

LINEAR BURNERS INSERTS

INSTALLATION, MAINTENANCE & WARRANTY GUIDELINES

12VAC AUTOMATED OPERATION SYSTEMS

WARNING

FOR YOUR SAFETY – READ BEFORE OPERATING

THIS PRODUCT MUST BE INSTALLED AND SERVICED BY AUTHORIZED PERSONNEL, INCLUDING LICENSED CONTRACTORS. FAILURE TO FOLLOW THESE INSTRUCTIONS EXACTLY MAY RESULT IN FIRE, EXPLOSION, PERSONAL INJURY, DEATH, DAMAGED EQUIPMENT, AND PROPERTY DAMAGE.

WHAT TO DO IF YOU SMELL GAS

- Do not store or use any gasoline or other flammable vapors and/or liquids in the vicinity of this or any other burner assembly.
- An LP cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.
- If you smell gas, immediately shut off gas to the burner assembly.
- Extinguish any open flame near the burner assembly.
- Do not attempt to manually light any automated electronic burner assembly.
- If odor continues, move away from the area and immediately call your gas supplier.

This manual should remain with the homeowner or parties responsible for the operation of the unit.

FOR USE WITH NATURAL OR LIQUID PROPANE GAS ONLY DO NOT USE SOLID FUELS

WARNING AND SAFETY INFORMATION

CODE REQUIREMENTS

Installation must be in accordance with all local codes and/or the latest edition of the National Fuel Gas Code, ANSI Z223.1 and the latest edition of the National Electrical Code, NFPA 70 (US).

Installation in Canada must be in accordance with the latest CAN/CGA-B149.1 or.2 and CSA C22.1 Canadian Electric Code, part 1.

Installations must be electrically grounded and bonded in accordance with local codes, or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70 (US) or in Canada in accordance with the Canadian Electric Code, part 1 as applicable.



SAFETY CODE APPROVAL CERTIFICATION

LOW VOLTAGE LANDSCAPE AND SWIMMING POOL/SPA AUTOMATIC IGNITION GAS BURNER ASSEMBLY AND TRANSFORMER PANEL is approved for use near water's edge. The Pebble Technology Fire + Water Elements fire burner assembly is CSA/AGA approved. It is tested and approved to comply with the nationally recognized specification, ANSI Z21.42-2013 Gas-Fired Illuminating Appliances, and to be in compliance with the 2017 NEC code.

12V AUTOMATIC IGNITION DECORATIVE GAS APPLIANCE: CSA 2701 03, 2701 83

CSA Certificate: 2325190

CGA APPLICABLE REQUIREMENT: CR97-003

Tested to: National Fuel Gas Code ANSI Z223.1-2010, ANSI Z21.97-2010, ANSI Z21.42-2010

OPERATING CONDITIONS

In order to ensure successful and safe operation, the unit should be inspected before each use and at least annually by a qualified service person. More frequent cleaning may be required as necessary depending on environmental conditions. It is imperative that the transformer panel, pilot hood, burner assembly and circulating air passageways of the unit be kept clean and free of debris at all times. System should be fired at least once per month to test and ensure proper operation.

This system is not designed to operate in wind conditions exceeding 10MPH.

DO NOT use this unit if any part of the burner assembly has been under water or is soaked heavily. Immediately call a licensed contractor to inspect the unit and to replace any part of the burner assembly that has been under water.

Should overheating occur or the gas supply fail to shut off, turn off the manual gas control valve to the burner assembly.

WARNING:

THIS APPLIANCE CAN PRODUCE CARBON MONOXIDE WHICH HAS NO ODOR.

THIS APPLIANCE IS FOR OUTDOOR USE ONLY.

HOT! DO NOT TOUCH. FIRE RISK/ BURN RISK. SEVERE BURNS MAY RESULT. CLOTHING IGNITION MAY RESULT.

KEEP CHILDREN AWAY. CAREFULLY SUPERVISE CHILDREN. CLOTHING OR OTHER FLAMMABLE MATERIALS

SHOULD NOT BE HUNG FROM THE UNIT NOR PLACED ON OR NEAR THE UNIT.

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**READ THIS INSTRUCTION GUIDE IN ITS ENTIRETY PRIOR TO
COMMENCING INSTALLATION**

Fire + Water Elements – Product Warranty

1-Year Limited Residential Warranty

Pebble Technology International® (PTI) will attempt to repair any unit, when used as intended, which has proven to be defective in workmanship or material, preventing the proper operation of the unit when reported within one year of the date of purchase. This warranty is for factory defective parts only and does not cover any costs related to removal or install of replacement parts or the entire unit. For warranty consideration, contact the original dealer and provide proof of purchase, date of purchase, and the date of installation. The dealer will contact PTI to obtain instructions regarding the warranty request. If the unit is deemed defective and cannot be repaired, PTI will replace it with a new or refurbished unit. This warranty applies only to residential use of the unit. The customer is responsible for shipping costs, which may be reimbursed by PTI should the unit be deemed defective.

IF NECESSARY, THE UNIT MUST BE REMOVED AND REPLACED ONLY BY A LICENSED PROFESSIONAL IN THE PLUMBING AND/OR ELECTRICAL TRADE. DO NOT ATTEMPT TO REMOVE AND REPLACE THE UNIT YOURSELF. THIS CAN BE DANGEROUS AND WILL VOID YOUR WARRANTY.

PTI will not be responsible for any asserted defect, which has resulted from accidents, chips or cracks caused by mishandling and/or impact with other objects or surfaces taking place at any time after buyer takes delivery of the unit, over-heating, freeze/thaw, misuse, abuse, repair or alteration. Under no circumstances, will PTI be liable for incidental or consequential damage resulting from defective units, improper installation, or improper removal. PTI is not responsible for any injury or mishap related to misuse, abuse or lack of judgment in choosing fire display locations.

Cementitious Based Components: Non-structural hairline cracks along with shade/color variation are considered an inherent part of any cementitious product, not a manufacturing defect. Hairline cracks can occur at any time during the life of the product due to temperature changes and expansion and contraction of concrete. Hairline cracks are defined as cracks that do not threaten the integrity or stability of the product, nor prevent the continued and normal use of the product. These hairline cracks are not covered by the warranty.

Calcium buildup and efflorescence are naturally occurring byproducts that are deposited on the surface of cementitious products. These can usually be cleaned and are typically harmless to the cementitious structure, only presenting a cosmetic issue. The effects of these surface deposits are not covered by the warranty.

Metallic Based Components: Improper chemical balance of pool water may cause corrosive conditions to metal water features. PTI will not warrant products exposed to such conditions. Additionally, finishes offered (such as powder coating) are affected by factors like UV exposure and pool water chemistry and are therefore not encompassed by this warranty. Some components (such as brass fittings) may need to be replaced over time, as they will degrade when in contact with a dissimilar metal (i.e. copper). This circumstance is naturally occurring and is therefore not covered by the warranty. These components are designed to be replaced and this design feature helps to preserve the life and integrity of the copper.

