

Operator's Manual

Dehumidifier

AD 85LGR AD 115LGR



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5 2 0 0 0 0 0 3 1 0

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Original instructions

This Operator's Manual presents the original instructions. The original language of this Operator's Manual is American English.

Foreword

SAVE THESE INSTRUCTIONS—This manual contains important instructions for the machine models below. These instructions have been written expressly by Wacker Neuson Production Americas LLC and must be followed during installation, operation, and maintenance of the machines.

Machines covered by this manual

This manual covers machines with the following item numbers:

Machine	Item Number
AD 85LGR	5200000302
AD 115LGR	5000620695

Machine documentation

- From this point forward in this documentation, Wacker Neuson Production Americas LLC will be referred to as Wacker Neuson.
- Keep a copy of the Operator's Manual with the machine at all times.
- Use the separate Parts Book supplied with the machine to order replacement parts.
- Refer to the separate Repair Manual for detailed instructions on servicing and repairing the machine.
- If you are missing any of these documents, please contact Wacker Neuson to order a replacement or visit www.wackerneuson.com.
- When ordering parts or requesting service information, be prepared to provide the machine model number, item number, revision number, and serial number.

Expectations for information in this manual

- This manual provides information and procedures to safely operate and maintain the above Wacker Neuson model(s). For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.
- Wacker Neuson expressly reserves the right to make technical modifications, even without notice, which improve the performance or safety standards of its machines.
- The information contained in this manual is based on machines manufactured up until the time of publication. Wacker Neuson reserves the right to change any portion of this information without notice.

Manufacturer's approval

This manual contains references to *approved* parts, attachments, and modifications. The following definitions apply:

- **Approved parts or attachments** are those either manufactured or provided by Wacker Neuson.
- **Approved modifications** are those performed by an authorized Wacker Neuson service center according to written instructions published by Wacker Neuson.
- **Unapproved parts, attachments, and modifications** are those that do not meet the approved criteria.

Unapproved parts, attachments, or modifications may have the following consequences:

Foreword

- Serious injury hazards to the operator and persons in the work area
- Permanent damage to the machine which will not be covered under warranty

Contact your Wacker Neuson dealer immediately if you have questions about approved or unapproved parts, attachments, or modifications.



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1 Safety Information

1.1 Signal Words Used in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE*, and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



This is the safety alert symbol. It is used to alert you to potential personal hazards.
▶ Obey all safety messages that follow this symbol.



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

▶ To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

▶ To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



CAUTION!

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

▶ To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.

NOTICE: Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

Note: *A Note contains additional information important to a procedure.*

1.2 Intended Purpose

The intended purpose of the AD 85LGR / AD 115LGR is to remove humidity from ambient air at construction sites or in restoration applications.

- Do not use the machine for any other purpose.
- Do not use the machine outdoors.

1.3 Operating Safety**Operator training**

Before operating the machine:

- Read and understand the operating instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Contact Wacker Neuson for additional training if necessary.

When operating this machine:

- Do not allow improperly trained people to operate the machine. People operating the machine must be familiar with the potential risks and hazards associated with it.

Application area

Be aware of the application area.

- Keep unauthorized personnel, children, and pets away from the machine.
- Remain aware of changing positions and the movement of other equipment and personnel in the application area/job site.

Be aware of the application area.

- Do not operate the machine in areas that contain flammable objects, fuels, or products that produce flammable vapors.

Safety devices, controls, and attachments

Only operate the machine when:

- All safety devices and guards are in place and in working order.
- All controls operate correctly.
- The machine is set up correctly according to the instructions in the Operator's Manual.
- The machine is clean.
- The machine's labels are legible.

To ensure safe operation of the machine:

- Do not operate the machine if any safety devices or guards are missing or inoperative.
- Do not modify or defeat the safety devices.
- Do not use accessories or attachments that are not approved by Wacker Neuson.

Safe operating practices

When operating this machine:

- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.
- Wear protective clothing appropriate to the job site when operating the machine.
- Wear safety glasses when operating this machine.

When operating this machine:

- Do not operate this machine if it is in need of repair.

1.4 Service Safety

Service training

Before servicing or maintaining the machine:

- Read and understand the instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Only trained personnel should troubleshoot or repair problems occurring with the machine.
- Contact Wacker Neuson for additional training if necessary.

When servicing or maintaining this machine:

- Do not allow improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.

Precautions

Follow the precautions below when servicing or maintaining the machine.

- Read and understand the service procedures before performing any service to the machine.
- All adjustments and repairs must be completed before operation. Do not operate the machine with a known problem or deficiency.
- All repairs and adjustments shall be completed by a qualified technician.
- Turn off the machine before performing maintenance or making repairs.

