TEKA

The air purifiers

WAREHOUSE

CATALOG 2023

www.teka-warehouse.com

WAREHOUSE

Our Hotline

+49 25 41 84 84 1 0

Welcome to the TEKA WAREHOUSE

Dear customers and partners of TEKA,

consultancy costs time and money. In the TEKA Warehouse you can **choose** your appropriate unit or create **your own system**. The following pages will assist you in selecting the right system.

We save on a time-intensive consulting and pass this advantage directly on to you.

In addition, you will receive your TEKA system even **more quickly**, because we keep **many products** of TEKA warehouses **stocked**. The system will usually arive i**n a few days** delivered by a shipping agency (depending on your location).

TEKA GmbH is a family business.

Founded in 1995 by the current directors Jürgen Kemper and Erwin Telöken. Simon Telöken moved up to the CEO-level in 2015.

The company is located in Velen in Westphalia. In the nearby Borken-Weseke TEKA operates a training center for special seminars, product training and demonstration.

The air purifiers

Erwin Telöken

Pablo Gallardo

www.**teka-warehouse**.com

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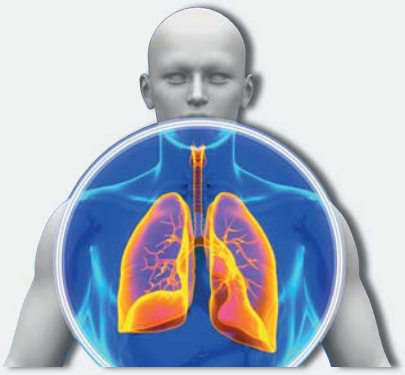
The air purifiers

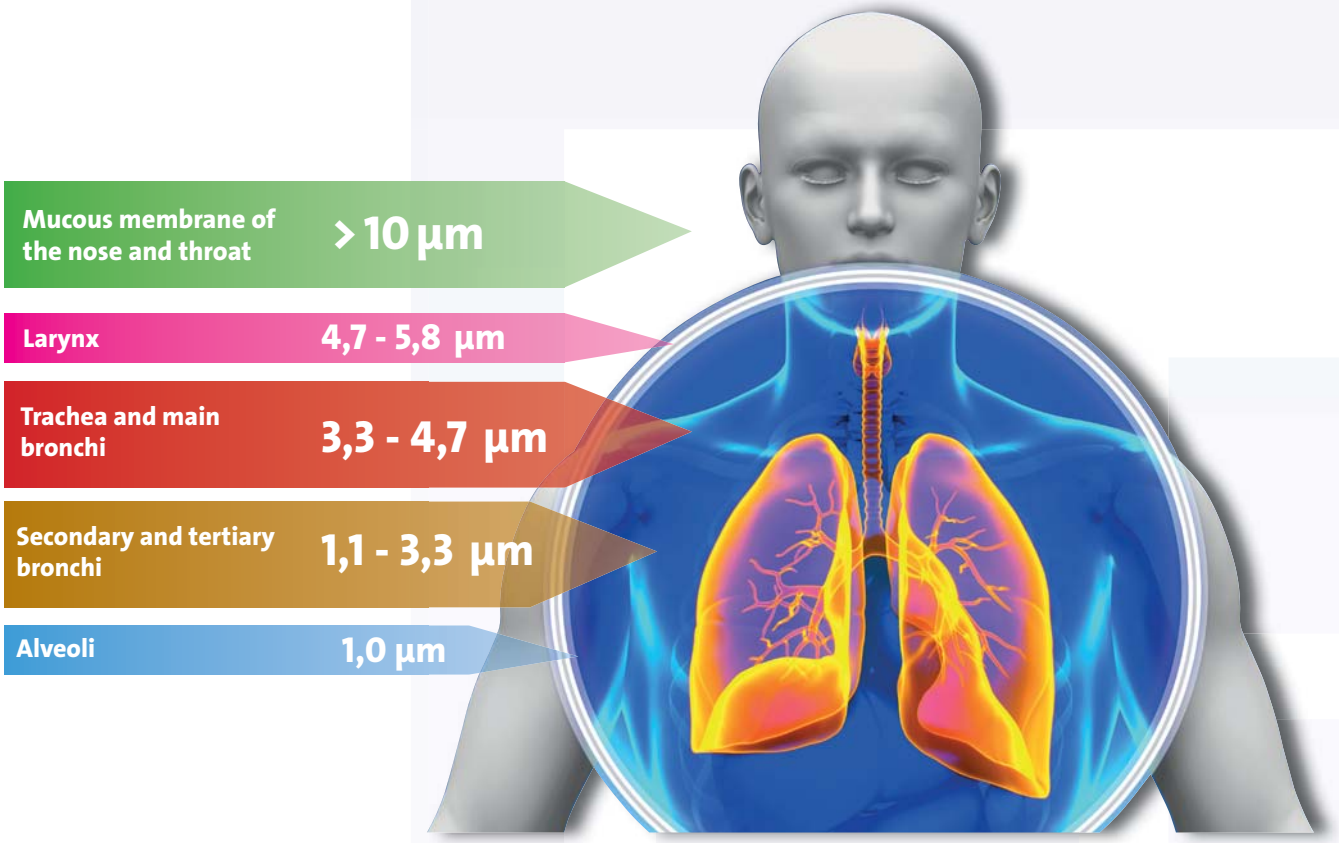


The future is NOW

Good to know

What is dust/fume?

The definition of dust/fume applied in this context describes the amount of dispersed, firm particles in the air, which are produced inter alia during thermal processes such as welding.



Medical illustration:
Internalisation of particles of different sizes into the human body

When does dust/fume occur?

In welding technology dust/ fume and thus hazardous substances are produced

due to the use of
- ► base materials
- ► filler materials
- ► impurities
- ► ambient air

during processes such as
- ► evaporation
- ► condensation
- ► oxidation
- ► decomposition
- ► pyrolisis
- ► combustion

Good to know

Why is dust/fume dangerous?

In general, every kind of dust/fume can lead to respiratory diseases (bronchitis, obstructive bronchitis) resulting from the inhaling of dust in a high concentration and for a longer period. Dust/fume is particularly dangerous if it contains hazardous substances.

Particles contained in welding fume are inhalable and respirable and in case of chromium-nickel steel, they are carcinogenic. The Ordinance on Hazardous Substances requires a local extraction: “Dusts shall be collected and disposed of safely at the place of its origin. The extracted air shall be conducted in such a way that as little dust as possible passes into the workers‘ breathing air. The extracted air may only be returned to the working area if it has been adequately cleaned. Equipment to separate, collect and precipitate dusts must be state of the art. When these devices are first put into operation, it must be checked if they are sufficiently effective. At least once a year the devices must be inspected with respect to their proper functioning, serviced and, if relevant, repaired. The results of the inspections according to the sentences 1 and 2 shall be preserved.” (Annex I No. 2, § 2.3(5,7))

German framework regulation Ordinance on Hazardous Substances (GefStoffV)

When it came into effect on January 1st, 2005, the Ordinance on Hazardous Substances restructured the occupational safety for activities involving hazardous substances as implementation of several EC directives. Welding fume is considered a hazardous substance, thus the Ordinance on Hazardous Substances applies.

Good to know

Occupational exposure limits

Occupational exposure limits serve to protect the employees and their health against the dangers of inhalation of substances (TRGS 900). They came into effect in 2005 and replaced the maximum workplace concentration values that applied until then.

TRGS 400 clearly states that the employer needs to carry out an assessment of the risks and that the necessary protective measures must be taken before starting the work with hazardous substances (§ 3.1(2)). The employer always has the overall responsibility (§ 3.1(6)).

TRGS 402 informs about the measures which can be taken by an employer in order to comply with the occupational exposure limits. The decision tree on the right can be used as a first clue.

Hazardous substance	Chemical symbol	Occupat. exposure limit (in mg/m³)	Health risk
Aluminium oxide	Al_2O_3	1.25**	Fibrosis, neuropsychic symptoms
Barium compounds	Ba	0.5	Acute toxicity
Lead compounds	Pb	0.15	Damage to brain, kidneys, nervous system
Chromium (III) compounds	Cr	2	Skin damage
Chromium (VI) compounds	Cr (VI)	-	Carcinogenic
Cobalt(compounds)	Co	0.1	Carcinogenic
Ferric oxide	Fe_2O_3	1.25**	Siderosis
Formaldehyde	CH_2O	0.37	Potentially carcinogenic
Carbon dioxide	CO_2	9100	Damage to nervous and circulatory system
Carbon monoxide	CO	35	Damage to cardiovascular system
Manganese	Mn	0.02	Damage to central nervous system/resp. tract
Nickel	Ni	0.006	Potentially carcinogenic/skin damage
Nickel compounds	NiO u.a.	0.05	Carcinogenic
Phosgene	$COCl_2$	0.41	Damage to lung
Nitrogen dioxide	NO_2	0.95	Lung-function abnormalities
Nitrogen monoxide	NO	2.5	Impact on vascular and nervous system
Zinc oxide	ZnO	0.1	Metal fume fever/ skin damage
Tin compounds	Sn	2	Toxicity

* The information is taken from GESTIS substances database of the Institute for occupational safety and health (Institut for Arbeitsschutz – IFA) of the German Social Accident Insurance. We do not assume any liability for the accuracy of the data and for possible typing and transmission errors. In case of doubt, please consult the GESTIS database and/or a member of the IFA.
**General dust limit

Good to know

The Technical Rules for Hazardous Substances

The Technical Rules for Hazardous Substances (Technischen Regeln for Gefahrstoffe -TRGS) reflect the state of the art, occupational medicine and work hygiene as well as other established results of occupational research regarding work with hazardous substances including their classification and labelling. They are determined and adjusted by the Committee on Hazardous Substances (Ausschuss for Gefahrstoffe - AGS) and announced by the German Federal Ministry of Labour and Social Affairs in the Joint Ministerial Gazette (Gemeinsames Ministerialblatt) according to the Ordinance on Hazardous Substances.