Terms and Conditions: This warranty does not apply to any damages caused by: (1) any failure resulting from unreasonable use or abuse, (2) unsatisfactory material choices by you or the installer, (3) accidental damage or element damage such as water or rain, (4) improper installation, or (5) damage incurred during shipping and/or delivery of unit. If unit is suspected of being damaged during shipment or delivery, buyer must notify PTI within 48 hours of delivery for a damage claim to be filed. Failure to notify PTI within the required time-period may result in no damage claim recovery to buyer. PTI is not responsible for the application of local codes and/or if the unit is not approved for installation. Please check with your local building department or governing agencies for prior approval before purchasing. PTI is not responsible for the actions and omissions, including negligence, of the installer. Installation workmanship and any materials used in installation are not covered under this warranty. Variations in handmade products are normal and not to be considered a warrantable issue. PTI will not warranty fire products in which a burner unit purchased from another supplier has caused damage.

This warranty is your sole warranty and sets forth your exclusive remedy, with respect to a defective fire and water feature. All other warranties, expressed or implied, whether of merchantability, fitness for purpose or otherwise, are expressly disclaimed by PTI. PTI reserves the right to make changes to the warranty program.

Contact Us

Pebble Technology International
8435 N. 90th Street, Suite 6
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800.937.5058
fireandwaterinfo@pebbletec.com

SYSTEM REQUIREMENTS

IMPORTANT:

Gas and Electrical should be located **INSIDE** the end of the trough for **INSIDE MOUNT** and should be mounted **OUTSIDE** of the trough for **OUTSIDE MOUNT**: For Outer Mount do not run burner wires in tight space. Do not run wires through dirt or encase in concrete or tight fitting conduit. They need to be loose and in open space or they will not function properly.

WARNING:

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment. Do not install near any combustibles such as wood structures, fuels, clothing, fabrics, or dry vegetation. Do not use this 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 gas control which has been under water. Leaking LP-gas may cause a fire or explosion if ignited, causing serious bodily injury or death. A LP gas regulator should never be installed under the Linear Fire Pit. It should be installed by a gas expert in a remote location away from the heat source. Check with your gas supplier to verify required gas flow and pressures are available at the location of your installation. In many cases utility companies will install large meters at no charge to accommodate larger flows. Propane, as for the purpose of this standard means a hydrocarbon product meeting the CGSB Specification CAN/CGSB-3.14. Call manufacturer for set-up on high altitude installations.

GAS REQUIREMENTS:

The required gas pressure and flow should be measured in-line and while flowing, not static, at the Sub-Panel connection location.

Natural Gas: 7" WC (0.25 psi)

Propane (LP): 11" WC (0.4 psi)

Gas supply line should be 3/4" Schedule 40 black steel gas pipe to the fire feature. A larger diameter main supply line may be needed for multiple burner applications. *NOTE: Check with your gas supplier to verify gas flow and pressure available at the location of your installation. In many cases, utility companies will install larger meters at no charge to accommodate larger flows. Please account for any additional gas appliances plumbed off the same gas lines and how that may affect the operation of the fire feature.*

GAS FLOW REQUIREMENTS	
Burner Length	BTU/ per hour
36" Long Burner	120,000 BTU/HR
48" Long Burner	155,000 BTU/HR
60" Long Burner	190,000 BTU/HR
72" Long Burner	225,000 BTU/HR
84" Long Burner	260,000 BTU/HR
96" Long Burner	295,000 BTU/HR
108" Long Burner	330,000 BTU/HR
120" Long Burner	365,000 BTU/HR

ELECTRICAL REQUIREMENT:

Each Linear Burner Unit must have its own Transformer Panel

Transformer panel input voltage: 120VAC / 60Hz

Transformer output voltage: 12VAC / 60Hz nominal (each unit requires less than 3 amperes)

Transformer panel power output capacity: 300 Watts transformer panel power output capacity

Automated burner assembly input voltage: 12VAC / 60Hz nominal

Use 14 gauge wire to connect transformer panel and Sub-Panel of fire feature.

BURNER CAVITY CONSTRUCTION REQUIREMENTS:

Burner Cavity Depth:

- 20" Minimum Cavity Depth Requirement for Subpanel Inner Mount.
- 12" Minimum Cavity Depth Requirement for Subpanel Outer Mount.

INNER MOUNT - BURNER CAVITY DIMENSION REQUIREMENTS:

Ventilation is a requirement and must be built into structure per the dimensions listed in the table below.

Burner Length	Support Plate	Optimum Burner Cavity (Inside Dimensions) L x W x D	Burner Support Brackets	Required Number of Vent Openings + Diameter
36"	60" x 13"	61" x 13.5" x 20"	L-Brackets	(4) / 2.5" dia.
48"	72" x 13"	73" x 13.5" x 20"	L-Brackets	(4) / 2.5" dia.
60"	84" x 13"	86" x 13.5" x 20"	L-Brackets	(6) / 2.5" dia.
72"	96" x 13"	98" x 13.5" x 20"	L-Brackets	(6) / 2.5" dia.
84"	108" x 13"	110" x 13.5" x 20"	L-Brackets	(8) / 2.5" dia.
96"	120" x 13"	123" x 13.5" x 20"	L-Brackets	(8) / 2.5" dia.
108"	132" x 13"	135" x 13.5" x 20"	L-Brackets	(10) / 2.5" dia.
120"	144" x 13"	147" x 13.5" x 20"	L-Brackets	(10) / 2.5" dia.

INSTALLATION REQUIREMENTS:

- **Installation should be performed by a licensed contractor.** All aspects of installation must conform to local codes, or in the absence of local codes, with National Fuel Gas Code ANSI Z223.1.
- Adhere to recommended CSA/AGA clearances: sides 4ft/top 6ft.
- Do not install near any combustibles (side or overhead) such as wood structures, fuels, clothing, fabrics or dry vegetation.
- Install fire features well out of the way of pedestrian traffic. For installation on or over non-combustible floors only.
- The Transformer Panel and approved manual gas valve shall be located where they can be easily accessible such that the gas can be shut off quickly in case of an emergency.
- On commercial installations, it is required to install a keyed valve switch and kill switch located in close proximity, in visible sight, of feature or features. The keyed and kill switches are not supplied by PTI.
- Low voltage wiring (14ga 12VAC) should be installed underground between the Transformer Panel and Sub-Panel. Wire per PTI wiring diagram. 120VAC source into Transformer Panel can come from any 120VAC

source, including pool controller or home system. Handheld remote systems or an electrician can wire a decorative switch for on/off operation upstream of the Pebble Technology Transformer Panel.

