



Operating instructions

(Translation of the original operating instructions)

filtoo

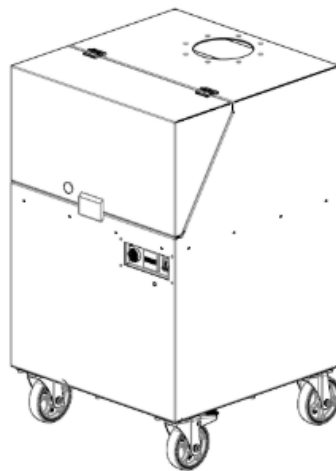


Table of contents

1. General	3
2. Description of the system elements	4
2.1. Illustration of the system elements	4
2.2. Functionality of the system	4
2.3. Intended use	5
2.4. Residual risk	5
3. Safety instructions	6
3.1. Definition of the hazard symbols	6
3.2. General safety instructions	6
4. Storage, transport and installation of the device	7
5. Commissioning	8
5.1. Connecting an extraction element	8
5.2. Electrical connection	8
6. Operating the system	9
6.1. Explanation of the operating elements	9
7. Maintenance	10
7.1. Reset to maintenance state	10
7.2. Replacing the filter elements	11
8. Dismantling / Disposal	12
9. Diagnostics and troubleshooting	12
10. List of spare parts	13
11. Technical data	14
12. EC declaration of conformity	15
13. Training protocol	16
14. Maintenance intervals	17
14.1. Usage-related maintenance	17
14.2. General maintenance	17
14.2.1. Visual inspection of the device	18
14.2.2. Functional test of the device	18
14.2.3. Electrical test of the electrical lines and earthing connections	18

1. General

Congratulations on purchasing the product from TEKA.

Our engineers ensure that our devices reflect the state of the art through continuous development. Nevertheless, misuse or misconduct can endanger your safety. Please observe the following for a successful use of the device:



Only authorised and instructed personnel can carry out transport, operation, maintenance and repair of the device. The operator must ensure that the operating personnel take note of these instructions.

Please read these instructions before operating the device, and observe the safety precautions to avoid injury!

Store this manual in a safe place! These instructions are to be regarded as a component of the product!

Adhere to all product notes!

Modifications or conversions that the operator carries out at the device without the consent of the manufacturer, can lead to new safety hazards or to the loss of warranty claims.

Observe the manufacturer's instructions. Contact the manufacturer in case of any uncertainty:

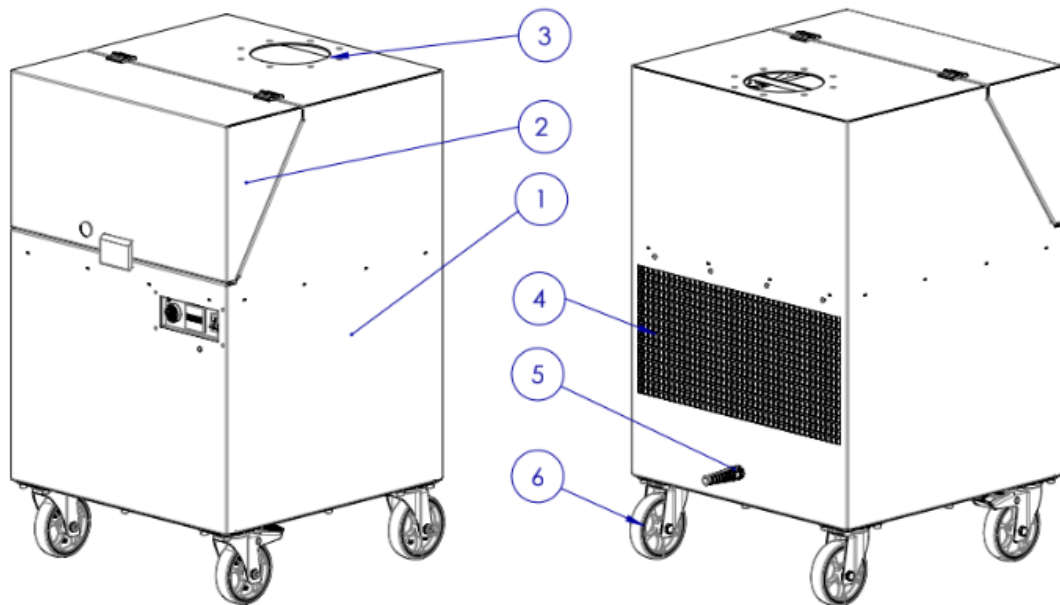
Tel: +49 2541-84841-0

E-mail: info@teka.eu

2. Description of the system elements

2.1. Illustration of the system elements

Installation example:



Z.Nr. 24118659

Pos.1	Filter housing	Pos.4	Exhaust grille
Pos.2	Maintenance door	Pos.5	Mains cable with plug
Pos.3	Suction nozzle	Pos.6	Swivel castor


2.2. Functionality of the system

The filter unit serves to suck off and filter polluted air (according to the intended use). First of all, the coarse particles are separated at the gross filter and the prefilter in the filter section of the unit. The subsequent particle filter cleans even fine smokes and dusts. The activated carbon filter absorbs gases and unpleasant odours. An automatic filter monitoring indicates when a cleaning or a replacement of the filters is necessary. The purified air is led back into the working room.


2.3. Intended use

The device is intended for commercial use. If the device is made publicly accessible, it must never be operated unsupervised by authorized personnel, authorized by the operator.

The filter unit is intended for extraction and filtration of dusts and fumes that result from thermal joining and cutting of metals. The filter unit is amongst others suitable for separating welding smokes of unalloyed and alloyed steels as well as of high-alloy chromium-nickel steels and therefore meets the highest welding fume separation category "W3" according to DIN EN ISO 21904-1 / -2.

	<div data-bbox="384 645 609 680">WARNING</div> <div data-bbox="384 689 1436 817">Improper use can damage parts and be a danger to life and limb! The device must not be used for the extraction of oil-laden welding fume, explosive dust and gases, hybrid mixtures, glowing or burning substances, gases, water, etc. The device must not be operated in explosive zones.</div> <div data-bbox="384 848 1436 943">Dangers arising from fire. If the sucked medium is combustible fume or dust, the operator must determine beforehand which fire protection measures are to be taken.</div> <div data-bbox="384 974 1436 1102">Loss of the "W3" approval and dangers to life and limb when non-original spare parts are used. Only original TEKA spare parts must be used. In case of non-compliance, the system loses its "W3" approval according to DIN EN ISO 21904-1 / -2.</div>
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2.4. Residual risk

	<div data-bbox="331 1249 609 1285">CAUTION</div> <div data-bbox="331 1294 1436 1453">Danger due to possible hazardous materials in the exhaust air flow. Because the unit does not monitor the quality of the air in the exhaust air flow, we recommend that you always guide the exhaust air flow exiting our unit to areas (e.g. to the outside into the open air) in which there is no danger to any living being. To do this, it is necessary to fit a suitable exhaust air line at the filter unit.</div>
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3. Safety instructions

3.1. Definition of the hazard symbols

The device is constructed according to the state of the art and the recognised safety regulations. Nevertheless, during use threats to life and limb of the user or other persons may arise. The impairment of the machine or other property are also possible. In these instructions we warn by using corresponding indications.

	WARNING
	WARNING These instructions are made in case of risks that can lead to <u>injury or death</u> .
	CAUTION
	CAUTION These instructions are made in case of risks that can lead to <u>injury</u> .
	NOTICE
	NOTICE These instructions are made in case of risks that can lead to <u>material damages</u> .
	Information notes are no hazard warnings; they call attention to useful information.

