Silent

Nr. 2921-0000 / 2921-1000 / 2921-2000

Bedienungsanleitung
Instruction manual • Mode d´emploi
Istruzioni d'uso • Instrucciones para el servicio
Инструкция по эксплуатации
取扱説明書 • 사용설명서

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Silent
No. 2921-xxxx

ENGLISH

Introduction

We are pleased with your decision to purchase *Silent* laboratory dust extractor.
This device sets a new standard with regard to functionality, performance, and ergonomics.

Please read the following operating instructions carefully and observe the information they contain in order to ensure a long and trouble-free service life.

Symbology

The following symbols are employed in these instructions and on the unit itself:

Danger
This indicates a direct risk of injury.

Electrical current
This indicates a hazard due to electrical current.

Attention
Failure to observe the associated information can result in damage to the unit.

Note
This provides the operator with useful information to make working with the unit easier.

Only intended for indoor use.

Before opening the unit, disconnect it from the mains power supply by unplugging the power cord from the wall outlet.

Burn hazard
Hot surface or objects.

Possibly explosive materials hazard.

Fire-promoting materials hazard.

Flammable materials hazard.

Observe the operating instructions.

Other symbols are explained as they occur.

Information for Operators

Using these operating instructions as a starting point, instruct all operators of the unit with regard to the area of application, the possible hazards during operation, and the proper operation of the dust extractor.

Please have these operating instructions readily available for the operators.
Additional information can be found in the Section,
"Information for Operators",
at the end of these instructions.

Operating Instructions

1. Setup and Commissioning

1.1 Setup

Remove the unit and all accessories from the shipping package.
Inspect the delivery for completeness (refer to the "Standard Delivery" Section).
The unit is fully operational upon delivery.

Select a setup location for the *Silent* where the exhaust air vent is not blocked.

Where the unit is to be installed in a cabinet, an opening with the following minimum dimensions must be provided:

- Circular opening: Diameter at least 120 mm
- Rectangular opening: At least 170 x 65 mm.

The *Silent* is a free-standing unit intended to be set up on the floor (e.g., under a workbench).

Particularly after installation of the roller set (refer to the accessories list), the dust extractor may only be operated if it is standing on the floor.

1.2 Connection to the Extraction Point

Use the included suction hose to connect the unit to the extraction point.

- Push the suction hose onto the extractor connection fitting on the dust extractor (Figure 1).
- Connect the suction hose to the desired extraction point (e.g., sandblasting unit, dry trimmer, extractor clamp, etc.).

Using extractor switches, several extraction points can be connected to a single dust extractor, if necessary, with the aid of hose fitting adapters (refer to the accessories list).

Never operate the *Silent* without a suction hose.

Avoid steep pitches or hanging points along the hose path. Never kink the hose and make sure it is never stretched or under tension when connected.

1.3 Electrical Connection

Before connecting the unit to the wall outlet, make sure the voltage information on the nameplate corresponds to your local power supply.

- Unroll the power cord.
- Press the OFF switch (Figure 2a) to make sure the dust extractor is switched off.
- Plug the power cord into the wall outlet (Figure 3).

The *Silent* is now ready for continuous operation.

1.4 Connection of Electric, Dust-Generating Equipment

When connecting electrically operated equipment to the dust extractor, please observe the operating instructions and safety information provided with the equipment.

The unit power outlet is to be used only for connecting electric, dust-generating devices to be operated in conjunction with the dust extractor.

The unit power outlet is live once the *Silent* has been connected to the power supply – even when the *Silent* is switched off. This allows connected devices to be operated without extraction for brief periods.

Power consumption of all devices connected to the unit power outlet may not exceed the rated value printed next to the unit power outlet.

The *Silent* can be operated in either the continuous or automatic mode.

In the automatic mode, extraction starts automatically when a connected electric device is switched on.

For this, the dust-generating device is connected to the unit power outlet on the back of the dust extractor (Figure 4a).

Section D.2 at the end of these instructions offers information concerning electrical systems employing different power plug designs.

2. Operation

2.1 Operating Elements (Figure 5)

(A) OFF switch

(B) ON switch

(C) Automatic mode LED indicator

(D) Continuous / automatic operating mode selector switch

(E) Continuous mode LED indicator

(F) Extraction force / activation sensitivity adjustment switch

(G) 7-character extraction power / activation sensitivity display

(H) Extraction force / activation sensitivity adjustment switch

(K) "Change Filter" LED indicator

2.2 Switching the Unit ON / OFF

The *Silent* is switched on at the ON switch (B) (Figure 2b), and off at the OFF switch (A) (Figure 2a). Extraction starts and stops in conjunction with the selected operating mode (continuous operation or automatic operation).

The operating mode selected when the unit is switched off is saved if the unit was running in the selected mode for longer than approx. 5 sec. When the unit is again switched on, it automatically starts in the saved mode.

2.3 Adjusting and Displaying the Extraction Force

The *Silent* can be adjusted to provide 9 levels of varying extraction force. This permits the unit's performance to be precisely matched to different types of materials being extracted.

The extraction force setting is shown on the display (G) (displayed values from 1 to 9). The extraction force can be increased or decreased with the adjustment switches (F) and (H).

Increase the extraction force.

Decrease the extraction force.

2.4 Continuous Operation ∞

In the continuous mode, the extractor runs as soon as the unit is switched on, regardless of any connected devices or extraction points.
The operating mode selector switch (D) is used to switch between the “continuous” and “automatic” operating modes.
The selected operating mode is indicated by the LEDs (C) and (E).

Automatic mode, LED (C)

∞ Continuous mode, LED (E)

Continuous operating mode selection:
- Switch the *Silent* on (Figure 2b).
- If the continuous mode was selected when the unit was last switched off, the dust extractor will already be in the continuous mode. LED (E) will go on and the unit will start.
- If the unit was in the automatic mode when it was last switched off, it will restart in the automatic mode and LED (C) will go on.
- Press and hold switch (D), until the continuous mode LED (E) goes on and the extractor starts.

The extractor is started and stopped with the ON (B) and OFF (A) switches or by switching to the automatic mode with switch (D).

2.5 Automatic Mode

In the automatic mode, extraction only starts when a connected device is started or operated.
Selecting the automatic mode:
- The device has been connected to the *Silent* as described in Sections 1.2 and 1.4.
- Switch the *Silent* on (Figure 2b).
- If the unit was in the automatic mode when it was last switched off, it will restart in the automatic mode and LED (C) will go on.
- If the continuous mode was selected when the unit was last switched off, the dust extractor will still be in the continuous mode. LED (E) will go on and the unit will start.
- Press and hold switch (D), until the automatic mode LED (C) goes on. The extractor switches off.
- The extractor starts as soon as you begin operating the dust-generating device.
- After the dust-generating device is switched off, the *Silent* continues to run for approx. 5 sec., then stops automatically.

