PALERMO COLLECTION

The Palermo

Use & Care Guide

Read this guide in full before operating the appliance. Keep it for future reference and to instruct anyone else who will use or service this heater.

Model	Palermo
SKU	LHI-PALERMO
Input rating	41,000 BTU/hr
Heat radius	15 ft · approx. 707 sq ft
Fuel	Liquid propane or natural gas
Configuration	Flat-pack in two cartons

⚠ DANGER

If you smell gas

- Shut off gas to the appliance.
- Extinguish any open flame.
- If odor continues, keep away from the appliance and immediately call your gas supplier or fire department.

How to Use This Guide

Safety messages in this guide follow the ANSI Z535 standard. The signal word tells you how serious the hazard is.

Signal word	What it means
DANGER	An imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	A potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	A potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.
NOTICE	Information about practices not related to personal injury.

Safety Information

Please read and understand this entire guide before attempting to assemble, operate or install the product. Keep it for future reference and to educate new users of this product. This guide should be read in conjunction with the labeling on the product. Safety precautions are essential when any mechanical or propane-fueled equipment is involved, and are necessary when using, storing and servicing.

⚠ DANGER

Carbon monoxide hazard

- This appliance can produce carbon monoxide, which has no odor. Using it in an enclosed space can kill you. Never use this appliance in an enclosed space such as a camper, tent, car or home.
- This heater is a combustion appliance. All combustion appliances produce carbon monoxide during combustion. Used and maintained in accordance with all warnings and instructions, this product produces extremely minute, non-hazardous amounts.
- Carbon monoxide poisoning produces flu-like symptoms, watery eyes, headaches, dizziness, fatigue and possibly death. You cannot see it and you cannot smell it. If these symptoms are present during operation, get fresh air immediately.
- Do not block air flow into or out of the heater. For outdoor use only.

⚠ DANGER

Explosion and fire hazard

- Keep solid combustibles such as building materials, paper or cardboard a safe distance from the heater. Minimum clearances from combustible materials: 36" (91 cm) from the sides and 36" (91 cm) from the top.
- Provide adequate clearances around air openings into the combustion chamber.
- Never use the heater in spaces which contain volatile or airborne combustibles.

⚠ DANGER

Propane storage

- Never store propane near high heat, open flames, pilot lights, direct sunlight or where temperatures exceed 120°F (49°C).
- Propane vapors are heavier than air and can accumulate in low places. If you smell gas, leave the area immediately.
- Never install or remove a cylinder while the heater is lit, near a flame, or while it is hot to touch.
- Store the cylinder outdoors in a well-ventilated space out of reach of children.

⚠ WARNING

Flammable vapors and installation

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- An LP-gas cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.
- Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

⚠ WARNING

Burn hazard

- Never leave the heater unattended when hot or in use, and keep it out of reach of children.
- Alert children and adults to the hazards of high surface temperatures.
- Do not hang clothing or other flammable materials from the heater.
- Replace any guard or protective device removed for servicing before returning the appliance to service.

⚠ WARNING

California Proposition 65

- Combustion by-products produced when using this product contain chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm. www.P65Warnings.ca.gov

⚠ WARNING

Small batteries

- This product contains small batteries. Swallowed batteries can cause a choking hazard. Seek immediate medical attention if a battery is swallowed or inhaled. Keep children away from small batteries.

⚠ CAUTION

Service safety

- Keep all connections and fittings clean and make sure the cylinder valve outlet is clean.
- During set-up, check all connections and fittings for leaks using soapy water — never use a flame.
- Use as a heating appliance only. Never alter it in any way.

Shelter and Enclosure

This appliance may be installed with shelter no more inclusive than one of the following:

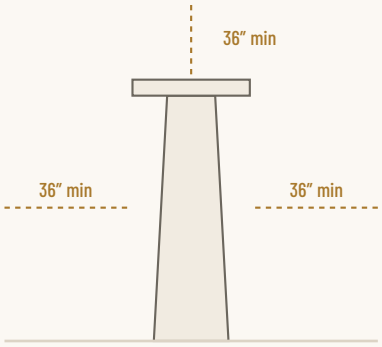
- Walls on all sides, but no overhead cover.
- A partial enclosure with an overhead cover and no more than two side walls.
- A partial enclosure with an overhead cover and three side walls, as long as 30 percent or more of the horizontal periphery is permanently open.

