



# ***Operating instructions***

***Airfilter MINI HD  
MINI MD  
MINI HK  
MAXI HD  
MAXI MD  
MAXI HK***

**TEKA** Absaug- und Entsorgungs-  
technologie GmbH

Industriestraße 13 D-46342 Velen  
Postfach 1137 D-46334 Velen

Tel.: +49 (0) 2863 9282-0  
Fax: +49 (0) 2863 9282-72

E-Mail: [sales@tekanet.de](mailto:sales@tekanet.de)  
[www.tekanet.de](http://www.tekanet.de)



Please enter here the specific data relating to the Airfilter you have purchased, so that if you contact TEKA GmbH by telephone you will have the necessary data immediately on hand:

**Description and type of the appliance:** Airfilter \_\_\_\_\_

**Year of construction:** \_\_\_\_\_

**Machine no.:** \_\_\_\_\_

**Commission no.:** AU- \_\_\_\_\_

**Date of commissioning:** \_\_\_\_\_

## **Contents**

<b>1</b>	<b>General information</b>	<b>5</b>
1.1	Introduction	5
1.2	Information on copyright and patent rights	5
1.3	Information for the operator	5
1.4	Service and warranty	6
1.5	Instruction and training help	7
1.6	Examples for training subjects	8
<b>2</b>	<b>Safety</b>	<b>10</b>
2.1	General information	10
2.2	Proper use	10
2.3	Information on signs and symbols	11
2.4	Residual risk	12
2.5	Information signs on the Airfilter	13
2.6	Safety information for the operating personnel	14
2.7	Safety information for operating the Airfilter	15
2.8	Safety instructions for maintenance	15
2.9	Information in regards to particular types of hazards	16
2.9.1	Electrical energy	16
2.9.2	Dust and other chemical substances	17
2.9.3	Noise	17
<b>3</b>	<b>Product description</b>	<b>18</b>
3.1	Overview	18
3.2	Function description	19
3.3	Connection to the external control	19
3.4	Protective equipment	20
3.5	Technical data	20
<b>4</b>	<b>Transport, storage and commissioning</b>	<b>23</b>
4.1	Transport on wooden pallet	23
4.2	Unpacking and installation	24
1.1	Scope of delivery	25
1.2	Storage	25
4.3	Commissioning of the Airfilter	25
4.3.1	Assembly of the suction arm	25
4.3.2	Connection of an external control	27
4.3.3	Connection of the Airfilter	28



<b>5</b>	<b>Operation .....</b>	<b>29</b>
5.1	Qualification of the operating personnel .....	29
5.2	Operating conditions .....	29
5.3	Operation .....	29
5.4	Remote control.....	30
5.5	Test operation .....	31
5.6	Filter contamination.....	33
5.6.1	Pre-filter mat .....	33
5.6.2	Combifilter.....	33
<b>6</b>	<b>Maintenance .....</b>	<b>34</b>
6.1	General information.....	34
6.2	Operating condition .....	35
6.3	Routine maintenance work and sight inspection.....	36
6.3.1	Sight inspection .....	36
6.4	Service.....	37
6.4.1	General information.....	37
6.4.2	Replacement of the combifilter.....	37
6.4.3	Replacing the carbon brushes.....	42
6.4.4	Replacement of activated carbon turbine.....	42
<b>7</b>	<b>Fault and error search.....</b>	<b>43</b>
<b>8</b>	<b>Disposal.....</b>	<b>45</b>
8.1	Environmental protection.....	45
8.2	Filters and filter dust.....	45
8.3	Final removing from operation.....	46
<b>9</b>	<b>Appendix .....</b>	<b>47</b>
9.1	Spare parts and parts subject to wear and tear .....	47
<b>10</b>	<b>Declaration of conformity TEKA-Airfilter .....</b>	<b>48</b>



# 1 General information

## 1.1 Introduction

These operating instructions are essential for successfully and safely operating the Airfilters MINI HD, MINI MD, MINI HK and MAXI HD, MAXI MD and MAXI HK – hereinafter referred to in short as Airfilter.

The operating instructions contain important information for operating the Airfilter safely, properly and economically. By following these instructions you can help to avoid hazardous situations, reduce repair costs and downtimes and improve the reliability and the life of the Airfilter.

The operating instructions must at all times be kept within easy reach of the Airfilter and are to be read and applied by everyone commissioned with work with/on the Airfilter e.g.:

- Operation, troubleshooting in the work flow, disposal of materials and supplies,
- Maintenance (service, routine maintenance work, repairs) and/or
- Transport

## 1.2 Information on copyright and patent rights

These operating instructions are to be treated confidentially. They are only to be made accessible to authorized persons. They may only be passed onto third parties with the express written consent of TEKA GmbH.

All documents are protected in accordance with the Copyright Act. The passing on or reproduction of documents, even in part, as well as a use or notification of their contents are not permitted, insofar as this has not been expressly authorized in writing.

Any infringements of this provision will be liable to prosecution and obligate to payment of damages. We reserve all the rights to exercise industrial property rights.

## 1.3 Information for the operator

The operating instructions are an essential part of the Airfilter. The operator is responsible for ensuring that the operating personnel have been informed of these directives.

As it is expected that the operating instructions will undergo intensive use at the place of application of the Airfilter it is the responsibility of the operator:

- to keep the original in safekeeping,
- to ensure that a copy of the operating instructions is always kept next to the Airfilter,
- that each user reads the operating instructions carefully and complies and conforms with all the details contained in there.



The operating instructions are to be supplemented by the operator by company regulations due to existing national regulations for accident prevention (BGV D27) and environmental protection, including the information on obligations for supervision and reporting in order to take into account special company features, e. g. in regards to work organisation, workflows and deployed personnel.

Besides the operating instructions and the binding regulations for accident prevention, which apply in the user country and at the place of application, the recognised specialist technical rules for safe and proper working are to be observed.

The Airfilter is to be inspected by an expert no later than after one year. The inspection certificate is to be documented in writing in a test book.

The operator /user may not undertake any changes, extensions or conversions on the Airfilter, which could impair the safety, without the consent of TEKA GmbH! This applies in particular for the installation and adjustment of safety equipment.

Spare parts which are used must conform to the technical requirements as laid down by TEKA GmbH. This is always guaranteed with original spare parts.

Only personnel who have been trained or instructed in the use should be allowed to use the Airfilter. The responsibilities of the personnel for operation, service and repairs should be clearly defined!

The Airfilter may only be maintained by specially trained personnel of TEKA GmbH or an authorized service company.

#### **1.4 Service and warranty**

TEKA GmbH makes every effort to process your questions and orders as quickly as possible. We request you to please state your name with reply address and the identification data relating to your Airfilter before every inquiry. The latter are to be entered after the cover sheet of these operating instructions.

The warranty of TEKA GmbH for the Airfilter covers damages within the guarantee period, of which proof is provided that they are a result of construction, material or production defects.

The guarantee period is 12 months. It shall begin with the handing over or commissioning of the Airfilter by the dealer or customer.

A warranty will only be assumed to the full extent, if:

- the delivery inspection, the hand over and the instructions have been carried out as agreed,
- the Airfilter is only used for the purpose for which it was intended,
- the maintenance and service regulations are strictly observed.

In a warranty case TEKA GmbH will assume the costs for material and assembly, directly incurred through the correction of the damages to the Airfilter.

The prices for spare parts and remuneration rates of TEKA GmbH shall apply.

Furthermore, we refer to the warranty provisions and the General Business Terms of TEKA GmbH.



## **1.5 Instruction and training help**

As operator of the Airfilter you are obliged to inform and instruct the operating/service personnel on existing statutory and accident prevention regulations as well as on existing safety equipment on and near the Airfilter. The various specialist qualifications of the employees are to be taken into account.

You must ensure that the operating/service personnel have understood and follow the instructions.

Only this way can you make sure that your personnel are safety-conscious and aware of the hazards when performing their work. Therefore, as operator you should have each employee confirm in writing that they have participated in the training.

On the following pages you will find examples for subjects for training as well as a form which may be used as an example for confirming the training.



## 1.6 Examples for training subjects

<b>1. On safety</b>
→ Accident prevention regulations
→ General statutory regulations
→ General safety information
→ Measures to be taken in case of an emergency
→ Disposal of filter elements
→ Personal protective equipment
→ Safety information for the operation of the Airfilter
→ Handling the safety equipment on the Airfilter
→ Safety equipment in the environment of the Airfilter
→ Significance of symbols and signs
<b>2. On the operation of the Airfilter</b>
→ Handling the control elements of the Airfilter
→ Notes on the operating instructions for the operating personnel
→ Special experience of the operator in dealing with the Airfilter
→ The use of substances, aids and auxiliary equipment
→ Experience in regards to the use of the Airfilter
→ Correction of errors
<b>3. On maintenance and service regulations</b>
→ Proper handling of cleaning agents, lubricants
→ Special experience of the operator in the fields of service, maintenance, cleaning and care of the Airfilter





<b>Confirmation of the training</b>		
Subject of the training:		
Date:	Training instructor:	Signature of the training instructor:
No	Name, Christian Name	Signature
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		



## 2 Safety

### 2.1 General information

The Airfilter is built in accordance with state of the art technology and the recognised safety regulations.

