

Burner conforms to: ANSI Z21.97/CSA 2.41 - 2017 "Outdoor Decorative Gas Appliances"
CSA-2.17-2017 "Gas-fired Appliances For Use at High Altitudes"



We recommend that our fire pits be installed and serviced by professionals that are certified in the U.S. by NFI (National Fireplace Institute)

	<p>DANGER - FIRE OR EXPLOSION HAZARD If you smell gas:</p> <ol style="list-style-type: none"> 1. Shut off gas to the appliance. 2. Extinguish any open flame. 3. If odor continues, leave the area immediately. 4. After leaving the area, call your gas supplier or fire department. <p>Failure to follow these instructions could result in fire or explosion, which could cause property damage, personal injury, or death.</p>
	<p>WARNING: FOR OUTDOOR USE ONLY. Installation and service must be performed by a qualified installer, service agency, or gas supplier</p>
	<p>WARNING Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. An LP-cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.</p>
<p>DANGER</p>	<p>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.</p>
	<p>WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.</p>

INSTALLER: Leave this manual with the appliance. CONSUMER: Retain this manual for future reference

**WARNINGS:**

IMPORTANT: This appliance should be inspected before use and at least once annually by a qualified service person. More frequent cleaning may be required as necessary. It is imperative that the control compartment, burners and circulating air passageways of the appliance be kept clean.

DANGER: Carbon monoxide poisoning can lead to death!

CARBON MONOXIDE POISONING:

Early signs of carbon monoxide poisoning resemble the flu, with symptoms including headache, dizziness, or nausea. If you experience these signs, the Fire Pit may not be working properly. Get fresh air at once! Have the Fire Pit serviced. Some people are more affected by carbon monoxide than others, including pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

NATURAL GAS AND PROPANE:

To assist in detecting leaks, an odorant has been added to natural gas and propane. However, this odorant can fade, and gas may be present even though no odor exists. Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this appliance.

WARNING: Any modification to this appliance or its controls can be dangerous.

1. This appliance, as supplied, is only for use with the type of gas indicated on the rating plate.
2. When this appliance is connected to a fixed piping system, the installation must conform to local codes, or in the absence of local codes, to the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the International Fuel Gas Code.
3. Keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids
4. Do not burn solid fuel in this appliance. Do not use this appliance to cook food or to burn paper or other objects.
5. Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.
6. Clothing or other flammable materials should not be hung from the appliance, or placed on or near the appliance.
7. Young children should be carefully supervised when they are in the area of the appliance.
8. Do not use the appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.
9. Inspect the appliance before each use.

10. Turn the appliance off and let cool before servicing, installing, repairing or covering. Any guard or other protective device removed for servicing the appliance must be replaced prior to operating the appliance. Only a qualified service person should install, service, or repair the appliance.

HIGH ALTITUDE INSTALLATION

The appliance is certified for installations up to 4500' (1372 m) above sea level. At this altitude range, no changes to the appliance are required. Please contact Paloform for information regarding installation above 4500' (1372 m).

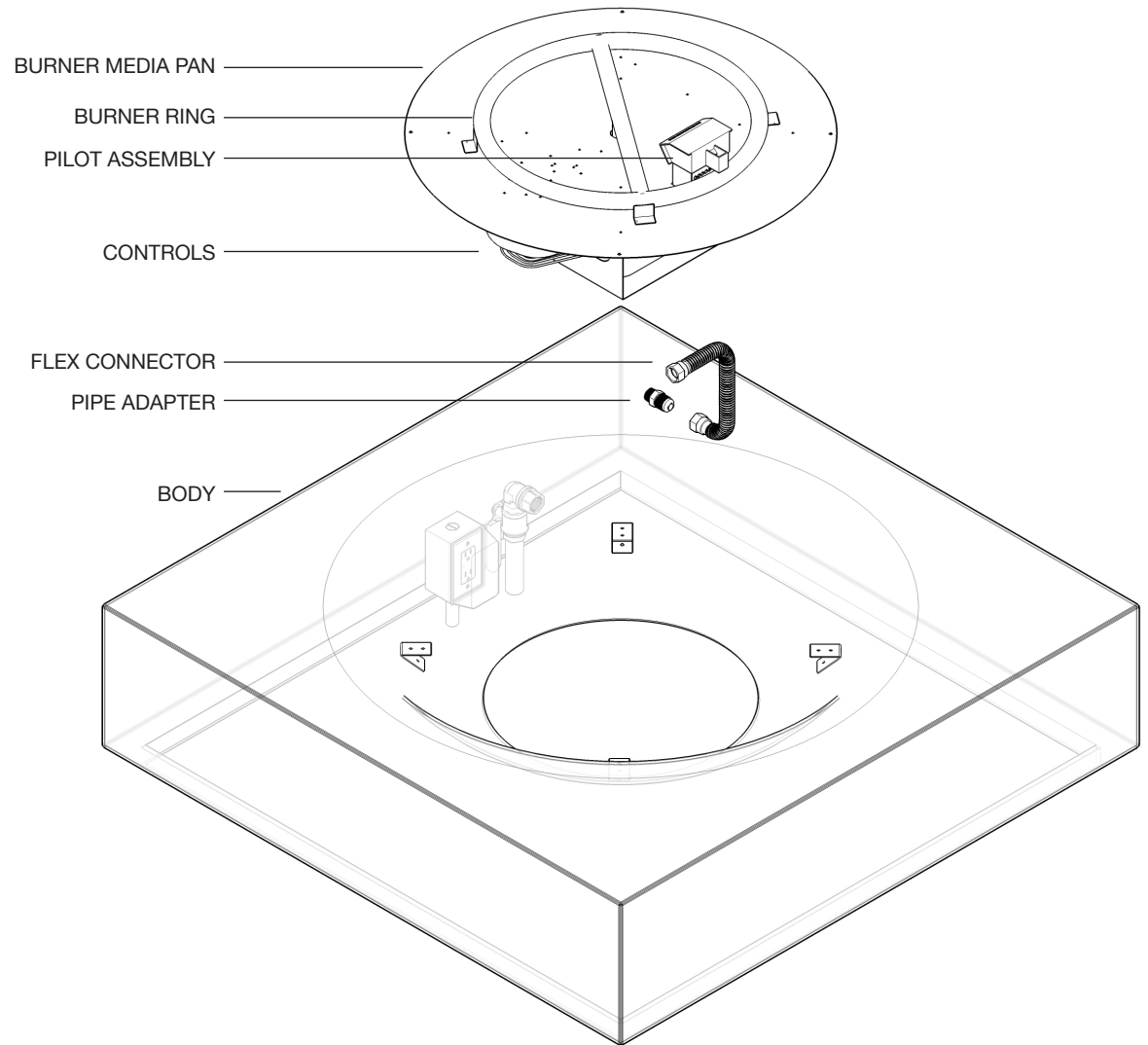
LOCAL CODES

The installation of this appliance must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 • NFPA 54; National Fuel Gas Code; Natural Gas and Propane Installation Code, CSA B149.1; or Propane Storage and Handling Code, CSA B149.2, as applicable.

