

Welcome to our training:

# Handling and Maintenance of ELOFIL and UNIFIL Air Cleaners



What is expecting you:

- I. Air purifiers in industrial every-day-work
- II. Electrofilter ELOFIL
  1. Function principle of ELOFIL
  2. Different types of ELOFIL
  3. How to maintain and overhaul ELOFIL
- III. Static filter UNIFIL
  1. Function principle of UNIFIL
  2. How to maintain and overhaul UNIFIL
- IV. Special procedures/Installation
- V. ILT Service System
- VI. Practical training

## I. Air purifiers in industrial every-day-work

- Air purifiers help to make your work environment safer.

Removal of hazardous pollutants in the air.  
Protection from greasy and dirty floors and surfaces.  
Reduction of fire dangers and low-speed detonations..

## I. Air purifiers in industrial every-day-work

- Air purifiers contribute to a better quality of work.

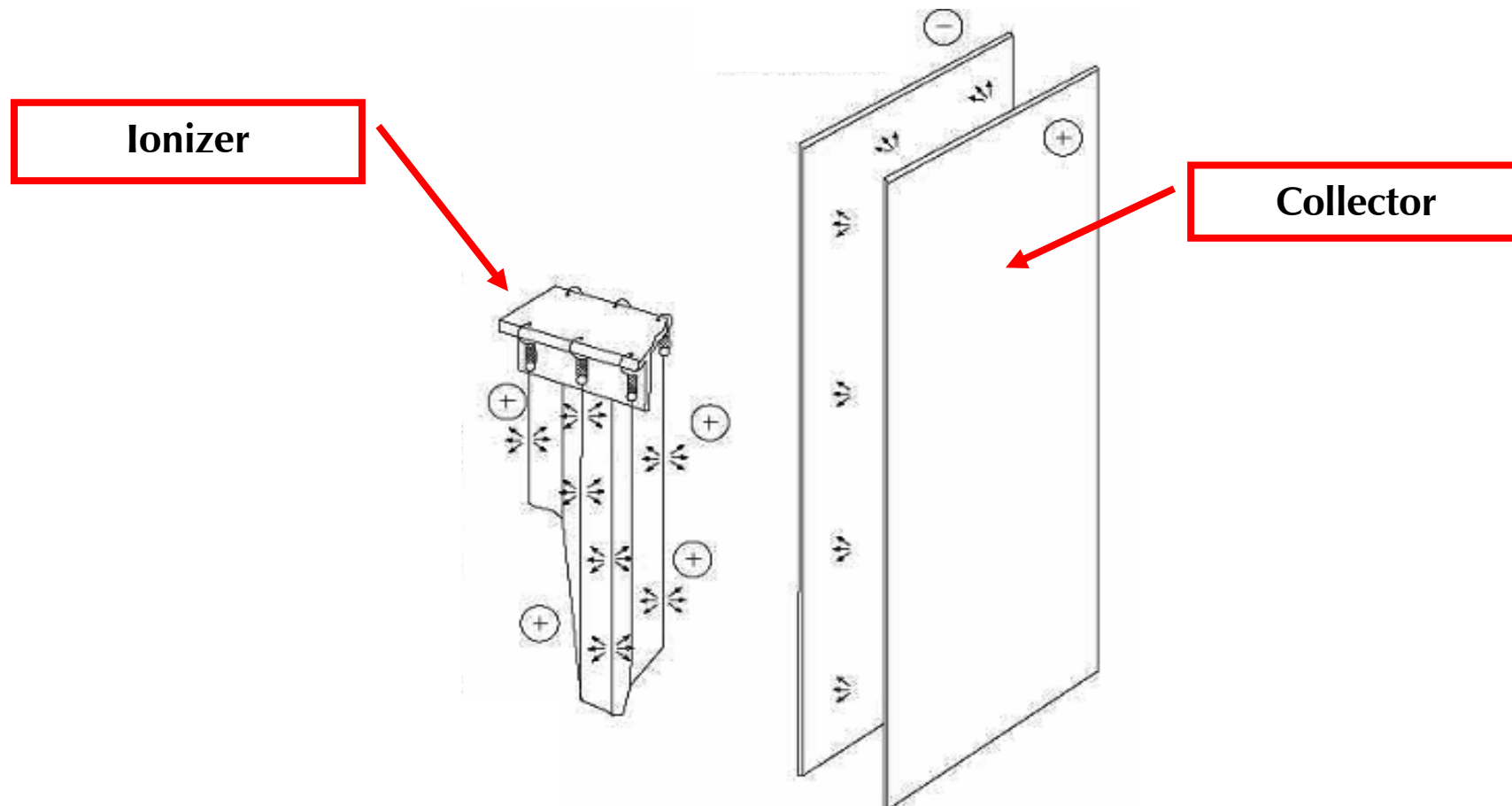
Increased product quality as no dirt layer develops.  
Higher process quality as heated air is removed.  
Overall higher precision of work processes.

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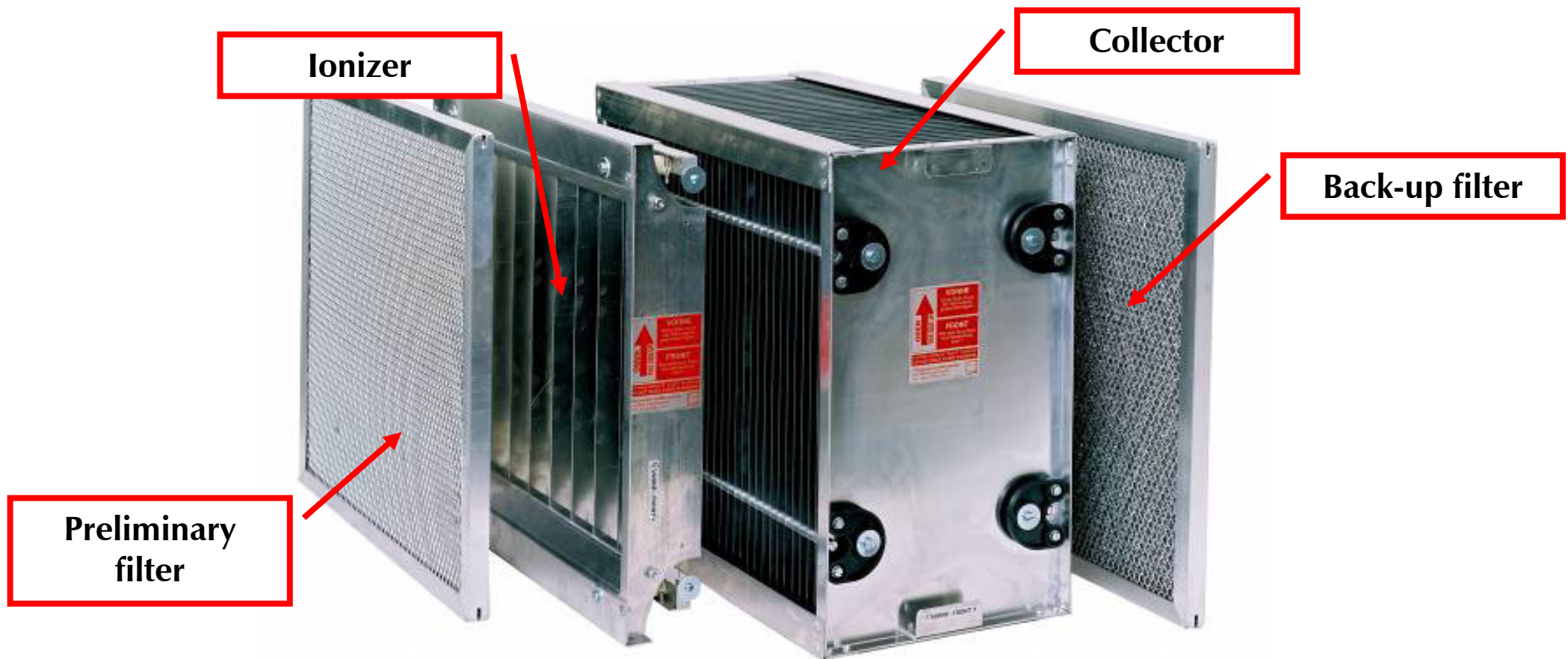
## II.1. Function Principle of ELOFIL

- ELOFIL employs electrostatic charging for filtering the air.



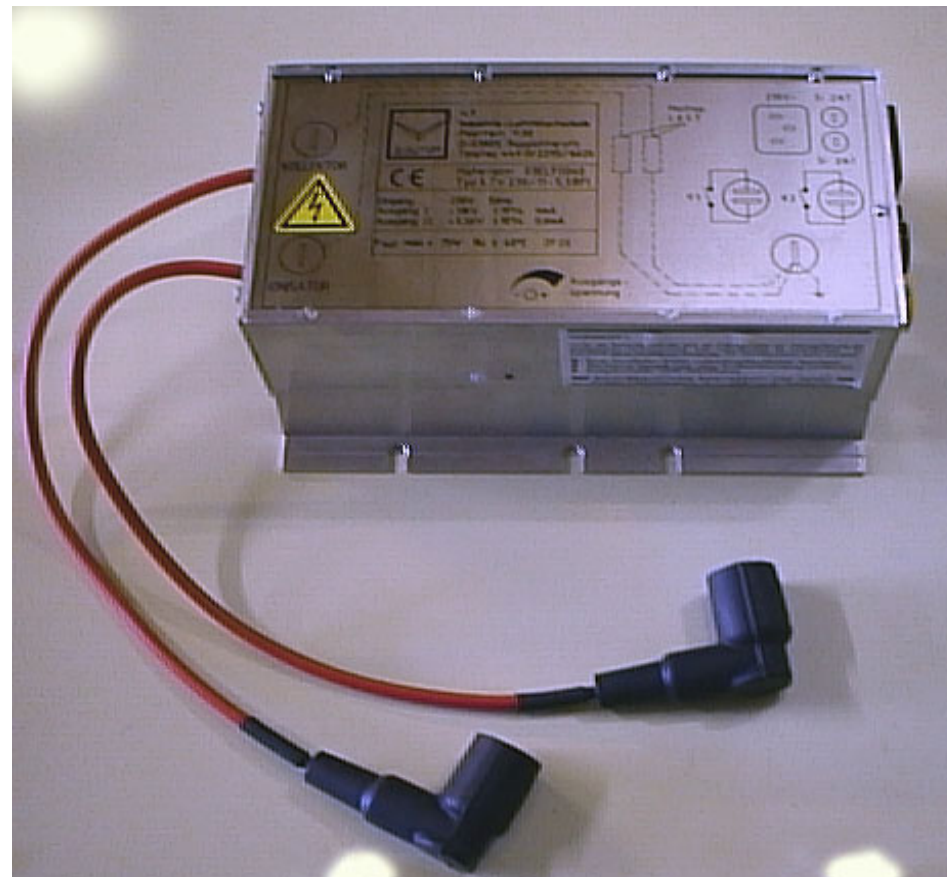
## II.1. Function Principle of ELOFIL

- ELOFIL employs electrostatic charging for filtering the air



## II.1. Function Principle of ELOFIL

- Dirt particles are charged by an HV-generator





## II.1. Function Principle of ELOFIL

- ELOFIL is controlled by a separate switchbox.



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## II.2. Different types of ELOFIL

- There are the following basic types of ELOFIL:



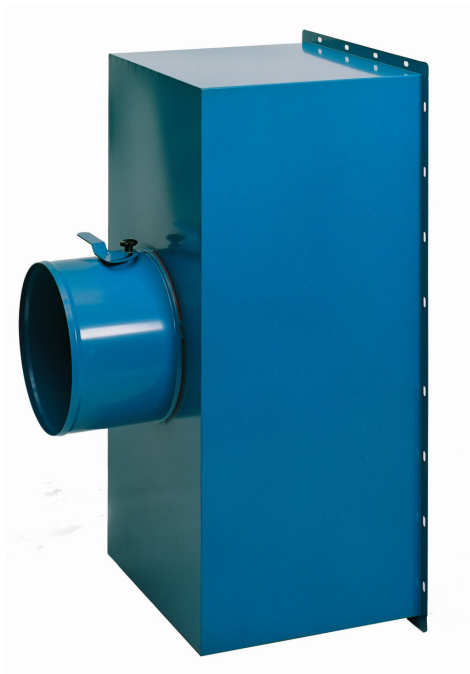
2ERV30, 2ERV35



2ERV75

## II.2. Different types of ELOFIL

- Additionally there might be this special equipment:



Inlet Plenum



Agglomerator

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## II.3. How to maintain and overhaul ELOFIL

- ✓ **Do not forget: Maintenance is easy, but must be carried out by authorized and trained personnel!**



## II.3. How to maintain and overhaul ELOFIL

- ✓ Before commencing with any work please have in mind:



### II.3. How to maintain and overhaul ELOFIL

- ✓ Before commencing with any work please take precautionary steps:





### II.3. How to maintain and overhaul ELOFIL

- ✓ Before commencing with any work, take precautionary steps:



Switch off!

### II.3. How to maintain and overhaul ELOFIL

- ✓ Before commencing with any work please have in mind:



Do not open  
filter unit for  
approx. 3 minutes!



## II.3. How to maintain and overhaul ELOFIL

- Following up: Standard maintenance work on 4ERV75
- Work procedures transferable to any ELOFIL.



## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 1: After 3 minutes open maintenance door with square key.



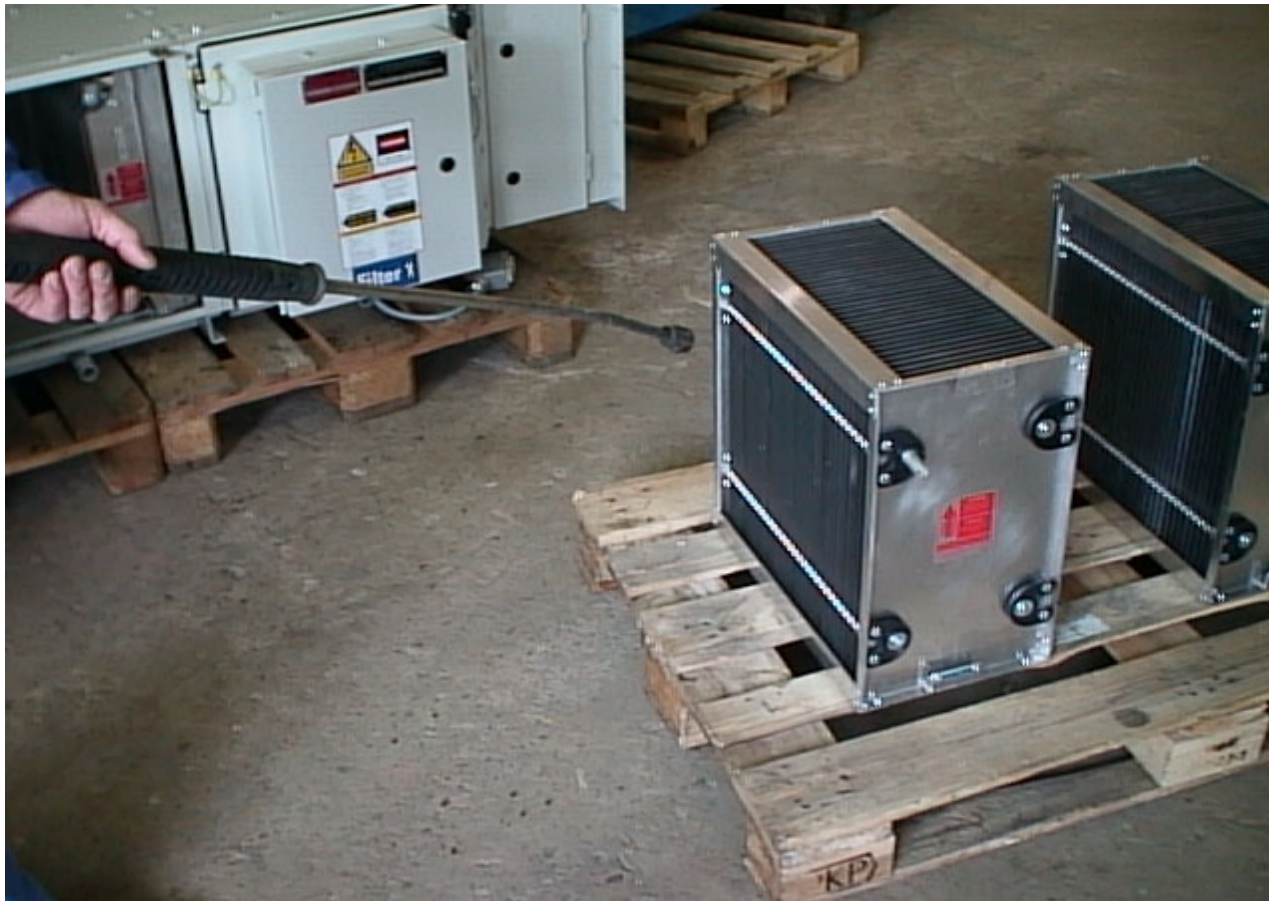
## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 2: Pull out filter elements.



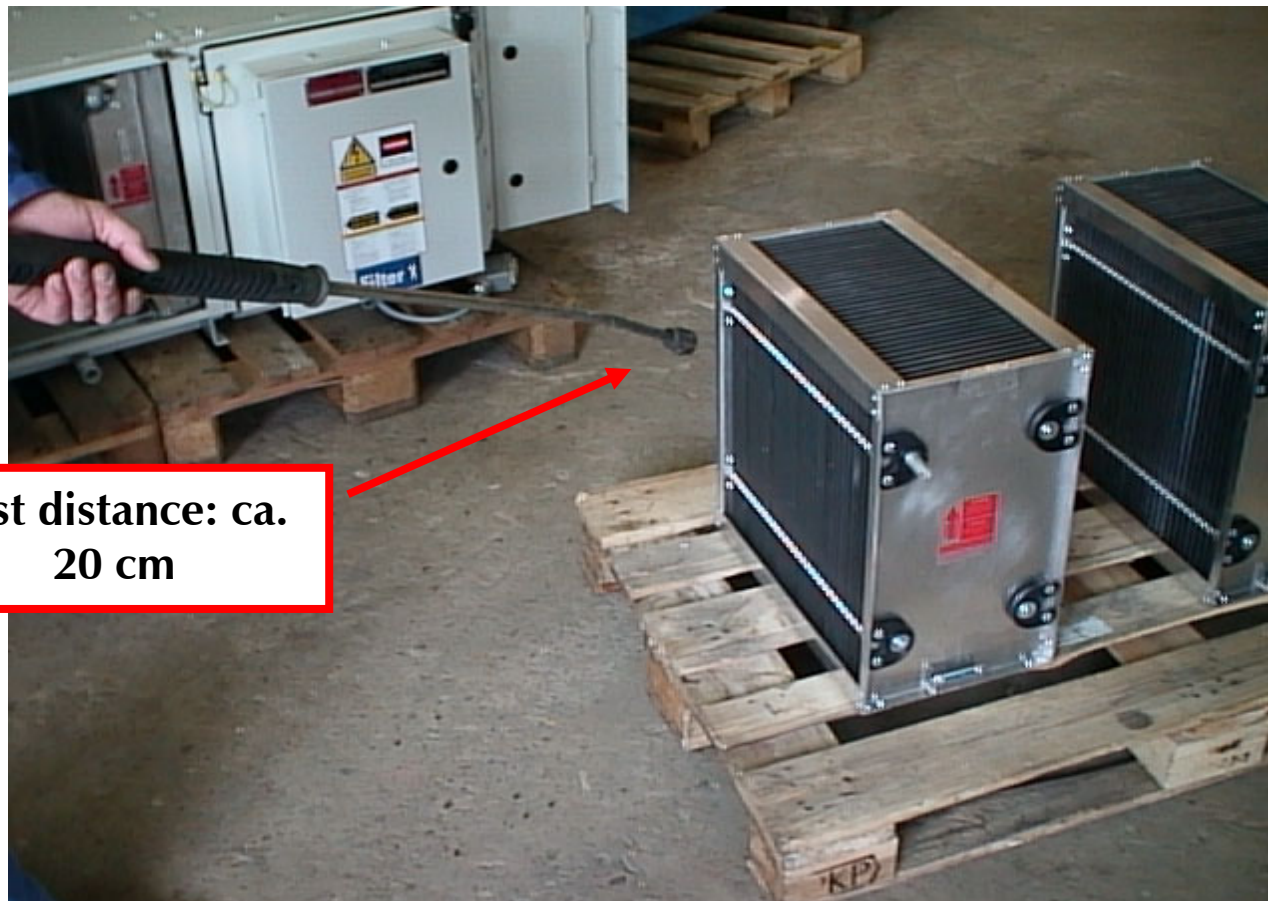
## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 3: Place collectors on a pallet or other suitable holder.



### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 4: Clean collectors with high-pressure water cleaner.



**Best distance: ca.  
20 cm**

### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 4: Clean collectors with high-pressure water cleaner.



**Clean from all  
sides: Top and  
side!**



## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 5: Clean insulators with high-pressure water cleaner.



## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 6: Clean ionizer with high-pressure water cleaner.

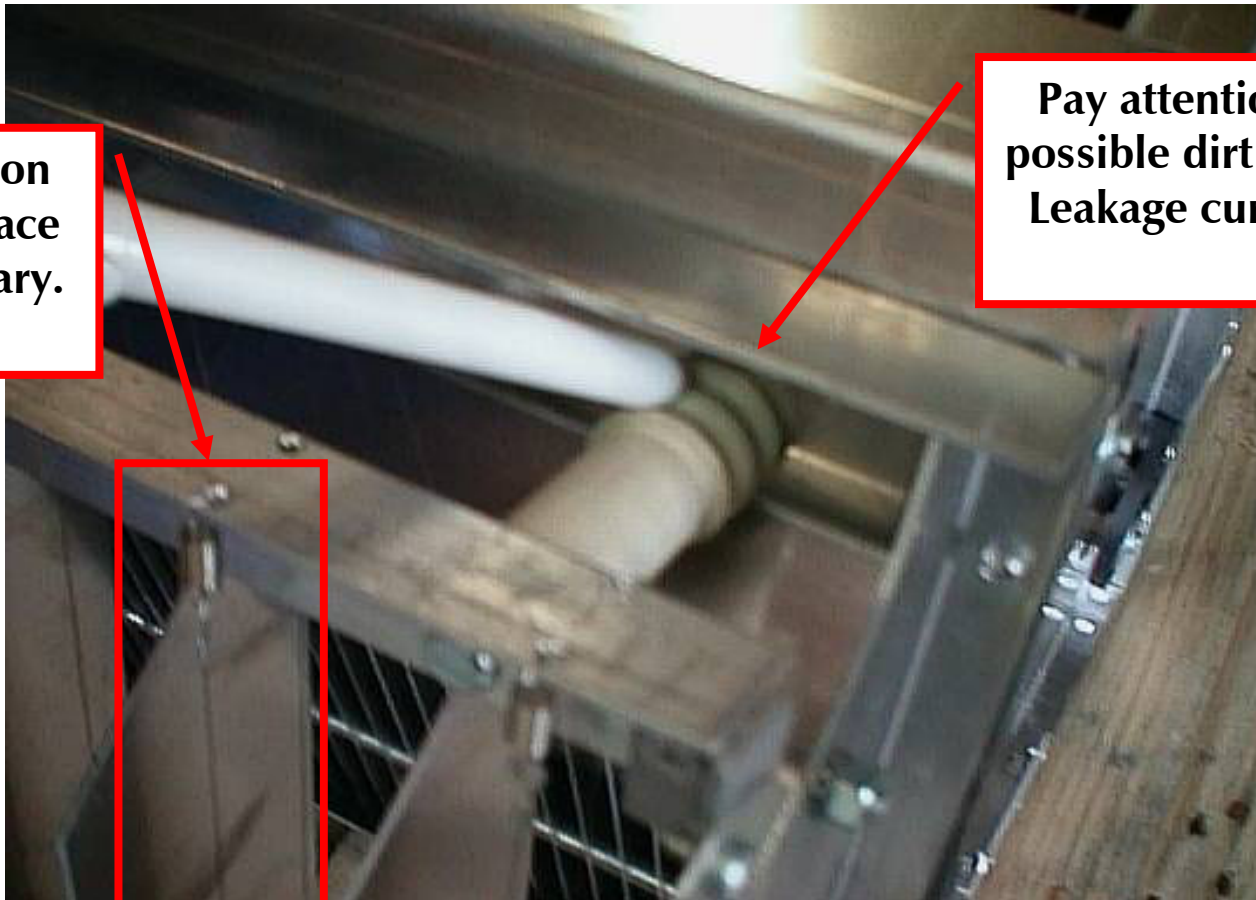


## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 6: Clean ionizer with high-pressure water cleaner.

