



LAF
Dehumidifiers

LAF 51

Condensing dehumidifiers for professional use

VEAB condensation dehumidifiers are designed for professional use in applications with high requirements in terms of capacity. LAF dehumidifiers are therefore suitable in buildings under construction and after water damage to obtain a sufficiently low humidity in building materials, carpets and wall coverings. In cellars and warehouses, LAF dehumidifiers will keep the right humidity level to prevent issues with corrosion, odours and mould. Drying with LAF dehumidifiers is very economical and efficient. Energy consumption is minimal as compared with heating and subsequent ventilation of humidity. 700 Wh of heating energy is gained for each litre of water that is dehumidified.

- On-demand defrosting
- Operating temperature 3-30 °C
- Operating humidity range 40-100% RH
- Shuts off automatically when the container is full
- Easy to handle—large wheels make it easy to move (Ø 250 mm)
- Robust durable design suitable for construction sites
 - can be lifted with handle
- LAF 51S/51E2S is stackable

Design

Casing made of lacquered galvanised sheet metal.

Built-in collection container with a level sensor and option to attach a drain hose (Ø 13 mm).

Electronic on-demand defrosting ensures quick and efficient defrosting.

LAF 51 dehumidifiers are stackable two high to save space when storing.

IPX4 degree of protection (splash-proof design).

Electrical Heating, Addition -E2S

LAF 51E2S comes with an integrated 1500 W electrical heating element.

The model includes switches to run the dehumidifier with or without electrical heating.

A permanently set room thermostat regulates the electrical heating to 20 °C.

Connection

LAF 51 comes with a two-metre 230 V connection cable and has an earthed plug.



LAF 51

Approvals

Our dehumidifiers are manufactured in accordance with the following directives:

LVD directive: EN 60335-1 and EN 60335-2-40

EMC directives: EN 61000-6-1 and EN 61000-6-3

EMF directive: EN 62233



Product Range Overview

| Type | | LAF 51S | LAF 51E2S |
|-----------------------------------|-------------------|---------------|-------------------|
| Operating range 40-100 | % RH | 40-100 | 40-100 |
| Operating range | °C | +3 - +30 | +3 - +30 |
| Voltage | V | 230 VAC 1-ph. | 230 VAC 1-ph. |
| Fuse | A | 10 | 10 |
| Power consumption, max. | W | 490 | 2000 |
| Power cons. at 20 °C, 60% RH | W | 385 | 385* |
| Radiated heat at 20 °C, 60% RH | W | 1170 | 2670 ³ |
| Dehumidification at 20 °C, 60% RH | l/day | 13.5 | 13.5 |
| Dehumidification at 30°C, 80% RH | l/day | 29.7 | 29.7 |
| Power cons. at 20 °C, 60% RH | kW/l | 0.69 | 0.69 ¹ |
| Coolant | | R 290 | R 290 |
| Minimum floor area | m ² | 9 | 9 |
| Air volume | m ³ /h | 390 | 390 |
| Sound pressure level ² | dB(A) | 54 | 54 |
| Volume of collection container | l | 9 | 9 |
| Degree of protection | | IPX4 | IPX4 |
| Weight | kg | 35 | 35.5 |
| Depth | mm | 440 | 440 |
| Width | mm | 540 | 540 |
| Height | mm | 980 | 980 |

¹⁾ Power consumption excludes possible additional heating.

²⁾ Measured at 3 metres from dehumidifier.

³⁾ Includes heating elements.

How the Dehumidifier Works

The built-in fan continuously circulates the ambient air through the dehumidifier. As the humid air flows through the evaporator (cooling battery), it is cooled down to the dew point and condensation water is precipitated. The water runs down into the container.

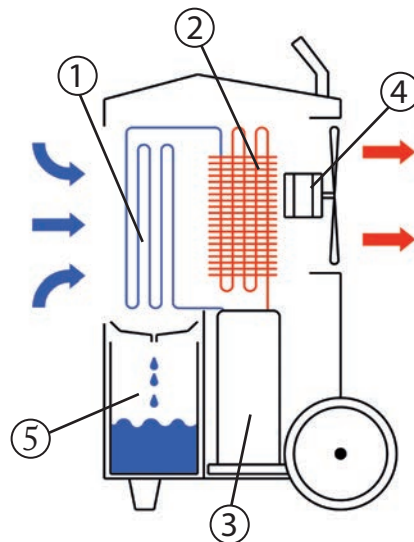
The integrated level sensor stops the dehumidifier when the water container is full.