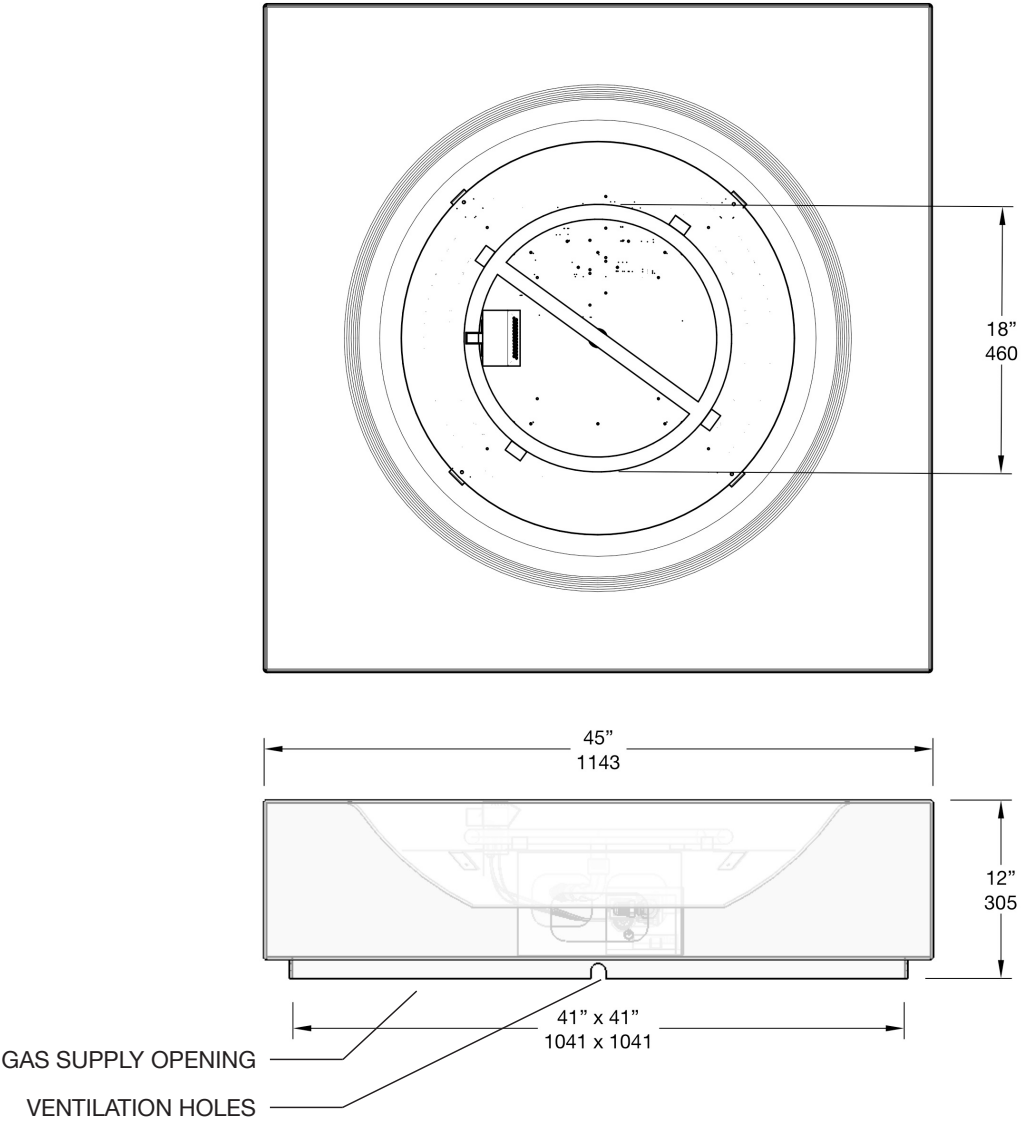
1. UNPACK: Account for all parts (see p. 14)
2. FRAGILE: Handle with care
3. LEVEL: Place on a solid, level surface
4. AIR VENTS: Do not block ventilation holes in base (see p. 4)
5. GAS / ELECTRICAL: Supply lines are routed through the base of the unit and must be installed by licensed trades.
Space is tight! Keep risers as low and compact as possible
6. MEDIA TOPPINGS: Review correct placement (p. 6-7)

CAUTION: COR-TEN STEEL is designed to oxidize and form a protective layer that resists corrosion. This layer can take several months to stabilize depending on climate and weather conditions. Rust will bleed until it stabilizes.

Do not place Cor-Ten fire pits on surfaces that will be permanently damaged or stained by rust bleed.



	NATURAL GAS	PROPANE
Burner Model #	CIF-E-18	CIF-E-18P
Max Heat Input	69,000 BTU/h	60,000 BTU/h
Inlet Pressure - Min.	4.5" W.C	11.0" W.C.
Inlet Pressure - Max.	10.5" W.C.	13.0" W.C.
Orifice Size	18	37
Burner Ports	68	68
Port Size	1/8"	1/8"
Electrical	120V 15A Outdoor Receptacle - Dedicated Circuit with Wall Switch. Burner connects via an AC adapter. Must be installed and grounded in accordance with local codes.	



