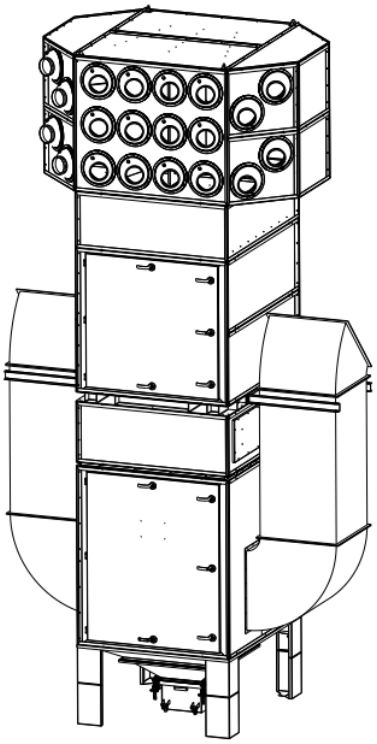
Operating instructions

(Translation of the original operating instructions)

Airtech P18/P24/P30 - IFA



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1. General

Congratulations on purchasing the product from TEKA.

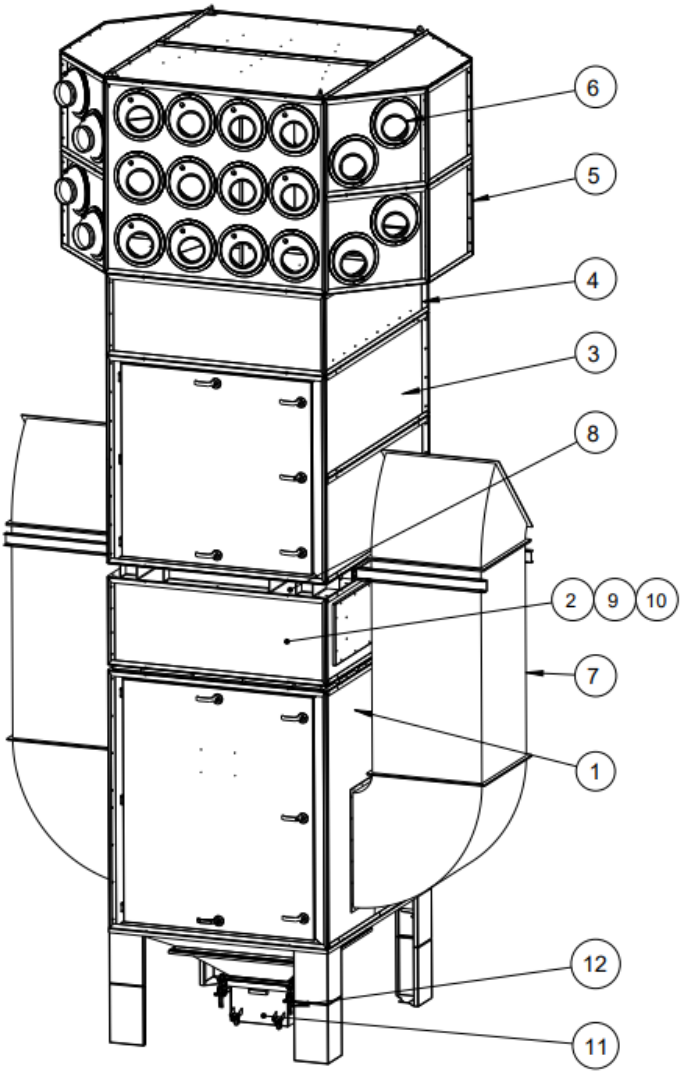
Our engineers ensure that our devices reflect the state of the art through continuous development. Nevertheless, misuse or misconduct can endanger your safety. Please observe the following for a successful use of the device:

	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. 10035702

Pos.1	Filter housing	Pos.7	Intake ducts (intake elements as an option)
Pos.2	Cleaning housing	Pos.8	Forklift skids
Pos.3	Fan housing	Pos.9	Connection for compressed air (on the backside of the cleaning housing)
Pos.4	Silencing housing (optional)		
Pos.5	Air outlet plenum	Pos.10	Drain valve for compressed air (on the backside of the cleaning housing)
Pos.6	Ejection nozzles		
		Pos.11	Dust collecting tank
		Pos.12	Toggle lever

2.2. Functionality of the system

The filter unit serves to suck off and filter polluted air (according to the intended use). The air is purified on the surface of the filter cartridge in the filter section of the unit. The separated dust is collected in a dust collecting tank. 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 via ejection nozzles.

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.

WARNING

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.

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.

CAUTION

Hazards to the respiratory tracts are possible.
When working stainless steel, the use of intake element is obligatory!

2.4. System extensions / distinctions between versions

As an alternative to the dust collecting tank (see chapter 2.1) it is possible to use an optional dust discharge unit. In this case please refer to the information the separate operating manual of the optional dust discharge system.

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 injury or death.

CAUTION

CAUTION
These instructions are made in case of risks that can lead to injury.

NOTICE

NOTICE
These instructions are made in case of risks that can lead to material damages.

Information notes are no hazard warnings; they call attention to useful information.

3.2. General safety instructions

WARNING

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.

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.

