duct.

The integrated control permanently checks all the functions of the unit and gives an optical and acoustical alarm in case of possible problems or saturated filters. That way a safe operation of the unit is guaranteed at all time.

The cleaned air can either be led back to the workroom or vented to the outside via a ducting.
With a connected outgoing air duct the unit can easily change between circulating air and exhaust mode (summer/winter).

Soldering smoke extraction system

Part. No.	Description
78 400 105	Fan capacity: 3.000 m³/h, voltage: 1,5 kW, 3 x 400 V / 50 Hz
91 870 100	For the extraction of fumes with a high content of oil mist, fan capacity: 3.000 m³/h voltage: 1,5 kW, 3 x 400 V / 50 Hz

Technical data

Fan performance:	3.000 m³/h
Extraction capacity (max.):	1.800 m³/h
Motor power:	1,5 kW
Voltage:	3 x 400 V / 50 Hz
Filter efficiency:	> 99,9 %
Niose level:	aprox. 64 dB (A)
Weight:	164 kg
Dimensions 78 400 105 (width x depth x height):	983 x 655 x 1.255 mm
Dimensions 91 870 100 (width x depth x height):	1.638 x 655 x 1.255 mm

Mini exhaust arm

Part. No.	Description
91 350	Exhaust arm, Ø 50 mm, length: 740 mm (without exhaust nozzle), swivelling in all directions, made out of anodized aluminium joints out of molded plastic, incl. standard fixing device. *Other exhaust arm diameters on request.*

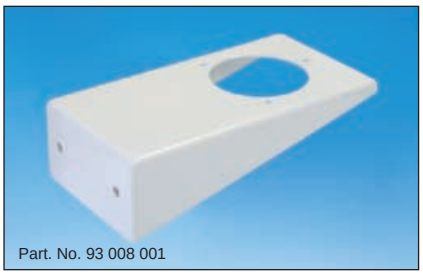

Part. No. 91 350

Replacement filter

Part. No.	Description
109 0034	Pre-filter units (10 per set)
109 0002	2-step-combination filter (particulate and activated charcoal filter)
109 0004	Spare filter

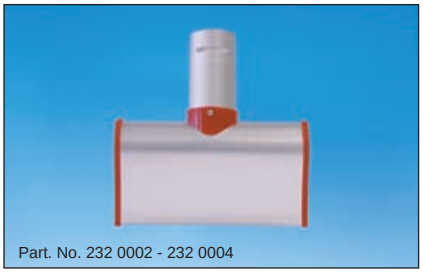
Bracket

Part. No.	Description
93 008 001	Table mounting bracket incl. 2 screw clamps
93 008 002	Wall mounting bracket incl. screws and rawlplugs


Part. No. 93 008 001

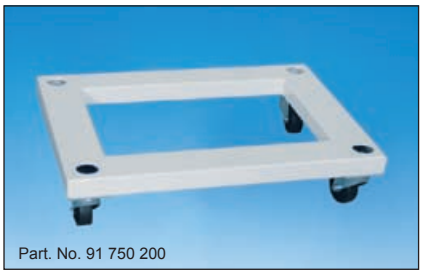
Nozzles

Part. No.	Description
232 0002	Slit nozzle, width 200 mm
232 0004	Tube nozzle, Ø 50 mm
232 0005	Plexiglass nozzle, 245 x 220 mm
232 0006	Funnel nozzle, round, extraction hole Ø 210 mm


Part. No. 232 0002 - 232 0004

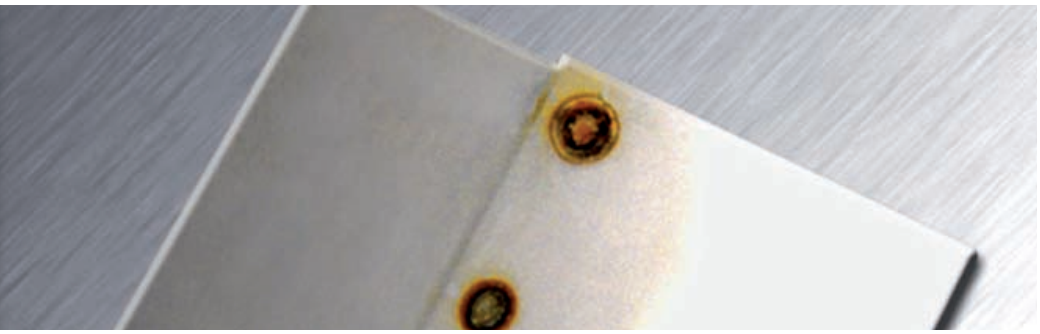
Trolley

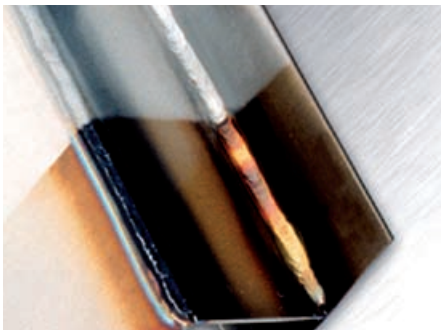
Part. No.	Description
91 750 200	Trolley for extraction and filter unit (230 V and 400 V motor)


Part. No. 91 750 200

Extraction hoses

Part. No.	Description
93 070 004	High flexible spiral hose includes connection nozzles, black, Ø 45 mm, length 2,5 m
93 070 005	High flexible spiral hose includes connection nozzles, black, Ø 45 mm, length 5,0 m
93 070 006	High flexible spiral hose includes connection nozzles, black, Ø 45 mm, length 10,0 m



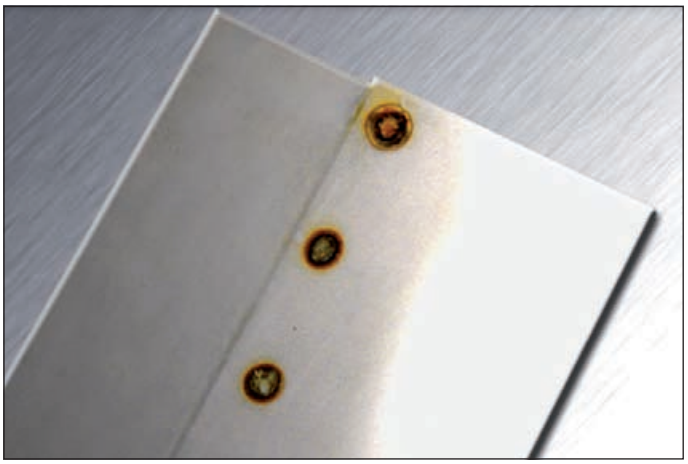


Cleaning, embossing, polishing

Cleaning and embossing

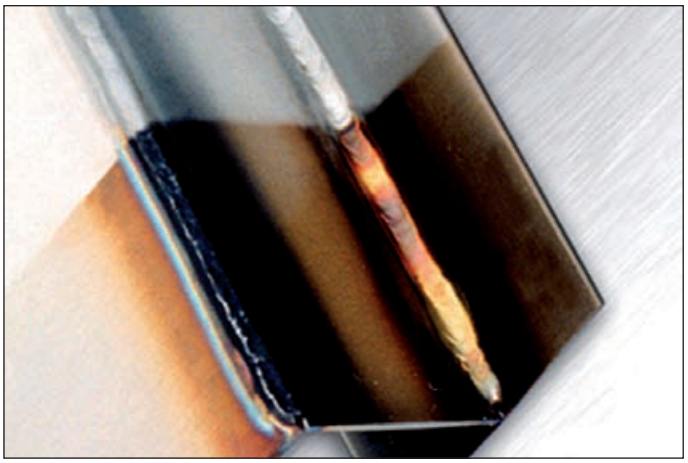
Cleaning- and Embossing Machine KRS 200
incl. Equipment set
Alternative current- and direct-current unit for electrochemical cleaning, polishing and embossing dark.
Adjustable: 24 Volt AC, 12 Volt AC, 30 Volt DC.
Digital display.

Cleaning
This unit is an appliance for electrochemical cleaning of weld seams on VA steel. The fluid used is moreover completely safe and environment-friendly.



Electropolishing
Grey edges (heat-affected zones) can be straightforwardly removed. In this way high-grade steel can be polished to a high mirror finish.

Dark marking
Marks easily, quickly and inexpensively - jet black even on cylindrical components.



Incl. Case, consisting of:

1 x Polishing Stamp with carbon 60°
1 x Electrolyte A, 1 Litre
1 x Electrolyte C, 500 ml
1 x Electrolyte ET, 100 ml
1 x Cleaning- & Embossing-felts (20 pc. in bag)
1 x Polishing felts (20 pc. in bag)
1 x Cable red, 2 m incl. plug
1 x Cable black, 2 m incl. plug
1 x Alligator Clip red
2 x Wide neck Receptacle 500 ml
10 x Professional Polishing felts

Cleaning- and Embossing Machine KRS 200
incl. Equipment set

Part No.	Description
182 0100	Cleaning- and Embossing Machine KRS 200 incl. Equipment set

Technical Data

Primary voltage	230 V / 50 Hz
Secondary voltage	24 V, 12 A
Dimensions (w x d x h)	300 x 150 x 290 mm

Cleaning- and Polishing Device KRP 100
Alternative current- and direct current unit for electrochemical cleaning and polishing.
Adjustable: 24 Volt AC, 30 Volt DC.

The cleaning of welded seams on stainless steel components
The oxide film is easily removed and the undesirable tarnish disappears, there are no unsightly edge marks -and this alone has always required a further work step. The surface is simultaneously protected from corrosion (passivated). In comparison with cleaning and pickling with acids this process is significantly cheaper. The chemicals used for the process contain no hazardous substances and are not subject to the duty of marking.

Elektropolieren
The grey edge marks (heat-affected zones) close to the welded seam caused by the material changes during welding can be removed without any problem. It is possible to polish stainless steel to a high gloss thus creating a uniform surface even in the case of a 3D-reflective material.

Technical Data

Primary voltage	230 V / 50 Hz
Secondary voltage	24 V / 30 V, 12 A
Dimensions (w x d x h)	300 x 125 x 240 mm

Cleaning- and Polishing Device KRP 100

Part No.	Description
182 0101	Cleaning- and Polishing Device KRP 100

Cleaning- & Embossing Machine KRS 100
Alternative current device for electrochemical cleaning and embossing.
Adjustable: 12 Volt AC, 24 Volt AC.

The cleaning of welded seams on stainless steel components
The oxide film is easily removed and the undesirable tarnish disappears, there are no unsightly edge marks - and this alone has always required a further work step. The surface is simultaneously protected from corrosion (passivated). In comparison with cleaning and pickling with acids this process is significantly cheaper. The chemicals used for the process contain no hazardous substances and are not subject to the duty of marking.

Dark marking of electrically-conductive surfaces
Marks even cylindrical components deep black, easily, rapidly and cheaply. Because of the short reaction time of an electrolyte in connection with a template made according to your own requirements, graphics, trade marks, type plates, device numbers, identification numbers, scales, texts and logos can be permanently marked. Our high-performance electrolyte is neutral (ph 7) and requires no neutralization.

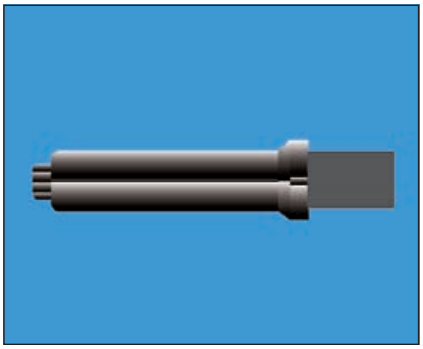
Technical Data

Primary voltage	230 V / 50 Hz
Secondary voltage	24 V / 30 V, 12 A
Dimensions (w x d x h)	300 x 125 x 240 mm

Cleaning- & Embossing Machine KRS 100

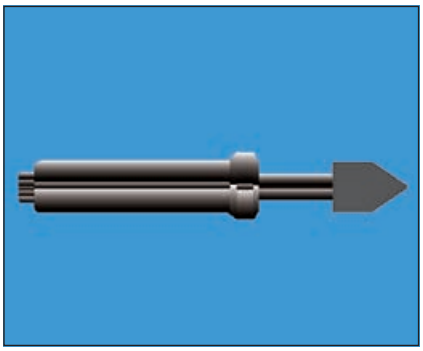
Part No.	Description
182 0102	Cleaning- & Embossing Machine KRS 100

Accessories



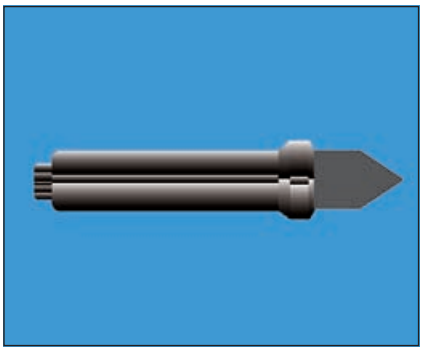
Embossing- and electroplating stamp with carbon 90°

Part No.	Description
182 0200	Embossing- and electroplating stamp with carbon 90°



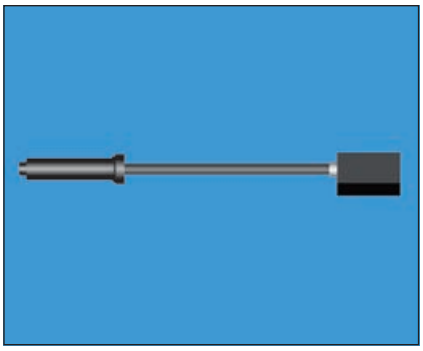
Polishing stamp with carbon 60°
Heat resistant due to new design

Part No.	Description
182 0201	Polishing stamp with carbon 60°



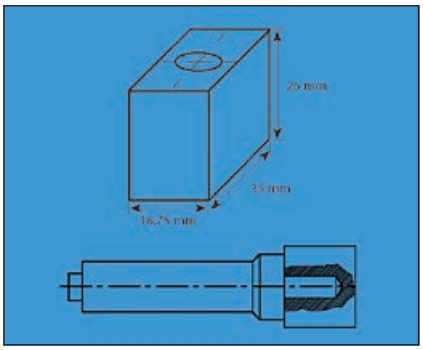
Cleaning stamp with carbon 60°

Part No.	Description
182 0202	Cleaning stamp with carbon 60°



Cleaning- and polishing stamp with carbon 60°
side-drilled, with extension

Part No.	Description
182 0203	Cleaning- and polishing stamp with carbon 60°

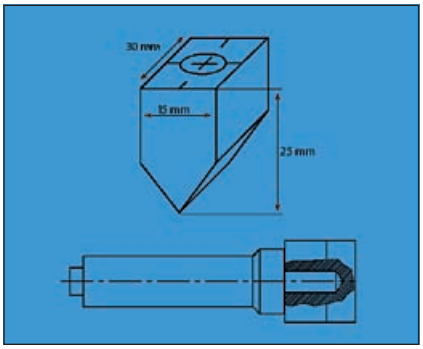


Spare carbon 90° for stamp 182 0200
drilled with M 10 thread for stamp 182 0200

Part No.	Description
182 0204	Spare carbon 90° for stamp 182 0200

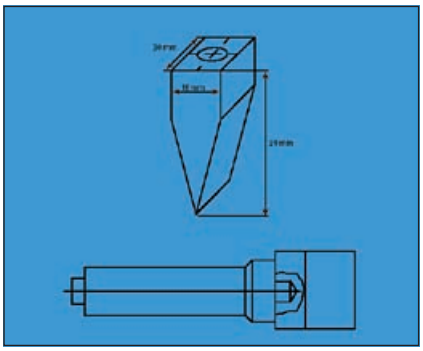
Spare carbon 60°
drilled with M10 thread for stamp 182 0201, 182 0202

Part No.	Description
182 0205	Spare carbon 60° for stamp 182 0201, 182 0202



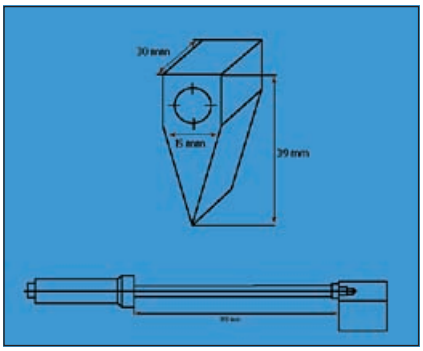
Spare carbon 30°
drilled with M10 thread for stamp 182 0202

Part No.	Description
182 0206	Spare carbon 30° for stamp 182 0202



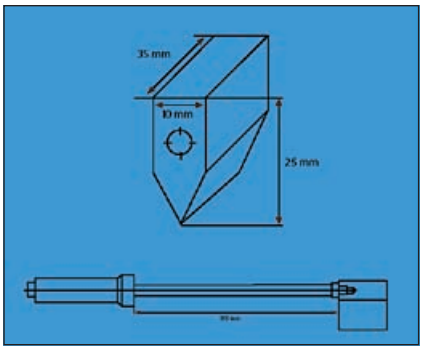
Spare carbon 30°, side-drilled
side-drilled with M10 thread for stamp 182 0203

Part No.	Description
182 0207	Spare carbon 30°, side-drilled for stamp 182 0203



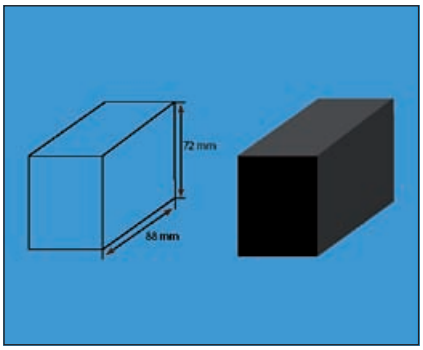
Spare carbon 60°, side-drilled
side-drilled with M6 thread for stamp 182 0203

Part No.	Description
182 0208	Spare carbon 60°, side-drilled for stamp 182 0203

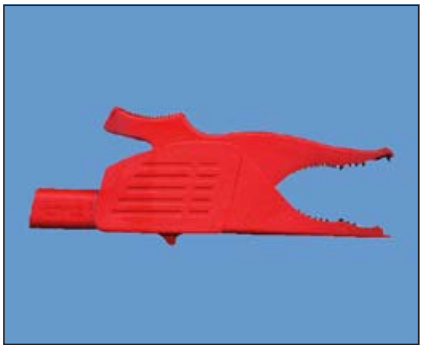


Carbon block for own handling
88 x 72 x 52 mm

Part No.	Description
182 0209	Carbon block for own handling, 88 x 72 x 52 mm

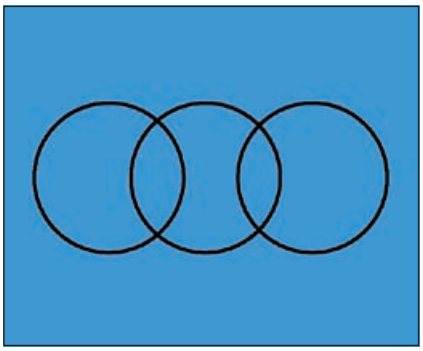


Accessories



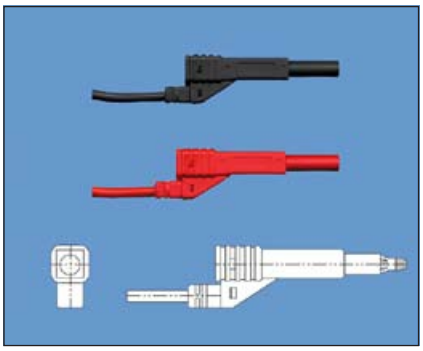
Alligator clip red for plug Ø 4 mm

Part No.	Description
182 0210	Alligator clip red for plug Ø 4 mm



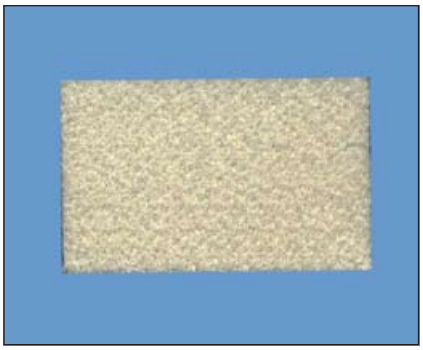
Spare o rings
26 x 2 mm

Part No.	Description
182 0211	Spare o rings 26 x 2 mm, 10 pieces
182 0212	Spare o rings 26 x 2 mm, 100 pieces



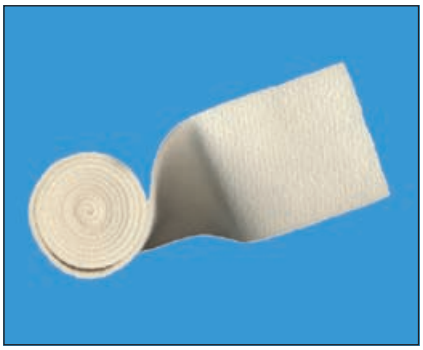
Interconnecting cable
Ø 4 mm, length 2 m, incl. plug

Part No.	Description
182 0213	Black cable, Ø 4 mm, length 2 m, incl. plug
182 0214	Red cable, Ø 4 mm, length 2 m, incl. plug



Cleaning- and embossing felts
38 x 60 x 2,6 mm

Part No.	Description
182 0215	Cleaning- and embossing felts, 38 x 60 x 2,6 mm, 20 pieces
182 0216	Cleaning- and embossing felts, 38 x 60 x 2,6 mm, 100 pieces

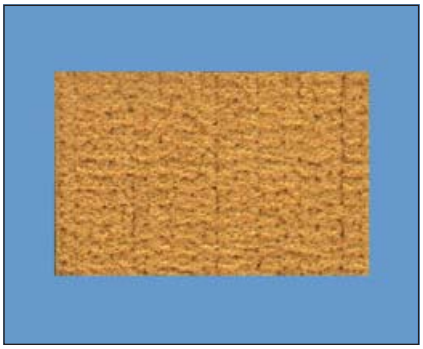


Cleaning- and embossing felt rolls

Part No.	Description
182 0217	Cleaning and embossing felt rolls, 1 m x 60 mm x 2,6 mm, 10 pieces
182 0218	Cleaning and embossing felt roll, 5 m x 60 mm x 2,6 mm, 1 piece

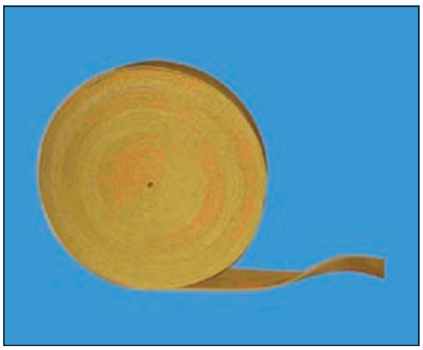
Polishing felts
40 x 60 x 2,1 mm

Part No.	Description
182 0219	Polishing felts, 40 x 60 x 2,1 mm, 20 pieces
182 0220	Polishing felts, 40 x 60 x 2,1 mm, 100 pieces



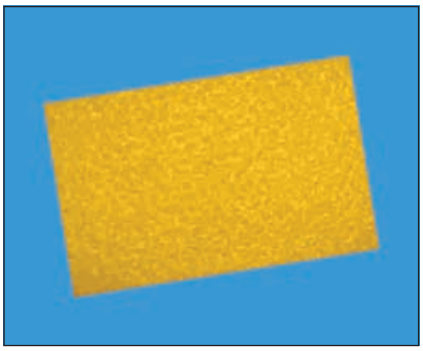
Polishing felt rolls

Part No.	Description
182 0221	Polishing felt rolls 1 m x 60 mm x 2,1 mm, 10 pieces
182 0222	Polishing felt roll 5 m x 60 mm x 2,1 mm, 1 pieces
182 0223	Polishing felt roll 25 m x 60 mm x 2,1 mm, 1 pieces



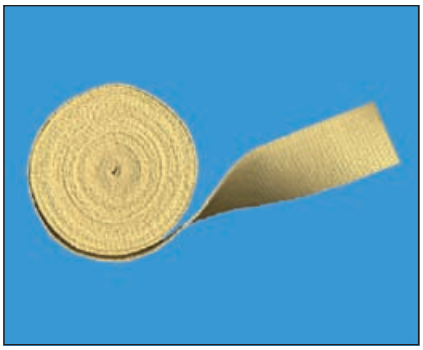
Professional polishing felts
38 x 60 x 2,0 mm

Part No.	Description
182 0224	Professional polishing felts, 38 x 60 x 2 mm, 20 pieces
182 0225	Professional polishing felts, 38 x 60 x 2 mm, 100 pieces



Aramide ribbon roll

Part No.	Description
182 0226	Aramide ribbon roll, 5 m x 40 mm x 2 mm
182 0227	Aramide ribbon roll, 25 m x 40 mm x 2 mm



Electrolyte
for cleaning, polishing, embossing

Part No.	Description
182 0228	Electrolyte A, for cleaning bright steels, content: 1,0 l
182 0229	Electrolyte A, for cleaning bright steels, content: 5,0 l
182 0230	Electrolyte B, for cleaning matt steels, content: 1,0 l
182 0231	Electrolyte B, for cleaning matt steels, content: 5,0 l
182 0232	Electrolyte C, for electrochemical polishing, content: 500 ml
182 0233	Electrolyte C, for electrochemical polishing, content: 1,0 l
182 0234	Electrolyte for the embossing of vanadium steel, content: 100 ml
182 0235	Electrolyte for the embossing of vanadium steel, content: 500 ml
182 0236	Electrolyte for the embossing of vanadium steel, content: 1,0 l

Protective welding equipment

Protective welding equipment

Personal industrial safety
KEMPER offers a wide range of products for protection of the welder at his workplace. The eyes can be protected against dangerous rays by *autodark*® welding protection helmets. Furthermore the range is completed by protection glasses for various purposes of use and also various additional equipment.

Extraction
Dangerous smoke can be emitted during the welding process as well as dangerous rays, sparks and welding splashes. This smoke has to be exhausted from the breathing zone of the welder.
KEMPER welding smoke units are very suitable for this. They are available in various models so that every purpose of use can be covered. For detailled information please ask for our brochure.

The different kinds of rays are very harmful for the human eye. For this reason it is very impertant to protect those people who are in close contact to the welding workplace as well as the welders themselves.

KEMPER curtain systems, sound insulating partitioning wall systems and further equipment provide the necessary/required protection for the welder and his environment.

Protective welding equipment
KEMPER is offering a wide range of products for various purposes of work. Depending to the work different products can be used.
KEMPER welding screen system do not only protect against dangerous rays but also against sparks, heat and welding splashes.

Scope

This standard specifies safety requirements for transparent welding curtains, strips and screens to be used for shielding off workplaces from their surrounding where welding processes are taking place. They are designed to protect people from hazardous radiant emissions from welding arcs and spatter.
Welding curtains, strips and screens specified in this standard are not intended to replace welding filters.
Appropriate welding filters for intentional viewing of welding arcs from a distance of less than 2 m are specified in EN 169.
The present standard is not applicable for welding processes where laser radiation is used.
Darker curtains or screens can be used for mutual separation of adjacent workplaces for reasons of comfort.

Definitions

For the purposes of this standard, the following definition apply.

Transparent

Curtains, strips and screens are considered transparent if they allow visibility of the workplace. This does not imply that they are glass clear.
For definitions, also see EN 165.

Requirements

Transparent welding curtains, strips and screens consisting of different materials shall comply with all requirements for each individual material at any part of the device.
For optical test methods see EN 167.

Transmittance

The luminous transmittance rv, based on the spectral distribution of illuminant A according to ISO/CIE 10526, shall be greater than 0,0001 %. Scattered light diffused within 1° of the direction of the incident radiation shall be included in the measurement.
The spectral transmittance in the wavelength range between 210 nm and 313 nm shall be less than 0,002 % and in the wavelength range between 313 nm and 400 nm less than 3 %.
In the wavelength range from 400 nm to 1.400 nm the hazard level G shall be less than 1.

Reflectance

When measured with an Ulbricht sphere, the spectral reflectance between 230 nm and 400 nm shall be less than 10 %.
The luminous reflectance shall be less than 10 % (based on the spectral distribution of standard illuminant A).

UV-stability

The relative change of the luminous transmittance due to the test in clause 6 of EN 168 shall not be greater than +/- 20 %.

Marking

In order to be able to identify and use welding curtains, strips and screens are intended, they shall be permanently marked.

***KEMPER* guarantees,**

that all welding curtains and welding strips offered in this catalogue confirm to EN 1598.

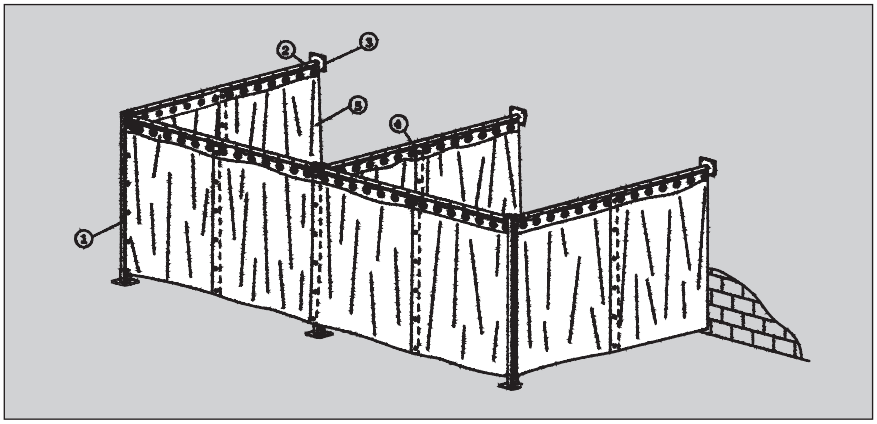
Vreden, march 2010

Welding curtains

Example:
of a welding curtain system
W 4.000 x D 2.000 x H 2.000 mm
with welding curtain S9, dark green, matt,
ground clearance 200 mm:

① 3 x column for 1“ pipe
Part No. 70 180 105
② 2 x 6 m 1“ pipe, Part No. 70 190 144
③ 3 x wall mounting plate for 1“ pipe,
Part No. 70 190 135
④ 9 x sets of metal hooks for 1“ pipe,
(84 pieces), Part No. 70 120 109
⑤ 10 x welding curtains S9, dark green, matt,
H 1.800 x W 1.300 mm,
Part No. 70 100 101
⑥ 5 x end caps for 1“ pipe
Part No. 70 190 133

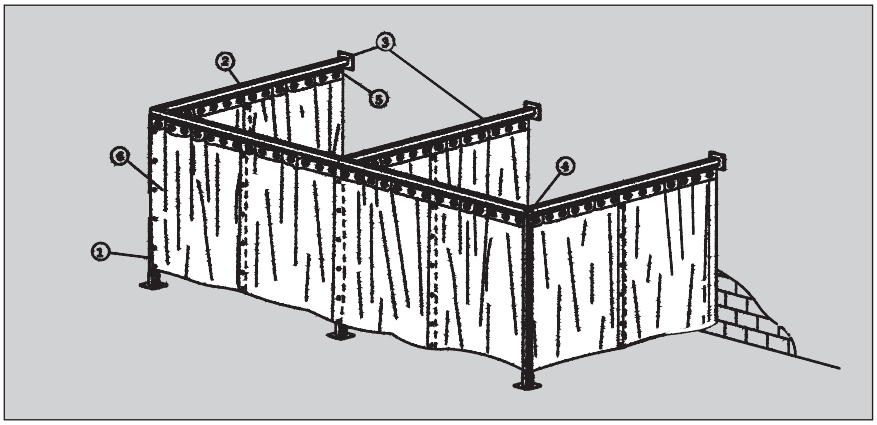
Metal hook suspended welding curtains for 1“ pipe



Example:
of a welding curtain system
W 4.000 x D 2.000 x H 2.000 mm
with welding curtain S9, dark green, matt,
ground clearance 200 mm:

① 3 x column for C-profile,
Part No. 70 180 101
② 2 x 6 m C-Profil,
Part No. 70 124 106
③ 3 x wall mounting plate for C-profile,
Part No. 70 190 113
④ 5 x end caps for C-profile,
Part No. 70 120 107
⑤ 7 x sets of metal hooks (70 pieces),
Part No. 70 120 112
⑥ 10 x welding curtains S9, dark green, matt,
H 1.800 x W 1.300 mm,
Part No. 70 100 101

Sliding hook suspended welding curtains for C-profile



Welding curtains

The curtains have reinforced edges with strengthened eyelets spaced 21 cm apart on the top edge.
To connect the curtains there are additional fasteners located on the outer edges.
The material has a thickness of 0,4 mm.
The curtains can be suspended either with metal hooks on a pipe or with sliding hooks in a C-profile.
A horizontal movement of the curtains is possible for both alternatives.