2.6 Adjusting the Automatic Start Feature

In the automatic mode, the *Silent* is switched on and off by and automatic start system.
This feature reacts to the current consumed by an electric device plugged into the unit power outlet (Figure 4a).
If the current exceeds the activation threshold set at the *Silent*, extraction starts. If the current drops below this activation threshold, extraction stops.
The activation threshold can be adjusted in 10 level of sensitivity (0 to 9) to allow the automatic start feature to be optimally matched to different connected devices.

2.6.1 *Silent* Fails to Start in the Automatic Mode

If extraction fails to start as desired in the automatic mode (e.g., when a sandblasting unit is switched on or when a pin drill is being operated), the current activation threshold is probably set too high.
In this case:
- Switch the connected device on and run it;
- Press and hold the operating mode selector switch (D) for 3 sec.;
  Both LED (C) and (E) will begin flashing and the display flashes “0”;
  Extraction starts;
- Press the operating mode selector switch (D) to save the new activation threshold value of “0”.

2.6.2 *Silent* Starts in the Automatic Mode, Although it Shouldn’t

Some electric devices consume current immediately upon being switched on even though no work is being performed. For example, pin drills will immediately begin consuming current to run their laser equipment even if no actual drilling is being done.
In these cases, extraction may start even though you are not yet working with the connected device.
In order to adjust the *Silent* so that it does not start until work is actually being performed:
- Switch the connected device on, but do not yet run it;
  Extraction starts;
- Press and hold the operating mode selector switch (D) for 3 sec;
  Both LED (C) and (E) will begin flashing and the display flashes “0”;
- Press switch (H) (+) to increase the activation threshold in stages until extraction stops;
- Press the operating mode selector switch (D) to save the new activation threshold.

When devices which immediately begin consuming current are switched on, even if no work is being performed with them (e.g., pin drills or handheld instruments), activation pulses can cause the extraction to briefly start. The *Silent* will automatically stop after approx. 5 sec. If this is not the case, the threshold value can be readjusted as described in Section 2.6.2.

Some older handheld instruments do not generate a sufficiently strong signal for the automatic start feature. For these devices, extraction cannot be operated in the automatic mode.

Various devices alter their current consumption once they reach their intended operating temperature. It may therefore be necessary to subsequently readjust the activation threshold setting.

2.7 "Change Filter" - Indicator

If LED (K) goes on, this indicates that the filter should be changed. An acoustic signal will also sound three times in this case.
This indicator applies to both the dust bag as well as the fine particle filter.
In this case, replace both filters as described in the "Cleaning/Maintenance" Section.

If the dust extractor continues to be used after the "Change Filter" indicator goes on, it will automatically stop once the airflow drops below a predefined minimum value. This prevents the motor from overheating under extreme extraction loads.
The indicator can be turned off by switching the *Silent* OFF and ON, thus restarting extraction.

Operating the unit with a blocked filtration system can result in hazards and damage to the extractor. Filters must be replaced if the extractor stops due to a full filter.

2.7.1 Setting the "Change Filter" Indicator Signal Threshold

The "Change Filter" indicator goes on once the airflow drops below an adjustable threshold value.
The operator can alter this threshold when, for example, a dust-generating device whose extraction fitting has a very small cross-section is connected to the *Silent*. In this case, the "Change Filter" indicator would come on too soon.
Ideally, two individuals are required to perform this adjustment.
This adjustment may only be made with a new dust bag and a new fine particle filter installed.

An incorrect threshold value adjustment may result in a failure of the unit to recognize a full dust bag which, in turn, can result in the dust bag rupturing.
Depending on the material in the bag, this may lead to hazards for the operator. In addition, the dust extractor may be damaged:

- Switch the *Silent* off;
- Partially block the suction fitting or the suction hose to reduce the airflow, thus simulating a full dust bag;
- Simultaneously press and hold the three switches (D), (F), and (H) and switch the *Silent* on (Figure 6);
  A "C" will appear on display (G);
  The dust extractor measures the airflow and saves this value as the activation threshold;
  The Silent then goes into the operating mode that was set when the unit was last switched off (continuous or automatic mode), and the current extraction level is indicated on the display.

The more the suction fitting is closed during the adjustment, the later the "Change Filter" indicator will subsequently be activated.

2.8 Diagnostics Mode

The dust extractor is equipped with a diagnostics mode which checks various functions and displays errors on the display (G).

Before performing a diagnostics procedure, install a new dust bag and make sure the fine particle filter is clean and the suction hose is free of any material.

Activating the diagnostics mode:
- Switch the *Silent* off;
- Press and hold the operating mode selector switch (D) and switch the dust extractor on (Figure 7a).

In the diagnostics mode:
- All indicator elements go on for approx. 3 sec. to permit a visual inspection of their proper function and the "Change Filter" indicator's signal generator emits an acoustic signal.
- A "d" appears on the display during the unit's self-test (Figure 7b). During this time, the unit's electronics check various internal elements and functions. The suction turbines will briefly run at Level 1 during this test phase.
- If no errors are detected, the dust extractor automatically goes into the previously selected operating mode at the end of the self-test (after approx. 10 sec.).
- If an error is detected during the self-test, a flashing "E" will appear on the display, together with a number (1 to 3).

These indicate:
- E1: Airflow sensor fault; have the unit repaired.
- E2: Plug on grey motor wire out of its socket (Figure 26a) or suction turbine fault. Replace suction turbine if necessary (refer to the spare parts list).
- E3: Error in the electronics; have the unit repaired.

In this case, the dust extractor remains in the diagnostics mode until it is switched off at the OFF switch (A).

3. Cleaning / Maintenance

Always unplug the unit from the wall outlet before beginning any cleaning or maintenance tasks.

Examine the power cord regularly, but at least annually, for damage or signs of aging. Immediately replace damaged power cords.

3.1 Seals

To ensure the proper function of the dust extractor, it is vital that the following three seals:
- Profile seal on the dust drawer (Figure 12a);
- V-ring seal on the dust drawer (Figure 12b);
- Seal on the upper front panel (Figure 20);

are not damaged.
Inspect these seals when replacing the associated filters and replace them if they are found to be damaged (refer to the spare parts list).

3.2 Replacing the Dust Bag

The dust extractor may only be operated with a complete filtration system. The dust bag must be immediately replaced with a new one as soon as the “Change Filter” indicator goes on.

⚠ **Failure to replace the dust bag may result in it’s rupturing. Depending on the material in the bag, this may lead to hazards for the operator. In addition, the dust extractor may be damaged.**

- Pull the front panel forward and off (Figure 8).
- Pull the dust drawer out towards the front (Figure 9).
- Leave the dust bag in the dust drawer and take it to the disposal location.
- Seal the dust bag by pulling on the tab labelled “TOP” (Figure 10).
- Remove the dust bag from the drawer and dispose of it properly.