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

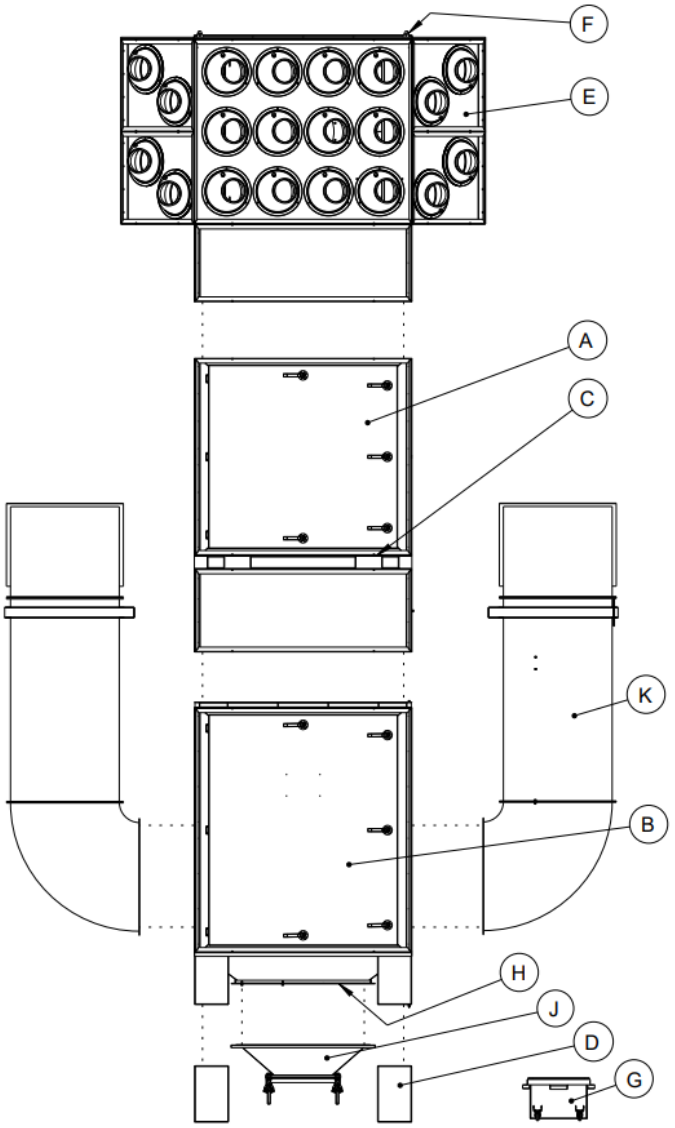
WARNING

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.

Dangers arising from titling or functional impairments at its destination.
The unit may only be set up on a suitable surface. 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. The unit must be secured on the surface, for example using lag bolts or heavy-duty anchors.

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 outdoors. In this case contact the manufacturer in order to find out if a caping or a trace heating system are necessary.



- First the filter unit as delivered must be transported to its destination. Before setting up the filter component (B), its basis (D) must be mounted. Therefore, lift up the filter component (B) with a lifting tool for 0.5 meters. Therefore, use a pallet below the dust chute (H).

- Now mount the fan unit (A) on the filter component (B). Before connecting the components (A)+(B)+(E) to each other, attach the supplied seals to their connection points. Use the forklift truck skids (C) to lift the fan unit.
  Weight of the components:
  A: max. 1200 kg
  B: max. 700 kg
  E: max. 900 kg

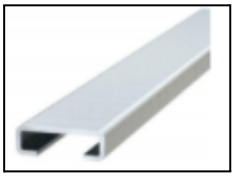
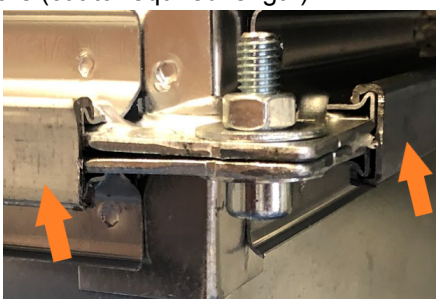
  ⚠WARNING Use appropriate lifting tools (forklift truck, transport crane,...) with a sufficient minimum load-carrying capacity. The filter unit must be secured against tilting and slipping when it is moved, lifted or put down.No one is allowed to stand under the load.Use only appropriate ladder tools.

- Now mount the delivery plenum (E) on top. Use the lifting rings (F) to lift the delivery plenum.
  ⚠WARNING **Only the delivery plenum (E) may be lifted using the lifting rings (F). Lifting together with the fan unit (A) is not permitted.**
- Then the filter unit must be set up on a suitable surface at its intended destination. Use the forklift truck skids (C) to transport the filter unit there.(Optionally the filter unit can be brought to its intended destination before mounting the delivery plenum.)
- The supplied intermediate chute (J) must be mounted under the filter unit (B).
- Then the dust collection container (G) can be attached under the filter unit.
- Attach the intake ducts (K). As an option, intake elements can be used additionally to the intake ducts. They have to be connected to the filter housing via piping.