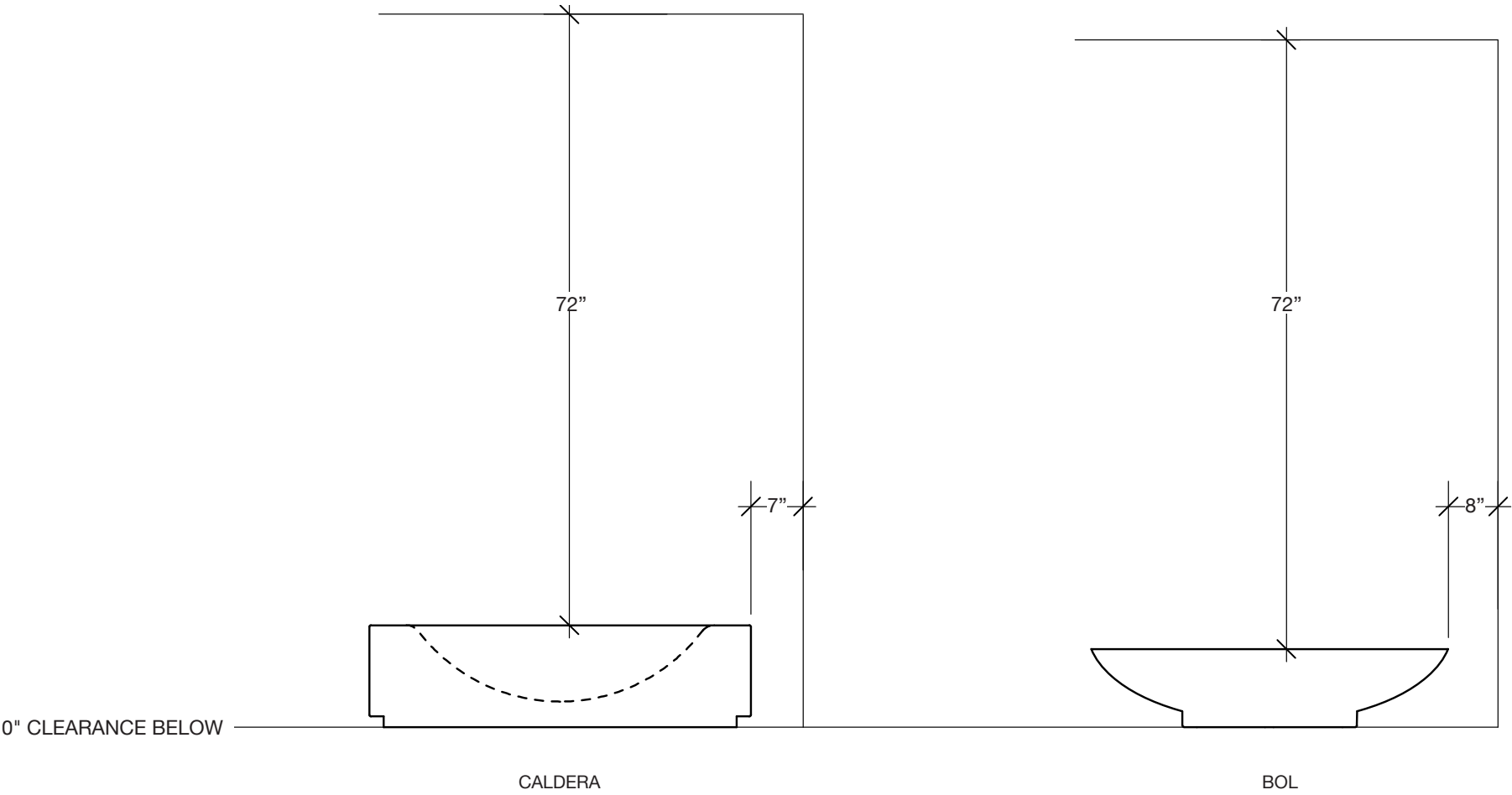


FIG 1. MINIMUM CLEARANCES TO COMBUSTIBLES

WARNING:

Failure to position parts in accordance with these diagrams and instructions and/or failure to use parts specifically approved for use with this appliance may result in property damage or personal injury.

Do not remove the data plates attached to the Outdoor Fire Pit Burner. These plates contain important information.

NOTICE:

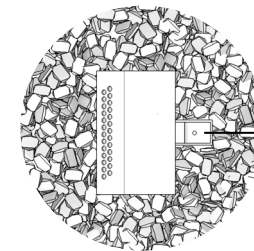
Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least once annually by a qualified service person. More frequent cleaning may be required as necessary. It is imperative that control compartment, burner ports and circulating air passageways of the appliance be kept clean.

CAUTION:

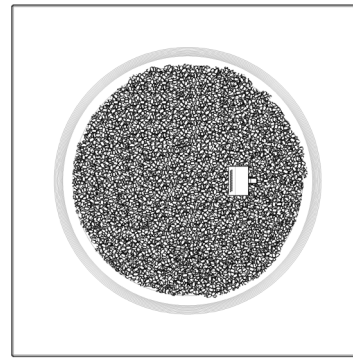
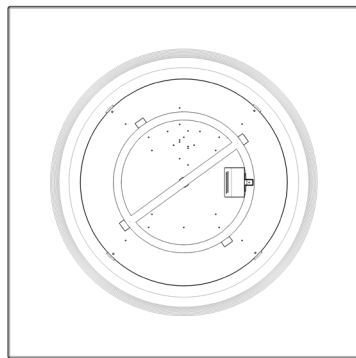
New Lava Rock may pop or crackle when first heated. This should subside after 30 minutes to one hour or more of operation. Maintain safe distance during this time.

TO ASSEMBLE THE FIRE PIT

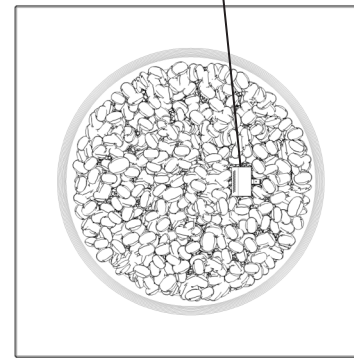
1. Connect the Burner Assembly to the gas/propane supply using the supplied flex connector and following the instructions on page 8.
2. Carefully leak test all connections following the procedure on page 8.
3. Cover the burner evenly and completely with burner media (crushed tempered glass for natural gas; volcanic rock for propane). Do not obstruct the pilot lighting port with burner media! Use only burner media supplied by Paloform!
4. Follow the Initial Lighting Instructions on page 9. Make sure that the flame carries to all parts of the burner. Turn OFF the appliance and let it cool before proceeding to the next step.
5. Evenly distribute decorative topping (river stones, crushed glass or lava rock) on top of burner media. An uneven or excessively thick layer of topping can result in an uneven flame. Place boulders if applicable.
6. Do not cover pilot shield. Keep the lighting port open and free of media. Do not use any media not supplied by the manufacturer!