**Check ionization wires and replace them if necessary.**

**Pay attention to possible dirt nests: Leakage current!**



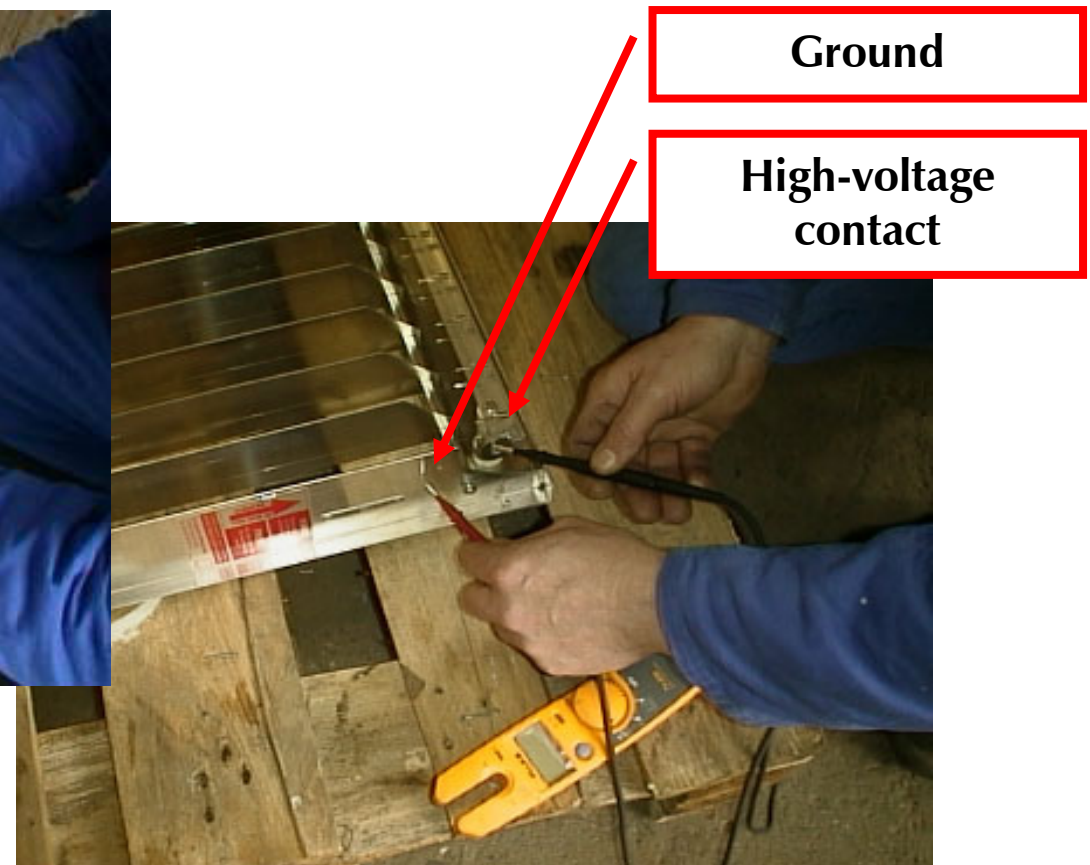
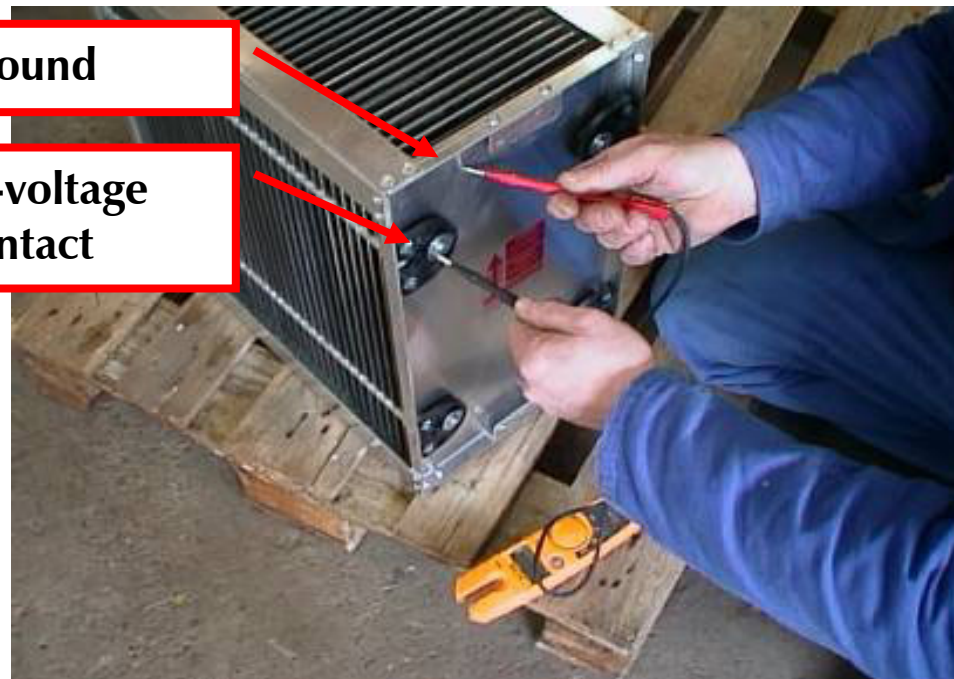
## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 7: Tilt the collectors to let water run off completely.



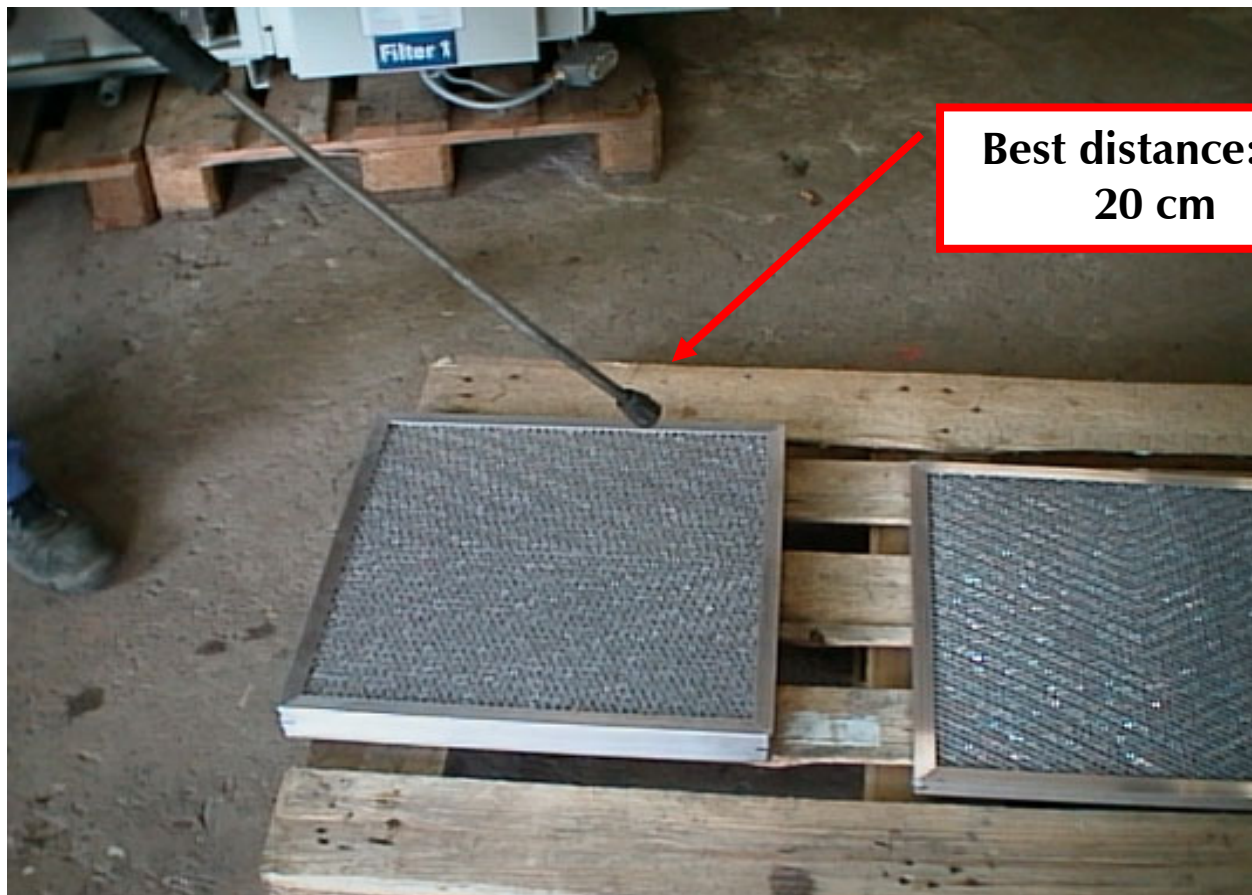
### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 8: Check for leakage-current with Ohm-meter. If resistance is indicated repeat cleaning. Examine collector/ionizer for dirt nests.



### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 9: Clean pre- and back-up filters with high-pressure cleaner and tilt them afterwards to let water run off.



**Best distance: ca.  
20 cm**

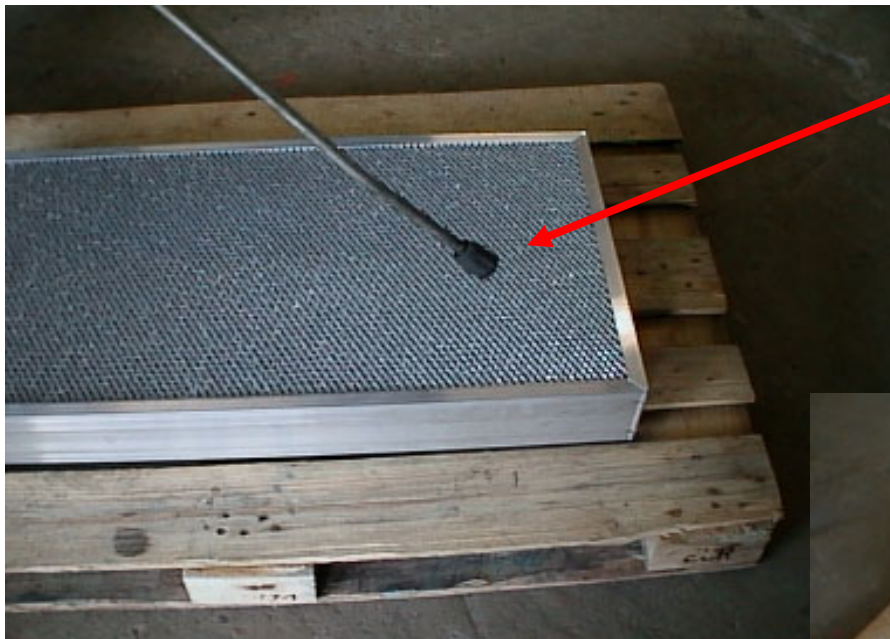
## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 10: Pull out agglomerator-filter



### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 11: Clean agglomerator-filter with high-pressure cleaner and tilt it afterwards.



**Best distance: ca.  
20 cm**





### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 12: Clean the filter units inside with a cloth and appropriate cleansing agent.



### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 13: Clean the high-voltage-contacts and springs with appropriate cleansing agent.

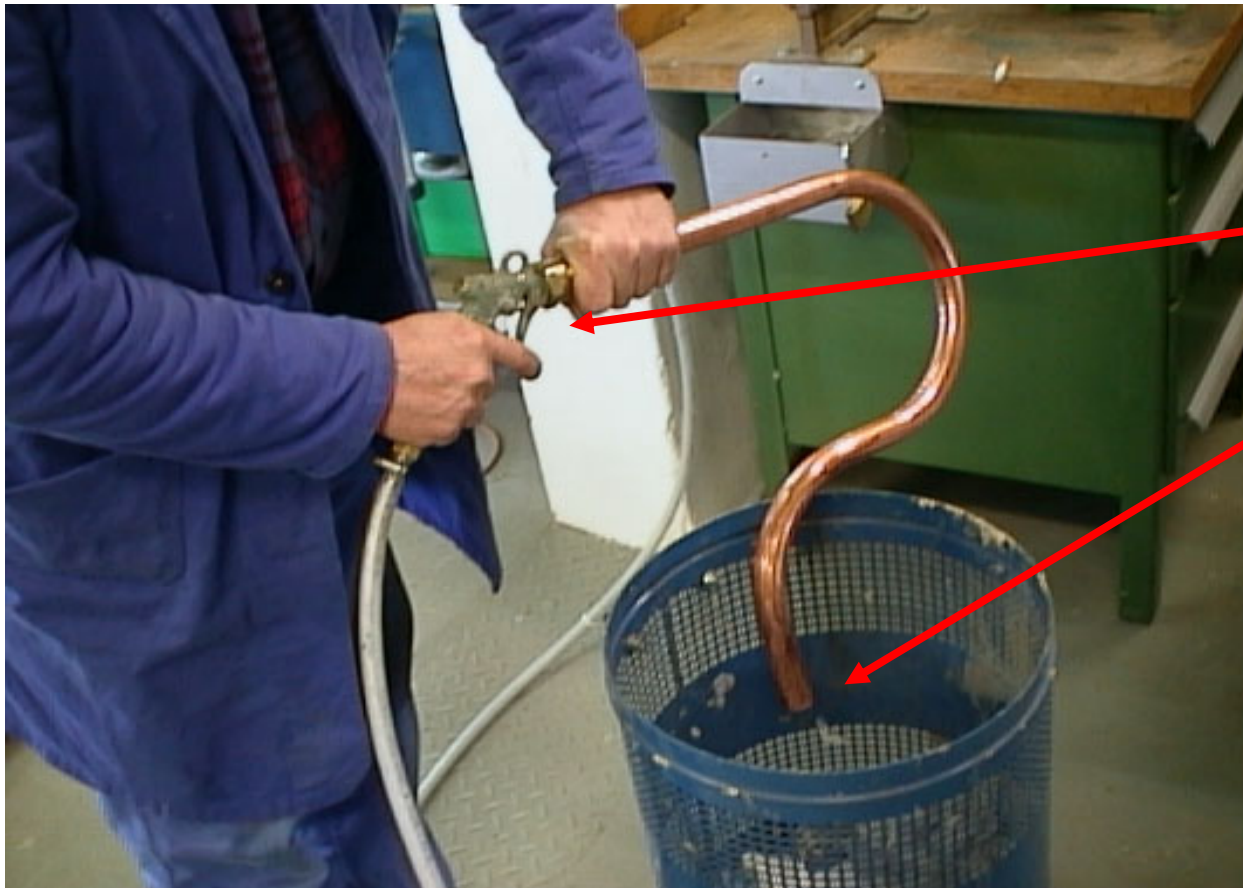


**Wipe thoroughly!**



### II.3. How to maintain and overhaul ELOFIL

- ✓ Step 14: Check siphon and remove any clods or solid particles (if necessary) by blowing it free with pressurized air.

