

# LIFAair®

## OPERATING AND MAINTENANCE MANUAL



## LIFA AirClean 3500

Electrically operated negative air pressure machine / air cleaner

# LIFA AirClean 3500



**IMPORTANT!**  
 Read these instructions carefully before operating the machine!

**These instructions should always be available for the personnel operating the machine. Please read these instructions carefully before operating the machine. Following these instructions in detail ensures many years of trouble-free use.**

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Congratulations on your new LIFA AirClean 3500 negative air machine!

LIFA AC3500 is designed for filtering / cleaning of airborne pollutants, such as construction dust, quartz, mill and wood dust etc. which forms in new and renovation buildings.

- Airflow linearly adjustable until 3600 m<sup>3</sup>/h (2100 CFM) (max airflow w/o filters)
- Durable construction for professional use
- Operates in single phase current, 200–277 VAC, 50/60 Hz (100–120 VAC also available, the voltage change is done using an encapsulated autotransformer, which has a 5A fuse)
- Negative pressure in rooms or HVAC air ducts
- Wide range of filters available

**Note:** There is an 8 second delay between switching on the machine and the start of the engine!

# Safety Precautions

The following safety directions must be carefully observed in order to avoid injury of personnel or damage to the environment or the equipment.

Following these instructions will ensure the safe and uninterrupted use of the machine.

- Equipment must not be used without a filter.
- This equipment must not be positioned nor used in the areas where there is a risk of explosion or hazardous substances are used.
- The equipment must not get wet and it must be protected from rain, vibration and wind.
- Foreign objects must not be inserted or fitted into the equipment.
- The machine must not be covered during the operation.
- The operator must ensure that the equipment is suitable and designed for the task and the statutory requirements are met.

## 1. Avoid contamination of the environment

The machine should be kept as clean as possible. The filters must be appropriately disposed of.

## 2. General safety

The power must be turned off when the machine is not being used. It is

forbidden to make any modifications to LIFA AC3500.

## 3. Operating safety

The person / persons performing the work should use personal protective equipment: filtered mouth mask, helmet, ear-muffs, goggles, overall, safety boots and other necessary protective equipment the

project requires. The axial fan has extremely powerful suction. Items (clothing, hair etc.) could easily be sucked into the intake cone and cause injury. It is prohibited to remove protective grating of the suction inlet. The vacuuming unit must never be used with an unprotected suction inlet or exhaust outlet, because the fan wheel could cause serious injury. Any objects that get caught in the fan could be thrown out at high speed and cause injury. Always ensure the outlet air is directed to a safe place where there are no people or materials that could be damaged. Never put your hand in the vacuum.

## 4. Workplace conditions

It is prohibited to use the vacuuming unit in handling of gases, which are classified as corrosive, toxic or explosive or contain high moisture. The machine must not be used in areas where there is a risk of explosion. The worksite must be free of obstacles and the main switch easily controlled.

## 5. Operating temperature

The temperature of the transferred gas must not exceed 80 °C (175 °F). The machine must not be used in an environment where the temperature exceeds 40 °C (100 °F) or drops below -20 °C (-4 °F).

## 6. Electrical connection

- Ensure that the voltage supply and the current correspond to the information stated in the CE-plating and the information in these instructions.
- LIFA AirClean 3500 must be connected to a single-phase current (1~) 200-277 VAC (or 100-120 VAC), 50/60 Hz, 10 A.

Only authorised electrician may do the repairs or installations of the electrical components. In addition, electrician has to be authorised by the manufacturer; otherwise the warranty expires.

**Ensure that the power supply is reliably earthed/grounded!**

## 7. Noise level

The noise level of LIFA AirClean 3500 is low (<70 dB) and it does not depend on the operating environment.