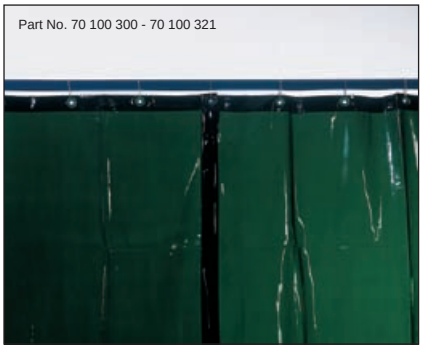
Welding curtain S9, dark green, matt, EN 1598

Part No.	Dimensions	Weight
70 100 100	H 1.600 x W 1.300 mm	1,30 kg
70 100 101	H 1.800 x W 1.300 mm	1,50 kg
70 100 102	H 2.000 x W 1.300 mm	1,60 kg
70 100 103	H 2.200 x W 1.300 mm	1,70 kg
70 100 104	H 2.400 x W 1.300 mm	1,90 kg
70 100 105	H 2.600 x W 1.300 mm	2,00 kg
70 100 106	H 2.800 x W 1.300 mm	2,20 kg
70 100 107	H 3.000 x W 1.300 mm	2,30 kg
70 100 121	Custom size	


Part No. 70 100 100 - 70 100 121

Welding curtain S4, light green, EN 1598

Part No.	Dimensions	Weight
70 100 300	H 1.600 x W 1.300 mm	1,30 kg
70 100 301	H 1.800 x W 1.300 mm	1,50 kg
70 100 302	H 2.000 x W 1.300 mm	1,60 kg
70 100 303	H 2.200 x W 1.300 mm	1,70 kg
70 100 304	H 2.400 x W 1.300 mm	1,90 kg
70 100 305	H 2.600 x W 1.300 mm	2,00 kg
70 100 306	H 2.800 x W 1.300 mm	2,20 kg
70 100 307	H 3.000 x W 1.300 mm	2,30 kg
70 100 321	Custom size	


Part No. 70 100 300 - 70 100 321

Welding curtain, red, EN 1598

Part No.	Dimensions	Weight
70 100 400	H 1.600 x W 1.300 mm	1,30 kg
70 100 401	H 1.800 x W 1.300 mm	1,50 kg
70 100 402	H 2.000 x W 1.300 mm	1,60 kg
70 100 403	H 2.200 x W 1.300 mm	1,70 kg
70 100 404	H 2.400 x W 1.300 mm	1,90 kg
70 100 405	H 2.600 x W 1.300 mm	2,00 kg
70 100 406	H 2.800 x W 1.300 mm	2,20 kg
70 100 407	H 3.000 x W 1.300 mm	2,30 kg
70 100 421	Custom size	


Part No. 70 100 400 - 70 100 421

Welding curtains 600 up to 1.300 °C
customized, with eyelets at the top

Part No.	Dimensions	Temperature
70 110 600	H 1.400 x W 1.000 mm	Up to 600 °C
70 110 610	H 1.400 x W 1.000 mm	Up to 850 °C
70 110 620	H 1.400 x W 1.000 mm	Up to 1.150 °C
70 110 630	H 1.400 x W 900 mm	Up to 1.300 °C


Part No. 70 110 600, 70 110 610, 70 110 620, 70 110 630

Protection curtains

Protection curtain S0, transparent
Transparent protection curtain protects against dust, draft, moisture and grinding sparks.

Part No.	Dimensions	Weight
70 100 500	H 1.600 x W 1.300 mm	1,30 kg
70 100 501	H 1.800 x W 1.300 mm	1,50 kg
70 100 502	H 2.000 x W 1.300 mm	1,60 kg
70 100 503	H 2.200 x W 1.300 mm	1,70 kg
70 100 504	H 2.400 x W 1.300 mm	1,90 kg
70 100 505	H 2.600 x W 1.300 mm	2,00 kg
70 100 506	H 2.800 x W 1.300 mm	2,20 kg
70 100 507	H 3.000 x W 1.300 mm	2,30 kg
70 100 521	Custom size	

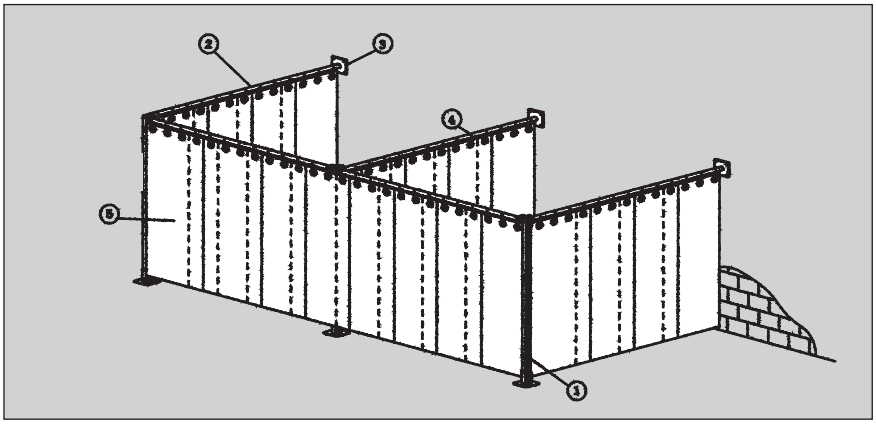
Pivoting self retracting cable reel for curtains

Suitable for welding curtains with a maximum width of 8,00 m. The welding curtain is suspended on the straightened cable.
The welding curtain can be gathered and the complete cable retracted to allow easy access to the welding area.

Part No.	Description	Weight
70 110 101	For curtains	13,00 kg

Welding strip curtains

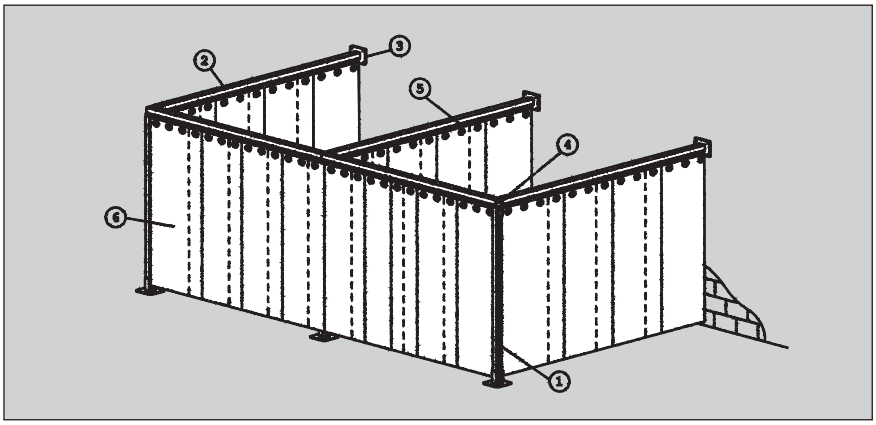
Metal hook suspended welding strip curtains for 1“ pipe



Example:
of a welding curtain system
W 4.000 x D 2.000 x H 2.000 mm
with welding strip curtain S9, dark green, matt,
ground clearance 200 mm:

① 3 x column for 1“ pipe
Part No. 70 180 105
② 2 x 6 m 1“ pipe, Part No. 70 190 144
③ 3 x wall mounting plate for 1“ pipe,
Part No. 70 190 135
④ 7 x sets of metal hooks for 1“ pipe,
(70 pieces), Part No. 70 120 109
⑤ 20 x welding curtains S9, dark green, matt,
H 1.800 x W 570 mm,
Part No. 70 250 101
⑥ 5 x end cap for 1“ pipe
Part No. 70 190 133

Sliding hook suspended welding strip curtains for C-profile



Example:
of a welding curtain system
W 4.000 x D 2.000 x H 2.000 mm
with welding strip curtain S9, dark green, matt,
ground clearance 200 mm:

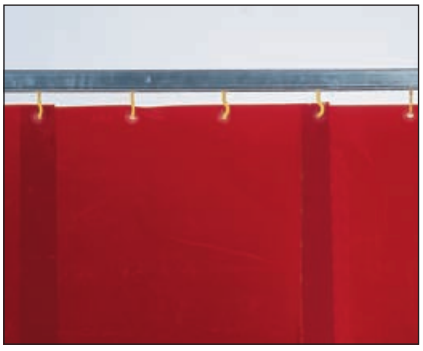
① 3 x column for C-profile,
Part No. 70 180 101
② 2 x 6 m C-Profil,
Part No. 70 124 106
③ 3 x wall mounting plate for C-profile,
Part No. 70 190 113
④ 5 x end caps for C-profile,
Part No. 70 120 107
⑤ 7 x sets of metal hooks (70 pieces),
Part No. 70 120 112
⑥ 20 x welding curtains S9, dark green, matt
H 1.800 x W 570 mm,
Part No. 70 250 101

Welding strip curtains

The welding strip curtain is 570 mm wide and 1,0 mm thick.
The material is non-combustable to class 1, DIN 53 438 T2 standard.
The curtain is supplied with 4 reinforced eyelets. 4 curtains with a 70 mm overlap will cover 2,05 m.
The strip curtains can be suspended either with metal hooks on a pipe or with sliding hooks in a C-profile.
A horizontal movement of the curtains is possible for both alternatives.

Welding strip curtain S9, dark green, matt, EN 1598

Part No.	Dimensions
70 250 100	H 1.600 x W 570 mm
70 250 101	H 1.800 x W 570 mm
70 250 102	H 2.000 x W 570 mm
70 250 103	H 2.200 x W 570 mm
70 250 104	H 2.400 x W 570 mm
70 250 105	H 2.600 x W 570 mm
70 250 106	H 2.800 x W 570 mm



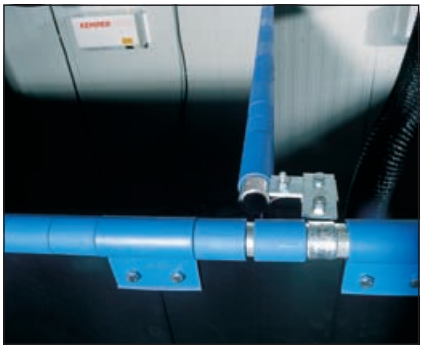
Welding strip curtain, red, EN 1598

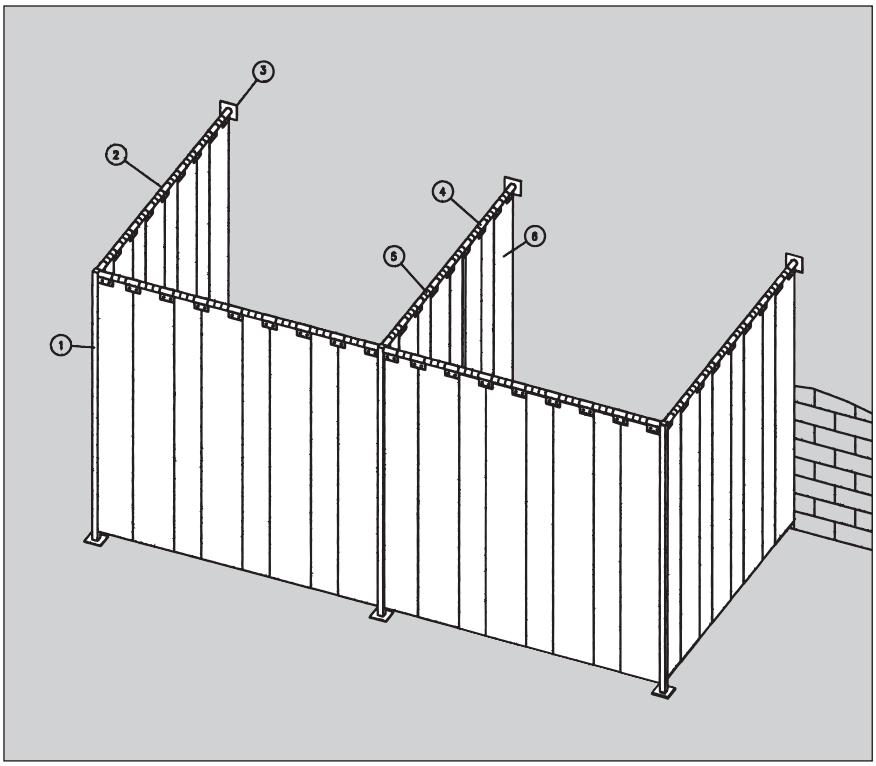
Part No.	Dimensions
70 250 400	H 1.600 x W 570 mm
70 250 401	H 1.800 x W 570 mm
70 250 402	H 2.000 x W 570 mm
70 250 403	H 2.200 x W 570 mm
70 250 404	H 2.400 x W 570 mm
70 250 405	H 2.600 x W 570 mm
70 250 406	H 2.800 x W 570 mm

Welding strip curtain S0, transparent
Transparent protection curtain protects against dust, draft, moisture and grinding sparks.

Part No.	Dimensions
70 250 500	H 1.600 x W 570 mm
70 250 501	H 1.800 x W 570 mm
70 250 502	H 2.000 x W 570 mm
70 250 503	H 2.200 x W 570 mm
70 250 504	H 2.400 x W 570 mm
70 250 505	H 2.600 x W 570 mm
70 250 506	H 2.800 x W 570 mm

Welding protection strips





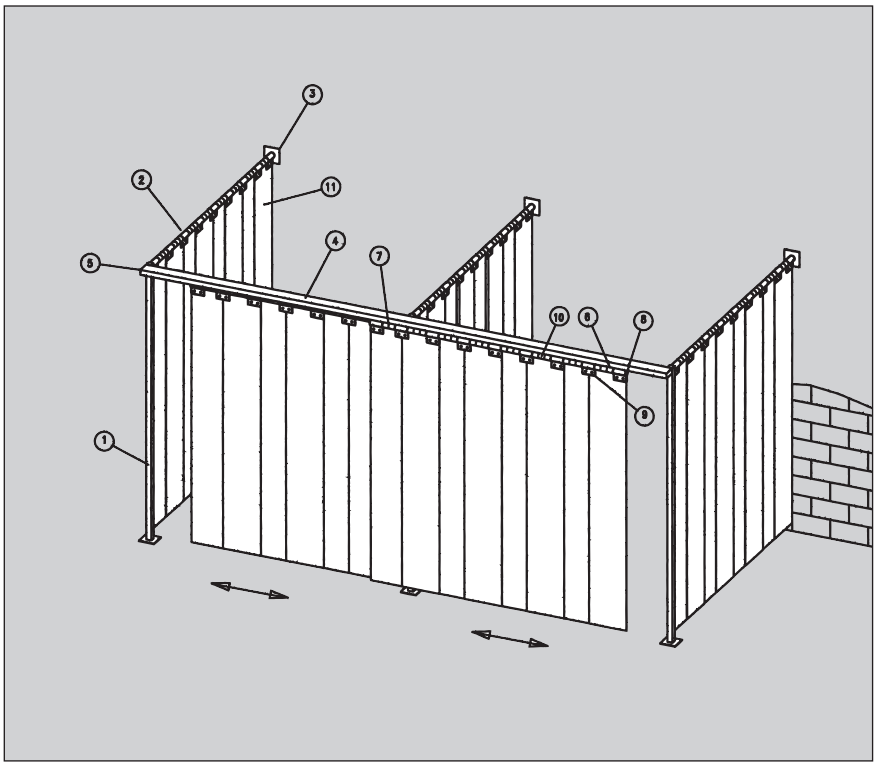
Example:
of a welding protection strip system
W 4.000 x D 2.000 x H 2.000 mm
with welding strips S9,
dark green, matt,
ground clearance 200 mm:

① 3 x column for 1“ pipe,
Part No. 70 180 105
② 2 x 6 m 1“ pipe, Part No.: 70 190 144
③ 3 x wall mounting plate for 1“ pipe,
Part No. 70 190 135
④ 45 x pendular strip suspension clip,
Part No. 70 190 127
⑤ 110 x spacer for 1“ pipe,
Part No. 70 190 129
⑥ 80 m welding protection strip S9,
dark green, matt,
Part No. 70 209 032
40 x cutting and punching
⑦ 5 x end cap for 1“ pipe
Part No. 70 190 133

Lateral sliding welding protection strips

Example:
of a lateral sliding welding protection strip system
W 4.000 x D 2.000 x H 2.000 mm
with welding protection strips S9,
dark green, matt,
ground clearance 200 mm:

① 3 x column for 1“ pipe,
Part No. 70 180 105
② 1 x 6 m 1“ pipe, Part No. 70 190 144
③ 3 x wall mounting plate for 1“ pipe,
Part No. 70 190 135
④ 2 x 6 m C-profile,
Part No. 70 124 106
⑤ 4 x end cap for C-profile,
Part No. 70 120 107
⑥ 4 x travelling device for 1“ pipe,
Part No. 70 190 148
⑦ 1 x 6 m 1“ pipe,
Part No. 70 190 144
⑧ 4 x end cap for 1“ pipe,
Part No. 70 190 133
⑨ 45 x pendular strip suspension clip,
Part No. 70 190 127
⑩110 x spacer for 1“ pipe,
Part No. 70 190 129
⑪ 80 m welding protection strip S9,
dark green, matt
Part No. 70 209 032
40 x cutting and punching
⑫ 6 x universal rail fixing device for C-profile
Part No. 70 190 112



Welding protection strips

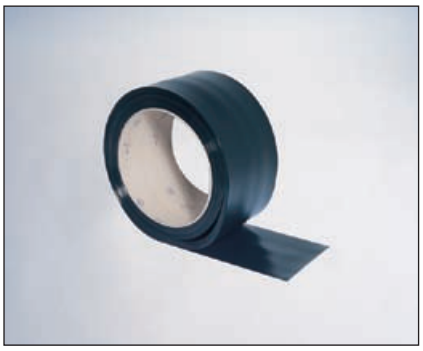
All welding protection strips comply with EN 1598 and are cut and punched to the specified overlap. The strips are rounded on the vertical edges. The strips can be suspended by pendular clips or pipe clamps.
The material is non-combustable to class 1, DIN 53 438 T2 standard.

Welding protection strip S9, dark green, matt, EN 1598

Part No.	Dimensions	Overlap	Weight/m²
70 200 100	300 x 2 mm	33 % = 50 mm	3,00 kg
70 200 101	300 x 2 mm	66 % = 100 mm	3,80 kg
70 200 110	300 x 3 mm	33 % = 50 mm	4,80 kg
70 200 111	300 x 3 mm	66 % = 100 mm	6,00 kg
70 200 112	300 x 3 mm	100 % = 150 mm	7,20 kg

Per metre
- max. length 50 m/roll

Part No.	Dimensions	Weight/m
70 209 032	300 x 2 mm	0,80 kg
70 209 033	300 x 3 mm	1,20 kg
	Cutting and punching	

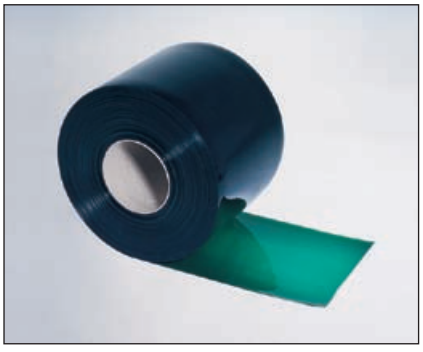


Welding protection strip S4, light green, EN 1598

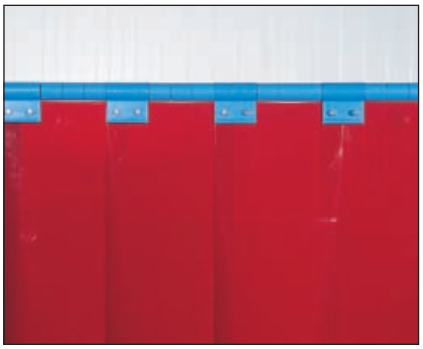
Part No.	Dimensions	Overlap	Weight/m²
70 200 200	300 x 2 mm	33 % = 50 mm	3,00 kg
70 200 201	300 x 2 mm	66 % = 100 mm	3,80 kg
70 200 210	300 x 3 mm	33 % = 50 mm	4,80 kg
70 200 211	300 x 3 mm	66 % = 100 mm	6,00 kg
70 200 212	300 x 3 mm	100 % = 150 mm	7,20 kg

Per metre
- max. length 50 m/roll

Part No.	Dimensions	Weight/m
70 204 032	300 x 2 mm	0,80 kg
70 204 033	300 x 3 mm	1,20 kg
	Cutting and punching	



Welding protection strips

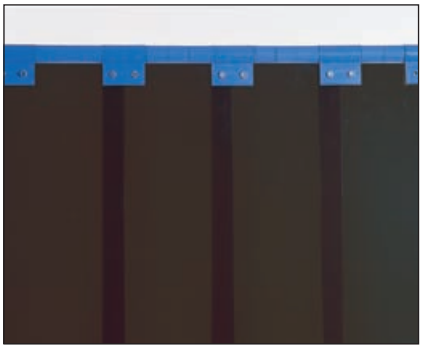


Welding protection strip, red, EN 1598

Part No.	Dimensions	Overlap	Weight/m²
70 200 400	300 x 2 mm	33 % = 50 mm	3,00 kg
70 200 401	300 x 2 mm	66 % = 100 mm	3,80 kg
70 200 410	300 x 3 mm	33 % = 50 mm	4,80 kg
70 200 411	300 x 3 mm	66 % = 100 mm	6,00 kg
70 200 412	300 x 3 mm	100 % = 150 mm	7,20 kg

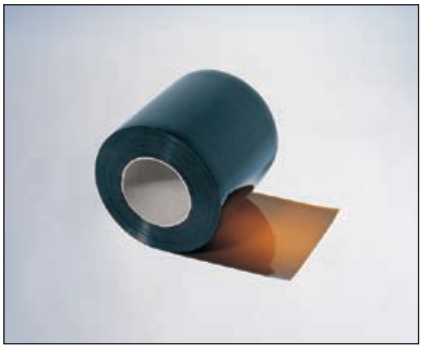
Per metre
- max. length 50 m/roll

Part No.	Dimensions	Weight/m
70 202 032	300 x 2 mm	0,80 kg
70 202 033	300 x 3 mm	1,20 kg
	Cutting and punching	



Welding protection strip, UV resistant, bronze, EN 1598

Part No.	Dimensions	Overlap	Weight/m²
70 200 500	300 x 2 mm	33 % = 50 mm	3,00 kg
70 200 501	300 x 2 mm	66 % = 100 mm	3,80 kg
70 200 510	300 x 3 mm	33 % = 50 mm	4,80 kg
70 200 511	300 x 3 mm	66 % = 100 mm	6,00 kg
70 200 512	300 x 3 mm	100 % = 150 mm	7,20 kg



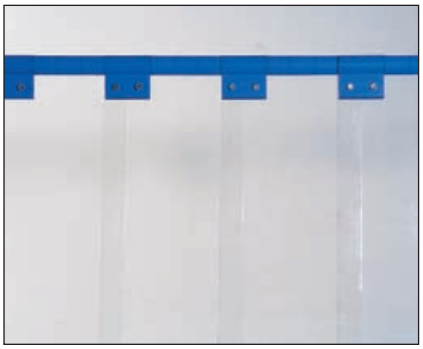
Per metre
- max. length 50 m/roll

Part No.	Dimensions	Weight/m
70 203 032	300 x 2 mm	0,80 kg
70 203 033	300 x 3 mm	1,20 kg
	Cutting and punching	

Protection strips

Protection strip S0, transparent
Transparent protection strip protects against dust, draft, moisture and grinding sparks.

Part No.	Dimensions	Overlap	Weight/m²
70 200 300	300 x 2 mm	33 % = 50 mm	3,00 kg
70 200 301	300 x 2 mm	66 % = 100 mm	3,80 kg
70 200 310	300 x 3 mm	33 % = 50 mm	4,80 kg
70 200 311	300 x 3 mm	66 % = 100 mm	6,00 kg
70 200 312	300 x 3 mm	100 % = 150 mm	7,20 kg
70 200 321	300 x 5 mm	66 % = 100 mm	9,50 kg
70 200 322	300 x 5 mm	100 % = 150 mm	12,50 kg



Per metre
- max. length 50 m/roll

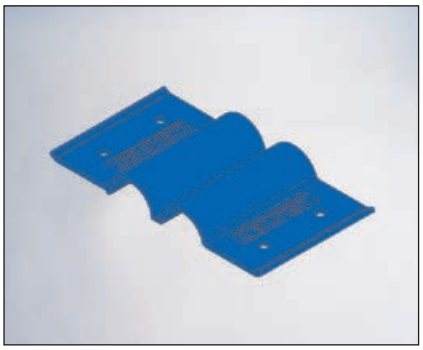
Part No.	Dimensions	Weight/m
70 201 032	300 x 2 mm	0,80 kg
70 201 033	300 x 3 mm	1,20 kg
70 201 035	300 x 5 mm	1,90 kg
70 201 044	400 x 4 mm	2,00 kg
	Cutting and punching	

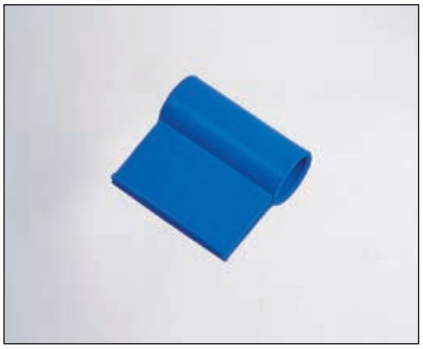
The KEMPER-pendular suspension clip

(patented)

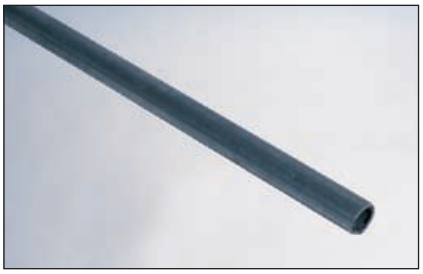
The big disadvantage of common strip suspensions and spacers are that they can only be mounted to the rail before erection.
After this, every single strip needs to be mounted to the strip suspensions with nuts and bolts, which is a complicated and time consuming procedure.

The folding *KEMPER* suspension clip offers a much easier and time saving installation.
The clips are delivered open and after finishing the installation of the rail system the suspension clip can simply be folded around the rail.
Subsequent to this, every single strip can easily be inserted into the suspension clip and held in place by special retaining rivits.
The spacers work on the same principle.





Mounting system for welding curtain systems and welding strip curtain systems (1“ pipe)



1“ pipe
- material thickness 3,25 mm, galvanised

Part No.	Description	Weight
70 190 145	Length 3 m	7,50 kg
70 190 144	Length 6 m	15,00 kg

End cap for 1“ pipe
- made out of plastic

Part No.	Description	Weight
70 190 133	Plastic	0,01 kg

Pipe clamp
- incl. nut and bolt

Part No.	Description	Weight
70 190 132	Galvanised	0,10 kg

Metal hook for 1“ pipe
- to suspend welding curtains and welding strip curtains on a 1“ pipe
- galvanised, 7 metal hooks needed per curtain

Part No.	Description	Weight/set
70 120 109	10 pieces / per set	0,10 kg
70 120 110	13 pieces / per set	0,13 kg
70 120 111	50 pieces / per set	0,50 kg

Straight coupler for 1“ pipe
- made of plastic, supplied with steel inlay

Part No.	Description	Weight
70 190 147	Plastic	0,10 kg

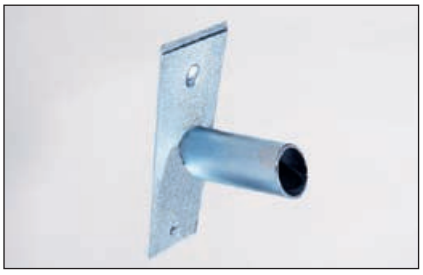
Mounting system for welding curtain systems and welding strip curtain systems (1“ pipe)

Wall and ceiling fixture for 1“ pipe

Part No.	Description	Weight
70 190 123	Galvanised	0,40 kg

Wall mounting fixture for 1“ pipe

Part No.	Description	Weight
70 190 135	Galvanised	0,60 kg



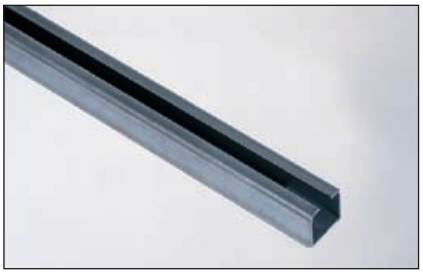
Column for 1“ pipe
- galvanised, incl. foot and pipe fixture

Part No.	Description	Weight
70 180 105	Adjustable height 2.000 up to 3.000 mm, 40 x 40 x 2,5 mm with foot plate 150 x 150 mm	7,50 kg
70 180 110	Adjustable height 2.000 up to 3.000 mm, 60 x 60 x 2,5 mm with foot plate 200 x 200 mm	14,00 kg

Ceiling fixture with lowering device for 1“ pipe
- galvanised, lowering from 1.000 mm to 6.000 mm

Part No.	Description	Weight
70 190 121	Galvanised	3,00 kg

Mounting system for welding curtain systems and welding strip curtain systems (C-profile)

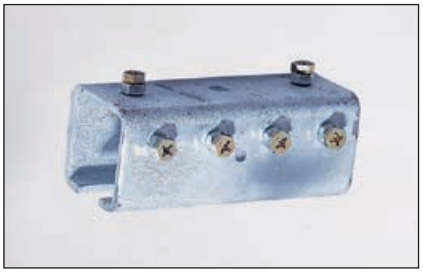


C-profile, 40 x 40 x 2,5 mm
- material thickness 2,5 mm, galvanised

Part No.	Description	Weight
70 124 107	Length 3 m	7,50 kg
70 124 106	Length 6 m	15,00 kg

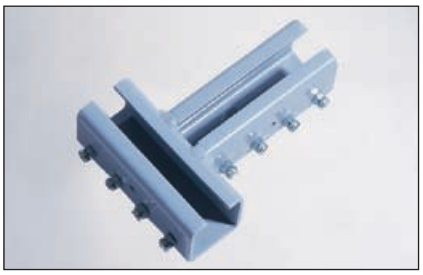
90°-elbow for C-profile
- galvanised, 40 x 40 x 2,5 mm

Part No.	Description	Weight
70 124 102	Radius: 400 mm	2,60 kg
70 124 103	Radius: 1.000 mm	3,90 kg



Straight coupler for C-profile

Part No.	Description	Weight
70 190 105	Galvanised	0,65 kg



T-coupler for C-profile

Part No.	Description	Weight
70 190 107	Galvanised	1,30 kg

Sliding hooks for C-profile
- to suspend welding curtains and welding strip curtains on a C-profile
- made of plastic, 7 sliding hooks needed per curtain

Part No.	Description	Weight/kit
70 120 112	10 pieces / per set	0,10 kg
70 120 117	13 pieces / per set	0,13 kg
70 120 113	50 pieces / per set	0,50 kg

End cap for C-profile

Part No.	Description	Weight
70 120 107	Plastic	0,01 kg

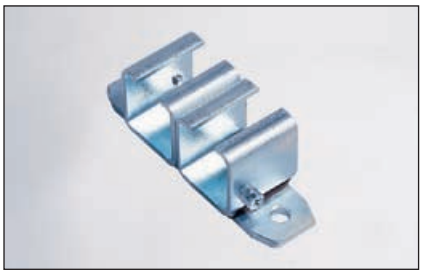
Mounting system for welding curtain systems and welding strip curtain systems (C-profile)

Ceiling fixture for C-profile

Part No.	Description	Weight
70 190 108	Galvanised	0,40 kg

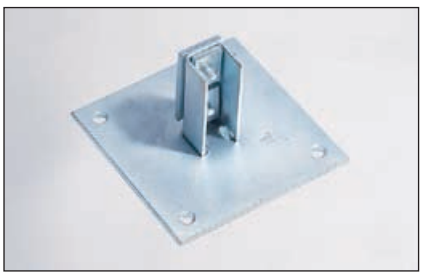
Ceiling fixture for double-C-profile

Part No.	Description	Weight
70 190 110	Galvanised	0,80 kg



Wall fixture for C-profile

Part No.	Description	Weight
70 190 113	Galvanised	1,30 kg



Wall fixture for double-C-profile

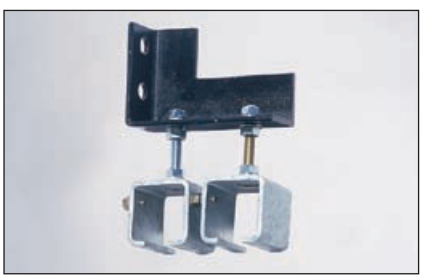
Part No.	Description	Weight
70 190 138	Galvanised	1,90 kg

Side wall fixture for C-profile

Part No.	Description	Weight
70 190 115	Galvanised	0,68 kg

Side wall fixture for double-C-profile

Part No.	Description	Weight
70 190 117	Galvanised	1,30 kg



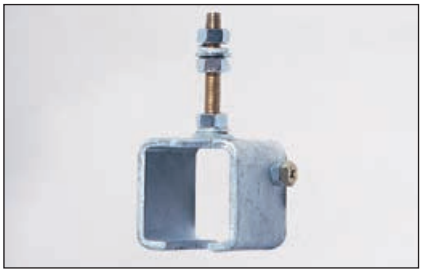
Mounting system for welding curtain systems and welding strip curtain systems (C-profile)

Limit stop for C-profile
- with rubber bumper

Part No.	Description	Weight
70 120 100	Galvanised	0,10 kg

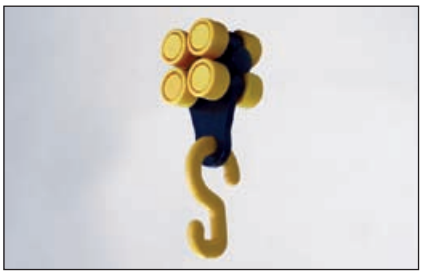
Ceiling fixture with lowering device for C-profile
- galvanised, lowering from 1.000 mm to 6.000 mm

Part No.	Description	Weight
70 190 120	Galvanised	3,00 kg



Universal rail fixing device for C-profile

Part No.	Description	Weight
70 190 112	Galvanised	0,36 kg



Carriage with 8 plastic rollers and hooks to suspend welding strip curtains

Part No.	Description	Weight
70 120 118	Plastic	0,03 kg

Carriage with two ball bearing rollers and a pipe clamp suitable for a 1“ pipe

Part No.	Description	Weight
70 190 148	Metal	0,22 kg

Column for C-profile
- galvanised, incl. foot and C-profile fixture

Part No.	Description	Weight
70 180 101	Adjustable height 2.000 up to 3.000 mm, 40 x 40 x 2,5 mm with foot plate 150 x 150 mm	7,50 kg
70 180 109	Adjustable height 2.000 up to 3.000 mm, 60 x 60 x 2,5 mm with foot plate 200 x 200 mm	14,00 kg

Mounting system for welding protection strips

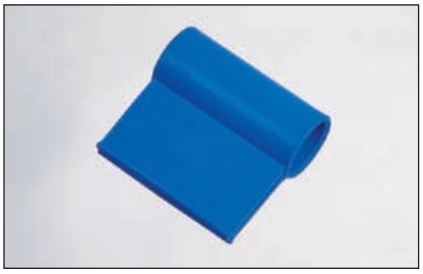
Welding protection strip fixture set
The complete set consists of all the necessary parts required for the suspension of welding protection strips for a specified width. This set includes 1“ pipe, pendular suspension clips, spacers, end caps and wall or ceiling brackets.