3.2. General safety instructions

	WARNING
	<p>Dangers arising from improper use / unauthorised operations. The operator must ensure that their authorised personnel are familiar with all the safety indications in this manual in advance. The operator is responsible for ensuring that all work is carried out by authorised and qualified personnel. We therefore recommend using the training protocol on the last page for that purpose (see chapter "Training protocol"). Laymen are allowed to operate the device after having received the necessary instructions. But they are not allowed to carry out any installation, repair or maintenance work.</p> <hr/> <p>Dangers arising from fire. In case of fire, if possible, switch the unit immediately off or disconnect it from the power supply. Fire extinguishing measures which the operator is obliged to determine beforehand must be initiated immediately.</p>



WARNING

Dangers arising from electricity.

The operator must ensure that electrical plants and equipment are only built, modified and maintained by a qualified electrician or under the direction and supervision of a qualified electrician. Do not work on components if you are not sure that these are disconnected. If necessary, disconnect the device from the electric power supply and secure it against unauthorized restarting.

4. Storage, transport and installation of the device



WARNING

Risk of injury from tilting or unmounted components when stored or transported.

The device must be secured against tilting and slipping when it is stored or transported. Do not stand under or next to the floating load. Lift trucks, forklift trucks and transport cranes must have a sufficient minimum load bearing capacity. Pay attention to uneven grounds during the transport. Avoid jerky pushing.

Dangers arising from tilting or functional impairments at its destination.

The unit may only be set up on a suitable surface. The surface must be vibration-free and horizontal. The operator must check the bearing capacity of the surface. As soon as the unit has reached its intended destination, the brakes of the castors must be activated.



NOTICE

Damage or functional impairment of the unit due to climatic influences.

The unit must be stored in a dry place and protected against moisture during transport. As a matter of principle, the filter unit is not designed to be installed outside.

5. Commissioning



WARNING

Dangers arising from a defective condition of the unit.

Make sure that the measures described in this chapter are completed before the commissioning of the unit. All doors of the unit must be closed and all necessary connections must be attached before turning the unit on. Do not operate the unit if any components are defective, missing or damaged. Check the orderly condition of the unit before switching it on. The unit must not be operated without a filter element.



NOTICE

Damaged supply lines.

Make sure that the supply lines are protected against damage by forklift trucks and similar events. Protect all supply lines from heat, moisture, oil and sharp edges.

5.1. Connecting an extraction element

For extracting the contaminated air - according to the intended use - the provided extraction element (e.g. suction arm, suction hose, ...) must be connected at the suction nozzle (see chapter 2.1).



The assembly of a suction arm is described in the separate operating manual.

When using a detection element with extraction hood, the extraction hood must track the welding seam, possibly taking advantage of the thermally induced welding fume movements.

CAUTION However, it is important to ensure that connections between the workpiece and the extractor hood (and generally between the workpiece and filter device) are avoided, so that, if necessary, the welding current cannot flow back through the protective conductor of the filter device to the welding machine.

5.2. Electrical connection



NOTICE



Electric malfunction possible in cause of an incorrect power supply.



Pay attention to the admissible supply voltage. Please observe the specifications on the type plate.

- Connect the mains cable (see chapter 2.1) to the power supply.

6. Operating the system

6.1. Explanation of the operating elements

Operating elements for the device control		
Representa tion	Designation	Description / function
	ON-OFF-switch	By means of this switch, the device is switched on and off.  When the device is switched off, it is <u>not</u> disconnected from the power supply.

Operating elements for status and error messages		
Representa tion	Designation	Description / function
	Signal horn	Honking signals that the air-flow rate of the device is not sufficient anymore. Filter elements must be cleaned or replaced. When using extraction elements with a suction hood, it is possible that the throttle valve(s) in the suction hood are closed. In this case open the throttle valves.
	Operating hour counter	The number of operation hours during which the device was in operation is shown.