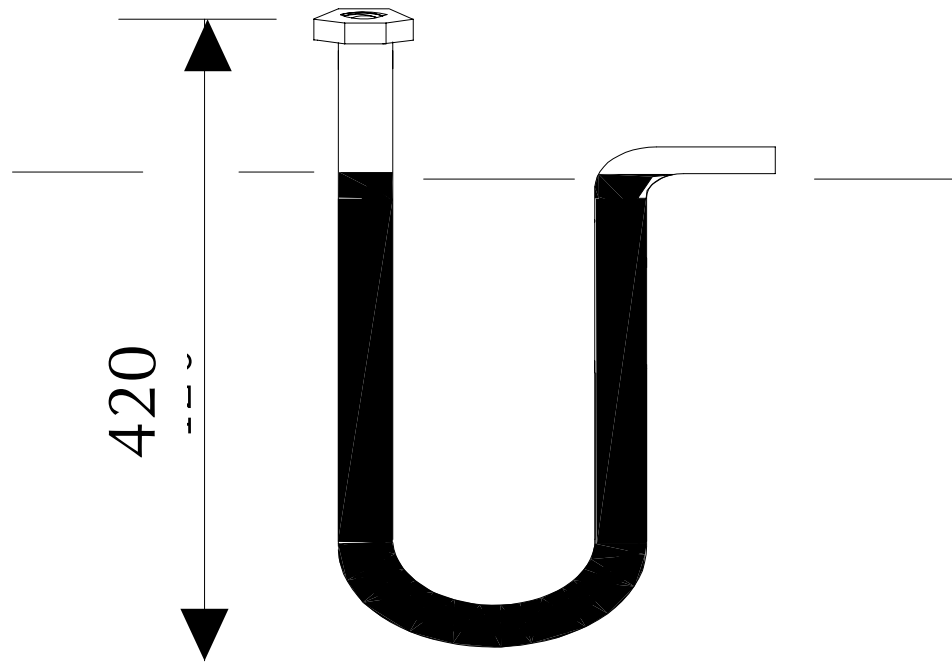


**Seal with a cloth  
air-tight.**

**Do not direct  
towards people!**

## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 15: Re-fill siphon after blowing it free.



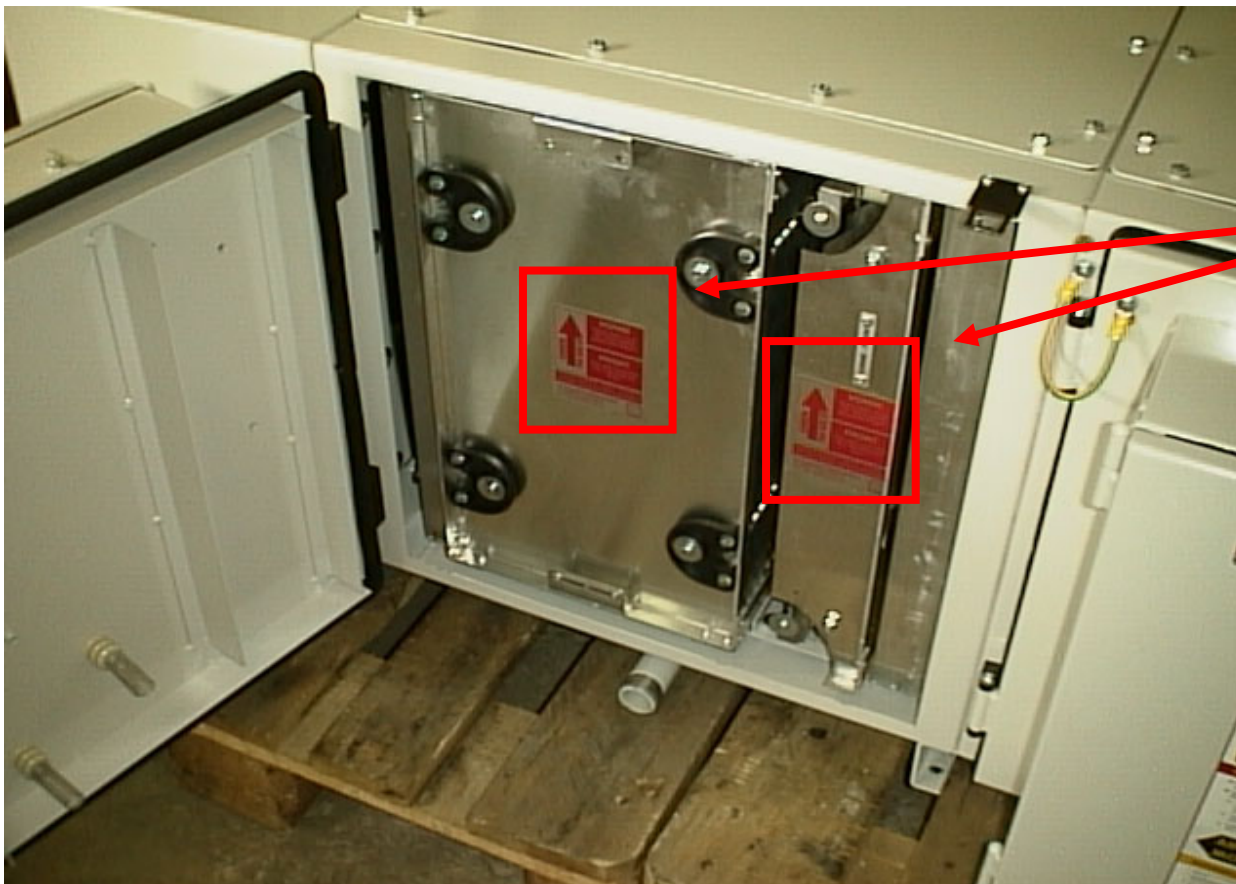
## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 16: Re-insert all filter elements after letting them dry.



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- ✓ Step 16: Re-insert all filter elements after letting them dry.

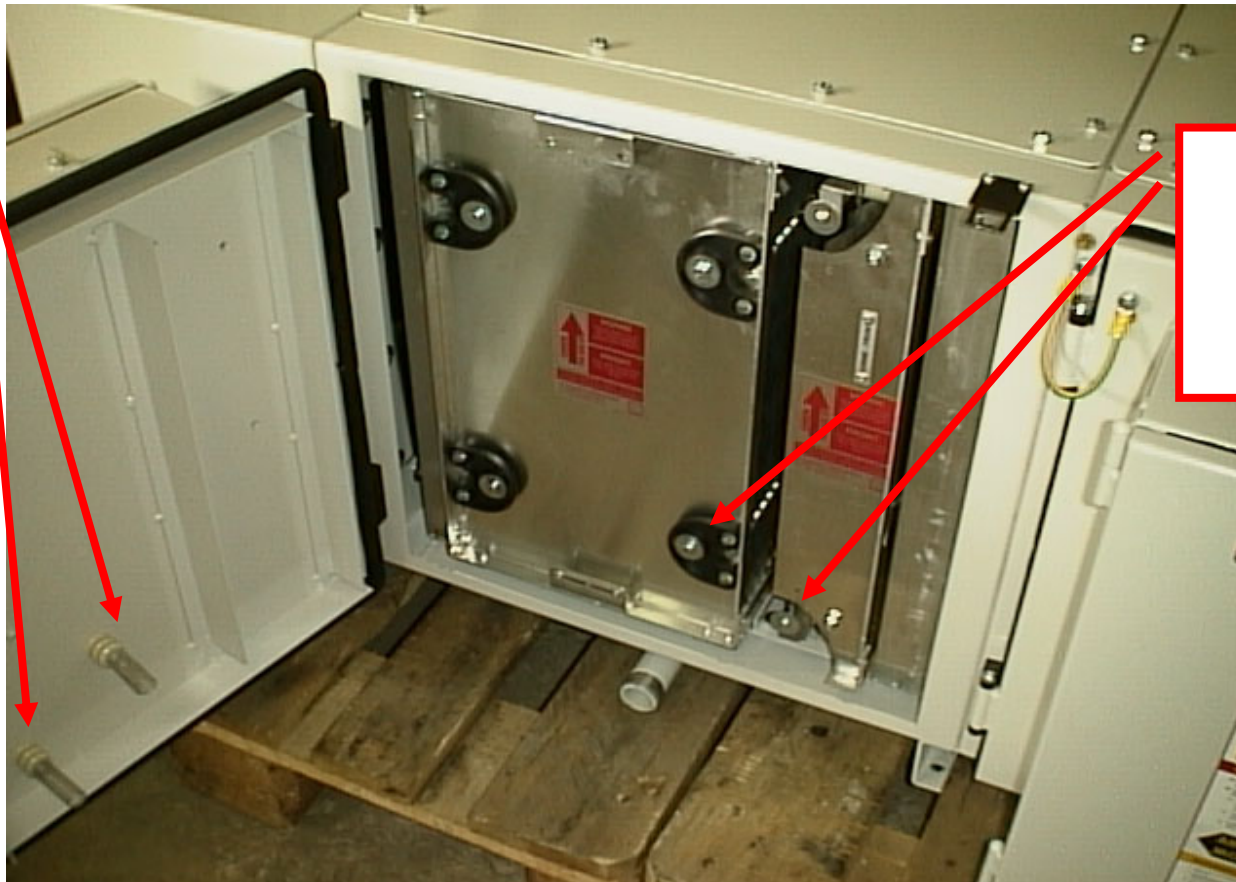


**Pay attention to the tags!**

## II.3. How to maintain and overhaul ELOFIL

- ✓ Step 17: Check high-voltage-connections for correct contact.