Part No.	Overlap	Weight/m²
70 500 100	33 % = 50 mm	4,00 kg
70 500 101	66 % = 100 mm	4,50 kg
70 500 102	100 % = 150 mm	5,00 kg

Lateral sliding welding protection strip fixture set
The 1“ pipe with welding protection strips is laterally sliding within a C-profile.
The complete set consists of all necessary parts for the required width and includes 1“ pipe, C-profile, travelling device, suspension clips, spacers, limit stopper, end caps or wall and ceiling brackets.

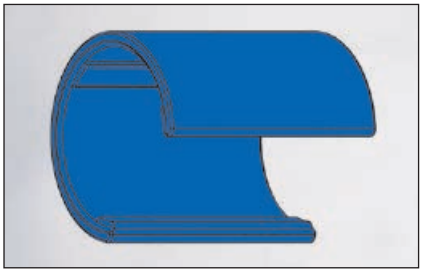
Part No.	Overlap	Weight/m²
70 510 100	33 % = 50 mm	7,00 kg
70 510 101	66 % = 100 mm	7,50 kg
70 510 102	100 % = 150 mm	8,00 kg

Pendular clip for a 1“ pipe including fixture nuts and bolts
- made of plastic (5 pieces per set)



Part No.	Description	Weight
70 190 127	Plastic	0,08 kg

Spacer for 1“ pipe
- made of plastic (10 pieces per set)



Part No.	Description	Weight
70 190 129	Plastic	0,02 kg

Pipe clamp for 1“ pipe

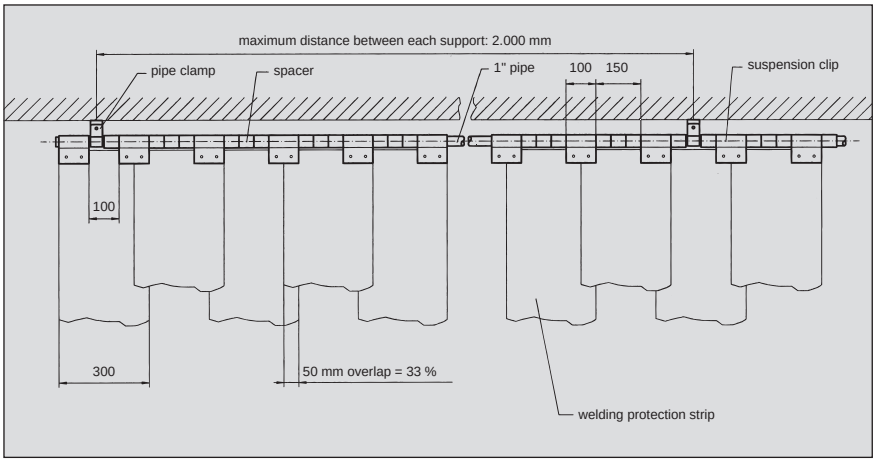
Part No.	Description	Weight
70 190 128	Galvanised	0,20 kg

Carriage with 8 plastic rollers and hooks to suspend welding strip curtains

Part No.	Description	Weight
70 120 118	Plastic	0,03 kg

Mounting system for welding protection strips

Overlap 33 %



The drawing and table below show the exact quantity of parts required, based on the total width of welding protection strips.

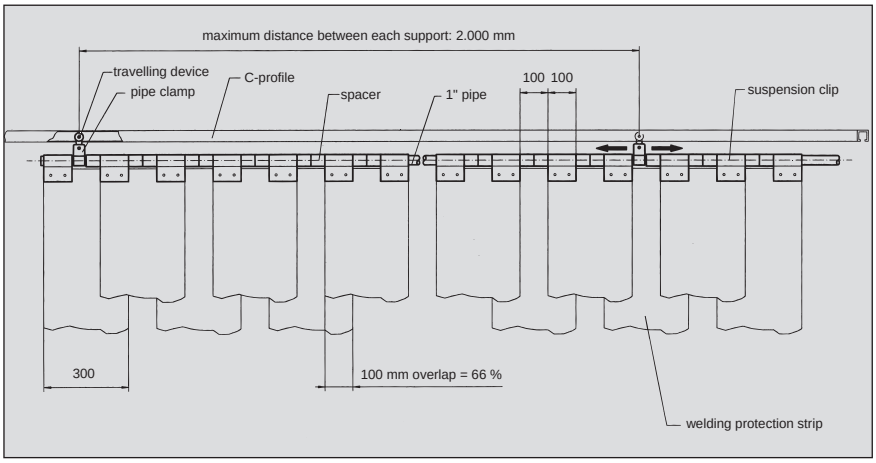
Attention: *Fixed installation: only wall and ceiling fixtures (no travelling devices)*

Lateral sliding installation: C-profile = double curtain width

Wall and ceiling fixtures for C-profile = 2 x travelling devices

Curtain width and pipe length	***mm***	550	800	1.050	1.300	1.550	1.800	2.050	2.300	2.550	2.800	3.050	3.300	3.550	3.800	4.050	4.300	4.550	4.800	5.050	5.300	5.550	5.800	6.050	6.300	6.550	6.800	7.050	7.300	7.550	7.800
welding strips	***pieces***	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
suspension clips	***pieces***	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
spacers	***pieces***	3	6	9	12	15	18	21	23	26	29	32	35	38	41	43	46	49	52	55	58	61	64	66	69	72	75	78	81	84	87
ceiling fixtures or travelling devices	***pieces***	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5

Overlap 66 %



The drawing and table below show the exact quantity of parts required, based on the total width of welding protection strips.

Attention: *Fixed installation: only wall and ceiling fixtures (no travelling devices)*

Lateral sliding installation: C-profile = double curtain width

Wall and ceiling fixtures for C-profile = 2 x travelling devices

Curtain width and pipe length	***mm***	500	700	900	1.100	1.300	1.500	1.700	1.900	2.100	2.300	2.500	2.700	2.900	3.100	3.300	3.500	3.700	3.900	4.100	4.300	4.500	4.700	4.900	5.100	5.300	5.500	5.700	5.900	6.100	6.300
welding strips	***pieces***	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
suspension clips	***pieces***	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
spacers	***pieces***	2	4	6	8	10	12	14	16	17	19	21	23	25	27	29	31	33	35	36	38	40	42	44	46	48	50	52	54	55	57
ceiling fixtures or travelling devices	***pieces***	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	5

Mounting system for welding protection strips

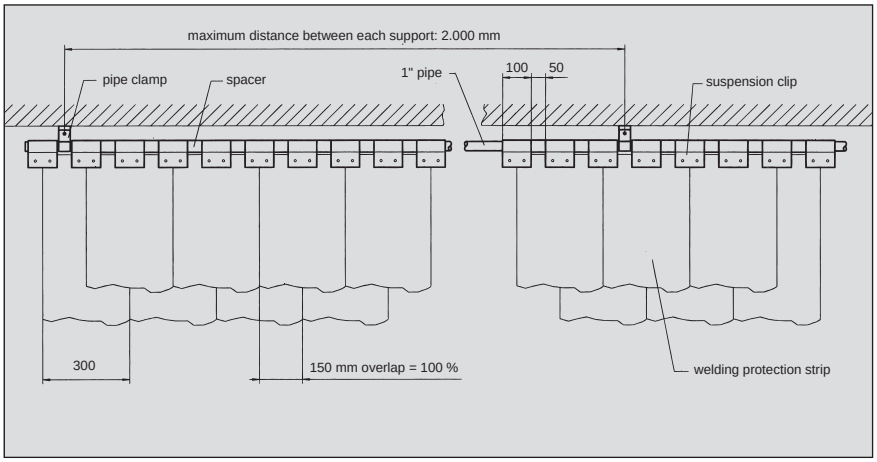
Overlap 100 %

The drawing and table below show the exact quantity of parts required, based on the total width of welding protection strips.

Attention: *Fixed installation: only wall and ceiling fixtures (no travelling devices)*

Lateral sliding installation: C-profile = double curtain width

Wall and ceiling fixtures for C-profile = 2 x travelling devices



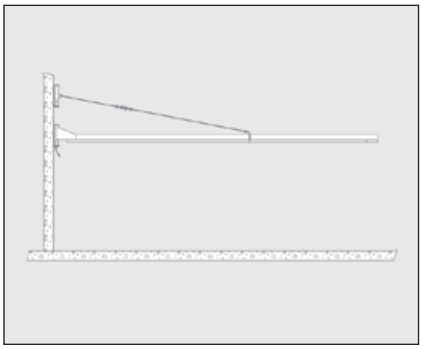
Curtain width and pipe length	*mm*	450	600	750	900	1.050	1.200	1.350	1.500	1.650	1.800	1.950	2.100	2.250	2.400	2.550	2.700	2.850	3.000	3.150	3.300	3.450	3.600	3.750	3.900	4.040	4.200	4.350	4.500	4.650	4.800
welding strips	*pieces*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
suspension clips	*pieces*	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
spacers	*pieces*	1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24	25	26	27	28
ceiling fixtures or travelling devices	*pieces*	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4

Cutting and punching of welding protection strips

Part No.	Description
70 210 033	Cutting and punching for clips and an overlap of 33 %
70 210 066	Cutting and punching for clips and an overlap of 66 %
70 210 100	Cutting and punching for clips and an overlap of 100 %

Part No.	Description
70 211 033	Cutting and punching for pipe clamps and an overlap of 33 %
70 211 066	Cutting and punching for pipe clamps and an overlap of 66 %
70 211 100	Cutting and punching for pipe clamps and an overlap of 100 %

Pivoting arm, wall-mounted or incl. column



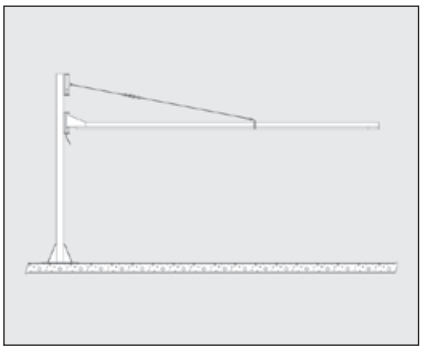
Pivoting arm for welding curtains, wall-mounted
- powder coated, incl. C-profile 40 x 40 x 2,5 mm

Part No.	Description
70 700 250	Length 2.000 mm
70 700 251	Length 3.000 mm
70 700 252	Length 4.000 mm
70 700 253	Length 5.000 mm
70 700 254	Length 6.000 mm

Pivoting arm for welding curtains and welding protection strips, wall-mounted
- powder coated, incl. 1“ pipe

Part No.	Description
70 700 255	Length 2.000 mm
70 700 256	Length 3.000 mm
70 700 257	Length 4.000 mm
70 700 258	Length 5.000 mm
70 700 259	Length 6.000 mm

Note: Additional guy wire is provided only for pivoting arms with length of 5 m and 6 m.



Pivoting arm for welding curtains, incl. column
- consisting of a pivoting arm and a suitable column to mount on the floor
- powder coated, incl. C-profile 40 x 40 x 2,5 mm
- height of columns: for 2.000 up to 4.000 mm pivoting arms = 2.500 mm
  for 5.000 up to 6.000 mm pivoting arms = 3.400 mm

Part No.	Description	Height at lower edge of extension arm
70 700 650	Length 2.000 mm	2.165 mm
70 700 651	Length 3.000 mm	2.165 mm
70 700 652	Length 4.000 mm	2.165 mm
70 700 653	Length 5.000 mm	2.215 mm
70 700 654	Length 6.000 mm	2.215 mm

Pivoting arm for welding curtains and welding protection strips, incl. column
- consisting of a pivoting arm and a suitable column to mount on the floor
- powder coated, incl. 1“ pipe
- height of columns: for 2.000 up to 4.000 mm pivoting arms = 2.500 mm
  for 5.000 up to 6.000 mm pivoting arms = 3.400 mm

Part No.	Description	Height at lower edge of extension arm
70 700 655	Length 2.000 mm	2.050 mm
70 700 656	Length 3.000 mm	2.050 mm
70 700 657	Length 4.000 mm	2.050 mm
70 700 659	Length 5.000 mm	2.100 mm
70 700 660	Length 6.000 mm	2.100 mm

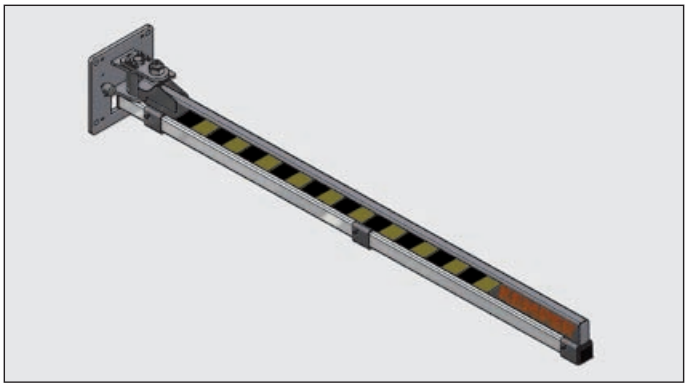
Note: Additional guy wire is provided only for pivoting arms with length of 5 m and 6 m.

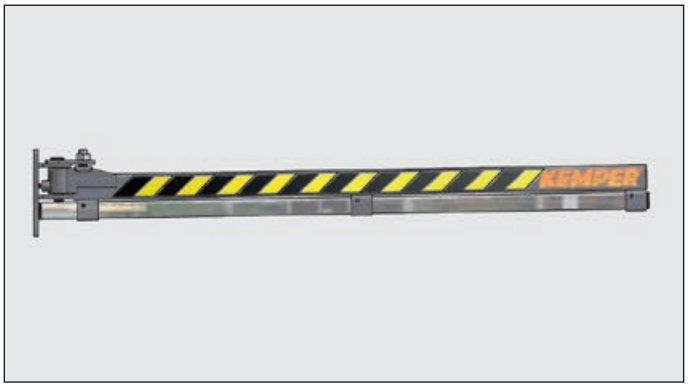
Locking swivel arms for mounting on walls and pillars

Locking swivel arms that can be mounting on walls and pillars offer the possibility of hanging welding curtains and strips so that people in the vicinity are protected from dangerous radiation, welding arcs and splashes.

The advantage of this type of swivel arm is that it can be locked. This prevents the arm from being accidentally nudged to one side, endangering personnel. The lock is released by pulling on a chain.

These locking swivel arms are available in lengths of 1,5 m and 2,0 m. They can be attached to a pillar or a bracket on the wall.





Locking swivel arms for mounting on walls and pillars

Part No.	Description
131 2634	Locking swivel arms for mounting on walls and pillars, 1,5 m
131 3036	Locking swivel arms for mounting on walls and pillars, 2,0 m
131 2647	Wall bracket

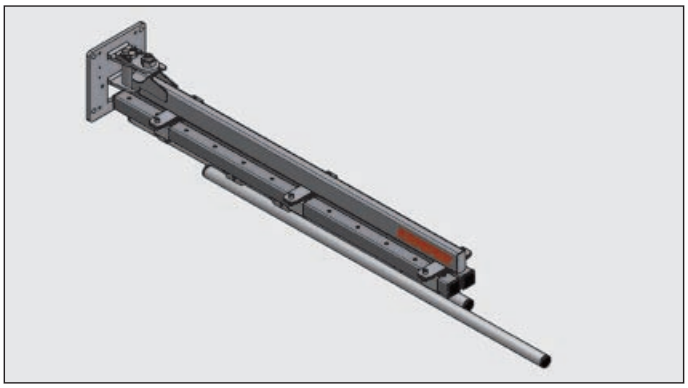
Locking swivel arms with a telescopic facility for mounting on walls and pillars

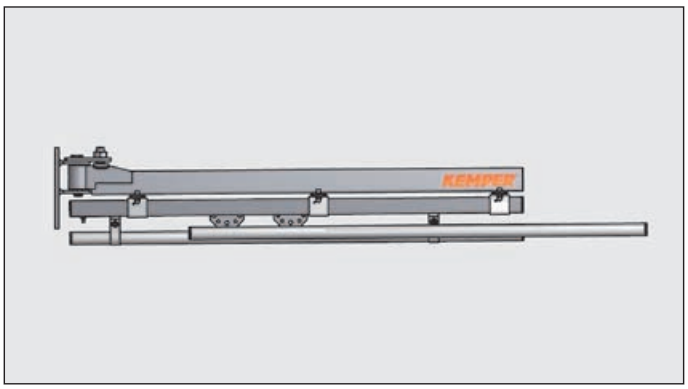
Locking swivel arms with a telescopic facility for mounting on walls and pillars offer not only a means of hanging curtains or strips, but also the possibility of pushing the hanging together by telescoping the arm.

In addition to the advantages of locking swivel arms, this version has the added flexibility of being telescopic. This allows access to a partitioned area to be created despite the arm being locked, without actually releasing the lock.

The telescopic function is easily operated using a chain with which the telescopic arm is easily pulled and pushed back.

These locking swivel arms with a telescopic facility are available in lengths of 1,0 m, 1,5 m and 2,0 m. They can be attached to a pillar or a bracket on the wall.





Locking swivel arms with a telescopic facility for mounting on walls and pillars

Part No.	Description
131 3262	Locking swivel arms with a telescopic facility for mounting on walls and pillars , 1,0 m
131 3263	Locking swivel arms with a telescopic facility for mounting on walls and pillars , 1,5 m
131 3264	Locking swivel arms with a telescopic facility for mounting on walls and pillars , 2,0 m
131 2647	Wall bracket

Mobile protection screens

1-panel mobile protective screen with curtain
Circular steel tube construction, with blue epoxy-powder coating.
The curtain is stretched between the top and the bottom strut of the frame.
Complete kit, ready to assemble. Conform to EN 1598.
Width: 1,45 m, height: 1,90 m (ground clearance 100 mm).

Part No.	Description
70 600 301	With welding curtain S9, dark green, matt EN 1598
70 600 302	With welding curtain S4, light green EN 1598
70 600 304	With welding curtain, red EN 1598
70 600 303	With welding curtain S0, transparent against dust, moisture

1-panel mobile protective screen with curtain
Stable construction out of box section 60 x 30 mm with blue epoxy-powder coating.
The curtain is attached to the construction by means of metal hooks.
Complete kit.
Width: 2,10 m, height: 1,83 m, ground clearance: 165 mm.
With accessories: set of castors: height: 1,92 m, ground clearance: 250 mm

Part No.	Description
70 600 500	With welding curtain S9, dark green, matt EN 1598
70 600 501	With welding curtain, red EN 1598
70 600 503	With welding curtain S4, light green EN 1598
70 600 699	*Accessories:* Set of castors, consisting of four guide roller, two with brakes

3-panel mobile protective screen with curtain
Stable construction out of box section 60 x 30 mm with blue epoxy-powder coating.
The curtain is attached to the construction by means of metal hooks.
Complete kit.
Width: 3,80 m (central panel 2,10 m + 2 swivelling arms, 0,85 m each),
height: 1,83 m, ground clearance: 165 mm.
With accessories: set of castors: height: 1,92 m, ground clearance: 250 mm.

Part No.	Description
70 600 550	With welding curtain S9, dark green, matt EN 1598
70 600 551	With welding curtain, red EN 1598
70 600 552	With welding curtain S0, transparent against dust, moisture
70 600 699	*Accessories:* Set of castors, consisting of four guide roller, two with brakes

1-panel mobile protection screen with welding strip curtain
Stable construction out of box section 60 x 30 mm with blue epoxy-powder coating. The welding strip curtain is 570 mm wide and 1,0 mm thick. The strip curtain is mounted to the frame by metal hooks.
Complete kit.
Width: 2,10 m, height: 1,83 m, ground clearance: 165 mm.
With accessories: set of castors: height: 1,92 m, ground clearance: 250 mm.

Part No.	Description
70 600 701	With welding strip curtain S9, dark green, matt EN 1598
70 600 702	With welding strip curtain, red EN 1598
70 600 703	With welding strip curtain S0, transparent against dust, moisture
70 600 699	*Accessories:* Set of castors, consisting of four guide roller, two with brakes

3-panel mobile protection screen with welding strip curtain
Stable construction out of box section 60 x 30 mm with blue epoxy-powder coating. The welding strip curtain is 570 mm wide and 1,0 mm thick. The strip curtain is mounted to the frame by metal hooks.
Complete kit.
Width: 3,80 m (central panel 2,10 m + 2 swivelling arms, 0,85 m each), height: 1,83 m, ground clearance: 165 mm.
With accessories: set of castors: height: 1,92 m, ground clearance: 250 mm.

Part No.	Description
70 600 664	With welding curtain S9, dark green, matt EN 1598
70 600 665	With welding strip curtain, red EN 1598
70 600 699	*Accessories:* Set of castors, consisting of four guide roller, two with brakes

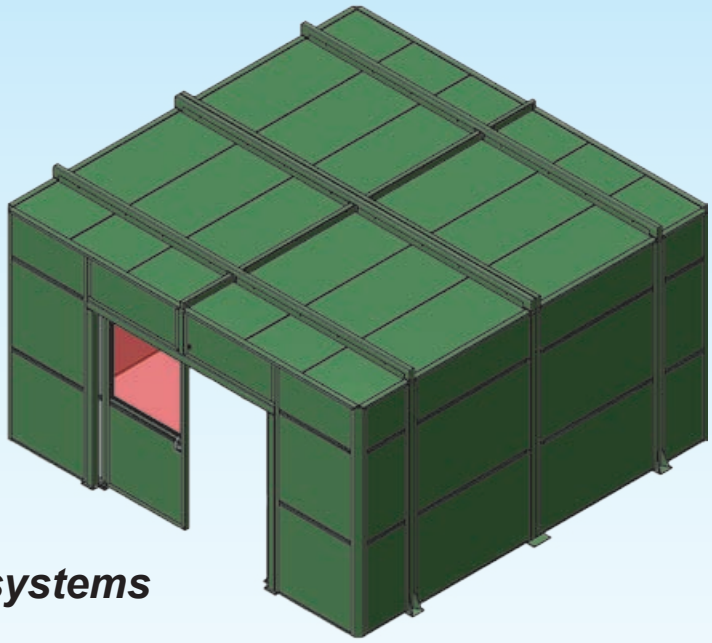
Mobile protection screens

1-panel mobile welding protection strip screen
Stable construction out of box section 60 x 30 mm with blue epoxy-powder coating.
The welding protection strips are mounted to the frame by suspension clips and spacers.
Complete kit.
Width: 2,10 m, height: 1,83 m, ground clearance: 470 mm.
With accessories: set of castors: height: 1,92 m, ground clearance: 555 mm.

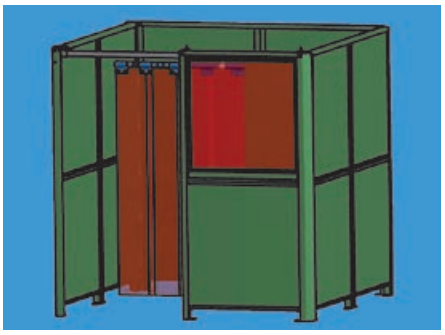
Part No.	Description
70 600 600	With welding protection strip S9, dark green, matt 300 x 2 mm, EN 1598
70 600 601	With welding protection strip S9, dark green, matt 300 x 3 mm, EN 1598
70 600 602	With welding protection strip, red 300 x 2 mm, EN 1598
70 600 603	With welding protection strip, red 300 x 3 mm, EN 1598
70 600 604	With welding protection strip, S0, transparent 300 x 2 mm
70 600 605	With welding protection strip, S0, transparent 300 x 3 mm
70 600 699	*Accessories:* Set of castors, consisting of four guide roller, two with brakes

3-panel mobile welding protection strip screen
Stable construction out of box section 60 x 30 mm with blue epoxy-powder coating.
The welding protection strips are mounted to the frame by suspension clips and spacers.
Complete kit.
Width: 3,80 m (central panel 2,10 m + 2 swivelling arms, 0,85 m each),
height: 1,83 m, ground clearance: 470 mm.
With accessories: set of castors: height: 1,92 m, ground clearance: 555 mm.

Part No.	Description
70 600 650	With welding protection strip S9, dark green, matt 300 x 2 mm, EN 1598
70 600 651	With welding protection strip S9, dark green, matt 300 x 3 mm, EN 1598
70 600 652	With welding protection strip, red 300 x 2 mm, EN 1598
70 600 653	With welding protection strip, red 300 x 3 mm, EN 1598
70 600 654	With welding protection strip, S0, transparent 300 x 2 mm
70 600 655	With welding protection strip, S0, transparent 300 x 3 mm
70 600 699	*Accessories:* Set of castors, consisting of four guide roller, two with brakes



Partitioning wall systems



Sound insulating partitioning wall systems

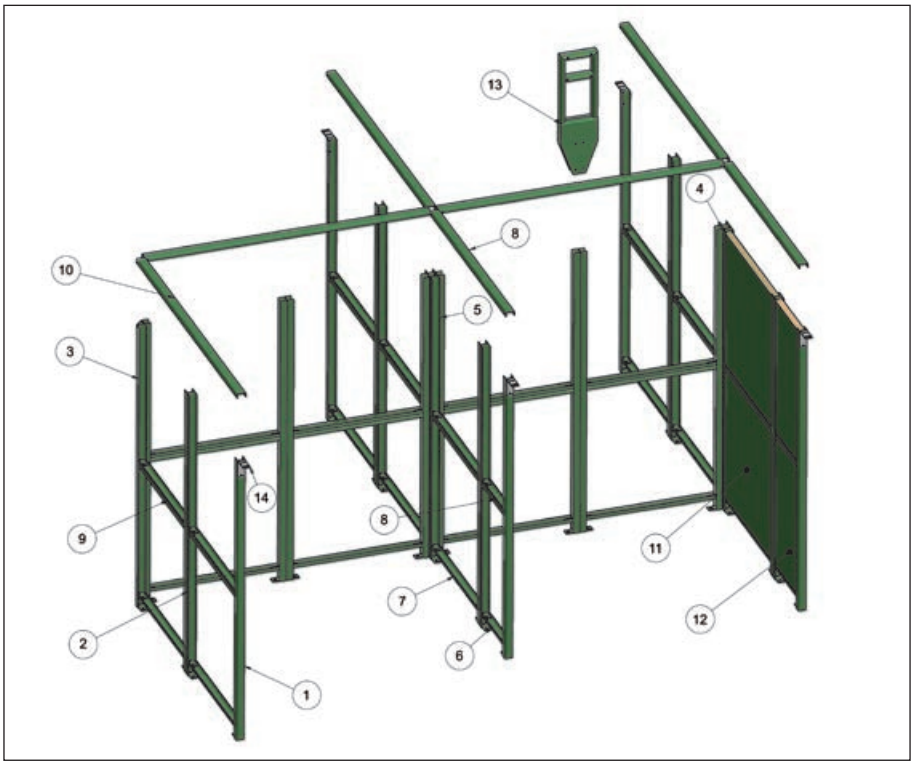
The *KEMPER* sound insulating partitioning wall system can be built into any design combination due to different modular elements.

The modular elements consist of perforated plates, which are finished with UV-ray absorbend powder coating. Each element consists of perforated plates and a filling of compressed mineral wool according to DIN 4102, which is also finished with UV-ray absorbent powder coating.

Out of these components it is easy to construct complete welding bays, in which exhaust arms could be mounted.

The outside facing columns can be fitted with different mounting devices for curtains, welding strips, etc...

Sound insulating partitioning wall systems



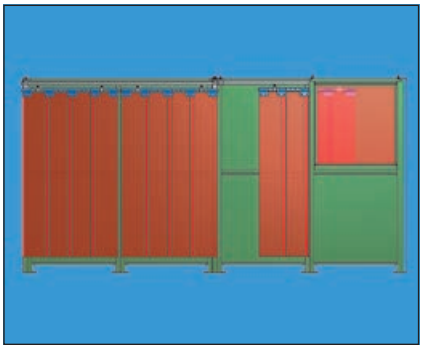
The picture shows an example which components are required to build a wall system. The components have a width of 500 mm or 1.000 mm.

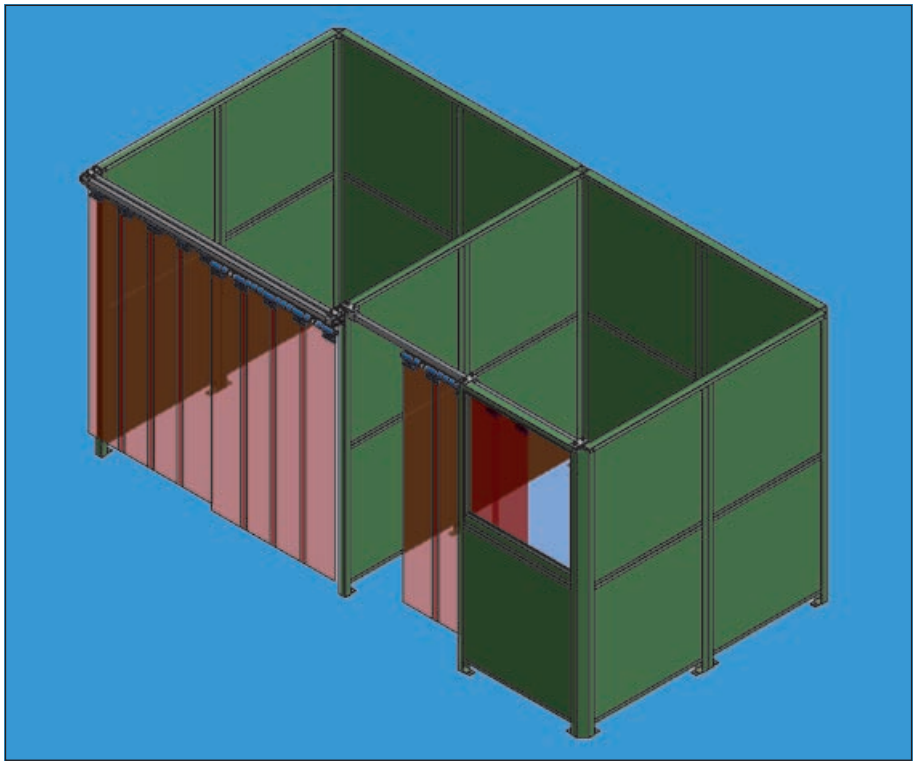
Certainly we can assist you for construction of your desired system.

No.	Part No.	Description
①	141 0193	Column 1 fold powder coated
②	141 0197	Column 2 fold 180° powder coated
③	141 0196	Column 2 fold 90° powder coated
④	141 0198	Column 3 fold powder coated
⑤	141 0199	Column 4 fold powder coated
⑥	131 1304	Bottom strut, length 420 mm powder coated
⑦	131 0912	Bottom strut, length 920 mm powder coated
⑧	131 1305	Centre strut, length 420 mm powder coated
⑨	131 0911	Centre strut, length 920 mm powder coated
⑩	131 0910	Finishing strut powder coated
⑪	144 0326	Sound insulating element 1.000 x 1.000 x 50 mm
⑫	144 0443	Sound insulating element 1.000 x 500 x 50 mm
⑬	131 0950	Mounting bracket for *KEMPER* telescopic/exhaust arm
⑭	131 0913	Bracket galvanised

Other dimensions on request.

Equipment for schools





KEMPER soundproofing and partition wall systems are also available for schools and training workshops.