⚠ **Always comply with all local ordinances governing proper disposal and accident prevention!**
Depending on the filter contents, protective clothing may be required.

- Insert a new dust bag in the dust drawer, being careful to ensure that the dust bag is properly aligned in the guide grooves (Figure 11) and the “TOP” label faces up.

❗ **Use only original Renfert dust bags (refer to the spare parts list).**

- Inspect the dust drawer seal for damage and replace it, as required (Figure 12a, b).
- Insert the dust drawer, making sure it is straight, and push it fully against its stops. Make sure the dust drawer is seated correctly on the guide (Figure 13).
- Install the front panel on the bottom hooks first (Figure 14), then push it into the upper lock bolts, pressing firmly until it locks in place (Figure 15).

3.3 Filters

⚠ **NEVER operate the dust extractor without the complete filtration system.**

3.3.1 Replacing the Fine Particle Filter

Examine the fine particle filter regularly, but at least annually, and replace it. It must always be replaced if the “Change Filter” indicator (K) continues to go on, despite the dust bag having been replaced.

- Pull the front panel forward and off (Figure 16).
- Turn the fine particle filter anticlockwise to release it (Figure 17).
- Pull the fine particle filter straight forwards and out of the unit (Figure 18) and dispose of it properly.

⚠ **Always comply with all local ordinances governing proper disposal and accident prevention!**
Depending on the filter contents, protective clothing may be required.

- Install a new fine filter and fully insert it over the holder bar (Figure 19).

❗ **Use only original Renfert fine particle filters (refer to the spare parts list).**

- Turn the fine particle filter clockwise and hand-tighten it in place (Figure 17).
- Inspect the seal on the front panel for damage and replace it, as required (Figure 20).
- Snap the front panel in place (Figure 21, 22).

3.3.2 Replacing the Exhaust Filter

The exhaust filter primarily traps particles rubbed off the suction turbine graphite brushes. The filter should be replaced annually:

- Press on the four lock tabs on the filter cassette and pull the cassette down and off the unit (Figure 23).
- Properly dispose of the filter and the filter cassette.

⚠ **Always comply with all local ordinances governing proper disposal and accident prevention!**
Depending on the filter contents, protective clothing may be required.

- Insert a new filter mat in the filter cassette so that the smooth, compressed side of the filter mat faces down or outwards when the filter is installed.
- Install the new filter cassette on the exhaust air vent.
- Make sure the filter cassette is properly seated and locked in place on all four tabs.

❗ **Use only original Renfert exhaust filters (refer to the spare parts list).**

3.3.3 Replacing the Electronics Filter

Cooling air for the unit’s electronics passes through the electronics filter. The type of material trapped by the filter and the degree of contamination depend on the ambient laboratory conditions.
The filter should be examined annually and replaced, as necessary:

- Press on the two lock tabs on the filter cassette and pull the cassette off towards the rear of the unit (Figure 24).
- Properly dispose of the filter and the filter cassette.

⚠ **Always comply with all local ordinances governing proper disposal and accident prevention!**
Depending on the filter contents, protective clothing may be required.

- Install a new filter cassette and filter on the opening.
- Make sure the filter cassette is properly seated and locked in place on both tabs.

❗ **Use only original Renfert electronics filters (refer to the spare parts list).**

3.4 Replacing the Fuses

⚠ **Before replacing any fuses, disconnect the unit from the mains power supply by unplugging the power cord from the wall outlet.**

The dust extractor is equipped with two fuses that protect the unit against overloads (Figure 4b).
Only replace fuses with new ones that have the same rating as those being replaced. Refer to the "Technical Specifications" Section.

⚠ **Never use fuses with a higher rating.**

Extraction units operating with 120V and 100V are not equipped with replaceable fuses.

Instead, two device overload switches, T12A (Figure 4b) are provided to protect these units.
Press the white button to reset a switch which has tripped.

3.5 Replacing the Suction Turbine

The suction turbine is encased in an encapsulating housing to form a single unit, thus allowing it to be easily replaced without the need for any tools.

Before opening the unit, disconnect it from the mains power supply by unplugging the power cord from the wall outlet.

The motor may be hot. Allow the motor to cool off before proceeding.

The suction turbine may only be operated when it is installed in the unit. Only an authorized electrician may perform a functional inspection of or repair the unit.

- Loosen and remove the two knurled nuts on the back of the unit (Figure 25).
- Remove the cover.
- Pull the plug on the grey motor wire out of its socket (Figure 26a).
- Loosen the two internal, grey knurled nuts (Figure 26b) and unscrew them approx. 1 cm. These knurled nuts do not need to be completely removed.
- Release the suction turbine by turning it anticlockwise, then pull it straight out towards the back (Figure 27).
- Install the new suction turbine (Figure 27) by pushing it in straight and turning it clockwise to lock it in place (Figure 28). The connecting wire should be on top (Figure 27a).
- Tighten the internal knurled nuts (Figure 26b).
- Plug the motor wire into the socket (Figure 26a).
- Insert the cover tabs onto the lower edge of the housing (Figure 30) and close the cover.
- Secure the cover with the knurled nuts (Figure 25).

Always comply with all local ordinances governing proper disposal and accident prevention!

3.6 Replacing the Exhaust Air Labyrinth

Dust from the suction turbine graphite brushes also settles on the walls of the exhaust air labyrinth. Over time, the labyrinth will become discoloured.

Before opening the unit, disconnect it from the mains power supply by unplugging the power cord from the wall outlet.

Replacing the exhaust air labyrinth:

- Loosen and remove the two knurled nuts on the back of the unit (Figure 25).
- Remove the cover.
- Pull the exhaust air labyrinth out towards the back.

Always comply with all local ordinances governing proper disposal and accident prevention!

- Install the new exhaust air labyrinth by pushing it in straight, making sure it is properly seated. The openings in the exhaust air labyrinth must face towards the rear (Figure 29).
- Insert the cover tabs onto the lower edge of the housing and close the cover.
- Secure the cover with the knurled nuts (Figure 25).

4. Spare Parts

Please refer to the enclosed spare parts list for the order numbers of spare parts.