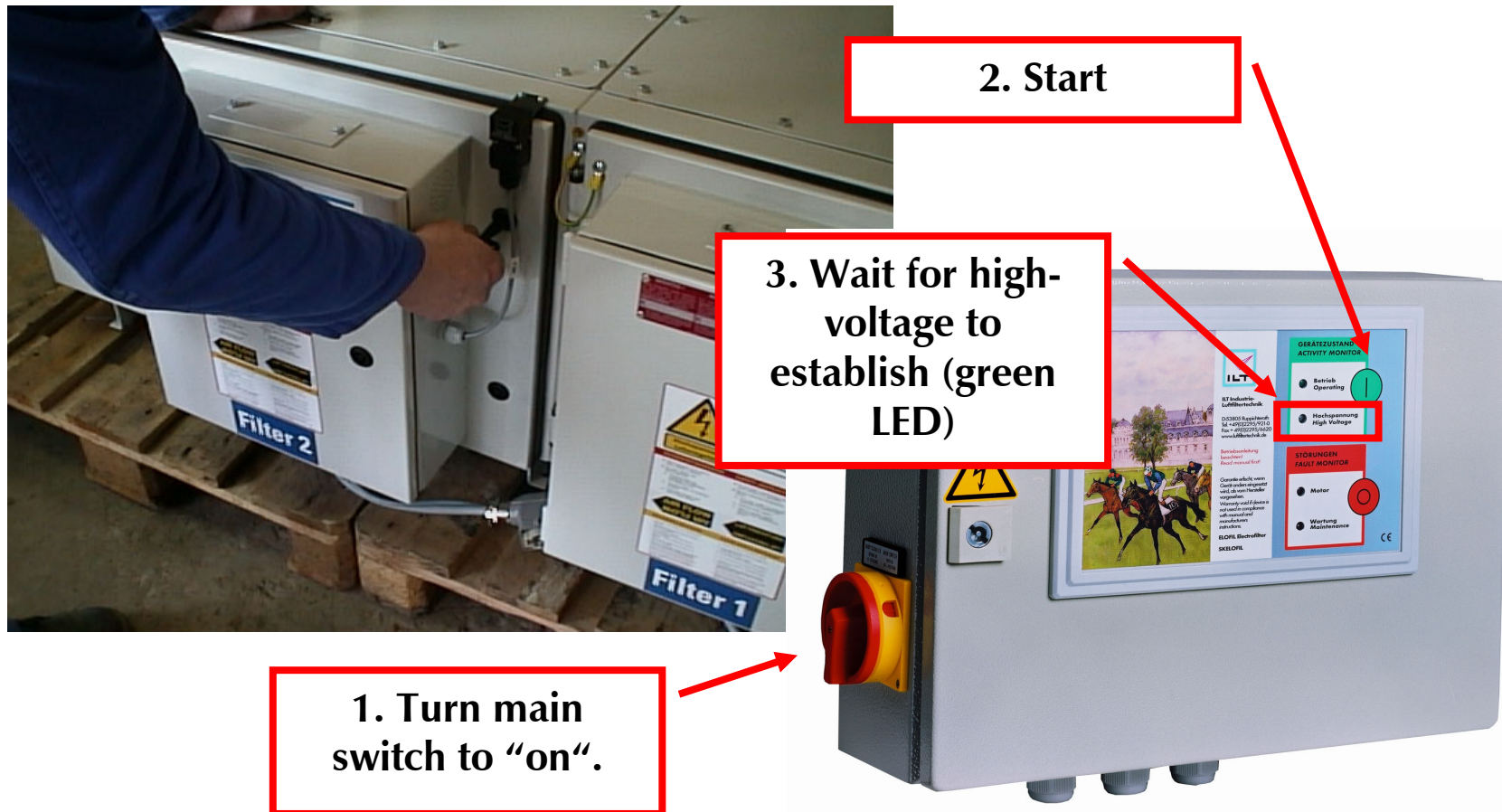
**Springs must be  
fault-free ...**



**... and have to fit  
perfectly (!) to the  
filter elements'  
contacts.**

### II.3. How to maintain and overhaul ELOFIL

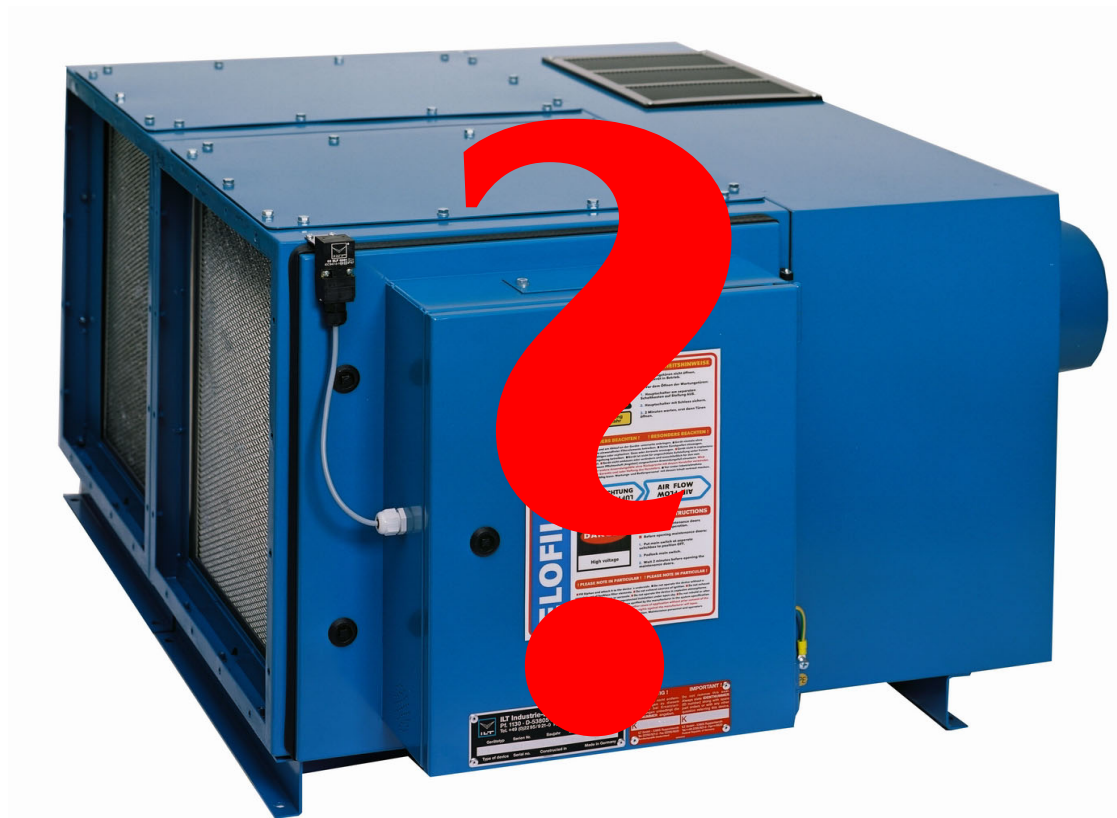
- ✓ Step 18: Close door and unlock switchbox; re-start.





## II.3. How to maintain and overhaul ELOFIL

### ✕ Troubleshooting



## II.3. How to maintain and overhaul ELOFIL

☒ Switchbox indicates malfunctions:



**“High-voltage”  
LED flashes  
green/yellow,  
“Maintenance”  
lights red  
constantly**

### II.3. How to maintain and overhaul ELOFIL

- ✓ Under normal conditions: No indication (there are e. g. small chips or drops on the filter elements). LED should stop blinking after 1 minute.
- ✓ After cleaning: Wait for 10 minutes until residual cleansing liquids have been blown off the filters.
- ✓ Siphon not filled. Re-fill Siphon.
- ✓ Oil return hose immersed in coolant. Attach the hose's end above coolant surface.

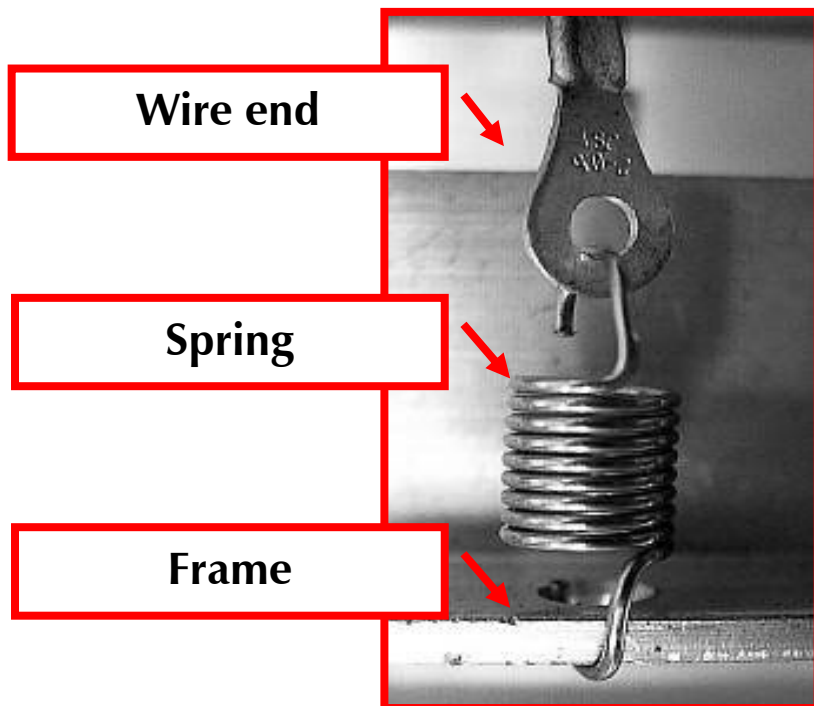
### II.3. How to maintain and overhaul ELOFIL

- ⊗ Switchbox indicates malfunctions: “Maintenance” lights red permanently, “High-voltage” flashes green/yellow for longer:
- ✓ Carry out maintenance work as described in the manual and training material.



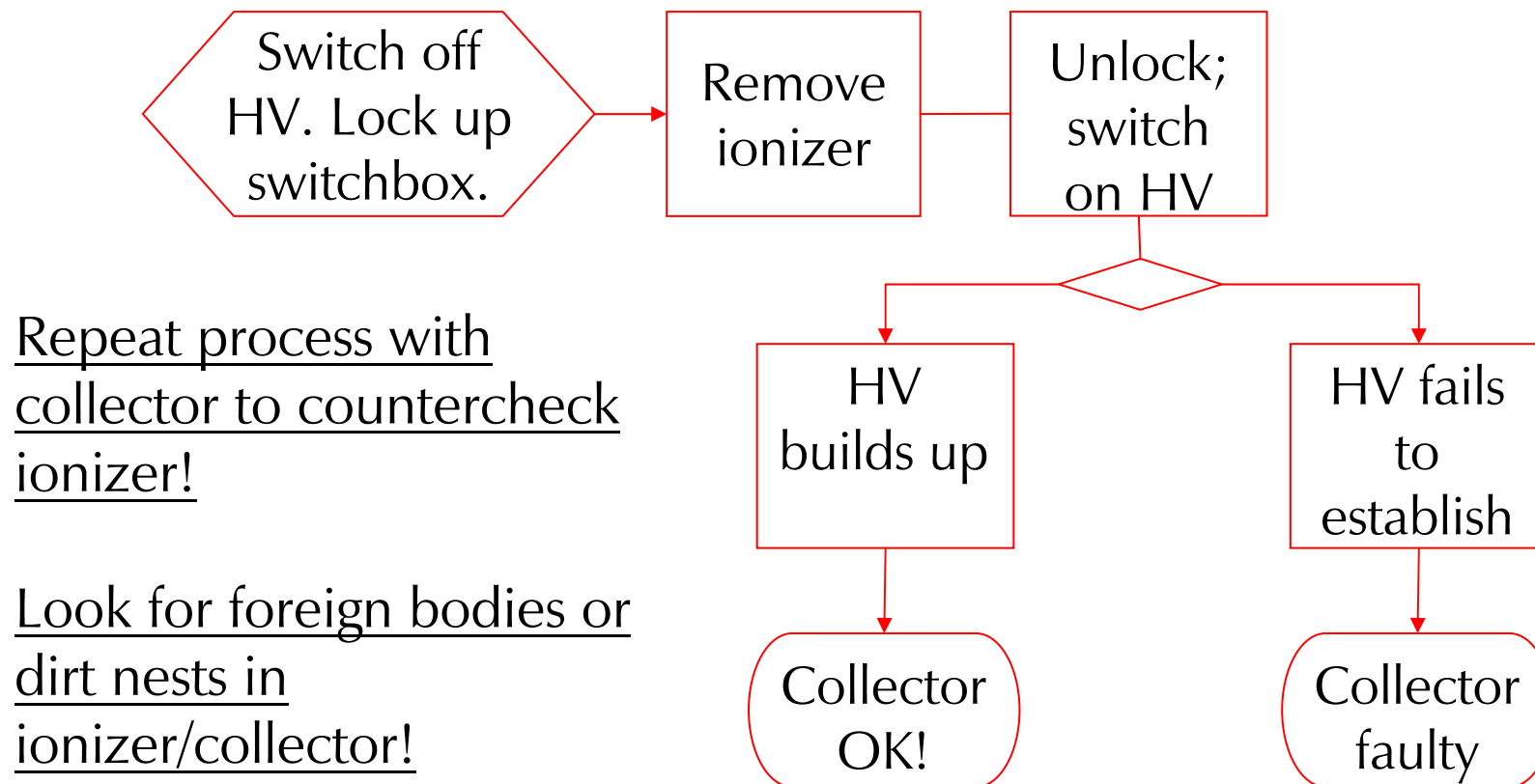
### II.3. How to maintain and overhaul ELOFIL

- ⊗ There are crackling noises, “High-Voltage”-LED flashes green/yellow, “Maintenance” lights red for longer:
- ✓ Ionization wires have been damaged. Check and replace!



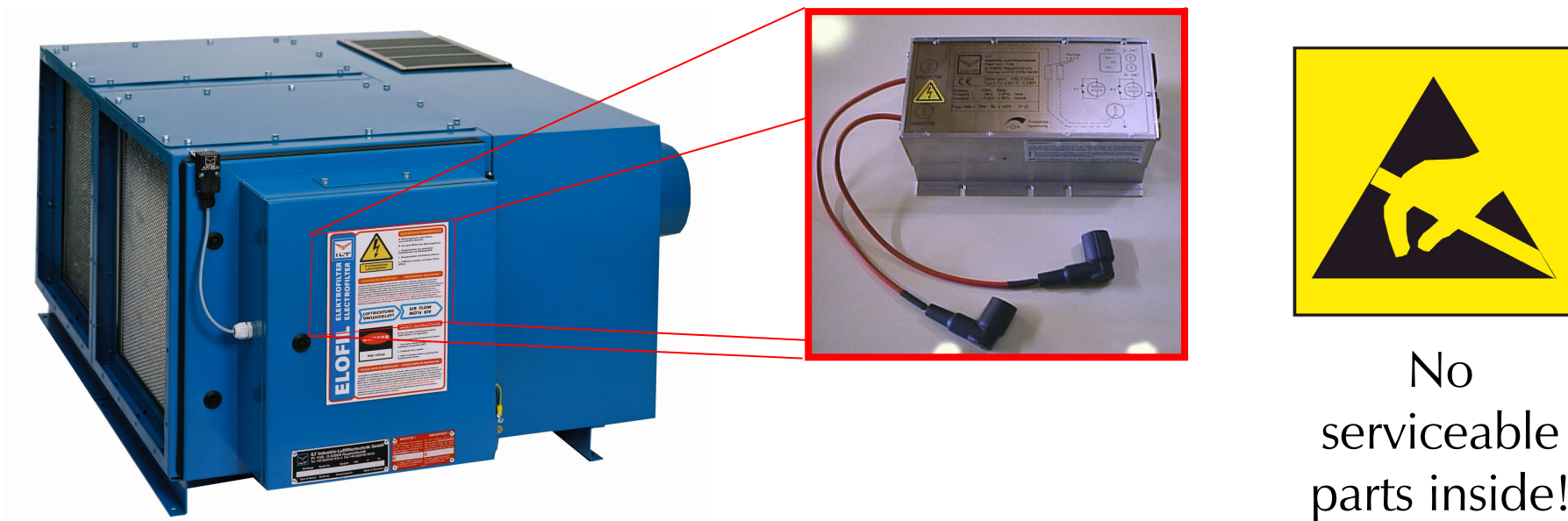
### II.3. How to maintain and overhaul ELOFIL

- ⊗ There are crackling noises, “High-Voltage”-LED flashes green/ yellow, “Maintenance” lights red for longer: Ionizer/Collector faulty.



