

# AB 20 / Afd Service Manual



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## 2 Preface

Good service work requires extensive and practice-oriented training as well as well-structured training materials.

Hence we offer regular basic and advanced training programmes covering the entire product range for all service engineers.

In addition to this, we also prepare service manuals for important appliances - these can be initially used as instruction guides and later on as reference guides.

Apart from this, we also regular information about product enhancements and their servicing.

If you should require supplements, have corrections or questions regarding this document, please address these citing the following subject to:  
*international-service@de.kaercher.com*

Subject: **Fall 114066**

The responsible product specialist will take care of your issue.

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**www.kaercher.com**

## 3 Safety instructions

### 3.1 Hazard levels

#### **⚠ Danger**

*Immediate danger that can cause severe injury or even death.*

#### **⚠ Warning**

*Possible hazardous situation that could lead to severe injury or even death.*

#### **Caution**

*Possible hazardous situation that could lead to mild injury to persons or damage to property.*

#### **Note**

*indicates useful tips and important information.*

## 4 Technical Features

### 4.1 General

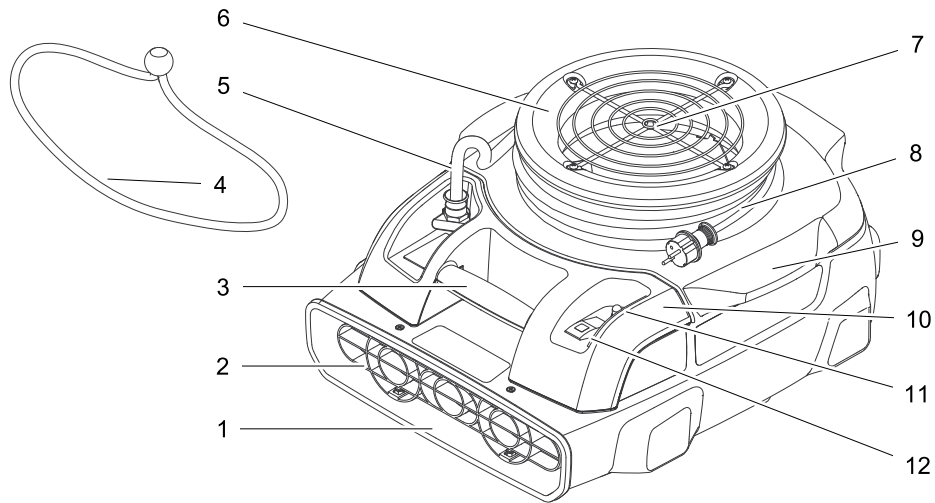
- Air blower to dry floors and walls for commercial use at construction sites and industrial sites.
- Building drying.
- Drying of water damage.
- Filter insert as an accessory.

### 4.2 Tools used

- Screwdriver T20
- Screwdriver T15
- Flat pliers

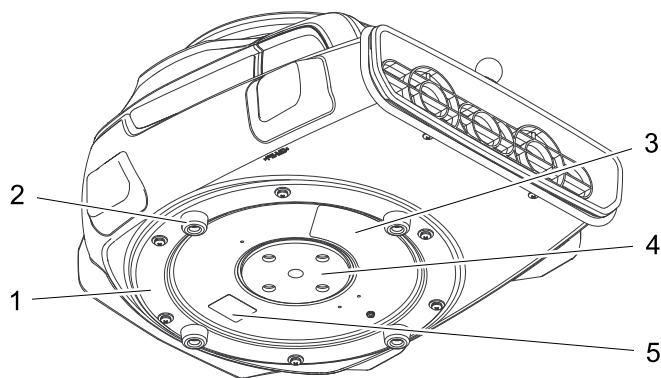
## 5 Parts of the system

### 5.1 Device overview AB 20



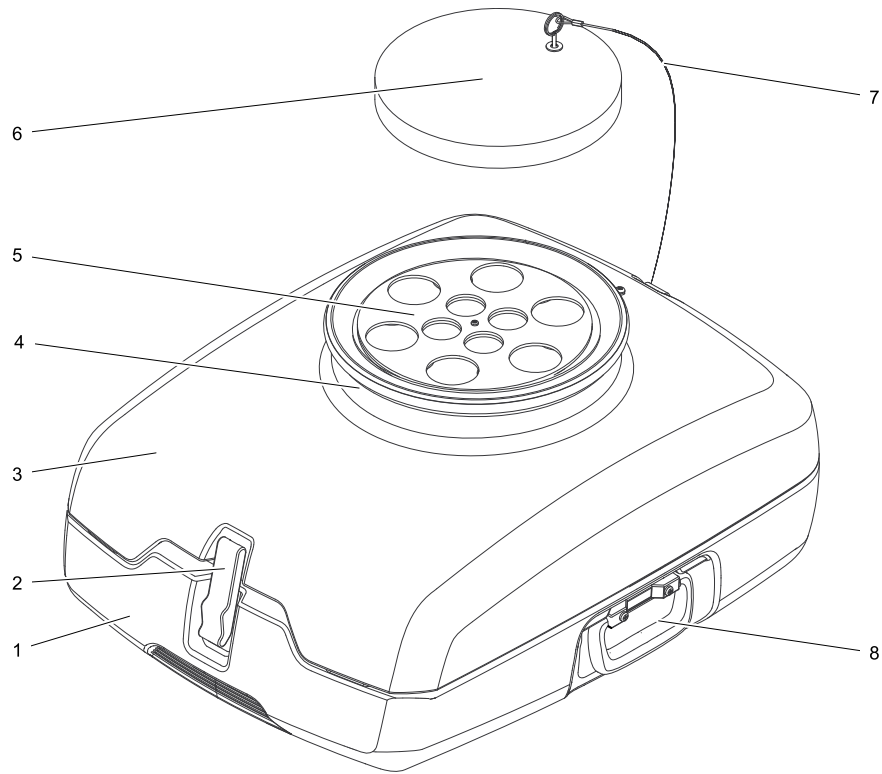
- |                          |                                |
|--------------------------|--------------------------------|
| 1 Air outlet opening     | 7 Protective grid of fan wheel |
| 2 Blower protective grid | 8 Cable coiling                |
| 3 Carrying handle        | 9 Machine casing               |
| 4 Rubber band            | 10 Electric casing             |
| 5 Supply Cord            | 11 Overload fuse               |
| 6 Air suction opening    | 12 Power switch                |