Installation of this appliance at altitudes above 2,000 ft (610 m) shall be in accordance with local codes, or in the absence of local codes, ANSI Z223.1/NFPA 54 or CSA B149.1.

Specifications

Item	Detail
Model	The Palermo (LHI-PALERMO)
Input rating	41,000 BTU/hr
Heat radius / coverage	15 ft · approx. 707 sq ft
TruBTU™ comfort zone, 50°F evening	73° at 5 ft · 65° at 10 ft · 60° at 15 ft
Fuel	Liquid propane or natural gas
Manifold pressure	LP 11 in W.C. · NG 4–7 in W.C.
Ignition	Push-button ignition · manual Clima-Comfort, PILOT / MIN / MAX teardrop dial · one AAA battery
Safety	Flame failure device and anti-tilt switch
Run time	Approx. 12 hours per 20 lb cylinder (LP)
Dimensions	82" H · 44 lb
Materials	All-weather rattan weave · powder-coated frame · aluminum reflector
Certification	Certified to ANSI Z83.26 / CSA 2.37
Minimum clearances	36" from the sides · 36" from the top

Clearances



Minimum clearances from any combustible surface or material: 36" (91 cm) from the sides and 36" (91 cm) from the top. Observe them at all times, and keep the heater clear of windows, air intakes, sprinklers and other water sources.

Codes and standards

Subject	Requirement
Installation	Must conform with local codes or, in their absence, the National Fuel Gas Code ANSI Z223.1/NFPA 54, or in Canada CSA B149.1.
Propane storage	Storage and handling of propane must conform with ANSI/NFPA 58 or CSA B149.2.
Cylinders	Cylinders must comply with U.S. DOT specifications or, in Canada, CAN/CSA-B339.

Locating the Heater

This heater is designed for outdoor patios, decks, pool surrounds and open working areas. Place it on level, firm, non-combustible ground. Always provide adequate fresh-air ventilation and observe the minimum clearances (36" from the sides and 36" from the top) at all times. Never operate it in an explosive atmosphere, and keep it away from areas where gasoline or other flammable liquids or vapors are stored or used.

Certain materials or items, when stored under or near the heater, will be subjected to radiant heat and could be seriously damaged.

Before First Use

Fit one AAA battery in the igniter in the control head. It lasts one to two seasons.

On first use, smoke and odor from the burning of manufacturing oils will appear. Both dissipate after approximately 30 minutes. Avoid inhaling these fumes; the heater should not produce thick black smoke.

Gas Supply

Fuel connection — propane

Use a standard 20 lb propane cylinder only, with a vapor-withdrawal supply system. The cylinder and gas are sold separately. The pressure regulator and hose assembly supplied with the appliance must be used. Storage of the heater indoors is permissible only if the cylinder is disconnected and removed and stored outdoors.

Cylinder requirements

- Standard 20 lb (9 kg) propane vapor-withdrawal cylinder, constructed and marked per U.S. DOT specifications for LP-gas cylinders or, in Canada, CAN/CSA-B339.
- Fitted with a listed overfilling prevention device (OPD) and a connection compatible with the supplied regulator.
- Fitted with a collar to protect the cylinder valve. Never fill a cylinder beyond 80 percent full.
- Never use a dented, rusted or damaged cylinder, or one with a damaged valve connection.

Natural gas installation

⚠ NOTICE

Professional installation only

Conversion to natural gas and connection to a fixed natural gas line must be carried out by a qualified, licensed gas technician in accordance with local codes or, in their absence, ANSI Z223.1/NFPA 54 or CSA B149.1.

- Natural gas units operate at 4–7 in W.C.; the supply line must be sized for the total BTU load of every appliance on it, never smaller than ¾" inside diameter.
- A manual gas shut-off valve must be installed in an easily accessible location.
- Natural gas units ship with a 10 ft quick-connect hose. Keep threading compound off the first two threads, and never use it on flare fittings.
- Never connect a gas line directly to the heater without the pressure regulator supplied.