## 8. Transportation

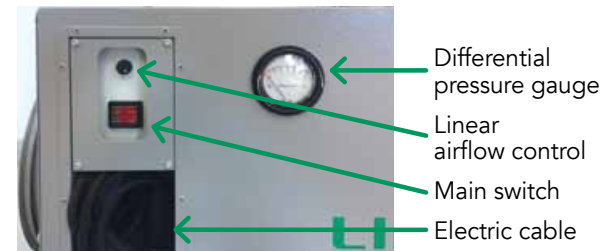
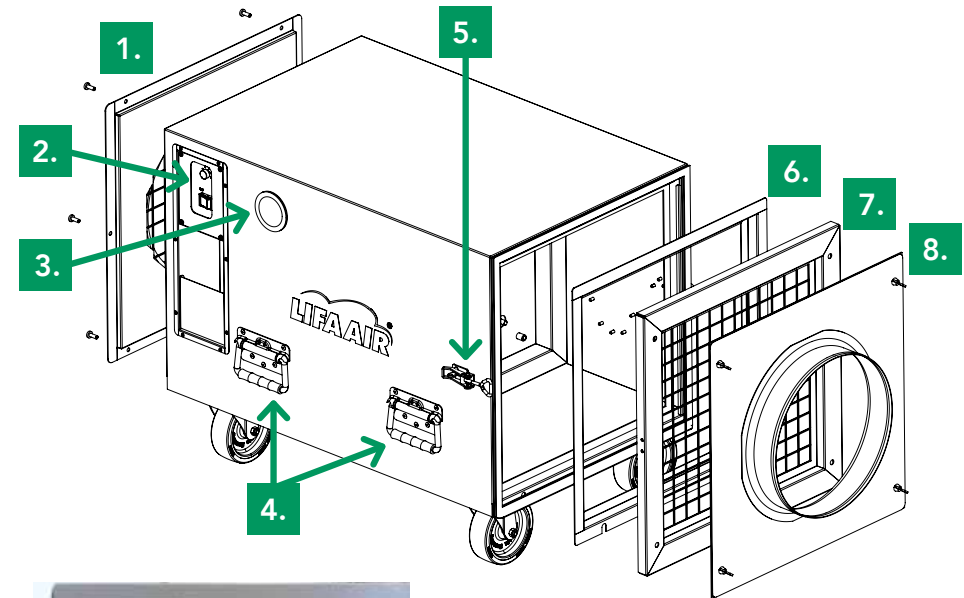
Check all parts before installation and use. Ensure that none of them have been damaged during transport and the fan wheel rotates freely. The vacuuming unit must be protected from moisture and it must not be stored unprotected outside. Please be careful when lifting the vacuuming unit.

# General Directions

1. LIFA AirClean 3500 can only be used for the purposes that it is designed for and which are outlined in the instructions. It is forbidden to use the equipment for any other purpose without written permission from the manufacturer. If this equipment is used for a purpose other than in which it is designed for, the manufacturer does not take the responsibility for any consequences.
2. Persons responsible for operating this equipment / supervising the use of this equipment must get acquainted with the structure, functions and the safe use of the equipment.
3. It is prohibited to remove or disable any technical protective / safety device while using the machine.
4. If the machine must be installed in a way that protective / safety device is disabled or device functioning is limited, work supervisor / person in charge must immediately be notified of this.