### 5.2 AB 20 - view from below



- |                             |
|-----------------------------|
| 1 Motor support             |
| 2 Rubber foot               |
| 3 Warnings                  |
| 4 Bottom air outlet opening |
| 5 Nameplate                 |

### 5.3 Device overview Afd



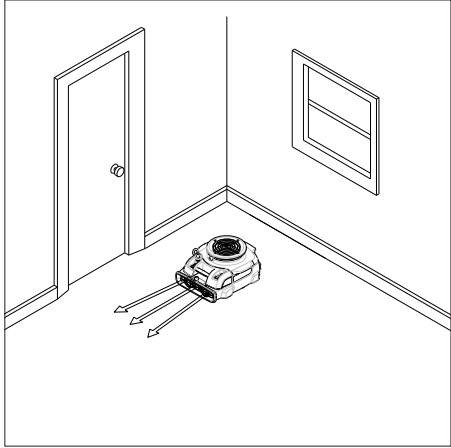
- 1 Bottom filter casing
- 2 Lid cap
- 3 Top filter housing
- 4 Cable coiling
- 5 Regulating disc
- 6 Closing head
- 7 Safety rope (safety device)
- 8 Transport handle, retractable

## 6 Function

This appliance dries surfaces, walls and floor coverings with a constant air stream. The air features room temperature - it is not heated inside the appliance.

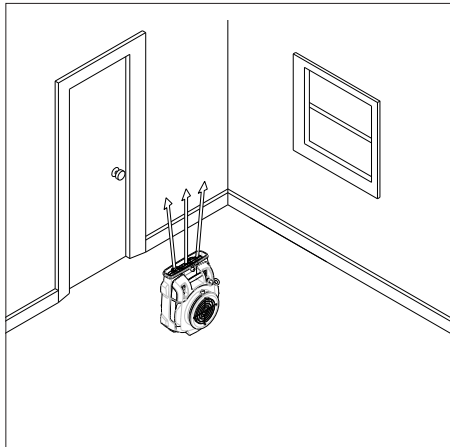
### 6.1 Working positions

#### 6.1.1 Horizontal working position



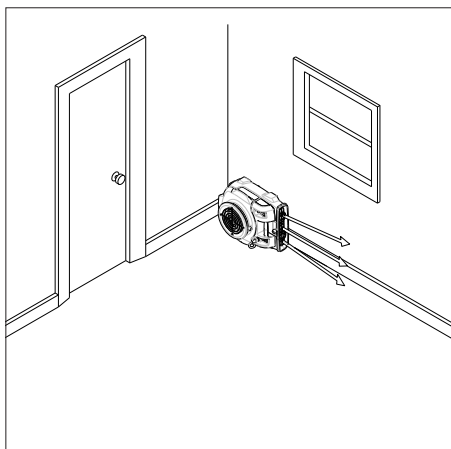
For drying floors.

#### 6.1.2 Vertical working position



For drying ceilings.

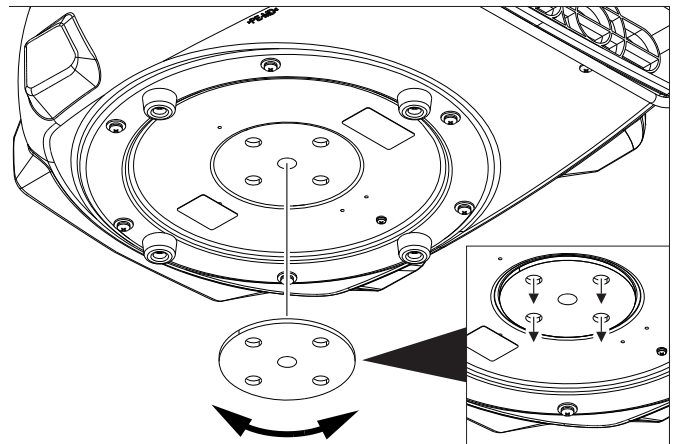
#### 6.1.3 Side working position



For drying walls.

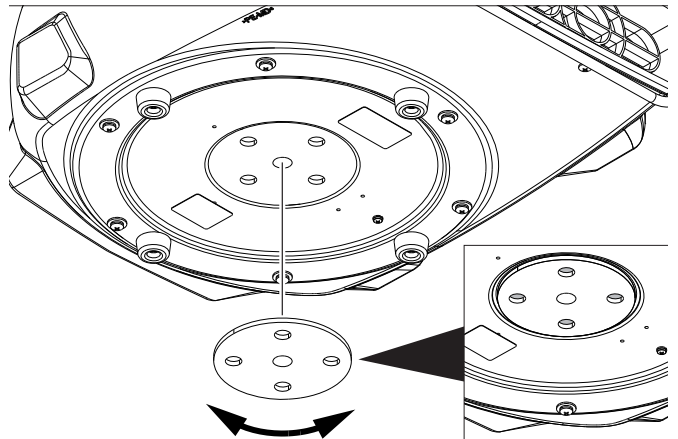
### 6.2 Air outlet on the bottom of the appliance

#### 6.2.1 Open the air outlet on the bottom of the appliance



→ Rotate the regulating disc so that the 4 air outlet bores are open.