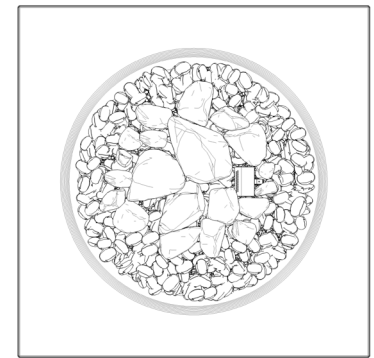
LIGHTING PORT:
DO NOT OBSTRUCT



BURNER MEDIA

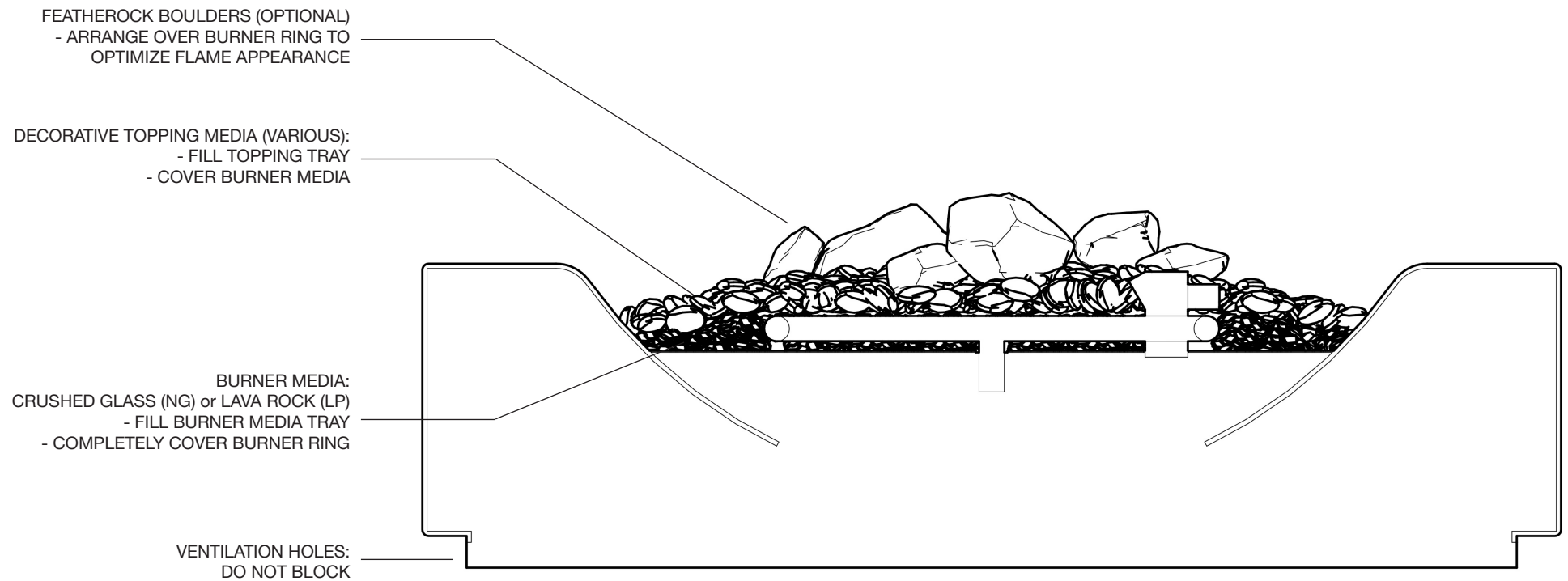


DECORATIVE TOPPING



FEATHEROCK BOULDERS
(OPTIONAL)

CAUTION: Do not use any media over the burner that have not been supplied by Paloform. Landscape stone or other natural or manufactured materials may explode when heated.





WARNING:

A qualified service person must connect the appliance to the gas supply. Follow all local codes.

CAUTION:

Use only new black iron or steel pipe. Internally tinned copper tubing may be used in certain areas. Use pipe of 1/2" diameter or greater to allow proper gas volume to Outdoor Fire Pit Burner. If pipe is too small, undue loss of pressure will occur.

INSTALLATION ITEMS NEEDED:

Before installing the Outdoor Fire Pit, make sure you have all items listed below:

- piping (check local codes)
- sealant
- manual shutoff valve
- adjustable (crescent) wrench or pliers
- sediment trap
- tee joints
- pipe wrench

INSTALLATION REQUIREMENTS

Installation must include a manual shutoff valve, union, and plugged 1/8" NPT tap. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from the appliance.

Apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in a clogged burner injector.

Install sediment trap in supply line as shown below. Locate sediment trap where it is within reach for cleaning and trapped matter is not likely to freeze.

A sediment trap prevents moisture and contaminants from entering the Outdoor Fire Pit controls. If a sediment trap is not installed, or is installed incorrectly, the unit may not work properly.

APPROVED FLEXIBLE GAS HOSE

A.G.A DESIGN-CERTIFIED MANUAL SHUTOFF VALVE WITH 1/8" NPT TAP

3" MINIMUM

FROM GAS METER (5" W.C. TO 10.5" W.C. PRESSURE)

CAP PIPE NIPPLE TEE JOINT
SEDIMENT TRAP

CHECKING GAS CONNECTION



WARNING: Test all gas piping and connections for leaks after installing or servicing. Correct all leaks immediately.



WARNING: Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming on joints while the gas is running indicate a leak. Correct all leaks at immediately.

Test Pressures in Excess Of 1/2 psi (3.5 kPa)

This appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).

Test Pressures Equal To or Less Than 1/2 psi (3.5 kPa)

This appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).

**WARNINGS:**

Failure to follow these instructions exactly may result in fire or explosion causing property damage, personal injury or loss of life.

Before operating the appliance, check all around the appliance area and on the surrounding floor for the smell of gas - some gas is heavier than air and may settle on the floor in the event of a leak. IF YOU SMELL GAS, follow the safety instructions on page 1 of this manual.

