Contact us. We are happy to help!

mail@kemper.co.uk

General ventilation systems

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» Worth knowing

Whether a displacement or a mixed ventilation system: a hall ventilation system for welding fumes is **more than just a supplement to spot extraction.** It also secures the occupational safety for surrounding work areas.

Effective hall ventilation closes this leak during direct welding fume extraction or it is used in addition to spot extraction. In addition, hall ventilation guarantees the **protection of others in the vicinity** of welding applications. While welders themselves without spot extraction are protected at the point of origin of welding fumes by special welding helmets with automatic ventilation and filtering, the welding fumes fill the surrounding area unhindered.

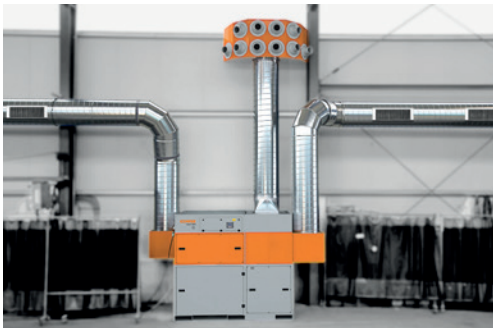
Employees without breathing protection and without hall ventilation would be exposed to the harmful dust particles. Not only that, hall ventilation systems also **improve** the **indoor climate** by constantly circulating the air, **saving** up to **70 percent in heating costs.**

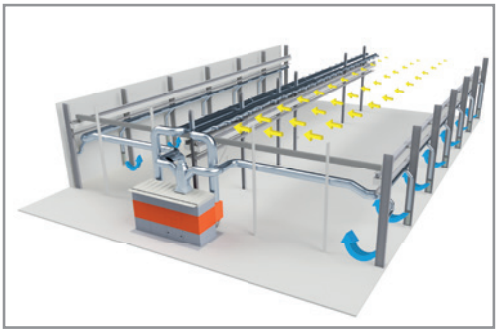
Mixed ventilation or displacement ventilation?

Companies have a choice between two types of room ventilation: **mixed ventilation** or displacement ventilation, also called layered ventilation. Both processes extract air at a height of four to six meters. With mixed ventilation, the purified air is blown at a height through nozzles or vents. Thus all the air is mixed.

Displacement ventilation, however, supports the temperature of the welding fumes by supplying air from below. For this reason, the trade association also recommends this system. In the welding work zone areas, clean air is supplied at low velocity to the workshop through outlets close to the floor. The rising air supports the natural buoyancy of the welding fumes as they rise where they are supposed to. In this way the air quality improves in the area around the outlets and in the breathing area of the employees.

Table of contents





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Layered ventilation

CleanAirTower

General ventilation system with cleanable filter and layer ventilation principle

Applications

- Workshops where local exhaust ventilation is not possible
- To complement local exhaust ventilation systems
- Environments with changing sources of smoke and dust

Mode of operation

- Extraction of ambient air via an integrated ventilator
- The cleaned air is returned to the workspace by low level outlets
- The warm cleaned air directs the welding smoke again towards the intake grating and so, a slow air circulation (layered ventilation) at the workstations is created.

Properties

- Layer ventilation principle, recommended by health and safety bodies
- Automatic filter cleaning
- Contamination-free dust disposal in one-way containers
- KEMPER-Cloud connection via mobile network*

CleanAirTower SF

General ventilation system with storage filter and layer ventilation principle

Applications

- Workshops where local exhaust ventilation is not possible
- Low amounts of dust
- Workstations, production halls, logistic halls and warehouses

Properties

- KEMPER-Cloud connection via mobile network*
- Slow, low-impulse air circulation
- System barely generates air turbulence
- Short-term increase in extraction performance due to TurboBoost function

*Cloud function: Cloud use free of charge of 12 months.