5. Standard Delivery

1	*Silent* laboratory dust extractor
1	Operating instructions, with attachments
1	Spare parts list
1	Suction hose
1	Dust bag
1	Fine particle filter
1	Hose fitting adapter
1	Grounded wall plug (No. 2921-0000 only)

6. Delivery Versions

No. 2921-0000 *Silent*, 230 V, 50 Hz
No. 2921-1000 *Silent*, 120 V, 60 Hz
No. 2921-2000 *Silent*, 100 V, 50/60 Hz

7. Accessories

No. 2921-0002	Dust bag set (5 bags)
No. 2921-0001	Roller set
No. 2925-0000	Extractor clamp (w./o. glass pane)
No. 2925-1000	Glass pane, w. mounting (for the extractor clamp)
No. 2926-0000	Suction switch, incl. 4 mufflers (w./o. hose)
No. 2921-0003	Muffler set, 2 mufflers
No. 15-0823	Suction hose (by the metre)
No. 900034305	Hose fitting adapter
No. 933334240	Suction hose
No. 900034314	Y-junction

8. Error List

Error	Possible cause	Corrective action
Dust extractor stops suddenly, for no apparent reason.	• Dust extractor continued to be used, despite “Change Filter” indicator.	• Replace the dust bag (Sec. 3.2). Refer also to Sec. 2.7.
	• Unit fuse blown.	• Check fuse, replace as required (Sec. 3.4).
	• Motor over-temperature protector switch activated.	• Check dust bag and filter, replace as required.(Sec. 3.2 and 3.3) • Check exhaust air filter, replace as required. (Sec. 3.3.2). • Check whether suction hose is blocked. Remove obstruction as required. • Dust extractor can be restarted after being allowed to cool off for approx. 1 hour.
	• Plug on grey motor wire out of its socket or loose.	• Check plug (Figure 26a).
	• Suction turbine fault	• Run the diagnostics mode (Sec. 2.8). If an "E2" error is indicated, replace the suction turbine (refer to the spare parts list).
	• In-house fuse blown.	• Replace the in-house fuse. • Check the total power consumption of the dust extractor plus dust-generating devices.
The self-test returns a suction turbine error, even though the turbine is running.	• Filter full.	• Check dust bag and fine particle filter, replace as required.(Sec. 3.2 and 3.3.1)
	• Suction hose blocked.	• Remove obstruction from the suction hose.
	• Suction turbine fault	• Replace the suction turbine (Sec.3.5).
Insufficient extraction force.	• Extraction force level too low	• Increase the extraction level (Sec. 2.3).
	• Filter blocked.	• Check dust bag and fine particle filter, replace as required.(Sec. 3.2 and 3.3.1)
	• Suction hose blocked.	• Remove obstruction from the suction hose.
	• Dust drawer seal not tight.	• Check the proper seat of the dust drawer (Sec. 3.2). • Check the dust drawer seal for damage and replace as required (Sec. 3.1).
	• Upper front panel fails to close properly.	• Check the proper seat of the upper front panel (Sec. 3.3.1). • Check the upper front panel seal for damage and replace as required (Sec. 3.1).
	• Suction hose damaged.	• Inspect the suction hose and replace as required.
“Change Filter” indicator goes on shortly after filters were replaced.	• Fine particle filter blocked.	• Replace the fine particle filter (Sec. 3.3.1).
	• Suction hose blocked.	• Remove obstruction from the suction hose.
	• Cross-section of the dust-generating device’s hose fitting is too small.	• Adjust the “Change Filter” indicator signal threshold (Sec. 2.7.1).
	• Dust is too fine.	• Adjust the “Change Filter” indicator signal threshold (Sec. 2.7.1).
Dust bag ruptures.	• The “Change Filter” indicator’s sensitivity has not been adjusted for the material being extracted.	• When adjusting the “Change Filter” indicator signal threshold (Sec. 2.7.1), do not block the hose fitting or hose cross-section as much.

Error	Possible cause	Corrective action
Dust extractor fails to start when a dust-generating device is being used.	• Dust extractor not switched on. • Dust-generating device not plugged into the unit power outlet on the *Silent*. • Wrong operating mode selected. • Automatic start feature's threshold value too high. • Device fuse has blown. • Automatic start feature fails to detect the attached device's operation.	• Switch the dust extractor on (Sec. 2.2). • Connect the dust-generating device to the *Silent* (Sec. 1.4). • Select the automatic mode (Sec. 2.5). • Adjust the automatic start feature (Sec. 2.6). • Check the fuse, replace as required.(Sec. 3.4) • Some older handheld instruments do not generate a sufficiently strong signal for the automatic start feature. Switch the dust extractor to the continuous mode.
Dust extractor starts, although a connected device is not being used.	• Automatic start feature's threshold value too low.	• Adjust the automatic start feature (Sec. 2.6).
Dust extractor fails to stop when a connected device is switched off.	• Dust-generating device not plugged into the unit power outlet on the *Silent*. • Wrong operating mode selected. • Activation threshold too low.	• Connect the dust-generating device to the *Silent* (Sec. 1.4). • Select the automatic mode (Sec. 2.5). • Adjust the automatic start feature (Sec. 2.6).
No satisfactory setting of the automatic start feature can be adjusted.	• Some older handheld instruments do not generate a sufficiently strong signal for the automatic start feature.	• Switch the dust extractor to the continuous mode.
Extraction briefly starts up when the unit is switched on.	• Activation sensitivity too low.	• Adjust the automatic start feature (Sec. 2.6).
Panels covering the fine particle filter and the dust drawer are difficult to open.	• Lock bolts dirty.	• Clean the lock bolts and lubricate them slightly, if required.

Information for Operators

The following information is intended to assist you, the operator, in safely working with the *Silent* in your laboratory.

⚠ **Using these operating instructions as a starting point, instruct all operators of the unit with regard to the area of application, the possible hazards during operation, and the proper operation of the dust extractor.**

Please have these operating instructions readily available for the operators.

A. Application Area

The *Silent* is a workbench extractor used to extract dusts such as occur in laboratories, e.g., dental labs (e.g., as generated by dry trimmers or on dust boxes). The employed filter system shows a precipitation efficiency of 99.9%. This corresponds to dust category "M" (according to DIN EN 60335-2-69).

It is solely intended for commercial use in laboratories and not for private, household use.

The *Silent* can be operated both manually as well as in conjunction with connected, electric, dust-generating equipment.

One or more extraction points can be connected to the dust extractor. Suction switches – available as accessory equipment (refer to the "Accessories" Section) – are employed to connect multiple extraction points.

A.1 Proper Use

Proper use implies the extraction of dry, non-explosive dusts.

Fire-promoting, easily flammable, flammable, or explosive materials may not be extracted with the *Silent*.

The extraction of liquids, smouldering, or burning materials is prohibited.

A.2 Ambient Conditions

(in accordance with DIN EN 61010-1)

The unit may only be operated:

- Indoors;
- Up to an altitude of 2,000 m above sea level;
- At an ambient temperature range between 5 - 40ºC [41 - 104ºF] *);
- At a maximum relative humidity of 80% at 31ºC [87.8ºF], dropping in a linear manner to 50% relative humidity at 40ºC [104ºF] *);
- With mains power where the voltage fluctuations do not exceed 10% of the nominal value;
- Under contamination level 2 conditions;
- Under over-voltage category II conditions;

*) Between 5 – 30°C [41 – 86°F], the unit can be operated at a relative humidity of up to 80%. At temperatures between 31 – 40°C [87.8 – 104°F], the humidity must decrease proportionally in order to ensure operational readiness (e.g., at 35°C [95°F] = 65% humidity; at 40°C [104°F] = 50% humidity). The unit may not be operated at temperatures above 40°C [104°F].