Safe servicing practices

When servicing and maintaining this machine:

- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.
- Wear protective clothing appropriate to the job when servicing and maintaining the machine.
- Wear safety glasses when servicing and maintaining this machine.
- Re-install the safety devices and guards after repairs and maintenance.

Machine modifications

When servicing or maintaining the machine:

- Use only accessories/attachments that are approved by Wacker Neuson.

When servicing or maintaining the machine:

- Do not defeat safety devices.
- Do not modify the machine without the express written approval of Wacker Neuson.

Replacing parts and labels

- Replace worn or damaged components.
- Replace all missing and hard-to-read labels.
- When replacing electrical components, use components that are identical in rating and performance as the original components.
- When replacement parts are required for this machine, use only Wacker Neuson replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions, type, strength, and material.

Lifting and transporting

When lifting the machine:

- Make sure slings, chains, hooks, ramps, jacks, and other types of lifting devices are attached securely and have enough weight-bearing capacity to lift or hold the machine safely. See section *Technical Data*.
- Remain aware of the location of other people when lifting the machine.
- Make sure the transporting vehicle has sufficient load capacity and platform size to safely transport the machine. See section *Technical Data*.

To reduce the possibility of injury:

- Do not stand under the machine while it is being lifted or moved.
 - Do not get onto the machine while it is being lifted or moved.
-

Cleaning

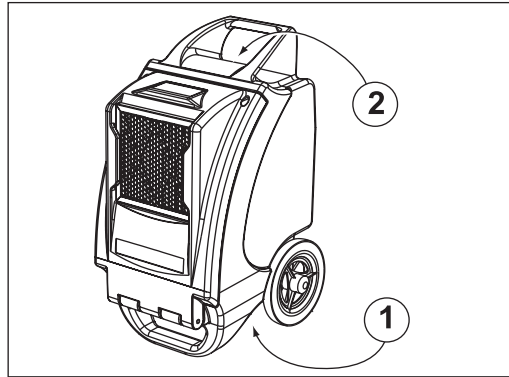
When cleaning the machine:

- Disconnect the power supply before cleaning.
- Keep the machine clean and free of debris such as leaves, paper, cartons, etc.
- Keep the labels legible.

When cleaning the machine:

- Never use gasoline or other types of fuels or flammable solvents to clean the machine. Fumes from fuels and solvents can become explosive.

1.5 Label Locations



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1.6 Label Meanings

<p>1</p>		<p>A nameplate listing the model number, item number, revision number, and serial number is attached to each unit. Please record the information found on this plate so it will be available should the nameplate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model number, item number, revision number, and serial number of the unit.</p>
<p>2</p>		<p>WARNING Unit must be in upright position for 30 minutes prior to start up. Failure to follow this procedure could result in compressor damage not covered by warranty.</p>

2 Lifting and Transporting

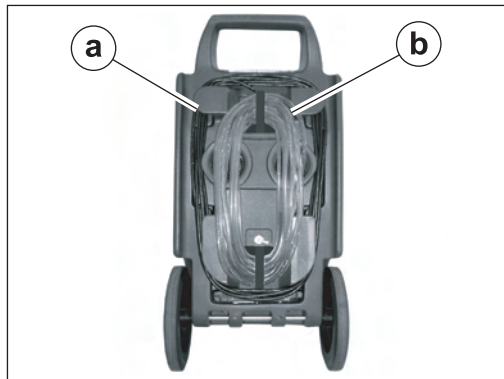
2.1 Lifting the Machine

- Precautions**
- Refer to Chapter *Technical Data* for the applicable machine weights.
 - Obtain help from an assistant if necessary.

Lifting the machine

Follow the procedure below to lift the machine.

1. Remove all water from the reservoir. See section *Flushing the Drainage System*.
2. Disconnect the power supply. Wind the power cord **(a)** to the back of the machine.



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3. Disconnect the outlet tube. Wind the outlet tube **(b)** to the back of the machine.
4. **For manual lifting:** Firmly grasp the handles of the machine and lift as needed.
For mechanically-aided lifting: Attach a properly-rated strap to the upper handle of the machine and to a properly-rated crane.



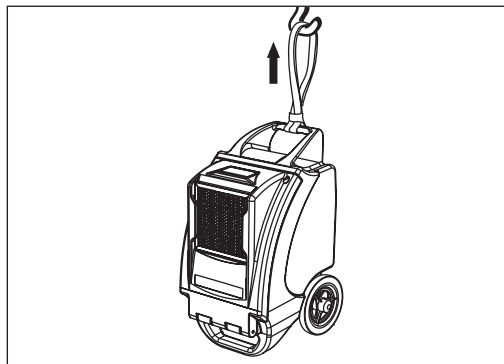
WARNING

Crush hazard. The machine could cause serious injury or death if the lifting mechanism malfunctions.