#### 6.2.2 Close the air outlet on the bottom of the appliance



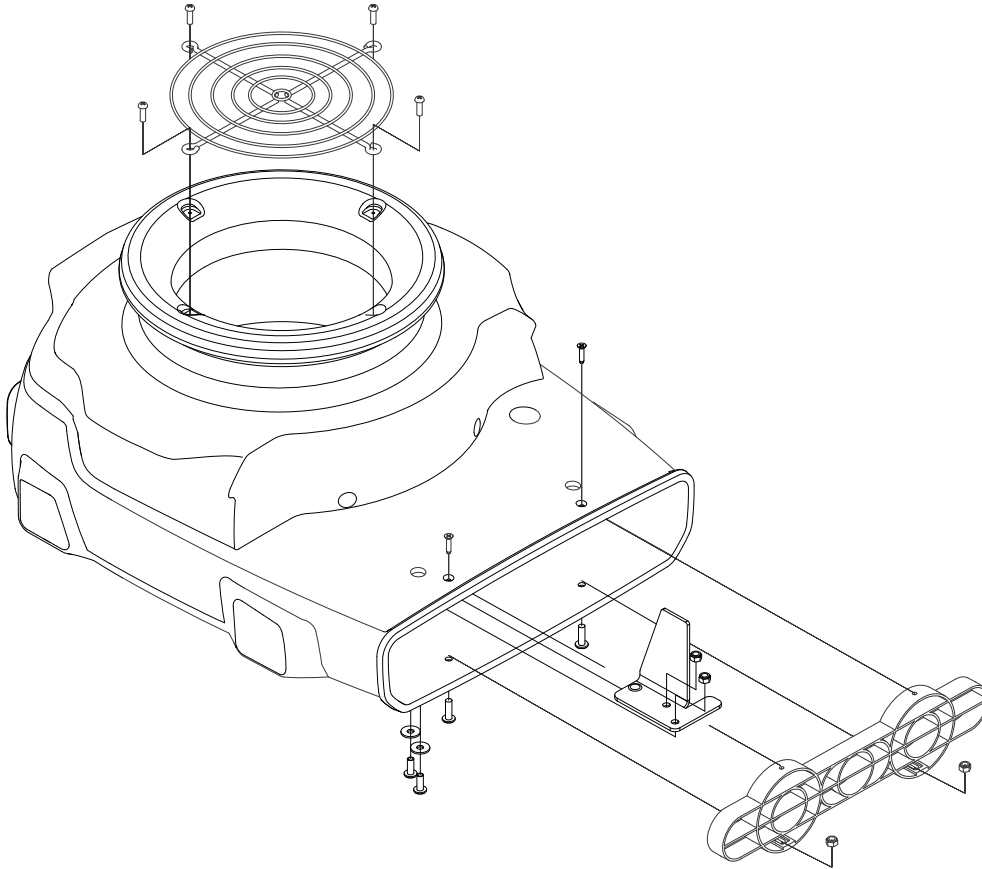
→ Rotate the regulating disc so that the 4 air outlet bores are closed.

## 7 Basic settings and service procedures

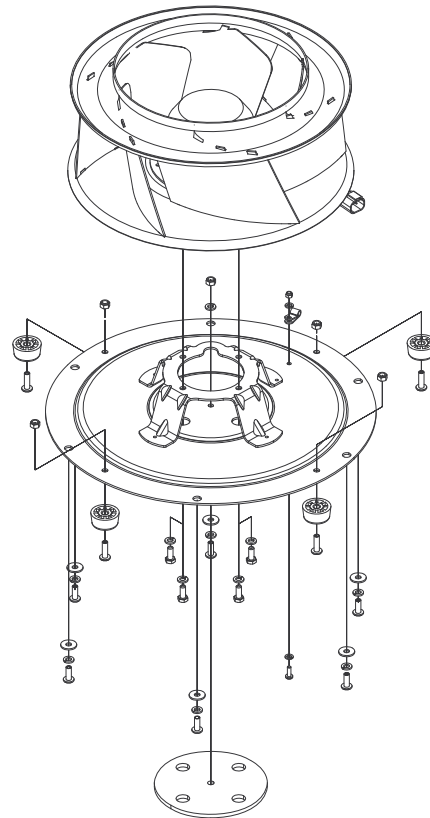
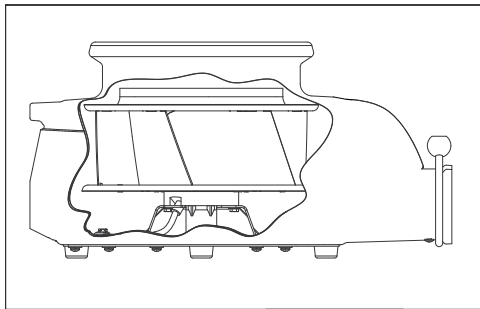
**⚠ Danger**

*First pull out the plug from the mains before carrying out any tasks on the machine.*