This appliance is equipped with an ignition device that automatically lights the pilot. Do not try to light the pilot manually.

The main gas valve in this appliance is not serviceable and does not have any control knobs or switches to operate. Do not remove the heat shields covering the valve and electronic devices. Do not try to repair or modify the valve, as doing so may result in a fire or explosion. Call a qualified service technician if you have any safety concerns.

Do not use this appliance if any part of it has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control that has been under water.

Improper installation, adjustment, alteration, service or maintenance can result in injury or property damage. For assistance or additional information, consult a qualified installer, service agency or the gas supplier.

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this appliance.

INITIAL LIGHTING INSTRUCTIONS

Before placing burner assembly into a housing:

1. Purge air from the supply line.
2. Test for leaks in each of the following locations:
 - The gas supply line connection to the main valve;
 - The Burner connections and pilot;
 - All joints on the valve and control body;
 - All field made joints and gas shutoff valves;
 - All factory made joints and connections.
3. You may check for gas leaks using one of the following methods only:
 - Soap and water solution. **WARNING:** If using a soap and water solution to test for leaks, DO NOT spray the solution onto electronic parts;
 - An approved leak testing spray;
 - An electronic sniffer. **NOTE:** Remove any excess pipe compound from connections if using this method, as the compound can set off electronic sniffers.

DANGER: NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.

WARNING:

This appliance is designed to be connected to a power source that is controllable by a switch.

Do not connect 24 VAC AC adapter to a live power source.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information on pages 1, 2 and 9 of this manual.
2. Turn off all electric power to the appliance.
3. Do not attempt to light the pilot manually.
4. Turn the manual gas control valve to the OFF position.
5. Wait five (5) minutes to clear out any residual gas, then check for the smell of gas at and around the appliance, including near the floor. If you smell gas, STOP! Follow the instructions on page 1 of this manual. If you do not smell gas, continue to the next step.
6. Turn the manual gas control valve to the ON position.
7. Plug the supplied 24 VAC AC adapter into a 110V power outlet.
8. Connect the AC adapter to the AC input plug at the unit.
9. Place Burner Assembly in Housing
10. To ignite burner, turn on electric power to the appliance.
11. To turn off appliance, turn off electric power to the appliance.

TURNING OFF THE GAS TO THE APPLIANCE

1. Turn off all electric power supplied to the appliance if service is to be performed. Unplug the 24 VAC AC adapter from the power outlet.
 2. If necessary, remove the burner from the housing to access the manual gas valve.
 3. Turn the main manual shutoff valve to the full OFF position.
-

KEEP YOUR FIRE PIT COVERED

Covering your fire pit with its all-weather cover when not in use will prolong the life of all its components.

WARNING: Turn off gas before servicing fire pit.

We recommend that a qualified service technician perform the following check-ups at the beginning of each fire pit season.

If any irregularities are apparent with operation. Please refer to Troubleshooting guide, pages 12-13.

BURNER ELEMENT AND PILOT

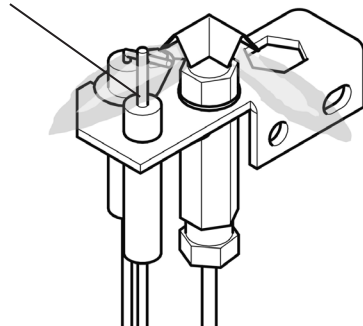
Inspect the burner at regular intervals at least twice a year. Keep the burner and pilot area clean by vacuuming or brushing. Make sure the burner porting and burner air openings are free of obstructions at all times. Remove pilot cover to inspect pilot.

Remove topping from top of burner ring and inspect area around the burner. Remove any lint or foreign material with a brush or vacuum cleaner.

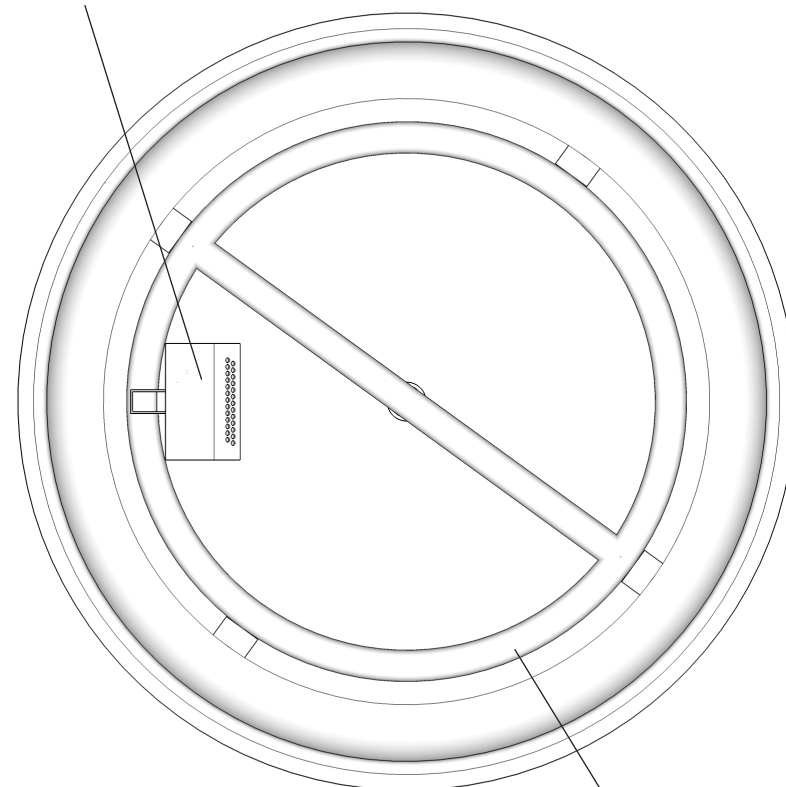
PILOT FLAME

The flames from the pilot should be visually checked as soon as the unit is installed, and periodically during normal operation. The pilot flame must always be present when the fire pit is in operation. The pilot flame has two distinct flames: one engulfing the flame sensor and the other reaching to the main burner.

FLAME SENSOR



PILOT ASSEMBLY



BURNER ELEMENT

WARNING:

Turn off appliance and let cool before servicing. Only a qualified service person should service and repair this appliance.