7. Maintenance

In accordance with national regulations, the operator is obliged to carry out repeat and functional tests. Unless otherwise specified by national regulations, we recommend regular visual inspections and functional tests of the device as described in the chapter “Maintenance intervals”.



You find the chapter “Maintenance intervals” at the end of the document. The general maintenance (visual inspection, etc.) is also explained there.

In the chapter “Maintenance intervals” there is information on the maintenance intervals of the filter elements. But these are only recommendations. Depending on the application (multi-shift operation, dust generation, ...) it may be necessary for the operator to change the maintenance intervals.

In this chapter the maintenance work which is caused by wear caused during operation is described.



WARNING

Work on the open system entails the risk of electrical shock or accidental restart the system. Both pose a danger to life and limb.

When cleaning and servicing equipment during the replacement of parts or when changing to another function, set the device to maintenance condition first (see chapter “Reset to maintenance state”).

A recommissioning of the device must only occur if it is ensured that the device is functionally equivalent to the original state.

Dangers to life and limb when non-original spare parts are used

Only original TEKA spare parts must be used.



CAUTION

Hazards to the respiratory tracts are possible.

All maintenance work must only be carried out in well-ventilated rooms and while wearing an appropriate respiratory mask! We recommend: respiratory protection half mask DIN EN 141/143 protection level P3. For all maintenance work ensure a cautious handling of filter elements and components in order to avoid whirling up dust.



The operator is obliged to store and dispose of the collected dust in accordance with national or regional regulations. For all maintenance or cleaning work please refer to the applying environmental regulations. Pollutants and filter elements must be disposed of or stored according to the regulations as well. If you have any doubts, we recommend contacting a disposal contractor in your area.

7.1. Reset to maintenance state

- Switch off the unit. Unplug the mains plug. Secure the unit against unauthorized restarting during maintenance.
- After completion of all maintenance work the unit can be reconnected to the power supply.

7.2. Replacing the filter elements



CAUTION

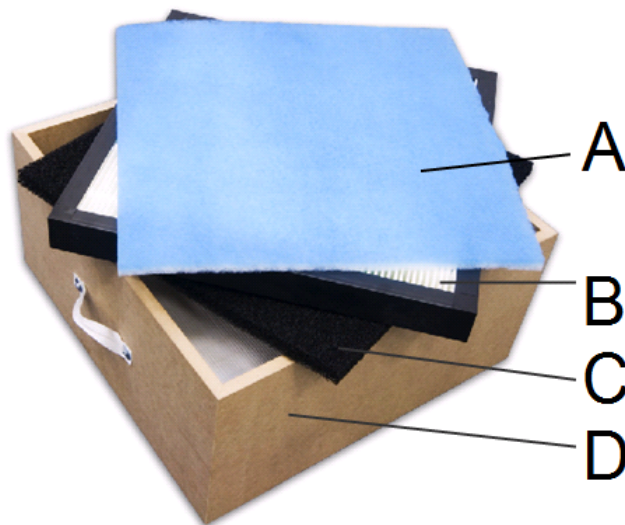
Whirling up dust is possible.

Every of the filter elements is a disposable filter element. Do not try to clean the filter element.

- Open the maintenance door (see chapter 2.1.).
- Take the handle of the main filter (pos. 13), lift it up slightly and pull it in your direction. Now grasp the wooden side at the back and lift the main filter carefully out of the device.
- While changing, place the main filter onto one of its wooden sides in order not to damage or pollute the sealing at the bottom.
- Which filter element must be replaced depends on the pollution degree of the individual filters. It can vary and depends on the application.
However, please consider our recommended changing intervals. We recommend: Note the amount of operating hours every time you replace a filter.

NOTICE Only use TEKA spare filters. Otherwise the proper functioning of the unit is not guaranteed, and there is a danger to life and limb.

- The construction of the filter elements corresponds to the following order:



A = Gross filter

B = Prefilter


C = Activated carbon filter


D = Main filter


- Close the maintenance door.

8. Dismantling / Disposal

Only authorised personnel may disassemble the machine.