Ordinance on Hazardous Substances
http://ww.w.teka.eu/gefstoffv

TRGS 528 (Welding work)
http://ww.w.teka.eu/trgs528

TRGS 560 (Air recirculation)
http://ww.w.teka.eu/trgs560

Air circulation when dealing with carcinogenic substances

If activities are carried out in a working area involving hazardous substances of category 1 or 2 which are carcinogenic, mutagenic or have a negative impact on fertility, the extracted air there must not be returned into the working area. This does not apply if the air has been adequately decontaminated of such substances using processes or devices recognised by the authorities or the statutory accident insurance institutions. The air must then be conducted or cleaned in such a way that hazardous substances that are carcinogenic, mutagenic and toxic to reproduction do not pass into the breathing air of other workers." (§ 10(5) GefStoffV)

Good to know

If the welding fumes contain carcinogenic parts – such as nickel compounds or chromates – the exhaust air has to be led to the outside. In exceptional cases, the cleaned air can be returned if the requirements of the TRGS 560 „Technical Rules for Hazardous Substances - Air return when handling carcinogenic, mutagenic substances and substances toxic to reproduction“ are met. According to this, the concentration of hazardous substances in the air which is returned into the working area (returned cleaned air) must not exceed a tenth of the former TRK (technical guideline concentration) value.

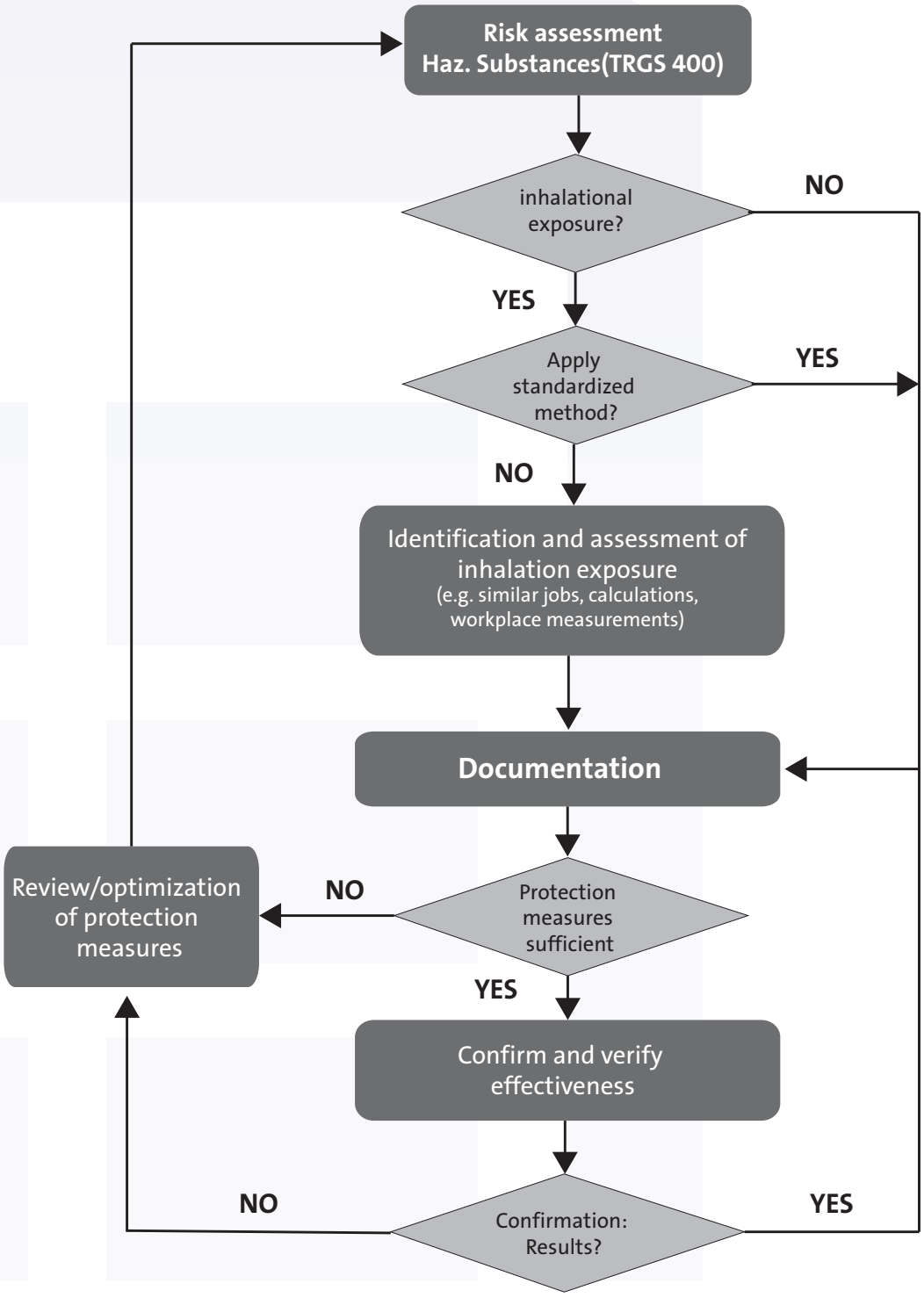
Extract from TRGS 528

4.5 Air return: (1) Extracted air may only be returned to the working area if it has been adequately purified. Ventilation systems with air return may be used if they are type-approved or if individual measurements are conducted to check the required effectiveness. Instructions on the fresh air fraction in room ventilation systems are given in BGR 121 „Workplace ventilation – ventilation measures“. (2) At workplaces where welding work or allied processes involving the emission of carcinogenic or mutagenic substances or substances toxic to reproduction of category 1 or 2 are performed (especially with the use of chromium- and nickel-bearing materials) extracted air must not be recirculated.

This does not apply if type-approved welding fume extraction devices of the welding fume separation classes W2 or W3 are used. For instructions concerning the welding fume separation classes see DIN EN ISO15012- 1 „Health and safety in welding and allied processes – Requirements, testing and marking of equipment for air filtration – Part 1: Determining the separation efficiency for welding fume“ (Issue: February 2009).

Good to know

Decision diagram for employers



Good to know

Types of filters

Prefilters and particulate filters are classified into 17 different filter classes according to their separation efficiency ranging from the coarsest filter to the finest filter U17:

- **G1, G2, G3, G4: COARSE DUST FILTERS**
- **ePM10, ePM2.5, ePM 1: FINE DUST FILTERS**
- **E10, E11, E12, H13, H14, U15, U16, U17: PARTICULATE FILTERS**

(ISO 16890 and EN 1822-1:1998)

Depending on the norm the initial separation efficiency or the fractional separation efficiency are used as a performance criterion under standard load.
Initial separation efficiency: Ratio between the passing and the filtered material with a new filter.
Fractional separation efficiency: Separation efficiency of a filter concerning the particles of one specific size group (fraction).

The table to the right shows a detailed overview.

EN 779:2012	ePM 1	ePM 2,5	ePM 10
M5	5% - 35%	10% - 45%	40% - 70%
M6	10% - 40%	20% - 50%	60% - 80%
F7	40% - 65%	65% - 75%	80% - 90%
F8	65% - 90%	75% - 95%	90% -> 95%
F9	80% - 90%	85% - 95%	90% -> 95%

The previous standard EN 779 has been replaced by the new standard ISO 16890. The table above shows how the old filter classes carry over into the new standard.