### 7.1 Component overview - casing

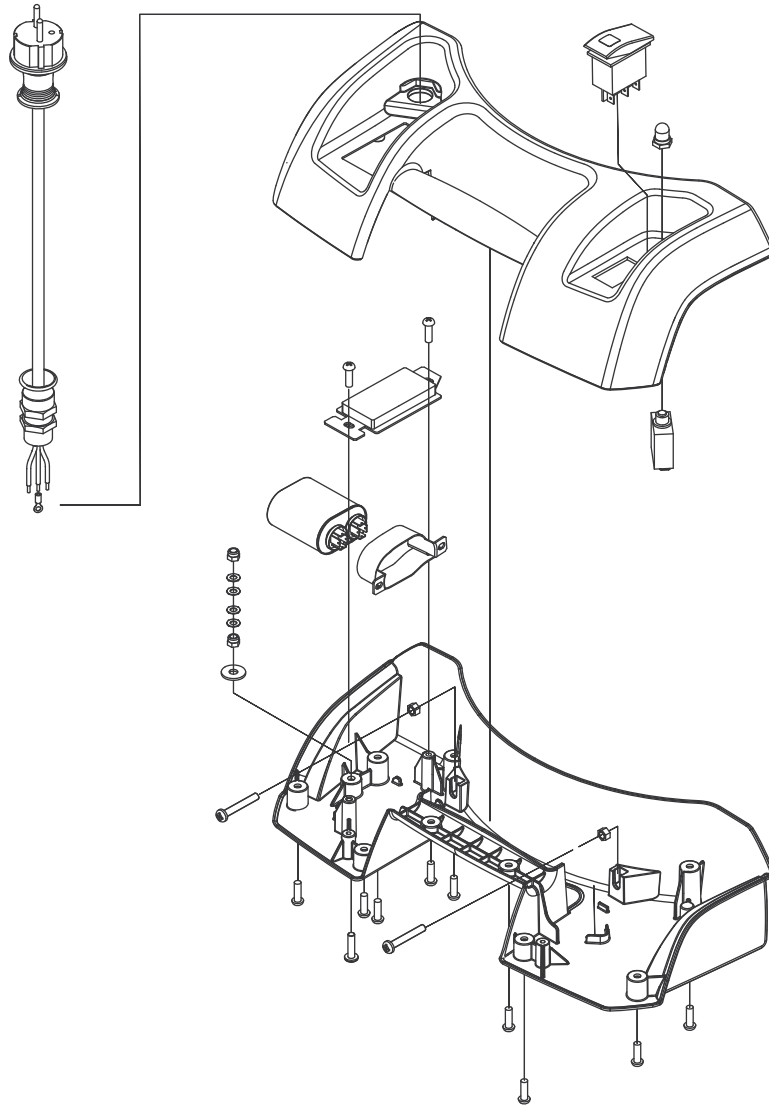


### 7.2 Component overview - motor support

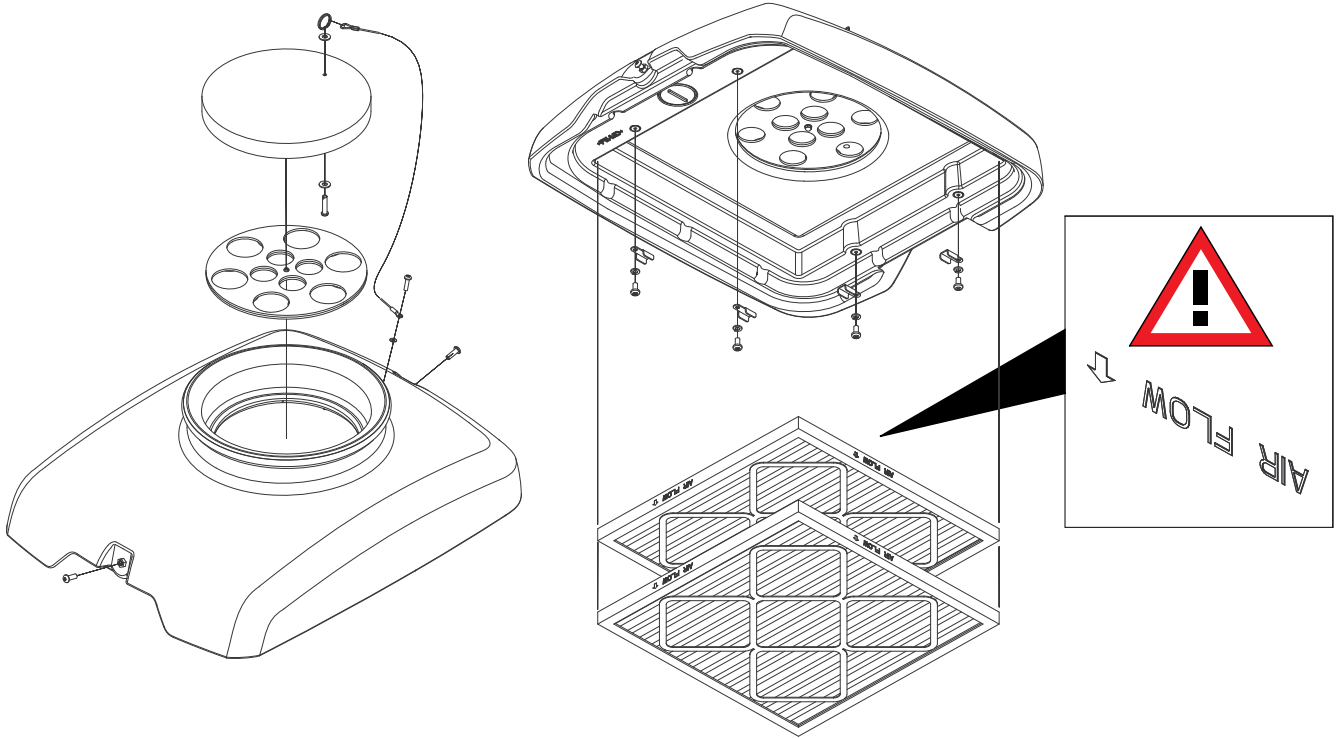




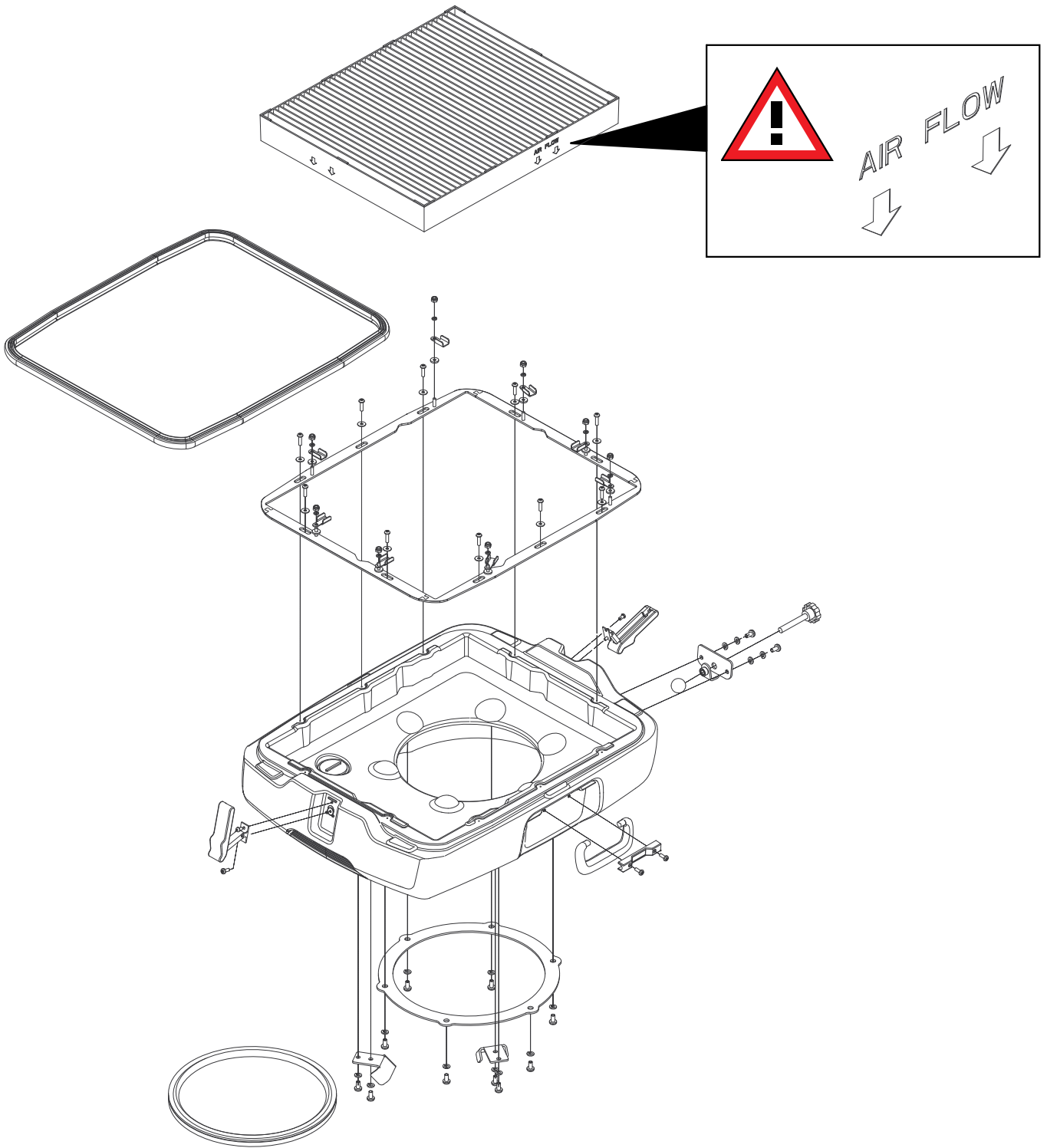
### 7.3 Component overview - electric casing



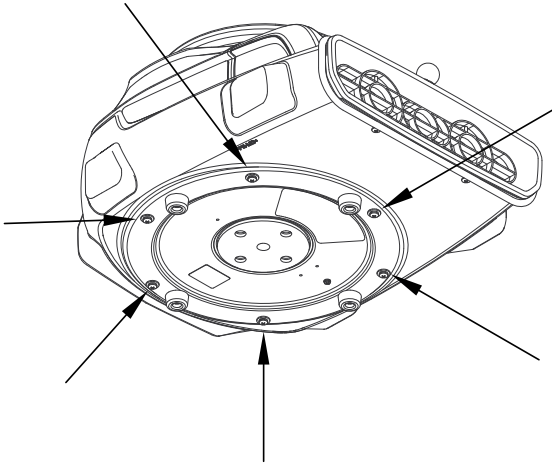
## 7.4 Component overview Afd - top



## 7.5 Component overview Afd - bottom



## 7.6 Remove the motor support



- Unscrew the screws of the motor support.
- Lift the motor support.



- Disconnect the connection plug.
- Remove the motor support from the appliance.

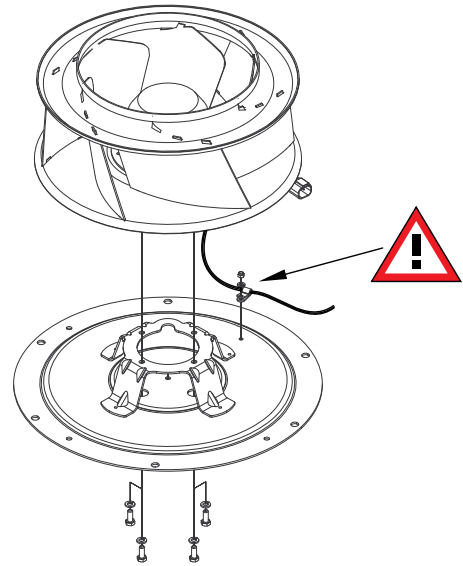


- Set the fan unit onto the rubber feet, not on the fan wheel.