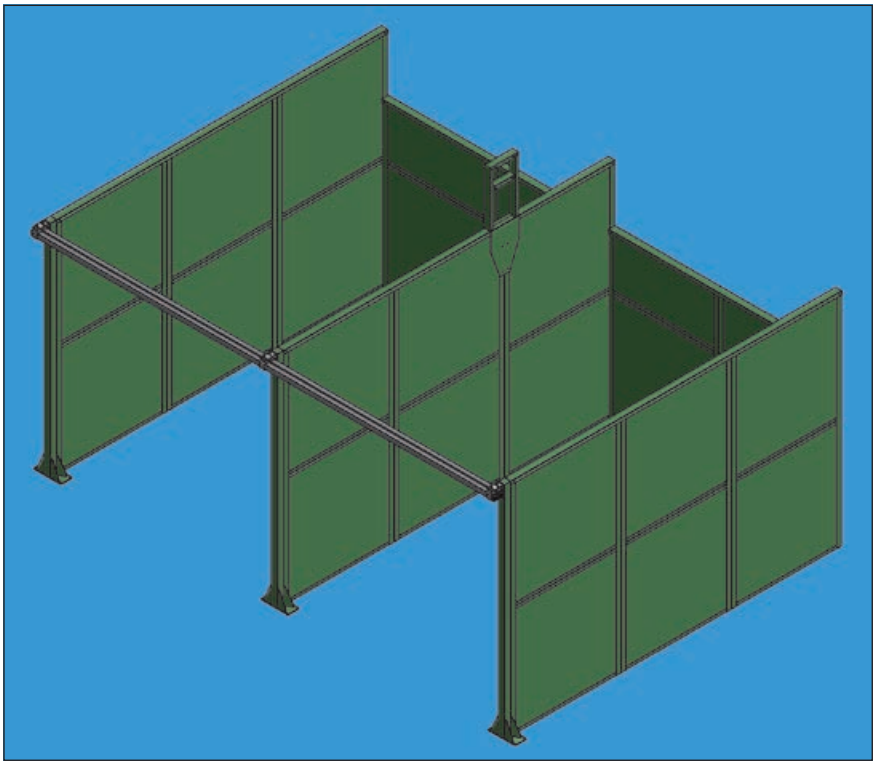
The booths consist of perforated plates that are coated with a UV inhibitor. The soundproofing material used is a biodegradable mineral wool with a carcinogenicity index of 40 (Ki 40) rendering it safe (see Technical Rules for Hazardous Substances (TRGS) 905), and non-flammable according to DIN 4102.

Additionally, the mineral wool plates are coated on both sides with black fibreglass fleece material.

The individual components are bolted together to form stable welding booths, on which extraction or telescopic arms can be mounted.

Different versions of the booths allow students to be observed either through a window or through the entrance to the booth. The openings can be separated either through a fixed curtain system or one that can be pushed to one side.

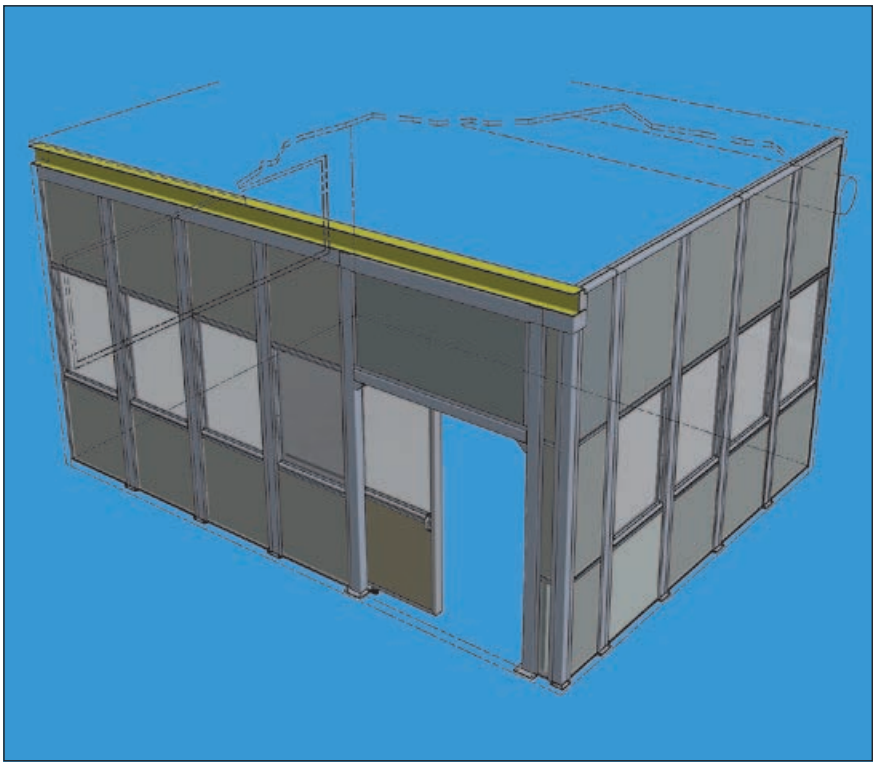
Wall partitioning system



This example shows different possibilities of construction with modular elements.

Certainly we can assist you for construction of your desired system.

Workshop partitioning

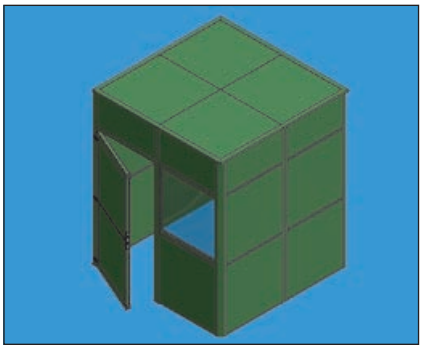


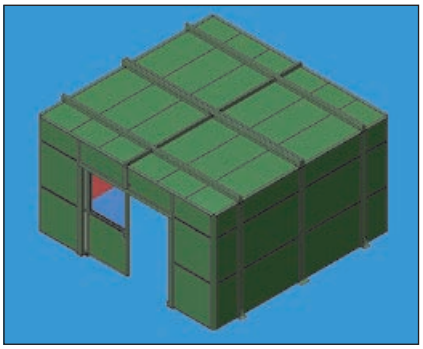
If you want a work area to be partitioned as far up as the ceiling, our workshop partitioning is the answer.

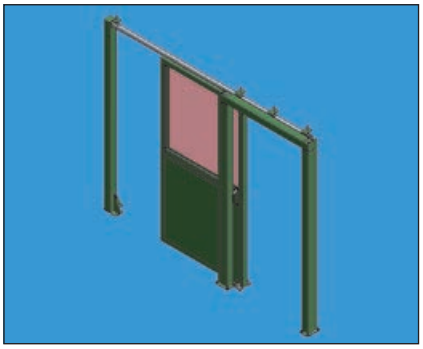
The pictures show how two walls with protective windows and sliding doors form a new room in a workshop.

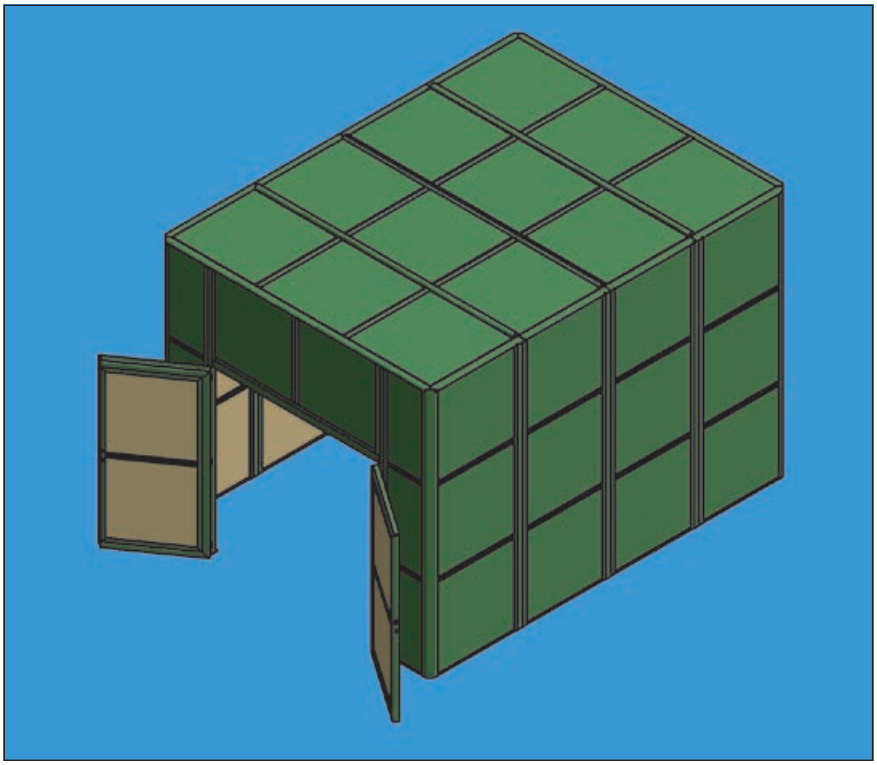
We are of course happy to help with the planning.

Booth









Using *KEMPER* soundproof partitioning systems, it is possible to erect fully enclosed booths within a manufacturing facility.
The individual plates can be supplied either in a perforated sheet version, or, for improved sound insulation, from perforated sheet on the inside and solid sheet on the outside.

Naturally we can assist you in planning the booths to meet your requirements.

The grinding booths are available in the following versions:

1. Enclosed booth with a double-hinged door

The roof of the booth consists of two segments. The double-hinged doors can be secured with a bolt and the door can be locked.

2. Enclosed booth with hinged door

The basis of the roof is a solid framework and next to the hinged door is a window with a pane of clear Perspex. The hinged door can be locked.

3. Enclosed booth with double sliding door

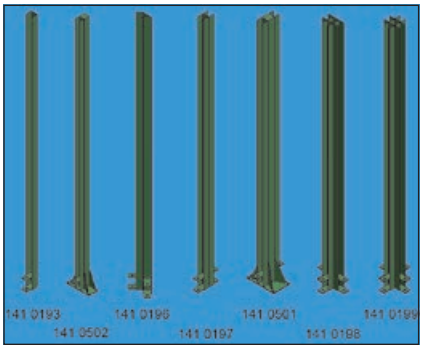
The roof of the booth consists of box elements and the entire cabin is mainly constructed from standard partitioning elements. The double sliding window is made of clear Perspex.

4. Enclosed booth with sliding door

The construction of this booth is based on standard components and a roof of frame segments. The sliding door features a red protective pane at the top.

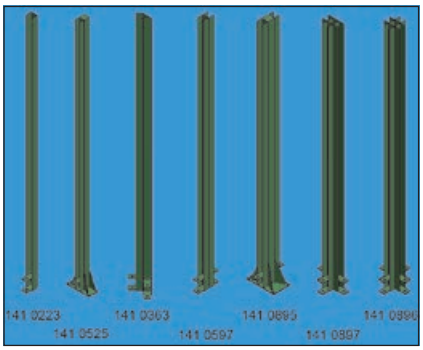
Supports with ground clearance (100 mm)
Height: 2.120 mm

Part No.	Description
141 0193	1-way support
141 0502	1-way support with square tube
141 0196	2-way support 90°
141 0197	2-way support 180°
141 0501	2-way support with 180° square tube
141 0198	3-way support
141 0199	4-way support



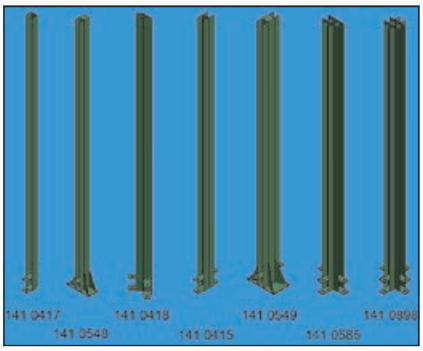
Supports with ground clearance (100 mm)
Height: 2.630 mm

Part No.	Description
141 0223	1-way support
141 0525	1-way support with square tube
141 0363	2-way support 90°
141 0597	2-way support 180°
141 0895	2-way support with 180° square tube
141 0897	3-way support
141 0896	4-way support



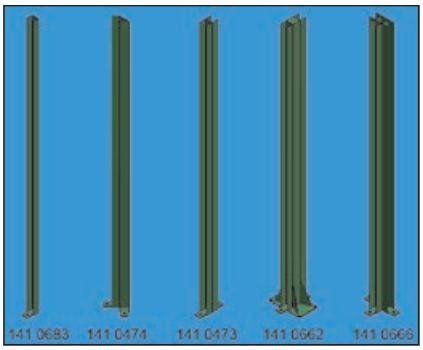
Supports with ground clearance (100 mm)
Height: 3.130 mm

Part No.	Description
141 0417	1-way support
141 0548	1-way support with square tube
141 0418	2-way support 90°
141 0415	2-way support 180°
141 0549	2-way support with 180° square tube
141 0585	3-way support
141 0898	4-way support



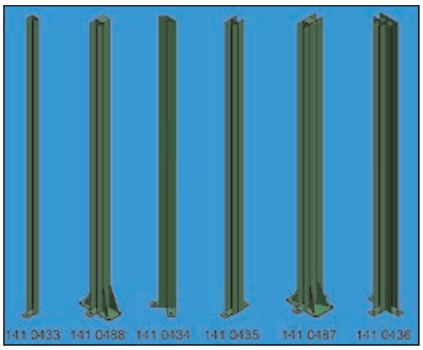
Supports without clearance
Height: 2.020 mm

Part No.	Description
141 0683	1-way support
141 0663	1-way support with square tube
141 0474	2-way support 90°
141 0473	2-way support 180°
141 0662	2-way support with 180° square tube
141 0666	3-way support

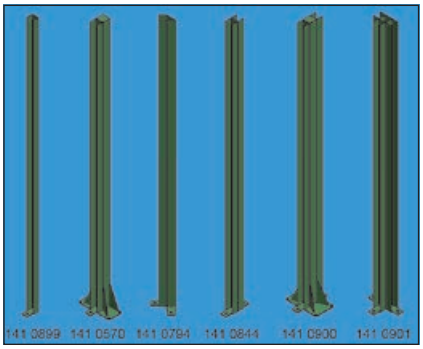


Supports without ground clearance
Height: 2.530 mm

Part No.	Description
141 0433	1-way support
141 0488	1-way support with square tube
141 0434	2-way support 90°
141 0435	2-way support 180°
141 0662	2-way support with 180° square tube
141 0436	3-way support

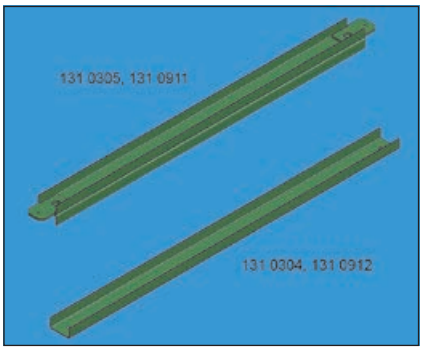


Single components



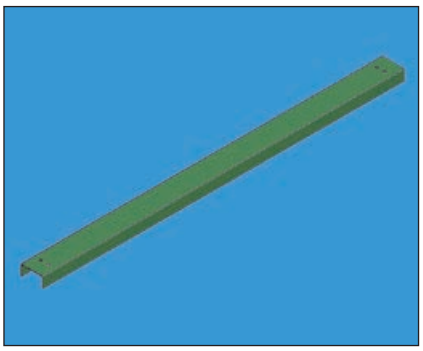
Supports without ground clearance
Height: 3.030 mm

Part No.	Description
141 0899	1-way support
141 0570	1-way support with square tube
141 0794	2-way support 90°
141 0844	2-way support 180°
141 0900	2-way support with 180° square tube
141 0901	3-way support



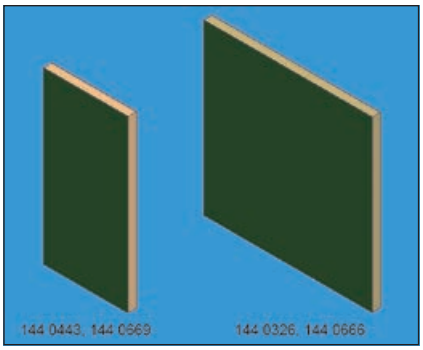
Intermediate rails

Part No.	Description
131 1304	Lower intermediate rails 25 x 55 x 25 x 2 x 420 mm
131 0912	Lower intermediate rails 25 x 55 x 25 x 2 x 920 mm
131 1305	Middle intermediate rails 25 x 55 x 25 x 2 x 420 mm
131 0911	Middle intermediate rails 25 x 55 x 25 x 2 x 920 mm



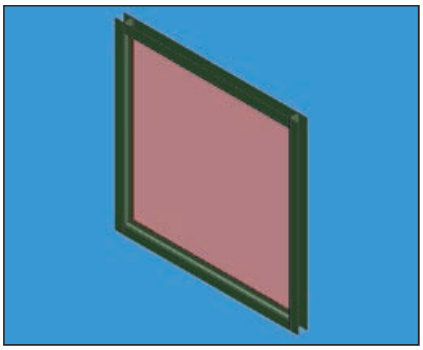
Cover

Part No.	Description
131 1399	Cover 30 x 62 x 30 x 2 x 510 mm
131 0963	Cover 30 x 62 x 30 x 2 x 1.010 mm
131 1427	Cover 30 x 62 x 30 x 2 x 1.520 mm
131 0910	Cover 30 x 62 x 30 x 2 x 2.020 mm
131 1653	Cover 30 x 62 x 30 x 2 x 3.030 mm



Sound insulation plates

Part No.	Description
144 0443	Sound insulation plate, perforated sheet on both sides, 1.000 x 500 x 50 mm
144 0326	Sound insulation plate, perforated sheet on both sides, 1.000 x 1.000 x 50 mm
144 0669	Sound insulation plate, perforated / solid sheet, 1.000 x 500 x 50 mm
144 0666	Sound insulation plate, perforated / solid sheet, 1.000 x 1.000 x 50 mm

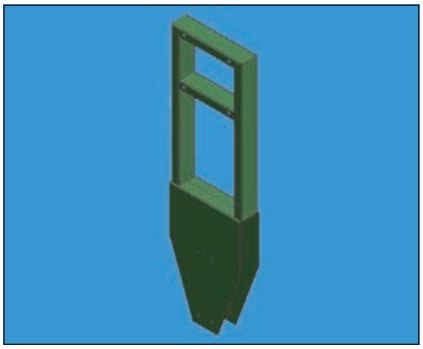


Window frames with window (red pane)

Part No.	Description
141 0529	Window frames with window, red pane, 1.000 x 500 mm
141 0438	Window frames with window, red pane, 1.000 x 1.000 mm

Mounting socket for *KEMPER* extraction / telescopic arm

Part No.	Description
131 0950	Mounting socket for *KEMPER* extraction / telescopic arm

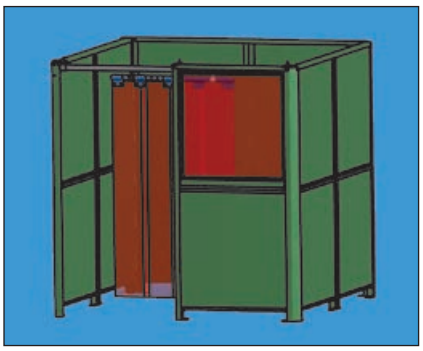


Booth entrance with movable strips

Part No.	Description
95 000 003 000	Booth entrance for booths with movable 2 m strips Strips 1,8 m, 33 % overlap, dimensions 300 x 2 mm

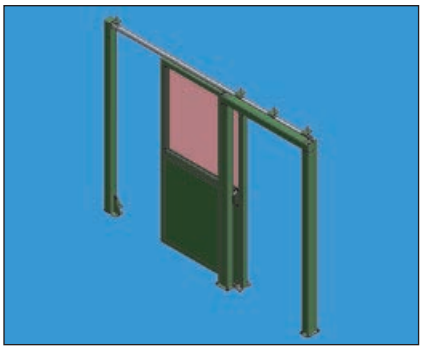
Booth entrance with fixed element and movable strips

Part No.	Description
95 000 003 100	Booth entrance for 2 m booths with fixed element including windows and movable strips Strips 1,8 m, 33 % overlap, dimensions 300 x 2 mm

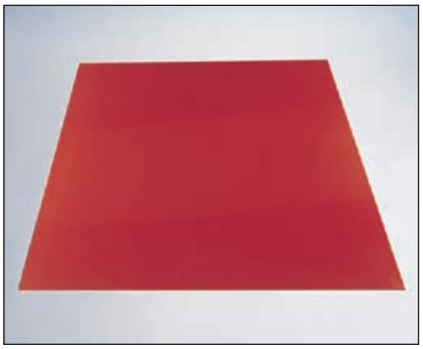


Booth entrance with fixed element and movable door

Part No.	Description
95 002 002 000	Booth entrance for 2 m booths with fixed element and movable door



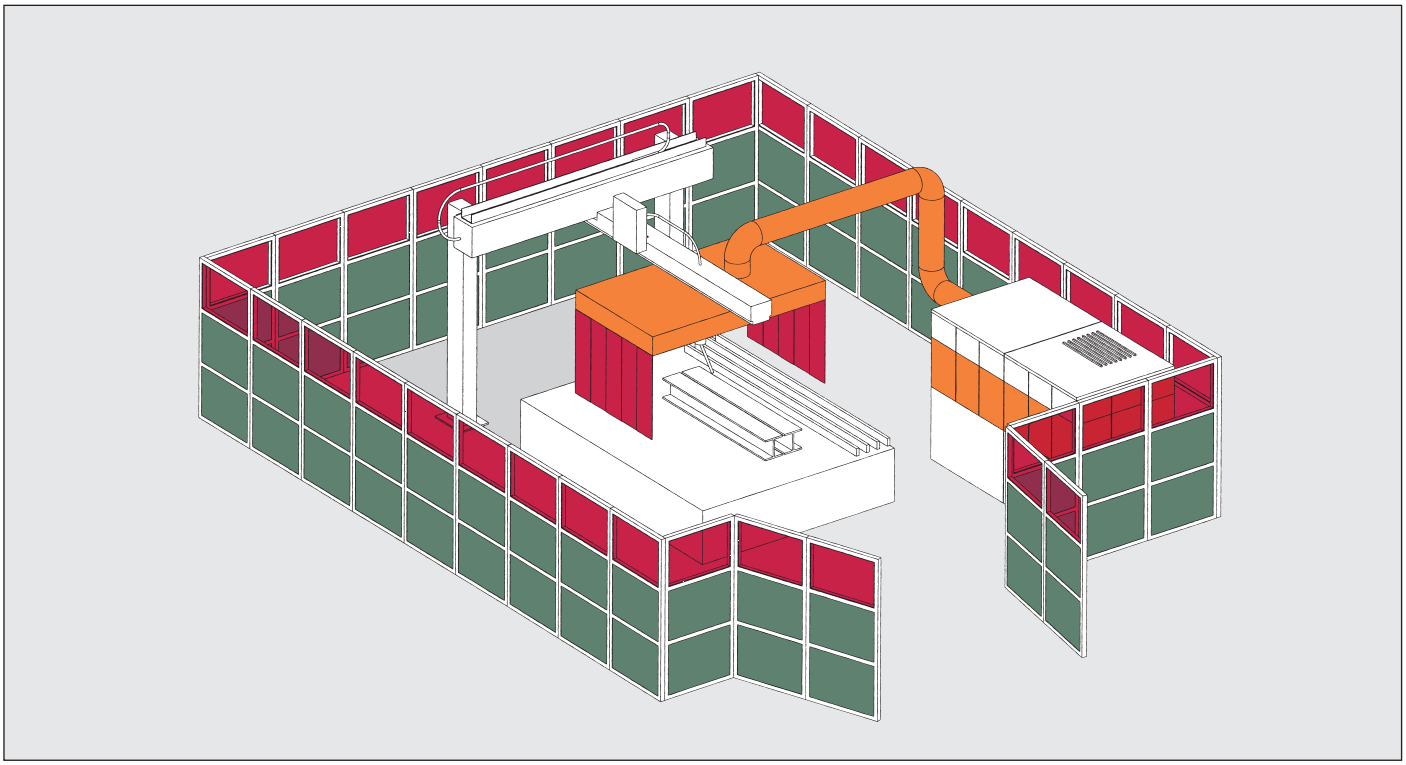
Rigid screens



Rigid screens
- rigid screens for use in protection cabins

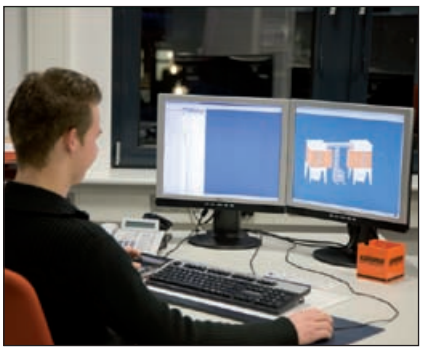
Part No.	Description
70 300 166	Rigid screen, red shade 3, UV protection, max. 1.250 x 2.500 mm, thickness: 3 mm
70 300 167	Rigid screen S9, dark green shade 6, UV protection, max. 1.250 x 2.500 mm, thickness: 3 mm
	Cut to measured sizes (+ 10 % to cover wastages)

Protection cabins for robotic/laser systems



The sound insulating elements described on pages 195/196 are also suitable to construct complete robotic/laser protection booths when used in conjunction with the rigid screens described on page 203.
The sound insulating elements reduce the noise levels considerably and protect the working areas. By means of the integrated rigid screens (dark green or red) the working process of the laser or robotic system can be monitored easily and safely.

These booths can be designed by *KEMPER* engineers especially to your individual requirements combining extraction and filter unit, protection cabins and robotic/laser systems.



Planning and calculation by means of CAD equipment

Installation – service – maintenance by KEMPER specialists

After-Sales-Service

Personal Safety Equipment

Eye protection

Protection against sunlight

While working outdoors the eyes have to be protected against reflection and dazzle of ultraviolet rays. Wearing of glasses with smoked polycarbonate or neutral mirror lenses is recommended. Mirrored lenses are suitable for indoors as well as for outdoor use. At the same time they reduce reflection and dazzle.

Protection against mechanical impact

During mechanical processing of metal or similar activities, flying debris could endanger the eyes. Glasses with neutral polycarbonate lenses are recommended. Depending on the humidity and weather conditions, anti-fog lenses should be deployed.

Protection during gas welding

The UV and IR rays, which arise during the gas welding are just as dangerous for the eyes as the small sparks, which are flying around during the welding work. Goggles with protection levels between DIN 3 - 7, depending on the welding type, are recommended. These are available both as polycarbonate goggles or as glass guards.

Protection during electric welding

The UV and IR rays, which are generated during the electric welding process, could harm the eyes permanently. The high illumination could lead to short term damages. For these activities only a holohedral protection of the face and an optical filter of the protection levels DIN 9 - 13 are tolerable (EN 175).
The most suitable are the auto darkening welding helmets.

KEMPER autodark®
the welding protection helmets

The eye covers the most important part of human perception. Therefore it needs special protection during the welding process. During welding, a wide spectrum of hazardous rays are released, which can damage the human eye permanently.

autodark® welding helmets from *KEMPER* offer the highest level of protection for this sensitive organ. Due to the auto darkening filter, damaging ultraviolet and infrared rays will be kept away from the welders eye. The actual helmet shell is designed to offer an extra protection against heat, sparks and welding spatters.

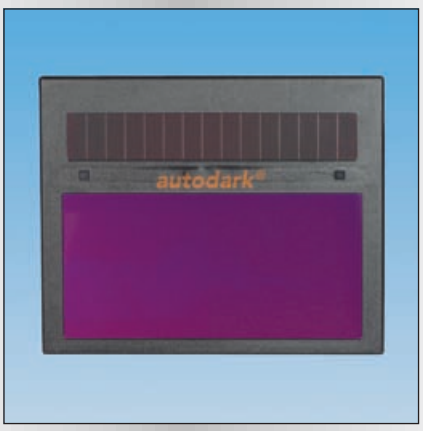
Contrary to conventional welding helmets with a fixed shade, the automatic filter will only darken during the actual welding process, otherwise it will stay transparent. The filter will recognise the dangerous rays within milliseconds and switches from light to dark.

The *KEMPER autodark®* welding helmet offers a very high comfort. It is individually adjustable for every head form and offers also optimal comfort and protection to spectacle wearers.
All controls are located at the outside of the helmet, to facilitate the use of the controls with welding gloves.

KEMPER autodark® welding helmets not only assist the safety during the welding process but also increase the productivity. Both hands can be kept free and the view on the welding joint is clear. The expansion on production will pay for the investment quickly.

For your safety all *autodark®* products are constantly quality tested.

The autodark® weldi
Controlled by a



The core – The lense
For the *autodark*® welding helmets, *KEMPER* is only using high quality liquid cristal technology. This guarantees fastest reacting times down to 0,00008 seconds.

KEMPER autodark® optics have a microcontroller that precisely adjusts the level of protection. This is the only way to match the level of protection to the welding conditions.

The viewing area of the *autodark*® electro optical filter has the dimensions of 95 x 47 mm and therefore has 41 % more visibility than conventional helmets.

The solar cells ensure a maintenance free operation. A battery change is not necessary.

Made in Germany! by KEMPER

For constant use
The newly developed helmet shell is not only ideal protection against welding spatters, grinding sparks and heat, but also offers more comfort due to its lower weight.

The robust synthetic material of the helmet shell is UV/IR ray and shock resistant. Consequently a long life cycle of the helmet shell and lense is guaranteed.

Because the helmet is designed as a back loader, the electro optical filter is protected against welding sparks and spatters.

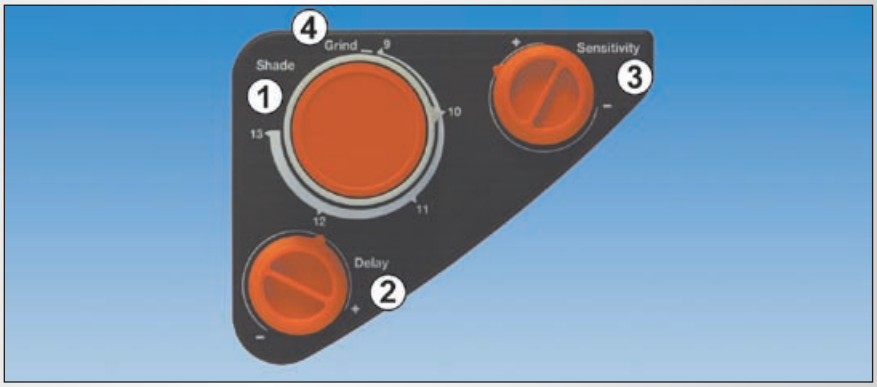
A bearing role
The head band of the *autodark*® welding helmet offers numerous possibilities for adjustment. A replaceable sweat band provides a firm hold and protects against irritating sweat. It also offers optimal comfort and protection to spectacle wearers.

ng shield by KEMPER
microcontroller!

controlled by a microcontroller

The new digital control that uses a micro-controller is very reliable and controls the darkening of the display more accurately than with conventional welding shields.

The distributing centre of the *autodark*® 650/750



① **Shade**
By this button the shade can be regulated. Due to the stepless adjustment from shade 9 to 13, the *autodark*® helmet can be used for various welding applications. For accurate adaption to each welding process, the shade can be changed during the actual welding process. The darkening of the display is set by a microcontroller and thus can be controlled more accurately than with conventional welding shields.

② **Delay**
Rotary button used to control the time taken for the *autodark*® cassette to return to the light state after the welding is completed. By turning this button the switching time is adjusted to suit your personal needs.

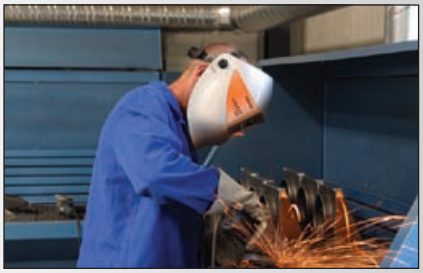
③ **Sensitivity** **(only *autodark*® 750)**
This function adjusts the switching sensitivity. In the most sensitive setting the *autodark*® cassette is activated by low amperage welding processes. Due to this function the helmet is ideal for a wide variety of welding processes and environments.

④ **Grind on/off** **(only *autodark*® 750)**
Switch to change into the grind mode. This allows the welder to carry out grinding jobs without the need of taking off the welding helmet. The auto darkening function is not active during the grind mode. This means ease of use and easier handling on the job.