Good to know

Directly relevant norms	ISO 16890	Coarse dust filter	G1 A>50%							
	ISO 16890	Fine dust filter	ISO ePM10 ePM10 >= 50%	ISO ePM2,5 ePM2.5,min >= 50%	ISO ePM1 ePM1,min >= 50%					
	EN 1822-1:1998	EPA, HEPA, ULPA Initial separation efficiency A DEHS, MPPS approx. 0,1-0,3 µm	E10 A (integral) >85%	E11 A (integral) > 95%	E12 A (integral) > 99,5%	H13 A (integral) > 99,95% A (local) > 99,75%	H14 A (integral) > 99,995% A (local) > 99,975%	U15 A (integ- ral)> 99,9995% A (local) > 99,9975%	U16 A (integral) > 99,99995% A (local) > 99,99975%	U17 A (integral) > 99,999995% A (local) > 99,9999%
Related norms	ZH 1/487	Dust eliminating Medium transmittance level D Quartz dust 90% 0,2 µm	The specified limits may vary considerably depending on the materials.		U D< 5%	S D< 1%	G D< 0,5%	C D< 0,1%	K1, K2 D< 0,05%, Paraffin Oil 90% < 1 EM	
	US MIL-STD	Particulate filter Initial separation efficiency A DOP 0,3 µm	95%	99,97%	99,99%	99,999%				
	DS 3928	Particulate filter Initial separation efficiency A NaCl DOP 0,3 µm	EU10 A > 95%	EU11 A > 99,9%	EU12 A > 99,97%	EU13 A > 99,99%	EU14 A > 99,999%			
	DIN EN 60335	Particulate filter Transmittance level D Paraffin oil 61% < 1 µm	L D < 1%	M D < 0,1%	H D < 0,005%					

Changes and errors excepted. Images may differ.

Good to know

Particle sizes

Particles having a size between 1 mm and 0.1 mm can often be seen with the naked eye. Particles smaller than 100 µm (= 0.1 mm) are only visible by means of an optical microscope. These particle sizes correspond to the filter classes G3 and G4.

Coarse (>10 µm)

Particles which are smaller than 1 µm (= 0.001 mm) do not sink, but keep on floating permanently. Dust and oil mist produced during metal processing belong to this category. Filters of the filter classes M5 thru F9 are intended to be used for particles between 0.1 µm and 1 µm.

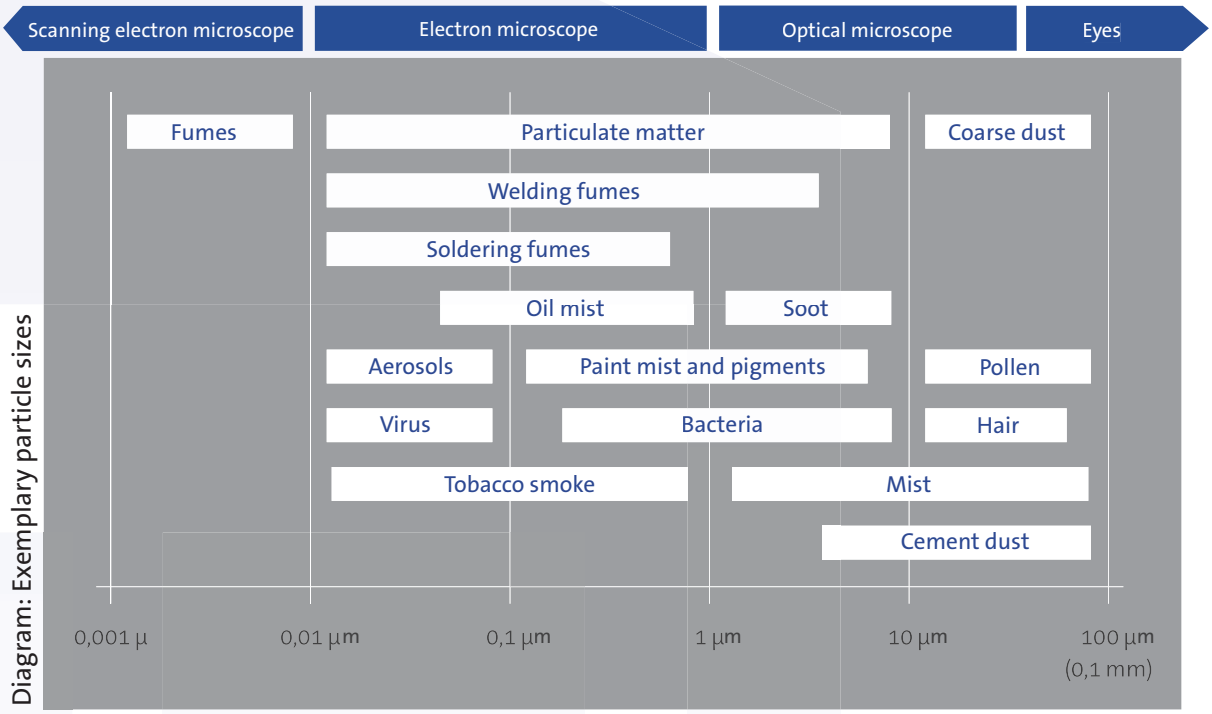
Fine (< 10 µm)

Smaller particles can only be seen with the help of a scanning electro-de microscope. To filter these particles the finest filters of the classes E10-U17 must be used. Furthermore, activated carbon filters must be used for particles of 0.01 µm (= 0.00001 mm) and smaller.

Ultra fine (0,1 µm)

As the right choice of filters depends on many other factors such as the quantity and composition of pollutants and the operating conditions, a professional consultation and perhaps an assessment of the situation on site should take place. For this matter feel free to contact our team by using info@teka.eu.

Good to know

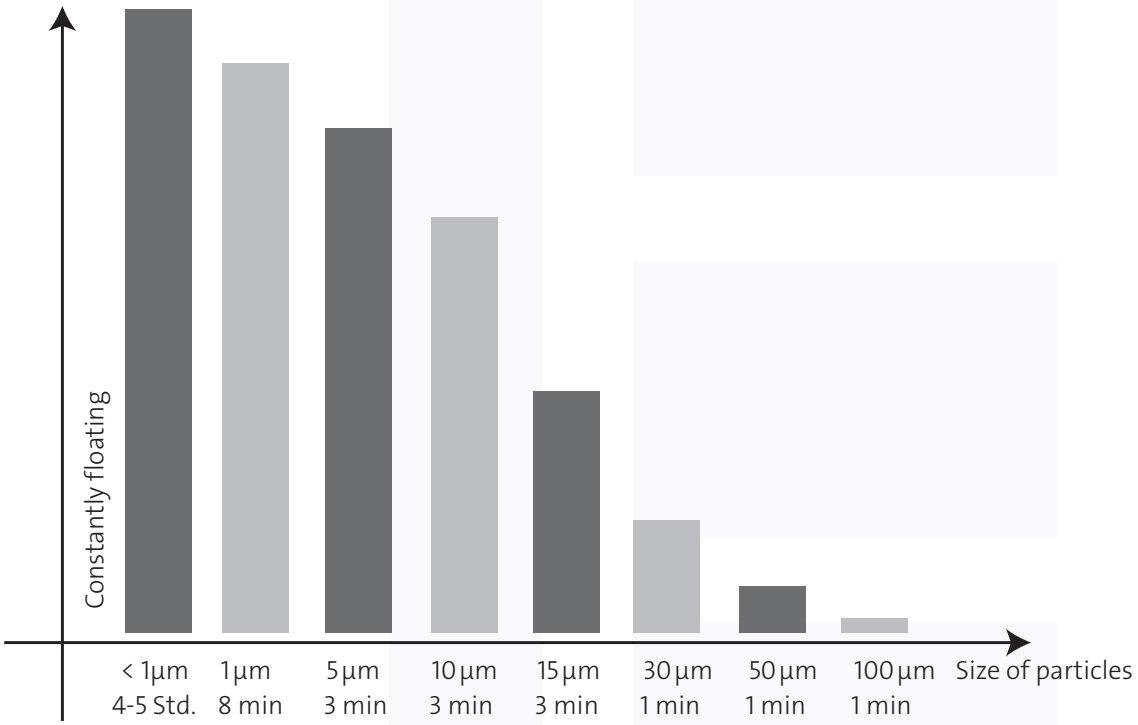

Scanning electron microscope
Electron microscope
Optical microscope
Eyes
Diagram: Exemplary particle sizes
Fumes
Particulate matter
Coarse dust
Welding fumes
Soldering fumes
Oil mist
Soot
Aerosols
Paint mist and pigments
Pollen
Virus
Bacteria
Hair
Tobacco smoke
Mist
Cement dust
0,001 µ
0,01 µm
0,1 µm
1 µm
10 µm
100 µm
(0,1 mm)

Good to know

Settling times

Decisive for the settling time of particles are in particular their size and weight. Small, light particles are held in the air by air vortices. Very small particles are in a permanent state of floating and may be inhaled if they are not extracted.

Inhalation may result in significant damage to the health or even cancer. The chart shows the approximate settling times of particles.