- The gas and electrical site plumbing shall be installed underground.
- Maintain good piping practices by keeping pipe length and elbows to a minimum to eliminate unnecessary pressure drop. **(Do not use any corrugated flexible gas line other than what is provided by Pebble Technology with the system kit and in the designated locations).**
- Insides of gas lines must be clean and free from any dirt, debris or contamination.
- Gas lines shall be purged of air and all contaminants prior to hook-up and operation of any fire feature.
- **Note that piping and wiring are different for Natural Gas vs. Propane installations.** A safety device called a Propane Adder Valve is required with propane applications. It is to be installed upstream of the Line Burner and serves as a redundant safety valve to minimize potential leakage.
- Timed shut-off switches are recommended for both natural gas and propane applications.
- Build the structure such that inside dimensions meet requirements shown in the Inner Mount – Burner Cavity Dimension Requirements table on page 7.
- Do not use fire brick to line the inside of the Linear Fire Pit Cavity. Fire brick will retain heat and may result in overheating of the electronics.
- Natural Gas systems require drainage.
- For safety reasons, Propane Systems should not have conventional drainage, but drainage should occur through ventilation holes that are located on the sides of the structure.
- Venting (air gap at bottom and end walls of structure is required. Venting is required for safety measures and to keep electrical components from overheating.
- Inside Mount Sub-Panel should be mounted on vertical end wall closest to Pilot Assembly on Burner.
- Outer Mount Sub-Panel must be installed within 4ft. of Pilot Assembly located at end of Burner Assembly.
- Pebble Technology pilot gas hose and electrical wires from Sub-Panel to pilot is 5ft. maximum.
- Connect inlet and outlet gas hoses supplied by Pebble Technology. Make sure all connections are tight and do not leak using a leak detection method. Keep hoses and wires away from underside of Support Plate. They must be kept away from hot undersurface of the burner.
- Connect ignitor and ground wires at pilot assembly to Sub-Panel.
- Mount the support plate using L Brackets. The support plate should be mounted such that the top of the Burner is ½” – 1” below the top of wall or cap of built burner cavity. The support plate should rest on top of the L Brackets mounted to the built burner cavity.
- If the inside trough dimensions (width x length) are larger than suggested, the builder will need to support the Burner Assembly with cross member support. The extra gap around the burner will need to be covered with expanded or perforated stainless steel metal such that decorative media does not fall through. **Do not use solid metal plates because it will not allow burner cavity to vent properly, which will cause overheating.**

IMPORTANT:

Do not kink or make sharp radius bends on flexible gas hose. Make sure gas hoses are not touching the underside of Support Plate.

SYSTEM COMPONENTS

Components required for installation. Check to make sure all components are included in the correct quantities. This installation guide covers all linear burner length, Inside and Outside Mount, and all automated and manual burner assemblies.

LINEAR BURNER INSERTS

COMPONENTS INCLUDED WITH PURCHASE

- 12VAC transformer panel
- Automated Operation, Inner Mount Sub-Panel
- Automated or Manual burner assembly & support plate
- Flexible gas hoses
- Propane adder (propane versions only)

COMPONENTS NOT INCLUDED WITH PURCHASE REQUIRED FOR INSTALLATION

- Galvanized mounting L-Brackets
- Gas line connections 1/2" NPT black steel tube
- Gas line connections 1/2" NPT black steel 90° elbow fittings
- Gas key switch (valve)



Transformer Panel



Sub-Panel



Linear Burner Assembly



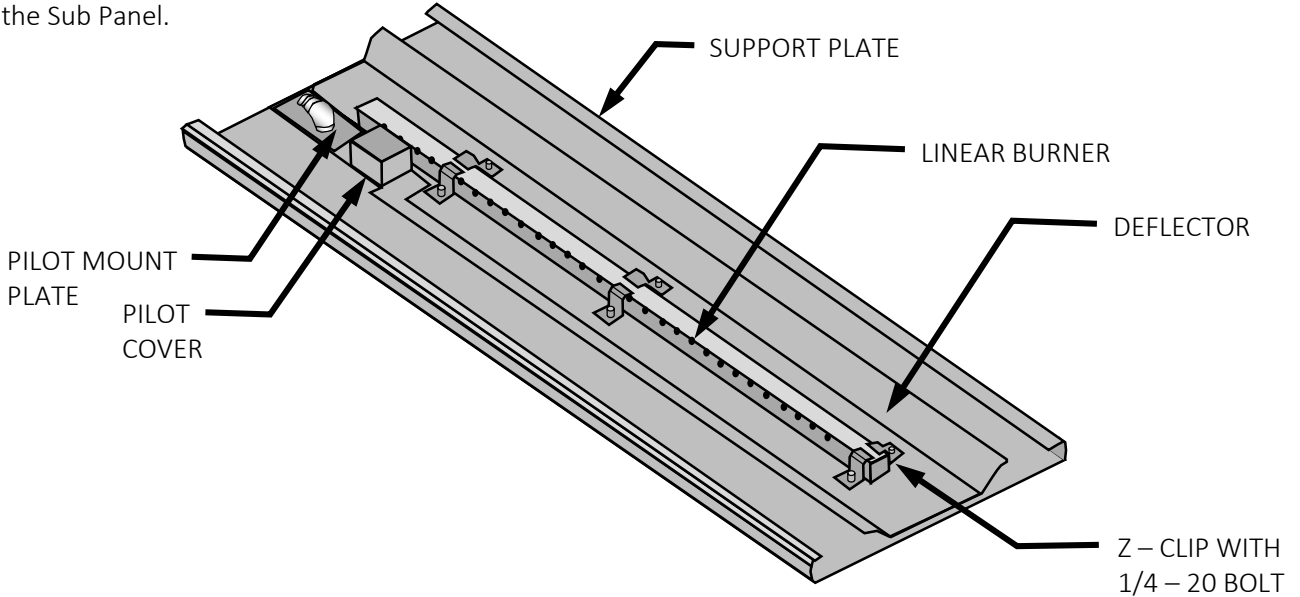
Propane Adder



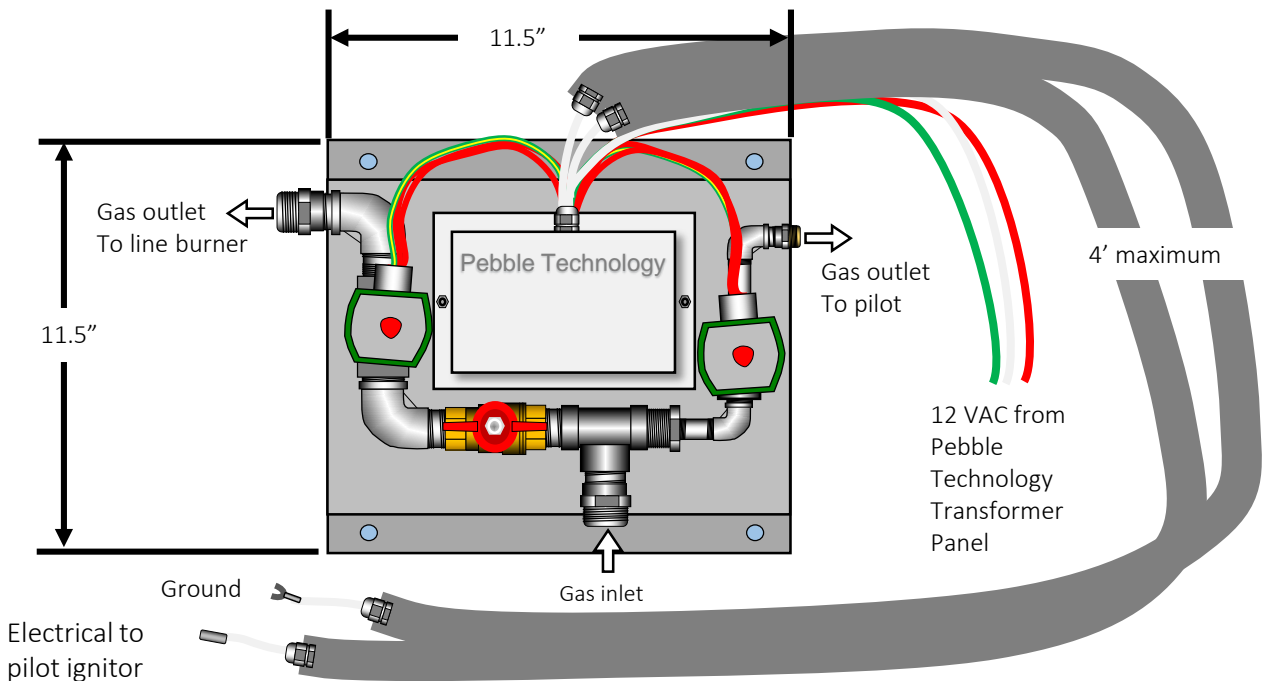
PIPE TRAIN MANIFOLD (built by installers)