- ▶ Do not stand under the machine when it is being lifted.

5. Lift the machine as needed.

Note: *The machine may be unbalanced when lifted. Take care when lowering the machine so that it remains in the upright orientation.*



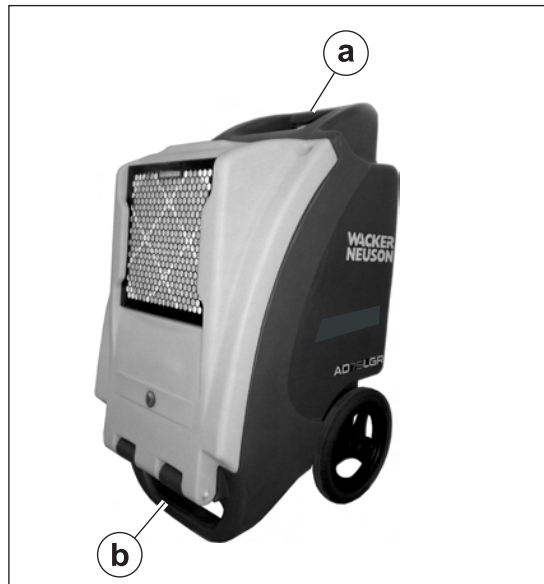
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2.2 Transporting the Machine

- Precautions**
- Refer to Chapter *Technical Data* for the applicable machine weights.
 - Refer to Section 2.1 *Lifting the Machine* for lifting procedures.

Transporting the machine Secure the machine to the transport vehicle using the handles **(a and b)** as tie-down points.

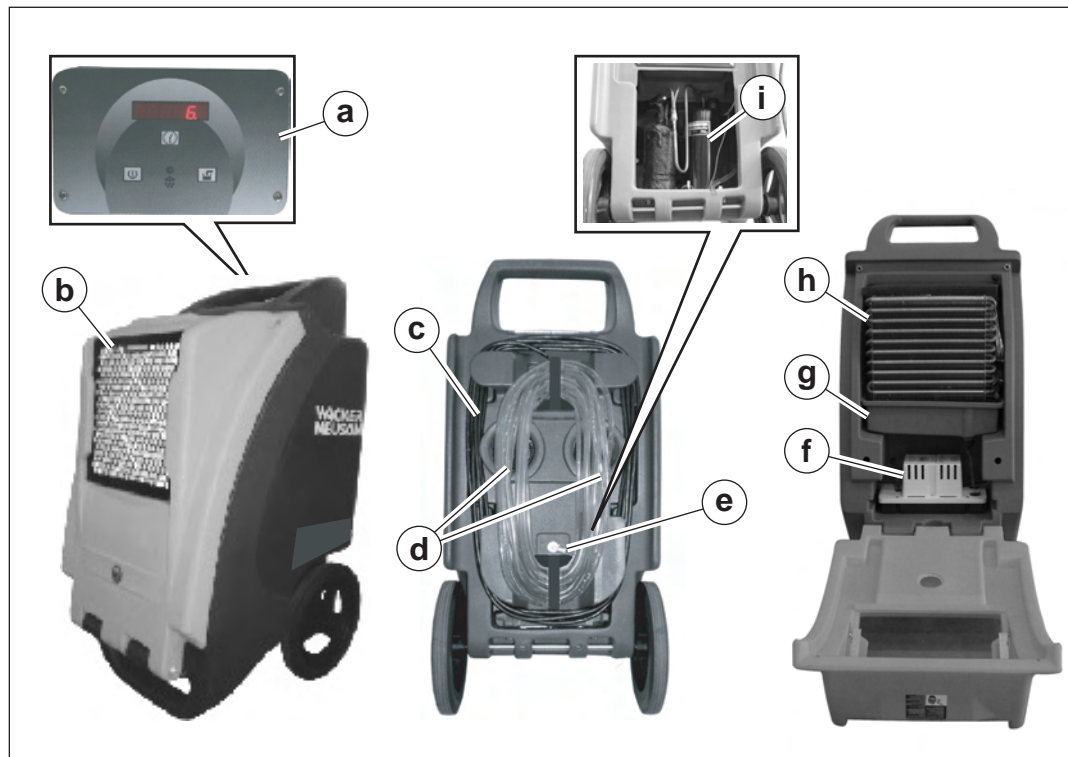
NOTICE: Do not use the wheels as tie-down points.