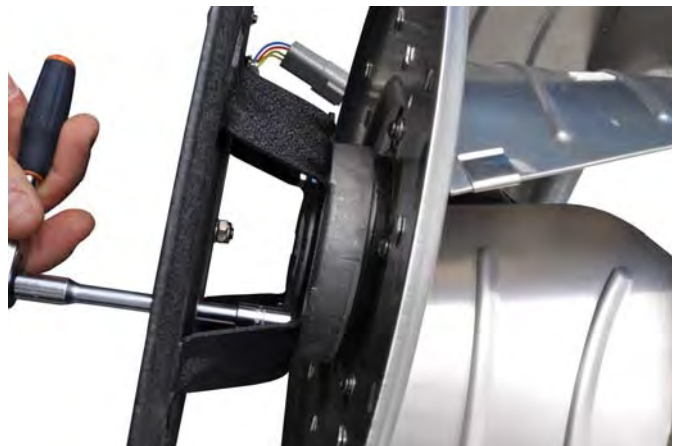
## 7.7 Remove the motor and the fan wheel

### ⚠ Warning

Risk of injury! Fan blades and wheel surfaces have sharp edges. Wear protective gloves during the installation and removal.



- Unscrew the cable holder screw



- Unscrew the screws of the fan wheel/motor on the motor support.

### Note

The screws can be accessed via the openings in the bottom air outlet opening (rotate disc until the screw heads are visible).



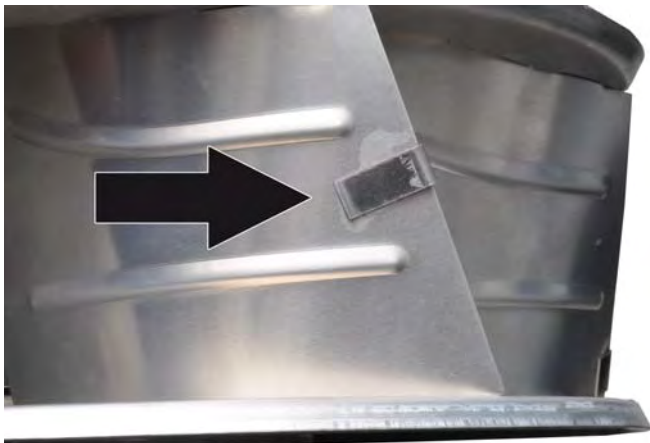
- Remove the motor support.



→ Unscrew the screws of the motor.



→ Remove the motor from the fan wheel.



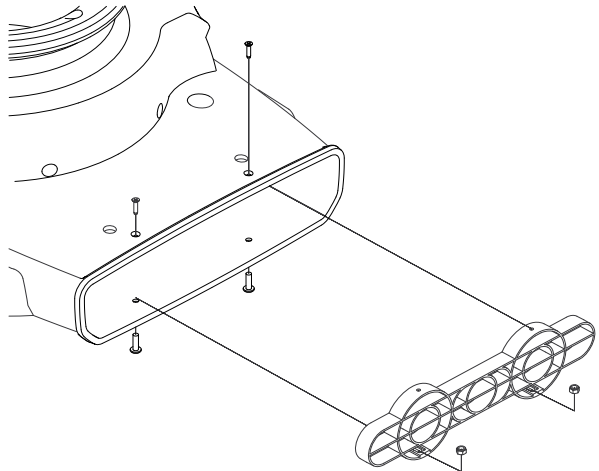
**Note**

The fan wheel is balanced. The weights (clamps) can be dropped during disassembly. Therefore, mark the position of the weights prior to removal.

**7.8 Electric casing**

→ Remove the motor support

**7.8.1 Remove the blower protective grid**



→ Remove the top and bottom screws.

→ Remove the protective grid toward the front.

**7.8.2 Remove the electric casing**



→ Unscrew the nuts of the rear fastener.



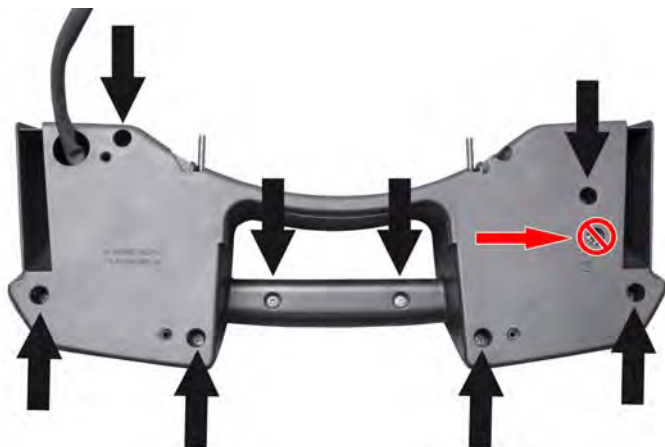
→ Unscrew the screws for the bottom fastener (in the air outlet channel).



→ Remove the electric casing.



### 7.8.3 Open the electric casing



→ Unscrew the casing screws.