ASSEMBLY OF LINEAR BURNER

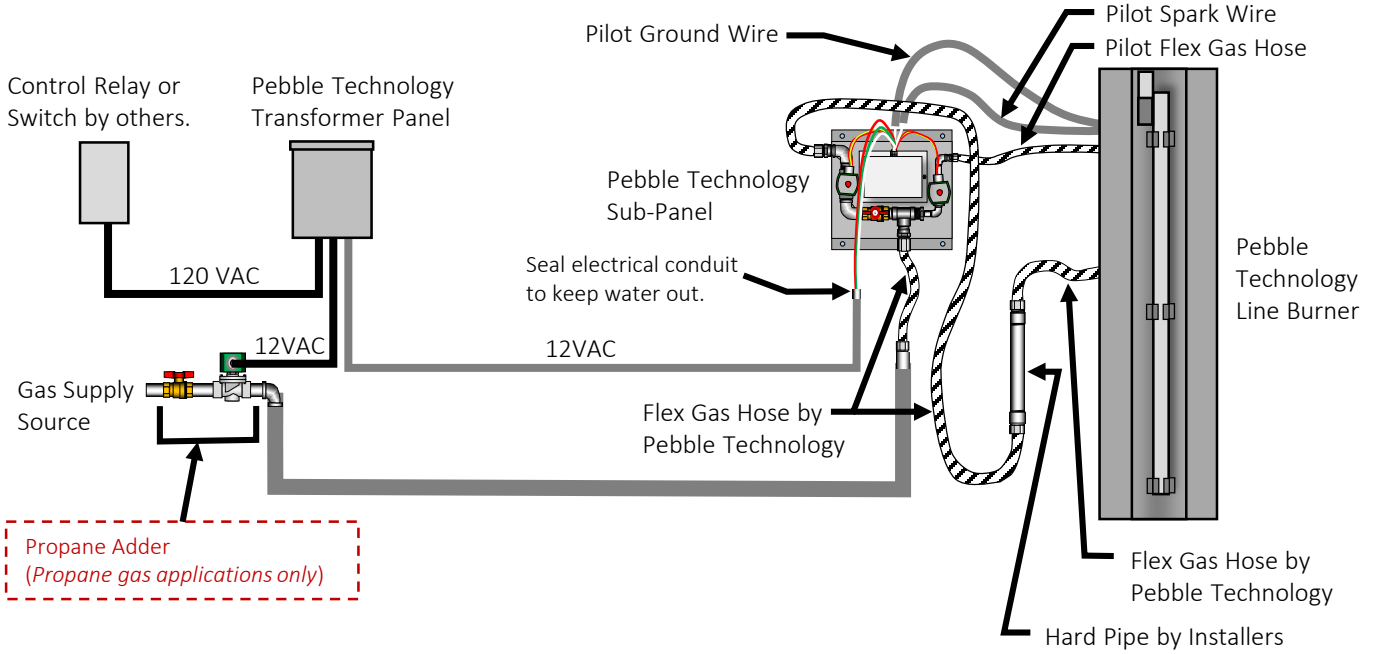
NOTE: The pilot end of the Linear Burner must be positioned nearest the Sub Panel.



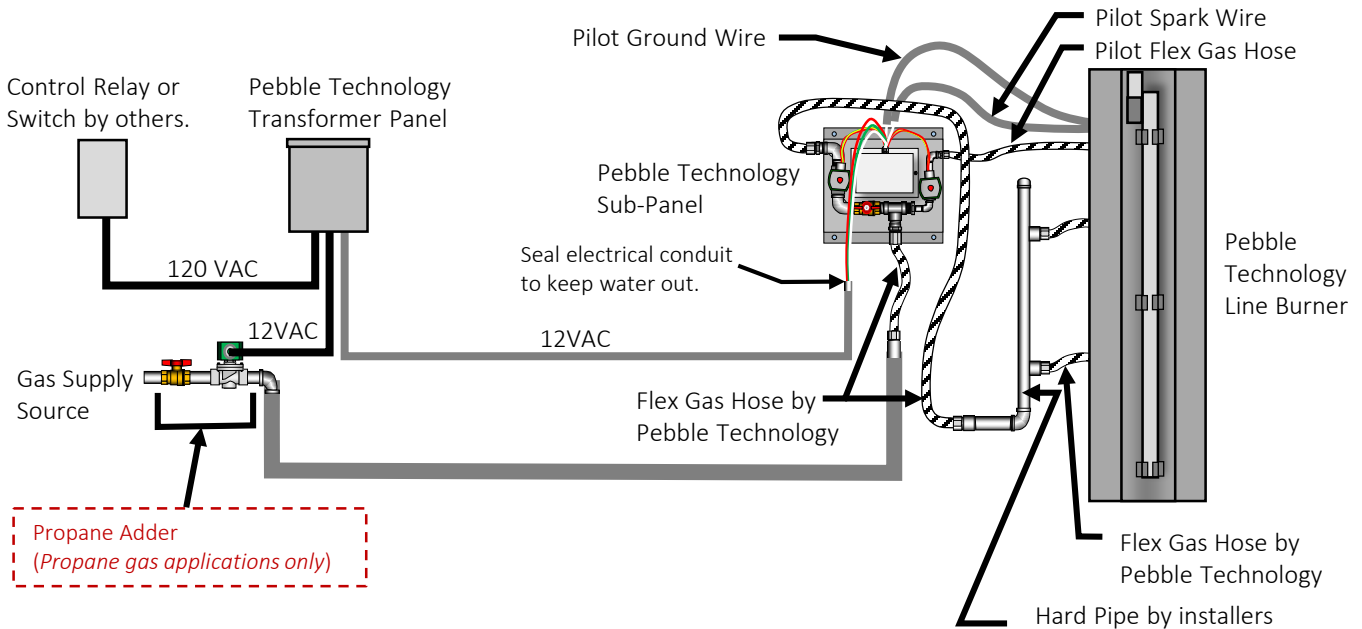
IMPORTANT: The Sub-Panel must be located close to pilot end of burner to connect 5 feet of wire from Sub-Panel to the pilot on the Linear Burner. Ignitor and ground wires must not be encased in concrete or buried in dirt or enclosed in tight fitting conduit. They must be allowed to hang freely in open air space.