Nevertheless the use of such could pose a risk for the user or a third party or impair the use of the Airfilter and other material assets, if it:

- is operated by personnel who have not been trained or given instructions,
- is not used for the purpose for which it was intended,
- is not properly maintained or serviced.

### 2.2 Proper use

The Airfilters MINI HD, MINI MD, MINI HK and MAXI HD, MAXI MD and MAXI HK of TEKA GmbH are exclusively for the purpose of suction of gases and fumes, which are contaminated with harmful substances and which occur in the following areas of activity:

- Soldering in the electronics industry,
- Laser processing,
- Dental and medical technology,
- Dermatology,
- Catering and
- Hairdressers.

No statements can be made in regards to the risks posed for people and the environment for other areas of activity other than those stated in these operating instructions. Should gases and fumes contaminated with harmful substances be extracted in another environment than those which are given here, then no general statement can be made on the suitability of the Airfilter.

In this case it is essential that you contact TEKA GmbH, otherwise all warranty claims shall lapse.

You are particularly requested to also comply with the accident prevention regulations and here in particular the safety regulations for *air filtering systems at work, ZH 1/140* when dealing with dangerous substances.

The Airfilter may only be operated using the accessories /with the equipment, as envisaged and released by TEKA GmbH for this purpose.

The details contained in chapter 3.5, technical data are to be observed and conformed with.



Improper use is the suction of:

- moist, liquid or vaporous substances,
- gases/substances/material-air mixture which may pose an explosion hazard,
- in layers impermeable to air and crystallizing substances,
- sticky or statically adhesive substances or
- substances which form sparks.

Any other use or a use beyond this, e. g. as industrial exhaust fan is not a proper use.

The Airfilter may not be used if gases and fumes are to be extracted under production conditions, in which cancerogenous substances according to BIA TRGS 900 may occur or be contained!

The operator of the Airfilter will have sole responsibility for damages resulting from improper use.

This also applies for unauthorized changes to the Airfilter.

Components/spare parts, which are not in perfect working order, are to be replaced immediately. Only use original spare parts. In particular in the case of filter elements purchased from third parties there will be no guarantee that they will completely filter the harmful substances from the extracted gas/fumes!

Proper use includes following the information:

- on safety,
- on operation and
- on maintenance /service,

described in these operating instructions.

### 2.3 Information on signs and symbols

The following designations or symbols for safety information and particularly important details are used in these operating instructions:



#### **Danger!**

Draws attention to a directly imminent danger, which will result in very serious personal injuries or in death, if you do not strictly follow the instructions as described.



#### **Warning!**

Draws attention to a possible hazardous situation, which could result in very serious personal injuries or in death, if you do not strictly follow the instructions as described.

**Kommentar [MP1]:** This is a warning of a directly imminent dangerous situation, which will in any case result in very serious personal injuries or death, if you do not strictly follow the instructions as described. [ANSI Z535.4 – 1998, DANGER/Red; DIN IEC 62079 – 1999, Red]

**Kommentar [MP2]:** This is a warning of a hazard, with the possible consequence of very serious injuries or death, if you do not strictly follow the instructions as described. [ANSI Z535.4 – 1998, WARNING/Orange; DIN IEC 62079 – 1999, Red]



**Caution!**

Draws attention to a possible hazardous situation or uncertain dangerous procedures, which could lead to physical injuries or material damages to the Airfilter or its environment.

**Kommentar [MP3]:** This is a warning of a possible hazardous situation with the consequence of medium or light injuries and material damages, if you do not strictly follow the instructions as described. [ANSI Z535.4 – 1998, CAUTION/Yellow; DIN IEC 62079 – 1999, Yellow]

**These WARNINGS must be strictly observed!**

This refers to particular facts, if complied with they guarantee a safe, proper and efficient handling of the Airfilter.

All instructions should be followed in the interest of a proper use of the Airfilter. Please pass on all the information to other users!



**Note!**

This refers to particular facts, if complied with they guarantee a safe, proper and efficient handling of the Airfilter.

All instructions should be followed in the interest of a proper use of the Airfilter. Please pass on all information to other users!

**Kommentar [MP4]:** User tips [not listed in any norm]

- Work and/or operating steps are marked with the large point. The steps are to be listed in an order from top to bottom!

- Lists are marked with the dash.

Information and symbols directly attached to the Airfilter, such as warning signs, warning stickers, components markings, etc must be complied with.

The information and symbols directly attached to the Airfilter may not be removed and are to be kept in a completely legible condition!

## 2.4 Residual risk

Even if all safety regulations are complied with there will still be a risk when operating the Airfilter.

All persons, who work on and with the Airfilter, must be made aware of these residual risks and follow the instructions, which prevent that these residual risks cause accidents or damages.



**Caution!**

Breathing in poisonous gases and dust can directly cause injuries through poisoning. Repeatedly breathing in, swallowing and coming into touch with the dust and gases contained in the filter elements and suction hose can also result in long-term injuries to internal organs.

**Personal protective equipment must be worn before carrying out any work on the interior of the Airfilter, in particular to the Filter elements and on the suction hose.**

**This includes:**

1. **Protective gloves (disposable gloves made of polyethylene, long design),**
2. **Breathing mask (fine dust mask with test of protective level 3),**
3. **Protective glasses.**

## 2.5 Information signs on the Airfilter

The following information signs are attached to the Airfilter:

<p><b>TEKA</b>                  Absaugungs- und Entsorgungstechnologie GmbH                  Industriestraße 13 D- 46342 Velen                  Made in Germany</p>							
Type:	???	Serial no.:	000000	Year of construction:	01/2002		
Commission no.:	AU-000000	Part no. :			???		
Flow rate:	0 - 300 m³/h	Underpressure:			900 - 21.000 Pa		
Performance:	1.2 kW	Nominal voltage:			230 V		
Mains frequency:	50/60 Hz	Current:			???	A	
Phase:	1 Ph+N+PE	Control voltage:			24 V		
Protective type:	IP 54	Weight:			136 kg		

The type sign of the Airfilter is attached to the exterior of the housing near to the connection of the power supply. As these operating instructions describe several model types the type sign for the Airfilter MINI HD is given here as an example!



## 2.6 Safety information for the operating personnel

The Airfilter may only be used in technically good working order, as intended, if the operator is aware of the safety regulations and of the hazards by following these operating instructions! All breakdowns and in particular those, which may impair the safety, are to be corrected immediately!

Any person commissioned with the installation, commissioning, maintenance or correction of the fault of the Airfilter, must have completely read and understood these operating instructions before *commencing the work*- in particular the chapter *Safety*.

### **It is too late during the work.**

This applies in particular for personnel, who are only occasionally deployed at the Airfilter.

Any person commissioned with working at the Airfilter must confirm before the initial handling of the Airfilter with their signature that they have read and understood the operating instructions.

The operating instructions must at all times be kept within easy reach of the Airfilter.

No liability will be assumed for injuries and accidents which occur through not complying with the operating instructions.

The relevant accident prevention regulations and the other generally recognized safety and industrial medical rules are to be complied with.

The responsibilities for the various activities within the framework of the operation, the service and maintenance of the Airfilter must be clearly defined and complied with. Only this way can faulty handling– in particular in hazardous situations– be avoided.

The operator must obligate the operating and service personnel to wear personal protective equipment. This includes protective gloves (disposable gloves made of polyethylene), a breathing mask in particular for changing the filter (fine dust mask with the test of protective level 3).

Should safety-relevant changes to the operating behaviour or malfunctions of the Airfilter be noticed, this is to be shutdown immediately and the occurrence to be reported to the responsible department/person!

First-aid equipment (first aid box, eye rinsing bottles, etc.) are to be stored within easy reach!

Announce location and operation of fire extinguishers and observe the possibilities for reporting and fighting a fire.

It is essential that the instructions for maintenance work in chapter 6, *maintenance* be following in case of inspection, service and repair of the Airfilter and the safety equipment!

Work on the Airfilter may only be carried out by reliable staff. The statutory permissible minimum age must be observed!

Only trained personnel or personnel who have been given instructions may be deployed!

Personnel to be trained, instructed or taking part in general training may only work at the Airfilter under the constant supervision of experienced personnel!