Bar chart: Settling times of particles

Good to know

Hazard classes of welding processes

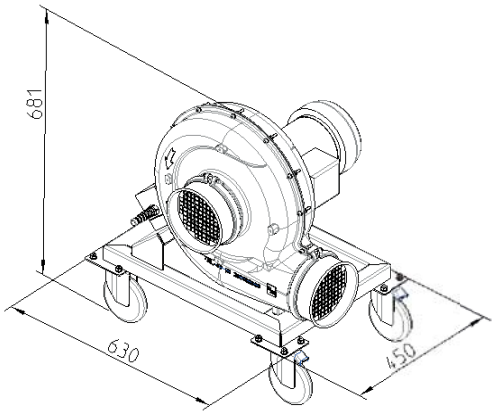
The employer must determine the hazard class according to the applied processes and materials with the help of the table. The highest hazard standard class determined for the three listed groups of substances is decisive for the respective process. (Source: TRGS 528, § 3.2.5., Paragraph 1, Issue February 2009)

Processes	Emission rate³ (mg/s)	Hazard classes of the processes		
		Substances impacting the respiratory tract and the lungs	Toxic or toxic irritant substances	Carcinogenic substances
Submerged arc welding	< 1	low	low	low
Gas welding (autogenous process)	< 1	low	low	-
TIG	< 1	low	medium	medium
Laser beam welding without filler material	1 to 2	medium	high	high
MIG/MAG (low-energy gas-shielded welding)	1 to 4	low	medium	medium - high
Manual arc welding, MIG (in general)	2 to 8	high	high	high
MAG (flux-cored wire); flux-cored welding with protective gas, Laser beam welding with filler material	6 to 25	high	high	high
MAG (cored); cored wire welding without protective gas	> 25	very high	very high	very high
Soldering	< 1 to 4	low	medium	medium
Autogenous flame cutting	> 25	very high	very high	very high
Arc spraying	> 25	very high	very high	very high

Source: Technical Rules for Hazardous Substances/Welding work/ TRGS 528, Issue February 2009

AirFan Basic version

- Simple exhaust system
- Robust construction
- Silumin housing
- Ventilation system
- Construction site fan



AirFan Basic version	
Max. volumetric flow of the fan	2.000 m³/h
Max. pressure	1.500 Pa
Motor power	0,75 kW / 230 V
Noise level	approx. 72 dB(A)
Suction/exhaust nozzle	2 × ⌀150 mm
Weight	28 kg

AirFan Basic version

Art.No. 20170010

AirFan Basic version incl.
Suction hose + Exhaust hose, 3 m each

- Temperature resistance 0°C to +85°C
- Incl. magnetic base

Art.No. 20170011

AirFan Basic version incl.
Suction hose + Exhaust hose, 6 m each

- Temperature resistance 0°C to +85°C
- Incl. magnetic base

Art.No. 20170012

dustoo Processes/application areas

Torch extraction

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- Tools and labor protection means at the same time
- Suction nozzles behind the gas nozzle, so that only the fume is extracted and not the inert gaseans at the same time

Manual arc welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- one of the oldest, electric welding processes
- Main scope of the Manual arc weldings is the steel and pipeline construction
- particularly suitable for outdoor use

MIG-MAG welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- Metal welding with shielding gases
- More productive than manual arc welding
- MAG process is used primarily for steels while MIG method is preferred for nonferrous metals

TIG-Welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- Relatively low-emission welding processes
- TIG welding can be used both with and without filler
- TIG welding is mostly used on aluminium and high-alloy steels, since seam qualities are required which are hardly accessible by other welding processes

dustoo Basic version

- Perfect for torch extraction
- Incl. speed control
- Construction site unit
- Automatic dedusting
- Incl. high pressure turbines

Technical data

dustoo Basic version	
Max. volumetric flow of the fan	0-340 m³/h
Max. pressure	20.000 Pa
Motor power	1,6 (2x 0,8) kW
Separation efficiency	≥ 99%
Noise level	approx. 74 dB(A)
Extraction connection	2 × ⌀ 50 mm
Filter equipment	Filter cartridge
Engine type	Carbon brush
Dimensions	W: 300 mm D: 300 mm H: 810 mm
Weight	25 kg

Description

Mobile high vacuum cartridge filter in portable and stationary versions.

The system is particularly suitable for use with welding guns with integrated extraction. The housing is made of sturdy steel and powder coated in- and outside.

This unit has an integrated spark protection. The dust is collected in a dust collection tray and can be easily disposed of. The filter cartridge based on the principle of surface filtration, which means that the particles are deposited on the filter cartridge, and will not enter into the filter material.

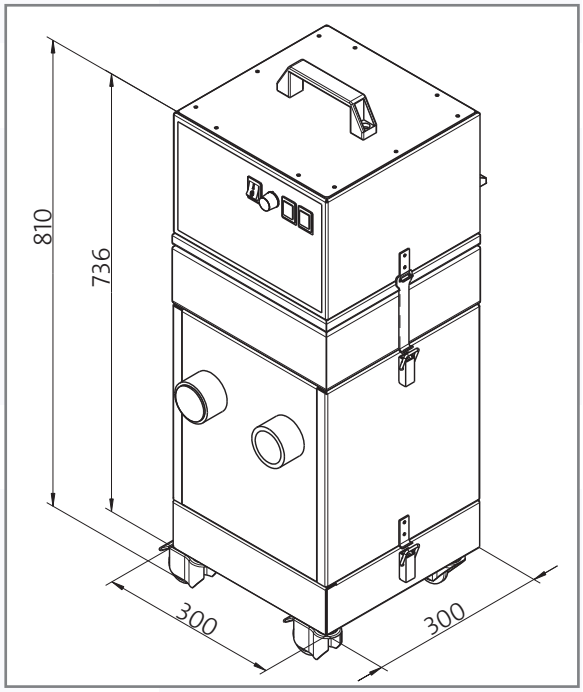
The unit has a variable speed control via potentiometer to adjust the suction power. The suction unit is equipped with two powerful high-pressure turbines.

The unit is equipped with an automatic filter cleaning system. If the system is connected to compressed air, the dedusting is controlled by a timer which is preset to certain intervals.

Upon reaching a certain pressure value a built-in filter monitor notifies of a required change of the filter cartridge. The unit is supplied ready to plug including the power cord. To use the system you need a extration element (see following pages).

Standard equipment

- Speed control
- 2 suction connections ∅ 50 mm
- 1 temporary cover for the 2nd connection
- Optical filter control
- Automatic dedusting
- 5 m mains cable



The dustoo is particularly suitable for the extraction of welding fumes directly at the welding gun.

dustoo Basic version incl.
Hose, 2,5 m + round nozzle

- Incl. magnetic base
- Temperature resistance 0°C to +85°C

Art.No. 20170021

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dustoo Basic version incl.
Hose, 5 m + round nozzle

- Incl. magnetic base
- Temperature resistance 0°C to +85°C

Art.No. 20170023

dustoo Basic version incl.
Hose, 2,5 m + funnel nozzle

- Incl. magnetic base
- Temperature resistance 0°C to +85°C

Art.No. 20170022

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dustoo Basic version incl.
Hose, 5 m + funnel nozzle

- Incl. magnetic base
- Temperature resistance 0°C to +85°C

Art.No. 20170024

filtoo Processes/application areas

Manual arc welding

- unalloyed materials
- low alloy materials
- Nonferrous materials

- one of the oldest, electric welding processes
- Main scope of the Manual arc weldings is the steel and pipeline construction
- particularly suitable for outdoor use

MIG-MAG Welding

- unalloyed materials
- low alloy materials
- Nonferrous materials

- Metal welding with shielding gases
- More productive than manual arc welding
- MAG process is used primarily for steels while MIG method is preferred for nonferrous metals

TIG Welding

- unalloyed materials
- low alloy materials
- Nonferrous materials

- Relatively low-emission welding processes
- TIG welding can be used both with and without filler
- TIG welding is mostly used on aluminium and high-alloy steels, since seam qualities are required which are hardly accessible by other welding processes

Manual plasma welding (sporadic use)

- unalloyed materials
- low alloy materials
- Nonferrous materials

- Plasma is a conductive gas highly heated electrically by an electric arc
- In the plasma torch the flowing plasma gas (argon) is ionized by high-frequency pulses and a secondary arc (pilot arc) is ignited
- The method is also used in the micro-welding technology (sheets of 0.1 mm)
- Only in combination with TEKA STAVO

Grinding (sporadic use)

- unalloyed materials
- low alloy materials
- Nonferrous materials

- chipping manufacturing processes for fine and finish machining of workpieces
- excess material is removed in the form of chips
- by-products or waste products when grinding chips are referred to as grinding dust
- Only in combination with TEKA STAVO

filtoo

TEKA WAREHOUSE

filtoo

IN STOCK

- Four-stage filter set
- Universally applicable
- Good suction performance
- Intelligently designed maintenance door
- Tightening mechanism for filter

TEKA TV

Technical data

filtoo Basic version	
Max. volumetric flow of the fan	1600 m³/h
Max. pressure	1800 Pa
Voltage	230 V
Motor power	1,1 kW
Separation efficiency	≥ 99 %
Noise level	approx. 68 dB(A)
Dimensions (WxDxH)	580 × 580 × 900 mm
Weight	approx. 80 kg

Description

The device can be used in numerous applications. The mobile suction and filter unit filters smoke and dust and neutralizes odors. The arm (alternatively with hose) extracts contaminated air precisely. The device filters particles or gases in a four-stage filter process using coarse filter, pre-filter, activated carbon filter and main filter.