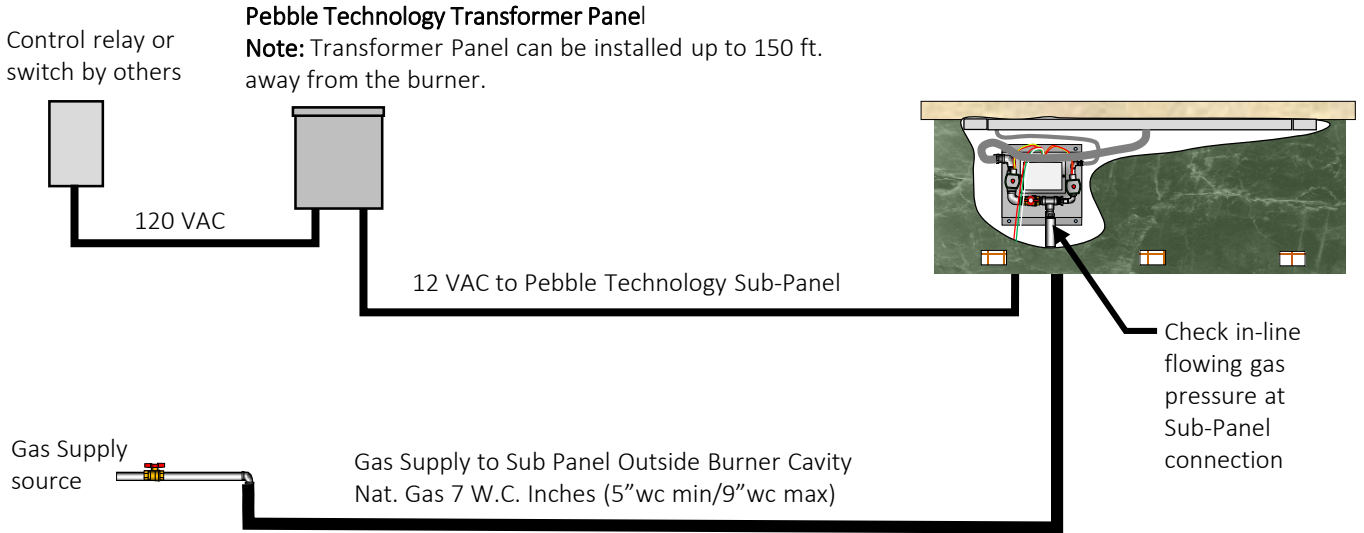
COMPONENT OVERVIEW FOR LINEAR INSERTS 3FT. THRU 5FT.



COMPONENT OVERVIEW FOR LINEAR INSERTS 6FT. THRU 10FT.



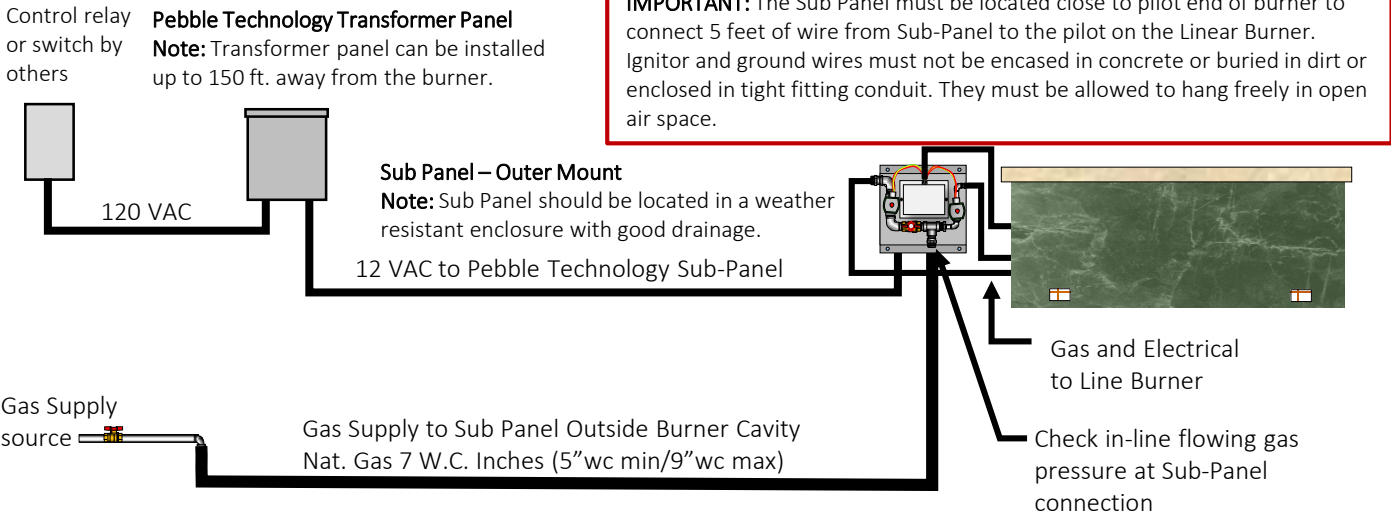
PIPING AND ELECTRICAL DIAGRAM – INNER MOUNT, NATURAL GAS



Gas line pipe sizing

Note: Pipe sizes listed in this document are for reference only. All gas line pipe should be sized based upon distance from the source to the burner, number of elbows and BTU of burner. Use the reference charts from the latest version of the NFPA 54 code book or equivalent sizing charts as your guide.