### II.3. How to maintain and overhaul ELOFIL

- ⊗ Switchbox indicates malfunctions: “High-voltage” flashes green/ yellow (longer than 10 minutes), “Maintenance” lights red:
- ✓ The HV-generator fails to establish an HV-field and is faulty. You **MUST** turn to ILT for repairs.





Motor LED lights up red permanently (!)



### II.3. How to maintain and overhaul ELOFIL

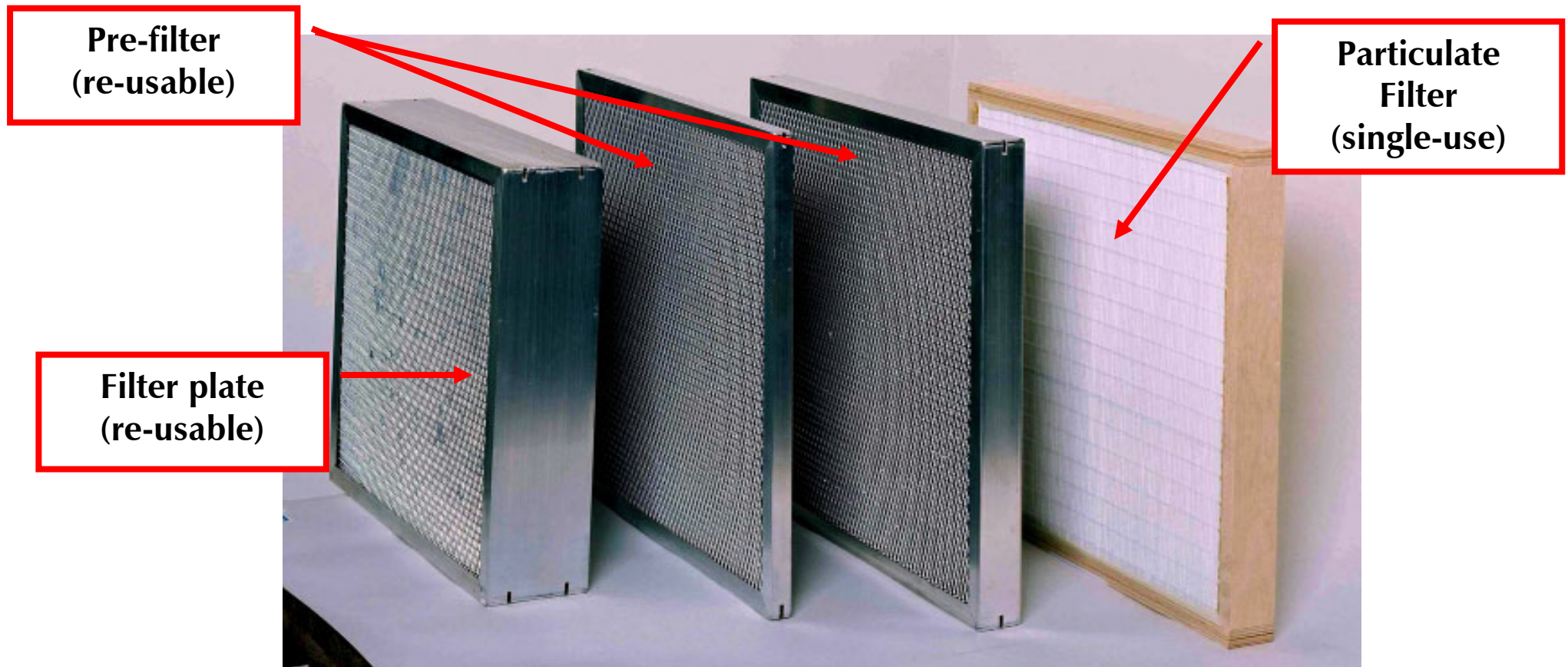
- ⊗ Switchbox indicates malfunctions: “Motor” lights up red permanently.
- ✓ The motor thermistor has been triggered. Switch off and lock up the filter device. Check for damaged cables and foreign bodies in the motor fan-impeller. Re-start device after 3-4 minutes.
- ✓ If there is no thermistor, re-activate the motor-circuit switch in the switchbox after eliminating the malfunction.

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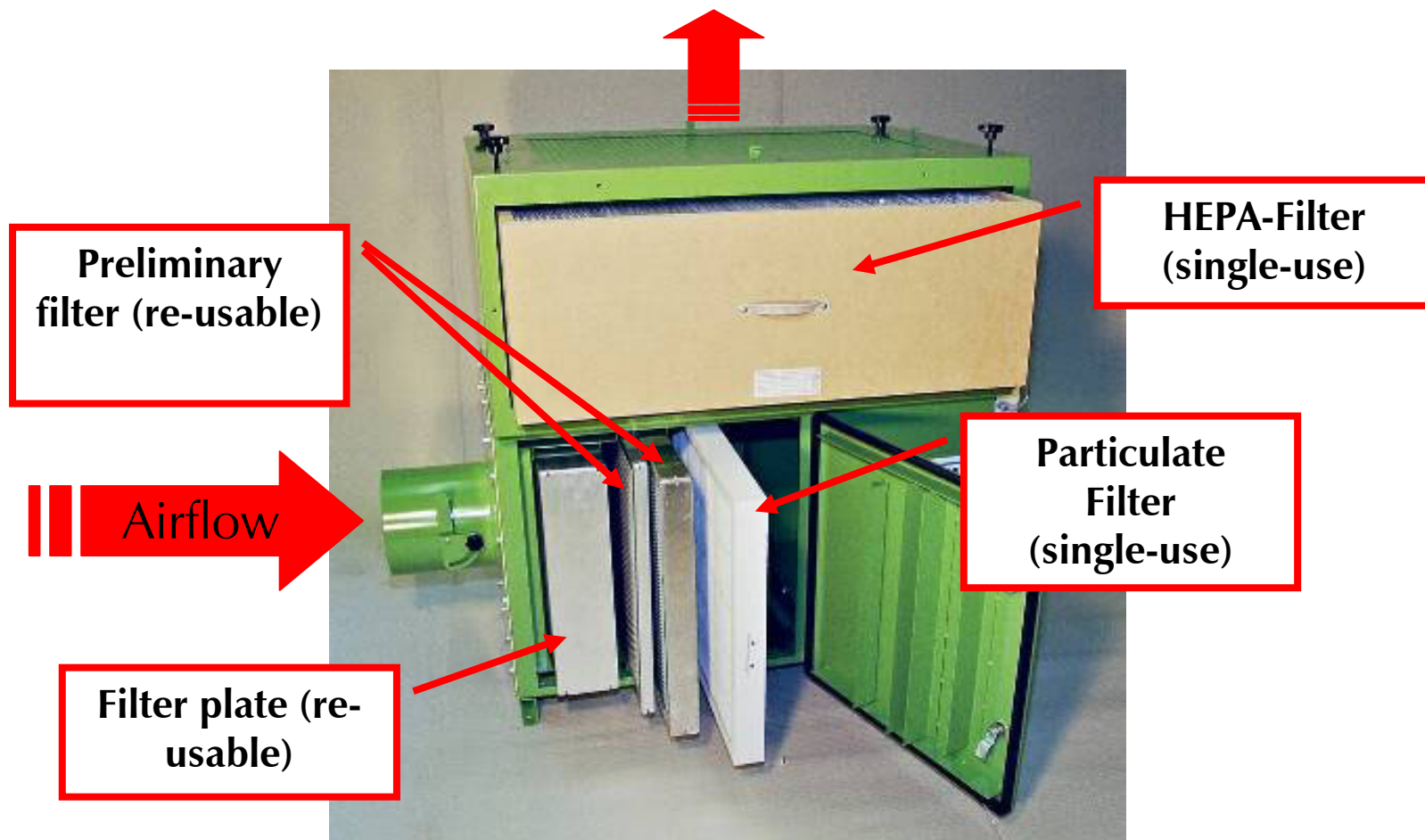
### III.1. Function Principle of UNIFIL

- UNIFIL is a static filter which employs single-use filter elements.



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### III.2. How to maintain and overhaul UNIFIL

- Following up: Standard maintenance work on 1MRV with filter material in bulk
- Work procedures transferable to any UNIFIL.



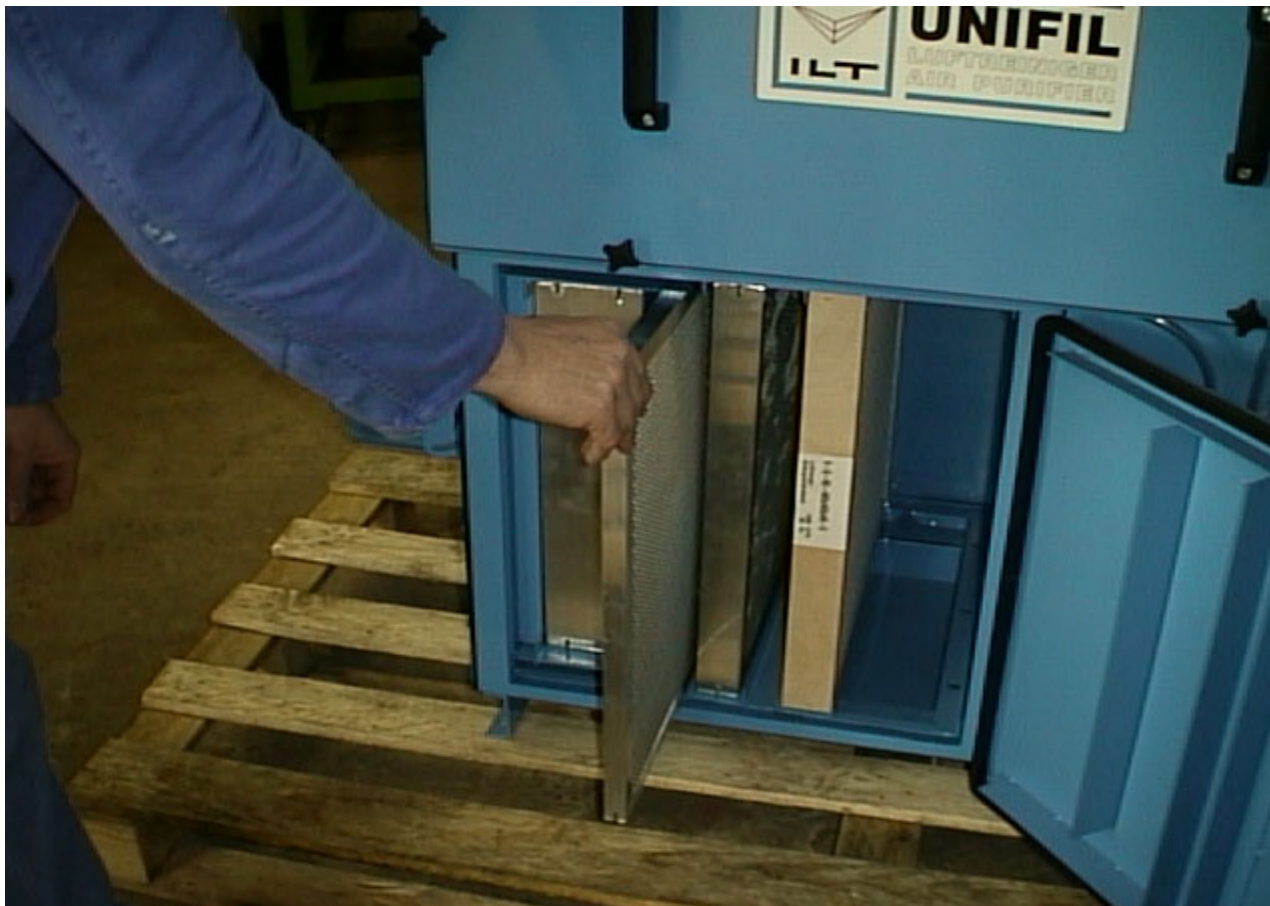
### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 1: After 2 minutes open maintenance door with square key.



### III.2. How to maintain and overhaul UNIFIL

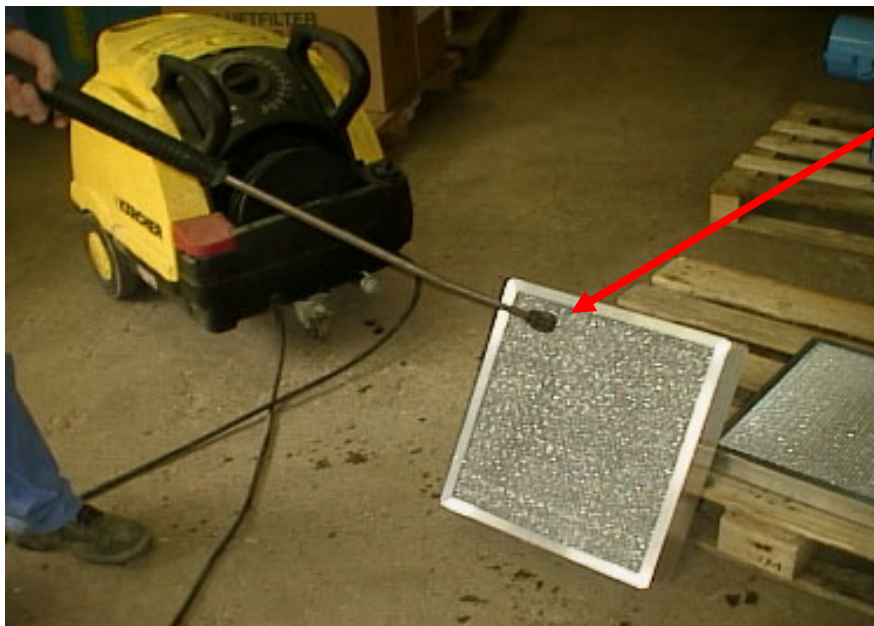
- ✓ Step 2: Take out the first three re-usable filter elements.