	WARNING
	Dangers arising from electricity. Before the dismantling of the machine it has to be disconnected from the power supply and all supply lines.

	CAUTION
	Whirling up dust is possible due to the deposited dust. During all work a suitable respiratory protection and protective clothing have to be worn.

	The operator is obliged to store and dispose of the collected dust in accordance with national or regional regulations.
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9. Diagnostics and troubleshooting

A list of possible system errors is provided in the table.

	Faults indicated by control elements are explained in the chapter "Description of the control elements".
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A recommissioning of the device must only occur if it is ensured that the system is functionally equivalent to the original state. Repairs may only be carried out by TEKA personnel or, after consultation with TEKA GmbH, by the personnel authorised by the operator.


Adhere to the instructions in the chapter "Safety instructions" and "Maintenance" when carrying out any repairs. If in doubt, contact our TEKA service department:

Tel: +49 2541-84841-0
E-mail: info@teka.eu

Fault	Cause	Removal
System does not start.	Plug power supply is missing or incorrectly inserted.	Plug connector check power supply / plug in correctly.
	No power at outlet.	Check the mains, remove error if possible.
Dust at the service door of the filter housing.	The door is not correctly closed.	Close the door.
	The seal between the service door and filter housing is damaged.	The seal must be replaced.

Fault	Cause	Removal
Suction power too low (smoke hardly extracted).	Filter element is saturated.	Replace the filter package, dispose of old filter properly!
	Damage at the extraction elements.	Replace the extraction elements.
	Suction line contracted.	Check and fix.
	Exhaust line contracted.	Check and fix.
	Maybe throttle valves are used in the suction line.	Adjust throttle valves.

10. List of spare parts



WARNING

Dangers to life and limb when non-original spare parts are used.

Only original TEKA spare parts must be used.

Filter element	Article no.
Gross filter (10 pieces)	978003
Prefilter	978004
Main filter	978005
Activated carbon filter	978006
Disposal elements	Article no.
PE-bag for the disposal of filter elements (3 pieces)	10030257
Other parts	Article no.
Suction arm for filtoo, complete	978009

11. Technical data

Version		230V, 50Hz	115V, 50Hz	115V, 60Hz
Supply voltage	V	230	115	115
Frequency	Hz	50	50	60
Type of current	Ph	1Ph+N+PE	1Ph+N+PE	1Ph+N+PE
Engine power	kW	1,1	1,1	1,1
Current intake	A	7,0	13,2	13,2
Air flow volume max.	m³/h	1600	1600	1600
Negative pressure max.	Pa	1800	1800	1800
Protection class		IP54		
Welding fume extraction class (according to EN ISO 21904-1 / -2)		W3		
Width	mm	580		
Depth	mm	580		
Height	mm	960		
Weight	kg	80		
Sound pressure level	dB(A)	72		
Allowed ambient temperature	°C	+5 to +35 (during operations) -10 to +40 (during transport and storage)		
Max. temperature of polluted air at the capture point	°C	+50		
Allowed max. humidity	%	70		

12. EC declaration of conformity

according to the Machinery Directive 2006/42/EG, Annex II, 1 A

TEKA Absaug- und Entsorgungstechnologie GmbH

Millenkamp 9, D-48653 Coesfeld

Tel.: +49 2541-84841-0

E-Mail: info@teka.eu

Internet: www.teka.eu

Designation of the device: filtoo

We hereby declare under our sole responsibility that the product mentioned above, from the serial number A22600010011001 resp. P57300010011001 on, conforms to the following directives:

Machinery directive: 2006/42/EC

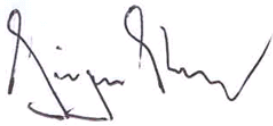
Electromagnetic compatibility directive: 2014/30/EU

RoHS directive: 2011/65/EU

This declaration will become void if the device is exposed to modifications that are not approved by the manufacturer in written form.