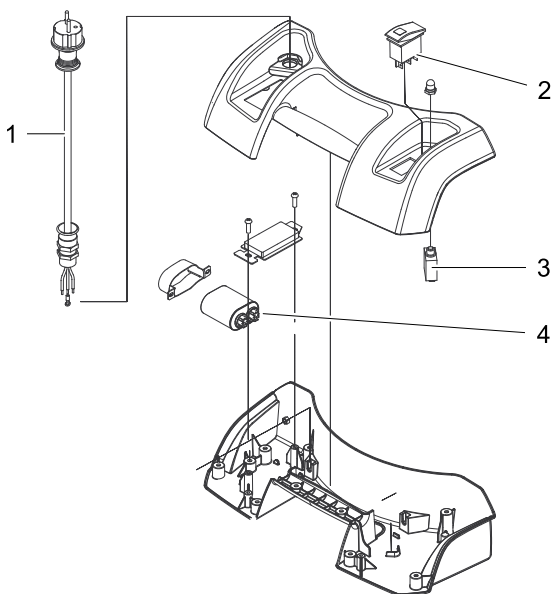
#### Note

Do **not** loosen the screw of the ground pin (protective conductor symbol)!

→ Carefully remove the top part of the casing (watch for the cables).

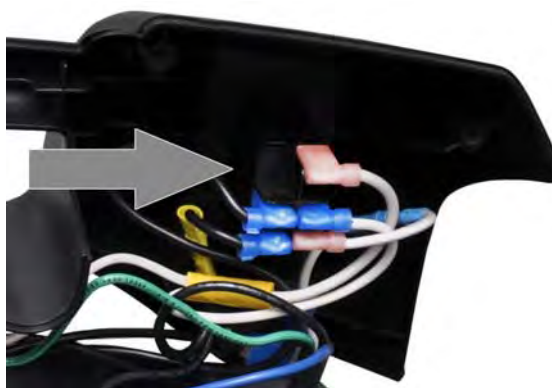
## 7.9 Electrical system

### 7.9.1 Components



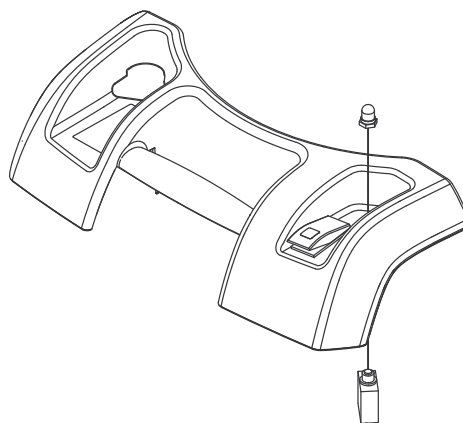
- 1 Supply Cord
- 2 Power switch
- 3 Overload fuse
- 4 Startup capacitor

### 7.9.2 Replace appliance switch



- Pull the connecting cable out on the appliance switch.
- Press the locking noses on the appliance switch together.
- Push the appliance switch out of the top of the housing.

### 7.9.3 Replace the overload fuse



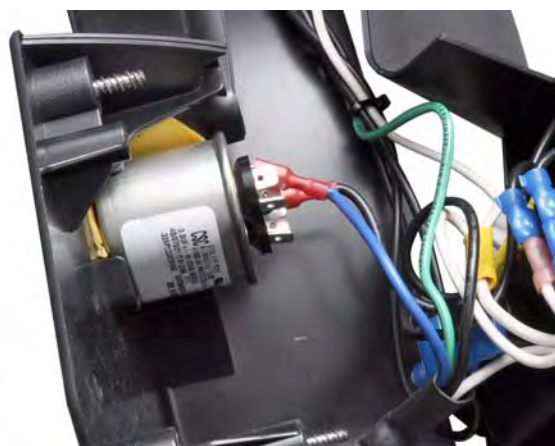
- Disconnect the connecting cable from the overload fuse.
- Unscrew the rubber cap.
- Pull the overload fuse out of the casing toward the bottom.

### 7.9.4 Replace the startup capacitor

#### ⚠ Danger

Risk of electric shock! Discharge the startup capacitor prior to removing it.

The startup capacitor is glued into the bottom part of the casing (double-sided tape).



- Pull the connecting cable from the startup capacitor.
- Remove the startup capacitor from the holder and dispose of it.
- Remove the tape residue.
- Affix double-sided tape to the holder.
- Glue in the new startup capacitor.
- Reconnect the connecting cables.

### 7.9.5 Replacing the mains cable

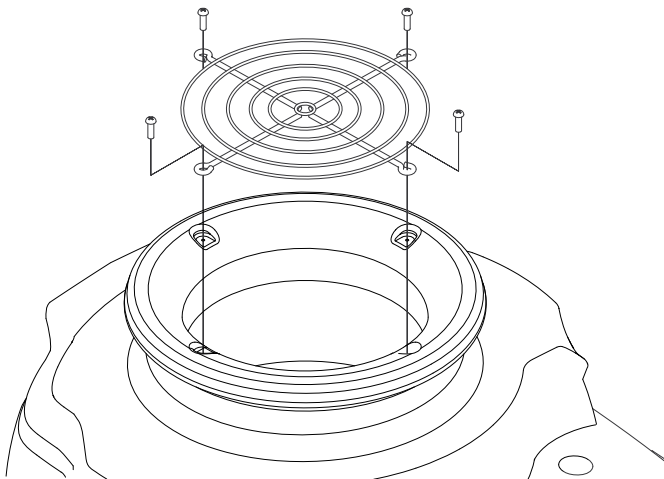
- Loosen the screw connection of the traction relief.
- Sever the crimper connector between the phase and the neutral conductor.



- Loosen the screw connection of the ground pin.
- Remove the PE cable.
- Pull the mains cable out of the casing.
- Route a new mains cable.
- Crimp the phase and neutral conductor with the appliance connectors.
- Connect the PE cables.
- Tighten the screw connection of the grounding pin.

### 7.10 Replace the protective grid of the fan wheel

Replace bent or damaged protective grids. If screw mandrils/insert have become loose, the appliance casing must be replaced.