## 2.7 Safety information for operating the Airfilter

In the case of all work, which concern

- the operation,
- the conversion or the adjustment of the Airfilter and its safety equipment,
- the inspection,
- the service and
- the repair

the processes for switching on and off must be complied with in accordance with these operating instructions and the instructions for maintenance be followed!

The Airfilter may only be operated, if all protective and safety equipment, e. g. detachable protective equipment, housing locks, etc., are available and in good working order!

Before commencing work the personnel must be familiar with the working environment of the Airfilter.

The Airfilter may never remain unsupervised during operation!

The Airfilter has to be inspected at least one time per shift for damages which are visible on the outside. Report any changes (including that of operating behaviour) immediately to the responsible shift manager or the plant manager.

In the case of malfunctions of the Airfilter it should be shutdown and secured immediately. Have malfunctions corrected immediately by specially trained skilled workers.

## 2.8 Safety instructions for maintenance

Inform the operating personnel before commencement on the execution of special and maintenance work.

The stipulated deadlines or those stated in these operating instructions are to be observed for repeat tests/inspections.

Workshop equipment appropriate for the work is absolutely essential for carrying out maintenance measures.

Maintenance areas, insofar as necessary, are to be lit up using additional hand or stand lamps.

The Airfilter must be switched off for service, repair and maintenance work and be secured against being switched on again unexpectedly, by:

- the Airfilter being switched off at the on/off switch and after this
- the plug of the mains cable being pulled out of the appliance inlet on the Airfilter.

Do not put your hand in the cover grid of the turbine or the filter chambers in the combi-filter during fitting, assembly or service work.

After switching off / or shutting down the Airfilter wait until the turbine stops.



To avoid electric shocks do not open any electrical components, housing and covers.  
Do not touch any damaged, torn and in particular live components.  
Do not carry out any programme changes to programmable control systems.  
Work on electrical equipment may only be carried out by trained skilled workers or by persons who have been given instructions under the management and supervision of a trained skilled worker!  
Inspect cable and hose connections, particularly those of moveable parts, regularly for damages and if necessary replace these.  
Replace filter elements at the given or at appropriate time intervals, even if no safety-relevant defects are visible!  
Screws, which have been unscrewed during service and maintenance work must be replaced and secured tightly!  
Should it be necessary to disassemble safety equipment during service or repair work, then the safety equipment must be assembled and inspected *immediately after completion of the service and repair work!*  
The Airfilter and here in particular connections and screw couplings, are to be freed of all contamination and residues such as e. g. dust, supplies or cleaning products upon commencement of the service/repair/routine maintenance work,  
Do not use any aggressive agents or cleaning agents which contain solvents. Use fluff-free cleaning cloths.  
Only use mild cleaning agents on water-basis. Comply with details provided by the manufacturers. Do not use any organic solvents, as there is a risk of fire and explosion!  
Ensure safe and environmentally-friendly disposal of materials and supplies and exchanged parts!

## 2.9 Information in regards to particular types of hazards

### 2.9.1 Electrical energy

Work on electrical equipment of the Airfilter may only be carried out by a skilled electrical worker or by instructed personnel under the management and supervision of a skilled electrician according to the rules for electrical engineering!  
After switching off you must always wait five minutes, so that the built-in capacitors in the control system can discharge. The housing is only to be opened after this time has elapsed.  
Only use original fuses with the stipulated electric currents!  
Never carry out work on live parts.  
When carrying out repairs watch out that constructional features are not changed in a way which will have a negative effect on the safety in particular creeping and striking distances and intervals must not be reduced by insulations.  
The impeccable earth of the electrical system must be guaranteed by a protective conductor system.  
Programme changes in the control system may only be carried out by coordination with an agent or directly with TEKA GmbH.  
In cases of disturbances in the electrical energy supply immediately disconnect the Airfilter from the mains, by:

- switching off the Airfilter at the on/off switch and after that





- pulling the plug of the mains cable from the appliance inlet at the Airfilter.

### 2.9.2 Dust and other chemical substances

Partly toxic dust is filtered from contaminated air using the Airfilter. Depending on the type of substances used, this dust can pose a risk to the health or be cancerogenous.

Special attention must be paid when handling toxic dust.

When handling chemical substances please comply and conform with the regulations and safety data sheets of the manufacturers of these substances applicable for this in regards to storage, handling, use and disposal!

In case of eye or skin contact with the dust in the filters or the suction hose the part concerned must be rinsed out immediately using a great deal of water. Suitable equipment (eye rinsing bottle, sink, shower) must be available near the workplace!

Skin contaminated by cleaning and disinfection agents should be cared for after washing. Damages to the skin can be avoided through the precautionary use of skin protection agents and a suitable skin care. The care products to be used are to be chosen dependent on the contamination with harmful substances and the individual condition of the skin. Mainly fatty care products come into question.

It is not permitted to eat, drink, smoke and store food in rooms, in which chemicals are located! *Never* store dangerous substances in containers or vessels for food. Always use permissible containers and clearly mark such for the respective substance.

Particle and gas filters are subject to the special waste regulation and are to be disposed of according to the contamination with the harmful substance accordingly.

The improper replacement of the filter elements contaminated with harmful substances poses a health risk for the person carrying out the work and their environment. Therefore, it is essential that you follow the instructions contained in section 6.4.2, *replacing the combi-filter* in these operating instructions when replacing the filter elements.

### 2.9.3 Noise

The A-evaluated equivalent continuous sound pressure level at the control station of the Airfilter is less than 68 dB(A) in normal operation, depending on the type of appliance.

Depending on the local conditions there may be a higher sound pressure level in the environment of the Airfilter. This increased sound pressure level can be caused by neighbouring machines and cause hardness of hearing.

### 3 Product description

#### 3.1 Overview

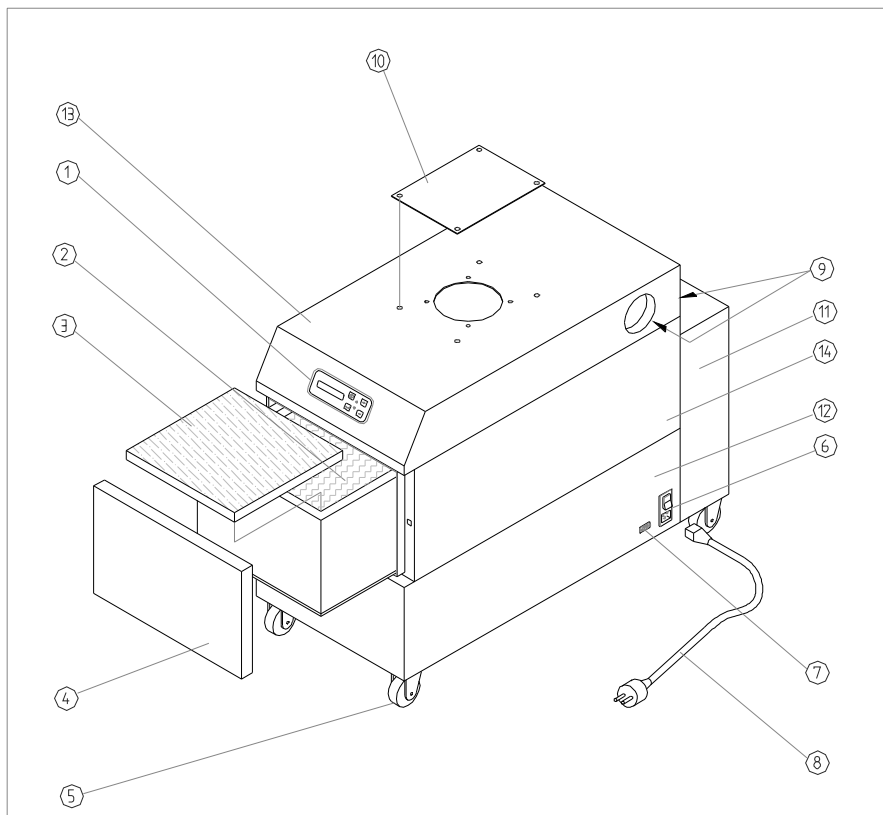


Figure 1: Total view Airfilter MAXI, types HD, MD, HK

- |    |  |    |                                    |
|----|--|----|------------------------------------|
| 1  | Transparent display, membrane keyboard | 2  | Combifilter                        |
| 3  | Pre-filter mat                         | 4  | Service flap on the filter housing |
| 5  | Castors (partly with brakes)           | 6  | ON/OFF switch, appliance inlet     |
| 7  | Sub-D-9 plug connection                | 8  | Mains cable                        |
| 9  | Blind plug( various sizes)             | 10 | Blind cover (with 4 screws)        |
| 11 | Sound absorption module                | 12 | Turbine housing                    |
| 13 | Housing cover                          | 14 | Filter housing                     |

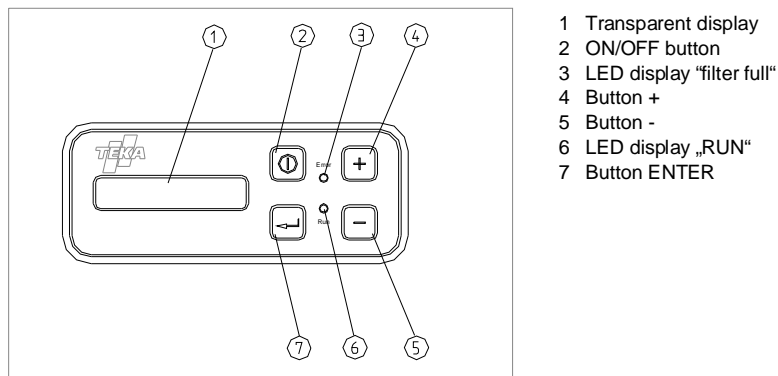


Figure 2: Transparent display and membrane keyboard

### 3.2 Function description

The Airfilter is used for extracting gases and fumes contaminated with harmful substances. Either using a suction arm (accessory) extracted directly from the environment of the Airfilter or a suction hose is directly closed between the machine to be extracted and the Airfilter.