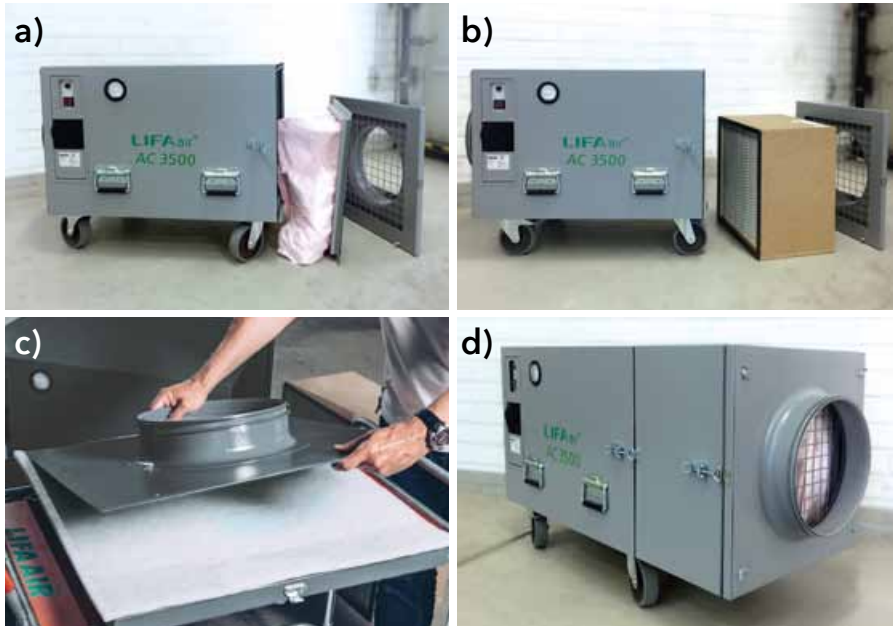
# Construction and Control

1. Connection stud exhaust side  $\varnothing$  300 mm (12")
2. Main switch and linear airflow controller
3. Differential pressure gauge
4. Lifting handles (both sides)
5. Fastening latches (both sides)
6. Frame for bag filters
7. Fastening piece and frame for G4 pre-filter
8. Connection stud suction side  $\varnothing$  300 mm (12")



Note: there is an 8 second delay between switching on the machine and the start of the engine.

# Operating Principles



LIFA AC3500 can be used with a) a bag filter, b) a HEPA filter and c) pre-filter media. When using all three filters at the same time, an additional d) pre-filter box for the bag filter must be installed as shown in the picture above.

## Installation

Check that the exhaust air can flow unhindered and protect the unit from vibration or blows. Ensure that the suction inlet and exhaust outlet are fitted with their protective grilles, in accordance with the regulations. The maximum permitted operating temperature is 40 °C (100 °F).

## Filters

The machine must always be used with at least the pre-filter, which must be installed as shown in picture above. Place the pre-filter between the Fastening piece / frame for G4 pre-filter (No. 7) and the Connection stud suction side (No. 8). In addition, LIFA AC3500 can be used with a HEPA/gas and/or a bag filter. For longer lifetime

of the HEPA/gas filters, we recommend using the F7 bag filter and the G4 pre-filter. When using all three filter-types in the same unit, an additional pre-filter-box (fig. d), length 31 cm, 12") is required for the F7 bag filter. The pre-filter-box is placed between the vacuum unit and the parts No. 6, 7 and 8, as shown in the picture above.

In case a bag filter is not being used, the frame for bag filters (No. 6) must be removed.

## Electrical connection

The vacuuming unit has an EC-motor, which is connected to a single-phase (1~) current. The electrical power network must be earthed.

# Service and Maintenance

**The machine must be unplugged before carrying out maintenance!**

Regular service and maintenance:

- **Filter exchange**

Filters must be replaced when the pressure difference is  $\geq 2$  kPa. This can be seen from the differential pressure gauge. The person replacing the filter must wear personal protective equipment. Old filter can be disposed of as mixed waste or as hazardous waste (hazardous materials).

- **Machine cleaning**

The body and the ends of the machine must be cleaned thoroughly after every use for example by sweeping with a damp cloth.

If there is a possibility that the filter contains hazardous materials, it must be replaced according to the legislative guidelines regarding the handling of hazardous materials. Also, the body and the ends must be cleaned after operating the machine.

Please note that **machine must be cleaned of hazardous materials** before sending it to the manufacturer or a servicer authorized by manufacturer for maintenance.

Fans are equipped with fully closed ball bearings that do not need lubricating. Fan units are maintenance-free.

Only an authorized electrician, who is also authorized by the manufacturer, may carry out the electrical maintenance.

## NOTE!

**Possible repairs must be carried out by the manufacturer or a servicer authorized by LIFA Air. Third party repairs will void the warranty.**

## Technical Data

### LIFA AirClean 3500

|   |  |
|---|--|
| Operating power:                            | Electricity  |
| Operating voltage:                          | 200-277 VAC (100-120 VAC also available ), 1~            |
| Frequency:                                  | 50/60 Hz   |
| Motor:                                      | 0,78 kW / 3,9–2,8 A, EC-motor                            |
| Electric cable:                             | 3G1.5 mm <sup>2</sup> , length 3 m (10 ft)               |
| Main switch:                                | Main switch and linear airflow control (8 sec delay)     |
| Hose connection stud:                       | Suction: Ø300 mm (12"),<br>Exhaust: Ø300 mm (12")        |
| Dimensions:<br>Length:<br>Height:<br>Width: | 960 (37.8")<br>650 (25.6")<br>540 (21.3")                |
| Weight:                                     | 57 kg (126 lbs),<br>100-120 VAC version: 65 kg (143 lbs) |
| Material                                    | Painted steel  |

**CE-marking plate is situated beside the main switch.** Plugging in, maintenance and spare part supply must be done in accordance with the information given in this plate.