Leak Check

Perform all leak tests outdoors. Extinguish all open flames. Never smoke while carrying out a leak test. Do not use the heater until all connections have been leak tested and do not leak.

Step	Action
1	Make 2–3 oz of leak check solution — one part liquid dishwashing detergent to three parts water.
2	Apply several drops where the hose attaches to the regulator.
3	Apply several drops where the regulator connects to the cylinder, and to all hose and valve connections.
4	Make sure all heater valves are OFF.
5	Turn the cylinder valve ON. Bubbles at any connection mean there is a leak.

If bubbles appear

- Turn the cylinder valve OFF.
- If the leak is at the hose/regulator connection, tighten it and test again; if bubbles continue, contact Lava Heat Italia for a replacement hose.
- If the leak is at the regulator/cylinder valve connection, disconnect, reconnect and test again.
- Whenever gas connections are loosened or removed, a complete leak test must be performed.

Lighting and Operation

The Palermo's teardrop control plate carries the PILOT / MIN / MAX knob and the PUSH start button. With the knob straight up, the heater is off.

Before lighting

Make sure the heater is outdoors, the area is free of combustible materials and flammable vapors, and all connections are tight and leak tested. If relighting a hot heater, always wait at least 5 minutes.

Lighting

Step	Action
1	Fully open the cylinder valve (LP) or supply shut-off valve (NG).
2	Push the knob down and turn it left to PILOT. Keep holding it down.
3	Press the PUSH start button repeatedly until a steady blue pilot flame appears.
4	Release the start button, but keep holding the knob down for a further 10–15 seconds.
5	Release the knob and turn it left through MIN to MAX, then set the heat you want.

Never hold the knob down for more than 10 seconds before the pilot lights. For the initial start, or after any cylinder change, allow extra time for air to purge from the line.

⚠ WARNING

- If the pilot fails to stay lit, close all valves and wait at least 5 minutes before attempting to light again. Attempting to relight without waiting can cause a flash that could cause bodily harm and property damage.

Turning the Heater Off

Step	Action
1	Turn the knob back to PILOT; the burner goes out and the pilot stays lit.
2	Push down and turn the knob to the straight-up OFF position.
3	Close the cylinder valve (LP) or supply shut-off valve (NG).

The heater will be hot after use. Do not touch, move or cover it until it is completely cool — at least 45 minutes.

Operation Checklist

Run through this before every use.

#	Check
1	I have read this guide in full and understand the precautions in it.
2	All components are properly assembled, intact and operable.
3	No alterations have been made to the appliance.
4	All gas connections are secure and leak-free.
5	Wind velocity is below 10 mph.
6	The heater is outdoors, outside any enclosure, with adequate fresh-air ventilation.
7	The heater stands on a hard, level, non-combustible surface.
8	Clearances are met — 36" at the sides and 36" at the top.
9	The heater is clear of gasoline and other flammable liquids or vapors.
10	The heater is clear of windows, air intakes, sprinklers and other water sources.
11	There are no signs of spider or insect nests.
12	All burner and air-circulation passages are clear.
13	Children and adults nearby have been alerted to hot surfaces.

The heater operates at reduced efficiency below 40°F (5°C). After operation, confirm the gas control is OFF, the cylinder valve is closed, and the cylinder is disconnected if the heater is being stored.

Care and Maintenance

Cleaning

- Keep exterior surfaces clean using warm soapy water. Never use flammable or corrosive cleaning agents.
- Keep the area around the burner and pilot assembly dry at all times. Do not submerge the control valve assembly; if the gas control is exposed to water it must be replaced.
- Keep the appliance area clear of combustible materials. Do not obstruct the flow of combustion and ventilation air.
- Keep the ventilation openings of the lower body, the controls, the burner and the circulating air passageways clean.

Burner and orifices

Spiders and insects can nest in the burner or orifices. This dangerous condition can damage the heater and render it unsafe. Clean burner holes with a heavy-duty pipe cleaner; compressed air may help clear smaller particles. Inspect the heater before each use and have it inspected at least annually by a qualified service person.