The dry and cold air then continues on through the condenser where it is heated, partly by the compressor heat and partly by the energy recovered during the earlier conversion of vapour to water.

The dry and warm air is again blown out into the room to absorb more humidity.

Under certain temperature/humidity conditions, frost builds up on the cooling coil. The automatic defroster is then switched on once per hour and directs the warm gas to the cooling coil so that the frost thaws and runs down into the collection container (hot gas defrosting).

In order to accelerate dessication, the LAF 51E2S has an integrated electrical heating that increases the temperature in the room and thus leads to faster dessication.

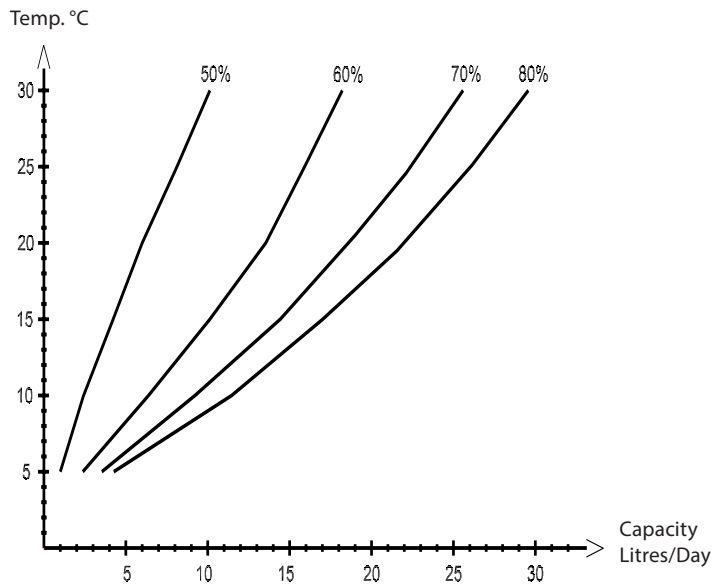


- 1. Evaporator
- 2. Condenser
- 3. Compressor

- 4. Fan
- 5. Collection container

Capacity




Capacity LAF 51



Dehumidification Tips

- Place the dehumidifier in such a way that it generates the best possible air circulation in the room.
- Keep doors and windows shut.
- Higher ambient temperatures accelerate dehumidification.
- At humidity levels below 50%, untreated iron will not rust.
- At humidity levels below 65%, there is no significant mould growth on wood surfaces.

Accessories

| | Product |
|--|--|
|  | <p>Hygrostat LAF-HY A hygrostat is available as an accessory to control the humidity in the room. The hygrostat is connected to the dehumidifier by means of a plug that is directly inserted to dehumidifier's normal cable connection. Includes mounted cables. IP21 degree of protection. (Not for use on construction sites.)</p> |
|  | <p>Operating time counter LAF-OHM The operating time counter measures the compressor's operating time. Can supplied factory installed on the dehumidifier or as an accessory for subsequent installation.</p> |
|  | <p>Wall bracket LAF-W For permanent installation of the dehumidifier.</p> |

LAF 31

Condensing dehumidifiers for basements, water damages etc.

Owing to its low weight (18.5 kg) the LAF 31 is particularly suitable for application areas with high requirements in terms of easy dehumidifier handling. LAF dehumidifiers are suitable in the event of water damage to achieve a sufficiently low humidity level in the building's materials. In cellars and warehouses, LAF dehumidifiers will keep the right humidity level to prevent issues with corrosion, odours and mould. Drying with LAF dehumidifiers is very economical and efficient.

Energy consumption is minimal as compared with heating and subsequent ventilation of humidity. 700 Wh of heating energy is gained for each litre of water that is dehumidified.

- Low-energy rotary compressor, saves about 30% energy as compared with a piston compressor
- Operating temperature 8-32°C
- Operating humidity range 30-100% RH
- Built-in hygrostat and operating time counter
- Shuts off automatically when the container is full
- Allows for hose attachment
- Easy to handle—handle and low weight (18.5 kg)
- Durable design suitable for construction sites
- LAF 31 dehumidifiers are stackable

Design

Casing made of lacquered galvanised sheet metal. Built-in collection container with a level sensor and option to attach a drain hose (Ø 13 mm). LAF 31 dehumidifiers are stackable two high to save space when storing. IPX4 degree of protection (splash-proof design).