The filtoo is characterized by smart design with an upwardly opening service door, good suction and a tightening mechanism for the filter element.

To use the system you need an extraction element (see following pages).

Standard equipment

- Large-scale coarse filter
- Prefilter
- Activated carbon filter
- Main filter
- Electronic filter monitoring
- Operating hours counter
- 5 m power cable

Includes built-in four-stage filter set

filtoo controls

filtoo Basic version incl. extraction arm

- Easily adjustable
- Up to 100 °C temperature resistant
- High flexibility

Technical data

Extraction arm for AirToo Basic version	
Length	3 m
Diameter	150 mm
Material	PVC coated polyester fabric
Material thickness	0,4 mm
Temperature resistance	-30° to +80°C (shortly up to 100°C)

AirToo Basic version incl.
extraction arm

Art.No. 978100

The mobile workbench

filtoo Basic version incl. worktop

- Large working surface
- Perfect for grinding
- Perfect for manual plasma
- For small welding processes
- Robust construction
- Incl. STAVO

Technical data

Worktop for AirToo Basic version	
Dimension	1.100 x 700 mm x 400 mm
Working height	950 mm
Weight	Approx. 40 kg
Material	Steel sheet

AirToo Basic version incl.

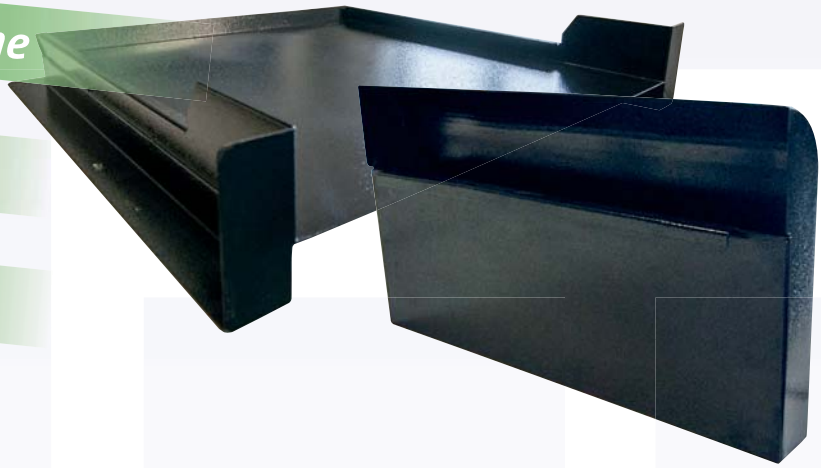
Mobile workbench

Art.No. 978300

Dust Pre-Separator STAVO

for AirToo Basic version as an add-on-system

- Increased filter lifetime
- Ideal spark protection
- Easy installation



Just open the maintenance door on the front and remove the dust collecting tray

Without the STAVO this dust would have hit the filter directly and greatly reduced its lifetime.

The particles can easily be disposed of (according to their risk classification).

Dust Pre-Separator STAVO
for AirToo Basic version

Art.No. 978013

Examples of application

StrongMaster Processes/application areas

Manual arc welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

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Manual plasma welding

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- low alloy materials
- Nonferrous materials

- chipping manufacturing processes for fine and finish machining of workpieces
- excess material is removed in the form of chips
- by-products or waste products when grinding chips are referred to as grinding dust

StrongMaster

ECO CONCEPT

TE KA TV

StrongMaster-IFA

- Dedustable filter cartridge
- Filter monitoring
- Easy accessibility
- Incl. pre-separator
- Tightening mechanism

Technical data

StrongMaster Basic version	
Max. volumetric flow of the fan	1860 m³/h
Max. pressure	2900 Pa
Voltage	400 V / 50 Hz
Motor power	1,1 kW
Separation efficiency	≥ 99 %
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	665 × 820 × 1365 mm

Description

The StrongMaster is the professional for heavy industry.

Since the filter cartridge is dedustable, follow-up costs for this device are minimal. The filter cartridge remains in the system during cleaning, so that no dust can reach the working area.

The purified particles are collected in a dust collecting drawer and can be disposed afterwards.

The air is let out upwards on the rear side through an outlet grill. Thus, at a distance of 1 m no disturbing air flow is noticeable.

The device is equipped with a powerful fan with high negative pressure that guarantees a high volumetric flow even if the filter is saturated.

The cartridge is precoated already with a special filter medium (coated). The lifetime compared with conventional filter cartridges is increased significantly.

To use the system you need an extraction element.

Standard equipment

- Baffle plate as pre-separator
- Durable, cleanable filter cartridge
- Optical filter monitoring
- Tightening mechanism
- Operating hours counter
- 5 m power cord

example filter cartridges

High quality

Technical data

Extraction arm for StrongMaster Basic version	
Length	3 m
Diameter	150 mm
Material	PVC coated polyester fabric
Material thickness	0,4 mm
Temperature resistance	-30° to +80°C (shortly up to 100°C)

StrongMaster-IFA

incl. extraction arm

Art.No. 97030101

Industry 4.0 describes the linking of industrial production with the latest information and communication technology.

This development is the increasing digitalization of business and society, smartphone, tablet, internet, smart home. It permanently changes the way how Germany produces and works in the future.

Smart Factories is the future, says Erwin Telöken, CEO of TEKA GmbH. The technical basis for this are intelligent, digitally networked systems, which aid in creating a largely self-organized production. People, machines, equipment and products communicate with each other.

Production and logistics processes between companies in the same process are intelligently linked together to make production more efficient, more flexible and healthier.

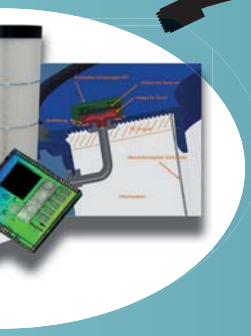
If all informations are available in real time, a company can be proactive about the availability of certain spare parts, missing parts, misconduct, etc.

Through the use of sensors TEKA SmartFilter - Airtracker - DifCon series and the actuators of EcoCube and FilterCube series, production processes for networking can be controlled, for example in MicroStep cutting laser systems across companies, so that resources and energy can be saved, explains Telöken.

Intelligent sensors/actuators help manage the errors that occur in all companies and can not be completely avoided. Overall, the efficiency of the production can be improved by the intelligent networking, competitiveness strengthened and flexibility of the production can be increased

TEKA – Industry 4.0 – The future is NOW.

DUSTRY 4.0



rtFilter
nsors-

SmartFactory

Airtracker
-Sensors-

SmartWarehouse

traction unit
ctuators-

AirController
-Sensors-

Airtracker Basic/Pro

Room monitoring system

More than a dust monitoring system!

TEKA *Connect*

The future is NOW 4.0 Airtracker

The Airtracker is normally mounted on the ceiling at a central location

- ► Measurement of particulate matter concentration
- ► Certified Measurement Sensors
- ► Measures the air temperature
- ► Measures the air humidity
- ► Measures the noise level
- ► Highly visible LED display for the dust concentration
- ► Individual configuration of the thresholds for dust concentration
- ► Own TEKA-Connect
- ► WIFI-Airtracker
- ► Control of TEKA fans or filter systems
- ► Display and analysis of measured data
- ► Switching on and off via suitable smart-phone / tablet / PC
- ► Trend display for review / data logger
- ► Checking data via web interface
- ► Set up on wall, ceiling or floor. One device - many options!
- ► Latest generation PC (MX6 with 2 cores)
- ► WIFI control
- ► MQTT- and OPC-UA-interfaces (Airtracker Pro)

Description

The innovative, smart room monitoring system of the future.

The European division of the World Health Organization (WHO) has called on the EU to install stricter air quality standards..

This is where the innovative, intelligent solution of TEKA comes into play: **Airtracker room monitoring system**.

The newly developed sensor **TEKA Airtracker** series captures particles smaller than 100 nanometers and convinces in the evaluation from 0 to 30 mg/m³ with an accuracy of ± 0.1 mg/m³ , documented and certified. Building up trust.

High-tech sensors guarantee reliable measured value and safety. Customizeable thresholds set the course for a secure future.

TEKA Connect

Once the threshold value is reached, the sensor indicates the current status of the particulate concentration by two widely visible, large-size LED strips with traffic light function. By the optionally available AirController optional, TEKA fans or filter systems can be controlled, depending on particulate pollution.

Ready-to-Go: Industry 4.0 – TEKA Airtracker.

Companies can document, manually or by the data logger (optional), its compliance with the trade association rules, even in advance before auditing. Precaution and employee health always in view **– building up confidence**.