- Unscrew the screws of the protective grid.
- Remove the protective grid.

### 7.11 Replace the Afd filter inserts

#### ⚠ Warning

Health risk on account of fine dust! Wear a respirator when replacing the filter inserts.



- Open the filter casing.

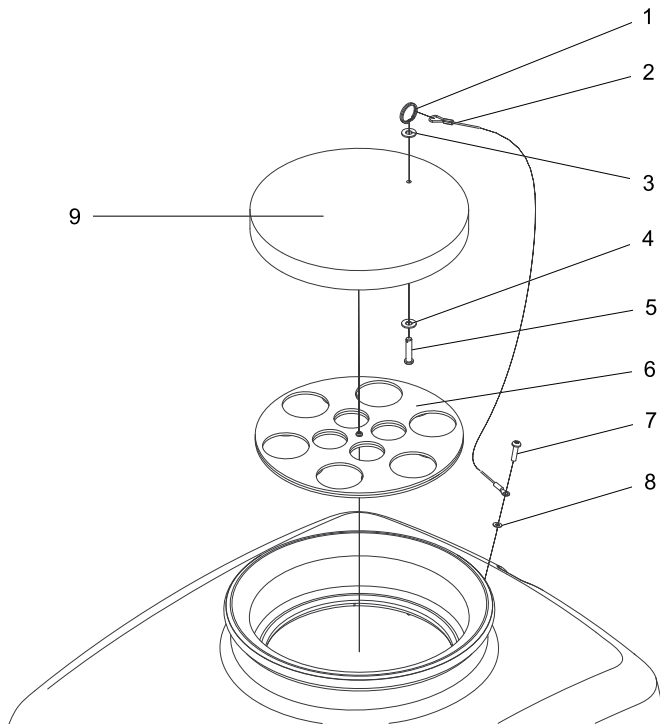


- Open the locks for the filter holder.
- Remove the filter inlay and replace it.



- Watch for the arrows for the flow direction when installing the filter inserts.
- Check the casing seals for damage, replace if required.

## 7.12 Replace cover lid and the safety rope of the safety device



- 1 Key ring
- 2 Securing rope
- 3 Disc
- 4 Disc
- 5 Bolts
- 6 Regulating disc
- 7 Screw
- 8 Disc
- 9 Closing head

- ➔ Remove the safety rope from the key ring.
- ➔ Remove the safety ring from the bolt.
- ➔ Unscrew the screw from the safety rope.
- ➔ Replace damaged cover lid.

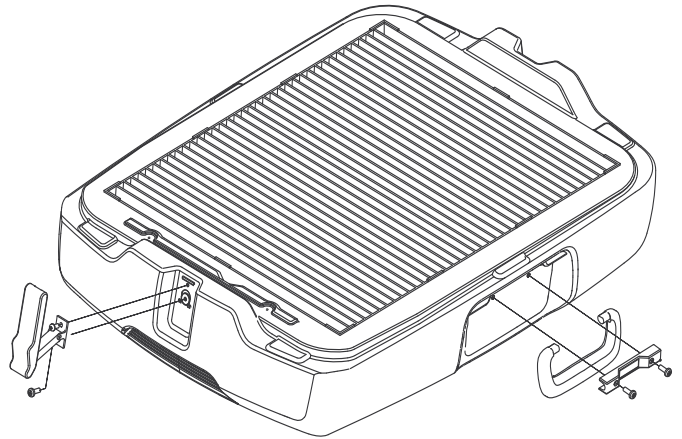
### **Note**

*The cover lid with damaged edges or bores may begin to leak and must be replaced.*

### **Note**

*The regulating disc cannot be repaired and must be replaced if damaged.*

## 7.13 Replace the carrying handle and the hood locks



- ➔ Unscrew the screws.
- ➔ Remove the carrying handle / hood lock.
- ➔ Watch for ease of movement during installation.



## 8 Maintenance and care

### **⚠ Danger**

*First pull out the plug from the mains before carrying out any tasks on the machine.*

- Check the blower grid daily for dirt and clean it.
- Clean regularly the surfaces of the device with a moist piece of cloth.

## 9 Troubleshooting

### **⚠ Danger**

*First pull out the plug from the mains before carrying out any tasks on the machine.*

#### **9.1 Blower is not working**

- Check the receptacle and the fuse of the power supply.
- Check the power cable and the power plug of the device.
- Overload protection has been triggered. Actuate the overload protection.
- Turn on the appliance.

## 10 Technical Documentation

Appliance type	Appliance no.:	Circuit diagram	Operating instructions	Spare parts list
AB 20 *EU	1.004-045.0	8.636-100.0	5.964-642.0	5.971-593.0

### 10.1 Technical specifications

Voltage	V	230
Frequency	Hz	50
Current type	--	1~
Length	mm	571,5
Width	mm	469,9
Height	mm	304,8
Weight	kg	11,0
Cable length	m	7,62
<b>Data without filter Afd</b>		
Power	W	113,5
Air volume (max.)	m <sup>3</sup> /h	1115
Speed	1/min	1355
<b>Data with filter Afd</b>		
Power	W	106,5
Air volume (max.)	m <sup>3</sup> /h	554
Speed	1/min	1370
<b>Values determined to EN ISO 3744</b>		
Sound pressure level L <sub>pA</sub>	dB(A)	66,9
Uncertainty K <sub>pA</sub>	dB(A)	1

### 10.2 Special tools

There are no special tools necessary.

### 10.3 Torques

No data.

## 10.4 Circuit diagram

The status of the attached circuit diagram represents the creation date of the service manual. This circuit diagram is not updated. When working on the device, please always use the current circuit diagram in DISIS.