The Airfilter is either switched on or controlled on the membrane keyboard or by the control of the machine to be extracted (remote switch automatic mechanism).

The gases/fumes extracted by the suction hose/suction arm are extracted into the filter housing with the used combifilter.

The combifilter consists of the following three filter levels:

- Pre-filter mat,
- Air filter and
- Activated carbon filter with filter end stage.

The clean gas is extracted by turbine below the activated charcoal filter and then emitted to the atmosphere through the sound absorption module attached at the side.

The Airfilter is connected to the mains supply using a appliance inlet (included). The appliance inlet for the power supply of the Airfilter is positioned on the turbine housing near the sound absorption module.

### 3.3 Connection to the external control

A control cable with a sub D9 connection is required for operating the Airfilter via a remote switch automatic mechanism. The pin terminal assignment of the sub-D9 connection (see in section 4.5.2) is to be complied with!



### 3.4 Protective equipment

The Airfilter is equipped with protective equipment to prevent risks to the safety and health of the operator or a third party in proper use of the Airfilter

The whole Airfilter is constructed and produced in accordance with state-of-the-art technology and the recognised safety regulations. In order to ensure a safe operation for personnel and the environment, the precautions described below have been met or the safety equipment installed.

The unauthorized removal or bridging (circumvention) of safety equipment represents a criminal act. There shall be no liability in case of injuries.

The turbine is secured by a protective plate or grid, which can only be removed using tools.

All elements of the control systems will move into a safe status for operators, Airfilter and environment in the case of power cut or reported breakdowns. It is not possible for the systems to run again unexpectedly after this.

All live components are secured against touch (insulated) and installed with sufficient breakdown distance. Live modules are built into the turbine housing and may only be opened using tools.

All electrical components carry the CE mark for low voltage and/or EMC.

A potential compensation ( $\varnothing > 1.5 \text{ mm}^2$ ) of all conducting components is installed to earth the Airfilter.

The Airfilter is designed according to protective type IP 54.

All connections of the control and the gas conducting hoses are clearly marked. Electrical circuit diagrams can be found in the appendix with the accompanying BOM lists.

### 3.5 Technical data

<b>Manufacturer:</b>	TEKA GmbH In der Aue 6 D - 46342 Velen Tel.: ++49 (0) 28 63-92 82-0 Fax: ++49 (0) 28 63-92 82-72 e-Mail: service@tekanet.de
----------------------	--

#### General data

<b>Product designations:</b>	Airfilter MINI with the types: HD, MD, HK Airfilter MAXI with the types: HD, MD, HK
------------------------------	--

<b>Housing MINI:</b>	Width	365 mm
	Height	626 mm
	Depth	376 mm



	Housing material	Sheet steel, lacquered
<b>Housing MAXI:</b>	Width	365 mm
	Height	626 mm
	Depth	681 mm
	Housing material	Sheet steel, lacquered
<b>Atmosphere:</b>	Atmospheric temperature, perm.	+ 5 °C to + 35 °C
	Relative humidity	max. 65 %

**Type-specific data**

<b>MINI HD:</b>	Suction output, free blowing	10 - 300 m <sup>3</sup> /h
	Connect load	1.2 kW
	Power connection	230 V / 50/60 Hz
	Max. underpressure	900 - 21.000 Pa
	Total weight	28 kg
	Sound pressure level	58 dB(A)
<b>MINI MD:</b>	Suction output, free blowing	10 - 300 m <sup>3</sup> /h
	Connect load	80 W
	Power connection	230 V / 50/60 Hz
	Max. underpressure	130 - 3.000 Pa
	Total weight	27 kg
	Sound pressure level	46 dB(A)
<b>MINI HK:</b>	Suction output, free blowing	10 - 300 m <sup>3</sup> /h
	Connect load	1.1 kW
	Power connection	230 V / 50/60 Hz
	Max. underpressure	900 - 21.000 Pa
	Total weight	27 kg
	Sound pressure level	58 dB(A)
<b>MAXI HD:</b>	Suction output, free blowing	20 - 600 m <sup>3</sup> /h
	Connect load	2.4 kW
	Power connection	230 V / 50/60 Hz
	Max. underpressure	900 - 21.000 Pa
	Total weight	56 kg
	Sound pressure level	58 dB(A)



<b>MAXI MD:</b>	Suction output, free blowing	20 - 600 m <sup>3</sup> /h
	Connect load	160 W
	Power connection	230 V / 50/60 Hz
	Max. under pressure	130 - 3.000 Pa
	Total weight	54 kg
	Sound pressure level	46 dB(A)

<b>MAXI HK:</b>	Suction output, free blowing	20 - 600 m <sup>3</sup> /h
	Connect load	2.2 kW
	Power connection	230 V / 50/60 Hz
	Max. under pressure	900 - 21.000 Pa
	Total weight	54 kg
	Sound pressure level	58 dB(A)

### Filter material

<b>Combifilter for Airfilter MINI:</b>	Net weight	4.3 kg
	Filter class	H 13 (main filter) and F 7 (Filter end stage)
	Filter surface	2.5 m <sup>2</sup> (main filter) 0.5 m <sup>2</sup> (filter end stage)
<b>Combifilter for Airfilter MAXI:</b>	Net weight	7.2 kg
	Filter class	H 13 (main filter) and F 7 (filter end stage)
	Filter surface	5.3 m <sup>2</sup> (main filter) 1.1 m <sup>2</sup> (filter end stage)
<b>Pre-filter mat for Airfilter MINI:</b>	Filter class	G 4
	Filter surface	0.07 m <sup>2</sup>
<b>Pre-filter mat for Airfilter MAXI:</b>	Filter class	G 4
	Filter surface	0.15 m <sup>2</sup>



## 4 Transport, storage and commissioning

### 4.1 Transport on wooden pallet

The Airfilter is delivered upright on a wooden pallet. The following cart vehicles are permitted for transporting the wooden pallets:

- Fork trucks and
- Fork lift trucks.

Hard knocks to the Airfilter are to be avoided while being lowered (e. g. on the loading surface of a transport vehicle).

The wooden pallets with the upright Airfilters should be secured against falling over during transport.

Arrows printed on the transport crates must point upwards.

Comply with the applicable accident prevention and labour safety regulations.

You must observe the information on the packaging!

The Airfilter or the wooden pallet with the Airfilter is to be secured against slipping and falling over on the transport vehicle.



#### **Danger!**

##### **Danger through the Airfilter falling down!**

The Airfilter may fall off if the wooden pallets are not secured properly and may cause serious injuries or death.

##### **Only use suitable hoisting equipment and fastenings!**

##### **The driver must be authorized to steer the cart vehicles.**

##### **Drive between the spans of the wooden pallet using the fork lift truck.**

Observe the following instructions for transporting the Airfilter:

The cart vehicle must be permitted for the total weight of the wooden pallets with the upright Airfilter.

Weight of the whole Airfilter type MINI, net: approx. 27 kg

Weight of the wooden pallet + Airfilter MINI + packaging: approx. 46 kg

Weight of the whole Airfilter type MAXI, net: approx. 56 kg

Weight of the wooden pallet + Airfilter MAXI + packaging: approx. 75 kg

The length of the forks must be at least: 1,000 mm.

The transport crates must be tightly tied to the cart vehicle, in order to avoid them falling over.



It is to be prevented that the Airfilter and the hoisting rack of the cart vehicle touch each other:

- Wedge a distance wood or cardboard between the packaging of the Airfilter and the hoisting rack for this.
- Avoid hard knocks when setting the Airfilter down.