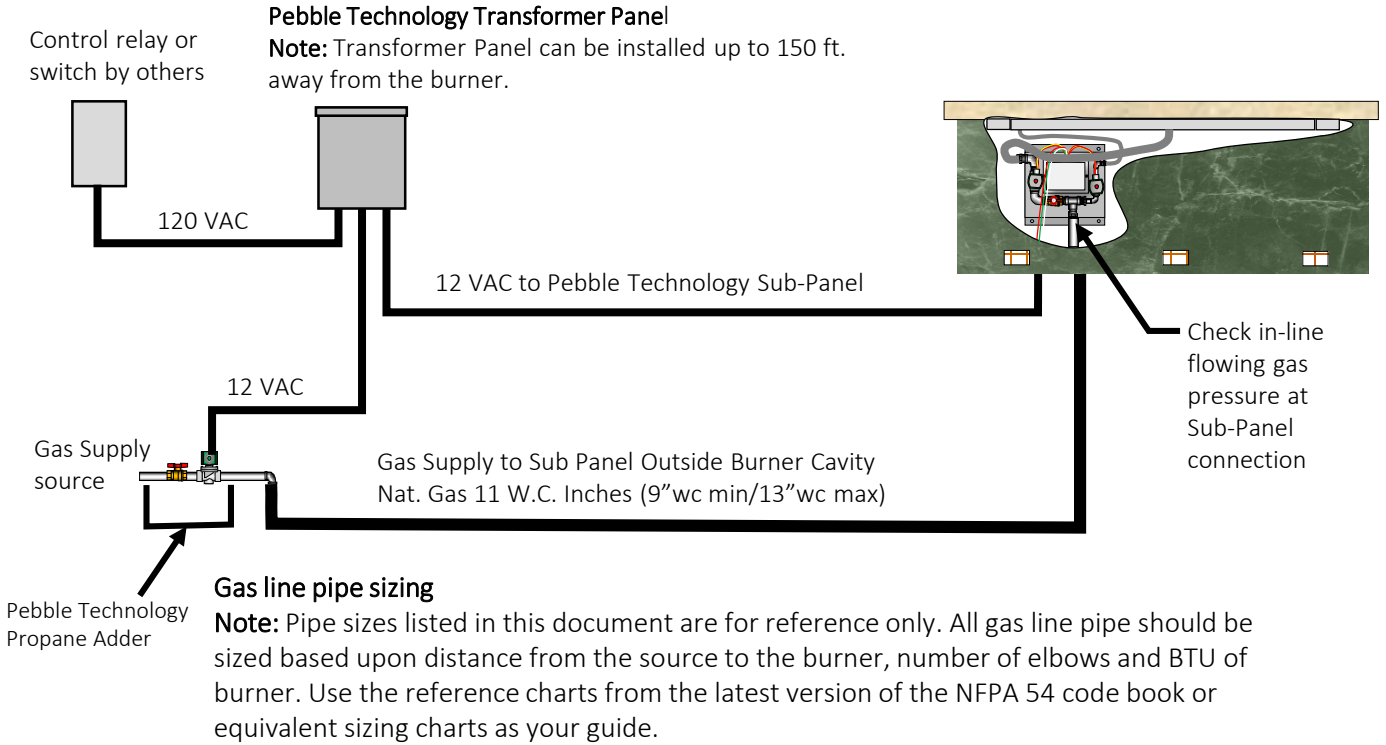
PIPING AND ELECTRICAL DIAGRAM – OUTER MOUNT, NATURAL GAS



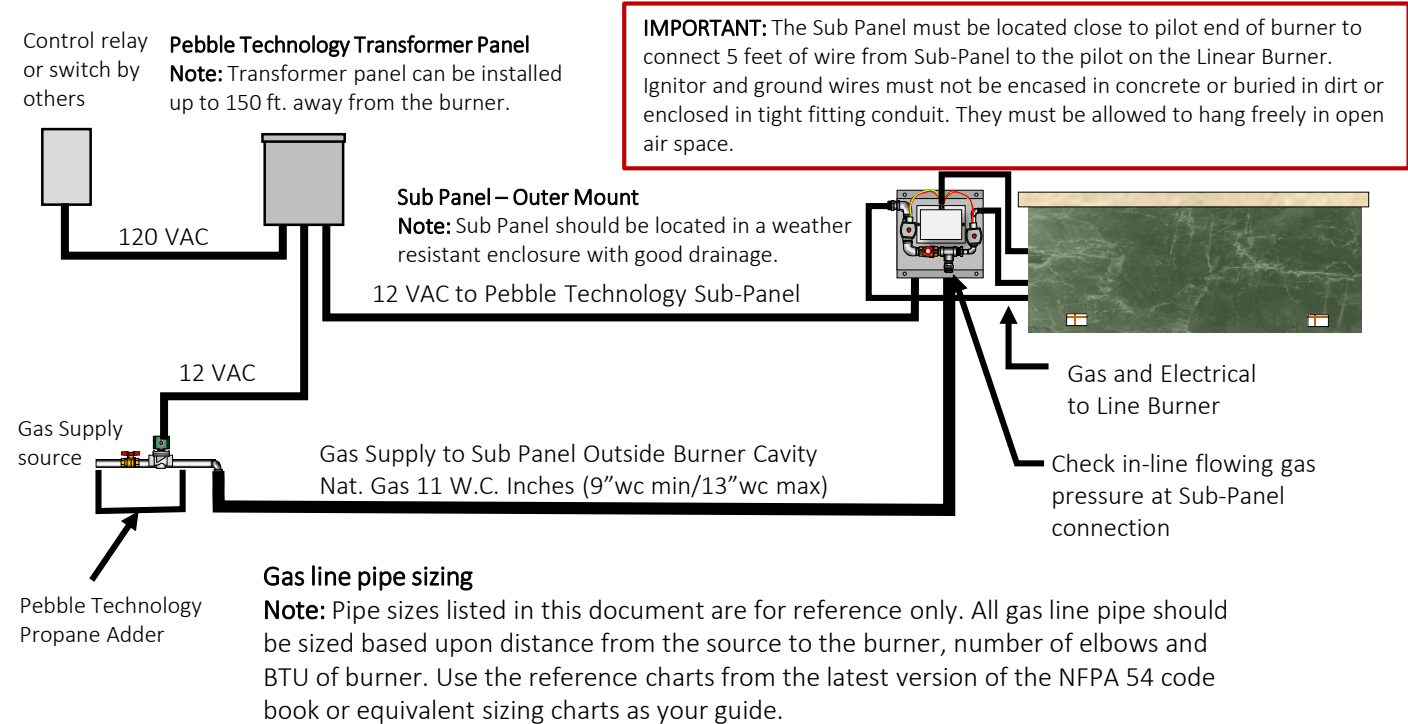
Gas line pipe sizing

Note: Pipe sizes listed in this document are for reference only. All gas line pipe should be sized based upon distance from the source to the burner, number of elbows and BTU of burner. Use the reference charts from the latest version of the NFPA 54 code book or equivalent sizing charts as your guide.