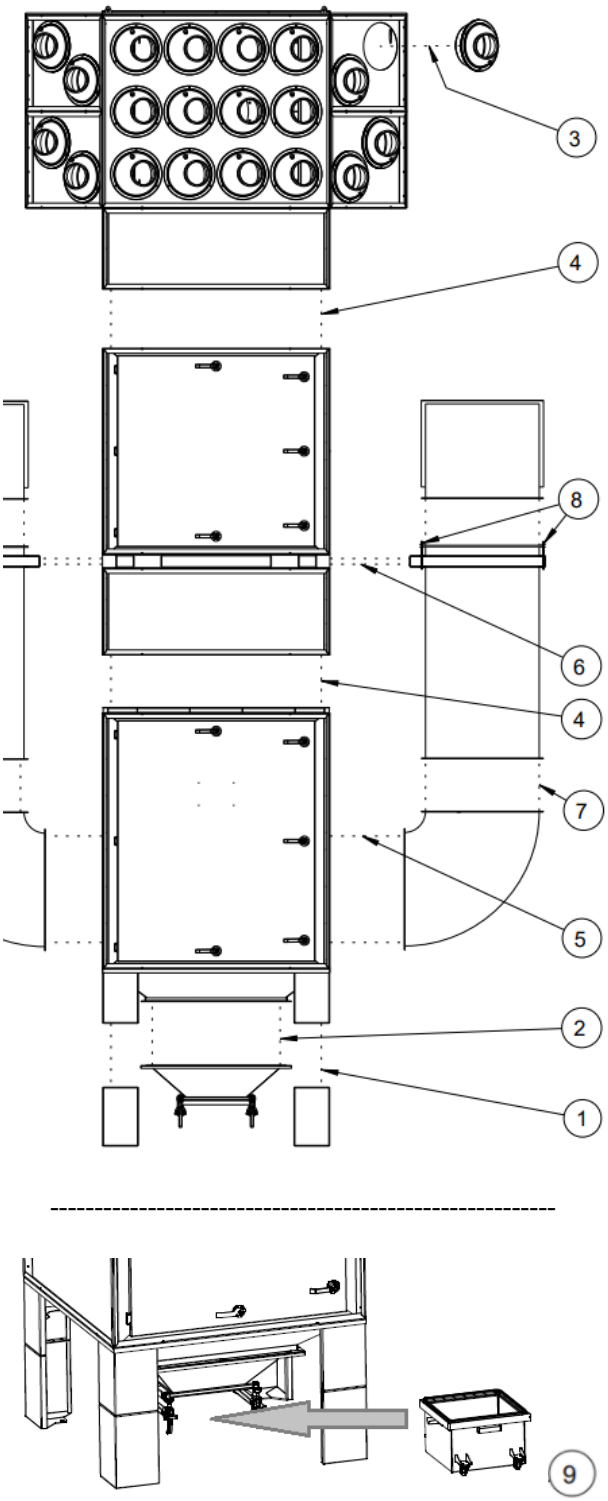
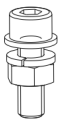
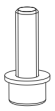
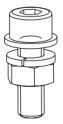
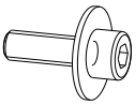
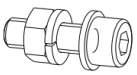
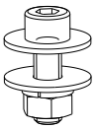
4.1. Using the supplied assembly material

A	B	B2*	C	D	E	F	G
DIN912 M8x25	DIN125 A8,4	SHB MZN D8,2	DIN127 A8	DIN934 M8	DIN975 M8x200	DIN522 8,4x25	DIN7504 3,5x19
							

***** The operator must ensure the potential-free balance of the unit. To this end, one of the screw connections at a number of connecting points must be equipped with a serrated contact washer.

H**	J**	K
25x3 mm	15x3 mm	Sliding bars (cut to required length)
		 

****** At some connecting points, it is necessary to attach seals on one side of the connection prior to assembly.

Connecting point		Assembly material		Quantity P18 P24 P30
	**1**		A,B,C,D + A,B**2**,C,D	3x + 1x
	2		A,C + A,B**2** + H	11x 15x 15x + + + 1x 1x 1x
	3		G	17x 20x 24x 4x 4x 4x
	4		A,B,C,D + A,B**2**,C,D + H	15x 21x 21x + + + 1x 1x 1x
	5		A,F + H	24x
	6		A,B,C,D	2x
	7		A,F,F,C,D + J + 4x K	4x
	8		E D,F,F,D D,F,F,D + J + 4x K	4x
	9	---	---	---

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 the suction line and exhaust air line

To detect the polluted air, the intake ducts (see chapter 2.1) must be connected. As an option, intake elements can be used additionally to the intake ducts. They have to be connected to the filter housing via piping.

The purified air is led back into the working room via ejection nozzles (see chapter 2.1). The ejection nozzles still have to be set so that the air flow is optimal. This depends on the conditions on site. It is important that the blown air does not cross with the air flow that is sucked in by the suction line.

5.2. Electrical connection

WARNING

Risk of electric shock.
Electrical plants and equipment may only be built, modified and maintained by a qualified electrician or under the direction and supervision of a qualified electrician. Do not work on live electrical components and elements if you are not sure that these are indeed disconnected. If necessary, disconnect the device from the mains. The operator is responsible for a potential-free balance of the equipment.
If the unit is equipped with a frequency converter, then it may only be operated on networks with an AC/DC sensitive RCCB. For frequency converter operation, the cross section of the protective conductor

- must be at least 10mm²,
- and must be at least equal to the size of the operator side outer conductor cross-section.

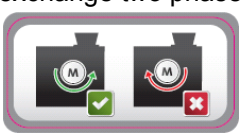
CAUTION

Health hazard arising from unintentional cleaning processes.
Switch on the control only if the unit is in operational condition.

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.