All persons must leave the working area of the cart vehicle before the Airfilter is hoisted.

## 4.2 Unpacking and installation



### Note!

Do not unpack the Airfilter until you reach the place of installation.  
Do not install the Airfilter directly near radiators /heating elements.  
During installation ensure there is sufficient room for replacing the combifilter.

Proceed as follows when unpacking and installing the Airfilter:

- Do not lift the Airfilter off the wooden pallet or remove from the transport packaging until you reach the place of installation. Carefully remove the packaging.
- Check the completeness of the delivery based on the packing list. Should any parts be missing or have been delivered wrongly, contact TEKA GmbH or their supplier immediately. The same applies for damages in transit.
- Also check the whole delivery for external damages, such as e. g. could have occurred in transit.
- Subsequently transport the Airfilter carefully and cautiously on its castors until you reach the place of installation.
- Install the Airfilter on level, firm ground.
- Secure the Airfilter against unintended rolling away by pressing the brakes on the castors.
- Install the Airfilter so that the connected suction hoses between Airfilter and machine to be extracted are not located in passageways or can generally not be exceeded.





## 1.1 Scope of delivery

Upon receipt of the Airfilter check the scope of delivery exactly and report immediately if there are any parts either missing or damaged. Subsequent complaints will not be accepted.

The regular scope of delivery includes:

- Airfilter, complete (with built-in filter elements);
- Mains cable (cold coupler cable);
- Blind plugs (inserted into the intakes);

Please note that the scope of delivery can deviate from this list in individual cases. In this case the list in the delivery papers is binding.

## 1.2 Storage

The Airfilter must be stored in a shock-free, dry and as far as possible dust-free location. It must not be stored outside of closed rooms.

The atmospheric temperature must be in a temperature range between + 5 °C and + 35 °C.

The relative humidity may not exceed 65 %. It is essential that condensation of humidity on the surfaces of the Airfilter is avoided.

## 4.3 Commissioning of the Airfilter

### 4.3.1 Assembly of the suction arm



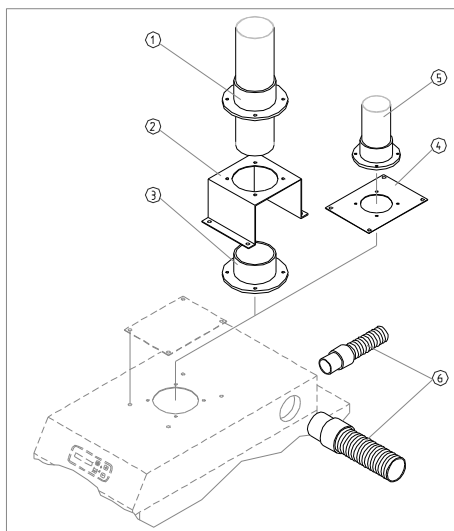
#### Note!

Follow the assembly and operating instructions of the respective suction arm!  
You will only find general information for this in these operating instructions.

The parts described here are not included in the scope of delivery of the Airfilter.

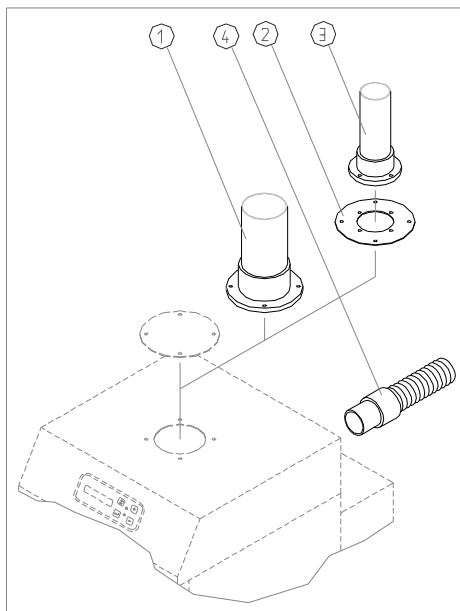
The suction arm can be assembled on the housing cover of the Airfilter (see the following figure).

The suction arm may be assembled in different ways depending on the design.



- 1 Suction arm, nominal diameter 100
- 2 Bracket
- 3 Flange
- 4 Adapter plate NW100/75
- 5 Suction arm, nominal diameter 75
- 6 Suction hose ( 2 different sizes)

Figure 3: Assembly of various suction arm types on the Airfilter MAXI



- 1 Suction arm, nominal diameter 75 mm
- 2 Adapter plate NW75/50
- 3 Suction arm, nominal diameter 50 mm
- 4 Suction hose

Figure 4: Assembly of various suction arm types on the Airfilter MINI

### 4.3.2 Connection of an external control

The Airfilter is switched on or controlled (remote switch automatic mechanism) either on the membrane keyboard or by an external control (e.g. of the machine to be extracted).

The remote switch automatic mechanism is connected to the Airfilter using a nine-pole cable with sub-D9 plugs.

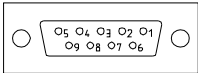
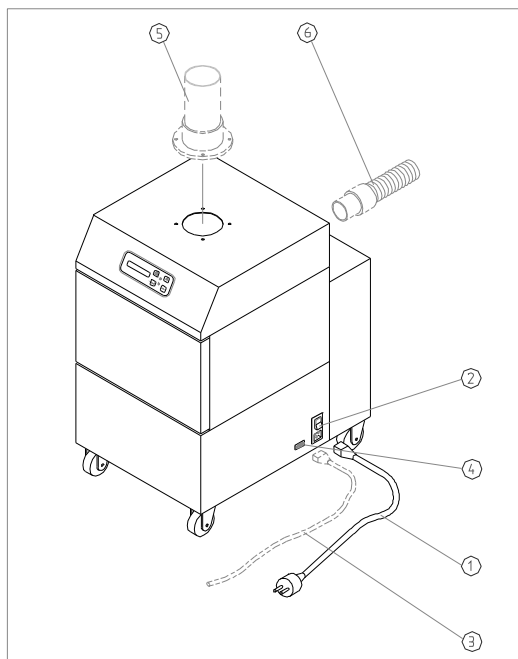
Figure	Pin	Designation	Explanation
 <p>Connector socket Sub-D9, on the side of the unit</p>	1	Start contact	A voltage of + 24 V DC, VCC (Pin 2) must be connected to switch on the Airfilter. Switch off by separating the voltage. <b>Important:</b> Airfilter only switches off after preset time (follow-up time approx. 20 s).
	2	24 V DC/ +VCC	Internal control voltage e. g. for starting the system.
	3, 4	"Filter full"	Potential-free outlet (closing contact) for evaluating a warning signal "filter full"
	5, 6	Operating control	Potential-free outlet (closing contact) for evaluating an operating control. The signal at this outlet is always applied, when the LED "RUN" is lit up.
	7	Increase turbine output	A voltage of + 24 VCC (Pin 2) must be connected in order to increase the output of the turbine. When the voltage is connected the turbine output increases up to maximum output.
	8	Reduction of turbine output	A voltage of + 24 VCC (Pin 2) must be connected in order to reduce the output of the turbine. When the voltage is connected the turbine output is reduced right down to minimum output.
	9	GND/ 0V DC	Ground internal (ground, mass)

Table 1: Connection of an external control (arrangement of the plug contact/ terminal assignment of connection)

### 4.3.3 Connection of the Airfilter



- 1 Mains cable
- 2 Appliance inlet / On/off
- 3 Connection cable for remote control (not included)
- 4 Sub-D9-connection
- 5 Suction arm (not included)
- 6 Suction hose (not included)

Figure 5: Connection of the Airfilter

Connect the Airfilter as follows:

- First you plug the mains cable (Pos. 1) into the appliance inlet (2) on the Airfilter and only after this the plug of the mains cable into the 230-V socket.
- Insofar as an external control of the Airfilter is planned, then connect the external control with the sub-D9 connection (4) to the housing of the turbine using a corresponding cable (3).
- Insofar as it is desired, mount the suction arm (5) onto the top of the Airfilter according to the assembly instructions.
- Push the air intake fitting of the suction hose (6) into the matching intake opening. Insofar as the suction output of the Airfilter allows this, several suction hoses may also be connected, in order e. g. to extract several machines at the same time.
- Finally check all connections again that they are correct and fitted tightly.

After connecting all hose pipes and checking the connection the Airfilter can be put into operation.

## 5 Operation

### 5.1 Qualification of the operating personnel

Only trained or instructed personnel should be permitted to work at the Airfilter. The responsibilities of the personnel for the installation and maintenance should be clearly defined!

Changes to settings on the Airfilter may only be carried out by specially trained service personnel of TEKA GmbH.