The CleanAirTower is used wherever local extraction cannot be carried out or is unsatisfactory. It effectively protects employees and machines from fine dust. The purified air remains in the area. The device hardly creates any air turbulence, ensuring that the contaminated air never penetrates into uncontaminated areas. The CleanAirTower functions according to the layer ventilation principle recommended by health and safety bodies.

Plug & Play

▶Video

Cleanable filter

Storage filter

Storage filter

Technical Data

	CleanAirTower	CleanAirTower SF 9000	CleanAirTower SF 5000
Art. No	**390 600**	**390 450**	**390 400**
Filter			
Filter stages	1	2	2
Filter method	Cleanable filter	Disposable filter	Disposable filter
Filter cleaning method	Rotating nozzle	-	-
Filter surface	approx. 20 m^2	100 m^2	50 m^2
Number of filter elements	3	1	1
Filter surface total	60 m^2	100 m^2	50 m^2
Filter material	PTFE membrane	Nano-cellulose	Nano-cellulose
Filter efficiency	> 99.9 %	> 99.9 %	> 99.9 %
Dust classification	M	M	M
Basic data			
Extraction capacity	6,000 m^3/h	9,000 m^3/h	5,000 m^3/h
Height	3,622 mm	3,050 mm	2,660 mm
Diameter	1,172 mm	1,172 mm	1,172 mm
Weight	666 kg	446 kg	416 kg
Motor power	5.5 kW	5.7 kW	3.35 kW
Power supply	3 x 400 V / 50 Hz	3 x 400 V / 50 Hz	3 x 400 V / 50 Hz
Rated current	11 A	9 A	5.2 A
Control voltage	24 V, DC	24 V, DC	24 V, DC
Noise level	72 dB(A)	70 dB(A)	70 dB(A)
Additional information			
Fan type	Radial fan, direct driven	Radial fan with EC motor	Radial fan with EC motor
Compressed air supply	5 - 6 bar	-	-
Dust collection container capacity	10 L	-	-

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AirWatch

For monitoring production halls and warehouses

AirWatch continuously monitors the air quality in production halls and warehouses using an optical, laser-operated measuring method. The measured values – including the number and size distribution of the fine dust particles – are stored in a Cloud via mobile phone technology and can be displayed and evaluated anywhere on a PC, smartphone or tablet. An LED light area (green, yellow, red) on the AirWatch itself indicates the air quality in the hall. AirWatch also controls the room-ventilation and extraction systems, thereby ensuring efficient and needs-based usage.

Applications

- Monitoring and documentation of air quality/dust concentration
- Workstations, production halls, logistic halls and warehouses
- Efficient control of room-ventilation and extraction systems

Properties

- Visual, laser-operated measurement methods
- Individually adjustable limit values and alarm thresholds
- Displays particle count, size distribution, PM2.5, PM10 on smartphone, tablet and PC
- KEMPER-Cloud connection via mobile network*

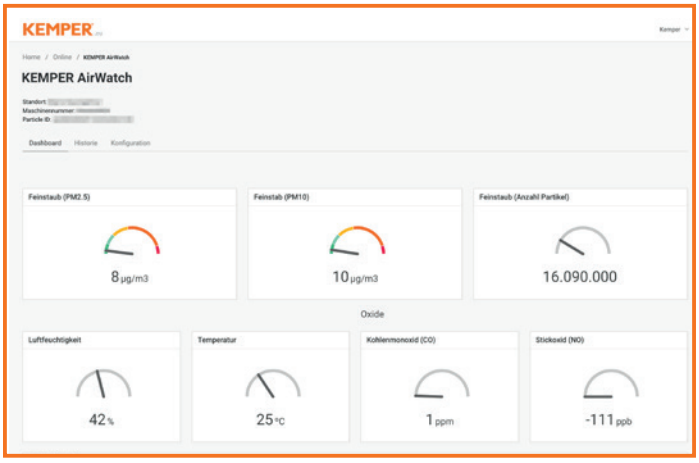
Benefits

- Control: Do you comply with the target values you have set yourself? Easy to read thanks to LED illuminated area (green, yellow, red)
- Security: By documenting the data through detailed measurements and storing it in the KEMPER cloud.
- Strengthening trust: Presentation of the effectiveness of occupational health and safety measures to employees at AirWatch itself, smartphone, tablet and PC