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3 Operation

3.1 Control / Component Locations






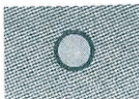

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Ref.	Description	Ref.	Description
a	Control panel	f	Pump
b	Air filter	g	Reservoir
c	Power cord	h	Evaporator coils
d	Ducting outlets	i	Compressor assembly
e	Drain hose connection point	-	---

3.2 Control Panel



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Item	Name	Function
	Power button	Press the power button to turn the machine on and off.
	Hour button	Press the hour button to activate the hour meter display. Use this button when the machine is not plugged in and an hour meter reading is needed. When pressed, the hour meter will display the last saved time reading for a period of 10 seconds.
	Pump purge button	Press and release the pump purge button to manually activate the pump for 20 seconds. Press and hold the pump purge button to manually activate the pump for 30 seconds. Use the pump purge button when manually draining the reservoir. Note: During normal operation, the pump will automatically empty the reservoir.
	Defrost indicator	The defrost light illuminates during the defrost cycle. Note: During the defrost cycle, the blower remains on but the compressor does not run.
		The hour meter turns on as soon as the machine is turned on. The hour meter counts the total running hours of the machine in 1/10-hour increments.

3.3 Preparing the Machine and the Area to be Dried

- Requirements**
- This machine requires a 115V, 15A grounded circuit.
 - Isolate the circuit from all other loads.
 - The circuit shall be protected by a dedicated breaker or fuse.
 - A Ground Fault Interrupter (GFI) is required if the machine is used in a wet area.



WARNING

Electric shock hazard. Electric shock can cause severe injury or death. This machine requires a three-prong grounded plug and a three-prong grounded outlet.

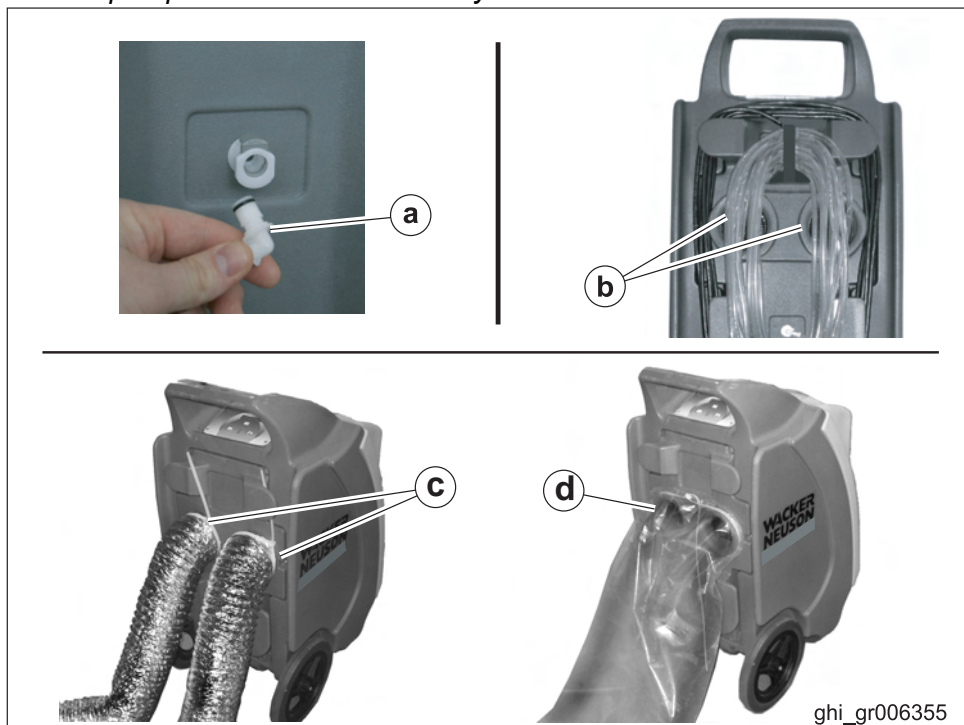
- ▶ Do not remove the ground prong from the plug.
- ▶ Do not use an extension cord.
- ▶ Do not use an adapter.
- ▶ Use only three-prong outlets and plugs.

NOTICE: Unit must be in upright position for 30 minutes prior to start up. Failure to follow this procedure could result in compressor damage not covered by warranty.

Procedure Follow the procedure below to prepare the machine and the area to be dried.

1. Place the machine inside the area to be dried.
2. Close all windows and doors of the area to be dried.
3. Seal off the area to be dried from adjacent unaffected areas.
4. Connect and route the drain hose (a) into a drain or large container (10 gallons or more).