Clearly define the area of responsibility of the operating personnel and authorize them to reject instructions of third parties which may violate safety regulations.

The operating personnel must have been informed or have been instructed regarding existing statutory and accident prevention regulations as well as of available safety equipment on and around the Airfilter.

The operating personnel must have understood the instructions and you must make sure that the instructions are followed.

Only this way can it be ensured that the work is carried out safely by all employees and that they are aware of the possible hazards.

### 5.2 Operating conditions

The Airfilter must be operated at a vibration-free, dry and as far as possible dust-free location. The Airfilter may not be operated outside of closed rooms.

The air temperature must be in a temperature range between + 5 °C and + 35 °C.

The relative humidity in the air may not exceed 65 %. It is essential that condensation from humidity on the surfaces of the Airfilter be avoided.

### 5.3 Operation

The Airfilter is controlled via its membrane control panel with transparent display. All the functions of the Airfilter will be set here.

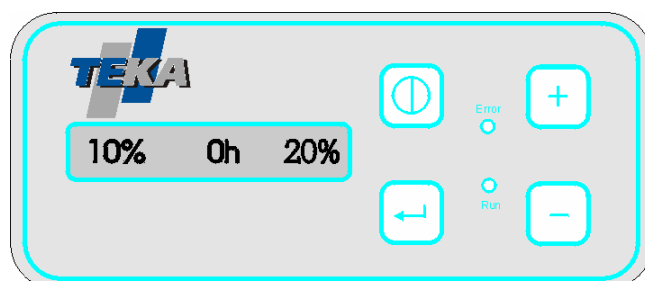


Figure 6: membrane control panel with transparent display

When switched on the basic setting will be displayed in the transparent display:



- On the left the actual filter contamination given as a percentage,
- In the middle the hours of operation so far,
- On the right the actual set number of revolutions of the turbine(s) as a percentage of the maximum number of revolutions. The minimum value is set to 20 %.

You will find the following control elements on the membrane control panel of the Airfilter:



**ON/OFF button**

The ON/OFF button is used for switching the Airfilter on and off. When switched on you can hear the turbine start and the gases / the fumes will begin to be extracted.

If you change the values (e. g. the number of revolutions of the turbines), then these settings will be saved when the unit is switched off. When it is switched on again the Airfilter will continue to operate with these settings.



**ENTER button**

This button is only to be used by your service technician for control work and adjustments to the electronic control of the Airfilter.

**Important information:** Do not attempt to make any unauthorized adjustments, unless you are expressly authorized to do so by TEKA GmbH.

If nothing is entered/changed for several seconds, the display automatically returns to the basic setting.



**Button +**

This button is used for *increasing* the number of revolutions of the turbine(s) in %-steps. You can notice the increase in the number of revolutions by the increase in the level of noise. The changed value will be taken over directly.



**Button -**

This button is used for *reducing* the number of revolutions (s) in %-steps. You can notice the reduction in the number of revolutions by the reduction in the level of noise. The changed value will be taken over directly.



**LED Error (red)**

If the LED Error lights up red, the combifilter is full and must be replaced, as the cleaning performance of the Airfilter is reduced.



**LED Run (green)**

Shows that the Airfilter is switched on.

## 5.4 Remote control

Besides being operated via the membrane keyboard it is also possible to control the Airfilter



using a remote control or to connect it to an external control panel (e. g. to the machine to be extracted) via a connection cable.

Depending on the design of the remote control either all or just some of the functions described in the previous section may be carried out.

Connect the external control panel to the Sub-D9 connection of the turbine housing of the Airfilter using a screened cable. Please follow the instructions in section 4.3.2.



**Note!**

If you switch off the Airfilter externally via the remote control, the turbines will continue to run for the pre-set time of 10 seconds and will then switch off.

This delay in time ensures that a large part of the gases/of the fumes will still be extracted at the machine.

## 5.5 Test operation






**Note!**

Carry out the test operation if you have purchased the Airfilter new and would like to become familiar with the functions.


You should also carry out the test operation, if you have connected the Airfilter to a (new) remote control or malfunctions on the Airfilter have previously been corrected.

Carry out the test of the Airfilter as follows:

- First check all connections on the Airfilter that they are correct and fitted tightly.
- Only after this has been done should you switch the Airfilter on using the ON/OFF switch above the appliance inlet.
- Switch the Airfilter on via the membrane keyboard using the button  .  
Alternatively you can switch on the machine to be extracted. This way the Airfilter is switched on automatically.
- Increase the number of revolutions of the turbine (s), by touching the button  and keeping it pressed down. You can notice the increase in the number of revolutions by the increase in the level of noise. In addition to this, the right %-display in the transparent display increases.
- Increase the number of revolutions of the turbine(s) to 100 %. The left %-display should therefore rise slightly.
- Subsequently reduce the number of revolutions of the turbine(s), by touching the button  and keeping it pressed down. You can notice the reduction in the number of



revolutions by the reduction in the level of noise. In addition to this, the right %-display in the transparent display (as a minimum to 20 %) will fall.

- If you operate the Airfilter by a remote control you should now also check all available functions here. These *may* be:
  - direct switching off/and on again of the Airfilter,
  - increase in the number of revolutions,
  - reduction in the number of revolutions,
  - automatic switching off of the Airfilter, when the machine is switched off,
  - automatic switching on of the Airfilter, when the machine is switched on.
- Subsequently switch the Airfilter off via the membrane keyboard using the button . Alternatively, you can switch off the machine to be extracted. This way, the Airfilter will be switched off automatically after the set post running time.

Insofar as the test operation has been completed to your satisfaction and without any malfunctions, the Airfilter is now available for normal operation.





## 5.6 Filter contamination

### 5.6.1 Pre-filter mat

The pre-filter mat is on top of the combifilter. It mainly filters larger fume particles from the exhaust gases /from the fumes.



#### Note!

Depending on the consistency of the gases to be extracted / of the fume – in particular in the case of a high proportion of dust or fibres – it is useful to check the pre-filter mat regularly for contamination and if necessary to replace it more than once.

### 5.6.2 Combifilter

During the operation of the Airfilter you must control the percentage figure for the filter contamination regularly (left percentage figure in the transparent display) and replace the combifilter no later than if there is a percentage figure of 100 %.



#### Warning!

##### **Destruction of the filter elements!**

##### **The possibility of direct skin contact or breathing in of the filter dust!**

If you do not take notice when the filter contamination is 100 %, this can result in the air filter tearing in the housing of the combifilter.

If the degree of contamination (right percentage figure in the transparent display) has already shown a high level of contamination (95 - 100 %) and after that shows a low percentage figure again, there is the possibility that the air filter contained in the combifilter has already torn.

**In this case the operation of the Airfilter is to be shutdown as soon as possible as this could result in the turbine (s) being damaged.**

**Contact the service department of TEKA GmbH immediately!**

**Replace the combifilter immediately!**



## 6 Maintenance

### 6.1 General information

The chapter *maintenance* covers the fields of routine maintenance work, sight control (inspection) and service by the operating personnel and the repair of the Airfilter by specially trained maintenance personnel. The subdivision of these areas into various service intervals should make it easier for you to plan the respective required maintenance measures.

The instructions described in this chapter are to be understood as *minimum recommendations*. Depending on the operating conditions it may be necessary to expand on these, in order to maintain the production quality of the Airfilter. The given time intervals refer to the hours of the operation of the Airfilter displayed on the membrane display.



#### Warning!

##### **Hazards to people and material assets are possible!**

Direct or subsequent injuries or damages occurring to persons and materials assets are possible through improper inspection, service or repairs.

**All maintenance and repair work to the Airfilter must only be carried out by qualified skilled workers particularly by complying with chapter 2, *Safety*.**

Information on repairs and ordering spare parts can be found in the drawings and spare parts lists in the Appendix.



#### Note!

Regular work for service and maintenance must be recorded by the service and operating personnel in order to provide proof and maintain the guarantee claim.

Only use released original spare parts!

TEKA GmbH assumes no liability for the use of non-released spare parts or replacement parts and materials!

The materials and the replacement parts must be disposed of in a safe and environmentally-friendly manner.



**Note!**

In order to avoid material and subsequent damages to the Airfilter please ensure a proper disassembly and assembly of parts.

The following shall therefore apply in principle for all disassembly and dismantling work:

- Mark parts in the correct order of how they belong together.
- Mark and note installation position and location.
- Disassemble, clean and store modules separately.

After repair work the following will apply in principle:

- Check all screw connections that they are fitted tightly.
- Check all hose and pipe connections and that connections are sealed.



**Note!**

Should it be necessary to disassemble safety equipment for maintenance measures, then the safety equipment must be fixed and checked once again immediately after completion of the work.



**Note!**

Please also follow the safety instructions in section 2.8, safety instructions for maintenance and the *information in regards to particular types of hazards* in section 2.9.