Order Data

Art. No	
390 200	AirWatch
390250	Wall mount bracket (accessory part)
390251	Telescopic tripod (accessory)

Also suitable for wall mounting



*Cloud function: Cloud use free of charge of 12 months.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AirWatch
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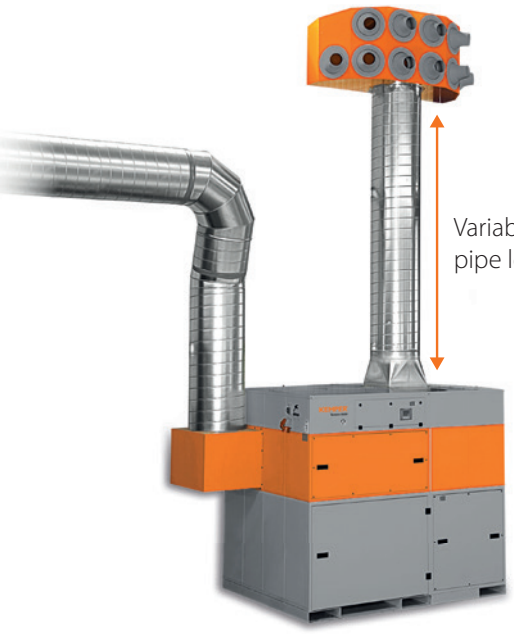
Mixed ventilation

KemJet

Indoor air cleaning ventilation system with a simple stand-alone installation and high performance nozzles



▶Video

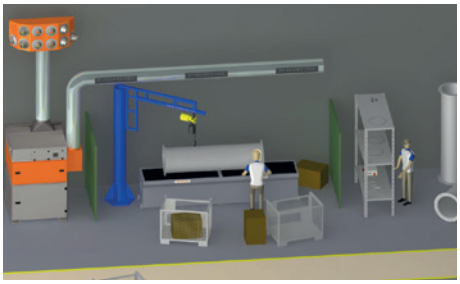
Applications

- Workshops where local exhaust ventilation is not possible
- To complement local exhaust ventilation systems
- For large work pieces or where work positions are well separated

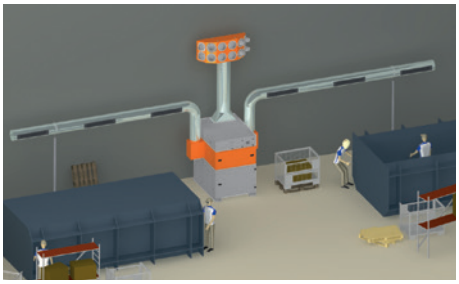
Properties

- Automatic filter cleaning, pressure-controlled
- Control via touch screen
- KemTex® ePTFE filter cartridges
- Dust collection container with pneumatic lifting device
- High-performance nozzles adjustable by 30 degrees