- Mount the housing of the external control (if it is not mounted on the device itself) close to the device on the wall or at any other appropriate mounting point. Or mount the control together with a cabinet console on a suitable surface, for example using lag bolts or heavy-duty anchors.
  ⚠WARNING The housing is not suited for outdoor installation.
- Connect all visible cables and hoses are according to their functions. When delivered they are labelled according to their functions. When connecting to the control, please observe the specifications on the circuit diagram which is attached to the control.
- Connect the unit to the power supply.
- Check if the direction of fan rotation is correct (This is not necessary in the case of units with a frequency converter). A wrong rotation direction can be identified thanks to the sticker sticked to the fan scroll which is showing the direction. Compare the rotation direction on the sticker to the rotation direction of the motor cooling fan when the motor is running down after being switched off. If the motor rotates in the wrong direction, disconnect the device from the power supply and exchange two phases at the supply line to the control.



CAUTION When the fan rotates in the wrong direction, the extraction capacity is reduced.

5.3. Precoating of the filter cartridges

For a longer service life of the filter cartridges we recommend to pretreat them with a filter aid (precoat). The precoating can only be carried out during the commissioning at the operation site. When the operator orders and installs new filter cartridges, we recommend to also precoat them before the commissioning.

Please read and refer to "Precoating new filter cartridges" in the chapter "Maintenance". There you can also find a description of the operating method of the precoat.

5.4. Connecting the compressed air supply

NOTICE

The compressed air must be dry and oil-free.
According to ISO 8573-1:2010 the compressed air quality must at least meet: [7:4:4]

- ➔ Partikle size: <40µm
- ➔ Pressure dew point: <= +3°C
- ➔ Oil content: <=5mg/m³

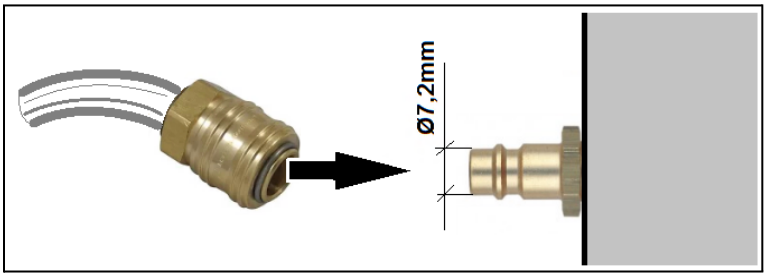
5.4.1. Compressed air supply for the cleaning of the filter cartridges

The filter cartridges of the system are automatically cleaned. Cleaning is carried out pneumatically via a built-in compressed air tank.

Without compressed air supply the filter cartridges will become dirty very quickly.

- The external compressed air supply must be assured with an approved compressed air hose. For the connection to the device, the compressed air hose must be equipped with a quick coupling for an insert sleeve DN 7.2.

  NOTICE **The compressed air must be dry and oil-free.**



- The operating pressure of the compressed air supply must be a minimum of 3 bars and maximum of 4 bars.

  NOTICE **In case of the pressure being too low, the compressed air tank does not reach quickly enough the operating pressure for the following cleaning. There is a risk of material damage when the pressure is too high.**

- Connect the compressed air hose to the insert sleeve (see chapter 2.1).

6. Operating the system

6.1. Explanation of the operating elements

Control functions, setting options for programs, menu navigation, error messages, etc. are described in the enclosed operating manual of the unit control. There is also an explanation of the elements of the control panel.

Operating elements for the device control		
Representation	**Designation**	**Description / function**
	Main switch	• **OFF:** The device is disconnected from the power supply. • **ON:** The device is connected to the power supply and ready to operate. **The main switch also serves as an emergency off switch.**

Operating elements for status and error messages		
Representation	**Designation**	**Description / function**
	Stroboscope flash	The stroboscope flash draws attention to an error message of the device control by flashing up. The error message is shown on the display of the control.

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.

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. Then disconnect the unit from the power supply by setting the main switch in the “OFF” position. Secure the unit against unauthorized restarting during maintenance.

- Disconnect the compressed air hose of the external compressed air supply from the insert sleeve (see chapter 2.1). Empty the compressed air tank by opening the drain valve (see chapter 2.1) with a suitable screwdriver. Minor quantities of condensation water can leak out when opening the drain valve. Close the drain valve when the compressed air tank is entirely empty.

  CAUTION **When opening the drain valve a compressed air blast can occur!**

  NOTICE **This step is not necessary if the unit is equipped with the safety upgrade. This contains a 3/2-way valve which automatically empties the compressed air tank when the unit is switched off.**

- After completion of all maintenance work the unit can be reconnected to the power supply and the external compressed air supply.

7.2. Cleaning the filter cartridges

CAUTION

A sudden jet of compressed air and huge amounts of whirled up dust are possible due to an automatic cleaning with an opened service door.
During the operation of the device, the service door of the filter housing must not be opened. The same applies to the ready to operate condition (standby) as there is also the possibility of an automatic cleaning (subsequent cleaning).

The filter cartridges are reusable filters and can be cleaned. The cleaning of the filter cartridges is automatically carried out.

The degree of pollution of the filter cartridges is electronically monitored. In order to assure the required extraction capacity of the device, the cleaning of the filter cartridges starts automatically when a preset differential pressure value is reached. If the preset differential pressure value is not undercut after the cleaning of the filter cartridges, another cleaning starts. The filter unit remains in operation during the automatic cleaning. The compressed air blast is produced in opposite direction to the intake. The cleaned dust falls downwards in the dust collecting tank.
Depending on the setting of the control unit there can be automatic postcleanings of the filter cartridges even when the unit is switched off.

When the maximal admissible differential pressure value is reached, the device triggers an alarm (see chapter “description of the control elements”). If despite of the automatic cleaning of the filter cartridge the alarm value is not undercut anymore, the filter cartridge must be replaced. (see chapter: “Replacing the filter cartridges”).
The differential pressure values in the control unit that initiate a cleaning or a filter alarm are preset values adapted to the filter unit. Please find detailed information concerning the functioning in the enclosed operating instructions of the control unit.