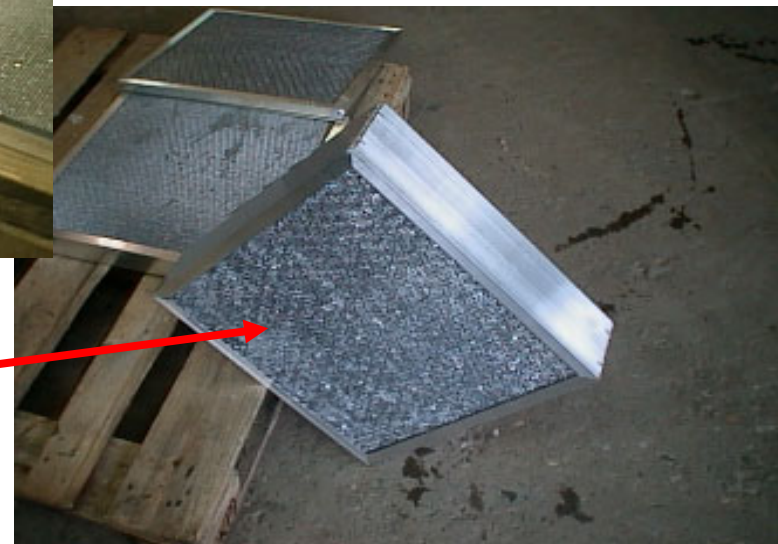


### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 3: Clean the filter elements with a high-pressure water cleaner.



**Best distance: ca.  
20 cm**



**Tilt the filter to let  
water run off!**

### III.2. How to maintain and overhaul UNIFIL

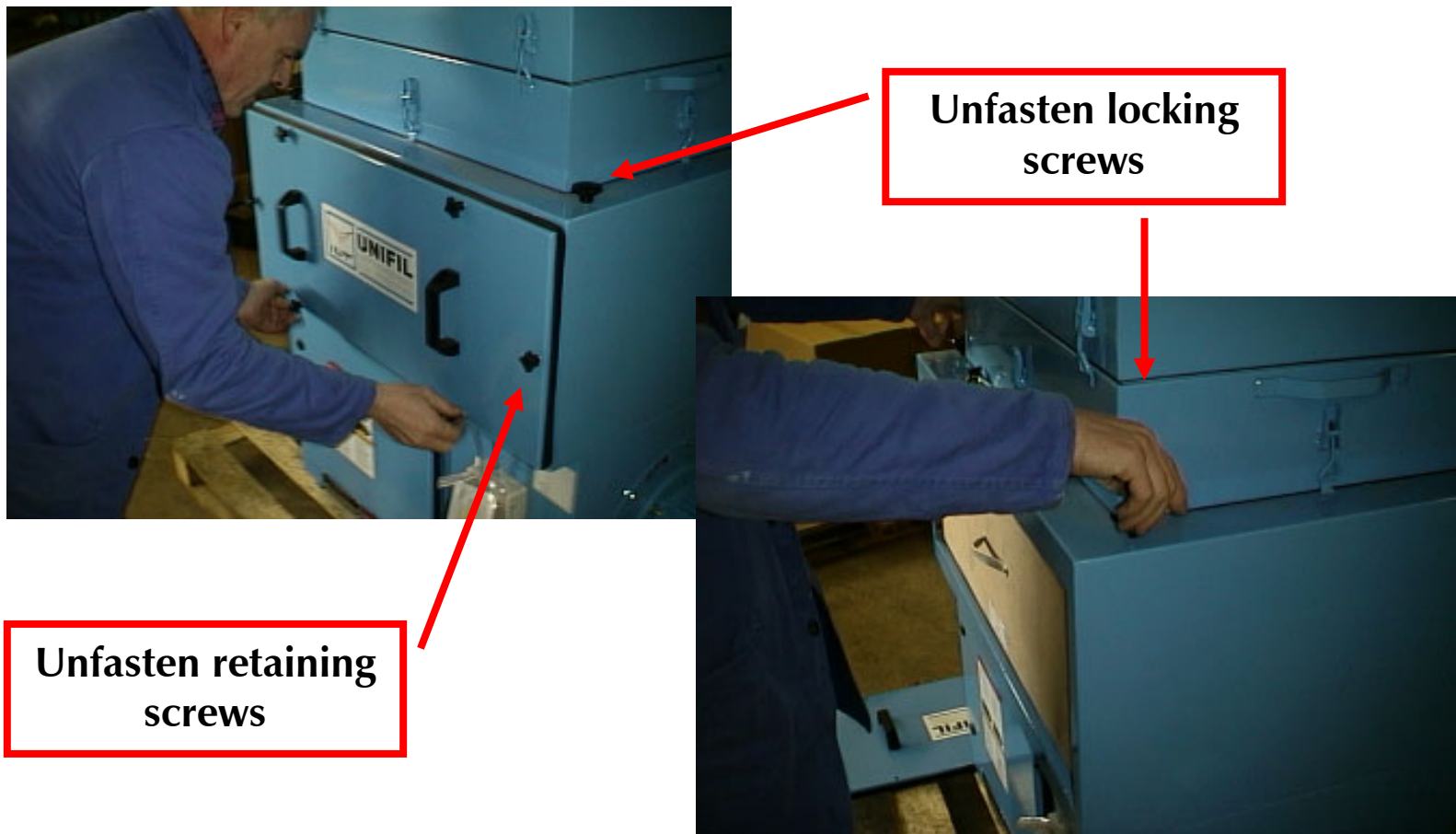
- ✓ Step 4: Replace the particulate filter and dispose of the old one.



Please obey your waste management regulations!

### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 5: Open the casing of the HEPA-filter.



### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 6: Replace the HEPA-filter and dispose of the old one.



Please obey your  
waste management  
regulations!

### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 7: Remove old and refill new filter material in bulk.

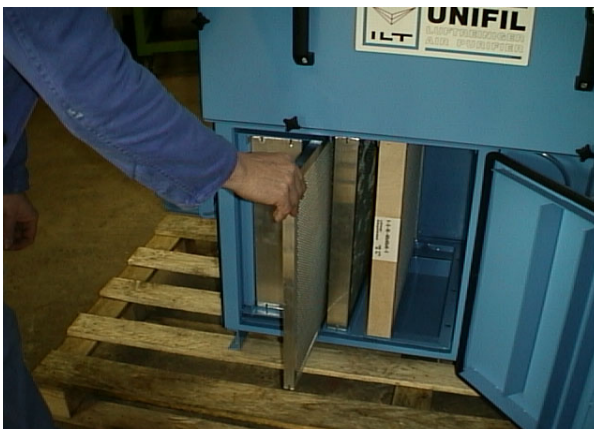


**Add-on frame for  
filter material in  
bulk**

Please obey your  
waste management  
regulations!

### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 8: Insert washed/new filter elements and close device.



### III.2. How to maintain and overhaul UNIFIL

- ✓ Step 9: Clean motor and refill (if necessary) pressure indicator.



**Indicator liquid.  
(Do not overfill!)**

What is expecting you:

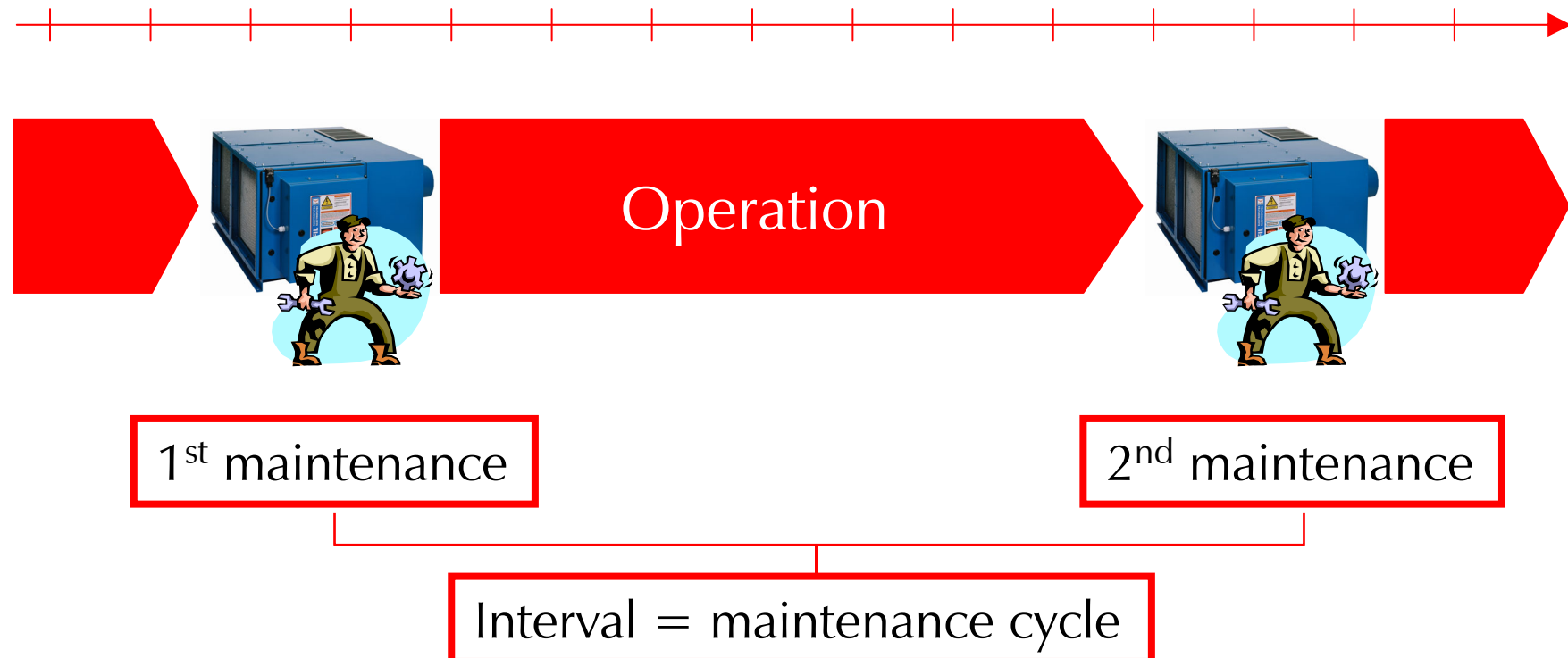
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#### IV. Special Procedures/Installation

- ✓ How to determine the maintenance cycle of a device/plant (to be taken down in the maintenance card):

time



#### IV. Special Procedures/Installation

What you have to obey especially when installing any air filtration appliance:

- ✓ DO NOT use spiro pipes! Oil and coolant is likely to pour out of the seams under a heavy-duty environment and can contaminate surrounding equipment.



#### IV. Special Procedures/Installation

What you have to obey especially when installing any air filtration appliance:

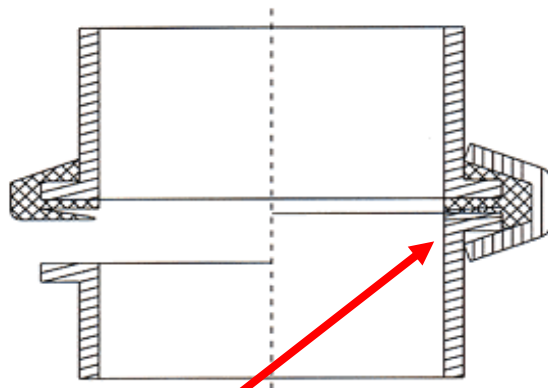
- ✓ DO NOT insert to many bends in the ductwork! This may decrease the air delivery capacity dramatically.