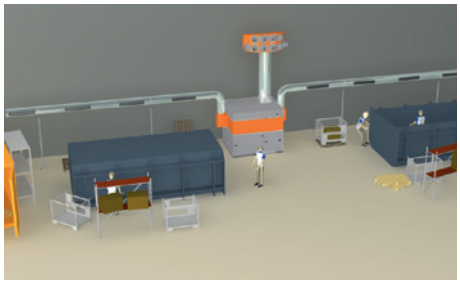
Extraction capacity: 6,000 m^3/h



Extraction capacity: 9,000 m^3/h

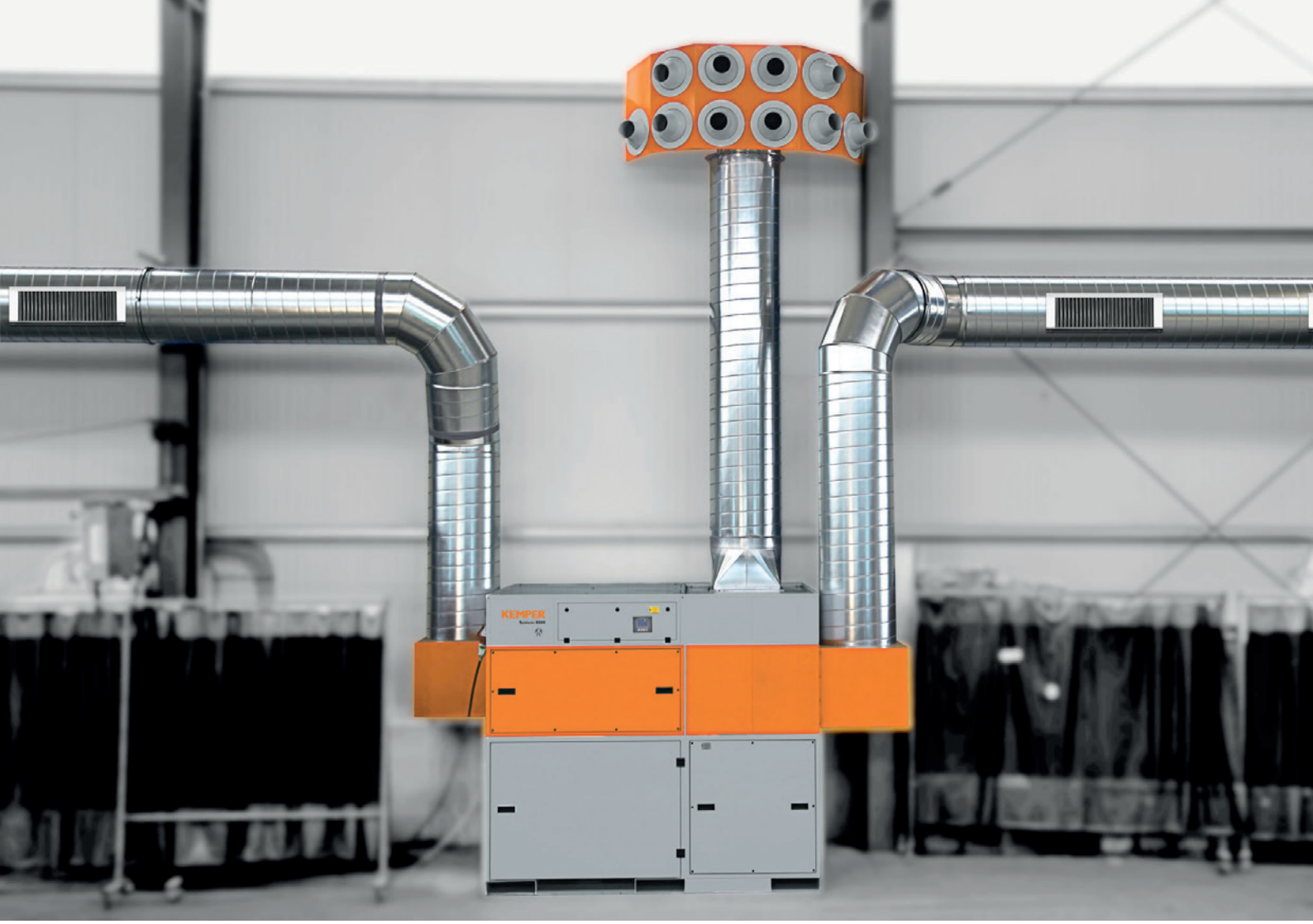


Extraction capacity: 13,000 m^3/h



Technical Data

	KemJet 6000 m^3/h	KemJet 9000 m^3/h	KemJet 13000 m^3/h
Art. No	**99 880 0407**	**99 880 0401**	**99 880 0414**
Filter			
Filter surface total	60 m^2	90 m^2	120 m^2
Basic data			
Extraction capacity	6,000 m^3/h	9,000 m^3/h	13,000 m^3/h
Height	Variable	Variable	Variable
Dimensions of filter unit (W x D x H)	1,413 x 1,413 x 2,110 mm	1,413 x 1,864 x 2,110 mm	2,375 x 1,864 x 2,110 mm
Dimensions of blower unit (W x D x H)	1,670 x 730 x 760 mm	1,670 x 730 x 760 mm	1,905 x 990 x 860 mm
Weight of filter unit	630 kg	790 kg	1,230 kg