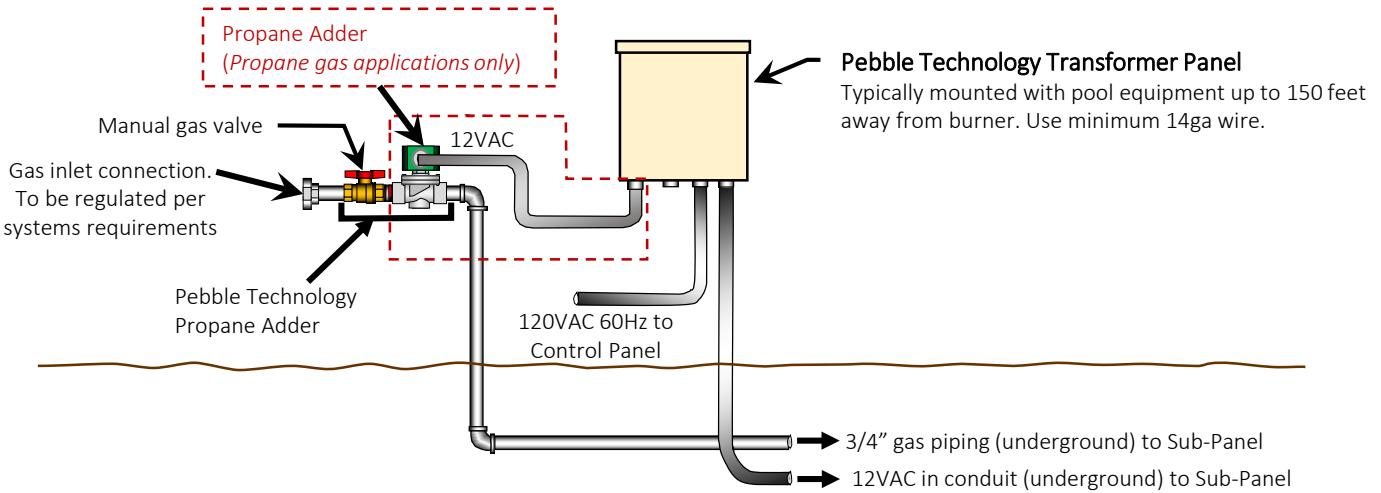
PIPING AND ELECTRICAL DIAGRAM – INNER MOUNT, PROPANE GAS



PIPING AND ELECTRICAL DIAGRAM – OUTER MOUNT, PROPANE GAS



EQUIPMENT PAD – GAS & ELECTRICAL



TRANSFORMER PANEL WIRING

Diagram illustrates high voltage wiring (120VAC) to the Pebble Technology Transformer Panel and low voltage (12VAC) wiring to the Pebble Technology Sub-Panel control.

Wire 120VAC as follows:

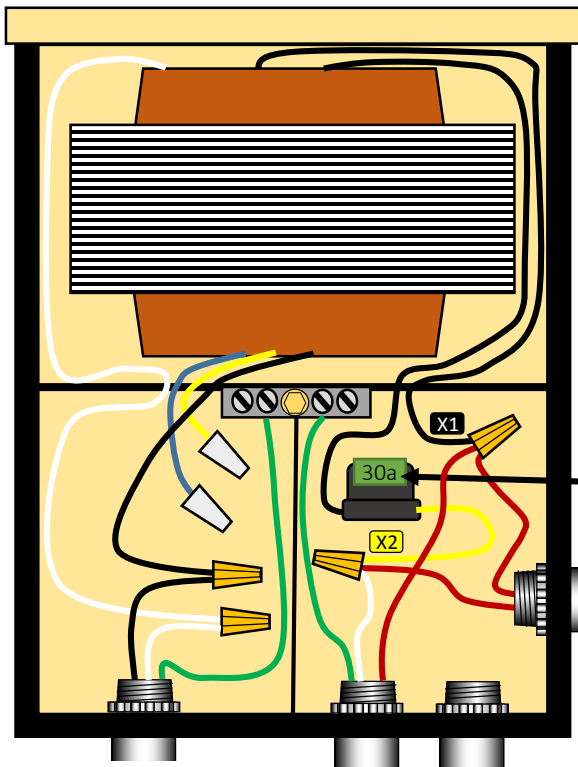
- 120 hot (black wire) to L
- Neutral (white wire) to N
- Ground (green wire) to G

Wire 12VAC as follows:

- Red wire to Black X1
- White wire to Yellow X2
- Green wire to G (Ground)

30 amp replaceable fuse
(2 spare fuses included)

Output – 12VAC
To propane gas adder



PROPANE ADDER WIRING

(Propane gas applications only)

Diagram illustrates wiring a propane adder into the system. Since propane gas is heavier than air and thus can pool on the ground waiting for an ignition source, a propane adder is installed to shut off the gas supply should a gas leak occur.

Wire propane adder as follows:

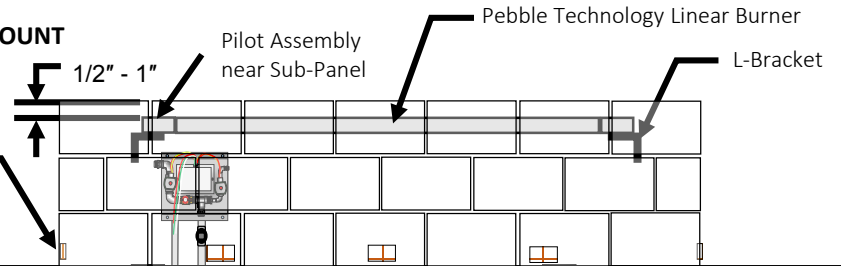
- Red wires to Black X1 and to Yellow X2

INSTALLATION, SUB-PANEL – INNER MOUNT

NOTE: INSIDE MOUNT requires gas and electrical to be located inside and at the end of trough. Ignitor and ground wires must not be encased in concrete or buried in dirt or enclosed in tight fitting conduit.

SIDE VIEW OF BURNER CAVITY – INNER MOUNT

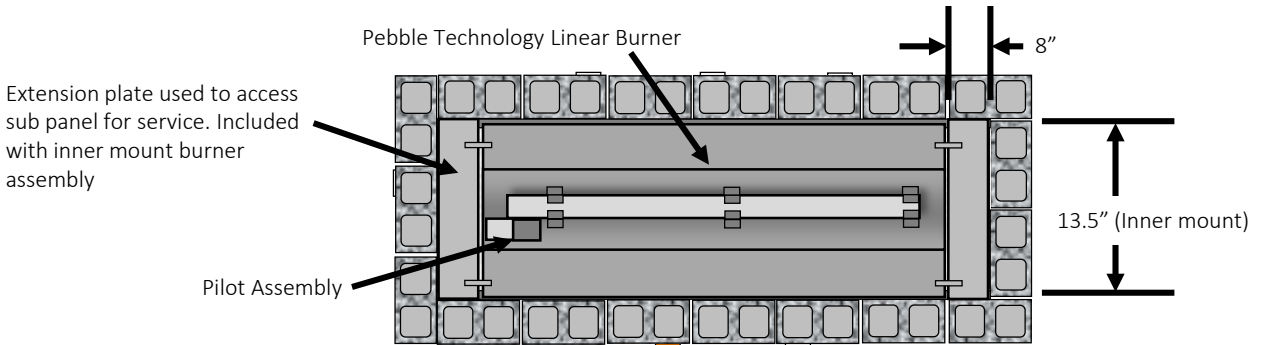
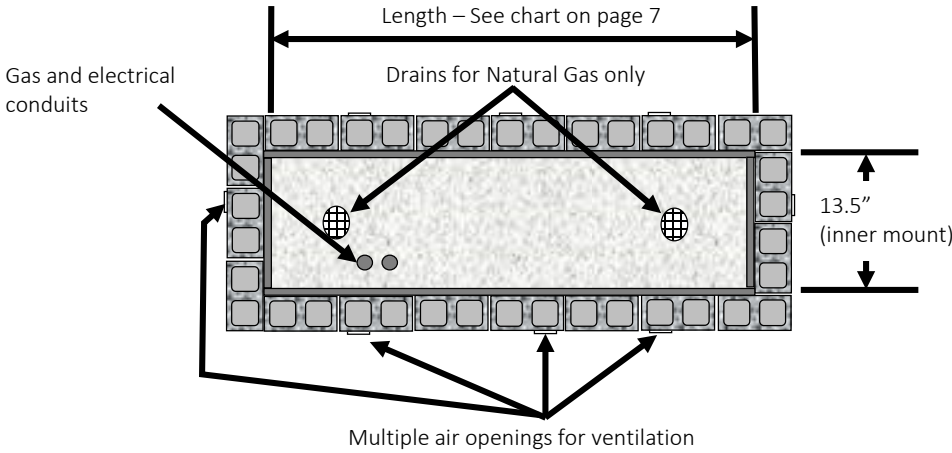
Multiple vents required.
Consult Pebble Technology system requirements for number and size.
See chart on page 7