Note: If the water needs to be pumped more than 20 feet above the machine, a second pump must be added to relay the water.



5. If desired, connect two individual 5-inch ducts (c), or one 10-inch lay-flat duct (d), to the rear duct outlets (b). This allows for warm air to be directed into different areas.
6. Ensure that the front hood is secured in place.
7. Connect the power cord to a 115V, 15A grounded circuit.

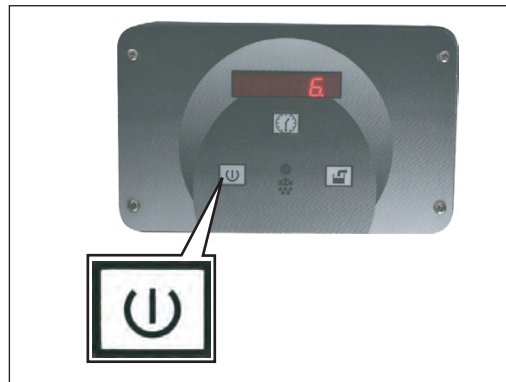
Result The machine is now ready for operation.

3.4 Operation

- Requirements**
- Machine is prepared for operation.
 - Area to be dried is prepared for operation.

Starting Follow the procedure below to operate the machine.

1. Press the power button to activate the machine.



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The following will occur when the machine is activated.

Item	Action
Hour meter	The hour meter will start and display the cumulative hours.
Blower	The blower will run.
Drain pump	The drain pump will run every four minutes for a period of 20 seconds.
Defrost cycle	The defrost cycle will activate as needed. During a defrost cycle: <ul style="list-style-type: none"> ■ The defrost light illuminates. ■ The compressor is turned off. ■ The blower runs, blowing air through the evaporator coil melting any ice. When the ice is melted, the compressor is restarted.

Stopping 2. Press the power button to de-activate (stop) the machine.

4 Maintenance**Warnings****WARNING**

Health hazard. This machine uses high-pressure refrigerant. High-pressure refrigerant can cause severe injury or death.

- ▶ Only qualified and properly certified personnel shall service the refrigeration system on this machine.

**WARNING**

Electric shock hazard. This machine runs on voltage that can cause severe injury or death.

- ▶ Only qualified service personnel shall service this machine.

Refrigerants

Improper use of refrigerants can be harmful to the environment. Only qualified and properly certified personnel shall service the refrigeration system on this machine.

Decommissioning

This machine must be disassembled and recycled according to local environmental regulations at the end of its life.

4.1 Cleaning the Machine



WARNING

Electric shock hazard. Electric shock can cause severe injury or death.

- ▶ Disconnect the power supply before cleaning the machine.

When

The machine should be cleaned on an as-needed basis.

External cleaning

Follow the procedure below to clean the external surfaces of the machine.



WARNING

Fire and explosion hazard. Fumes from fuels and solvents can become explosive.

- ▶ Never use gasoline or other types of fuels or solvents to clean the machine.

1. Wipe the machine with a solution of non-flammable, non-abrasive mild soap and clean water.
2. Wipe the machine dry with a clean cloth.

Internal cleaning

Follow the procedure below to clean the internal surfaces of the machine.

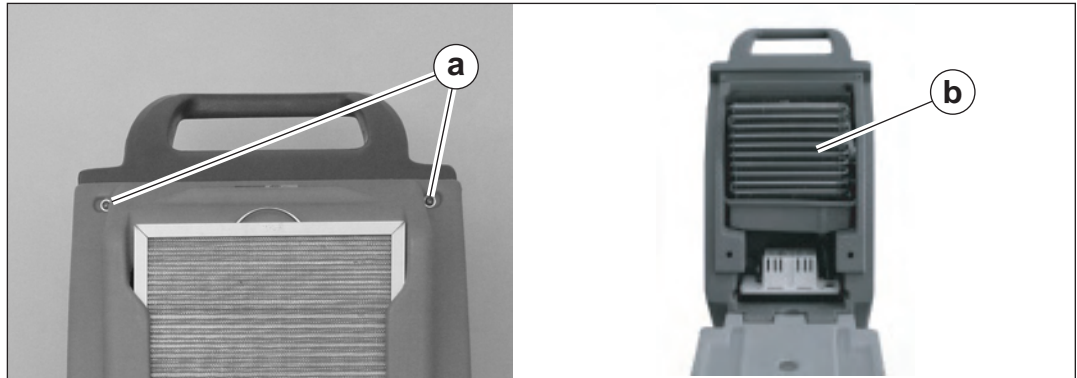


CAUTION

Health hazard. The evaporator coils may be extremely cold. Wet skin may stick to the cold evaporator coils.