MIG / MAG


Manual metal arc welding


WIG / TIG


Grinding

The right model for every application

***autodark*® 450**
Welding protection helmet without cassette for *autodark*® electro optical filter or passive lenses.

Part No.	Description
74 800 450	Complete helmet, incl. headband, without electro optical filter

***autodark*® 550**
The basic model with fixed shade.
Solar powered welding protection helmet – no battery change required.
Shade 11, controlled by a microcontroller, wide viewing area (95 x 47 mm)

Technical data

Switching time (23 °C)	0,0005 sec.	Clearing time	0,4 sec.
Light shade	DIN 3	Optical class	1/1/1
Dark shade	DIN 11	Weight	505 g
UV protection	DIN 15	Warranty	2 years
IR protection	DIN 14	Colour	black

Part No.	Description
74 800 550	*autodark*® 550 with microcontroller Complete helmet, incl. electro optical filter and head band

***autodark*® 650**
Flexible helmet with stepless adjustment of the darkening shade that is controlled by a micro-controller and variable delay. Solar powered welding protection helmet – no battery change required.
Shade 9 - 13, wide viewing area (95 x 47 mm)

Technical data

Switching time (23 °C)	0,0001 sec.	Clearing time	0,2 - 0,8 sec.
Light shade	DIN 4	Optical class	1/1/1
Dark shade	DIN 9 - 13	Weight	548 g
UV protection	DIN 15	Warranty	2 years
IR protection	DIN 14	Colour	blue

Part No.	Description
74 800 650	*autodark*® 650 with microcontroller Complete helmet, incl. electro optical filter and head band

***autodark*® 750**
The top model with variable shade that is controlled by a microcontroller and delay, adjustable sensitivity and grind mode.
Solar powered welding protection helmet – no battery change required.
Shade 9 - 13, wide viewing area (95 x 47 mm)

Technical data

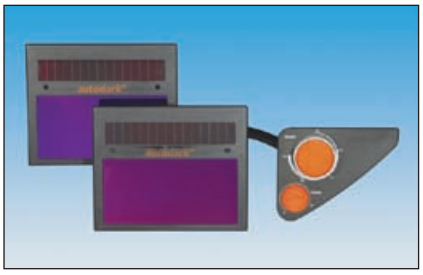
Switching time (23 °C)	0,0001 sec.	Clearing time	0,2 - 0,8 sec.
Light shade	DIN 4	Optical class	1/1/1
Dark shade	DIN 9 - 13	Weight	549 g
UV protection	DIN 15	Warranty	2 years
IR protection	DIN 14	Colour	silver

Part No.	Description
74 800 750	*autodark*® 750 with microcontroller Complete helmet, incl. electro optical filter and head band

autodark®- accessories

autodark® electro optical filter

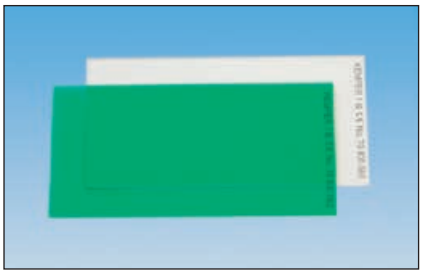
Solar powered electro optical filter - no battery change required,
wide viewing area (95 x 47 mm), Euro norm outer dimensions (110 x 90 mm), controlled by a microcontroller



Part No.	Description
74 800 500	Cassette for *autodark*® 550, dark shade DIN 11 incl. microcontroller
74 800 600	Cassette for *autodark*® 650, dark shade DIN 9 - 13 incl. microcontroller
74 800 700	Cassette for *autodark*® 750, dark shade DIN 9 - 13 incl. microcontroller

Inner protection lens

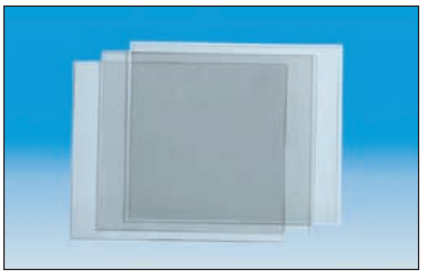
For *autodark*® 450 / 550 / 650 / 750 to protect the electro optical lens against dirt, dust and scratches. The protection lens DIN 2 increases the level of optic protection. Mainly for use with *autodark*® 550.



Part No.	Description
70 800 560	107 x 51 x 1 mm, DIN 0, 10 per set
70 800 562	107 x 51 x 1 mm, DIN 2, 10 per set

Outer protecion lens

For *autodark*® 450 / 550 / 650 / 750 to protect the electro optical lens against dirt, dust and scratches.



Part No.	Description
70 874 005	90 x 110 x 1 mm, DIN 0, 10 per set
70 874 011	90 x 110 x 2 mm, DIN 0, DINplus certified, 10 per set

Head cap

To protect the head against cold, sparks and welding spatters.
Made out of breathable, soft and fire resistant material.
Velcro fastener for an easy fit.

Part No.	Description
70 800 583	Type A, cotton
70 800 584	Type B, cotton lined (for cold environment)

Neck protection

To protect the neck against cold, sparks and welding spatters.
Made out of fire resistant leather. Easy to attach.

Part No.	Description
70 800 585	Neck protection / front
70 800 586	Neck protection / back

Head band

Provides firm hold and is very absorbent.
10 per set

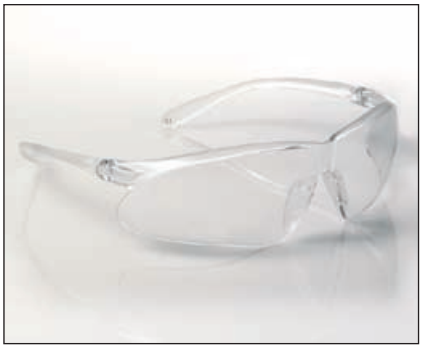
Part No.	Description
70 800 588	Head band with micro fibre coating, 100 % Polyester
70 800 582	Head band, cotton lined

Protective goggles for welding and cutting

***KEMPER* protective goggles "Sport"**

Trendy protection goggles with polycarbonate single lenses and optical class 1.

· field of vision 180°
· high wearing comfort
· earpiece with ergonomical bend
· anti-fog



Protective goggles Sport, transparent

Part No.	Description
72 100 100	Protective goggles, Sport Colour: transparent, weight: 22 g

Protective goggles Sport, smoke

Part No.	Description
72 100 101	Protective goggles, Sport Colour: black toned, weight: 22 g

Protective goggles Sport, flashblue

Part No.	Description
72 100 102	Protective goggles, Sport Colour: flashblue metallised, weight: 22 g

Protective goggles for welding and cutting

Protective goggles XL
· mono crystal made out of polycarbonate, optically tested
· ventilation system in the side protection
· can be worn above corrective lenses
· adjustable earpiece

Part No.	Description
72 101 100	Protective goggles XL Colour: transparent, weight: 22 g
72 101 101	Protective goggles XL Colour: green DIN 5, weight: 22 g

Protective goggles Falco
Mono crystal glasses with scratch-resistant polycarbonate in wrap around design, and spherical lens.

· friction adjustment of the outer lens
· adjustable earpiece
· scratch-resistant polycarbonate

Part No.	Description
72 102 100	Protective goggles Falco Colour: transparent, weight: 35 g
72 102 103	Protective goggles Falco Colour: transparent, anti-fog, weight: 35 g
72 102 101	Protective goggles Falco Colour: green DIN 5, weight: 35 g

Welding protective goggles Eco
· easy replacement of the glasses
· crystal glass, diameter 50 mm
· flexible head band for a perfect fitting
· side ventilation opening

Part No.	Description
72 104 100	Protective goggles Eco, neutral
72 104 101	Protective goggles Eco, DIN 3
72 104 102	Protective goggles Eco, DIN 4
72 104 103	Protective goggles Eco, DIN 5
72 104 104	Protective goggles Eco, DIN 6
72 104 105	Protective goggles Eco, DIN 7
72 104 106	Protective goggles Eco, DIN 8

Protective visors

Protective visors for gas welding
· fold-away visor
· very light frame made out of allergy tested material
· elastic headband
· crystal glasses, diameter 50 mm
· indirect ventilation valve

Part No.	Description
72 103 100	Protective visor, Colour: green DIN 5, weight: 35 g

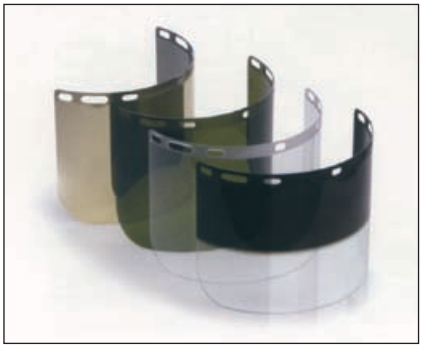
Half cap for protective visor
· ergonomically half cap made out of dermatological tested material
· sweat band made out of cotton
· adjustable head band
· fold-away by 90°
· Weight: 209 g

Part No.	Description
72 105 100	Half cap for protective visor
72 105 101	Half cap Eco for protective visor

Hardhat attachment fitting
For fitting of protection of protection visors.
Can easily be fixed to conventional hardhats.

· fold-away by 90°
· Weight: 95 g

Part No.	Description
72 106 100	Universal bracket, aluminium, clip holder
72 106 101	Universal bracket, plastic, elastic band holder



Protection visors for half caps and hardhat attachments
· 2 mm visor of die casted polycarbonate, scratch-resistant
· also available in scratch-resistant polycarbonate (1 mm)
· optical class 1

Part No.	Description
72 107 100	Neutral, 1 mm
72 107 101	Neutral
72 107 102	Neutral, acetate 1 mm
72 107 103	Neutral, metallised
72 107 104	Green, DIN 3
72 107 105	Green, DIN 3, metallised
72 107 106	Green, DIN 5
72 107 107	Green, DIN 5, metallised
72 107 108	Green, DIN 11

Protective shields

Welding shield „Easy”
· plastic handle and plastic clamp frame
· conforms to EN 175
· for glasses 90 x 110 mm
· made from plastic (which is reinforced with glass fibre)

Part No.	Description
280 010 010	Hand shield „Easy”

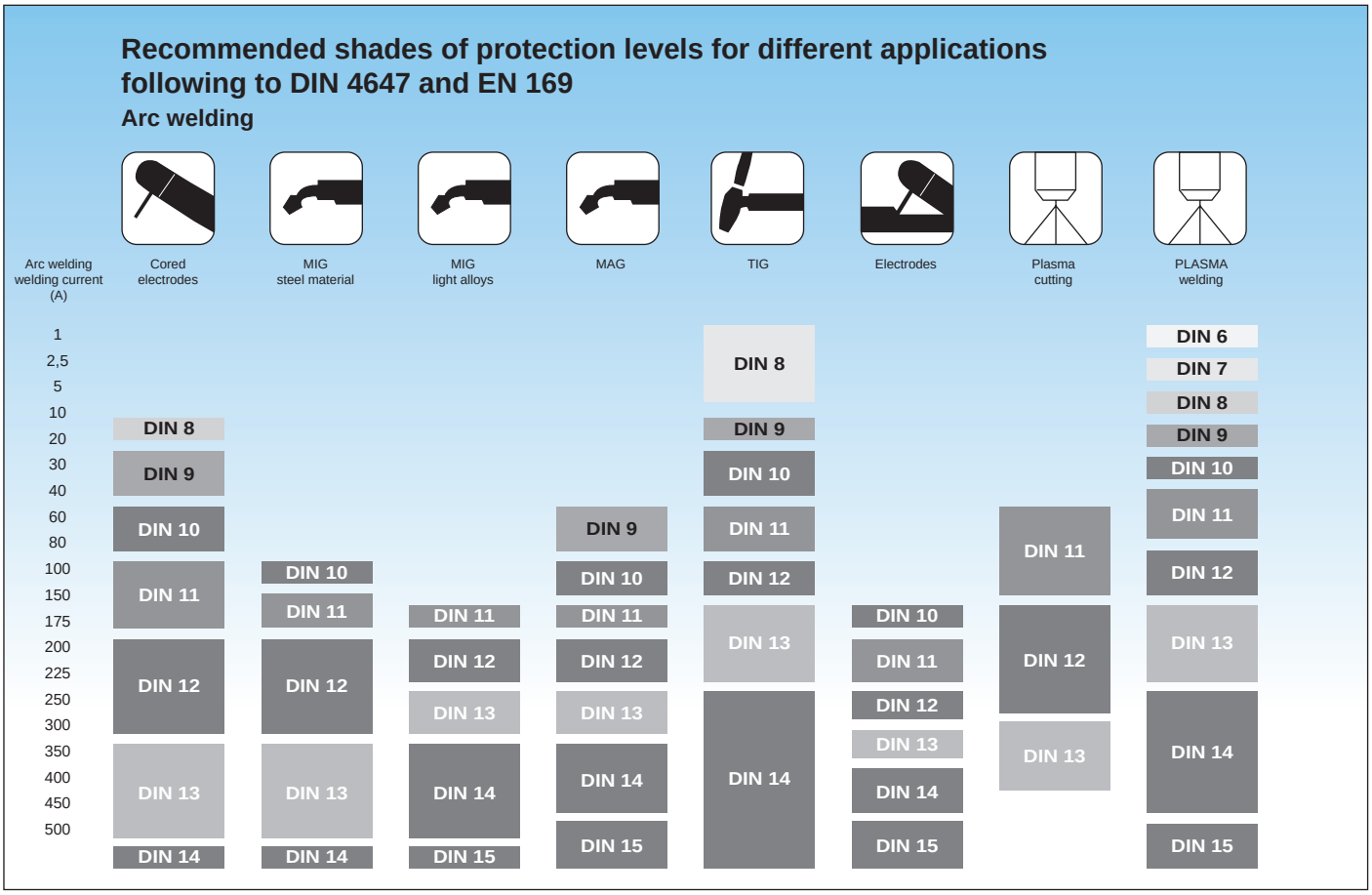
Welding shield „Free”
· everything at a glance due to a mechanic in the handle bar, a vision panel can be opened
· conform to EN 175
· for glasses 90 x 110 mm
· made from plastic (which is reinforced with glass fibre)

Part No.	Description
280 010 020	Hand shield „Free”

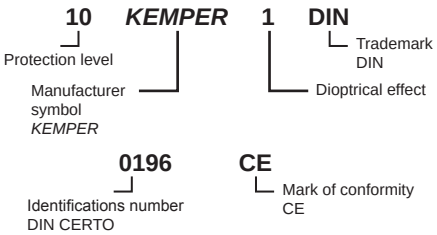
Welding shield „Air”
· integrated extraction, connection Ø 45 mm
· conforms to EN 175
· for glasses 90 x 110 mm
· made from plastic (which is reinforced with glass fibre)

Part No.	Description
280 010 030	Hand shield „Air”

Welding cover lenses



Every welding cover lens is furnished with an identification code, which indicates the protection level in DIN, the manufacturer, the dioptrical effect and the test institute.



Radiation protection of the welding cover lenses

In the UV-spectral field, with a wavelength below 400 nm and with a wavelength beyond 800 nm the radiation is very harmful for the human eye.

UV radiation causes chemical variations on the cornea and on the retina. The radiation with a wavelength below 320 nm causes pinkeye while the long wave UV radiation causes fluorescence, which leads to a decrease of the contrast. In the field of 300 nm and shorter wavelengths the UV radiation angers the skin and kills the germs.

The most harmful UV radiation exists in the area of the wavelengths about 260 nm, because in this field the UV radiation will be absorbed by dint of nucleic acid in the cell nucleus. The cells die off an neoplasm arise. The UV radiation endangers the skin and also the eyelids as well as the anterior chamber of the eye are at risk. The epithelium swells on.

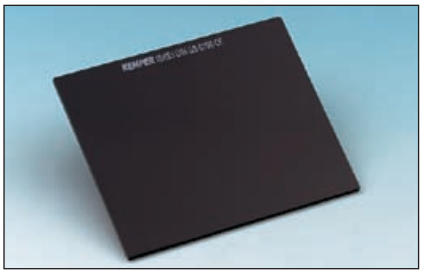
The IR radiation causes thermal variations on the cornea, in the eye lens and on the retina. IR radiation causes eye cataract. *KEMPER* welding cover lenses protect sufficiently against the above mentioned harmful radiation and enable a good resolution. The transmission is in the field of the wavelengths between 560 and 565 nm, (in the field of the maximum sensitiveness of the human eye).

Metallised welding cover lens

Metallised welding cover lens is coated with an adhering metal layer. The metallised welding cover lens additionally reflects a part of the IR radiation. The use of these cover lenses is recommended during the welding process in closed boxes, welding of reflecting materials, on using high current, during the MIG, MAG, TIG welding processes and during plasma cutting and welding. The metallised surface reflects the heat radiation. The heating of the welding cover lens will be reduced considerable. Long-lasting usage of the standard glass below the mentioned conditions could lead to overheating and endangering of the eyes.

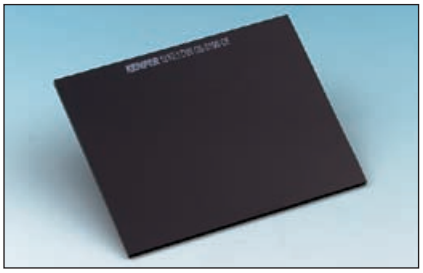
Passive glasses

Welding protection glasses, 90 x 110



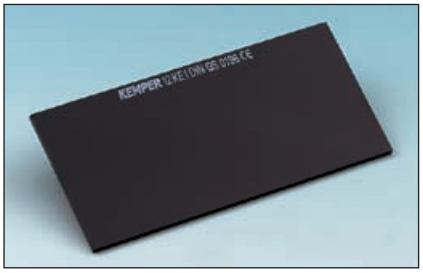
DIN	Set of 10 Part No.	100 units/box Part No.
3	70 850 003	70 850 103
4	70 850 004	70 850 104
5	70 850 005	70 850 105
6	70 850 006	70 850 106
7	70 850 007	70 850 107
8	70 850 008	70 850 108
9	70 850 009	70 850 109
10	70 850 010	70 850 110
11	70 850 011	70 850 111
12	70 850 012	70 850 112
13	70 850 013	70 850 113
14	70 850 014	70 850 114

Welding protection glasses, 85 x 110



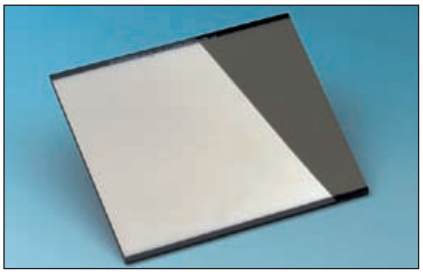
DIN	Set of 10 Part No.	100 units/box Part No.
8	70 851 008	70 851 108
9	70 851 009	70 851 109
10	70 851 010	70 851 110
11	70 851 011	70 851 111
12	70 851 012	70 851 112
13	70 851 013	70 851 113
14	70 851 014	70 851 114

Welding protection glasses, 51 x 108



DIN	Set of 10 Part No.	100 units/box Part No.
5	70 852 005	70 852 105
6	70 852 006	70 852 106
7	70 852 007	70 852 107
8	70 852 008	70 852 108
9	70 852 009	70 852 109
10	70 852 010	70 852 110
11	70 852 011	70 852 111
12	70 852 012	70 852 112
13	70 852 013	70 852 113
14	70 852 014	70 852 114

Welding protective glasses, gold metallised, 90 x 110



DIN	Set of 10 Part No.	100 units/box Part No.
5	70 860 005	70 860 105
6	70 860 006	70 860 106
7	70 860 007	70 860 107
8	70 860 008	70 860 108
9	70 860 009	70 860 109
10	70 860 010	70 860 110
11	70 860 011	70 860 111
12	70 860 012	70 860 112
13	70 860 013	70 860 113
14	70 860 014	70 860 114

Protection glasses / protection lenses

Protection glasses, mineral glass, clear

Size	Set of 10 Part No.	100 units/box Part No.
90 x 110	70 870 001	70 870 101
85 x 110	70 870 002	70 870 102
51 x 108	70 870 004	70 870 104

1.000 - hours - glass, clear, CR 39, 1,5 mm

Size	Set of 10 Part No.	100 units/box Part No.
90 x 110	70 872 001	70 872 101
85 x 110	70 872 002	70 872 102
51 x 108	70 872 004	70 872 104

Protection glasses, mineral glass, yellow coated

Size	Set of 10 Part No.	100 units/box Part No.
90 x 110	70 871 001	70 871 101
51 x 108	70 871 004	70 871 104

Lenses, round, 50 mm ø

DIN	Set of 10 Part No.	100 units/box Part No.
3	71 502 003	71 502 103
4	71 502 004	71 502 104
5	71 502 005	71 502 105
6	71 502 006	71 502 106
7	71 502 007	71 502 107
8	71 502 008	71 502 108
9	71 502 009	71 502 109
10	71 502 010	71 502 110
11	71 502 011	71 502 111
12	71 502 012	71 502 112
13	71 502 013	71 502 113
14	71 502 014	71 502 114

Lenses, gold metallised, round, 50 mm ø

DIN	Set of 10 Part No.	100 units/box Part No.
9	71 504 009	71 504 109
10	71 504 010	71 504 110
11	71 504 011	71 504 111
12	71 504 012	71 504 112
13	71 504 013	71 504 113
14	71 504 014	71 504 114

Lenses, gold metallised, oval, 62 x 52 mm

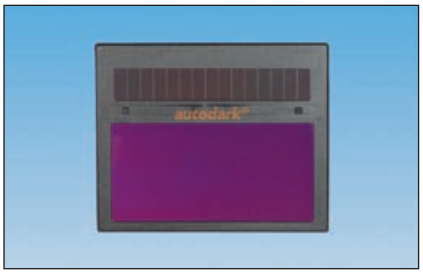
DIN	Set of 10 Part No.
4	71 503 004
5	71 503 005
6	71 503 006

Lenses, Transparent, shatterproved

Size	Set of 10 Part No.	100 units/box Part No.
50 mm ø	70 501 000	71 501 100

Active protective filter

autodark® 550 welding protective filter with solar operation, no battery exchange needed, cassette 90 x 110 mm, field of vision 95 x 47 mm, controlled by a microcontroller

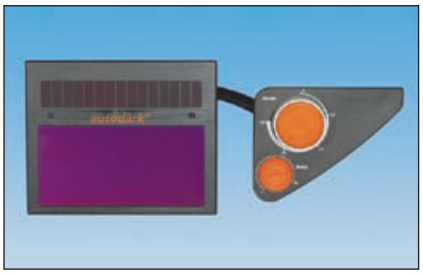


Technical data

Switching time (23 °C)	0,0005 sec.	Clearing time	0,4 sec.
Light shade	DIN 3	Optical class	1/1/1
Dark shade	DIN 11	Weight	98 g
UV protection	DIN 15	Warranty	2 years
IR protection	DIN 14		

Part No.	Description
74 800 500	Cassette incl. microcontroller

autodark® 650 welding protective filter with solar operation, no battery exchange needed, cassette 90 x 110 mm, field of vision 95 x 47 mm, controlled by a microcontroller

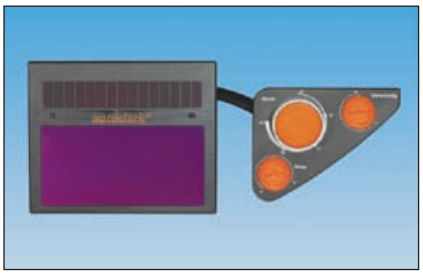


Technical data

Switching time (23 °C)	0,0001 sec.	Clearing time	0,2 - 0,8 sec.
Light shade	DIN 4	Optical class	1/1/1
Dark shade	DIN 9 - 13	Weight	123 g
UV protection	DIN 15	Warranty	2 years
IR protection	DIN 14		

Part No.	Description
74 800 600	Cassette incl. microcontroller

autodark® 750 welding protective filter with solar operation, no battery exchange needed, cassette 90 x 110 mm, field of vision 95 x 47 mm, controlled by a microcontroller

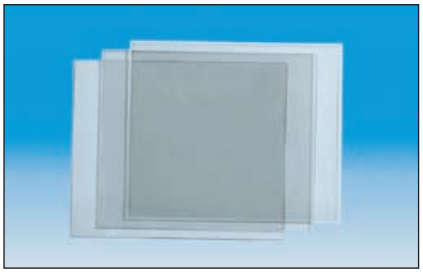


Technical data

Switching time (23 °C)	0,0001 sec.	Clearing time	0,2 - 0,8 sec.
Light shade	DIN 4	Optical class	1/1/1
Dark shade	DIN 9 - 13	Weight	124 g
UV protection	DIN 15	Warranty	2 years
IR protection	DIN 14		

Part No.	Description
74 800 700	Cassette incl. microcontroller

Inner and outer protection lenses for _KEMPER autodark_® and other makes



Size	Set of 10 Part No.	100 units/box Part No.
51 x 108 x 1 mm	70 874 001	70 874 101
100 x 110 x 1 mm	70 874 002	70 874 102
86 x 110 x 1 mm	70 874 003	70 874 103
51 x 107 x 1 mm	70 800 560	70 800 563
90 x 110 x 1 mm	70 874 005	70 874 105
90 x 110 x 2 mm	70 874 011	70 874 111
100 x 120 x 1 mm	70 800 570	70 800 573
97 x 110 x 1 mm	70 874 007	70 874 107
42 x 90 x 1 mm	70 874 008	70 874 108
54 x 104 x 1 mm	70 874 009	70 874 109
96 x 160 x 1 mm	70 874 010	70 874 110

KEMPER autoflow XP® – comfortable and powerful

The perfect design of the new *KEMPER autoflow XP®* combines the best possible breathing protection with comfortable working conditions when welding, cutting or grinding.
This breathing protection system is completely self-sufficient and allows freedom of movement. The battery-powered device uses a fan to produce a constant pressure in the protective shield, so that the hazardous gases and materials generated cannot penetrate. At the same time, the unit filters the air with a particle filter that has an efficiency of 99,8%.

With its high performance combined with low weight and compact design, the *KEMPER autoflow XP®* will win you over.
The blower unit is fastened to a comfortable carrying belt that is unobtrusive, allowing you to work easily in confined areas, without getting tired by the end of the day.

The *KEMPER autoflow XP®* blowers can be operated at four levels: 150, 170, 190 and 210 l/min. The fan contains a brushless DC motor. The motor life is three times longer than conventional blower motors.

The device's prefilter ensures that the main particulate filter lasts longer and significantly reduces operational costs. The system maintains a constantly high extraction rate.

A spark arrester of stainless steel mesh is built in front of the prefilter to minimise the risk of filter fires.

The integrated main filter ensures the user has clean, contaminant-free air in the breathing zone.

Microcontroller Unit - Made in Germany

KEMPER autoflow XP® blower unit has an electronic control system with automatic flow control, including an acoustic warning.

The flow rate is continuously monitored and automatically adjusted to the level of saturation in the filter, so that the legally required airflow is adhered to at all times. In the event of the filter being too contaminated, or if battery power is falling, the user is warned that the prescribed airflow is not being reached by means of an acoustic signal.

KEMPER autoflow XP® - the blower respirator system

Control:
The panel shows the *KEMPER autoflow XP®* user the level of filter saturation, the battery strength and the airflow.
The blower unit is operated with two buttons on the panel:

· **ON / + :** power on and change to higher airflow levels

· **OFF / - :** power off and change to lower airflow levels

Quality:
The *KEMPER autoflow XP®* is supplied in robust, high-quality, safe transport packaging suitable for continuous use when mobile. There is no need for any additional investment in a case to protect this hi-tech unit during transport and storage. The case has sufficient space to allow all components and accessories to be easily transported.

Benefits at a glance:

- Lightweight
- Compact design
- Convenient carrying belt
- Simple operation
- Allows you to work in confined areas
- Brushless DC motor
- 99,8% filter efficiency
- Automatic flow control
- Audible warning signals
- Head covering can be adjust to suit the user's head

Versions:
The *KEMPER autoflow XP®* can be used for both welding and grinding work, and functions with a protective visor just as well as with the *KEMPER autodark® 750*. Both can be individually adjusted to fit the user and are thus very comfortable to wear. They also offer spectacle wearers the best possible protection.

KEMPER autoflow XP®
with *autodark®* 750

KEMPER autoflow XP®
with protection hood

Included in the package:

- *KEMPER autoflow XP®*
- Protective visor or *KEMPER autodark® 750* (depending on model)
- Carrying belt
- Air hose
- Charger
- User manual
- Carrying case

freshflow® - the fresh air unit

The fresh air unit
The supply of fresh air is very important and necessary during working in enclosed areas and at working areas with high concentrations of harmful substances or low levels of oxygen in the breathing air.
The *KEMPER freshflow*® fresh air unit is connected to the compressed air system by a quick-release fastener. The clean breathing air is passed through a pressure reducing regulator and feeds into the welding protection hood, where an overpressure is generated. The ingression of harmful substances into the breathing zone of the user is not possible and the supply of sufficient oxygen is ensured.

Safety
The *KEMPER freshflow*® fresh air unit incorporates a pressure reducing regulator with an integrated volume flow control. For this reason the permanent supply of the legally obligated volume of breathing air is ensured. To increase the quality of the breathing air it is recommended to connect a pressure air filter unit. This unit is supplied with a combined gas-/particle filter and is available as additional equipment for up to two users.

Bearing comfort
The *KEMPER freshflow*® fresh air unit combines high power together with compact construction and little weight. The fresh air unit is strapped to the user‘s waist, also on a minimum of space there will not be any problems.
The cushioned, comfortable belt and the low weight of the *autoflow*® fan unit are also conductive to user comfort. It is possible for the user to work a whole day without getting tired.

The combination
The *KEMPER freshflow*® system as well as the *KEMPER autoflow*® system can be combined either with the protection hood or with the top model out of the *KEMPER autodark*® range, the *KEMPER autodark*® 750.
The automatic welding filter utilises a variable stepless adjustable shade (DIN 9 - 13), an adjustable switching time and an adjustable sensitivity of the sensors. The user is protected against dangerous rays which can be generated during the welding process. The *autodark*® 750 has an additional grinding mode for grinding work, which can be switched on and off at the operation element at the outside of the helmet.

The right model for every application

KEMPER autoflow XP® with *autodark*® 750

Portable, battery driven fan respiratory unit connected to an *autodark*® 750 welding protection helmet suitable for welding and grinding work. The welding protection helmet consists of an automatic electro optical filter with variable darkening shade, adjustable delay, adjustable sensitivity of the sensors and grind mode.

Technical data *autoflow XP*®		Technical data *autodark*®	
Volume flow:	150 - 210 l/min	Switching time (23 °C):	0,0001 sec.
Weight:	aprox. 990 g	Light shade:	DIN 4
Operating time of battery:	7 - 14 h*	Dark shade:	DIN 9 - 13

Part No.	Description
70 830 750 XP	*KEMPER autoflow XP*® with *KEMPER autodark*® 750 Fan unit with welding protection helmet, incl. connection hose, charger, battery, heavy duty belt and transport case.

* Depending on the saturation of the filters and the individual airflow settings.

KEMPER autoflow XP® with protection hood

Portable, battery driven fan respiratory unit connected to a protection hood suitable for different applications where an extraction of the harmful substances not is possible.

Technical data *autoflow XP*®	
Volume flow:	150 - 210 l/min
Weight:	aprox. 990 g
Operating time of battery:	7 - 14 h*

Part No.	Description
70 830 350 XP	*KEMPER autoflow XP*® with *KEMPER* protection hood Fan unit with protection hood, incl. connection hose, charger, battery, heavy duty belt and transport case.

* Depending on the saturation of the filters and the individual airflow settings.

KEMPER freshflow® with *autodark*® 750

Portable, pressure air fed fan respiratory unit connected to an *autodark*® 750 welding protection helmet suitable for welding and grinding work. The welding protection helmet consists of an automatic electro optical filter with variable darkening shade, adjustable delay, adjustable sensitivity of the sensors and activatable grind mode.

Technical data *freshflow*®		Technical data *autodark*®	
Volume flow:	160 l/min	Switching time (23 °C):	0,0001 sec.
Weight:	aprox. 250 g	Light shade:	DIN 4
Air pressure supply:	3 - 6 bar	Dark shade:	DIN 9 - 13

Part No.	Description
70 840 750	*KEMPER freshflow*® with *KEMPER autodark*® 750 Fan unit with welding protection helmet, incl. connection hose, heavy duty belt and transport case.

KEMPER freshflow® with protection hood

Portable, pressure air fed fan respiratory unit connected to a protection hood suitable for different applications in areas with high concentration of harmful substances or low concentration of oxygen.

Technical data *freshflow*®	
Volume flow:	160 l/min
Weight:	aprox. 250 g
Air pressure supply:	3 - 6 bar

Part No.	Description
70 840 350	*KEMPER freshflow*® with *KEMPER* protection hood Fan unit with protection hood, incl. connection hose, heavy duty belt and transport case.