## 6.2 Operating condition

Depending on the type and extent of the maintenance measures the Airfilter or the affected area must either be shutdown or the power completely switched off.

The Airfilter is principally to be separated from the power supply when carrying out cleaning and maintenance measures.



**Danger!**

High voltage!  
Causes death or life-threatening injuries.

**You must remove the power supply cable on the Airfilter during cleaning and service work.**



### 6.3 Routine maintenance work and sight inspection

It is the task of the operating personnel to inspect the accessible areas of the Airfilter daily for contamination and damages. Contaminations should insofar as accessible, be removed and damages reported to the responsible maintenance personnel.



**Note!**

Labels on control elements or warning signs may become illegible through unavoidable dirt deposits. This can lead to faulty operation, which may cause material and subsequent damages.

- Therefore always check the Airfilter when you commence work.
- Therefore, clean and free all control elements, displays and warning stickers once a week from dust and other dirt by wiping with a moist cloth.

When choosing the cleaning agent attention is to be paid that no surfaces, keyboards, synthetic materials or gaskets are attacked.

There are no restrictions in the use of any aqueous industrial cleaning agents.

#### 6.3.1 Sight inspection

Type of inspection	Activity/parts	✓
Inspection of the operating behaviour	Observe Airfilter for normal operating behaviour: – Running noises, – Temperature rise, – Development of smells. In case of irregular operating behaviour if necessary shutdown the Airfilter and inform the maintenance personnel immediately.	
Check for residues	Check the Airfilter and environment for residues of material and supplies and if necessary remove these.	
Remove dirt	– Paths, working surfaces, writing	
Check for wear and tear	– Movable supply and disposal pipes, – Externally visible gaskets etc. If necessary replace components.	
Check for damages	– Externally visible damages on all parts	
Check for leakages	– Hoses for supply/disposal of the Airfilter	



## 6.4 Service

### 6.4.1 General information

All service work must be carried out within the given deadlines and with the corresponding care.

The life and production quality of the Airfilter can be maintained through precautionary service of the components.

Besides the regular cleaning you are urgently advised to replace parts subject to wear and tear as a precautionary measure.

The Airfilter types Mini HK and Maxi HK are supplied with a carbon running turbine, here the carbon brushes must be replaced after approx. 300 hours of operation. Should damages occur to the turbines or other parts within the closed turbine housing then the Airfilter is to be returned to TEKA GmbH.

In special cases you should consult TEKA GmbH. TEKA GmbH will then name a local service company that can carry out the repairs.

The units type AIRFILTER Mini HK are delivered with a carbon brush turbine. Important is that the carbon brushes have to be checked and if necessary replaced after about 300 working hours (see chapter 6.4.3 "Changing of the carbon brushes"). Please note that the change interval of the carbon brushes can differ. If switching on and off the unit frequently the collector of the turbine is used up differently which means an influence on the change interval of the carbon brushes. Also the turbine is subject of an abrasive wear. The normal lifetime of the turbine is about 600-800 hours (see chapter 6.4.4 "Changing of the carbon brush turbines").

### 6.4.2 Replacement of the combifilter

The filter elements are to be replaced, as soon as the measured pressure differential on the combifilter exceeds the set end value. The display of the pressure differential in the transparent display shows in this case 100 % and the red error LED (Error) will light permanently.

Some Airfilter models have also been equipped with an acoustic signal (acoustic alarm), that gives a clear beep sound to report that the filter needs to be replaced.



#### Note!

The acoustic signal installed in several Airfilter models can be switched off by pressing one of the buttons +, - or ENTER on the membrane keyboard once.

The acoustic alarm will sound once again every time the Airfilter is switched on.

So that you are regularly reminded that the combifilter needs to be replaced in permanent operation of the Airfilter, the acoustic signal will be repeated after 8 hours, then after 4 hours, after 2 hours and then each further hour.

The alarm will cease to sound immediately only after the combifilter has been replaced.



**Caution!**


Poisonous dust!

When working with /on the filter elements there is the danger that you may breath in raised dust or come into contact with such.

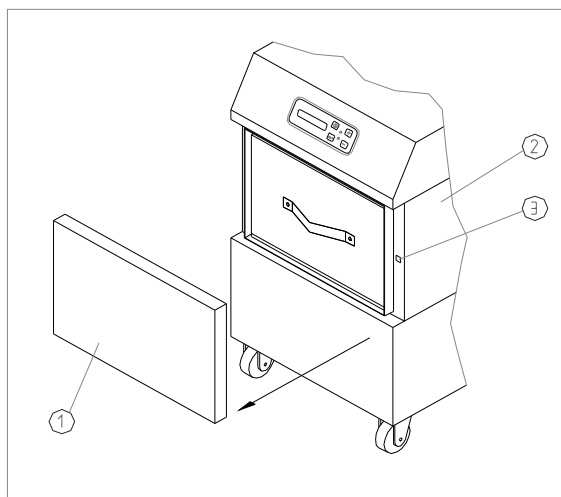
- Therefore, before commencement of the work you should put on a fine dust mask of the protective level 3 and disposal gloves made of polyethylene (long design).

You should proceed as follows when replacing the filter:

#### 6.4.2.1 Switch off Airfilter

- Switch off the Airfilter via the membrane keyboard using the button . Alternatively you can switch off the machine to be extracted. This way the Airfilter will be switched off automatically after the set post running time.
- Secure the Airfilter against being switched on again unexpectedly, by:
  - first switching the on/off switch to **0** and subsequently
  - removing the mains cable from the mains socket.

#### 6.4.2.2 Remove service flap

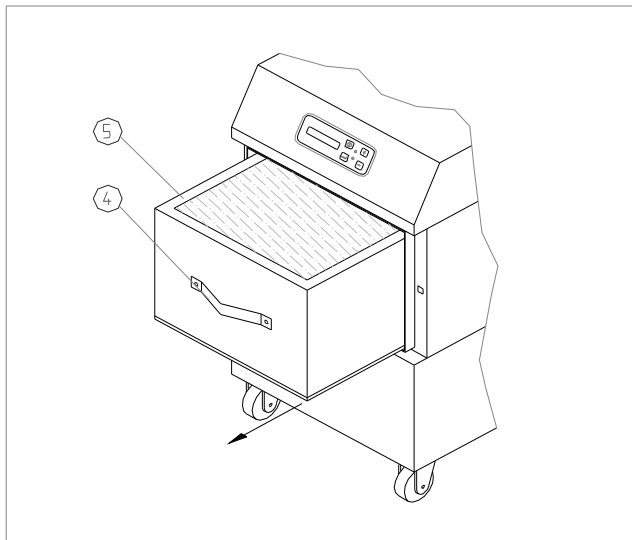


- 1 Service flap
- 2 Filter housing
- 3 Latch

Figure 7: Remove service flap

- Hold the service flap (Pos. 1) in both hands and remove it from the filter housing (2).  
**Note:** You have to pass the resistance of the latch (3)!

#### 6.4.2.3 Remove combifilter



- 4 Handle
- 5 Combifilter

Figure 8: Remove *combifilter*

- Hold the handle (4) of the combifilter (5) with one hand and pull the combifilter out of the filter housing.  
Use the other hand to support the combifilter.
- Place the whole combifilter with the pre-filter mat on top of it into a plastic bag, which can be seal tightly, and seal it.
- Dispose of the disassembled combifilter immediately.



#### Note!

Depending on the consistency of the gases/of the fumes – to be extracted in particular with a high proportion of dust or fibres – it can be useful, to first check just the pre-filter mat for contamination and if necessary to just replace this.