IMPORTANT: Operating unit where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors. These odors will disappear over time.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Burner shuts off/relights intermittently.	<ol style="list-style-type: none"> 1. Wind or gusts in excess of 16 km/h (10 mph). 2. Air present in gas line 3. Not enough air to pilot 	<ol style="list-style-type: none"> 1. Protect pilot from wind with decorative topping - sides of pilot housing may be covered. DO NOT BLOCK IGNITION PORT. In the case of consistently windy conditions, a protective glass barrier may be necessary. 2. Ensure gas line is thoroughly bled 3. Ensure ventilation holes/gaps are not obstructed
Unit is smoking / sooting excessively. (Note: It is natural and unavoidable for appliance sets to produce moderate levels of carbon (soot) where flames contact the media.)	<ol style="list-style-type: none"> 1. Poor fuel quality 2. Excessive flame impingement or blockage 3. Improper fuel/air mixture 	<ol style="list-style-type: none"> 1. Contact local natural gas company 2. Separate the stones to allow more flame passage 3. Remove any foreign items from the flame pattern and/or check for proper orifice sizing
Burner is excessively noisy (Note: The movement and combustion of gas will create low, unavoidable levels of noise.)	<ol style="list-style-type: none"> 1. Passage of air/gas across irregular surfaces 2. Excessive gas pressure on natural gas units 	<ol style="list-style-type: none"> 1. Relieve any tight bends or kinks in gas supply line 2. Check/reset gas regulator pressure
Gas odor even when power is off	<ol style="list-style-type: none"> 1. Gas leak. See Warning statement above. 2. Main gas valve defective. 	<ol style="list-style-type: none"> 1. Locate and correct all leaks (see <i>Checking Gas Connections, pg 8</i>) 2. Replace gas valve
Unit produces unwanted odors	<ol style="list-style-type: none"> 1. Gas leak. See Warning statement below. 	<ol style="list-style-type: none"> 1. Locate and correct all leaks (see <i>Checking Gas Connections, pg 8</i>)

**IF YOU SMELL GAS:**

Shut off gas supply.

Do not try to light any appliance.

Do not touch any electrical switch; do not use any phone in the vicinity of the appliance.

Immediately call your gas supplier from a safe distance. Follow your gas supplier's instructions.

WARNING:

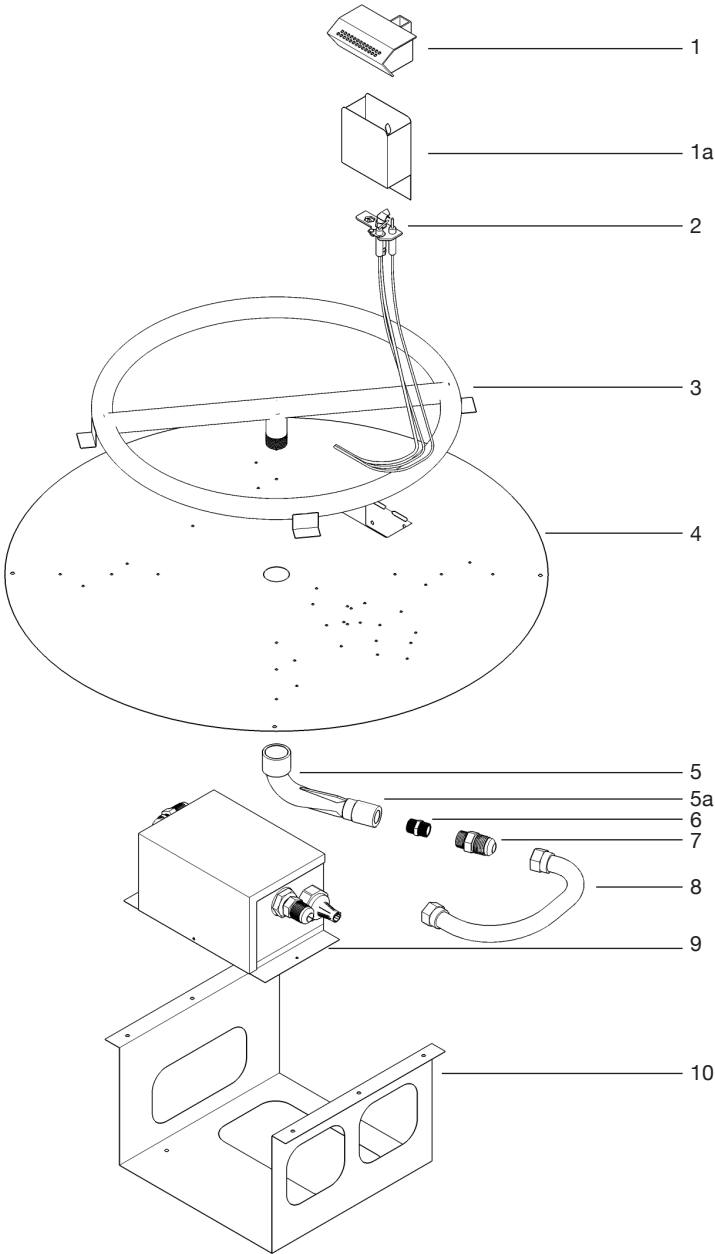
Turn off appliance and let cool before servicing. Only a qualified service person should service and repair this appliance.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When power is turned on, nothing happens	1. No power to unit	1. Check connections between controls, power adapter and power source 2. Check power at source 3. Verify that power adapter is functioning correctly 4. If you are using a third-party remote control unit, verify that this unit is functioning correctly
When power is turned on, there is a spark at pilot but no ignition	1. Gas supply turned off or manual shutoff valve closed 2. Air in gas lines when installed 3. Pilot is clogged 4. Pilot valve lead is loose/disconnected	1. Turn off gas supply or open manual shutoff valve 2. Purge air from the supply line 3. Clean pilot (see <i>Cleaning and Maintenance, page 11</i>) or replace pilot assembly 4. Check/reconnect lead
Burner does not light after pilot is lit	1. Burner orifice is clogged 2. Inlet gas pressure is too low 3. Flame sensor or Main Valve lead loose/disconnected 4. Ignition Control Board failure	1. Clean burner orifice 2. Contact local gas or propane supplier 3. Reconnect / replace lead 4. Replace Board
Delayed burner ignition	1. Lighting port is blocked	1. Remove burner media/debris from Lighting Port
Burner flame is too low or too high	1. Incorrect gas supply or pressure 2. Blocked burner orifice or burner ports 3. Improper burner orifice size	1. Check for proper gas supply pressure 2. Free burner orifice and burner ports of any burrs, paint, or other blockage 3. Verify proper burner orifice sizing (see <i>page 4</i>)