Technical data

Airtracker Basic/Pro - room monitoring system	
Wireless standard	2.4 GHz IEEE 802.15 conform wireless standard
Processor	CPU i.MX6 with 2 cores up to 1GHz
Security	128-bit AES Encryption
Interfaces	LAN-/WIFI-Module MQTT- and OPC-UA (only Airtracker Pro)
Memory	4 GB Flash/RAM 1 GB/SD-Card slot
Voltage	230/110 V/AC
Casing	Metal
Weight	approx. 12 kg
Dimensions (W x D x H)	600 mm x 250 mm x 220 mm
Temperature	-10°C to + 60°C
Humidity	10% to 95%
Fine dust	0 mg/m³ to 30 mg/m³ (precision ± 0,1 mg/m³)
Noise level	40 db to 140 db

Airtracker Basic **Art.Nr. 20170140**

Airtracker Pro **Art.Nr. 2017014020**

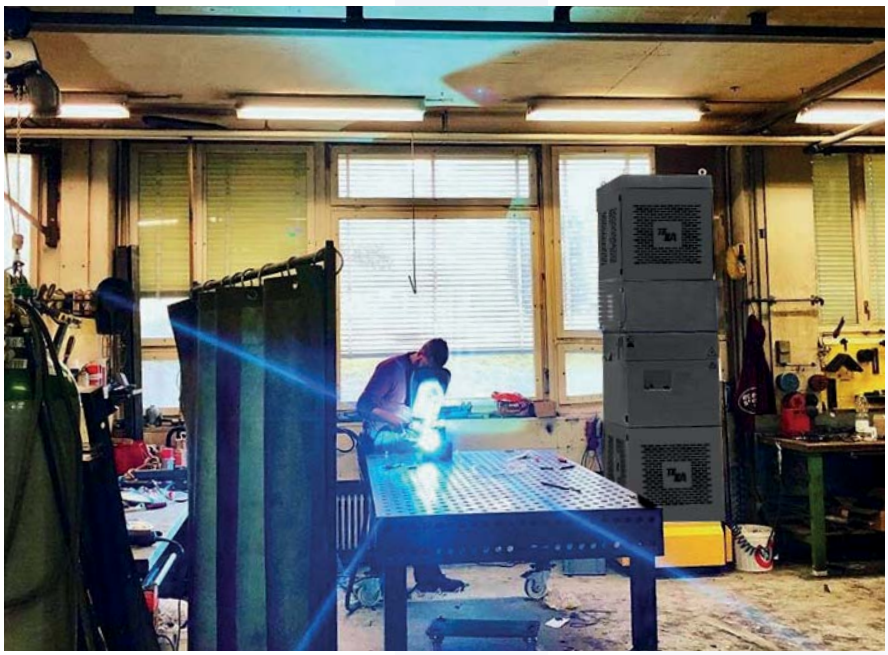
Changes and errors excepted. Images may differ.

CleanAir-Cube

Supplementary room ventilation system

El CleanAir-Cube es un equipo de aspiración y filtración de aire ambiental con filtros desechables. Los campos de aplicación son predominantemente empresas de la industria, talleres de soldadura por polvos, humos posteriores y adicionalmente como ampliación a los sistemas de una aspiración puntual.

El CleanAir-Cube sirve como medida de prevención,la cual evita un riesgo causado por polvos peligrosos. Alternativamente se puede utilizar el CleanAir-Cube como sistema de aspiración y filtración de aire ambiental.

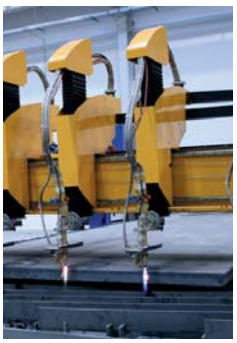


CleanAir-Cube	
Max. volumetric flow of the fan	8000 m³/h
Motor performance	550 W
Voltage	230 V / 50 Hz
Separation efficiency	> 99%
Current consumption	4 A
Noise level	72 dB(A)
Dimensions (B x T x H)	865 x 682 x 2778 mm

Application example CleanAir-Cubes with AirControllers and Airtrackers

CleanAir-Cube Standalone / Art. No. 20170201

EcoCube Processes/application areas



Gas cutting

- low alloy materials
- Aluminium
- Nonferrous materials

- Plasma / Oxy / Laser
- all cutting processes in which the material is burned
- torch cutting most common method
- acetylene is usually used as fuel gas

Manual arc welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- one of the oldest, electric welding processes
- Main scope of the Manual arc weldings is the steel and pipeline construction
- particularly suitable for outdoor use

MIG-MAG welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- Metal welding with shielding gases
- More productive than manual arc welding
- MAG process is used primarily for steels while MIG method is preferred for nonferrous metals

TIG welding

- unalloyed materials
- low alloy materials
- Aluminium
- Nonferrous materials

- Relatively low-emission welding processes
- TIG welding can be done with or without additional material
- TIG welding is mostly used on aluminium and high-alloy steels, since seam qualities are required which are hardly accessible by other welding processes

EcoCube Basic version

EcoCube

More than a filter unit

- Logistical concept
- Aircraft + Container-optimized
- Worldwide use
- Easy installation (25 min)
- Shorter delivery time
- Powerful fans
- US-compliant
- Optional disposal in a barrel
- Fire protection concept
- Optimized for shop systems
- Spare parts concept

Ready to go
in 25 minutes

1

Delivery on two pallets — 0 min

2

Unboxing — 5 min

3

Lift the filter housing onto stand — 15 min

4

Lift fan onto housing — 25 min

5

*Connect current - **done!***

TEKA TV

EcoCube Basic version

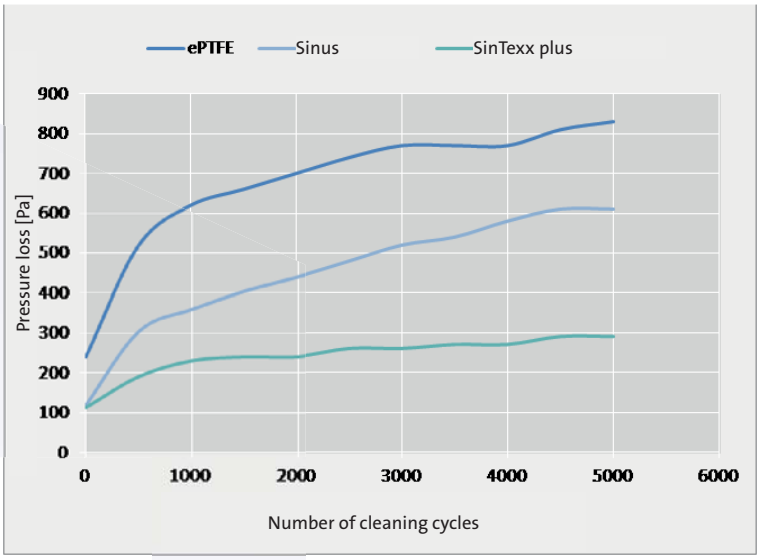
The future is NOW 4.0 EcoCube

- 4 filter cartridges of the latest generation
- Siemens SPS control
- Integrated spark trap
- Maintenance flaps
- Intelligent Eco-Management
- Quick-Setup System
- Powerful – up to 10,000 m³/h
- Warehouse Concept
- Spare Parts Management
- Ready-To-Go 4.0
- Interface for Sensors
- Combineable with all sensors of the TEKA series

nano inside

The future is NOW.

TEKA TV



Nanofiber inside

Many talk about it, but we included it with every EcoCube!

The new sinTexx Plus filter cartridges with fluted polyester media and nanofiber edition protect man, machine and reduce energy costs. They achieve best values in fine and dust and smoke that is difficult to handle and exceed the performance of previously used filter media. This way it provides for unprecedented efficiency.

These cartridges with nano-fibers have been specifically developed for the welding and cutting technology. Compared to conventional ePTFE membranes these innovative cartridge with nanofiber pads have core advantages:

- **Special protection, great separation performance**
- **Longer lifetime compared to conventional systems**
- **Improved energy efficiency, less kW at better performance**
- **Low follow-up costs, no precoating required**