#### 6.4.2.4 Insert new combifilter

In principle, the new combifilter will be inserted in the reverse order. Please observe the following work steps:

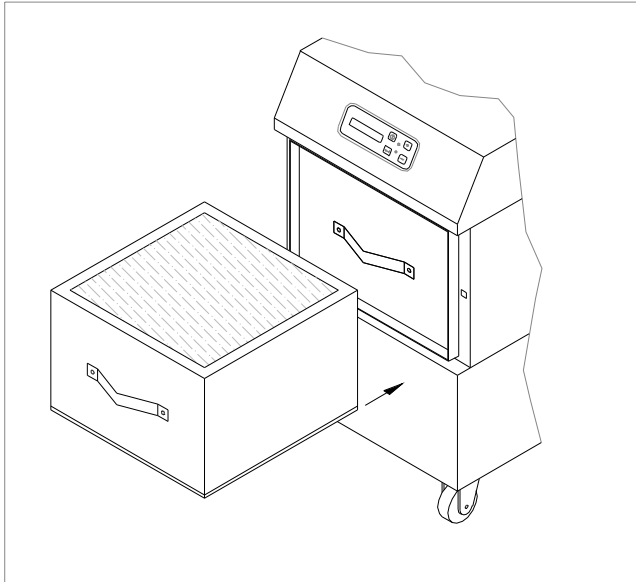
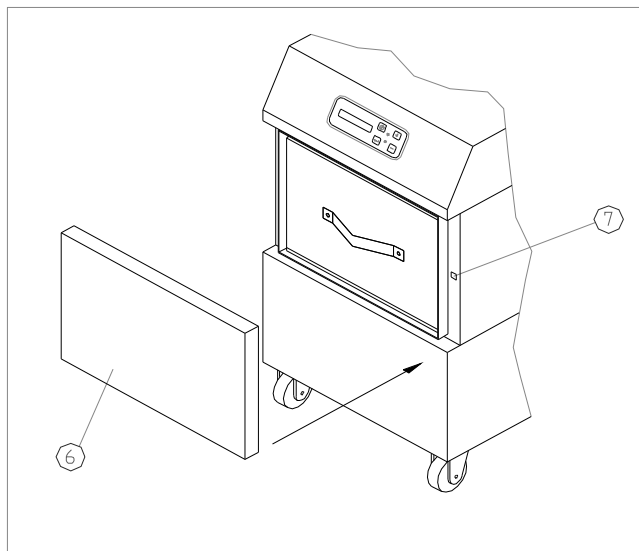


Figure 9: Insert new combifilter

- Remove the combifilter, which is to be inserted, with the already integrated pre-filter mat from the packaging.
- Remove a pre-filter mat from the packaging and push this from above into the housing of the combifilter until the pre-filter mat is lying on the air filter.
- Push the combifilter into the filter housing.  
Make sure that the surrounding gasket on the combifilter is pointing downwards and the combifilter is pushed in as far as the latch, otherwise the service flap can not be closed.



#### 6.4.2.5 Close the housing of the Airfilter



- 6 Service flap
- 7 Latch

Figure 10: Close filter housing

- Hold the service flap (6) in both hands and press it evenly onto the service opening, until the latch (7) engages in the service flap.



#### **6.4.3 Replacing the carbon brushes**

- Disconnect the filter unit from the power supply.
- Release the screws from the base plate under the ventilator housing, and remove the base plate.
- Pull the flat adapter plug of the mains lead from the flat plug of the carbon brush.
- Press down the barb of the carbon brush and pull the carbon brush out.
- Push the new carbon brush in until the barb engages.
- Push the flat adapter plug of the mains lead onto the flat plug of the new carbon brush.
- Rescrew the base plate onto the ventilator housing.
- Reconnect the filter unit to the power circuit.



**High voltage!**

**Work in the electrical area may only be carried out by authorised skilled workers!**

**Pay attention to the details on the type sign!**

#### **6.4.4 Replacement of activated carbon turbine**

It is allowed to carry out replacement of the turbine and of carbon brushes only by technical staff. The approach is self-explanatory.



## 7 Fault and error search

Fault	Cause	Correction
No suction output (fumes/gases are not being extracted).	Air intake hose not connected to the Airfilter.	Connect air intake hose to the Airfilter.
	Air intake hose not connected to the machine.	Connect air intake hose to the industrial laser.
	Damage to the air intake hose.	Replace air intake hose.
	Air intake hose is connected to the wrong machine.	Connect air intake hose to the correct machine.
	Air intake hose is connected to the wrong point of entry (opening) of the machine.	Connect air intake hose to the right point of entry (opening) of the machine.
	Air intake channel blocked.	Check air intake channel, if necessary correct error found.
	Clean gas channel blocked.	Check clean gas channel, if necessary correct error found.
Suction output too low (fumes/gases are hardly being extracted).	Filter package full.	Replace filter package, dispose of old filter properly!
	Damage to the air intake hose.	Replace air intake hose.
	Air intake hose not correctly connected to the Airfilter.	Check fitting of the air intake hose to the Airfilter, if applicable reinsert into air intake opening.
	Air intake hose not correctly connected to the machine.	Check fitting of the air intake hose to the machine if necessary reconnect.
	Clean gas channel too narrow.	Check clean gas channel, if necessary correct error found.
	Air intake hose is connected to the wrong point of entry (opening) on the machine.	Connect air intake hose to the right point of entry (opening) on the machine.
	Air intake channel too narrow.	Check air intake channel, if necessary correct error found.
Airfilter is not running.	Plug connection power supply not or wrongly plugged in.	Check/correctly plug in plug connection power supply.
	No power on the socket.	Check mains, if necessary correct error.
	Connection cable for external control not or wrongly plugged in.	Check connection cable for external control, if necessary plug in correctly.



<b>Fault</b>	<b>Cause</b>	<b>Correction</b>
	No control signal for remote control of machine.	Correction according to the operating instructions of the machine.
	Error on the Airfilter.	Contact TEKA GmbH, if necessary return Airfilter.



## 8 Disposal

The operation of the Airfilter will result in waste products and replacement parts, which have to be properly disposed of by observing the statutory regulations.

### 8.1 Environmental protection



#### Caution!

**The statutory obligations for avoiding waste and proper recycling/disposal must be observed in all work on and with the Airfilter**

In particular during repair and service work substances which pose a risk to water such as:

- Lubricating oils and grease as well as
- Cleaning liquids which contain solvents

must not pollute the floor or get into the sewerage system!

These substances must be stored, transported, collected and disposed of in suitable containers!

### 8.2 Filters and filter dust



#### Caution!

##### Poisonous dust!

When working with /on the filter elements there is the risk that you breathe in or come into contact with rising dust.

Therefore, before commencing work you should put on a fine dust mask of the protective level 3 and disposable gloves made of polyethylene (long design).

The combifilter which will become hazardous waste after replacing must be taken to the corresponding local special company.

In order to provide you with a smooth operation of the Airfilter and a proper disposal of the replaced combifilters, we offer the following services:

- Assistance in finding a local disposal company,
- Upon request we will send you a list of all disposal companies in Germany free of charge,
- Conclusion of a service and maintenance contract,
- Customer service on the telephone.

Please contact our service department for details, at your service 24 hours a day.

Phone: ++49 (0) 28 63 / 92 82 - 0

Fax: ++49 (0) 28 63 / 92 82 - 72



### **1.3 Final removing from operation**

Should the Airfilter be finally put out of operation the laws and regulations applicable at this time for disposal of the components and materials are to be complied with.



## 9 Appendix

### 9.1 Spare parts and parts subject to wear and tear

Designation	Art. no
Combifilter element, size: 305x305x200 (Airfilter Mini)	10031941
Combifilter element, size 610x305x200 (Airfilter Maxi)	10035941
Pre-filter mat set of 10 (Airfilter Mini)	10033
Pre-filter mat set of 10 (Airfilter Maxi)	10056
Caster wheel D=50mm, with brake	2263054
Caster wheel D=500mm, without brake	2263055
Suction turbine 1.2 kW, DC, 230V (Airfilter Mini HD, Airfilter Maxi HD)	200421160120006
Suction turbine 80 W, 230V (Airfilter Mini MD)	200421160008001
Suction turbine 1.1 kW, AC, 230V (Airfilter Mini HK, Airfilter Maxi HK)	65103
Appliance inlet / On - Off	25000030
Mains cable with earthing contact type and appliance inlet	25000031
Blind plugs for housing cover, NW 50	1000021
Blind plugs for housing cover, NW 71	100022
Carbon brush set for 1.1 kW turbine (Airfilter types: Mini HK, Maxi HK)	9260



## 10 Declaration of conformity TEKA-Airfilter



TEKA  
Absaug - und Entsorgungstechnologie GmbH  
Industriestraße 13  
D - 46342 Velen  
Phone.:+49 2863 92820 Fax:+49 2863 928272  
e-Mail: [sales@tekanet.de](mailto:sales@tekanet.de) Internet:<http://www.tekanet.de>

We herewith declare in sole responsibility that the before mentioned product, starting from machine No.: 110000000, conforms to the following standards:

**Directives on machine building:** 2006/42/EG  
**Electromagnetic compatibility:** 2004/108/EG  
**Directives on printing device:** 97/23/EG  
**Directives on low voltage:** 2006/95/EG

**Applied harmonised standards:**

- DIN EN 349
- DIN EN 983
- DIN EN 12100 part 1 and part 2
- DIN EN 60204 Teil 1
- DIN EN ISO 13857
- DIN EN ISO 14121

**plus further national standards and specifications:**

- DIN 45635 Teil 1

This declaration will become void if changes are effected to the suction and filter systems which were not agreed upon in writing by the manufacturer.

Velen, the 16.December 2009

TEKA  
Absaug - und Entsorgungstechnologie GmbH  
(Extraction and Waste Handling Technology)