Authorized representative for the technical documentation:

TEKA Absaug- und Entsorgungstechnologie GmbH, Millenkamp 9, D-48653 Coesfeld



(Jürgen Kemper, managing director)

Coesfeld, 3rd january 2023

13. Training protocol

Designation of the device: filtoo

(This form can be used by the operator to document the training of the employees. Training should be performed by authorized personnel only. Refer to the instructions in Chapter "Safety Instructions")

By his signature, the employee confirms that he has been instructed regarding the following items:

Instruction	completed
Description of the device	
Operation and application of the device	
Explanation of the safety instructions	
Behavior in case of fire	
Explanation of the operation elements	
Change and dedusting of the filter elements	
Appropriate disposal	
Maintenance works / Maintenance intervals	

Name of the employee (legible)	Signature

Introduction through (legible):	
Signature:	

14. Maintenance intervals

14.1. Usage-related maintenance

The described maintenances become necessary through the demands of the system operations. The maintenance intervals are recommendations. Depending on the application (multi-shift operation, dust generation, ...) it may make sense for the operator to change the intervals of maintenance, replacing and cleaning. Nevertheless, the filters must be replaced at the latest if the signal horn is triggered off.

Maintenance work must always be documented by means of a protocol.

The approach of the maintenance measures is described in chapter "Maintenance".

Maintenance work	Maintenance interval	
	recommended by TEKA	determined by the operator
Gross filter	50 operating hours	
Prefilter	100 operating hours	
Activated carbon filter	100 operating hours	
Main filter	200 operating hours	

14.2. General maintenance

The described maintenances are independent from the demands of the system operations.


The operator is obliged to carry out repeated inspections and functional tests according to national regulations. If not otherwise covered by national regulations, the described maintenance intervals must be respected.

Maintenance work must always be documented by means of a protocol.

Maintenance work	Chapter	Maintenance interval
Visual inspection of the device	14.2.1	weekly
Functional test of the device	14.2.2	monthly
Electrical test of the electrical lines and earthing connections	14.2.3	annually

14.2.1. Visual inspection of the device


Visual inspection: Observation that there are no visible safety-related defects.

	<p>WARNING</p> <p>Danger arising from the ready to operate condition of the device. Follow the procedure as described in the chapter "Set to maintenance state".</p>
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The following steps must be carried out in the course of the visual inspection:

- Check if all required pipeline elements, cable connections and hoses are connected to the filter unit
- Ensure that all parts are firmly connected.
- Check all connection points of the filter unit for escaping dust.
- Check all metal parts for corrosion or damages / changes of the coating.
- Visual inspection of the control and operating elements as well as the outside running cables for damages.


14.2.2. Functional test of the device

	<p>NOTICE</p> <p>Possible material damage due to faulty condition of the unit. Carry out a visual inspection before the functional test of the device as described in the previous chapters. The work as described in the chapter "Commissioning" must be finished.</p>
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The following steps must be carried out in the course of the functional test:

- Switch on the device.
- Pay attention to extraneous noises or vibrations during the device's operation.
- A functional test should always be carried out with a connected / producing machine tool. Check if the collection of the fume or dust is sufficient. (Visual inspection).

14.2.3. Electrical test of the electrical lines and earthing connections

	<p>WARNING</p> <p>Danger arising from electricity. The operator is responsible for ensuring that all work on electric components is carried out by authorised and qualified personnel.</p>
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The device is subject to regular electrical checks by the operator of the device, and are subject to national standards of the different countries.

The here recommended maintenance interval complies with the in Germany applying "Regulation 3 of the German Social Accident Insurance - Electrical plants and equipment" (formerly known as BGV-A3).

The check must only be carried out by a qualified electrician or a person trained in electrics using suitable measuring and test devices. The scope of testing and the methods must be in line with the respective national standard. All contacts in the control cabinet must be checked for tight fit, and must be readjusted if necessary.