B. Hazard and Warning Information

Only intended for indoor use. The unit is only designed for dry applications and may not be operated or stored outdoors or under wet conditions.

The *Silent* laboratory dust extractor is an electric device and, as such, carries with it a certain inherent potential hazard. The unit may not be taken into service until any required alterations to comply with regionally specific power plug configurations have been made. Such alterations may only be performed by a qualified electrician.

The unit may only be operated if the information on the nameplate conforms with the specifications of your local mains power supply.

Do not extract health-hazardous dusts with an MAK value of < 0.1 mg/m³.
Please note EN 60335-2-69, Appendix AA, or initiate appropriate enquiries with your trade association or the responsible authorities.

When extracting hazardous materials, always refer to the relevant safety data sheets.

Always wear protective gear when extracting hazardous materials.

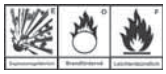
Regularly inspect connecting lines and hoses (e.g., the power cord) for damage (e.g., kinks, cracks, porosity) or signs of aging.
Units exhibiting damaged connecting lines, hoses, or other defects must be taken out of service immediately.

Always unplug the unit from the wall outlet before beginning any work on the unit's electrical components.

Never operate the unit without the complete filtration system (dust bag, fine particle filter, exhaust air filter, electronics filter).

Make sure the dust drawer is fully closed during extraction.

Never operate the unit without the suction hose.



Never extract flammable or explosive gases, vapours, dusts.

Never extract liquids.

Never extract hot materials.

The unit may not be operated without supervision.

All required tools must be appropriately cleaned prior to use when the unit is employed for medical purposes or in conjunction with medicinal materials.

If the dust extractor is employed to extract hazardous materials, appropriate personal protective gear must be worn and steps must be taken to ensure that the exhaust air is properly ventilated. Please refer to the associated safety data sheets for specific requirements.

C. Authorised Individuals

Only properly trained individuals may operate and service the *Silent*.
Minors or pregnant women may only operate and service the *Silent* if they are wearing appropriate protective gear, particularly if the unit is being used to extract hazardous materials.
Any repairs not specifically described in these operating instructions, in particular the inspection of the suction turbine outside the unit, may only be performed by a qualified electrician.

D. Preparations Prior to Starting

D.1 Connecting the Dust Extractor

The unit is supplied with a power cord and two-contact plug with a ground contact (either DIN 49441 or NEMA, depending on the particular model in question).
The unit may not be taken into service until any required alterations to comply with regionally specific power plug configurations have been made.
Such alterations may only be performed by a qualified electrician.
The unit may only be connected to wall outlets connected to a ground circuit system.
Before operating the unit, make sure the voltage in-

formation on the nameplate corresponds to your local power supply.

D.2 Connecting a Dust-Generating Device

The unit is equipped with a power outlet on the back, designed for a two-contact plug with a ground contact (either in accordance with DIN 49441 or NEMA), to which dust-generating equipment can be connected (Figure 4a).
A corresponding connector (Figure 31) is included in the standard delivery of 230 V units with outlets in accordance with DIN 49441. This connector can be used to make an adapter for your local plug configuration.

⚠ **This adapter may only be made by a qualified electrician!**
The adapter must not interrupt the ground circuit system!

E. Repairs

Repairs may only be performed by qualified electricians or authorized dealers.
Depending on the material trapped by the filters, protective gear may need to be worn during repairs.

F. Disposal Information

F.1 Disposing of Consumables

Full dust bags and filters – including motor and electronics filters – must be disposed of under compliance with locally applicable regulations.
Depending on the material trapped by the filters, protective gear may need to be worn during disposal.

F.2 Disposing of the Unit

The unit must be disposed of by an authorized recycling operation. The selected firm must be informed of all possibly health-hazardous residues in the unit.

G. Technical Specifications

Mains voltage:	230 V, 50 Hz 120 V, 60 Hz 100 V, 50/60 Hz
Dust extractor power consumption:	1300 W (230 V) 1200 W (100 V / 120 V)
Unit power outlet maximum connecting value:	2300 W (230 V) 600 W (100 V / 120 V)
Total connected power:	3600 W (230 V) 1800 W (100 V / 120 V)
Mains input fuse (Figure 4b):	2x 5 A (T) (230 V) 2x 12A (T) (100 V / 120 V)
Sound pressure level in accord. with DIN 45635 at maximum airflow:	56 dB(A)
Airflow, max:	3300 l/min
Vacuum pressure, max:	20 kPa [2.9 psi]
Filter surface area, fine particle filter:	approx. 0.8 m²
Fill volume, dust bag:	approx. 7.5 l
Power cord length:	approx. 2 m [78.74 inches]
Dimensions (height x width x depth):	595 x 225 x 565 mm [23.4 x 8.8 x 22.2 inches]
Weight (empty):	approx. 21 kg
Ø suction fittings:	
Internal:	32.5 mm [1.28 inches]
External:	40 mm [1.57 inches]

H. Liability Exclusion

Renfert GmbH shall be absolved from all claims for damages or warranty if:

- **The product is employed for any purposes other than those cited in the operating instructions;**
- **The product is altered in any way other than those alterations described in the operating instructions;**
- **The product is repaired by other than an authorized facility or if any but Renfert OEM parts are employed;**
- **The product continues to be employed, despite obvious safety faults or damage;**
- **The product is subjected to mechanical impacts or is dropped.**

I. Warranty

Provided the unit is properly used, Renfert **warrants** the all components of the *Silent* laboratory dust extractor for a period of **3 years**.
Warranty claims may only be made upon presentation of the original sales receipt from the authorized dealer.
Components subject to natural wear as well as consumable (e.g., filters, the motor, fuses, etc. ...) are excluded from this warranty.
The warranty is voided in case of improper use; failure to observe the operating, cleaning, maintenance, and connection instructions; in case of independent repairs or repairs by unauthorized personnel; if spare parts from other manufacturers are employed, or; in case of unusual influences or influences not in compliance with the utilization instructions.
Warranty service shall not extend the original warranty.

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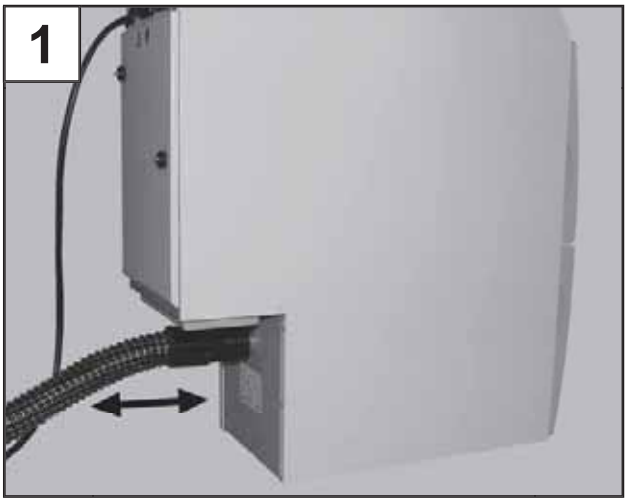

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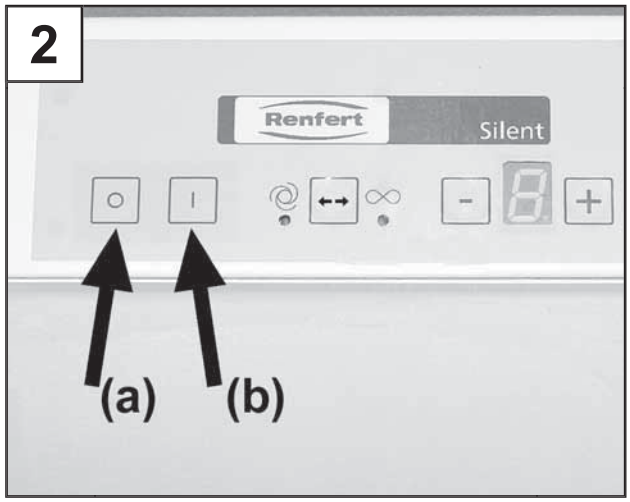
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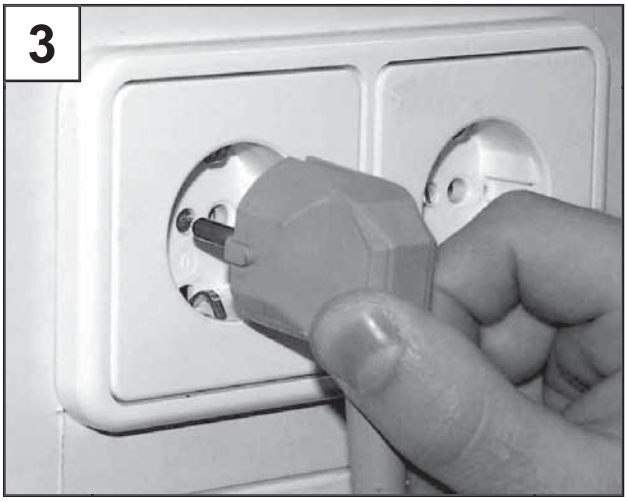

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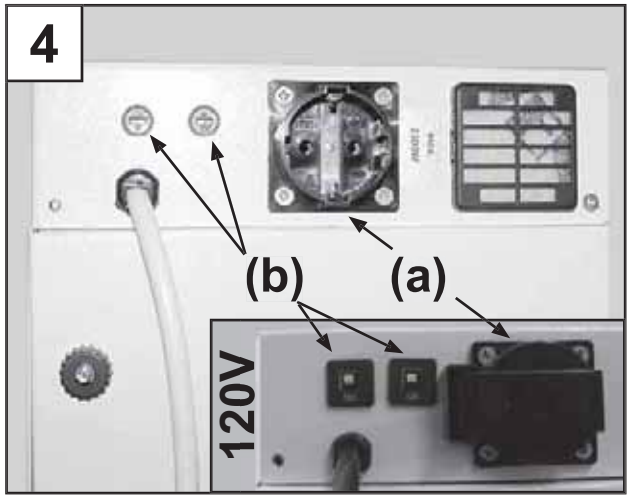
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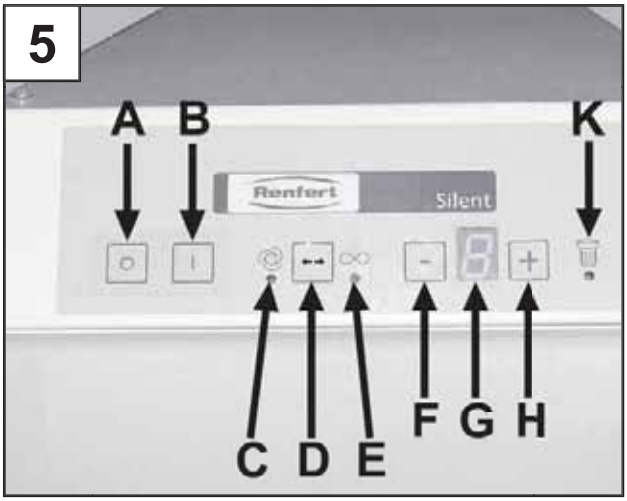
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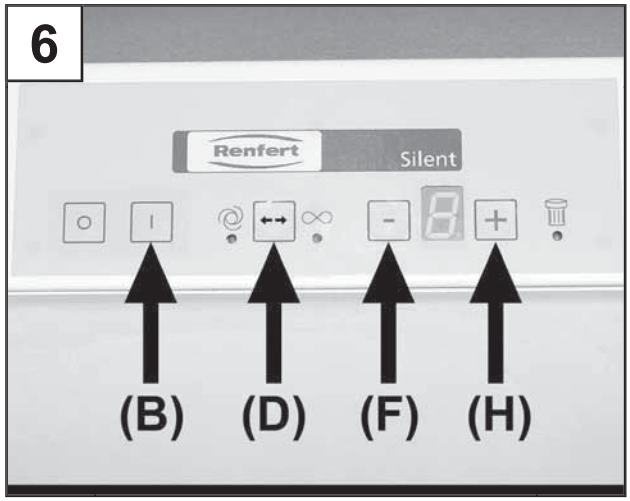
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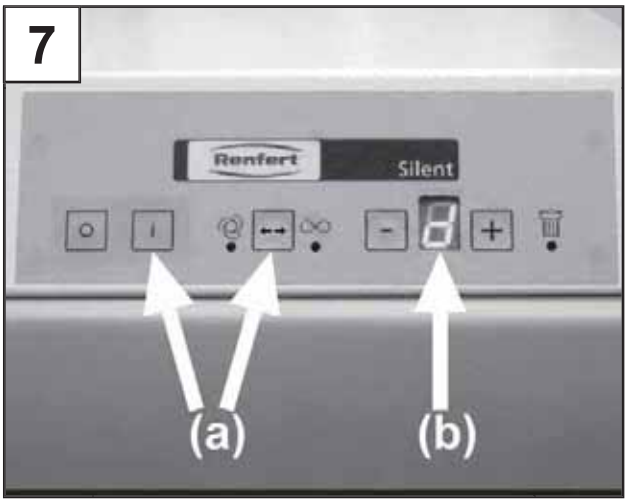
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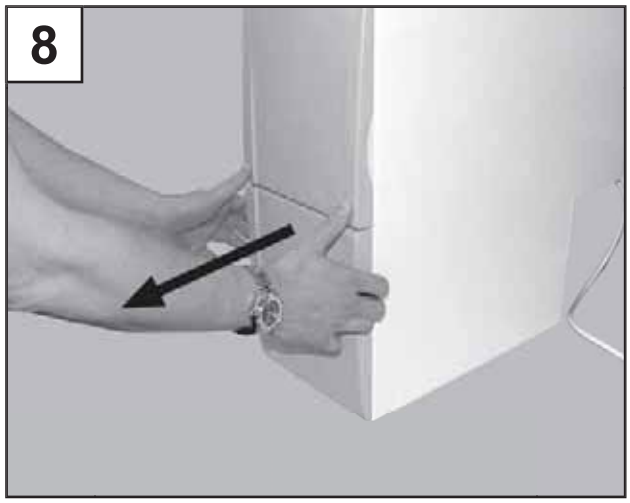

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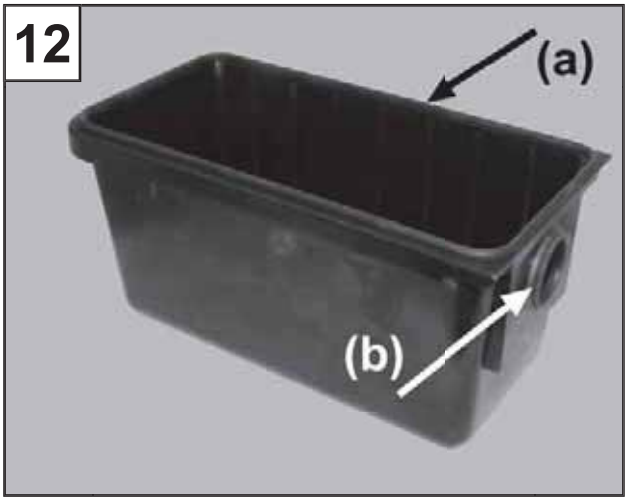

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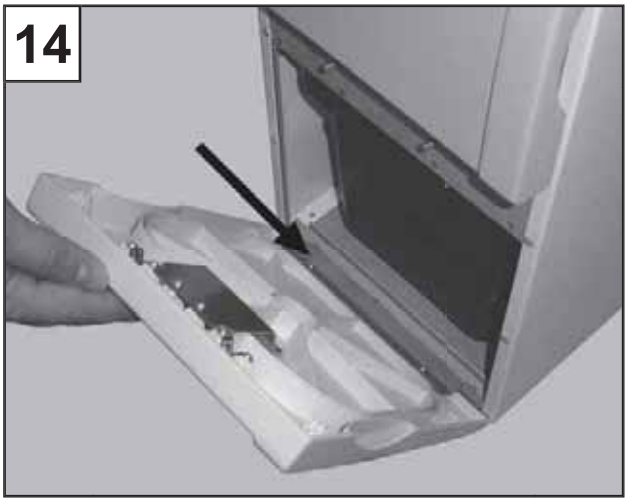

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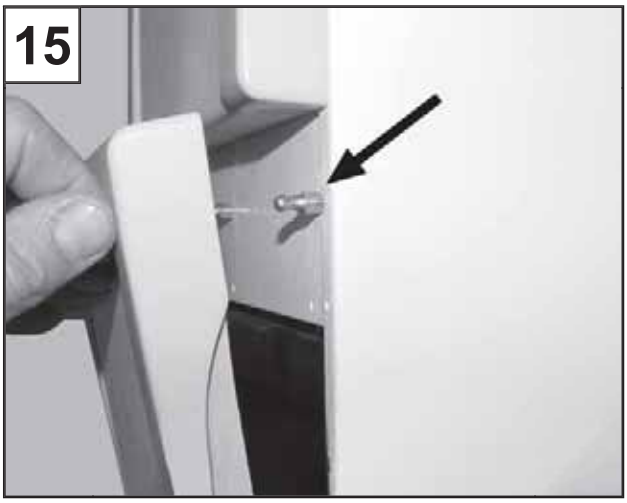

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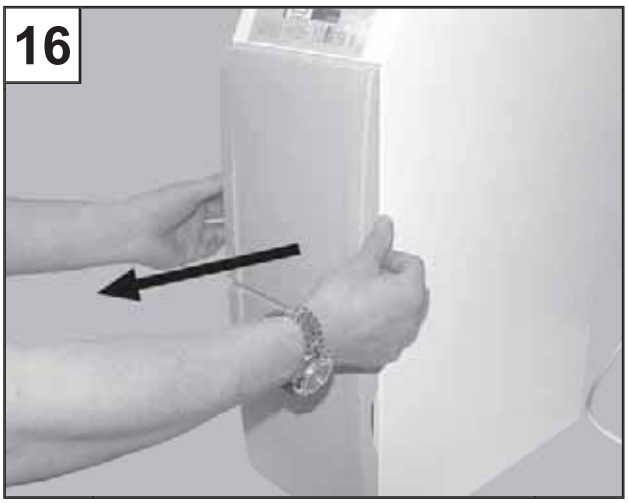