- ▶ Do not touch the evaporator coils with wet hands.

1. Remove the two screws **(a)** that secure the front hood and open the front hood.



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2. Spray the evaporator coils **(b)** with water from a garden hose.
3. Close the front hood and secure it in place with the two screws.

Result

The machine has now been cleaned.

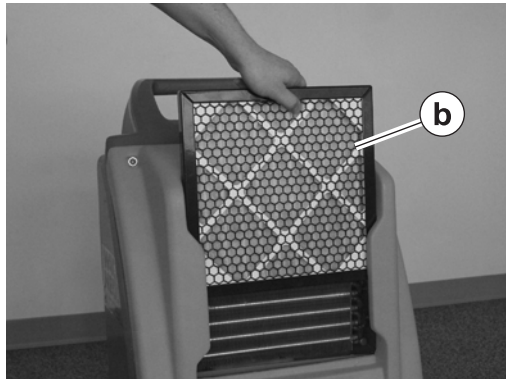
4.2 Optional MERV 1 Air Filter

Background The standard air filter for this machine is a MERV 7 (Minimum Efficiency Reporting Value) filter. It is made of pleated paper and requires a metal bracket to hold it in position.

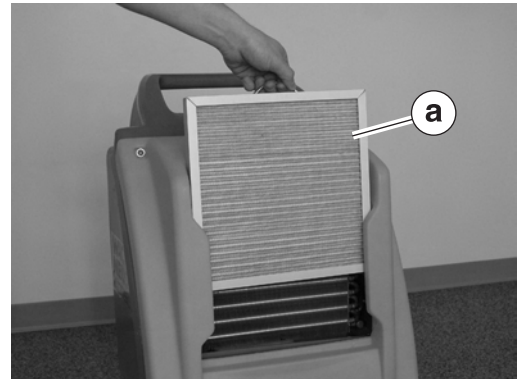
An optional MERV 1 air filter is available for the machine. It is aluminum, does not require a metal bracket to hold it in position, and is a direct replacement for the standard MERV 7 filter with metal bracket.

Procedure Follow the procedure below to exchange the filters.

1. Turn the machine off.
2. Remove the standard MERV 7 filter and metal bracket **(b)** from the machine.



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3. Insert the aluminum air filter **(a)** into the machine.

Result

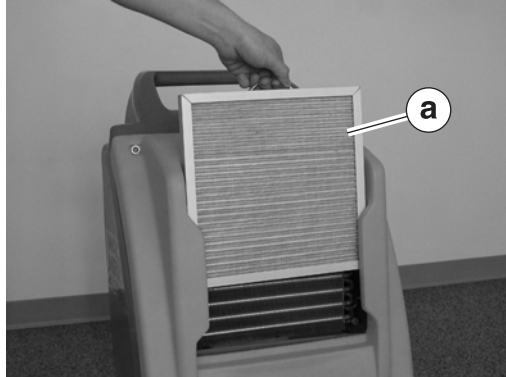
The machine is now ready for use.

4.3 Cleaning the MERV 1 (Aluminum) Air Filter

When The standard MERV 7 pleated paper air filter is not cleanable. Discard and replace this filter when it is dirty.
The optional MERV 1 aluminum air filter should be cleaned weekly.

Procedure Follow the procedure below to clean the air filter.

1. Turn the machine off.
2. Remove the air filter **(a)** from the machine.



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3. Vacuum the air filter or use a solution of non-flammable, non-abrasive mild soap and clean water to wash the air filter.
 4. Allow the air filter to dry.
 5. Reinstall the air filter.
-

Result The air filter has now been cleaned.

4.4 Flushing the Drainage System

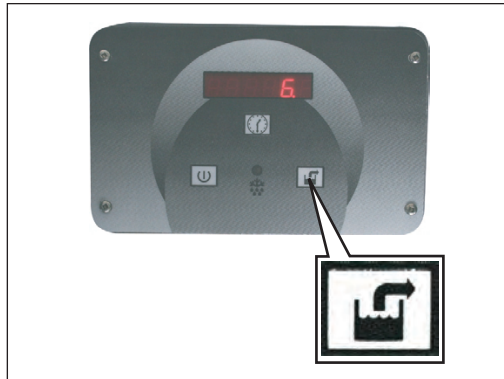
When Flush the drain system before storing the machine.

Requirements

- Liquid biofungicide
- 1-liter container with a spray nozzle

Procedure Follow the procedure below to flush the drainage system.