## Spare parts and accessories

By using original LIFA-accessories you ensure the best performance and long operating life of the machine. Please inform the model of the machine (LIFA AC3500) when ordering spare parts and accessories.

|               |   |
|---------------|---|
| 6420281010835 | HEPA-filter H13, size 450x450x292 mm (18"x18"x11"), AC3500  |
| 37450450300   | F7-bag filter, 5 pockets+plastic frame, size 450x450x300 mm (18"x18"x12"), AC3500   |
| 6420281022920 | G4 prefilter-media, cut to right size, 5 pcs package, AC3500  |
| 6420281023606 | Pre-filter box for bag filters, used when HEPA filter is inside the vacuum unit, length 310 mm (12.2"), AC3500                                |
| 6420281010019 | Activated carbon filter, size 450x450x200 mm, 15 kg (18"x18"x8", 33 lbs), against harmful gases e.g. VOCs, creosote, AC3500                   |
| 6420281021961 | Ulpa-filter U15, to be used with the activated carbon filter, size 450x450x93 mm (18"x18"x4"), AC3500   |
| 6420281021565 | Exhaust Hose, clear plastic foil, 480 mm (19") x thickness 0,15 mm and length 70 m (230 ft) / roll, Ø 350 mm (14"), weight 10 kg (22 lbs)     |
| 6420281010941 | Vacuum/Suction Duct Hose<br>Ø 305 mm (12") x length 10 m (33 ft)  |
| 6420281023576 | Clamp for Duct Hose Ø 300 mm (12")  |
| EU7_01        | Bag filter for exhaust side, class F7, ø 480 mm, length 1,5 m, used for preventing exhaust air blowing effect and/or noise reducing/dampening |



# Warranty

The warranty period is one (1) year starting from the date of purchase and is valid according to the regular terms of delivery, provided that these operational and maintenance instructions have been carefully followed. Using anything other than original LIFA-accessories in the equipment will void the warranty.

Repair is free of charge within the warranty period (proof-of-purchase / receipt must be presented) under the following conditions:

- The defect is caused by defects in materials or defective components.
- Defects caused by normal wear and tear. Misuse or insufficient maintenance are NOT covered by the warranty.
- Any maintenance and repairs must be carried out by the manufacturer or by an authorized representative of the manufacturer. Manufacturer does not take responsibility for maintenance carried out by a third party.
- A written reclamation form must be filled in and sent with descriptive photos to the manufacturer.

The appliance shall be delivered to the authorized Oy Lifa Air Ltd. representative from which machine has been bought or when agreed beforehand mutually in writing, to the manufacturer postage paid to:

**Oy Lifa Air Ltd.**  
**Vellamonkatu 30 B**  
**FI-00550 Helsinki**  
**FINLAND**

**Tel. +358 9 3948 58**  
**Email: sales@lifa.net**

Please note that the machine must be **cleaned of hazardous materials before** sending it to the manufacturer or a servicer authorized by manufacturer for maintenance. In case the machine has not been cleaned appropriately, Oy Lifa Air Ltd. will charge the customer for the cleaning of the machine.

Oy Lifa Air Ltd. reserves the right to introduce changes without a further notice.

# Recycling

The machine can always be returned to the LIFA Air authorized representative from which the buyer has bought the machine from, or to the address above postage paid in case there is no recycling facility where the owner lives.

- Metal parts (frame, reel, motor) can be recycled as metal scrap.
- Electrical parts (frequency converter, main switch) should be returned to an authorized recycling depot.
- Filters that may possibly contain hazardous materials must be appropriately disposed of as hazardous waste. Other filters can be recycled as mixed normal waste.
- Other parts can be recycled as mixed normal waste.