Carbon deposits

Carbon deposits may create a fire hazard. Clean the reflector and the emitter screen with warm soapy water if any deposits develop. Brush the rattan weave clean and rinse with fresh water; never use a pressure washer on the weave.

Salt air and hose inspection

In a salt-air environment corrosion occurs more quickly than normal. Check for corroded areas frequently and repair them promptly. Inspect the entire hose assembly at least annually for abrasion, cuts or wear, and leak test any suspect areas.

Storage

- Between uses, turn the heater off, close the cylinder valve, and store the heater upright in an area sheltered from inclement weather.
- Wait until the heater is completely cool before covering.
- Never leave a propane cylinder exposed to direct sunlight or excessive heat.

Troubleshooting

Switch the gas off before investigating any fault. If the appliance cannot be made to operate correctly, contact Lava Heat Italia or your gas supplier. Gas passages and associated components should be repaired only by a qualified service person, and only after the heater has cooled.

Problem	Possible cause	Corrective action
Pilot will not light	Cylinder valve is closed	Open the valve
	Blockage in orifice or pilot tube	Clean or replace the orifice or pilot tube
	Air in gas line	Bleed the line for no more than 1–2 minutes, or until you smell gas
	Low gas pressure with the cylinder valve fully open	Turn the cylinder valve OFF and replace the cylinder
	Igniter fails	Replace the AAA battery in the control head
Pilot will not stay lit	Dirt built up around the pilot	Clean dirt from around the pilot
	Connection between gas valve and pilot assembly is loose	Tighten the connection and perform a leak check
	Thermocouple not operating correctly	Contact Lava Heat Italia for a replacement
	Anti-tilt switch faulty, or wires not connected	Contact Lava Heat Italia
Burner will not light	Propane cylinder is frosted over	Wait until the cylinder warms up
	Blockage in orifice	Clear the blockage
Burner flame is low	Gas pressure is low	Replace the cylinder
	Outdoor temperature below 40°F and tank less than ¼ full	Use a full cylinder
Carbon build-up	Dirt or film on reflector and burner screen	Clean the reflector and burner screen
Thick black smoke	Blockage in burner	Remove the blockage and clean the burner inside and outside

Problem	Possible cause	Corrective action
Heater makes popping noises	Blockage in orifice, or spiders and insects	Clean the burner and orifices

The heater operates at reduced efficiency below 40°F (5°C).

Warranty and Service

Every Lava Heat Italia heater is backed by the Lava Heat Italia warranty program, effective from the date of purchase as shown on the purchaser's receipt.

Component	Term
Frame and structure	Lifetime limited
Parts	5 years limited
Finish	5 years limited
Burner and glass	1 year limited
Gas hose and regulator assembly	1 year limited

- Parts only — labor and freight are not included.
- Residential and commercial installations are covered on identical terms.
- This warranty is valid for the original consumer purchaser.
- Defects or damage caused by the use of other than genuine parts are not covered.
- The warranty is void if damage or failure is caused by accident, alteration, misuse, abuse, or incorrect installation or removal.

Full terms at lavaheat.com/warranty-and-product-care.

When you receive your product

If your product is damaged, requires technical support or replacement parts, or if you have a sales question or product feedback, contact Lava Heat Italia directly.

Do not return this product to the retailer.

Replacement parts

Parts are listed by the letter used in the Assembly or Setup Guide. When ordering, quote the model (LHI-PALERMO), the part letter and the finish. Consumable items and items damaged in service are not covered by the warranty.

Service Record

Keep this page with your documents. Quote the model and serial number in any correspondence.

Model	Palermo (LHI-PALERMO)
Serial number	
Finish	
Fuel	
Date of purchase	
Dealer	
Installed by	

Annual inspection

Date	Carried out by	Notes

The heater should be inspected before use and at least annually by a qualified service person.

Lava Heat Italia · Established 2001
940 W. Washington Blvd., Los Angeles, CA 90015
310-559-1700 · customerservice@lavaheat.com · lavaheat.com