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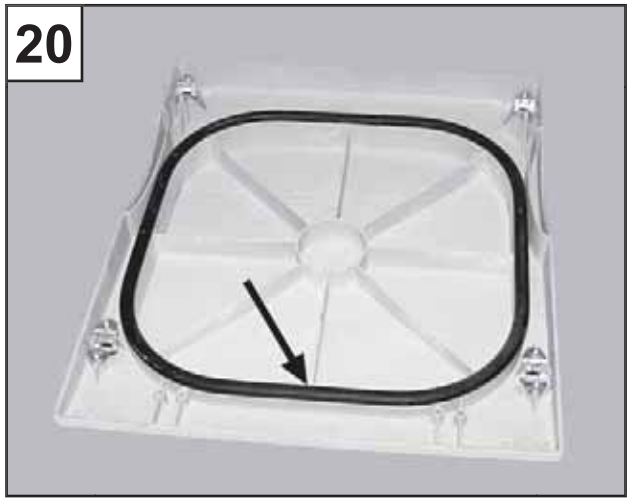
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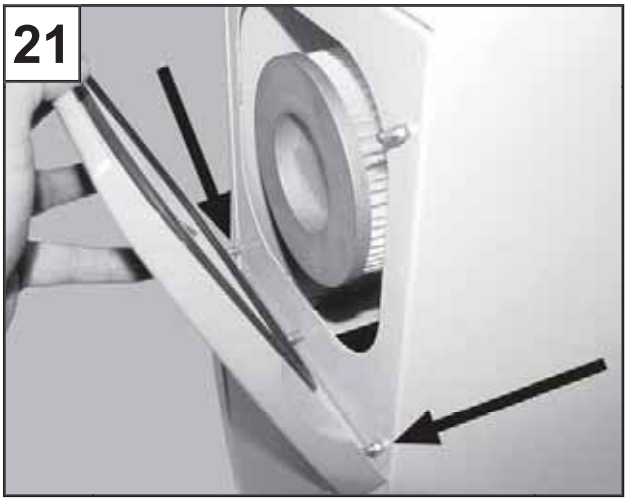
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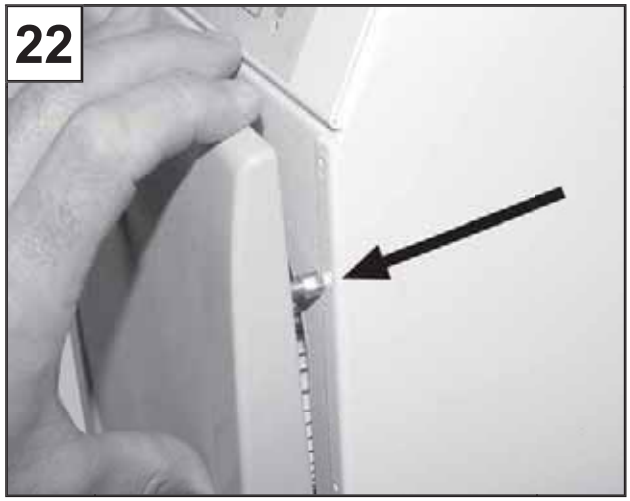
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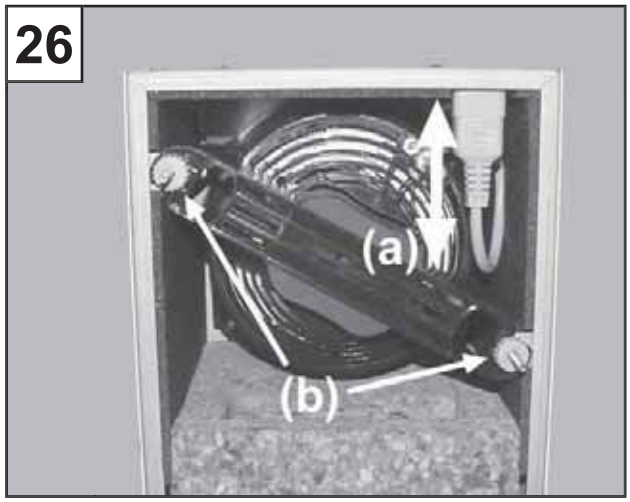

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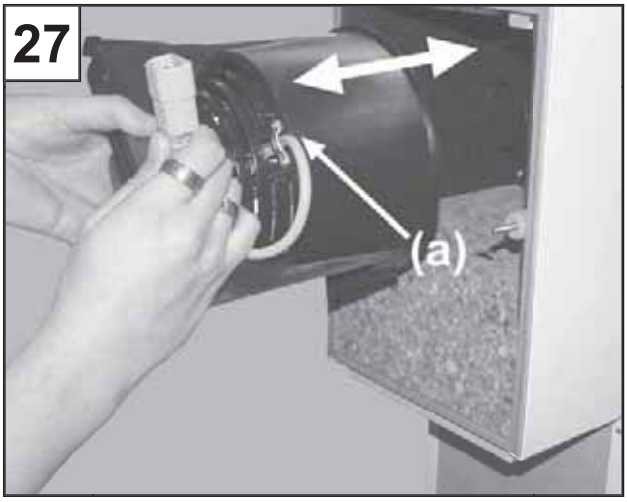

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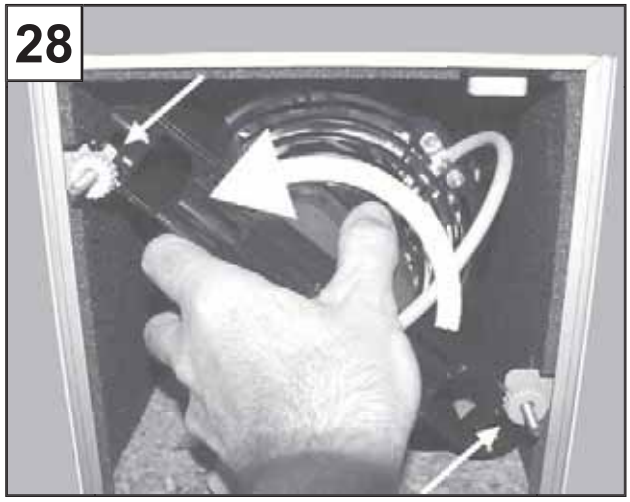

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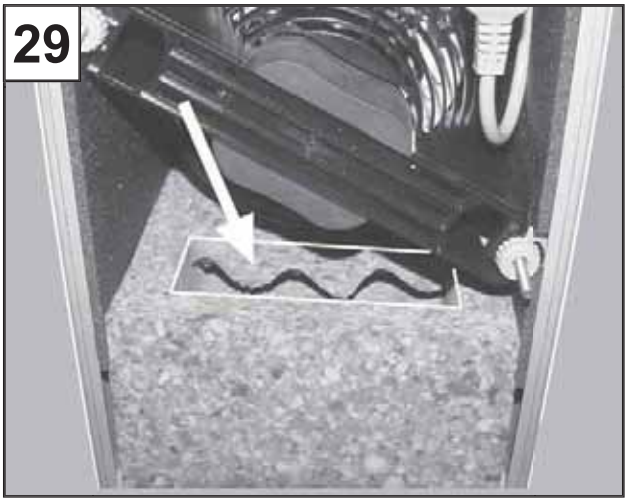

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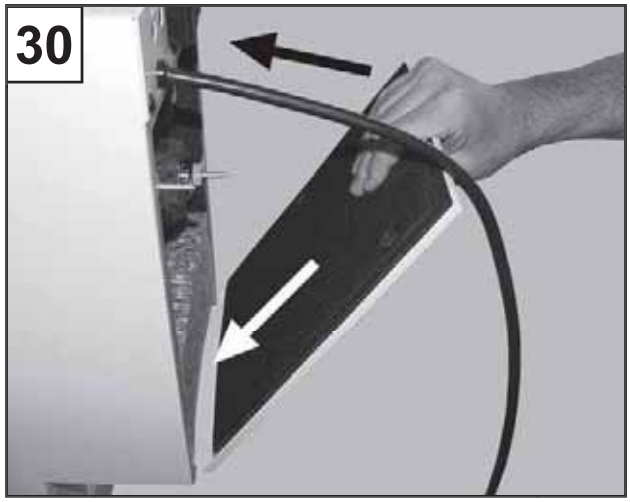

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