Accessories and spare parts


Part No. 70 880 100

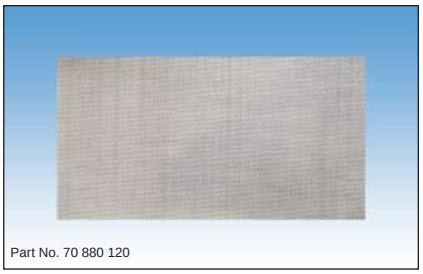
Spare filter

Part No.	Description
70 880 100	Spare filter


Part No. 70 880 110

Pre-filter mats

Part No.	Description
70 880 110	Pre-filter mats, (10 per set)


Part No. 70 880 120

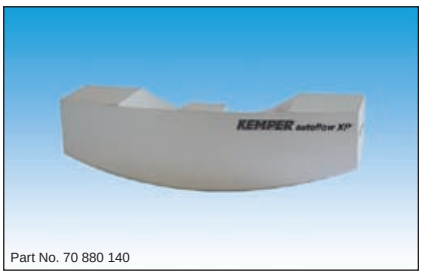
Spark protection mesh

Part No.	Description
70 880 120	Spark protection mesh


Part No. 70 880 130

Activated charcoal filter

Part No.	Description
70 880 130	Activated charcoal filter, (10 per set)



Part No. 70 880 140

Battery

Part No.	Description
70 880 140	Battery, for use as additional one or as spare battery

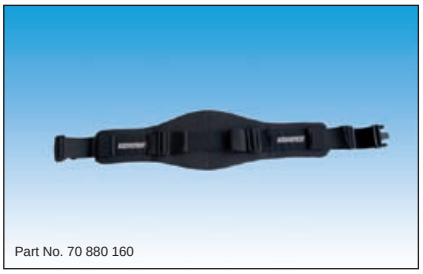
Part No. 70 880 150

Charger

Part No.	Description
70 880 150	Charger, 230 V

Heavy duty belt

Part No.	Description
70 880 160	Heavy duty belt


Part No. 70 880 160

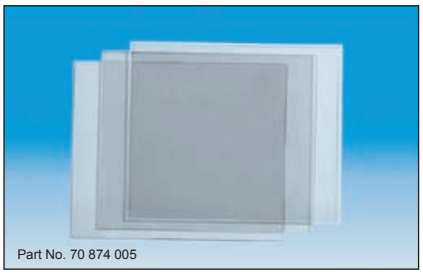
Accessories and spare parts for *KEMPER freshflow*®

Part No.	Description
70 820 01	Air pressure preparator with gas/particle filter
70 820 02	Spare filter for air pressure preparator
70 810 06	Air hose to connect welding protection helmet and air pressure unit.


Part No. 70 820 01

Accessories and spare parts for protection helmets

Part No.	Description
70 874 005	Outer protection lens DIN 0 for *autodark*® 750, 10 per set
70 800 560	Inner protection lens DIN 0 for *autodark*® 750, 10 per set
70 830 06	Spare visor for protection hood
70 830 05	Protection film for protection hood, 10 per set
70 800 589	Sweat band, cotton lined, for head band, 10 per set
70 830 04	Gasket for *autodark*® 750
70 830 07	Gasket for protection shield


Part No. 70 874 005

For convenient transport and safe storage

The *KEMPER autoflow XP*® and the *KEMPER freshflow*® units are delivered together with robust system cases constructed out of hard plastic. The fan unit and protection helmet can be stored safely and transported conveniently in these cases.
Furthermore all components of the system are always optimally protected.
Due to the standardised locking system all single cases are connectable to each other and can be transported together.

You also can order the system case as spare part with *KEMPER*.
Please ask for further spare parts and different measures.

Part No.	Description
70 830 08	System case out of plastic, colour: grey Measures inside (w x h x d): 281 x 360 x 272 mm

Welding gloves

Welding glove “Deluxe”
- Highest calf leather quality
- Oil and weather resistant
- Length: 36 cm

Part No.	Size
290 010 020	L
290 010 030	XL
290 010 040	XXL

Welding glove “Standard”
- straight, reinforced thumb
- better handling of the welding torch
- Length: 34 / 36 cm

Part No.	Size
290 020 020	L
290 020 030	XL

Welding glove “Eco”
- ring thumb
- Length: 34 cm

Part No.	Size
290 030 020	L
290 030 030	XL

TIG welding glove

TIG welding glove
- reverse pigskin
- reinforced thumb
- Length: 35 cm

Part No.	Size
290 040 010	M
290 040 020	L
290 040 030	XL
290 040 040	XXL

TIG welding glove ”soft”
- very soft goatskin
- gauntlet out of cracked calf leather
- Length: 35 cm

Part No.	Size
290 050 010	M
290 050 020	L
290 050 030	XL
290 050 040	XXL

Protective gloves
- 7,5 cm gauntlet
- Length: 35 cm

Part No.	Size
290 060 000	S
290 060 010	M
290 060 020	L
290 060 030	XL
290 060 040	XXL

Welding protective clothes

The *KEMPER* welding protective clothes are made out of flexible and very resistant calf leather.
All seams are sewed with fivefold KEVLAR–yarn and heavily stressed points have been additionally riveted or reinforced with double leather.

All products of this range have been tested by the German TÜV and accepted according to EN 470-1.

Welding protective jacket
Welding protective jacket with fire-resistant back.
More wearing comfort due to light weight.

Part No.	Size
290 100 010	M
290 100 020	L
290 100 030	XL
290 100 040	XXL
290 100 050	XXXL

Welding protection apron
Welding protection apron with adjustable strap system.

Part No.	Description	
290 110 020	Length: 107 cm	Width: 60 cm
290 110 040	Length: 107 cm	Width: 80 cm
290 110 060	Length: 122 cm	Width: 80 cm

Welding protective clothes

Welding protection trousers with chest protector
Welding protection trousers with chest protector and adjustable braces for a perfect fitting and an optimal protection.

Part No.	Size
290 120 010	M
290 120 020	L
290 120 030	XL
290 120 040	XXL

Welding protection sleeves
Welding protection sleeves with adjustable shoulder belts.
Will be worn above the jacket and protects against sparks and spatters.

Part No.	Description
290 130 000	Length: 58 cm

Welding protective spats
Welding protective spats will be worn above the shoe and the trousers as a protection against sparks and spatters.

Part No.	Description
290 140 036	Length: 36 cm
290 140 015	Length: 15 cm

Welding protective clothes

Welding headscarfes
Welding headscarfes are fire resistant and will be tied up behind the head. They are comfortable and offer the optimal protection. Also suitable to wear under the welding protection helmet.

Part No.	Description
290 150 009	Colour: orange
290 150 008	Colour: blue

Welding protective-caps
Welding protective-caps are the perfect protection against spatters and sparks, and can also be worn under the welding protection helmets. Outdoors they offer protection against the sun.

Part No.	Description
290 151 056	Size/Circumference: 56 cm, colour: blue
290 151 057	Size/Circumference: 57 cm, colour: blue
290 151 058	Size/Circumference: 58 cm, colour: blue
290 151 059	Size/Circumference: 59 cm, colour: blue
290 151 060	Size/Circumference: 60 cm, colour: blue
290 151 061	Size/Circumference: 61 cm, colour: blue
290 151 062	Size/Circumference: 62 cm, colour: blue

Part No.	Description
290 152 056	Size/Circumference: 56 cm, colour: orange
290 152 057	Size/Circumference: 57 cm, colour: orange
290 152 058	Size/Circumference: 58 cm, colour: orange
290 152 059	Size/Circumference: 59 cm, colour: orange
290 152 060	Size/Circumference: 60 cm, colour: orange
290 152 061	Size/Circumference: 61 cm, colour: orange
290 152 062	Size/Circumference: 62 cm, colour: orange

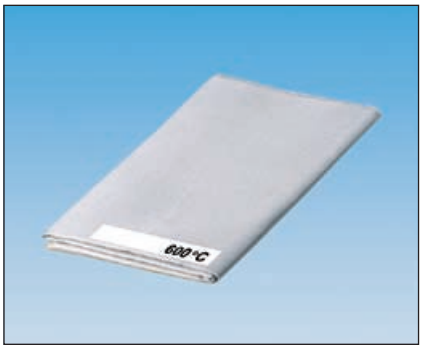
Welding hoods
These welding hoods out of fire retardant material can be attached to the headband of the welding protective screens by means of velcro fasteners.
The hoods protect against severe cold, sparks and spatters.

Part No.	Description
290 155 008	Colour: blue, fire resistant
290 155 009	Colour: orange, fire resistant

Baseball cap with impact protection
Baseball cap with integrated impact protection.
Made out of cotton. Including vents and adjustable head band.
Circumference: 52 cm - 62 cm.

Part No.	Description
290 156 008	Colour: blue
290 156 009	Colour: yellow

Welding protective blankets/spatter protective blankets



Welding blankets 600 °C
Prevents from welding spatters, flying sparks, grinding sparks.
Cloth made out of E-glass yarn with 9 µm filament diameter,
one-sided with alufix coating, asbestos-free.
Heat resistant up to 500 °C / permanently.

Part No.	Dimensions
70 120 200	H 1.000 x W 1.000 mm, 0,7 mm espessura
70 120 210	H 1.000 x W 2.000 mm, 0,7 mm espessura
70 120 220	H 2.000 x W 2.000 mm, 0,7 mm espessura
70 120 230	H 2.000 x W 3.000 mm, 0,7 mm espessura

Welding blankets 850 °C
Prevents from welding spatters, flying sparks, grinding sparks.
Cloth made out of E-glass yarn with 9 µm filament diameter,
double-sided with high-temperature coating, asbestos-free.
Heat resistant up to 750 °C / permanently.

Part No.	Dimensions
70 125 200	H 1.000 x W 1.000 mm, 2,0 mm espessura
70 125 210	H 1.000 x W 2.000 mm, 2,0 mm espessura
70 125 220	H 2.000 x W 2.000 mm, 2,0 mm espessura
70 125 230	H 2.000 x W 3.000 mm, 2,0 mm espessura

Weldinr blankets 1.150 °C
Prevents from welding spatters, flying sparks, grinding sparks.
Cloth made out of E-glass yarn with 9 µm filament diameter,
double-sided with high-temperature coating, asbestos-free.
Heat resistant up to 900 °C / permanently.

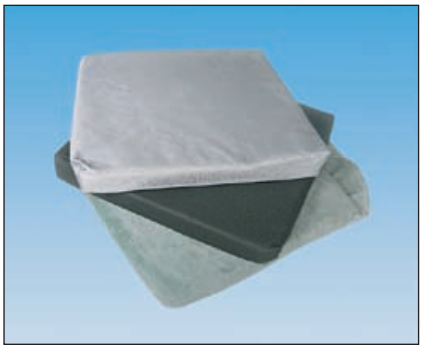
Part No.	Dimensions
70 130 200	H 450 x W 450 mm, 1,8 mm espessura
70 130 210	H 1.000 x W 1.000 mm, 1,8 mm espessura
70 130 220	H 1.000 x W 2.000 mm, 1,8 mm espessura
70 130 230	H 2.000 x W 2.000 mm, 1,8 mm espessura
70 130 240	H 2.000 x W 3.000 mm, 1,8 mm espessura

Weldinr blankets 1.300 °C
Prevents from welding spatters, flying sparks, grinding sparks.
Cloth made out of E-glass yarn with 9 µm filament diameter,
double-sided with high-temperature coating, asbestos-free.
Heat resistant up to 1.100 °C / permanently.

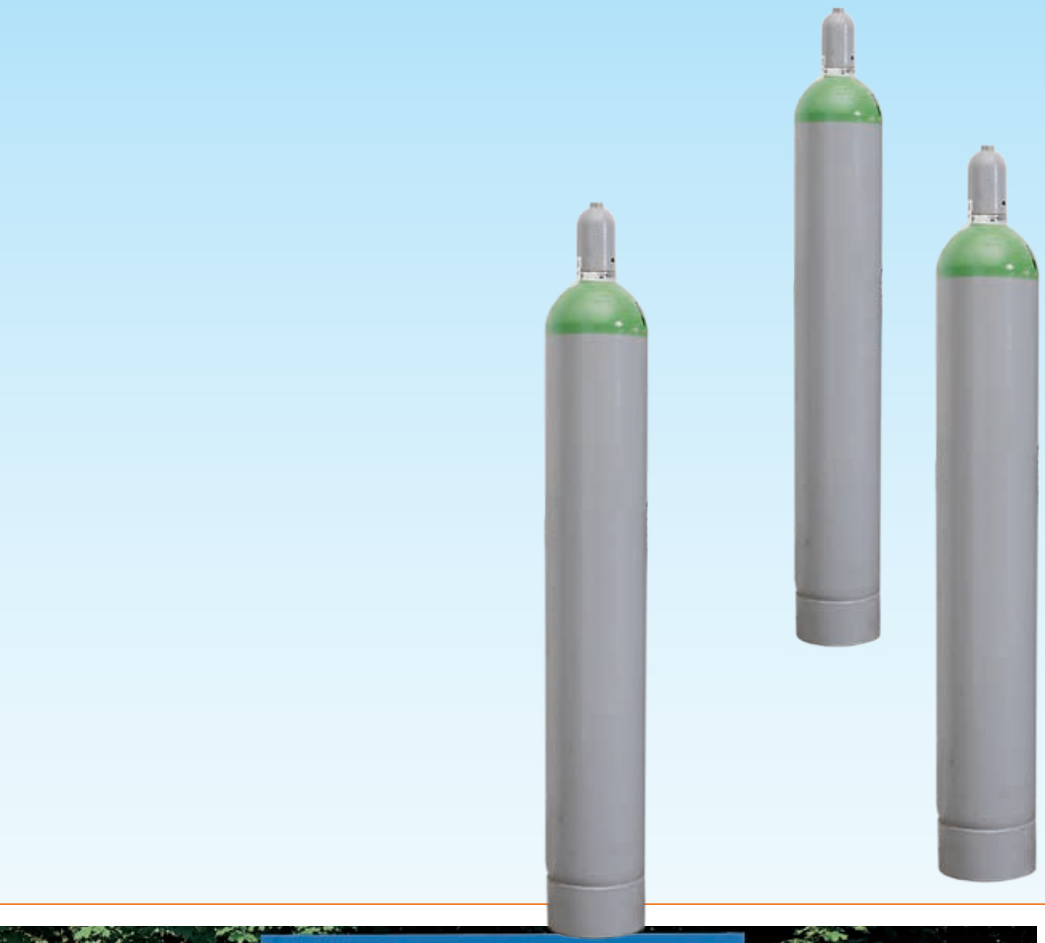
Part No.	Dimensions
70 135 200	H 900 x W 1.000 mm, 2,0 mm espessura
70 135 210	H 900 x W 2.000 mm, 2,0 mm espessura
70 135 220	H 900 x W 3.000 mm, 2,0 mm espessura
70 135 230	H 1.800 x W 2.000 mm, 2,0 mm espessura
70 135 240	H 1.800 x W 3.000 mm, 2,0 mm espessura

Welding cushion

Welding cushion
As protection when kneeling on hard material.
Heatproof material, depending on type up to 1.300 °C.
Cushion size 400 x 400 mm.



Part No.	Dimensions	Temperature
70 140 100	H 400 x W 400 mm x T 40 mm	atè 200 °C
70 140 110	H 400 x W 400 mm x T 40 mm	atè 600 °C
70 140 120	H 400 x W 400 mm x T 40 mm	atè 850 °C
70 140 130	H 400 x W 400 mm x T 40 mm	atè 1.150 °C
70 140 140	H 400 x W 400 mm x T 40 mm	atè 1.300 °C



Gas bottles

Gas bottle – wall racks/supports

Gas bottle wall rack for 140 mm bottles
Out of steel, galvanised, with safety chain

Part No.	Description
270 010 001	Gas bottle wall rack for 1 bottle
270 010 003	Gas bottle wall rack for 2 bottles
270 010 005	Gas bottle wall rack for 3 bottles

Gas bottle wall rack for 230 mm bottles
Out of steel, galvanised, with safety chain

Part No.	Description
270 010 011	Gas bottle wall rack for 1 bottle
270 010 013	Gas bottle wall rack for 2 bottles
270 010 015	Gas bottle wall rack for 3 bottles

Gas bottle wall rack for 320 mm bottles
Out of steel, galvanised, with safety chain

Part No.	Description
270 010 021	Gas bottle wall rack for 1 bottle
270 010 023	Gas bottle wall rack for 2 bottles

Gas bottle support
The gas bottle support is suitable for storing one or two gas bottles.

Part No.	Description
270 020 011	For 1 bottle up to Ø 250 mm
270 020 012	For 2 bottles up to Ø 230 mm

Gas bottle cart for 250 mm bottles
for the save transport of gas bottles
robust version, galvanised, with safety chain

Part No.	Description
270 025 011	Gas bottle cart for 1 bottle, **solid rubber tyres**, wheel-Ø 200 mm
270 025 012	Gas bottle cart for 1 bottle, **air tyres**, wheel-Ø 200 mm
270 025 014	Gas bottle cart for 2 bottles, **solid rubber tyres**, wheel-Ø 350 mm
270 025 015	Gas bottle cart for 2 bottles, **air tyres**, wheel-Ø 350 mm

Gas bottle cart for 340 mm bottles
for the save transport of gas bottles
robust version, hot dip galvanised, with safety chain

Part No.	Description
270 025 021	Gas bottle cart for 1 bottle, **solid rubber tyres**, wheel-Ø 200 mm
270 025 022	Gas bottle cart for 1 bottle, **air tyres**, wheel-Ø 200 mm

Accessory for gas bottle cart for 340 mm bottles

Part No.	Description
270 025 023	Safety chain for 33 litre bottles

Gas bottle cart for 250 mm bottles
for the save transport of gas bottles
robust version, hot dip galvanised, with safety chain

Part No.	Description
270 025 031	Gas bottle cart for 2 bottles, **solid rubber tyres**, wheel-Ø 350 mm
270 025 032	Gas bottle cart for 2 bottles, **air tyres**, wheel-Ø 350 mm

Important note TRG 280:
Transporting of compressed gas bottles

(...)

4.2 For the transport of compressed gas bottles only such transport equipment that can eliminate the damaging or falling of bottles are to be used. Not reliable suitable are magnetic or grab cranes, excluded are grab cranes with suitable grip arms.
(...)

Gas bottle grippers

To comfortably lift a 50 liter gas bottle with a diameter of 229 mm and a weight of up to 110 kg in an ergonomically correct manner, you need a hand gripper that can be quickly and easily be attached to, and removed from, the gas bottle that is to be transported. This is exactly what *KEMPER* gas bottle grippers do.

Two swivelling clamps fitted with handles are mounted on spindles attached to a bracket that fits the shape of a gas bottle. The clamps are fitted with rubber pads that provide a secure grip between the clamp and the gas bottle.

This allows a gas bottle to be transported without any additional tools, avoiding any health and safety issues for the employee, as his back stays straight.

Changing a gas bottle is significantly easier and more efficient using *KEMPER* gas bottle grippers.

Benefits:

- Using the gas bottle grippers, gas bottles can be lifted from a squatting position whilst keeping the back straight
- The gas bottle grippers allow the gas bottle to be carried by two people.
- Protects the health and safety of your employees
- Time saved thanks to easier lifting

Gas bottle gripper

Part No.	Description
270 025 050	Gas bottle gripper

Technical Data

For gas bottles:	50 l / Ø 229 mm
Max. loading capacity:	110 kg
Material:	Aluminium casting, high quality steel
Weight:	2,9 kg

Gas bottle transport frames


Part No. 270 030 008


Part No. 270 030 004

Gas bottle transport frames/gas bottle pallets
stable frame construction, galvanised,
for save transport with crane, fork lift or hand pallet truck

Part No.	Description
270 030 004	Gas bottle frame for 4 bottles, W 860 x D 600 x H 1.100 mm
270 030 008	Gas bottle frame for 8 bottles, W 860 x D 1.120 x H 1.100 mm
270 030 012	Gas bottle frame for 12 bottles, W 805 x D 1.060 x H 1.210 mm


Part No. 270 030 012

Important note TRG 280:

(...)

4.15 Compressed gas bottles must be secured against falling over or down. No special measures are required, when e.g. through the construction or the storage of large amounts of the gas bottles, prevent such an event from occurring.

(...)

Gas bottle cabinets/accessories


Part No. 270 040 015


Part No. 270 040 011

Gas bottle cabinets W 1.550 x D 1.300 x H 2.250 mm
Completely galvanised with lockable doors according to respective regulations, no air ventilation necessary for outdoor installation. 500 mm roof excess with brackets and safety chains.

Part No.	Description
270 040 010	Gas bottle cabinet, without floor components
270 040 011	Gas bottle cabinet, with floor components

Gas bottle cabinets W 3.050 x D 1.300 x H 2.250 mm
Completely galvanised with lockable doors according to respective regulations, no air ventilation necessary for outdoor installation. 500 mm roof excess with brackets and safety chains.

Part No.	Description
270 040 015	Gas bottle cabinet, without floor components
270 040 016	Gas bottle cabinet, with floor components

Loading ramp

Part No.	Description
270 040 124	Loading ramp, steel, galvanised, W 1.040 x D 900 mm
270 040 126	Loading ramp, aluminium, W 900 x D 940 mm

Shelf for gas bottle cabinets
galvanised version
W 1.400 x D 1.040 x H 750 mm, maximum load 500 kg
2 shelves are stackable

Part No.	Description
270 040 122	Shelf for gas bottle cabinets

Liquid gas bottles cabinets

Part No. 270 041 020

Liquid gas bottle cabinet, 1 door
Out of galvanised sheet steel, doors and side frames punched.
W 840 mm x D 690 mm x H 1.500 mm
Suitable for indoor and outdoor installation, will be delivered in kit form.

Part No.	Description
270 041 010	Single-leaf, tattered left hand
270 041 011	Single-leaf, tattered right hand

Part No. 270 041 010

Liquid gas bottle cabinet out of sheet, 2 doors punched
W 1.680 x T 690 x H 1.500 mm

Part No.	Description
270 041 020	2 doors

Important note TRG 280:
Did you know...

(...)

3.4 Compressed gas bottles must be handled in such a way that it is kept in a safe working order, free from corrosion and protected from sudden or extreme strain.

(...)

Gas bottle storage/accessories

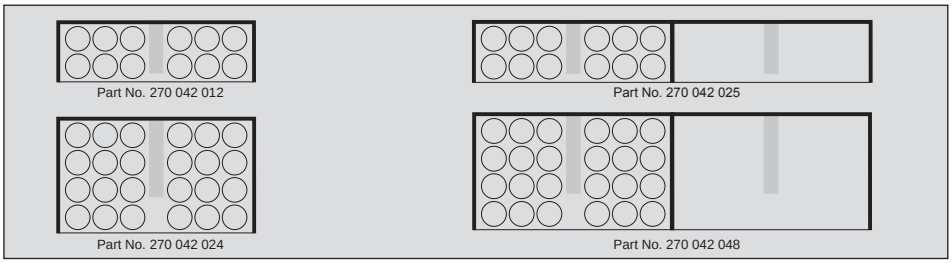
Gas bottle storage
With fire resistant walls and roof, respective to all current regulations
can be installed without clearance distance directly to a wall of a building.
Stable frame construction RAL 5010.
Doors galvanised and lockable, brackets and safety chain as standard.

Part No.	Description
270 042 012	Bottle storage for 12 bottles, outside dimensions W 1.730 x D 845 x H 2.310 mm
270 042 024	Bottle storage for 24 bottles, outside dimensions W 1.730 x D 1.520 x H 2.310 mm
270 042 025	Bottle storage for 24 bottles, outside dimensions W 3.350 x D 845 x H 2.310 mm
270 042 048	Bottle storage for 48 bottles, outside dimensions W 3.350 x D 1.520 x H 2.310 mm

Accessories for gas bottle storage

Part No.	Description
270 040 122	Shelf, W 1.440 x D 1.040 x H 750 mm
270 040 112	Floor components for part no. 270 042 012
270 040 124	Floor components for part no. 270 042 024
270 040 125	Floor components for part no. 270 042 025
270 040 148	Floor components for part no. 270 042 048

Installation example for the gas bottle storage



Gas bottle magazine


Part No. 270 045 040

Gas bottle magazine
Constructed according to all current regulations for the storage of gas bottles.
Side panels, roof and floor profiles out of 1,5 mm sheet steel.
Galvanised, adjustable brackets and safety chains without floor,
will be delivered assembled.

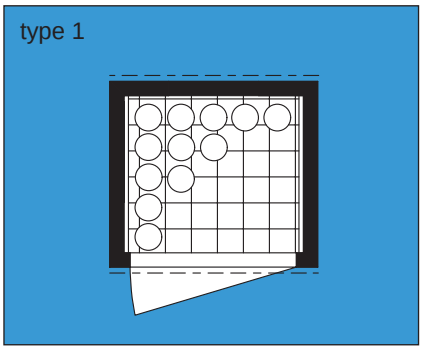
Part No.	Description
270 045 010	W 1.420 x D 1.490 x H 2.250 mm, type 1
270 045 020	W 2.100 x D 1.140 x H 2.250 mm, type 2
270 045 030	W 3.005 x D 2.170 x H 2.250 mm, type 3
270 045 040	W 3.005 x D 2.170 x H 2.250 mm, type 4

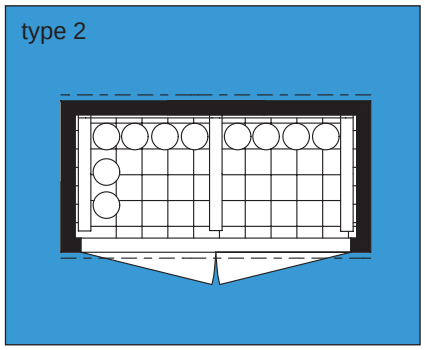

Part No. 270 045 020

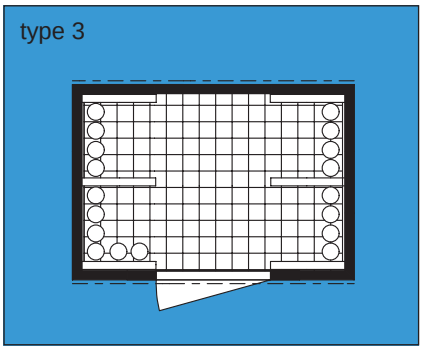
Gas bottle magazine
As per description above, but with floor frame out of galvanised and welded steel.
Including gratings, accessible according to DIN 1072/DIN 1055.

Part No.	Description
270 045 015	W 1.420 x D 1.490 x H 2.250 mm, type 1
270 045 025	W 2.100 x D 1.140 x H 2.250 mm, type 2
270 045 035	W 3.005 x D 2.170 x H 2.250 mm, type 3
270 045 045	W 3.005 x D 2.170 x H 2.250 mm, type 4

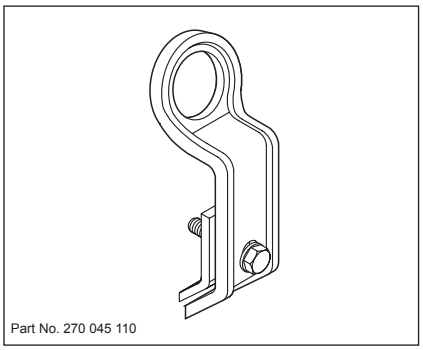

Part No. 270 045 035







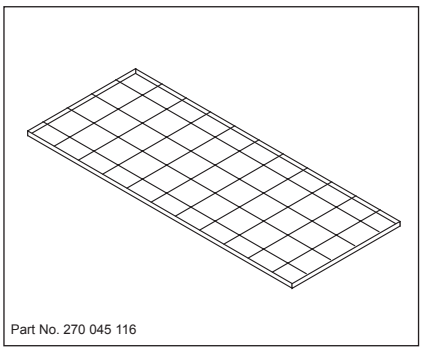
Accessories for gas bottle magazines



Part No. 270 045 110

Accessories for gas bottle magazine

Part No.	Description
270 045 110	Eyelets for crane transport
270 045 115	Shelf rack, grid 1.000 x 750 mm
270 045 116	Shelf rack, grid 2.000 x 750 mm
270 045 117	Shelf rack, grid 1.320 x 900 mm
270 045 210	Loading ramp aluminium, 750 x 750 mm
270 045 220	Loading ramp aluminium, 1.500 x 750 mm
270 045 230	Loading ramp aluminium, 750 x 1.500 mm



Part No. 270 045 116

External coating

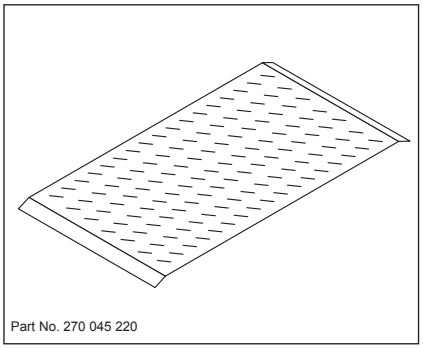
Coating of the outer wall available in all RAL colours.

Part No.	Description
270 045 310	External coating for magazine size 1, type 1
270 045 320	External coating for magazine size 2, type 2
270 045 330	External coating for magazine size 3, type 3
270 045 340	External coating for magazine size 4, type 4

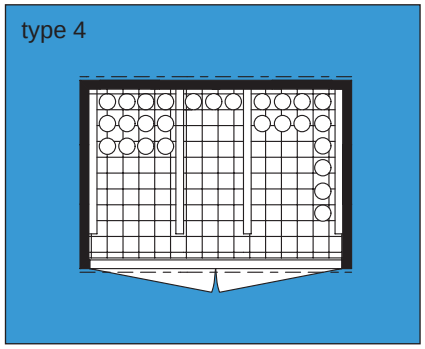
Window strip for roof module

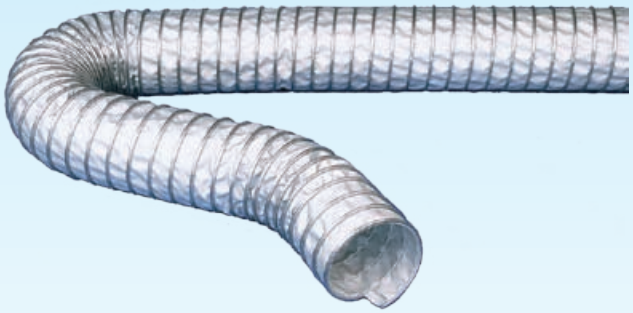
1 m wide, integrated in the roof module

Part No.	Description
270 045 400	Window strip



Part No. 270 045 220





Hoses

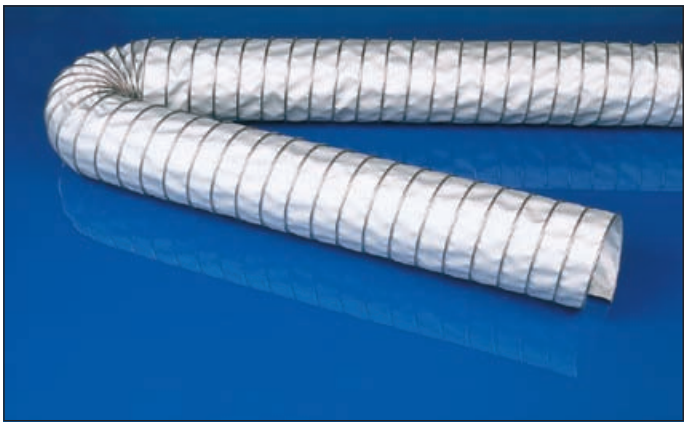
High temperature exhaust hoses

PVC coated polyester fabric
· Very light and flexible
· Fire retardant
· Compressible
· Temperature range : up to + 100 °C

Applications:
Air conditioning and ventilation, welding gas and smoke extraction.

Part No.	Description*
114 0478	PVC coated polyester fabric, length 3 m, Ø 100 mm
114 0477	PVC coated polyester fabric, length 6 m, Ø 100 mm
114 0343	PVC coated polyester fabric, length 10 m, Ø 100 mm
114 0479	PVC coated polyester fabric, length 3 m, Ø 150 mm
114 0480	PVC coated polyester fabric, length 6 m, Ø 150 mm
114 0328	PVC coated polyester fabric, length 10 m, Ø 150 mm
114 0481	PVC coated polyester fabric, length 3 m, Ø 160 mm
114 0482	PVC coated polyester fabric, length 6 m, Ø 160 mm
114 0146	PVC coated polyester fabric, length 10 m, Ø 160 mm
114 0483	PVC coated polyester fabric, length 3 m, Ø 250 mm
114 0484	PVC coated polyester fabric, length 6 m, Ø 250 mm
114 0485	PVC coated polyester fabric, length 10 m, Ø 250 mm

* All hoses are available in different diameters and lengths.



Up to 400 °C
The hose is suitable for applications where temperatures of up to +450°C can be reached. For the extraction of hot air or gases at exhaust system.

· Special coated high temperature resistant fabric
· Reinforced with stainless steel wire
· Highly flexible and compressible
· Temperature range : -20 °C to +400 °C, short term +450 °C

Part No.	Description*
114 0203	High temperature exhaust hoses up to +400 °C, length 3 m, Ø 80 mm
114 0204	High temperature exhaust hoses up to +400 °C, length 6 m, Ø 80 mm
114 0199	High temperature exhaust hoses up to +400 °C, length 8 m, Ø 150 mm
114 0200	High temperature exhaust hoses up to +400 °C, length 10 m, Ø 150 mm
114 0182	High temperature exhaust hoses up to +400 °C, length 3 m, Ø 165 mm
114 0486	High temperature exhaust hoses up to +400 °C, length 6 m, Ø 165 mm
114 0487	High temperature exhaust hoses up to +400 °C, length 3 m, Ø 200 mm
114 0488	High temperature exhaust hoses up to +400 °C, length 6 m, Ø 200 mm

* All hoses are available in different diameters and lengths.

High temperature exhaust hoses

Up to 650 °C
High temperature hose for temperatures of up to +650 °C and therefore suitable for Motor power testing stations etc.