Connection

LAF 31 comes with a two-metre 230 V connection cable and has an earthed plug.

Control Panel

The control panel includes the following:

- Setting for desired relative humidity (hygrostat)
- Timer used to limit operating time.
- Fan speed setting (low/high).
- Display of relative humidity (hygrometer).
- Indicator light for full water container.

Operating Time Counter

Shows/calculates total operating time for compressor.



Control Panel

Approvals

Our dehumidifiers have been tested and approved by Intertek in accordance with the following directives:

LVD directive: EN 60335-1 and EN 60335-2-40

EMC directives: EN55014-1, EN55014-2, EN61000-3-2 and EN61000-3-3

EMF directive: EN 62233



Technical Data

| Type | LAF 31 | |
|--|--------|------------------|
| Operating range | % RH | 30-100 |
| Operating range | °C | +8 - +32 |
| Voltage | V | 220-240 V, 50 Hz |
| Fuse | A | 10 |
| Power consumption, max. | W | 660 |
| Power cons. at 20 °C, 60% RH | W | 500 |
| Dehumidification at 20 °C, 60% RH | l/day | 13 |
| Dehumidification at 30°C, 80% RH | l/day | 30 |
| Coolant | | R290 |
| Rotary compressor | | Yes |
| Air volume (low/high speed) | m³/h | 200 / 280 |
| Sound pressure level ¹ (low/high speed) | dB(A) | 47 / 51 |
| Volume of collection container | l | 6.2 |
| Degree of protection | | IPX4 |
| Weight | kg | 18.5 |
| Depth | mm | 337 |
| Width | mm | 327 |
| Height | mm | 528 |

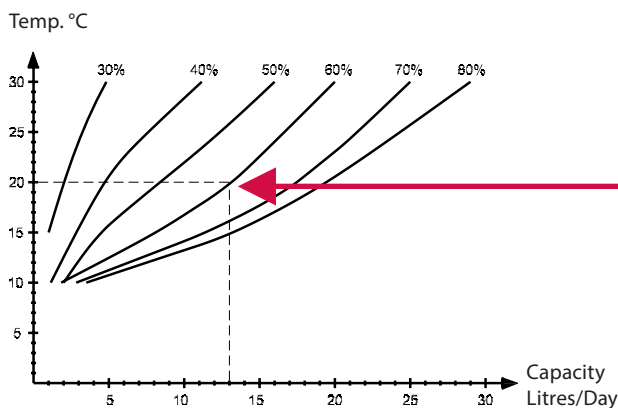
¹⁾ Measured at 3 metres from dehumidifier.



Control panel and operating time counter



Capacity LAF 31



When choosing a dehumidifier it is important to compare the capacity at a normal operating point.

A usual operating point for dehumidification is 20 °C and 60% RH. (The capacity for 30 °C and 80% RH is not interesting under normal use.)

LAF 13

Compact dehumidifier for smaller premises

LAF 13 dehumidifiers reduce the atmospheric humidity and thus create a healthy and comfortable indoor climate. These dehumidifiers are suitable for use in cellars, bathrooms, laundry rooms, storage areas, living areas, and more.

- Adjustable digital hygrostat
- Display that shows current humidity
- Two fan speeds
- Low noise level
- Built-in filter
- Automatic defrosting
- Outlet for drain hose
- Low weight
- IPX2 degree of protection

Design

in collection container with a level sensor and option to attach a drain hose (hose dimension \varnothing 12 mm).

Desired humidity is easily set on the control panel.

Dehumidifier starts/tops automatically at set value.

IPX2 Degree of Protection

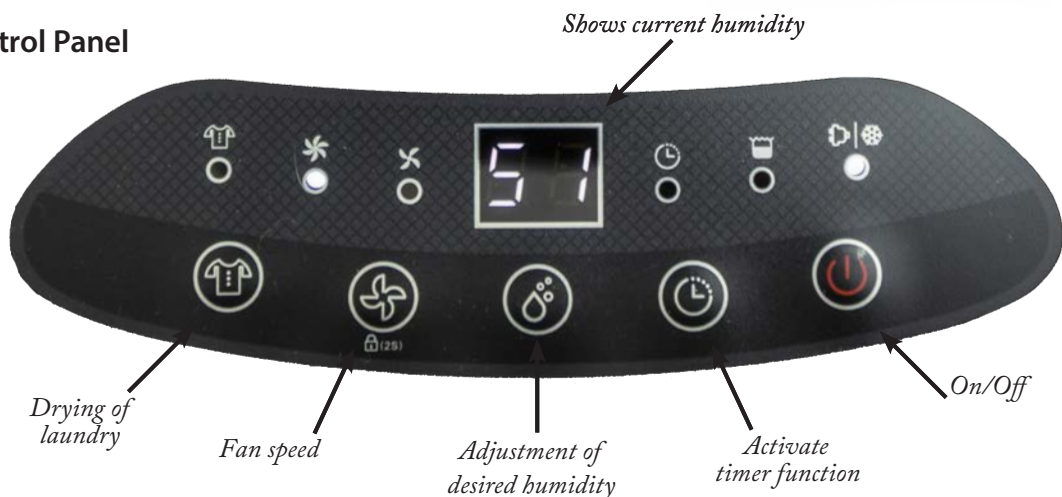
LAF 13 dehumidifiers are manufactured to an IPX2 degree of protection.

This degree of protection means that the dehumidifier is approved for use in humid areas, such as bathrooms and laundry rooms as well as laundry drying rooms.

Connection

The LAF13 has a two-metre 230 V connection cable and an earthed plug.

Control Panel



Approvals

The dehumidifiers are tested and approved by TÜV according to:

LVD directive: EN 60335-1 and EN 60335-2-40

EMC directives: EN55014-1, EN55014-2, EN61000-3-2 and EN61000-3-3

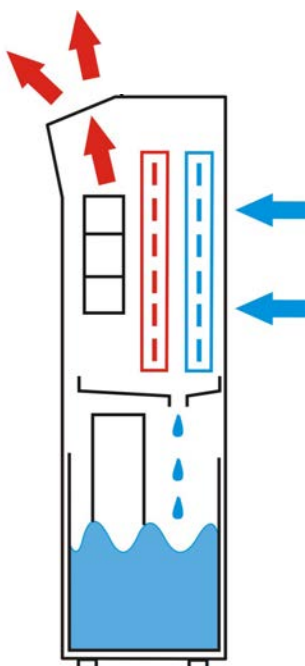
EMF directive: EN 62233



Technical Data

| Type | LAF 13 | |
|---|--------|---------------|
| Operating range | % RH | 35-80 |
| Operating range | °C | +8 - +35 |
| Power cons. at 20 °C / max. | W | 155 |
| Current at 20 °C / max. | A | 0.9 |
| Voltage | V | 230 VAC 1-ph. |
| Air volume High/Low | m³/h | 105 / 80 |
| Dehumidification at 30°C, 80% RH | l/day | 12.0 |
| Dehumidification at 27 °C 60% RH | l/day | 7.5 |
| Dehumidification at 20°C 60% RH | l/day | 4.2 |
| Dehumidification at 8°C 60% RH | l/day | 1.9 |
| Degree of protection | | IPX2 |
| Coolant | | R290 |
| Water container volume | l | 2.6 |
| Sound pressure level ¹ High/L ^o w | dB(A) | 42 / 33 |
| Weight | kg | 11.6 |
| Width | mm | 300 |
| Depth | mm | 250 |
| Height | mm | 463 |

¹⁾ Measured at 3 metres from dehumidifier.



How the Dehumidifier Works

The LAF 13 works according to the same principle as a heat pump or refrigerator. The humid ambient air is cooled down as it flows through the cold evaporator. As it is cooled down, the water vapour in the air is condensed to droplets of water. Condensation water is collected in the built-in water container when automatic defrosting is on.

This process of water giving off its heat content to the air together with the compressor's heat leads the air that is blown back into the room both to be dehumidified and to keep a temperature that is approx. 5-7 °C warmer. You therefore get back in the form of warm air the electrical energy that the dehumidifier uses and the energy that is released when the water condenses.



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