#### IV. Special Procedures/Installation

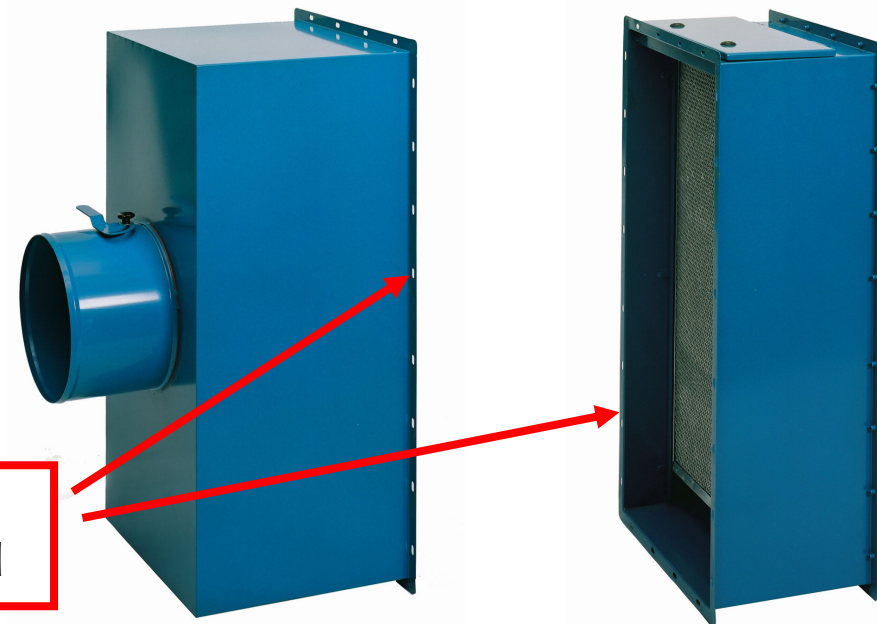
What you have to obey especially when installing any air filtration appliance:

- ✓ Take care of tight sealings! Otherwise infiltrated air may decrease the air delivery performance or oil may pour out.



**Ring seal with correct fitting**

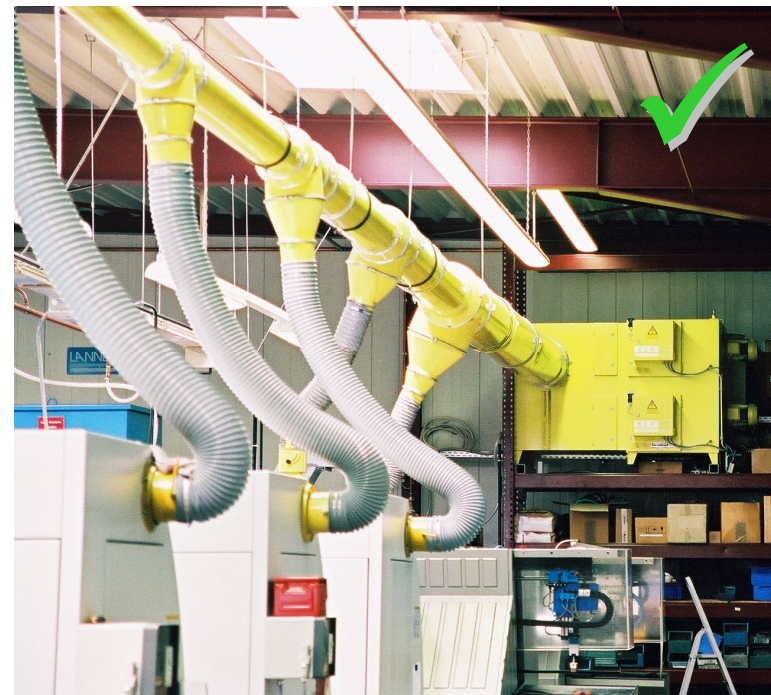
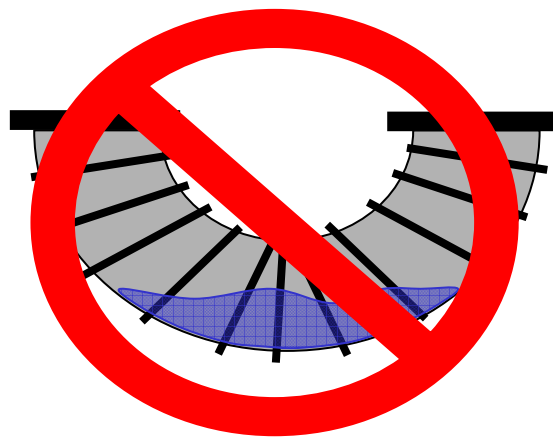
**Use appropriate sealing compound**



#### IV. Special Procedures/Installation

What you have to obey especially when installing any air filtration appliance:

- ✓ DO NOT let hoses sag! Otherwise liquids can collect in the bend.

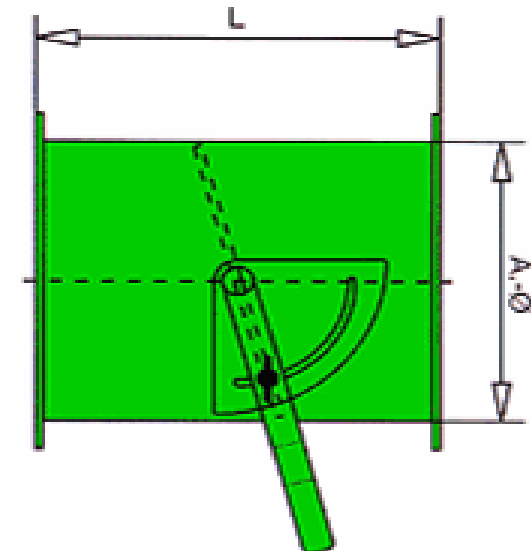
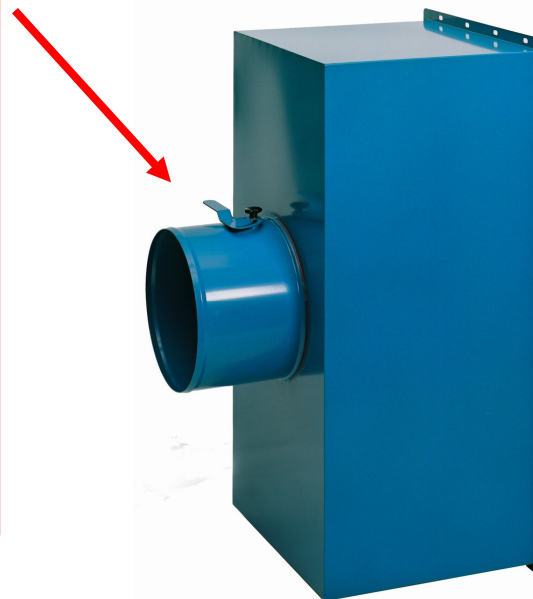


#### IV. Special Procedures/Installation

What you have to obey especially when installing any air filtration appliance:

- ✓ Adjust the air regulating valves correctly! Otherwise the air volume flow will not be sufficient. Only 1 valve:

- 1. With running device fully open the valve.**
- 2. Close valve shortly before the airflow ceases (ca 50-75% opening angle).**
- 3. Lock valve with screw.**

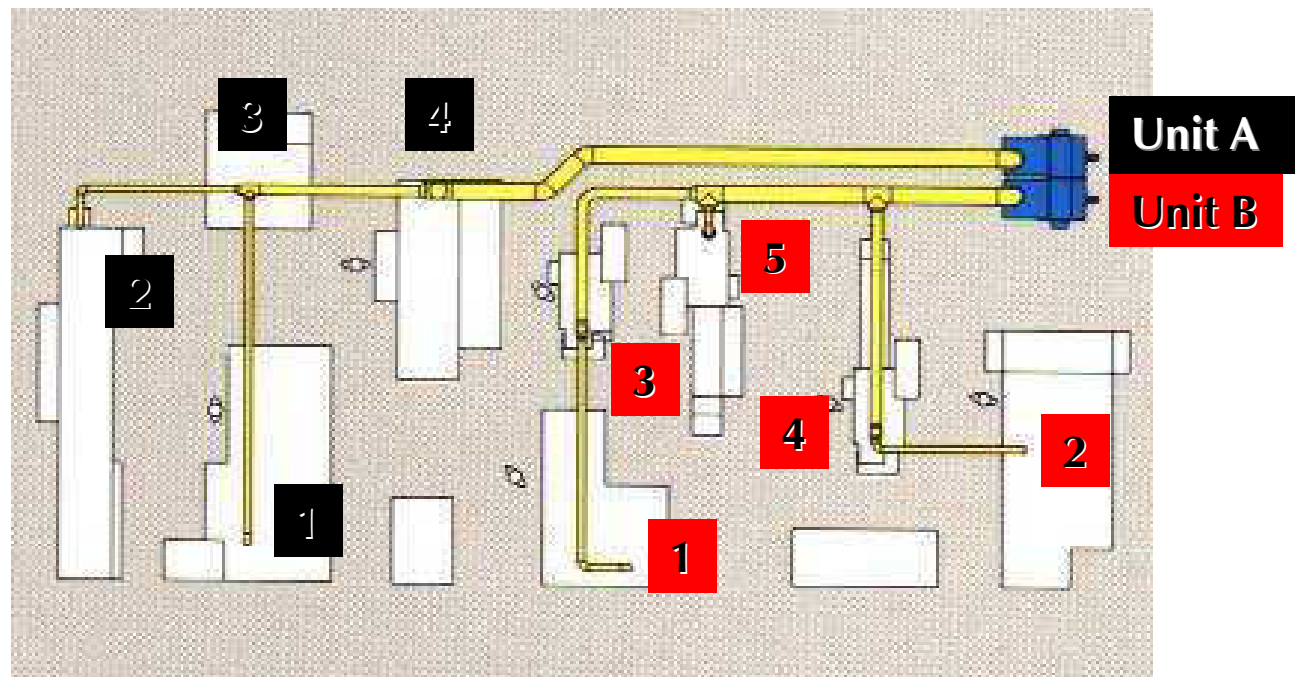


#### IV. Special Procedures/Installation

What you have to obey especially when installing any air filtration appliance:

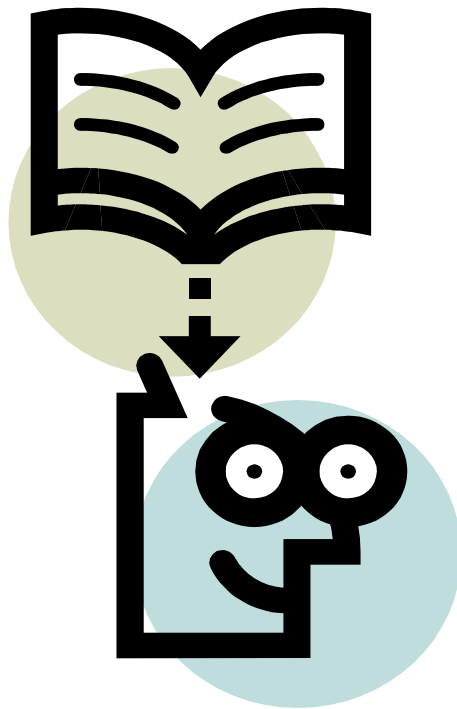
- ✓ Adjust the air regulating valves correctly! Otherwise the air volume flow will not be sufficient. Several valves:

1. With running device fully open the valve at expansion chamber(s).
2. Close all other valves to an angle of 30°
3. Start adjusting valves beginning with the farrest from the device.



## V. ILT Service System

First of all, even if it sounds odd:



# Read the manual!

Own observations have shown that 85% of the problems arising can be solved by following standardized procedures.



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## V. ILT Service System

In case of any questions or problems:

1. Refer to the Malfunction Checklist and perform the procedures in the “Troubleshooting Box”.
2. If that does not help, fill out the Checklist and send it to fax-number:



**0049.2295/6620**

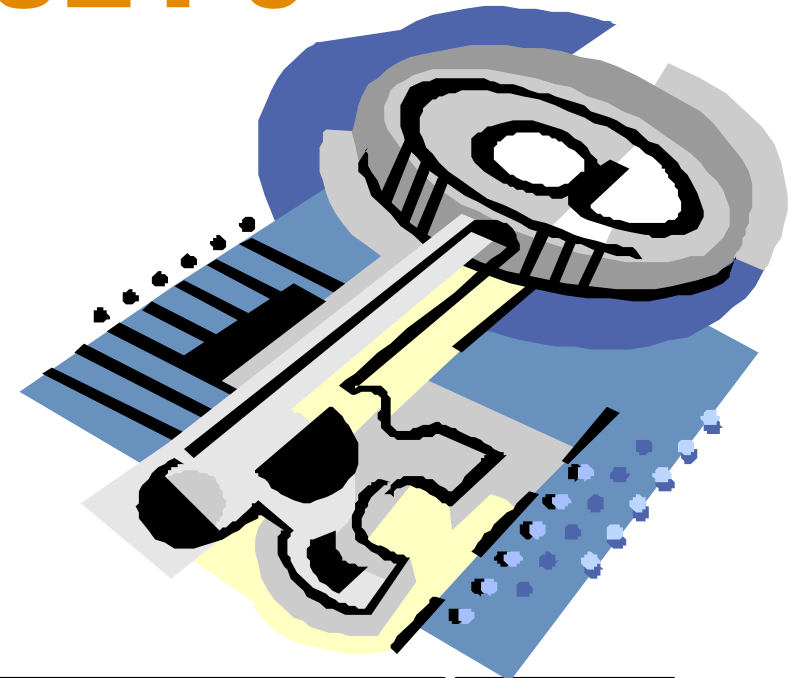
You will receive help immediately by ILT's technical dept.

## V. ILT Service System

Your most convenient key to reach ILT Technics quickly:

**SUPPORT@ILT.INFO or  
phone +49.2295/921-0**

- ✓ For technical assistance
- ✓ For general questions
- ✓ Requests to call back
- ✓ To send checklists
- ✓ ...



## V. ILT Service System

Every ILT device has got an identity!

**K** .....

Please state the K-  
No. with every  
request you make.  
We can help you  
more efficiently.



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**Thanks for listening!**

**Any questions?**