- Double ply high temperature fabric
- Reinforced with stainless steel wire
- Flame resistant
- Highly flexible and compressible
- Temperature range : -20 °C to +650 °C, short term + 750 °C

Part No.	Description*
114 0466	High temperature exhaust hoses up to +650 °C, length 3 m, Ø 125 mm
114 0489	High temperature exhaust hoses up to +650 °C, length 6 m, Ø 125 mm
114 0548	High temperature exhaust hoses up to +650 °C, length 7,5 m, Ø 150 mm
114 0457	High temperature exhaust hoses up to +650 °C, length 12 m, Ø 150 mm

* All hoses are available in different diameters and lengths.

Flexible hoses

PU-material handling hoses
- Polyester polyurethane with moulded spring coiled wire reinforcement
- Very light and flexible
- Very resistant against abrasion
- Temperature range : -40 °C to +90 °C, short term +125 °C

Applications:
Extraction of gases, transport of fine particles, dusts and powder, protection hose against mechanical strain

Part No.	Description*
114 0435	PU-material handling hose length 2 m, Ø 200 mm
114 0490	PU-material handling hose length 10 m, Ø 200 mm
114 0370	PU-material handling hose length 2 m, Ø 250 mm
114 0572	PU-material handling hose length 10 m, Ø 250 mm

* All hoses are available in different diameters and lengths.

Flexible hoses

Silicon hoses

· Silicon coated glass fibre fabric, single layered
· Heat resistant
· Good flexibility when cold
· Temperature range : -85°C to +300°C

Applications:
Extraction of hot vapours and gases

Part No.	Description*
114 0491	Silicon hoses length 2,5 m, Ø 150 mm
114 0492	Silicon hoses length 5 m, Ø 150 mm
114 0493	Silicon hoses length 7,5 m, Ø 150 mm
114 0494	Silicon hoses length 2,5 m, Ø 200 mm
114 0495	Silicon hoses length 5 m, Ø 200 mm
114 0496	Silicon hoses length 7,5 m, Ø 200 mm
114 0497	Silicon hoses length 2,5 m, Ø 250 mm
114 0498	Silicon hoses length 5 m, Ø 250 mm
114 0499	Silicon hoses length 7,5 m, Ø 250 mm

* All hoses are available in different diameters and lengths.

Exhaust hoses

- incl. hose clamps

Part No.	Description
114 0246	Ø 75 mm, length 2,5 m
114 0247	Ø 75 mm, length 5,0 m
114 0248	Ø 75 mm, length 7,5 m
114 0249	Ø 75 mm, length 10,0 m
114 0250	Ø 100 mm, length 2,5 m
114 0251	Ø 100 mm, length 5,0 m
114 0252	Ø 100 mm, length 7,5 m
114 0253	Ø 100 mm, length 10,0 m
114 0254	Ø 125 mm, length 2,5 m
114 0255	Ø 125 mm, length 5,0 m
114 0256	Ø 125 mm, length 7,5 m
114 0257	Ø 125 mm, length 10,0 m
114 0258	Ø 150 mm, length 2,5 m
114 0259	Ø 150 mm, length 5,0 m
114 0260	Ø 150 mm, length 7,5 m
114 0261	Ø 150 mm, length 10,0 m

KEMPER- exhaust hoses are made out of lightweight highflexible polyester thread with TPK-layer.

They are resistant against oil, grease, solvents and against temperatures up to + 150° C (up to + 170° C for short time).

The exhaust hose is traversable conditionally.

A scouring protection plate protects against abrasion at the outer layer. *KEMPER*- exhaust hoses are suitable especially for motordriven and spring operated hose reels, extraction rail channels as well as wall mounted units and vehicle exhaust extraction units for emission tests.

High temperature exhaust hoses

- incl. hose clamps

Part No.	Description
114 0262	Ø 75mm, length 2,5 m
114 0263	Ø 75 mm, length 5,0 m
114 0264	Ø 75 mm, length 7,5 m
114 0265	Ø 75 mm, length 10,0 m
114 0266	Ø 100 mm, length 2,5 m
114 0267	Ø 100 mm, length 5,0 m
114 0268	Ø 100 mm, length 7,5 m
114 0269	Ø 100 mm, length 10,0 m
114 0270	Ø 125 mm, length 2,5 m
114 0271	Ø 125 mm, length 5,0 m
114 0272	Ø 125 mm, length 7,5 m
114 0273	Ø 125 mm, length 10,0 m
114 0274	Ø 150 mm, length 2,5 m
114 0275	Ø 150 mm, length 5,0 m
114 0276	Ø 150 mm, length 7,5 m
114 0277	Ø 150 mm, length 10,0 m
114 0278	Ø 200 mm, length 2,5 m
114 0279	Ø 200 mm, length 5,0 m
114 0280	Ø 200 mm, length 7,5 m
114 0281	Ø 200 mm, length 10,0 m

KEMPER high temperature exhaust hoses are made out of single-layer, especially coated high temperature thread with outer scouring protection coil made from rust-resistant hot-dip galvanised steel. This coil is coated with a plastic layer to protect the enamel varnish of vehicles.

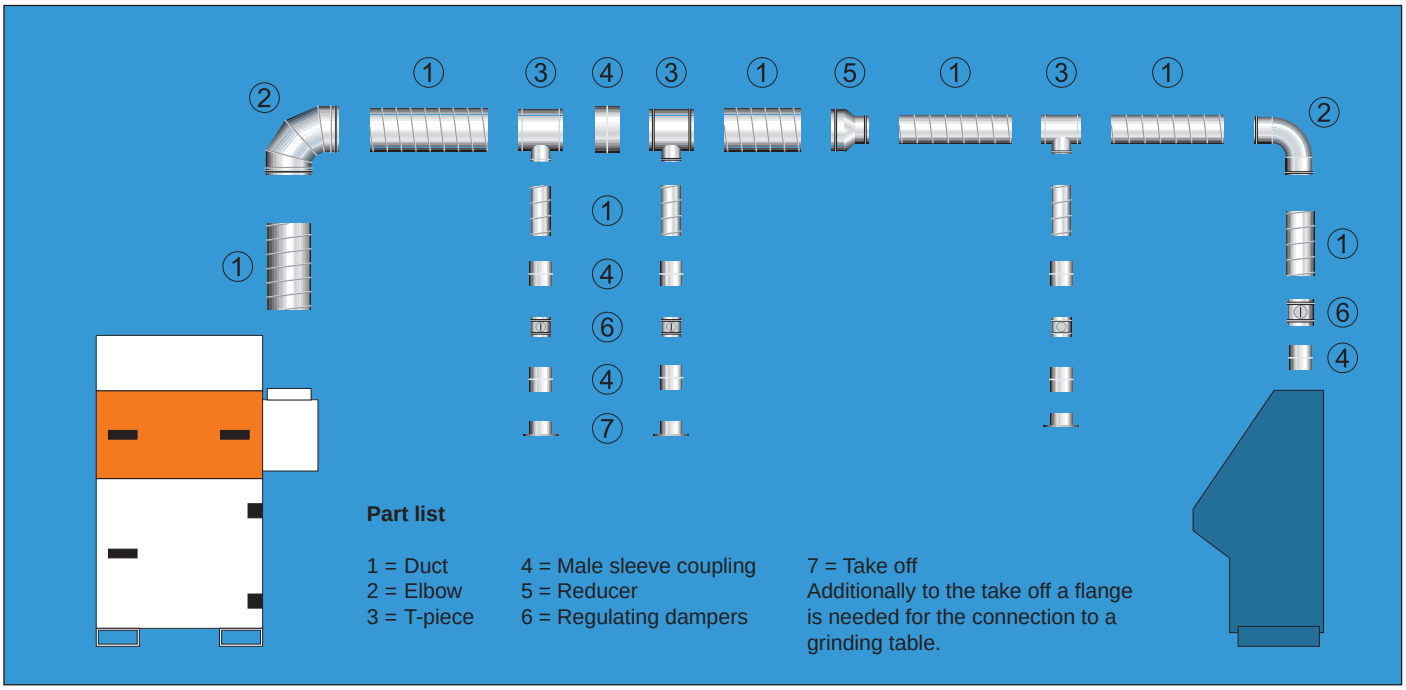
They are resistant against temperatures up to + 300° C (up to + 350° C for short time) and are especially suitable for exhausts of diesel motors and other exhausts with really high temperatures.

Ducting systems

Ducting systems

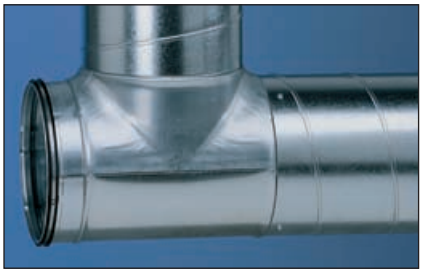
The KLS ducting system
A complete range for the construction of individual ducting systems. All formed parts have a double lip sealing system of a non-ageing EPDM-elastics. Thereby the system becomes pressure-firm corresponding to the tightness class B according to Eurovent regulations.
No rework of the joints with tape or silicon is necessary.

Certainly we would like to provide with a computer calculated ducting layout. Therefore please send us a sketch with your specifications. As an example you see a ducting construction for a filter unit with three exhaust arms and one grinding table. For the required parts please refer to the list below.



The KLS-ducting system convinces by:

· Fast and easy installation
· No sealing work
· Pre-installed gaskets
· Ecological no silicon, tape or mastic
· Withstands positive pressure up to + 3.000 Pa
· Withstands negative pressure up to - 5.000 Pa
· Temperature resistant from - 30 °C to + 100 °C



Installation

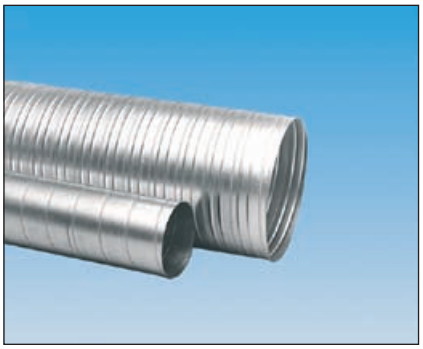
Preparation
The materials have to be clean.
The lengthening of the ducts has to be completed right-angled, and the shortened duct end has to be fettled.

Installation of shaped pieces
· Check, if the duct, formed pieces and rubber seals are undamaged.
· Plug the end of the formed piece completely in up to the seam. For an easier installation rotate the piece slightly.
· Now the formed piece can be fixed onto the duct by means of self-tapping screws or rivets.
· Please refer to the table below for screws or rivets needed for installation.

Ø mm	Min. screws Ø mm	Quantity
63 - 125	3,2	2
140 - 250	3,2	3
280 - 710	3,2	4

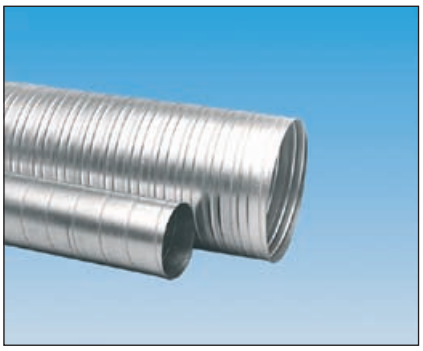
· Screws or rivets have to be distributed equally.
· Screws and rivets have to be inserted 10 - 15 mm away from the edge of the formed piece. Otherwise the gaskets get damaged.

Ducts



Ducts 3 m
of galvanised sheet steel
according to DIN 24145.

Ø [mm]*	Part No.	Weight [kg] /m
63	250 000 063 300	0,89
80	250 000 080 300	0,91
100	250 000 100 300	1,14
112	250 000 112 300	1,42
125	250 000 125 300	1,51
140	250 000 140 300	1,76
150	250 000 150 300	1,89
160	250 000 160 300	2,02
180	250 000 180 300	2,26
200	250 000 200 300	2,56
224	250 000 224 300	3,42
250	250 000 250 300	3,68
280	250 000 280 300	4,28
300	250 000 300 300	4,58
315	250 000 315 300	4,81
355	250 000 355 300	5,41
400	250 000 400 300	6,56
450	250 000 450 300	8,60
500	250 000 500 300	9,54
560	250 000 560 300	12,20
600	250 000 600 300	13,10
630	250 000 630 300	14,00
710	250 000 710 300	15,50



Ducts 6 m
of galvanised sheet steel
according to DIN 24145.

Ø [mm]*	Part No.	Weight [kg] /m
63	250 000 063 600	0,89
80	250 000 080 600	0,91
100	250 000 100 600	1,14
112	250 000 112 600	1,42
125	250 000 125 600	1,51
140	250 000 140 600	1,76
150	250 000 150 600	1,89
160	250 000 160 600	2,02
180	250 000 180 600	2,26
200	250 000 200 600	2,56
224	250 000 224 600	3,42
250	250 000 250 600	3,68
280	250 000 280 600	4,28
300	250 000 600 600	4,58
315	250 000 315 600	4,81
355	250 000 355 600	5,41
400	250 000 400 600	6,56
450	250 000 450 600	8,60
500	250 000 500 600	9,54
560	250 000 560 600	12,20
600	250 000 600 600	13,10
630	250 000 630 600	14,00
710	250 000 710 600	15,50

* further sizes available on enquiry/request

Bends

Ø [mm]*	Part No.	Weight [kg]
63	250 030 063 015	0,09
80	250 030 080 015	0,11
100	250 030 100 015	0,15
112	250 030 112 015	0,29
125	250 030 125 015	0,18
140	250 030 140 015	0,29
150	250 030 150 015	0,27
160	250 030 160 015	0,24
180	250 030 180 015	0,37
200	250 030 200 015	0,47
224	250 030 224 015	0,56
250	250 030 250 015	0,65
280	250 030 280 015	0,77
300	250 030 300 015	0,85
315	250 030 315 015	0,91
355	250 030 355 015	1,41
400	250 030 400 015	1,70
450	250 030 450 015	2,20
500	250 030 500 015	2,65
560	250 030 560 015	3,30
600	250 030 600 015	3,70
630	250 030 630 015	4,00
710	250 030 710 015	5,80

Bends 15°
pressed and seam welded.
From Ø 250 mm constructed out of segments.

Ø [mm]*	Part No.	Weight [kg]
63	250 030 063 030	0,13
80	250 030 080 030	0,15
100	250 030 100 030	0,18
112	250 030 112 030	0,21
125	250 030 125 030	0,20
140	250 030 140 030	0,36
150	250 030 150 030	0,35
160	250 030 160 030	0,32
180	250 030 180 030	0,51
200	250 030 200 030	0,62
224	250 030 224 030	0,83
250	250 030 250 030	1,05
280	250 030 280 030	1,10
300	250 030 300 030	1,30
315	250 030 315 030	1,42
355	250 030 355 030	1,70
400	250 030 400 030	2,27
450	250 030 450 030	3,00
500	250 030 500 030	3,70
560	250 030 560 030	4,60
600	250 030 600 030	5,10
630	250 030 630 030	5,60
710	250 030 710 030	8,60

Bends 30°
pressed and seam welded.
From Ø 250 mm constructed out of segments.

* further sizes available on enquiry/request

Bends

Bends 45°
pressed and seam welded.
From Ø 250 mm constructed out of segments.

Ø [mm]*	Part No.	Weight [kg]
63	250 030 063 045	0,16
80	250 030 080 045	0,17
100	250 030 100 045	0,21
112	250 030 112 045	0,24
125	250 030 125 045	0,29
140	250 030 140 045	0,43
150	250 030 150 045	0,42
160	250 030 160 045	0,48
180	250 030 180 045	0,65
200	250 030 200 045	0,80
224	250 030 224 045	0,95
250	250 030 250 030	1,26
280	250 030 280 045	1,54
300	250 030 450 045	1,77
315	250 030 315 045	1,90
355	250 030 355 045	2,26
400	250 030 400 045	2,96
450	250 030 450 045	4,00
500	250 030 500 045	4,90
560	250 030 560 045	6,10
600	250 030 600 045	6,80
630	250 030 630 045	7,49
710	250 030 710 045	11,30

Bends 60°
pressed and seam welded.
From Ø 250 mm constructed out of segments.

Ø [mm]*	Part No.	Weight [kg]
63	250 030 063 060	0,30
80	250 030 080 060	0,32
100	250 030 100 060	0,33
112	250 030 112 060	0,37
125	250 030 125 060	0,33
140	250 030 140 060	0,51
150	250 030 150 060	0,50
160	250 030 160 060	0,56
180	250 030 180 060	0,79
200	250 030 200 060	0,95
224	250 030 224 060	1,10
250	250 030 250 030	1,48
280	250 030 280 060	1,80
300	250 030 450 060	2,00
315	250 030 315 060	2,20
355	250 030 355 060	2,80
400	250 030 400 060	3,47
450	250 030 450 060	4,70
500	250 030 500 060	6,00
560	250 030 560 060	7,40
600	250 030 600 060	8,60
630	250 030 630 060	9,20
710	250 030 710 060	11,30

* further sizes available on enquiry/request

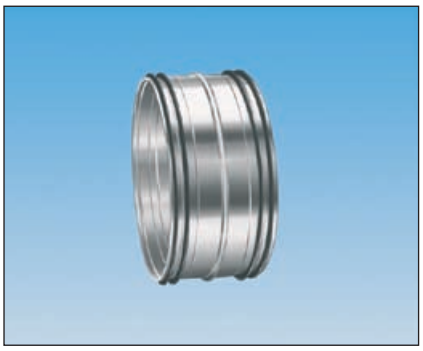
Bends

Ø [mm]*	Part No.	Weight [kg]
63	250 030 063 090	0,20
80	250 030 080 090	0,26
100	250 030 100 090	0,31
112	250 030 112 090	0,39
125	250 030 125 090	0,48
140	250 030 140 090	0,66
150	250 030 150 090	0,66
160	250 030 160 090	0,74
180	250 030 180 090	1,02
200	250 030 200 090	1,30
224	250 030 224 090	1,55
250	250 030 250 030	2,20
280	250 030 280 090	2,50
300	250 030 450 090	2,70
315	250 030 315 090	3,00
355	250 030 355 090	3,75
400	250 030 400 090	5,64
450	250 030 450 090	7,00
500	250 030 500 090	8,20
560	250 030 560 090	10,10
600	250 030 600 090	11,70
630	250 030 630 090	12,90
710	250 030 710 090	19,80

Bends 90°
pressed and seam welded.
From Ø 250 mm constructed out of segments.

Male sleeve coupler

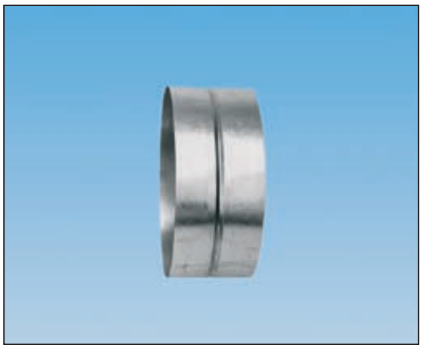
Ø [mm]*	Part No.	Weight [kg]
63	250 060 063 000	0,07
80	250 060 080 000	0,09
100	250 060 100 000	0,12
112	250 060 112 000	0,14
125	250 060 125 000	0,15
140	250 060 140 000	0,16
150	250 060 150 000	0,18
160	250 060 160 000	0,19
180	250 060 180 000	0,25
200	250 060 200 000	0,30
224	250 060 224 000	0,30
250	250 060 250 000	0,52
280	250 060 280 000	0,56
300	250 060 450 000	0,64
315	250 060 315 000	0,66
355	250 060 355 000	0,76
400	250 060 400 000	1,10
450	250 060 450 000	1,34
500	250 060 500 000	1,52
560	250 060 560 000	1,90
600	250 060 600 000	2,10
630	250 060 630 000	2,24
710	250 060 710 000	2,65



Male sleeve coupler
for connecting of ducts.

* further sizes available on enquiry/request

Female sleeve coupler

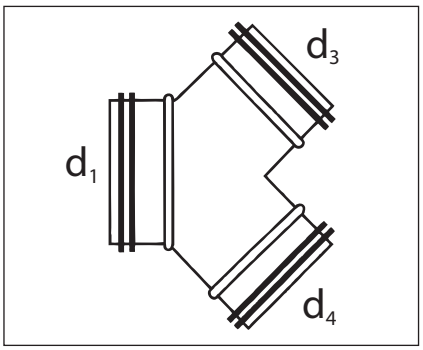


Female sleeve coupler
for connecting of formed pieces.

Ø [mm]*	Part No.	Length [mm]	Weight [kg]
63	250 070 063 000	95	0,06
80	250 070 080 000	95	0,08
100	250 070 100 000	95	0,10
112	250 070 112 000	90	0,11
125	250 070 125 000	95	0,13
140	250 070 140 000	90	0,17
150	250 070 150 000	95	0,18
160	250 070 160 000	95	0,20
180	250 070 180 000	90	0,22
200	250 070 200 000	95	0,25
224	250 070 224 000	90	0,27
250	250 070 250 000	140	0,42
280	250 070 280 000	125	0,50
300	250 070 300 000	125	0,51
315	250 070 315 000	140	0,54
355	250 070 355 000	125	0,62
400	250 070 400 000	180	0,96
450	250 070 450 000	170	1,17
500	250 070 500 000	180	1,46
560	250 070 560 000	170	1,57
600	250 070 600 000	170	1,65
630	250 070 630 000	170	1,74
710	250 070 710 000	219	1,96

Y-pieces

Y-pieces
for the branching and reduction of ducting.

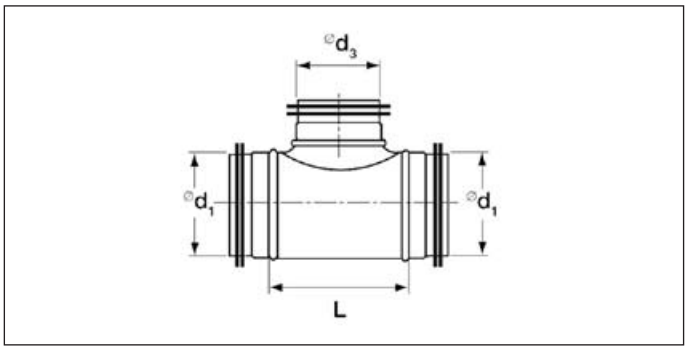


Ød$_1$ [mm]*	Ød$_3$ [mm]*	Ød$_4$ [mm]*	Part No.	Weight [kg]
80	80	80	250 150 080 080	0,9
100	63	63	250 150 100 063	0,9
100	100	100	250 150 100 100	1,0
112	80	80	250 150 112 080	1,0
125	125	125	250 150 125 125	1,3
140	100	100	250 150 140 100	1,4
150	75	75	250 150 150 075	1,4
150	100	100	250 150 150 100	1,5
160	75	75	250 150 160 075	1,5
160	100	100	250 150 160 100	1,6
160	112	112	250 150 160 112	1,6
160	150	150	250 150 160 150	1,7
160	160	160	250 150 160 160	1,8
180	125	125	250 150 180 125	1,8
200	140	140	250 150 200 140	2,1
250	160	160	250 150 250 160	3,4
250	180	180	250 150 250 180	3,5
250	250	250	250 150 250 250	3,5
280	200	200	250 150 280 200	3,6
300	200	200	250 150 300 200	4,2
315	224	224	250 150 315 224	4,4
355	250	250	250 150 355 250	5,0
400	280	280	250 150 400 280	6,8
400	300	300	250 150 400 300	7,0
450	315	315	250 150 450 315	8,5
450	355	355	250 150 450 355	8,6
500	355	355	250 150 500 355	9,8
560	400	400	250 150 560 400	12,1
600	400	400	250 150 600 400	13,2
630	450	450	250 150 630 450	15,6
710	500	500	250 150 710 500	18,7

* further sizes available on enquiry/request

T-piece

T-piece
centrical constructed.
Pressed out of 2 half shells.



Ød$_1$ [mm]*	Ød$_3$ [mm]*	Part No.	Length [mm]
63	63	250 100 063 063	125
80	63	250 100 080 063	125
	80	250 100 080 080	140
100	63	250 100 100 063	125
	80	250 100 100 080	126
	100	250 100 100 100	151
112	63	250 100 112 063	125
	80	250 100 112 080	140
	100	250 100 112 100	175
125	80	250 100 125 080	146
	100	250 100 125 100	184
	125	250 100 125 125	184
140	80	250 100 140 080	140
	100	250 100 140 100	175
	140	250 100 140 140	230
150	80	250 100 150 080	140
	100	250 100 150 100	175
	125	250 100 150 125	215
	140	250 100 150 140	230
	150	250 100 150 150	260
160	80	250 100 160 080	140
	100	250 100 160 100	184
	125	250 100 160 125	229
	140	250 100 160 140	230
	150	250 100 160 150	260
	160	250 100 160 160	204
180	80	250 100 180 080	140
	100	250 100 180 100	175
	125	250 100 180 125	215
	140	250 100 180 140	230
	150	250 100 180 150	260
	160	250 100 180 160	260
	180	250 100 180 180	285
200	100	250 100 200 100	175
	125	250 100 200 125	215
	140	250 100 200 140	230
	150	250 100 200 150	260
	160	250 100 200 160	281
	180	250 100 200 180	285
	200	250 100 200 200	242
224	100	250 100 224 100	175
	125	250 100 224 125	215
	140	250 100 224 140	230
	150	250 100 224 150	260
	160	250 100 224 160	260
	180	250 100 224 180	285
	200	250 100 224 200	346
	224	250 100 224 224	346
250	100	250 100 250 100	175
	125	250 100 250 125	220
	140	250 100 250 140	230
	150	250 100 250 150	255
	160	250 100 250 160	256
	180	250 100 250 180	306
	200	250 100 250 200	306
	224	250 100 250 224	350
	250	250 100 250 250	307
280	100	250 100 280 100	175
	125	250 100 280 125	220
	140	250 100 280 140	230
	150	250 100 280 150	255
	160	250 100 280 160	256
	180	250 100 280 180	306
	200	250 100 280 200	306
	224	250 100 280 224	350
	250	250 100 280 250	354
300	100	250 100 300 100	175
	125	250 100 300 125	220
	140	250 100 300 140	230
	150	250 100 300 150	255
	160	250 100 300 160	256
	180	250 100 300 180	306
	200	250 100 300 200	306
	224	250 100 300 224	350
	250	250 100 300 250	350
315	100	250 100 315 100	175
	125	250 100 315 125	220
	140	250 100 315 140	230
	150	250 100 315 150	250
	160	250 100 315 160	256
	180	250 100 315 180	306
	200	250 100 315 200	306
	224	250 100 315 224	350
	250	250 100 315 250	350
355	100	250 100 355 100	175
	125	250 100 355 125	220
	160	250 100 355 160	256
	200	250 100 355 200	306
	224	250 100 355 224	350
	250	250 100 355 250	350
	315	250 100 355 315	455
400	100	250 100 400 100	175

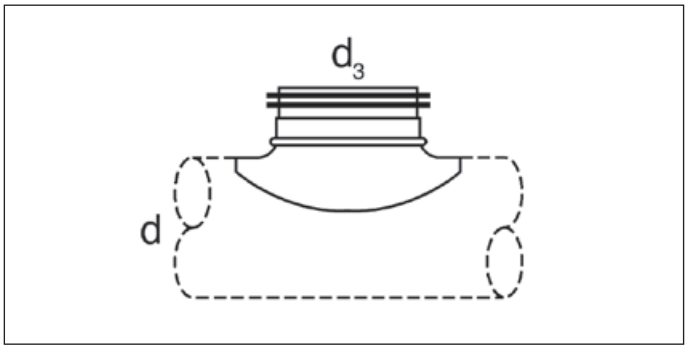
* further sizes available on enquiry/request

$Ød_1$ [mm]*	$Ød_3$ [mm]*	Part No.	Length [mm]
400	125	250 100 400 125	225
	160	250 100 400 160	266
	200	250 100 400 200	300
	224	250 100 400 224	350
	250	250 100 400 250	350
	315	250 100 400 315	415
	355	250 100 400 355	480
450	125	250 100 450 125	225
	160	250 100 450 160	266
	200	250 100 450 200	300
	250	250 100 450 250	350
	315	250 100 450 315	415
	400	250 100 450 400	500
500	160	250 100 500 160	266
	200	250 100 500 200	300
	250	250 100 500 250	350
	315	250 100 500 315	415
	400	250 100 500 400	510
560	250	250 100 560 250	350
	280	250 100 560 280	410
	300	250 100 560 300	430
	315	250 100 560 315	415
	355	250 100 560 355	470
	400	250 100 560 400	510
	450	250 100 560 450	550
	500	250 100 560 500	552
	560	250 100 560 560	610
600	250	250 100 600 250	350

$Ød_1$ [mm]*	$Ød_3$ [mm]*	Part No.	Length [mm]
600	280	250 100 600 280	430
	300	250 100 600 300	450
	315	250 100 600 315	465
	355	250 100 600 355	525
	400	250 100 600 400	570
	450	250 100 600 450	620
	500	250 100 600 500	680
	560	250 100 600 560	740
	600	250 100 600 600	780
630	300	250 100 630 300	450
	315	250 100 630 315	465
	355	250 100 630 355	525
	400	250 100 630 400	570
	450	250 100 630 450	620
	500	250 100 630 500	680
	560	250 100 630 560	740
	600	250 100 630 600	780
	630	250 100 630 630	810
710	300	250 100 710 300	450
	315	250 100 710 315	465
	355	250 100 710 355	525
	400	250 100 710 400	570
	450	250 100 710 450	620
	500	250 100 710 500	680
	560	250 100 710 560	740
	600	250 100 710 600	780
	630	250 100 710 630	810
	710	250 100 710 710	890

Branching saddle

formed with an economical radius.