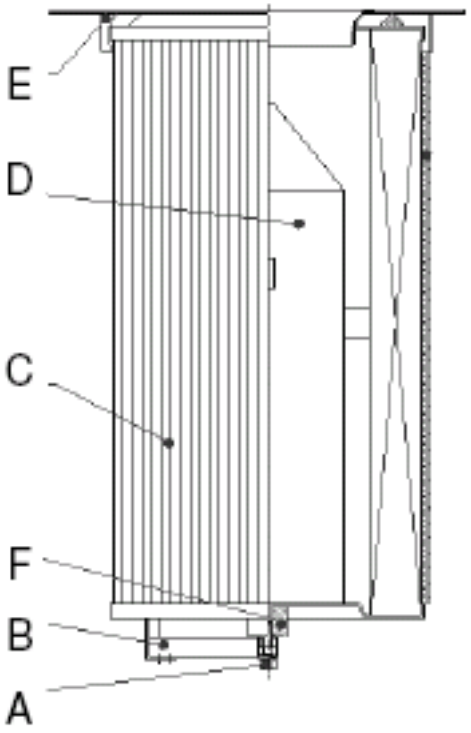
7.3. Replacing the filter cartridges

Replacing the filter cartridges becomes necessary when the filter cartridges are saturated with dirt in a manner that despite of the cleaning the filter alarm is triggered again at very short intervals or permanently. (The filter alarm is described in chapter “Cleaning the filter cartridges”.)

CAUTION

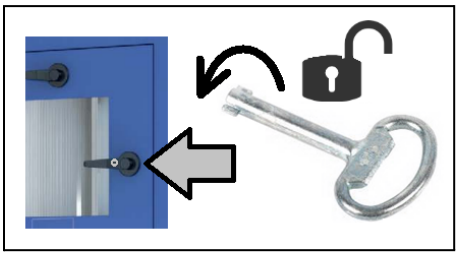
Whirling up dust is possible due to the polluted filter cartridges.
The filter cartridges must be cleaned before being replaced. This is done by carrying out 3 manual cleanings via the unit control (see separate operating instructions). The filter unit must be switched off beforehand but without disconnecting the unit from the power supply. After the cleaning, disconnect the filter unit from the power supply and secure it against being switched on again. After cleaning the filter cartridges wait about 5 minutes before opening the service door of the filter housing.

We recommend to pretreat new filter cartridges with filter aid (e.g. precoat) before the first commissioning. Refer to the chapter "Precoating new filter cartridges".



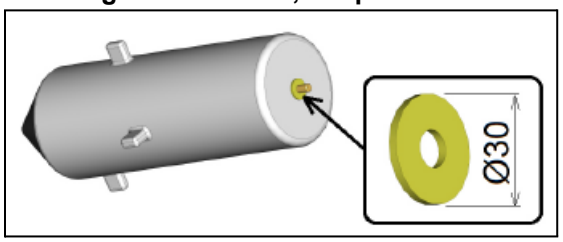
- The changing of the filter cartridges must be carried out by two people.
- Before changing the filter cartridges hold ready an appropriate container (e.g. PE bag) for disposal.
  CAUTION **The polluted filter cartridges must be packed into an appropriate container (e.g. PE bag). PE bags are optionally available (see list of spare parts)! We recommend having disposal bags in stock.**

- Open the service door of the filter cartridges by opening the door handles. To do this, the door handle, which is equipped with a lock, must be unlocked using a double-bit key.



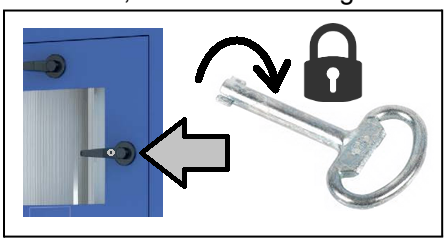
- Resolve the clamping screw (pos. A) of the cartridge holder (pos. B) and slip the disposal bag over the cartridge holder and the filter cartridge (pos. C).
- Hook off the cartridge holder from the cartridge guiding (pos. E) and take it out of the device together with the filter cartridge and the disposal bag.
- Loosen the cylinder nut (pos. F) outside on the cartridge's bottom. Therefore do not touch the cylinder nut directly with your hands, but grab it from the outside through the bag.
- Pull the cartridge holder out of the disposal bag past the filter cartridge without generating dust. Take the displacer (pos. D) out of the filter cartridge without generating dust.
- Carefully close the disposal bag (e.g. with a cable fastener) and store or dispose of it together with the polluted filter cartridge in an appropriate container according to the regulations.
- Insert the displacer into the new filter cartridge in a way that the screw of the displacer is put through the hole of the cartridge's bottom. Fasten the displacer with the cylinder screw nut from the outside.

  NOTICE **Check whether the seal is against the thread of the displacer and whether it is undamaged. Otherwise, a replacement seal must be used (see list of spare parts).**



- Push the new filter cartridge into the cartridge holder.

  NOTICE **Only use TEKA spare filters. Otherwise the proper functioning of the unit is not guaranteed.**
- Fasten the clamping screw of the cartridge holder.
- Close the service door by closing the door handles. Also the door handle, which is equipped with a lock, must be locked again.