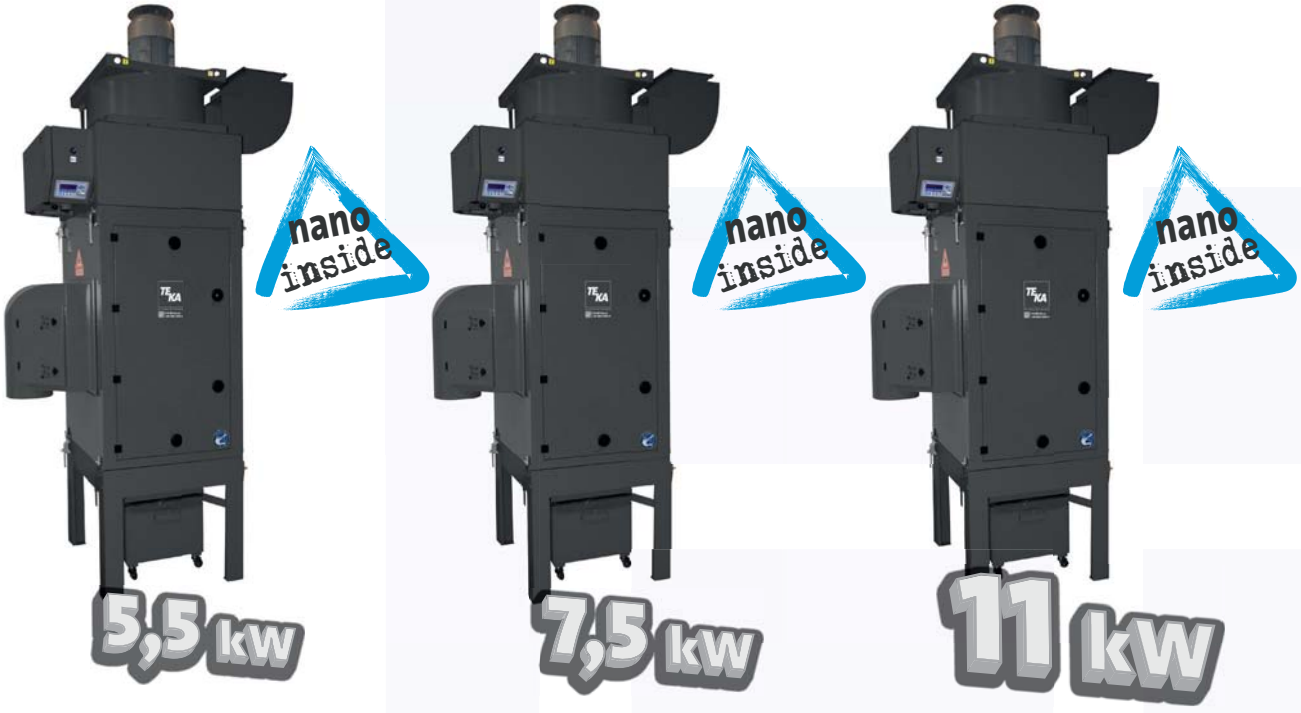
Just the best for your health.

The future is NOW.

EcoCube Basic version

The future is NOW 4. EcoCube

One size – different performance



Technical data

EcoCube Central filter unit			
Motor power	5,5 kW	7,5 kW	11 kW
Max. volumetric flow of the fan	4.500 m³/h	7.000 m³/h	10.000 m³/h
Max. pressure	3.000 Pa		
Separation efficiency	≥ 99 %		
Nozzle	250 mm	400 mm	400 mm
Noise level	approx. 75 dB(A)		
Dimensions (WxDxH)	1.790 × 850 × 3.140 mm	1.930 × 850 × 3.150 mm	1.930 × 850 × 3.200 mm
Weight	approx. 470 kg	approx. 475 kg	approx. 480 kg

Description

TEKA EcoCubes can be used for almost any application in the field of filtration of smokes and dusts.

Via a pipeline system (not included), the polluted air is extracted by the fan and guided to the filters. Here, the particulate contaminants are filtered on the surface of the filter cartridge.

The filter cartridges are automatically cleaned by compressed air at the required intervals. The adhesive particles on the cartridges dissolve by the blast of compressed air and get into a dust collector. The cleaned air is led back into the working area without any heat loss. The EcoCube can be used as a central extraction system at multiple manual welding stations, as suction for welding robots/cabins and a suction system for exhaust hoods.

You get a fully operational system incl. the control for the fan. Only the current supply must be applied. The main components of the EcoCube are a fan with pneumatic and integrated controls, filter section incl. cartridges and dust collection section.

The housing is made of a stable steel construction and powder coated inside and outside. The individual sections are equipped with service doors, in order to perform an optimal and quick maintenance.

The control unit is supplied completely adjusted.

This control unit is developed specifically for the monitoring and control of the filter system. The EcoCube is fitted with filter cartridges for dust class M according to DIN EN: 60335-2-69 of 2008.

Standard equipment

- Fully automatic dedusting via POWER-SPRAY-System
- 4 large-sized cartridge filters with nano-fibers, 1.200 mm each
- Rollable dust container with snap closures
- SIEMENS S7 Control
- Maintenance doors for all control areas
- Spark trap dia. 250 mm or 400 mm

EcoCube
Basic version
5,5 kW
Art.No. 20170050

EcoCube
Basic version
7,5 kW
Art.No. 20170070

EcoCube
Basic version
11 kW
Art.No. 20170090

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	5,5 kW
Max. volumetric flow of the fan	4.500 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	250 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.790 × 850 × 3.140 mm
Weight	approx. 470 kg

Set 1

EcoCube 5,5 kW

Basic version + 4 Extraction arms, 3 m length

- Three joints per arm
- Spring support
- Heat resistant up to 100 °C
- Integrated throttle valve

Art.No. 20170051

Set 2

EcoCube 5,5 kW

Basic version + 3 Extraction arms, 4 m length

- Three joints per arm
- Spring support
- Heat resistant up to 100 °C
- Integrated throttle valve

Art.No. 20170052

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	5,5 kW
Max. volumetric flow of the fan	4.500 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	250 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.790 × 850 × 3.140 mm
Weight	approx. 470 kg

Set 3

EcoCube 5,5 kW

Basic version + 1 suction hood, 1.500 x 1.500mm

- Nozzle plates principle
- Crane eyelets
- Stable sheet steel
- Lamellas on three sides
- Lamella length 1000 mm

Art.No. 20170060

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	5,5 kW
Max. volumetric flow of the fan	4.500 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	250 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.790 × 850 × 3.140 mm
Weight	approx. 470 kg

Set 4

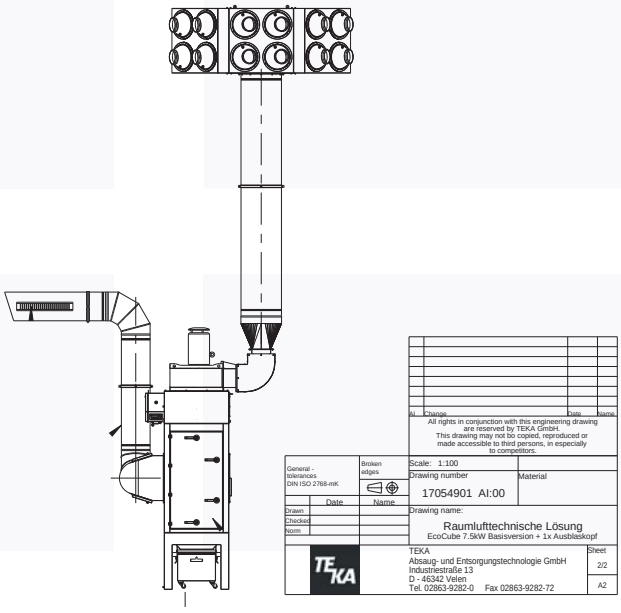
Room ventilation solution

EcoCube Basic version incl. 1 x blow-out

(delivery without piping and intake grille)

- Jet nozzles
- Manifold air changes per hour
- Heating cost savings by recirculation mode
- Heating cost savings by warm air mixing

blow-out



delivery without piping and intake grille

Example of application

Sample calculation

Designed for a hall size of approx. 900 m³
e.g. 18 m x 10 m x 5 m

Art.No. 20170061

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	7,5 kW
Max. volumetric flow of the fan	7.000 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	400 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.930 × 850 × 3.150 mm
Weight	approx. 475 kg

Set 5

EcoCube 7,5 kW

Basic version + 6 Extraction arms, length 3 m

- Three joints per arm
- Spring support
- Heat resistant up to 100 °C
- Integrated throttle valve

Art.No. 20170071

Set 6

EcoCube 7,5 kW

Basic version + 5 Extraction arms, length 4 m

- Three joints per arm
- Spring support
- Heat resistant up to 100 °C
- Integrated throttle valve