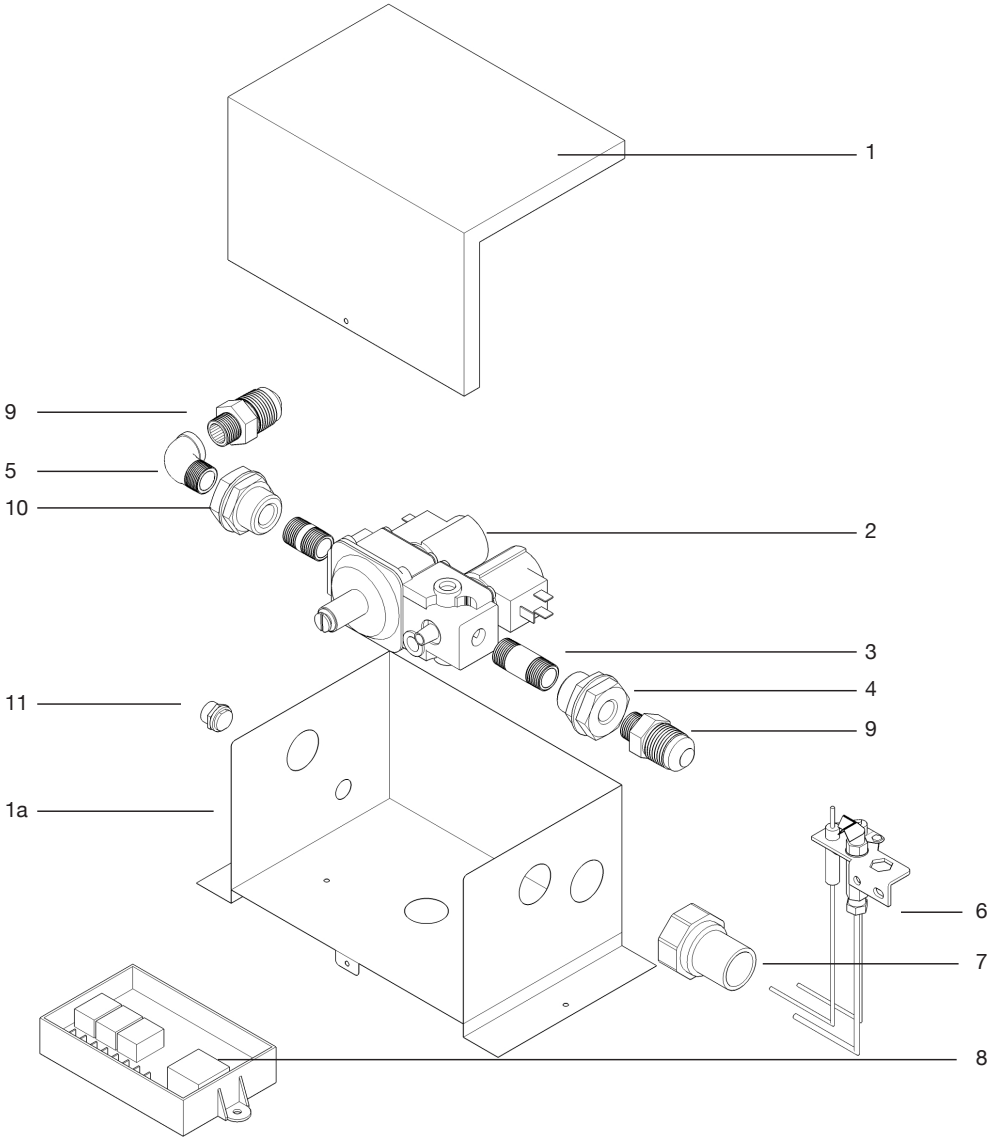
		Natural Gas	Propane
1	Pilot Cover	CIR-EPC	same
1a	Pilot Shroud	CIR-EPC	same
2	Pilot Assembly	PIL-E-410	PIL-E-410LP
3	18" Burner Ring	CIR-18-BUR	same
4	Burner Pan	CIF-18-PAN	same
5	Venturi	CIR-VEN-1	same
5a	Air Shutter	-	-
6	Orifice	FIT-ORI-18	FIT-ORI-37
7	3/8" Flare Adapter	-	-
8	Flex Connector	CON-SS-5MM-12	same
9	CIR Control Box	see drawing	same
10	Control Box Chassis	CIR-E-CHA	same
11	Power Adapter 120V-NA (not shown)	E-POW-24VAC	same
12	Burner Media (not shown)	Crushed Glass 17.5 kg	Lava Pebbles 15 L
13	Topping Media (not shown)	Various	Various
14	Fabric Cover (not shown)	COV-CAL45-LC	same
15	Corten Vessel (not shown)	CAL45-10	same

WARNING: Failure to position parts in accordance with diagrams or failure to use parts specifically approved for this appliance may result in property damage or personal injury.