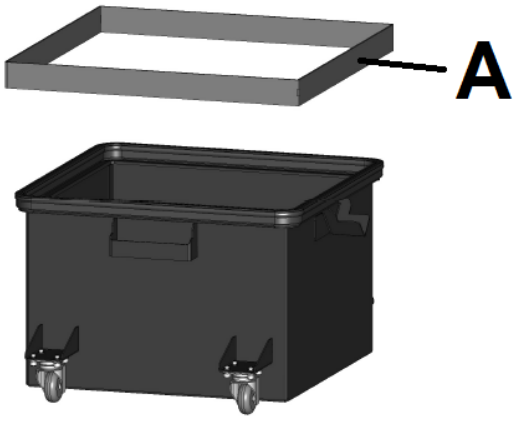
7.4. Emptying the dust collecting tank

The dust collection container must be cleaned after a certain number of operating hours. This range depends on the amount of dust. The dust collecting tank may only be filled up to a maximum of 25%. The filling level has to be proofed at least once a week.

CAUTION

Whirling up dust is possible due to the polluted filter cartridges!
The filter cartridges must be cleaned before emptying the dust collecting tank.This is done by carrying out 3 manual cleanings via the unit control (see separate operating instructions).The filter unit must be switched off beforehand but without disconnecting the unit from the power supply.After the cleaning, disconnect the filter unit from the power supply and secure it against being switched on again.After cleaning the filter cartridges wait about 5 minutes before opening the service door.

Before emptying the dust collecting tank hold ready an appropriate container (e.g. PE bag). The bags are optionally available at TEKA, see list of spare parts. We recommend having PE bags in stock.



- Open the toggle levers of the dust collection container (see chapter 2.1).
  CAUTION **Risk of contusion when opening the toggle levers.**
- Carefully pull the dust collecting tank from under the device.
- Remove the slip-on frame (A) from the dust collecting tank.
- Close the dust collection bag (e.g. with a cable fastener).
- Remove the dust collection bag and store or dispose of it according to the regulations.
- Place a new dust collection bag in the dust collection container so that the bag is put over the edge of the dust collection container. Therefore place the slip-on frame back on the dust collecting tank.
- Push the dust collecting tank back under the device.
- Close the toggle levers so that the dust collection container is pressed tightly against the above chute.

7.5. Draining the condensate

Operation with compressed air can result in condensation water being gradually deposited in the compressed air tank. The condensed water must be emptied regularly. The maintenance interval depends heavily on the quality of the compressed air and cannot, therefore, be determined in advance.

	**CAUTION** **When opening the drain valve a blast of compressed air is possible.** Open the drain valve slowly.

- Empty the compressed air tank by opening the drain valve (see chapter 2.1) with a suitable screwdriver. Let the escaping condensate flow into a suitable container.

- Close the drain valve.

7.6. Precoating of new filter cartridges

Before the first commissioning new filter cartridges can be pre-treat with precoat consumable. The precoat consumable assists against a "caking" of extracted particles on the filter surface and thus prolongs the life of the new filter cartridge

Unlike with other maintenance work, this step must be carried out with the system switched on and operating. This is necessary to allow the filter aid to disperse on the surface of the filter cartridges through suction.

CAUTION

On contact the precoat consumable can be hazardous to the respiratory tract and cause skin irritation or eye irritation.
Observe the listed manufacturer instructions provided:

Handling:	Avoid the formation of dust!
Storage:	Seal the container tightly before storage!
Respiratory protect:	Dust mask without protection level!
Hand protection:	Protective gloves in cloth, rubber or leather!
Eye protection:	Safety glasses with side shields!
Body protection:	Anti-static work shoes!

CAUTION

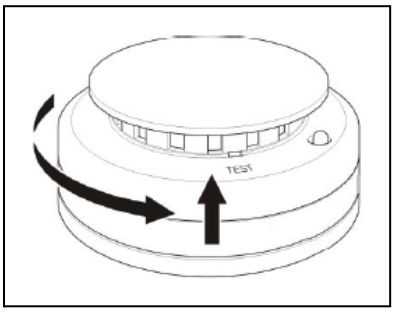
During operation of the device an automatic cleaning can take place. This involves the risk of a sudden jet of high-pressure air and excessive dust formation at the point of entry of the filter aid.
At first make sure that there is no compressed air in the compressed air tank. Please refer to the chapter "Reset to factory settings". Before switching the device back on, disconnect the compressed air hose from the device.

- Provide sufficient filter aid. We recommend using **10 grams** for each **square metre** of the **filter surface**. The filter aid is available at TEKA (see list of spare parts).
- Choose the capture point in the suction pipe that is the closest to the filter cartridges. E.g. an inspection flap can be used as a capture point.
- Switch the device on.
- Let the filter aid bit by bit be sucked in via the capture point.