Total weight	900 kg	950 kg	1,450 kg
Motor power	4 kW	5.5 kW	7.5 kW
Power supply	3 x 400 V / 50 Hz	3 x 400 V / 50 Hz	3 x 400 V / 50 Hz
Rated current	7.8 A	10.7 A	13.8 A
Noise level	65 dB(A)	65 dB(A)	65 dB(A)
Additional information			
Fan type	Radial fan, belt-driven	Radial fan, belt-driven	Radial fan, belt-driven
Nozzles	10 x 200 mm	12 x 200 mm	10 x 250 mm
Length of suction pipe	6,000 mm	2 x 6,000 mm	2 x 9,000 mm
Wall mounting (set)	99 8103 465	99 8103 466	99 8103 467
Supports (set)	99 8103 468	99 8103 479	99 8103 470
Range air nozzles	approx. 30 m	approx. 38 m	approx. 45 m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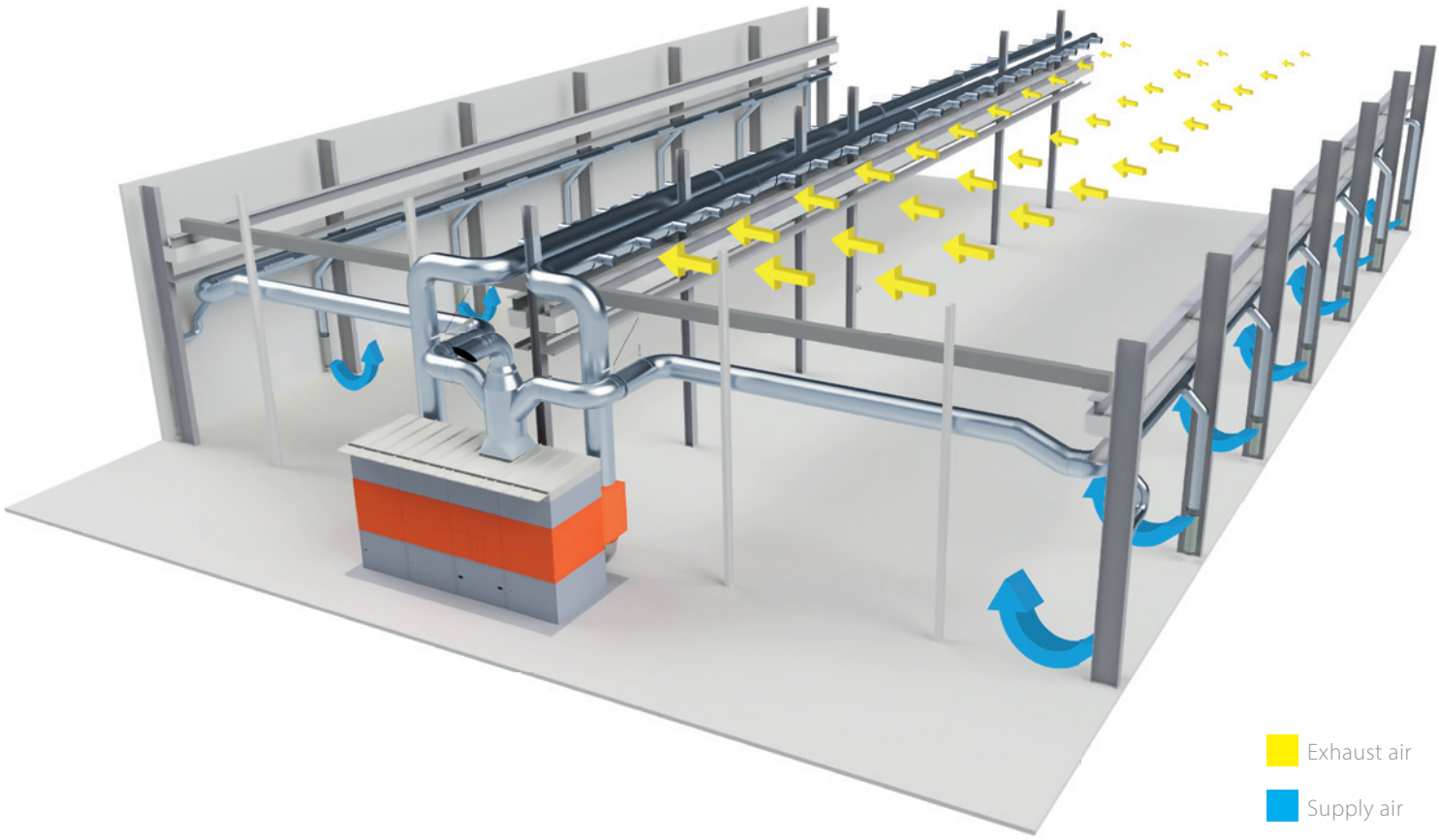
General ventilation system concepts

Concept development individually tailored to your needs

Every production hall is different. KEMPER offers ventilation solutions based on the mixed ventilation principle, displacement ventilation – also known as layer ventilation – or concepts combining both. We analyse your initial situation and develop a hall ventilation concept suitable for your production environment, taking into account your budget, energy efficiency and the best possible hall air quality for your employees.

Send us your project enquiry!

mail@kemper.co.uk



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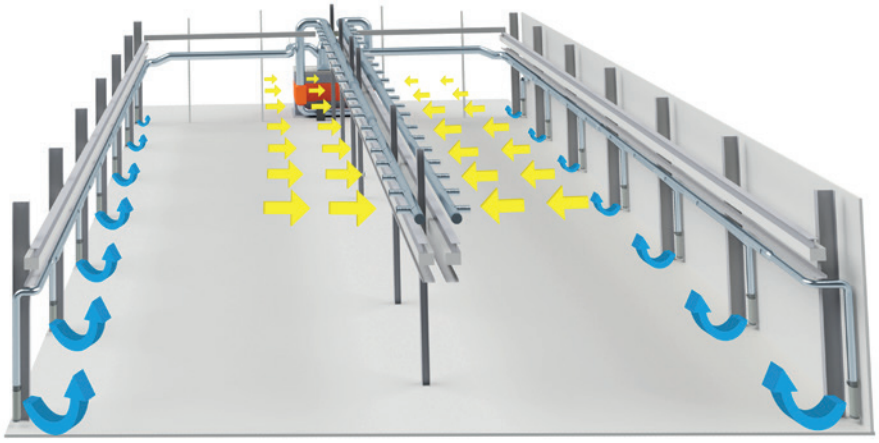
Differences between layer ventilation and mixed ventilation

Layer ventilation / displacement ventilation

The rising, contaminated air is captured via inlet pipes at heights of four to six metres. Source outlet pipes near the floor return the filtered air back into the room at low velocity. The filtered air displaces the welding smoke and supports its thermal flow. The ducting systems are connected to the central extraction and filter system.

Mixed ventilation / push-pull

The push-pull ventilation system is an outlet and inlet system where the pipes are mounted opposite each other at a height of about four to six meters. The ducting systems are connected to a central extraction unit. The entire hall air is mixed with this air cleaning principle.



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