Duct Ød [mm]	Outlet $Ød_3$ [mm]	Weight [kg]	Part No.
63	63	0,09	250 110 063 063
80	63	0,09	250 110 080 063
80	80	0,13	250 110 080 080
100	63	0,09	250 110 100 063
100	80	0,14	250 110 100 080
100	100	0,18	250 110 100 100
125	63	0,08	250 110 125 063
125	80	0,13	250 110 125 080
125	100	0,18	250 110 125 100
125	125	0,25	250 110 125 125
140	140	0,25	250 110 140 140
160	80	0,10	250 110 160 080
160	100	0,18	250 110 160 100

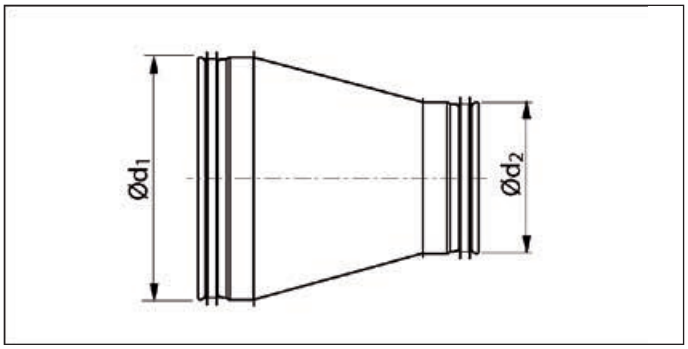
* further sizes available on enquiry/request

Duct Ød [mm]	Outlet $Ød_3$ [mm]	Weight [kg]	Part No.
160	125	0,18	250 110 160 125
160	140	0,25	250 110 160 140
160	150	0,32	250 110 160 150
160	160	0,26	250 110 160 160
180	180	0,48	250 110 180 180
200	80	0,09	250 110 200 080
200	100	0,19	250 110 200 100
200	125	0,25	250 110 200 125
200	140	0,25	250 110 200 140
200	150	0,22	250 110 200 150
200	160	0,27	250 110 200 160
200	180	0,45	250 110 200 180
200	200	0,39	250 110 200 200
224	224	0,64	250 110 224 224
250	80	0,12	250 110 250 080
250	100	0,18	250 110 250 100
250	125	0,23	250 110 250 125
250	140	0,29	250 110 250 140
250	150	0,21	250 110 250 150
250	160	0,24	250 110 250 160
250	180	0,41	250 110 250 180
250	200	0,47	250 110 250 200
250	224	0,63	250 110 250 224
250	250	0,80	250 110 250 250
315	100	0,12	250 110 315 100
315	125	0,23	250 110 315 125
315	140	0,27	250 110 315 140
315	150	0,21	250 110 315 150
315	160	0,24	250 110 315 160
315	180	0,40	250 110 315 180
315	200	0,46	250 110 315 200
315	224	0,58	250 110 315 224
315	250	0,71	250 110 315 250
315	315	1,22	250 110 315 315
400	160	0,24	250 110 400 160
400	200	0,44	250 110 400 200
400	250	0,65	250 110 400 250
400	315	1,03	250 110 400 315
400	400	1,87	250 110 400 400
500	100	0,12	250 110 500 100
500	125	0,23	250 110 500 125
500	160	0,25	250 110 500 160
500	200	0,42	250 110 500 200
500	224	0,54	250 110 500 224
500	250	0,67	250 110 500 250
500	315	0,93	250 110 500 315
500	400	1,75	250 110 500 400
630	160	0,31	250 110 630 160
630	200	0,40	250 110 630 200
630	250	0,83	250 110 630 250
630	315	0,93	250 110 630 315
630	400	1,49	250 110 630 400

* further sizes available on enquiry/request

Reducer

concentric



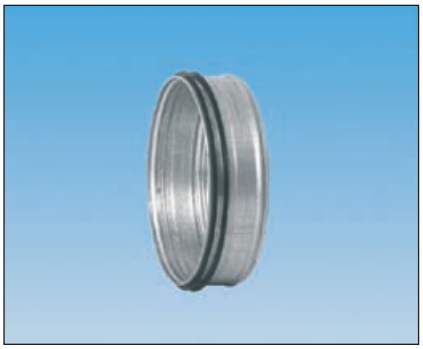
Ød$_1$ [mm]*	Ød$_2$ [mm]*	Part No.
80	63	250 200 080 063
100	63	250 200 100 063
	80	250 200 100 080
125	63	250 200 125 063
	80	250 200 125 080
	100	250 200 125 100
160	80	250 200 160 080
	100	250 200 160 100
	125	250 200 160 125
	150	250 200 160 150
200	100	250 200 200 100
	125	250 200 200 125
	160	250 200 200 160
250	125	250 200 250 125
	160	250 200 250 160
	200	250 200 250 200
315	160	250 200 315 160
	200	250 200 315 200
	250	250 200 315 250
355	160	250 200 355 160
	250	250 200 355 250
	315	250 200 355 315
400	200	250 200 400 200
	250	250 200 400 250
	315	250 200 400 315
	355	250 200 400 355
450	250	250 200 450 250
	315	250 200 450 315
	355	250 200 450 355

Ød$_1$ [mm]*	Ød$_2$ [mm]*	Part No.
500	250	250 200 500 250
	315	250 200 500 315
	400	250 200 500 400
560	250	250 200 560 250
	315	250 200 560 315
	355	250 200 560 355
	400	250 200 560 400
	500	250 200 560 500
600	250	250 200 600 250
	315	250 200 600 315
	355	250 200 600 355
	400	250 200 600 400
	500	250 200 600 500
	560	250 200 600 560
630	315	250 200 630 315
	355	250 200 630 355
	400	250 200 630 400
	500	250 200 630 500
	560	250 200 630 560
	600	250 200 630 600
710	315	250 200 710 315
	355	250 200 710 355
	400	250 200 710 400
	500	250 200 710 500
	560	250 200 710 560
	600	250 200 710 600
	630	250 200 710 630

* further sizes available on enquiry/request

End caps for ducts

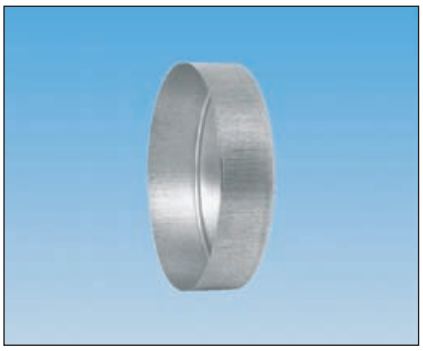
Ø [mm]*	Part No.	Weight [kg]
63	250 250 063 000	0,08
80	250 250 080 000	0,08
100	250 250 100 000	0,12
112	250 250 112 000	0,13
125	250 250 125 000	0,14
140	250 250 140 000	0,19
150	250 250 150 000	0,17
160	250 250 160 000	0,24
180	250 250 180 000	0,28
200	250 250 200 000	0,32
224	250 250 224 000	0,40
250	250 250 250 000	0,37
280	250 250 280 000	0,62
300	250 250 300 000	0,70
315	250 250 315 000	0,80
355	250 250 355 000	0,91
400	250 250 400 000	1,26
450	250 250 450 000	1,48
500	250 250 500 000	2,00
560	250 250 560 000	2,04
600	250 250 600 000	2,38
630	250 250 630 000	2,90
710	250 250 710 000	3,21



End caps
for ducts.

End caps for formed pieces

Ø [mm]*	Part No.	Weight [kg]
63	250 260 063 000	0,04
80	250 260 080 000	0,07
100	250 260 100 000	0,11
112	250 260 112 000	0,10
125	250 260 125 000	0,14
140	250 260 140 000	0,16
150	250 260 150 000	0,14
160	250 260 160 000	0,17
180	250 260 180 000	0,24
200	250 260 200 000	0,21
224	250 260 224 000	0,35
250	250 260 250 000	0,50
280	250 260 280 000	0,61
300	250 260 300 000	0,63
315	250 260 315 000	0,67
355	250 260 355 000	0,84
400	250 260 400 000	1,17
450	250 260 450 000	1,48
500	250 260 500 000	1,81
560	250 260 560 000	2,14
600	250 260 600 000	2,37
630	250 260 630 000	2,54
710	250 260 710 000	3,00



End caps
for formed pieces.

* further sizes available on enquiry/request

Motor driven damper

Motor driven damper
The Motor driven damper is tight closing in accordance with DIN 1946, part 4.
The damper is available in 230 V and 24 V versions.
The transmission can be decoupled with the help of a push button in the cap of the housing, enabling the valve to be operated manually.

Ø [mm]*	Part No. 230 V / 50 Hz	Weight [kg]
80	250 320 080 000	1,00
100	250 320 100 000	1,08
125	250 320 125 000	1,23
160	250 320 160 000	1,44
200	250 320 200 000	1,74
250	250 320 250 000	2,22
315	250 320 315 000	2,84
400	250 320 400 000	4,59
500	250 320 500 000	7,29
630	250 320 630 000	10,50

Ø [mm]*	Part No. 24 V / 50 Hz	Weight [kg]
80	250 320 080 010	1,00
100	250 320 100 010	1,08
125	250 320 125 010	1,23
160	250 320 160 010	1,44
200	250 320 200 010	1,74
250	250 320 250 010	2,22
315	250 320 315 010	2,84
400	250 320 400 010	4,59
500	250 320 500 010	7,29
630	250 320 630 010	10,50

* further sizes available on enquiry/request

Shut off valve

Ø [mm]*	Part No.	Weight [kg]
100	250 300 100 000	0,38
112	250 300 112 000	0,48
125	250 300 125 000	0,53
140	250 300 140 000	0,60
150	250 300 150 000	0,63
160	250 300 160 000	0,74
180	250 300 180 000	0,82
200	250 300 200 000	1,04
224	250 300 224 000	1,27
250	250 300 250 000	1,52
280	250 300 280 000	1,77
300	250 300 300 000	1,98
315	250 300 315 000	2,14
355	250 300 355 000	2,44
400	250 300 400 000	3,65
450	250 300 450 000	4,84
500	250 300 500 000	6,07
560	250 300 560 000	7,47
600	250 300 600 000	8,11
630	250 300 630 000	8,80

Shut off valve
are tight insulation flaps. The flaps can be used for the complete locking of the air flow. Indentations 0 - 90° on the rotary core indicate the entering angle of the flap folio. The rotary handle can be adjusted with a Phillips screwdriver.

Regulating dampers

Ø [mm]*	Part No.	Weight [kg]
63	250 310 063 000	0,30
80	250 310 080 000	0,35
100	250 310 100 000	0,40
112	250 310 112 000	0,44
125	250 310 125 000	0,49
140	250 310 140 000	0,54
150	250 310 150 000	0,57
160	250 310 160 000	0,67
180	250 310 180 000	0,73
200	250 310 200 000	0,86
224	250 310 224 000	1,10
250	250 310 250 000	1,31
280	250 310 280 000	1,51
300	250 310 300 000	1,65
315	250 310 315 000	1,81
355	250 310 355 000	2,00
400	250 310 400 000	2,91
450	250 310 450 000	3,90
500	250 310 500 000	4,92
560	250 310 560 000	6,01
600	250 310 600 000	6,40
630	250 310 630 000	6,92

Regulating dampers
for the regulation of the volume flow. The flaps will be installed, where no demands on the leak tightness of the barrier are made.
Indentations 0 - 90° on the rotary core indicate the entering angle of the flap folio. The rotary handle can be adjusted with a Phillips screwdriver.

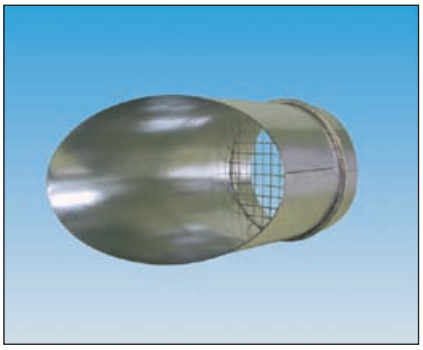
* further sizes available on enquiry/request

Non-return valve

Non-return valve
horizontally and vertically installable.

Ø [mm]*	Part No.	Weight [kg]
80	250 370 080 000	0,4
100	250 370 100 000	0,5
125	250 370 125 000	0,6
160	250 370 160 000	0,8
200	250 370 200 000	1,0
250	250 370 250 000	1,9
315	250 370 315 000	2,4

Blow out piece



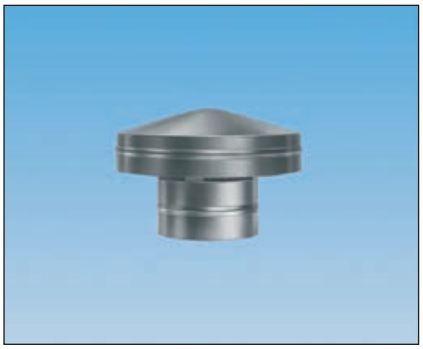
Blow out piece with protective gratings
slant with integrated protective grating.

Ø [mm]*	Part No.	Weight [kg]
80	250 400 080 000	0,2
100	250 400 100 000	0,4
112	250 400 112 000	0,4
125	250 400 125 000	0,5
140	250 400 140 000	0,6
150	250 400 150 000	0,7
160	250 400 160 000	0,7
180	250 400 180 000	0,9
200	250 400 200 000	1,1
224	250 400 224 000	1,4
250	250 400 250 000	1,6
280	250 400 280 000	1,8
300	250 400 300 000	2,2
315	250 400 315 000	2,3
355	250 400 355 000	2,7
400	250 400 400 000	4,8
450	250 400 450 000	5,3
500	250 400 500 000	7,0
560	250 400 560 000	9,0
600	250 400 600 000	9,8
630	250 400 630 000	12,0
710	250 400 710 000	14,3

* further sizes available on enquiry/request

Roof hoods

Ø [mm]*	Part No.	Weight [kg]
100	250 430 100 000	0,7
112	250 430 112 000	0,8
125	250 430 125 000	0,9
140	250 430 140 000	1,0
150	250 430 150 000	1,1
160	250 430 160 000	1,1
180	250 430 180 000	1,7
200	250 430 200 000	1,9
224	250 430 224 000	2,4
250	250 430 250 000	2,6
280	250 430 280 000	3,6
300	250 430 300 000	3,8
315	250 430 315 000	4,1
355	250 430 355 000	6,0
400	250 430 400 000	6,2
450	250 430 450 000	7,2
500	250 430 500 000	11,2
560	250 430 560 000	12,0
600	250 430 600 000	12,2
630	250 430 630 000	12,8
710	250 430 710 000	14,5



Roof hoods
out of galvanised sheet. The roof hoods can be inserted for the extraction of outer air and also to exhaust air.
The roof hoods are provided with a protective grating and an apron, which is a safe and effective protection against rain, leaves etc..
Suitable for ducts.

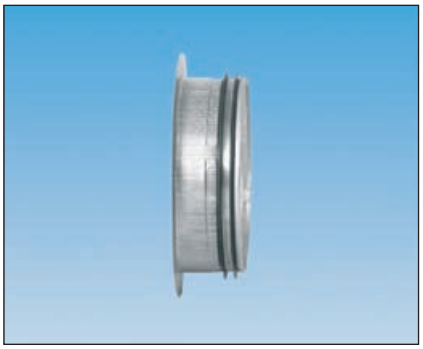
Ventilation hoods

Ø [mm]*	Part No.	Weight [kg]
100	250 470 100 000	0,96
125	250 470 125 000	1,26
140	250 470 140 000	1,63
150	250 470 150 000	1,83
160	250 470 160 000	1,95
180	250 470 180 000	2,49
200	250 470 200 000	2,92
224	250 470 224 000	3,60
250	250 470 250 000	4,31
280	250 470 280 000	5,24
300	250 470 300 000	5,89
315	250 470 315 000	6,75
355	250 470 355 000	7,83
400	250 470 400 000	9,57
450	250 470 450 000	16,0
500	250 470 500 000	20,0
560	250 470 560 000	30,2
600	250 470 600 000	35,4
630	250 470 630 000	38,0
710	250 470 710 000	49,6

Ventilation hoods
out of galvanised sheet.
Ventilation hoods are suitable for the exhaust air. The air will be blown out with an upwards jet.
Protective gratings as well as two drainages prevent the intrusion of water and leaves into the duct system.
To fit direct onto ducting up to 400 mm
Ventilation hoods larger than 400 mm are delivered with a double flange.
For installation an additional take off is required.

* further sizes available on enquiry/request

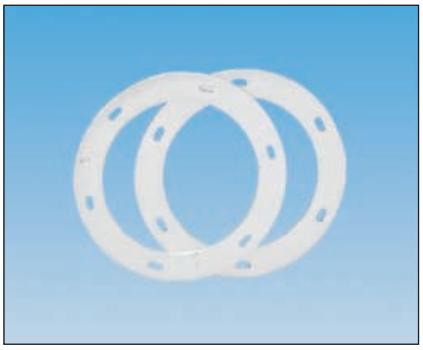
Take off



Take off
galvanised.

Ø [mm]*	Part No.	Weight [kg]
63	250 500 063 000	0,1
80	250 500 080 000	0,1
100	250 500 100 000	0,1
112	250 500 112 000	0,1
125	250 500 125 000	0,1
140	250 500 140 000	0,1
150	250 500 150 000	0,1
160	250 500 160 000	0,1
180	250 500 180 000	0,1
200	250 500 200 000	0,2
224	250 500 224 000	0,2
250	250 500 250 000	0,3
280	250 500 280 000	0,3
300	250 500 300 000	0,3
315	250 500 315 000	0,3
355	250 500 355 000	0,4
400	250 500 400 000	0,6
450	250 500 450 000	0,7
500	250 500 500 000	0,8
560	250 500 560 000	0,9
600	250 500 600 000	1,0
630	250 500 630 000	1,0
710	250 500 710 000	1,4

Flange ring



Flange ring
out of galvanised flat bar.

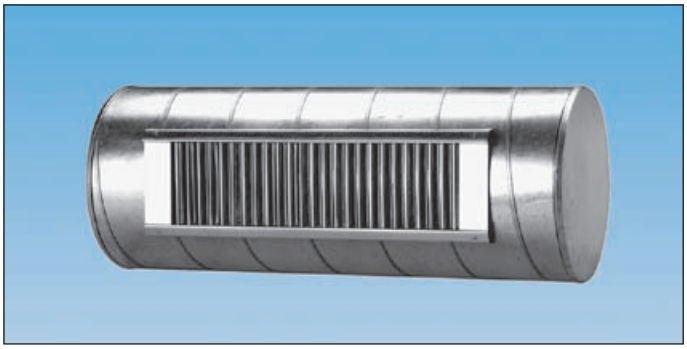
Ø [mm]*	Part No.	Weight [kg]
80	250 530 080 000	0,2
100	250 530 100 000	0,2
112	250 530 112 000	0,2
125	250 530 125 000	0,3
140	250 530 140 000	0,6
150	250 530 150 000	0,5
160	250 530 160 000	0,5
180	250 530 180 000	0,6
200	250 530 200 000	0,6
224	250 530 224 000	0,7
250	250 530 250 000	0,8
280	250 530 280 000	1,2
300	250 530 300 000	1,3
315	250 530 315 000	1,4
355	250 530 355 000	1,6
400	250 530 400 000	1,7
450	250 530 450 000	1,9
500	250 530 500 000	2,1
560	250 530 560 000	2,6
600	250 530 600 000	2,8
630	250 530 630 000	2,9
710	250 530 710 000	3,3

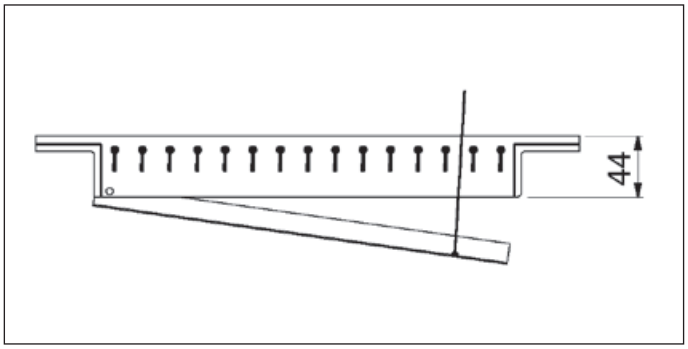
* further sizes available on enquiry/request

Circular duct grille

REG 1

With directional bars, suitable for both supply and exhaust air.

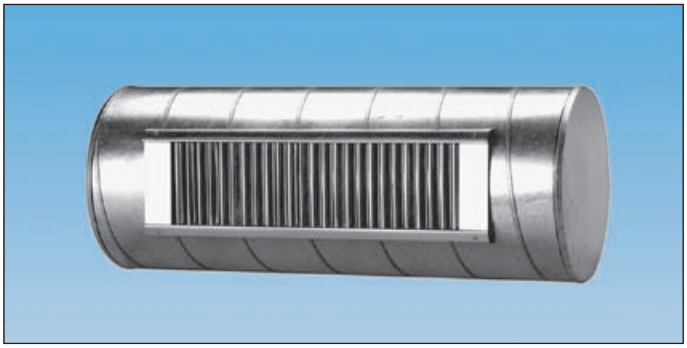


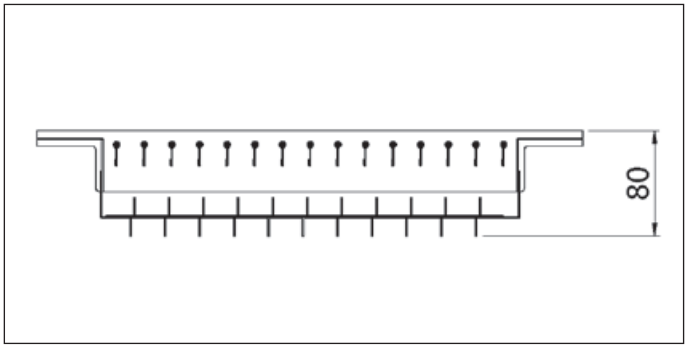


Part No.	Dimensions A x B [mm]	Minimum diameter [mm]
250 550 425 075	425 x 75	160
250 550 425 125	425 x 125	250
250 550 425 225	425 x 225	500
250 550 625 075	625 x 75	160
250 550 625 125	625 x 125	250
250 550 625 225	625 x 225	500
250 550 1025 075	1.025 x 75	200
250 550 1025 125	1.025 x 125	250
250 550 1025 225	1.025 x 225	500

REG 3

With straight sliding damper. The grille is suitable for exhaust only.

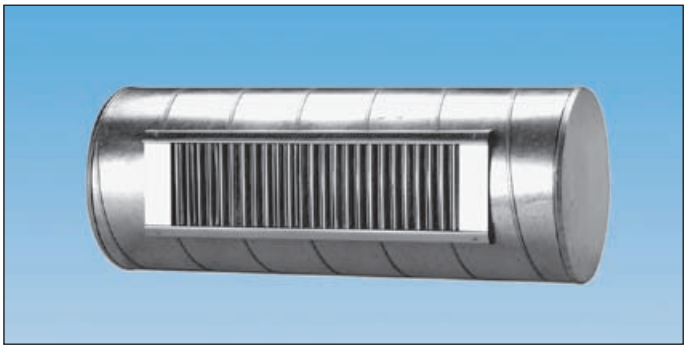


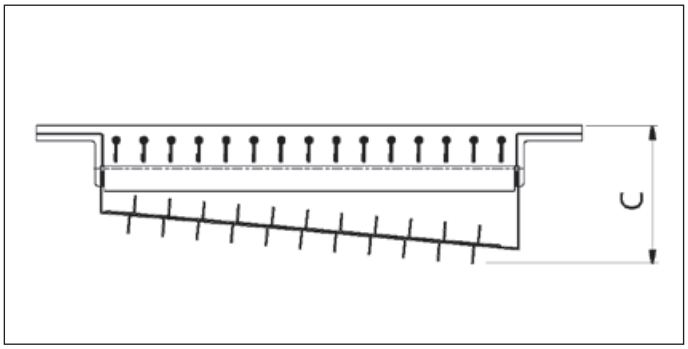


Part No.	Dimensions A x B [mm]	Minimum diameter [mm]
250 560 425 075	425 x 75	160
250 560 425 125	425 x 125	250
250 560 425 225	425 x 225	500
250 560 625 075	625 x 75	160
250 560 625 125	625 x 125	250
250 560 625 225	625 x 225	500
250 560 1025 075	1.025 x 75	200
250 560 1025 125	1.025 x 125	250
250 560 1025 225	1.025 x 225	500

Circular duct grille

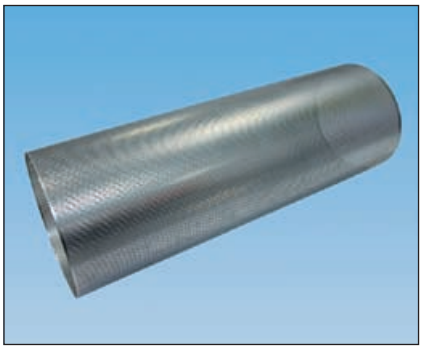
REG 4
With directional bars and slanting sliding damper, specifically for supply air. The air is distributed evenly throug the grille.





Part No.	Dimensions A x B [mm]	Minimum diameter [mm]	Installation depth C [mm]
250 570 425 075	425 x 75	160	116
250 570 425 125	425 x 125	250	116
250 570 425 225	425 x 225	500	116
250 570 625 075	625 x 75	160	131
250 570 625 125	625 x 125	250	131
250 570 625 225	625 x 225	500	131
250 570 1025 075	1.025 x 75	200	186
250 570 1025 125	1.025 x 125	250	186
250 570 1025 225	1.025 x 225	500	186

Recirculating air duct

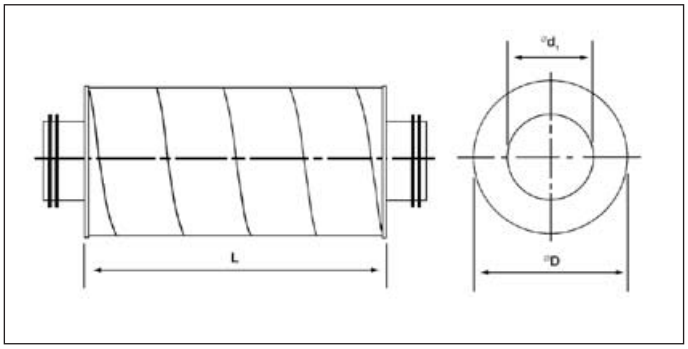


Recirculating air duct 1 m
Made of galvanised steel plate.

Ø [mm]*	Part No.
250	250 840 250 000
355	250 840 355 000
450	250 840 450 000
560	250 840 560 000
710	250 840 710 000

Silencer

Silencer
In case of ø ≥ 300 mm 2 female couplers will be provided.
These have to be fitted to the silencer before it is mounted.

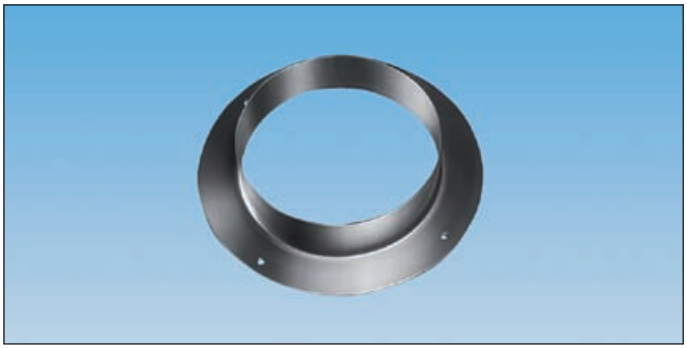


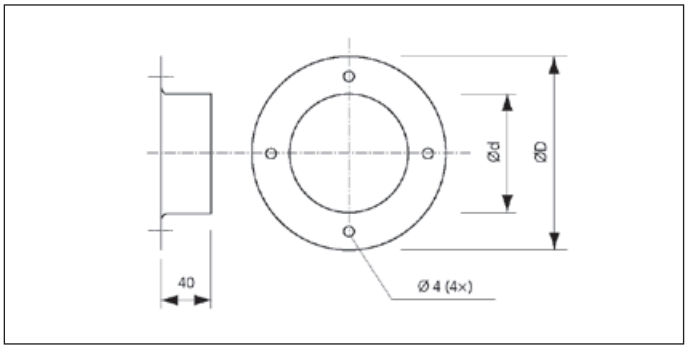
Ød$_1$ [mm]*	Ød$_D$ [mm]*	Part No.	Length [mm]	Weight [kg]
80	180	250 600 080 030	300	2
80	180	250 600 080 060	600	3
80	180	250 600 080 090	900	5
100	200	250 600 100 030	300	2
100	200	250 600 100 060	600	3
100	200	250 600 100 090	900	5
125	224	250 600 125 030	300	3
125	224	250 600 125 060	600	4
125	224	250 600 125 090	900	7
125	224	250 600 125 120	1200	9
150	250	250 600 150 030	300	3
150	250	250 600 150 060	600	5
150	250	250 600 150 090	900	8
150	250	250 600 150 120	1200	10
160	260	250 600 160 030	300	3
160	260	250 600 160 060	600	6
160	260	250 600 160 090	900	8
160	260	250 600 160 120	1200	10
200	300	250 600 200 030	300	4
200	300	250 600 200 060	600	7
200	300	250 600 200 090	900	10
200	300	250 600 200 120	1200	12
250	355	250 600 250 060	600	9
250	355	250 600 250 090	900	12
250	355	250 600 250 120	1200	15
315	500	250 600 315 060	600	12
315	500	250 600 315 090	900	18
315	500	250 600 315 120	1200	24
400	600	250 600 400 090	900	22
400	600	250 600 400 120	1200	32
500	710	250 600 500 090	900	26
500	710	250 600 500 120	1200	39
630	800	250 600 630 090	900	44
630	800	250 600 630 120	1200	56

* further sizes available on enquiry/request

Female take off

Take off with wide flange for wall
and ceiling breakthroughs.





$Ø_d$ [mm]*	$Ø_D$ [mm]*	Part No.	Weight [kg]
80	145	250 830 080 000	0.20
100	165	250 830 100 000	0.30
125	190	250 830 125 000	0.30
160	225	250 830 160 000	0.40
200	265	250 830 200 000	0.60
250	315	250 830 250 000	0.80
315	380	250 830 315 000	1.10
355	420	250 830 355 000	1.30
400	465	250 830 400 000	1.60
500	565	250 830 500 000	2.00
560	625	250 830 560 000	2.00
630	695	250 830 630 000	2.00
710	775	250 830 710 000	2.00

Pipe clips

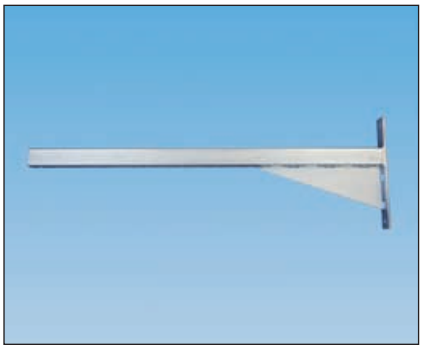
Pipe clips
two-piece, out of galvanised sheet
steel with ruber inlay, 25 x 2 mm.

Ø [mm]*	Part No.	Weight [kg]
80	250 820 080 000	0,2
100	250 820 100 000	0,2
112	250 820 112 000	0,2
125	250 820 125 000	0,2
140	250 820 140 000	0,2
150	250 820 150 000	0,2
160	250 820 160 000	0,2
180	250 820 180 000	0,3
200	250 820 200 000	0,3
224	250 820 224 000	0,3
250	250 820 250 000	0,3
280	250 820 280 000	0,3
300	250 820 300 000	0,4
315	250 820 315 000	0,4
355	250 820 355 000	0,5
400	250 820 400 000	0,5
450	250 820 450 000	0,6
500	250 820 500 000	0,6
560	250 820 560 000	0,7
600	250 820 600 000	0,7
630	250 820 630 000	0,8
710	250 820 710 000	0,9

* further sizes available on enquiry/request

Wall brackets

Length [mm]	Part No.
300	250 900 030 000
400	250 900 040 000
500	250 900 050 000
600	250 900 060 000
800	250 900 080 000
1.000	250 900 100 000

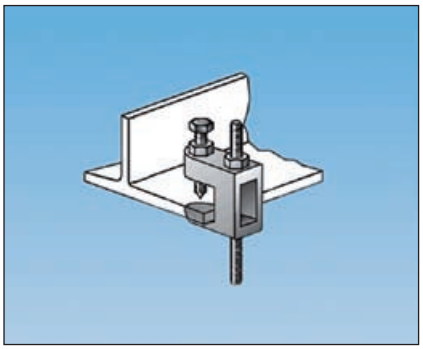


Corrugated sheet metal brackets

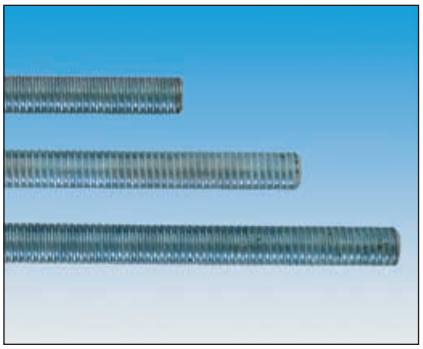
Part No.
250 920 010 000

Girder clamp

Part No.
250 940 080 000



Threaded rods



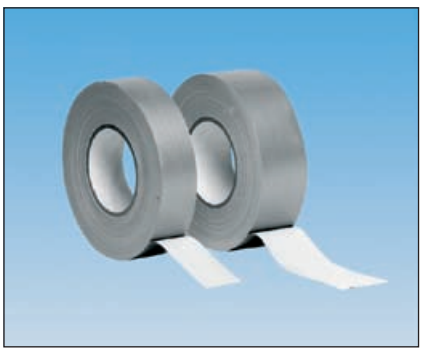
Length [m]	Gewinde	Part No.
1,0	M8	250 970 080 100
3,0	M8	250 970 080 300
1,0	M12	250 970 120 100
3,0	M12	250 970 120 300

Self-tapping screw

Self-tapping screw 3,9 x 13 mm

Part No.	
250 990 010 100	100 Stück

Sealing tape

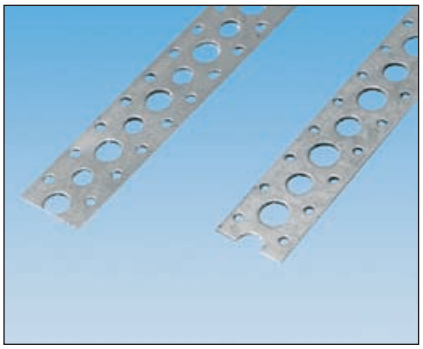


Fabric tape, grey, width 50 mm

Part No.	Length [m]
250 990 050 050	50

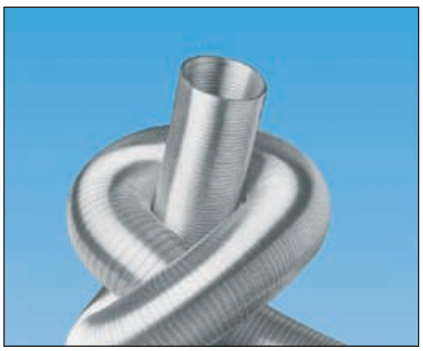
Perforated tapes

Length [m]	Part No.	
25	250 960 010 025	0,9 x 16 mm
25	250 960 020 025	0,9 x 25 mm



Flexible ducts

Ø [mm]*	Part No.	Length [m]	Weight [kg]
63	250 975 063	5,0	0,8
80	250 975 080	5,0	1,1
100	250 975 100	5,0	1,4
125	250 975 125	5,0	1,7
140	250 975 140	5,0	1,8
150	250 975 150	5,0	2,0
160	250 975 160	5,0	2,1
180	250 975 180	5,0	2,4
200	250 975 200	5,0	2,7
224	250 975 224	5,0	3,0
250	250 975 250	5,0	3,4
280	250 975 280	5,0	3,8
300	250 975 300	5,0	4,1
315	250 975 315	5,0	4,3



Flexible ducts
made out of aluminium foil (two-ply). Delivered in length of 1,2 m, can be extended to 5,0 m.

Clips

Ø [mm]*	Part No.	Weight [kg]
50 - 140	250 976 140	0,03
50 - 224	250 976 224	0,04
50 - 315	250 976 315	0,05
50 - 400	250 976 400	0,07

Clips
out of stainless steel with screw thread, for the fastening of flexible ducts and tubes.

* further sizes available on enquiry/request

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Part no.	Quantity	Description	€ / Unit	Total

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- ❑ Extraction units with automatic filter cleaning
- ❑ Vehicle exhaust extraction systems

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