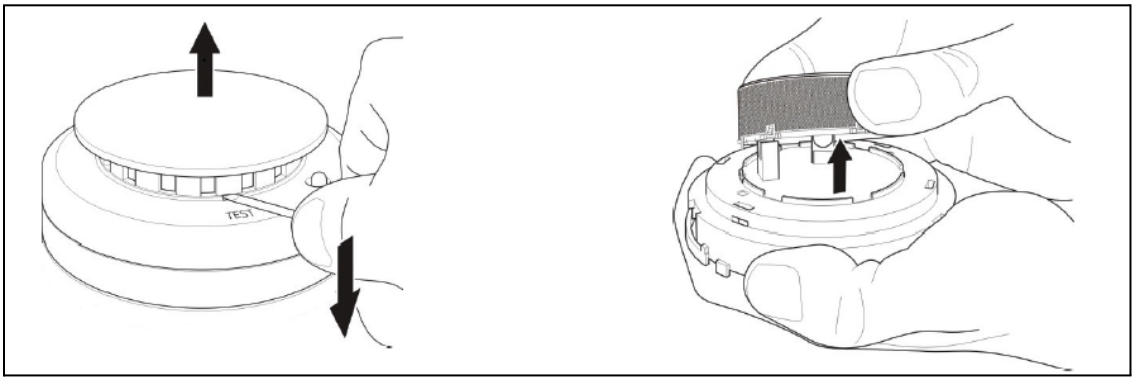
7.7. Cleaning/replacing the particle sensor

This section is only relevant, if the unit is equipped with the safety upgrade containing a particle sensor. Cleaning is then only necessary if the controller reports a "particle sensor" error message which persists after being acknowledged even though clearly no smoke is present. In such cases, it is probable that the particle sensor is too highly contaminated or faulty.

- The particle sensor is located inside the cleaning housing (see section 2.1).
- Remove the detector head from the assembly base. To do this, turn the detector head anticlockwise slightly.



- Remove the cover. To do this insert a screwdriver and lift the cover. It is then necessary to pull the black cover off the smokebox.



- Use compressed air to expel dust from the smokebox.
  NOTICE **Do not use a dust cloth.**
- Mount the covers. Replace the detector head on the assembly base.

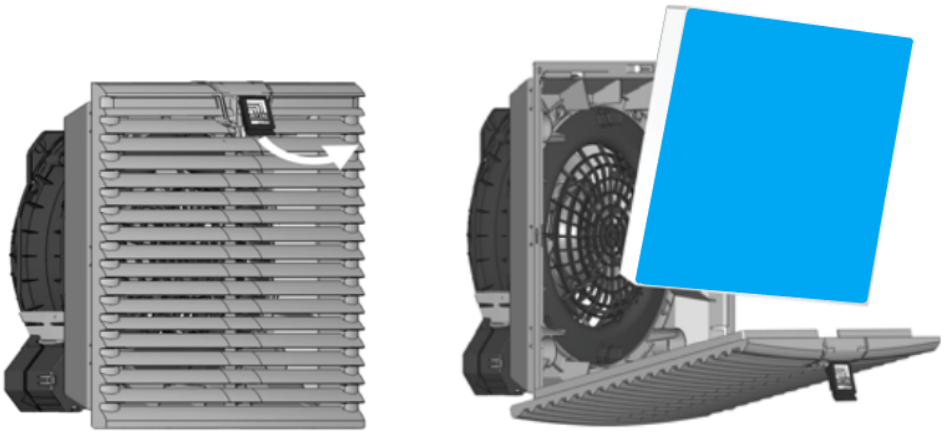
If the controller now still reports a “particle sensor” error message then the detector head must be replaced.

NOTICE **Replacement parts are available from TEKA, see the spare parts list. In this case, it is not necessary to replace the assembly base which is screwed to the unit.**

7.8. Replacing the filter mats at the control cabinet

This section is only relevant if the unit is equipped with a control cabinet and this is itself equipped with a filter fan and an exhaust filter.

There is a filter mat located in the louvred grille on both the filter fan and the exhaust filter. The filter mats must be checked regularly and replaced if necessary. This check depends on the level of contamination. We recommend acquiring a stock of filter mats at an early stage (see spare parts list).



- The procedure described here must be performed at both the filter fan and the exhaust filter.
- Pull the logo in the louvred grille upwards a little using your finger. Then fold the louvred grille downwards.
- Replace the old filter mat with a new one. The blue side must face outwards.
  NOTICE **Only use TEKA spare filters. Otherwise the proper functioning of the unit is not guaranteed.**
- Close the louvred grille until it audibly clicks into place.

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.

9. Diagnostics and troubleshooting

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

Error messages of the control unit are described in the enclosed operating manual of the control unit.

Faults indicated by control elements are explained in the chapter “Description of the control elements”.

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 dust collecting tank.	There is too much dust in the dust collection container.	Empty the dust collecting tank.

	The toggle closures are not closed.	Close the toggle closers.
	The seal of the dust collecting tank is damaged.	The seal must be replaced.
	The compressed air for the dedusting is set too high.	Reduce the compressed air.
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.
	The compressed air for the dedusting is set too high.	Reduce the compressed air.
	Escape of dust at the hinge.	The hinge must be reoriented or replaced.
Suction power too low (smoke hardly extracted).	Filter element is saturated.	Replace the filter package, dispose of old filter properly!
	Filter elements are saturated because no compressed air is connected.	Connect compressed air.
	The motor rotates in the wrong direction.	The rotating field of mains connection point must be changed.
	Suction line contracted.	Check and fix.
	Exhaust line contracted.	Check and fix.
The system is very noisy.	The motor rotates in the wrong direction.	The rotating field of mains connection point must be changed.
	The suction line or exhaust line are not mounted.	Mount the line.
	The unit is untight.	Check and fix.