1. Press the pump purge button as necessary to pump any remaining water out of the reservoir.



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2. Mix the biofungicide with water according to the manufacturer's instructions.
 3. Open the front hood.
 4. Spray the evaporator coils and the inside of the machine with biofungicide solution.
 5. Allow the machine to soak for 15 minutes.
 6. Close the front hood.
 7. Use the pump purge button to activate the pump. Pump the biofungicide out of the reservoir.
 8. Repeat the above steps using water only.
 9. Disconnect the power supply.
-

Result The machine has now been flushed.

4.5 Changing the Backup Battery

Background The hour meter uses a 9V backup battery to power the display when the main power supply is disconnected.



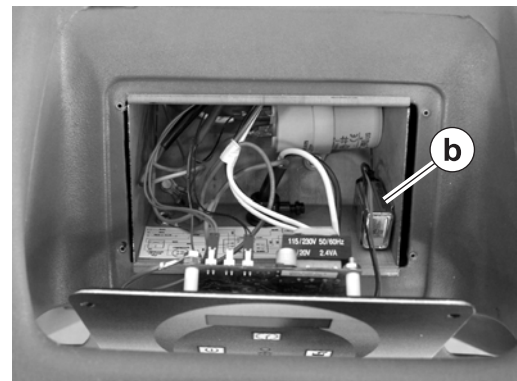
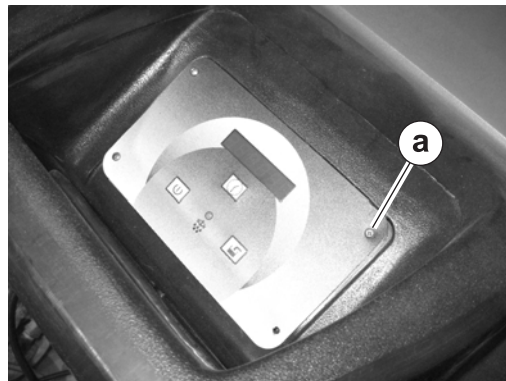
WARNING

Electric shock hazard. High voltage exists inside the control panel when the machine is connected to a power supply. Electric shock can cause severe injury or death.

- ▶ Disconnect the power supply before changing the control panel battery.

Procedure Follow the procedure below to change the backup battery.

1. Turn the machine off.
2. Disconnect the power supply.
3. Remove the four screws **(a)** that secure the control panel to the machine.



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4. Remove the battery **(b)** and replace it with a new battery.
5. Re-install the control panel with the four screws.

Result The backup battery has now been changed.

4.6 Storing the Machine

- Precautions**
- Refer to Chapter *Technical Data* for the applicable machine weights.
 - Refer to Section 2.1 *Lifting the Machine* for lifting procedures.
-

- Before storing the machine** Complete the following tasks before storing the machine.
1. Flush the machine with a biofungicide. See Section 4.4 *Flushing the Drainage System*.
 2. Purge all water and biofungicide chemicals from the reservoir and hoses.
 3. Disconnect the machine from its power supply.
-

- Storing the machine** Follow the guidelines below when storing the machine.
1. Wind the power cord to the back of the machine.
 2. Wind the drainage tube to the back of the machine.
 3. Stack the machines as shown if necessary.
- NOTICE:** Do not stack more than two machines high.



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4. Secure the machines as necessary to ensure they do not fall or move.