# Declaration of Conformity

**Manufacturer's name:** Oy Lifa Air Ltd.  
**Manufacturer's address:** Vellamonkatu 30 B,  
 FI-00550 Helsinki, Finland  
**Manufacturer's telephone:** +358 9 3948 58  
**Manufacturer's website:** www.lifa-air.com  
**Model:** LIFA AirClean 3500

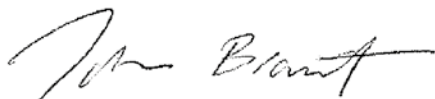
Oy Lifa Air Ltd. is ISO 9001 and ISO 14001 Certified.

**Oy Lifa Air Ltd., hereby states, with sole responsibility, that the machine models covered by this announcement comply with the requirements of the following EC directives and standards:**

- EU Machinery Directive MD 2006/42/EC
- EU Low Voltage Directive LVD 2006/95/EC
- EU Electromagnetic Compatibility Directive EMC 2004/108/EC
- EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment RoHS 2011/65/EC
- EN ISO 12100:2010 Safety of machinery
- EN 60204-1:2007 Safety of machinery. Electrical equipment of machines. General requirements.

The product fulfils requirements for CE-marking.

Oy Lifa Air Ltd. 10.01.2017



Johan Brandt, CEO

# LIFA Air Product Family

|                                | HepaClean 1100   | HepaClean 2500  | AirClean 3500   | HepaClean 4000  |
|--------------------------------|--|---|---|---|
| Airflow max, w/o filter (m3/h) | 1100 (650 CFM)   | 2500 (1470 CFM)   | 3600 (2100 CFM)   | 4600 (2700 CFM)   |
| HEPA 13 (m3/h)                 | 700 (410 CFM)  | 1800 (1100 CFM)   | 2900 (1700 CFM)   | 3200 (1880 CFM)   |
| F7 bag filter (m3/h)           | ---  | 2400 (1400 CFM)   | 3200 (1900 CFM)   | 3500 (2060 CFM)   |
| Operating Voltage              | 200-240 VAC, 1~ 50/60 Hz   | 200-277 VAC (or 100-120 VAC), 1~ 50/60 Hz   | 200-277 VAC (or 100-120 VAC), 1~ 50/60 Hz   | 200-277 VAC (or 100-120 VAC), 1~ 50/60 Hz   |
| EC-motor power                 | 0,17 kW / 1,5-1,25 A   | 0,5 kW / 2,5-1,8 A  | 0,78 kW / 3,9-2,8 A   | 1,35 kW / 6,8-4,9 A   |
| Electric cable                 | 3 m (10 ft)  | 3 m (10 ft)   | 3 m (10 ft)   | 3 m (10 ft)   |
| Measurements (mm)              | L665 (26.2"), H410 (16.1"), W380 (15")                                       | L960 (37.8"), H650 (25.6"), W540 (21.3")  | L960 (37.8"), H650 (25.6"), W540 (21.3")  | L1030 (40.6"), H800 (31.5"), W700 (27.6")   |
| Weight (w/o filters)           | 16 kg (35 lbs)   | 57 kg (126 lbs)   | 57 kg (126 lbs), (100-120 VAC version: 65 kg, 143 lbs)  | 88 kg (194 lbs)   |
| Material                       | Painted steel  | Painted steel   | Painted steel   | Painted steel   |
| Readily assembled              | Lifting handle   | Lockable wheels, lifting handles  | Lockable wheels, lifting handles  | Lockable wheels, lifting handles  |
| Machine's equipment            | Linear airflow control, connection studs: Ø250 mm (10") in, Ø300mm (12") out | Linear airflow control, Pressure gauge, connection studs: Ø300 mm (12") in, Ø300 mm (12") out | Linear airflow control, Pressure gauge, connection studs: Ø300 mm (12") in, Ø300 mm (12") out | Linear airflow control, Pressure gauge, connection studs: Ø300 mm (12") in, Ø300 mm (12") out |



# LIFAair<sup>®</sup>

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