10. List of spare parts

Filter element	**Article no.**
Filter cartridge, Type *"BIA-M"*, 36,0m² (Ø327 x 1715 mm) *(9 pieces of these filter elements are required for the device Airtech P18 + P24)* *(12 pieces of these filter elements are required for the device Airtech P30)*	6161720136008
Filter mats for control cabinet 209 x 209 mm (6 pieces) 165 x 165 mm (6 pieces) 114 x 114 mm (6 pieces)	 100320008 100320007 100320009
Disposal elements	**Article no.**
PE-bag for the disposal of filter cartridges (12 pieces)	10030251701
PE-bag for inserting into the dust collecting tank (10 pieces)	10030251
Precoat consumable	**Article no.**
Precoat for filter cartridges, 400g (in a bucket)	951004
Precoat für filter cartridges, 100g (in a bucket)	9510050001
Other parts	**Article no.**
Seal for displacer (Ø30 mm / 1 piece)	9400000000
Particle sensor (detector head)	999204

11. Technical data

Version		Airtech P18	Airtech P24	Airtech P30
Supply voltage	V	400		
Frequency	Hz	50		
Type of current	Ph	3		
Engine power	kW	11	15	22
Air flow volume max.	m³/h	18000	24000	30000
Negative pressure max.	Pa	2250	2600	2300
Protection class		IP54		
ISO class		F		
Extraction performance	%	>99		
Welding fume extraction class (according to EN ISO 21904-1 / -2)		W3		
Width (without / with intake ducts) Depth Height	mm mm mm	2522 / 3200 1440 6538	2682 / 3520 1880 6766	2866 / 3520 1880 6766
Weight	kg	3000	3100	3300
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		
Compressed air supply		dry / oil-free		
Necessary external pressure	bar	see chapter *“Connecting the compressed air supply”*		

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

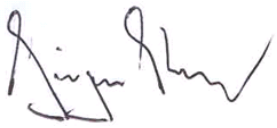
Designation of the device: Airtech P18 / P24 / P30

We hereby declare under our sole responsibility that the product mentioned above, from the serial number A16000010011001 resp. the production number P33000010011001 on, conforms to the following directives:

Machinery Directive:	2006/42/EG
Electromagnetic Compatibility:	2014/30/EC
Pressure equipment directive:	2014/68/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 2018

13. Training protocol

Designation of the device: Airtech P18 / P24 / P30

(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	
Emptying of the dust collecting tank	
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.

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

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

Maintenance work	**Chapter**	**Maintenance interval**	
		recommended by TEKA	determined by the operator
Cleaning the filter cartridges	**7.2**	The cleaning of the filter cartridges is automatically carried out by the filter unit and thus is not subject to a maintenance interval.	
Replacing the filter cartridges	**7.3**	The saturation of the filter cartridges is automatically monitored by the filter unit and thus is not subject to a maintenance interval. The filter unit triggers an alarm when a replacement of the filter cartridges is necessary.	
Emptying the dust collecting tank (or check of fill level)	**7.4**	weekly	
Draining the condensate	**7.5**	monthly	
Check / Replacing the filter mats at the control cabinet	**7.8**	semi-annually	

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
Visual inspection of the pipelines for dust deposits	**14.2.2**	monthly
Visual inspection of the pneumatic pipes	**14.2.3**	monthly
Functional test of the device	**14.2.4**	monthly
Electrical test of the electrical lines and earthing connections	**14.2.5**	annually
Test of **fixing** of the mounted unit elements	**14.2.6**	annually

14.2.1. Visual inspection of the device

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

WARNING

Danger arising from the ready to operate condition of the device.
Follow the procedure as described in the chapter “Set to maintenance state”.

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
- Check all electrical earthing connections and cables for visible damages.
- 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.
- Check the inner filter area and the filter housing.
- Visual inspection of the control and operating elements as well as the outside running cables for damages.
- Check the dust collecting tank for tightness, check the sealing rubber of the tank.

14.2.2. Visual inspection of the pipelines for dust deposits

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

	**WARNING** **Danger arising from the ready to operate condition of the device.** Follow the procedure as described in the chapter “Set to maintenance state”.

The following steps must be carried out in the course of the visual inspection:

- Open the inspection flaps of the pipeline and check the pipeline for dust deposits. Dust deposits must be eliminated.

14.2.3. Visual inspection of the pneumatic pipes

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

	**WARNING** **Danger arising from the ready to operate condition of the device.** Follow the procedure as described in the chapter “Set to maintenance state”.

The following steps must be carried out in the course of the visual inspection:

- Open the service door of the cleaning housing .
- Carry out a visual inspection of the pneumatic parts.

14.2.4. Functional test of the device

	**NOTICE** **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.

The following steps must be carried out in the course of the functional test:

- Switch on the device.
- Pay attention to failures or error messages of the control unit. Also refer the separated operating manual of the control unit.
- Pay attention to extraneous noises or vibrations during the device´s operation.
- Carry out a manual dedusting of the filter cartridges. Also refer to the separated operating manual of the control unit.
- Check if within one interval of the filter dedusting the number of dedusting shocks is equal to the number of filter cartridges (in each interval successively every filter cartridge becomes dedusted once).
- Check if dust is escaping from the unit during the dedusting cycle.

- 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).

14.2.5. Electrical test of the electrical lines and earthing connections

WARNING

Danger arising from electricity.
The operator is responsible for ensuring that all work on electric components is carried out by authorised and qualified personnel.

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.

14.2.6. Test of fixing of the mounted unit elements

The following steps must be carried out in the course of the inspection:

- Make sure that all elements that are connected at or with the unit are firmly fixed in place and have not come undone or loose. These also include all air-carrying lines, all extraction elements, bearing structures and frames.
- In the case of unit elements which are subject to vibrations and/or movements, the operator may need to define a shorter maintenance interval.