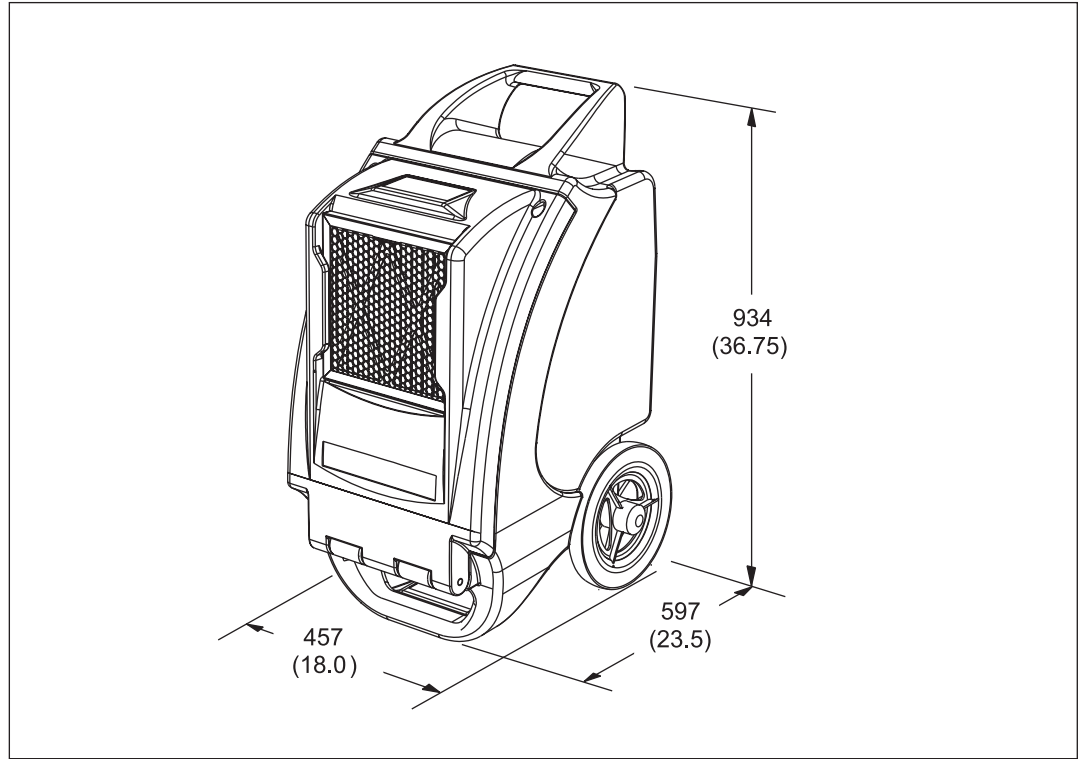
5 Technical Data

5.1 Machine

Model		AD 85LGR	AD 115LGR
Machine			
Weight	kg (lb)	45.4 (100)	45.4 (100)
User interface type		Electronic controls, push button operation	
Power supply cord length	m (ft)	7.6 (25)	7.6 (25)
Drainage hose length	m (ft)	9.1 (30)	9.1 (30)
Air filter type	Standard Optional	MERV 7—Pleated paper MERV 1—Washable cartridge	
Discharge air duct size	in.	5 (x 2)	
Capacity (AHAM 80°F (27°C), 60% RH)	L/day (ppd)	39.3 (83)	54 (115)
Capacity at saturation	L/day (ppd)	71 (150)	118 (250)
Air flow volume	m ³ /hr (cfm)	510 (300)	
Machine temperature range	°C (°F)	4–40 (40–104)	
System type		Low Grain Refrigerant (LGR)	
Compressor type		Rotary	
AC power requirements	V/Hz	115 / 60	
Amp draw	A	8.7	11.3
Circuit rating	A	15	
Number of blower speeds		1	
Drainage pump purge types		Automatic and manual	
Defrost type		Temperature-sensed (thermistor)	
Hour meter type		Digital display with battery backup	
Standards		cCSAus	

5.2 Dimensions

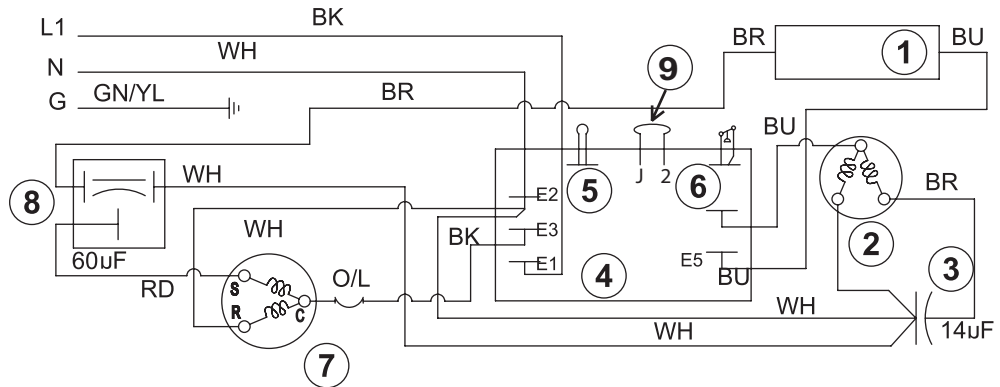
mm (in.)



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6 Schematic

6.1 Dehumidifier Electrical Schematic



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Ref.	Description	Ref.	Description
1	Pump	6	Float
2	Blower	7	Compressor
3	Blower capacitor	8	Compressor capacitor
4	Control panel	9	J-2 with jumper
5	Thermistor	—	—

Wire Colors							
BK	Black	RD	Red	YL	Yellow	OR	Orange
GN	Green	TN	Tan	BR	Brown	PU	Purple
BU	Blue	VIO	Violet	CL	Clear	SH	Shield
PK	Pink	WH	White	GY	Gray	LB	Lt. blue

Notes:

