VEAB
Heat Tech AB

LAF
Dehumidifiers

LAF 51/100

Condensing dehumidifiers for professional use

VEAB condensing dehumidifiers are designed for professional use in application in which strict demands are made on capacity. The LAF is therefore suitable for building sites and for dealing with water damage in order to achieve a sufficiently low humidity of the building materials, carpets and wall covering materials.
In basements and warehouses, the LAF maintain sufficiently low humidity to avoid corrosion, smells and mould problems. Drying by means of a LAF dehumidifier is very economical and efficient. The energy consumption is minimal compared to warming and then ventilating away the humid air. For every litre of water evaporated, 700 Wh of heat are recovered.

- Demand-controlled defrosting
- Service temperature range 3 - 30°C
- Humidity operating range 40 - 100% RH
- Automatic stop when the condensate container is full
- Easy to handle - large wheels ensure good mobility (∅ 250 mm)
- Robust, durable design suitable for building sites - can be lifted by the handle
- LAF 51S/51E2S is stackable

LAF 51

Design

The casing is made of galvanized and painted sheet steel.
Built-in condensate collecting container with level switch and provision for connecting a drain hose (∅ 13 mm).
Electronic demand-controlled defrosting offers quick and effective defrosting. The models of LAF51 is stackable, at a height of two, to save space in storage.
Degree of protection IPX4 (splash-proof design).

Electric heating, designation suffixe –E and –E2S

The LAF 51E2S-100E models have a built-in 1500 W electric element.
All E and E2S models have a switch for selecting dehumidification with or without electric heating.
A permanently preset room thermostat controls the electric heating to 20°C.

LAF 100

Connection

All models are equipped with a two meter long 230V power supply cable with earthed plug.

Approvals

The dehumidifiers are manufactured in conformance with:
LVD Directive: EN 60335-1 and EN 60335-2-40
EMC Directive: EN 61000-6-1 and EN 61000-6-3
EMF Directive: EN 62233

CE

Product range overview

Type		LAF 51S	LAF 51E2S	LAF 100	LAF 100E
Operating humidity range 40-100	% RH	40-100	40-100	25-100	25-100
Operating temp. range	°C	+3 - +30	+3 - +30	+3 - +30	+3 - +30
Power supply	V	230V~	230V~	230V~	230V~
Fuse	A	10	10	10	16
Max. power consumption	W	490	2000	1070	2570
Power consumption W at 20°C / 60% RH	W	385	385*	720	720*
Heating capacity at 20°C / 60% RH	W	780	2280[3]	1450	2950[3]
Dehumidification at 20°C, 60% RH	l / 24h	13,5	13,5	25	25
Dehumidification at 30°C, 80% RH	l / 24h	29,7	29,7	49	49
Power consumption at 20°C, 60% RH	kW / l	0,69	0,69[1]	0,69	0,69[1]
Minimum floor area	m²	9	9	-	-
Refrigerant		R 290	R 290	R 410A	R 410A
Air flow rate	m³/h	390	390	850	850
Sound pressure level[2]	dB(A)	54	54	54	54
Volume of collecting container	l	9	9	11	11
Degree of protection		IPX4	IPX4	IPX4	IPX4
Weight	kg	35	35,5	51	52
Depth	mm	440	440	450	450
Width	mm	540	540	640	640
Height	mm	980	980	960	960

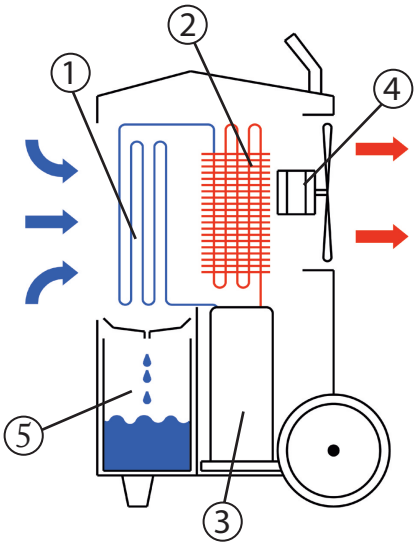
[1] Power consumption excluding heater element.
[2] Measured at a distance of 3 metres in front of the unit.
[3] Including heating element.

How the dehumidifier works

The built-in fan continuously circulates the room air through the dehumidifier. When the humid air flows through the evaporator (cooling element), it will be cooled to its dew point and condensate will be precipitated out of the air. The water runs down into the condensate collecting container. The built-in level switch will stop the dehumidifier when the condensate container is full. The dry and cold air then flows through the condenser where it is heated by the compressor heat and by the energy recovered in the earlier conversion of water vapour into water. The dry and warm air is discharged back into the premises, where it absorbs more moisture.

At certain temperature/humidity conditions, frost will form on the cooling element. Automatic defrosting control is then activated once an hour and delivers the warm gas to the cooling element so that the frost will be thawed and will run down into the condensate collecting container (hot gas defrosting).

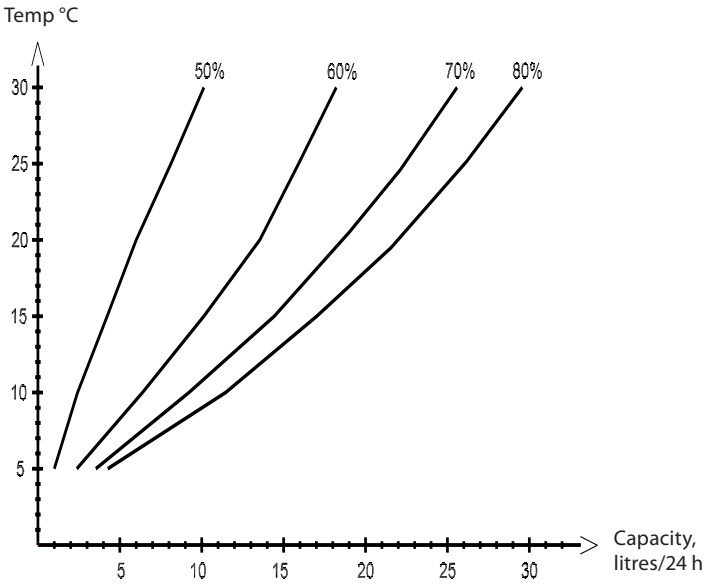
In order to speed up the drying process, LAF 51E2S and LAF 100E have a built-in electric heaters that raise the temperature in the premises, thus accelerating the drying process.



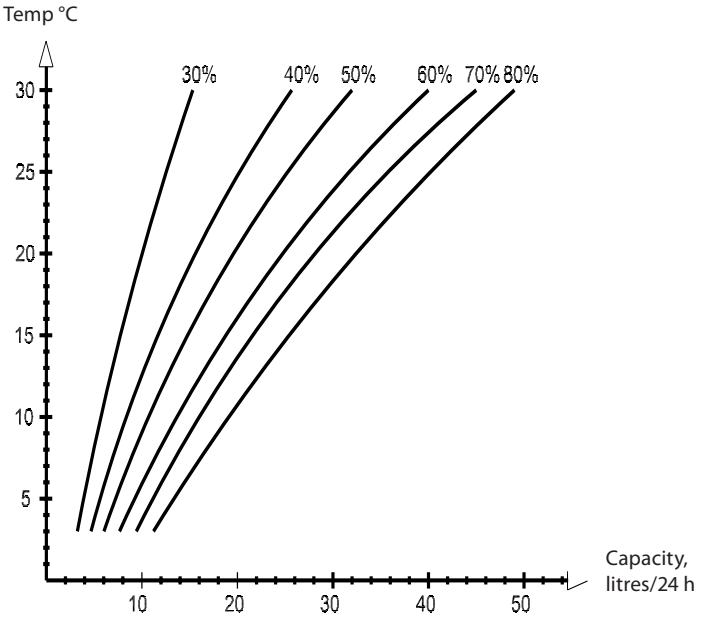
1. Evaporator
2. Condenser
3. Compressor
4. Fan
5. Condensate collecting container

Selection of dehumidifier

Capacity of LAF 51



Capacity of LAF 100



Dehumidification tips

• Locate the dehumidifier to ensure the best possible air circulation in the room.

• Keep the doors and windows closed.

• A higher room temperature accelerates the dehumidification process.

• Untreated iron surfaces will not rust at ambient humidities below 50% RH.

• No significant growth of mould occurs at ambient humidities below 65%.

Accessories

	Product
	Humidistat LAF-HY A humidistat is available as an accessory for controlling the room humidity. The humidistat is connected to the dehumidifier by means of a plug directly at the normal cable connection of the dehumidifier. Including mounted cables. Degree of protection IP21. (Not for use on building sites).
	Operating hour meter LAF-OHM The operating hour meter measures the compressor operating time. Can be factory-fitted to the humidifier or as an accessory for retrofitting.
	Wall bracket LAF-W For permanent installation of the dehumidifier.

LAF 30

Condensing dehumidifiers for basements, water damages etc.

Thanks to its low weight (18.5 kg) LAF 30 is suitable for use in areas where there is a need for an easily handled dehumidifier. LAF is suitable for when you need to get adequate humidity in building materials. In basements and storage areas the dehumidifier helps to maintain the correct humidity to avoid corrosion-, odour- and mould problems. Drying with LAF is very economic and efficient. The energy consumption is minimal comparing to warming and then ventilating away the humid air. For every litre water that is dehumidified, 700 Wh heat energy is recovered.

- Energy-efficient rotary compressor - saves 30 % of energy compared to a piston compressor
- Operating temperature range 8-32°C
- Air humidity operating range 30-100% RH
- Built-in humidistat and operating hour meter
- Automatic stop when the condensate container is full
- Can be connected to a hose
- Easy to handle - handle and low weight (18.5 kg)
- Robust construction suitable for constructions sites
- LAF 30 is stackable

Design

The casing is made of galvanized and painted sheet steel. The built-in condensate collecting container has a with level switch and provision for connecting a drain hose (∅ 13 mm). LAF 30 is stackable, at a height of two, to save space in storage. Degree of protection IPX4 (splash-proof design).

Connection

LAF30 has a 2-metre long 230 V power supply cable with earthed plug.

Control panel

The control panel has:
- Adjustment of desired relative humidity (humidistat)
- Timer if you want to limit the operating time.
- Adjustment of fan speed (low/high).
- Display if relative humidity (hygrometer).
- Indication lamp for when the condensate container is full.

Control panel

Operating hour meter

Show/counts total operating time for the compressor.

Approvals

The dehumidifier has been tested and approved by TÜV in accordance with:
LVD Directive: EN60335-1 and EN60335-2-40
EMC Directive: EN55014-1, EN55014-2, EN61000-3-2 and EN61000-3-3
EMF Directive: EN 62233

Accessories

Condensate container with pump LAF-P30
The pump has a level switch that automatically turns the pump on and off. The condensate container has a socket to which the plug of the dehumidifier can be connected.
Power supply voltage 230V. Hose connection ∅ 1/2" (inside).
Max pump height 3,5 meter.

Wall bracket LAF-W30
For permanent installation of the dehumidifier.

LAF30 with pump LAF-P30

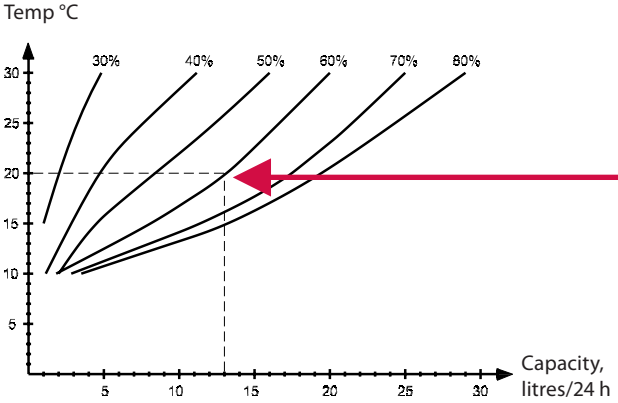
Technical data

Typ		LAF 30
Air humidity operating range	% RH	30-100
Operating temperature range	°C	+8 - +32
Power supply	V	220-240V, 50Hz
Fuse	A	10
Max. power consumption	W	660
Power consumption at 20°C / 60% RH	W	500
Dehumidification at 20°C, 60% RH	l / 24 h	13
Dehumidification at 30°C, 80% RH	l / 24 h	30
Refrigerant		R410A
Rotary compressor		yes
Air flow rate (low-/high speed)	m³/h	200 / 280
Sound pressure level[1] (low-/high speed)	dB(A)	47 / 51
Condensate container volume	l	6.2
Degree of protection		IPX4
Weight	kg	18,5
Depth	mm	337
Width	mm	327
Height	mm	528

[1] *Measured at a distance of 3 metres in front of the unit.*

Control panel and operating hour meter

Capacity of LAF 30



When selecting a dehumidifier, it is important to compare the capacity at a normal operating point. A normal operating point for dehumidification is 20°C and 60% RH. (The capacity at 30°C and 80% RH is of no interest in normal use.)

LAF 12

Compact dehumidifier for smaller premises

The LAF 12 is a dehumidifier that reduces air humidity and thereby creates a healthy and comfortable indoor climate. The dehumidifier is suitable for use in basements, storage rooms, kitchens, archives, living rooms, bedrooms etc.

- Energy-efficient rotary compressor, save about 30% energy compared to a piston compressor
- Adjustable digital humidistat
- Display showing current humidity
- Low sound level
- Built-in filter
- Automatic defrosting
- Outlet for drain hose
- Timer function 24 hours
- Low weight and carrying handle make the unit easy to handle
- Degree of protection IP21

Design

Built-in condensate container with level switch and provision for connecting a drain hose (12 mm **i.d. hose**). The LAF 12 is provided with a simple and easy-to-use control panel. Degree of protection IP21.

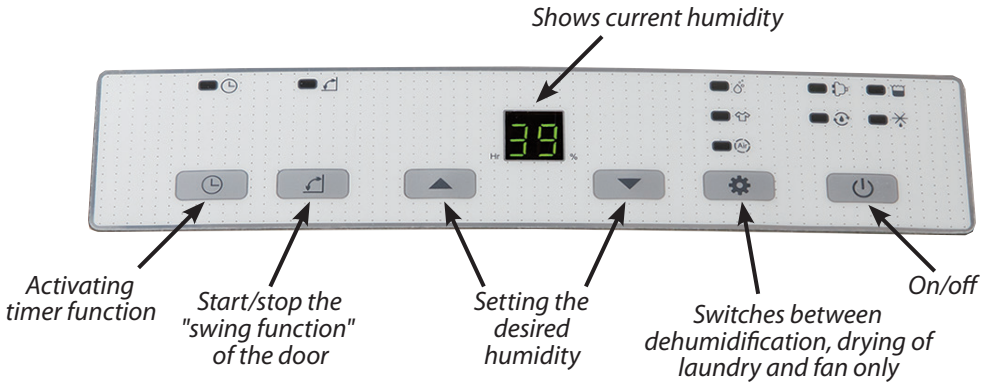
Degree of protection IP21

LAF 12 is manufactured with degree of protection IP21.
This degree of protection is required when the dehumidifier is to be used in damp premises such as bath and washroom as well as in the laundry room.

Connection

LAF12 equipped with a two meter long 230V power supply cable with earthed plug.

Control panel



Approvals

The dehumidifier has been tested an approved by TÜV in accordance with:
LVD Directive: EN60335-1 and EN60335-2-40
EMC Directive: EN55014-1, EN55014-2, EN61000-3-2 and EN61000-3-3
EMF Directive: EN 62233

Technical data

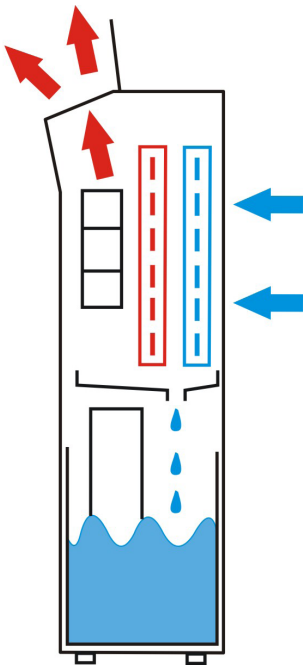
Type		LAF 12
Air humidity operating range	% RH	35-80
Operating temperature range	°C	+8 - + 35
Power consumption. at 20°C / max	W	170 / 200
Current at 20°C / max	A	0,8 / 1,0
Power supply	V	230V~
Air flow rate	m^3/h	120
Dehumidification at 30°C, 80% RH	l / 24 h	12,0
Dehumidification at 27°C 60 % RH	l / 24 h	6,5
Dehumidification at 20°C 60 % RH	l / 24 h	3,6
Dehumidification at 8°C 60 % RH	l / 24 h	1,6
Degree of protection		IP21
Refrigerant		R134a
Condensate container volume	l	4,0
Sound pressure level[1]	dB(A)	44
Weight	kg	10,5
Width	mm	355
Depth	mm	180
Height	mm	525

[1] *Measured 3 meters in front of the dehumidifier.*

How the dehumidifier works

LAF 12 operates along the same principle as a heat pump or a refrigerator. The humid room air is cooled as it flows through the cold evaporator. During the cooling process, the water vapor condenses out of the air to form water droplets. The condensate is collected into the built-in condensate collecting container, and so is the water from the automatic defrosting.

This process in which the water gives up its heat to the air, together with compressor heat, causes the air discharged back into the room to be dehumidified and to have a temperature that is about 5 - 7°C higher than the incoming air. The electrical energy consumed by the dehumidifier and the energy liberated when the water condenses are thus returned in the form of warm air.



VEAB Heat Tech AB

VEAB Heat Tech AB
Phone: +46(0)451-485 00 • Fax: +46(0)451-410 80
www.veab.com • veab@veab.com
Sweden