Art.No. 20170072

EcoCube Sets

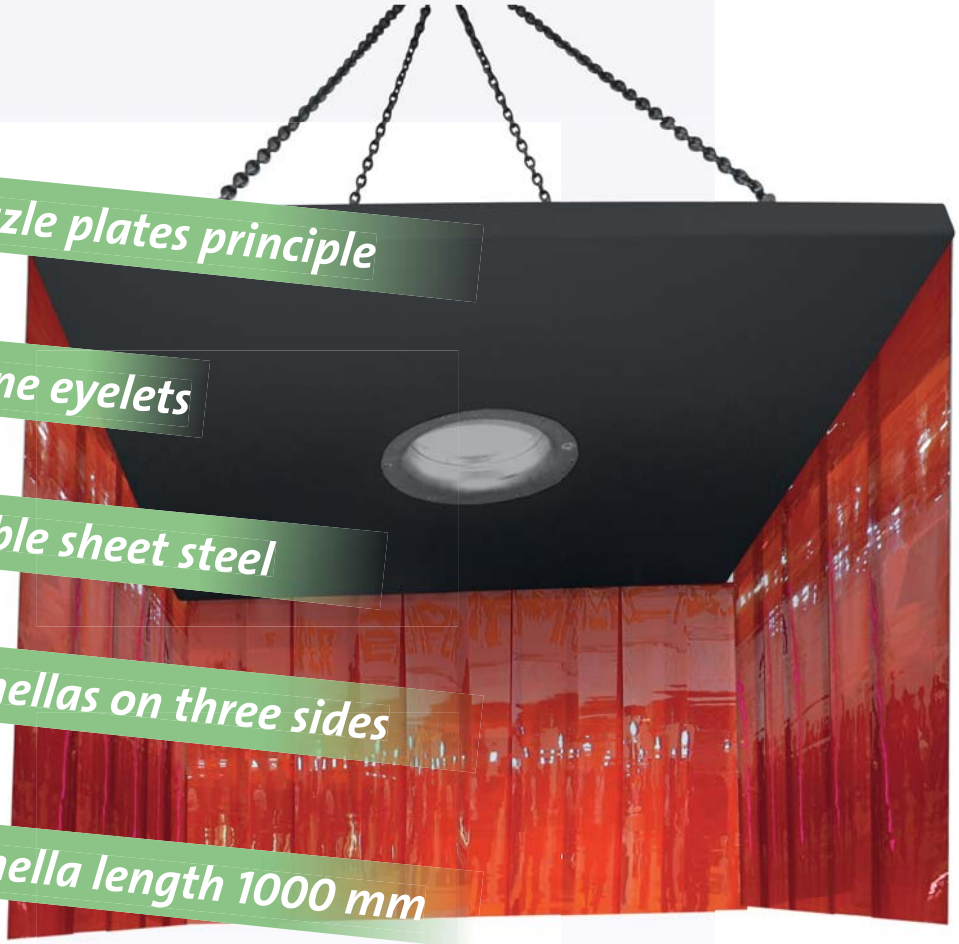
Technical data

EcoCube Central filter unit	
Motor power	7,5 kW
Max. volumetric flow of the fan	7.000 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	400 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.930 × 850 × 3.150 mm
Weight	approx. 475 kg

Set 7

EcoCube 7,5 kW

Basic version + 1 suction hood, 2.000 x 2.000 mm



- Nozzle plates principle
- Crane eyelets
- Stable sheet steel
- Lamellas on three sides
- Lamella length 1000 mm

Art.No. 20170080

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	7,5 kW
Max. volumetric flow of the fan	7.000 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	400 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.930 × 850 × 3.150 mm
Weight	approx. 475 kg

Set 8

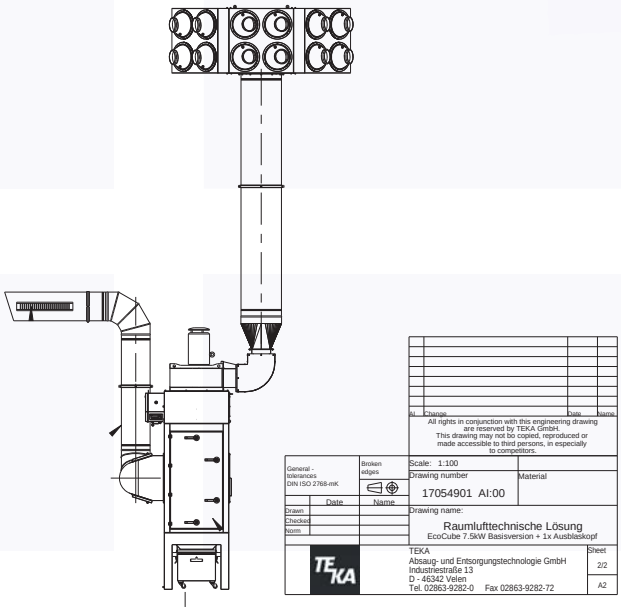
Room ventilation solution

EcoCube Basic version incl. 1 x blow-out

(delivery without piping and intake grille)

- Jet nozzles
- Manifold air changes per hour.
- Heating cost savings by recirculation mode
- Heating cost savings by warm air mixing

blow-out



delivery without piping and intake grille

Example of application

Sample calculation

Designed for a hall size of approx. 1.400 m³
e.g. 19 m x 15 m x 4,9 m

Art.No. 20170081

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	11 kW
Max. volumetric flow of the fan	10.000 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	400 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.930 × 850 × 3.200 mm
Weight	approx. 480 kg

Set 9

EcoCube 11 kW

Basic version + 8 Extraction arms, length 3 m

- Three joints per arm
- Spring support
- Heat resistant up to 100 °C
- Integrated throttle valve

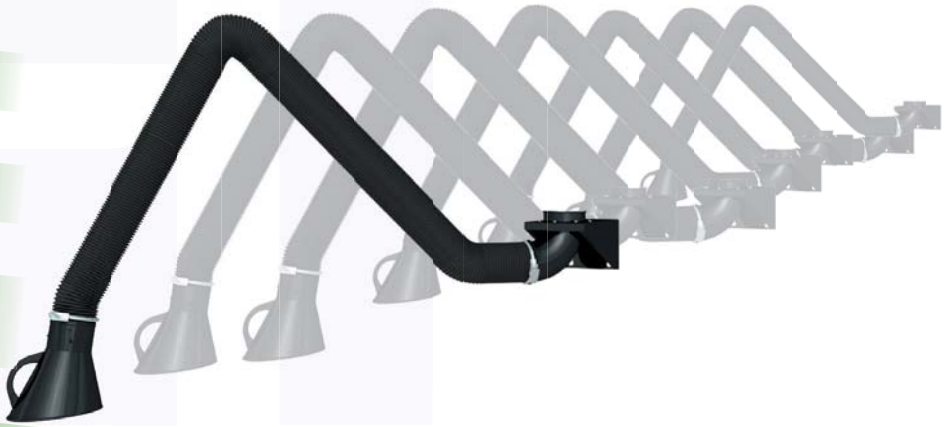
Art.No. 20170091

Set 10

EcoCube 11 kW

Basic version + 7 Extraction arms, length 4 m

- Three joints per arm
- Spring support
- Heat resistant up to 100 °C
- Integrated throttle valve



Art.No. 20170092

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	11 kW
Max. volumetric flow of the fan	10.000 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	400 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.930 × 850 × 3.200 mm
Weight	approx. 480 kg

Set 11

EcoCube 11 kW

Basic version + 1 suction hood, 2.500 x 2.500 mm

- Lamellas on three sides
- Nozzle plates principle
- Crane eyelets
- Sturdy sheet steel
- Lamella length 1000 mm

Art.No. 20170099

Set 12

EcoCube 11 kW

Basic version + 2 suction hoods, 1.500 x 1.500 mm

- Lamellas on three sides
- Nozzle plates principle
- Crane eyelets
- Sturdy sheet steel
- Lamella length 1000 mm

Art.No. 20170100

EcoCube Sets

Technical data

EcoCube Central filter unit	
Motor power	11 kW
Max. volumetric flow of the fan	10.000 m³/h
Max. pressure	3.000 Pa
Separation efficiency	≥ 99 %
Nozzle	400 mm
Noise level	approx. 75 dB(A)
Dimensions (WxDxH)	1.930 × 850 × 3.200 mm
Weight	approx. 480 kg

Set 13

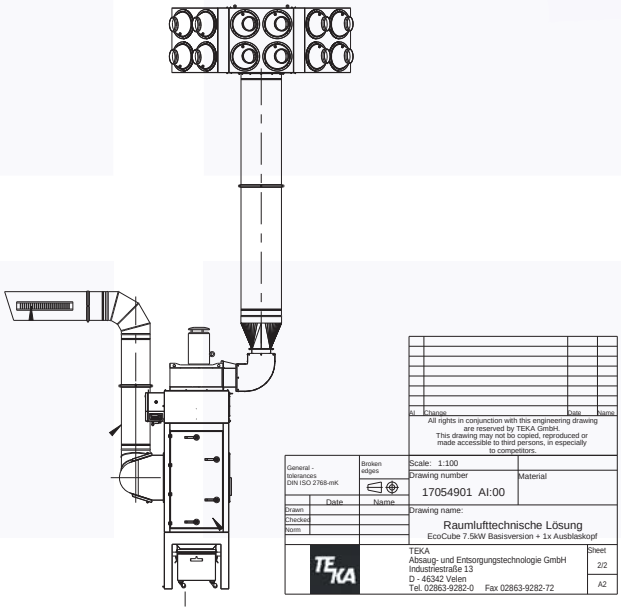
Room ventilation solution

EcoCube Basic version incl. 1 x blow-out

(delivery without piping and intake grille)

- Jet nozzles
- Manifold air changes per hour.
- Heating cost savings by recirculation mode
- Heating cost savings by warm ai mixing

blow-out



delivery without piping and intake grille

Example of application

Sample calculation

Designed for a hall size of approx. 2.000 m³
z.B. 27 m x 15 m x 5 m

Art.No. 20170101

Notes

The air purifiers

Your TEKA-Partner:

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