REPLACEMENT PARTS ARE AVAILABLE FROM PALOFORM

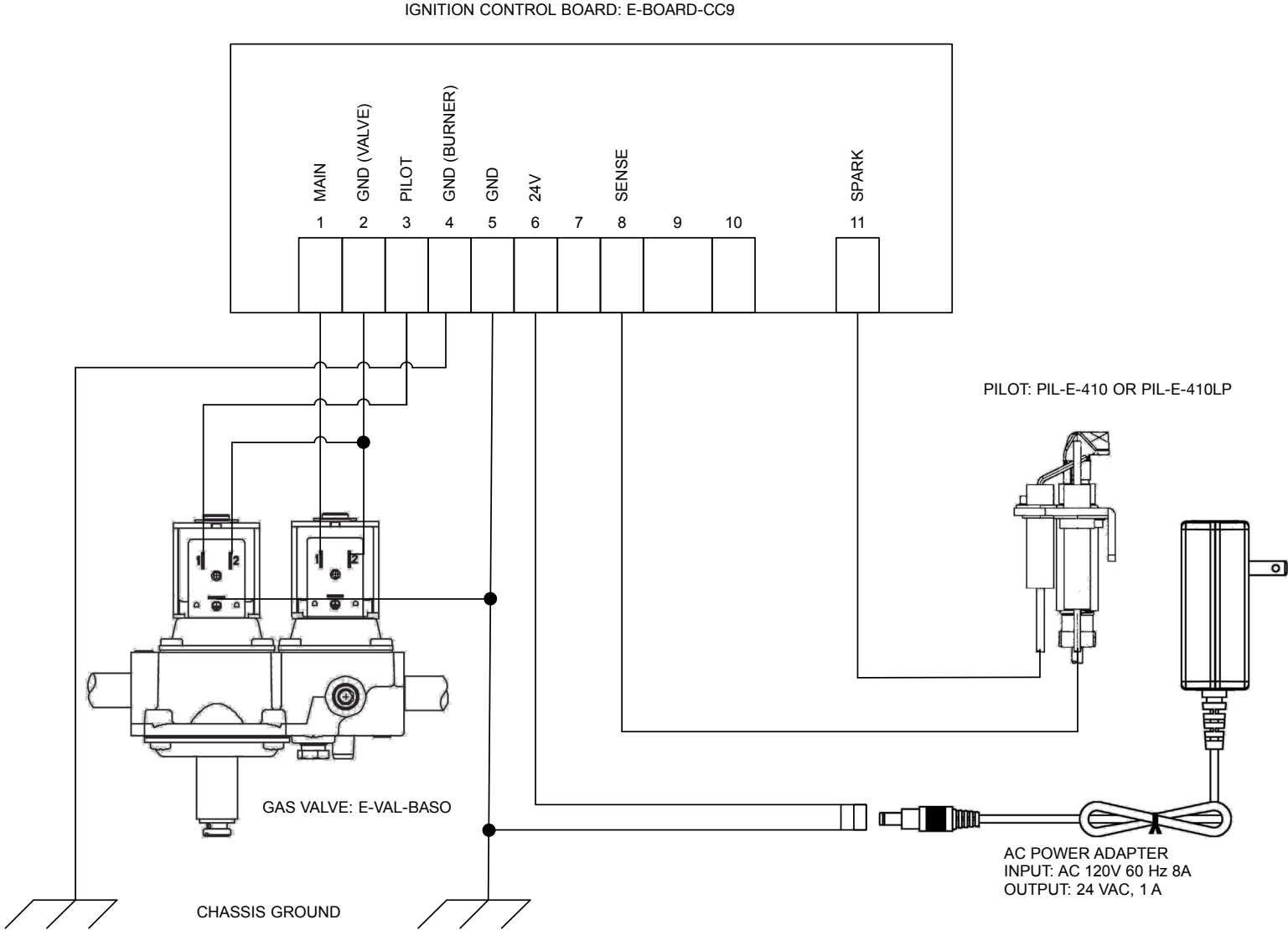


		Natural Gas	Propane
1	CIR Control Box Cover	CIR-E-BOX	same
1a	CIR Control Box Housing	CIR-E-BOX	same
2	Dual Solenoid Valve	E-VAL-BASO	w/ LP reg. spring
3	3/8"x1-1/2" - Nipple	-	-
4	3/8" Bulkhead Union	-	-
5	3/8" Street Elbow	-	-
6	Pilot Assembly	PIL-E-410	PIL-E-410LP
7	Shrink-fit Cord Grip	-	-
8	Ignition Control Board	E-BOARD-CC9	same
9	3/8" Flare Adapter	-	-
10	3/8" Close Nipple	-	-
11	Barrel Connector	part of wiring harness	-
12	Wiring Harness (not shown)	E-WIR-KIT	same



ILLUSTRATED PARTS LIST

Wiring Diagram



RETAIN FOR WARRANTY

MODEL: (circle one) Caldera-E NG
 Caldera-E LP

SERIAL NO: _____

DATE PURCHASED: _____

Paloform's priority is to meet or exceed your expectations with our products and service—we take pride in our products and unequivocally stand behind them. If your product has issues, we will work with you to make things right.

This said, fires pit's are mechanical appliances that are installed in uncontrolled and unpredictable environments. For this reason it is critical that your unit be inspected by a qualified service technician regularly, dependent on use and site conditions, but at minimum once per year. This will ensure that it receives the type of general cleaning and maintenance that will maximize its performance and lifespan. Furthermore, there are various "wear" components which have a limited lifespan due to the fact that their function is to sustain extreme conditions. Over the functional life of your fire pit, you can expect that parts such as pilots, control devices and valves, may need to be replaced periodically. Materials such as cast concrete and Corten Steel are expected to weather naturally over their lifetime and changes in appearance are normal and do not constitute failure in the materials.

WARRANTY - This product is warranted to the original owner, subject to proof of purchase:

Paloform warrants the components and materials in your appliance to be free from manufacturing and material defects for a period of one year from date of delivery. During this time, if any of the components in the appliance are found to be defective in materials or workmanship, Paloform will, at its option, replace or repair the defective components at no charge to the original owner. Paloform will also pay for reasonable labor cost incurred in replacing or repairing such components. Any products presented for warranty repair must be accompanied by a dated proof of purchase.

This Warranty will be void if:

- the appliance is not installed by a qualified installer in accordance with installation instructions.
- the appliance is not operated and maintained according to the operating instructions supplied with the appliance, including regular inspections by a qualified technician
- the appliance is damaged by accident, neglect, misuse, abuse, alterations, negligence of others, including the installation thereof by unqualified installers, incidental or consequential damage
- the appliance is partially or totally submerged under water for any length of time

This Warranty does not cover normal wear and tear, including but not limited to extraordinary environmental factors such as salt-saturated environments or extreme weather events.

All service work must be performed by an qualified service technician.

This warranty is expressly in lieu of other warranties, express or implied, including the warranty of merchantability of fitness for purpose and of all other obligations or liabilities. Paloform does not assume for it any other obligations or liabilities in connection with sale or use of the appliance. In states or provinces that do not allow limitations on how long an implied warranty lasts, or do not allow exclusion of indirect damage, those limitations of exclusions may not apply to you. You may also have additional rights not covered in the Limited Lifetime Warranty. Paloform reserves the right to investigate any and all the claims against this Warranty and decide upon method of settlement. For information about this warranty contact:

Paloform
888.823.8883
info@paloform.com