Locate gas and electrical at pilot side of burner cavity

- Electrical from 12vac Transformer Panel
- Gas supply from source

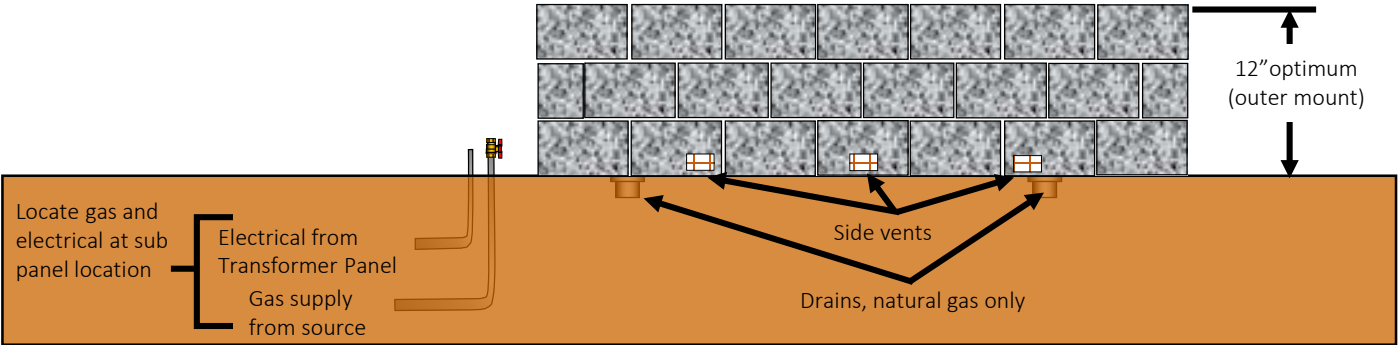
TOP VIEW OF BURNER CAVITY – INNER MOUNT



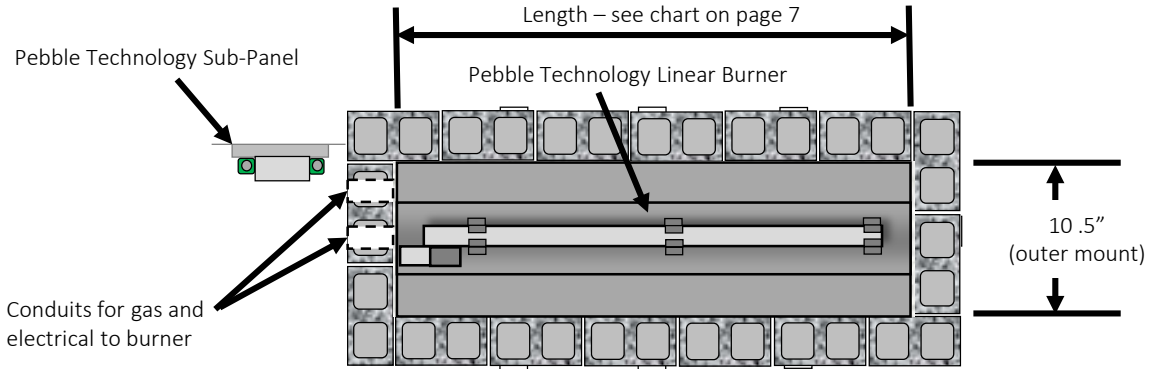
INSTALLATION, SUB-PANEL – OUTER MOUNT

NOTE: OUTSIDE MOUNT Sub-Panel must be installed within 4ft of Pilot Assembly located at the end of the Burner Assembly. Pebble Technology pilot gas hose and electrical wires from Sub-Panel to pilot is 5ft maximum. Ignitor and ground wires must not be encased in concrete or buried in dirt or enclosed in tight fitting conduit. They must be allowed to hang freely in open air space.

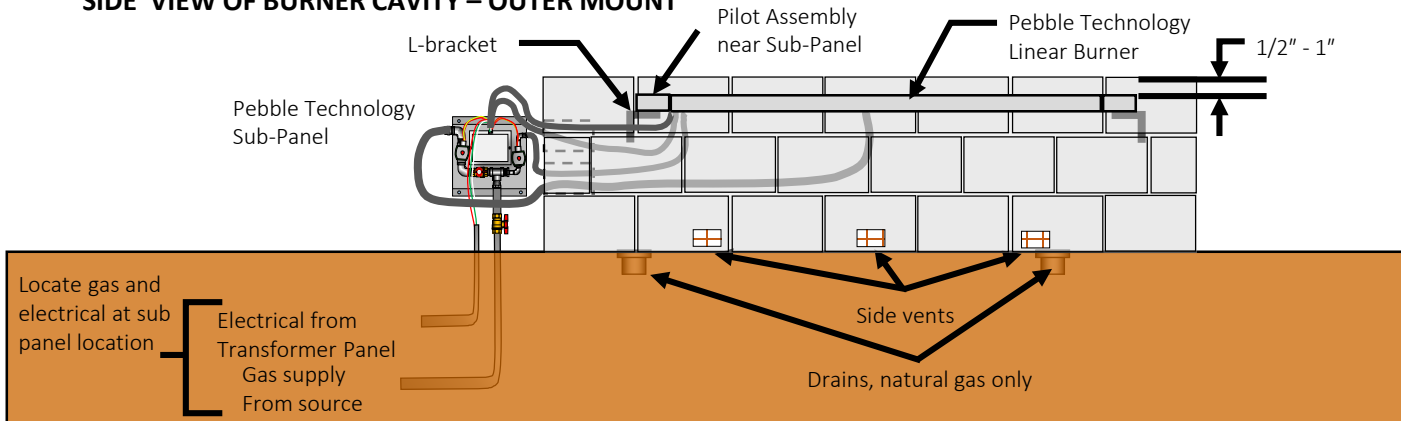
SIDE VIEW OF BURNER CAVITY – OUTER MOUNT



TOP VIEW OF BURNER CAVITY – OUTER MOUNT

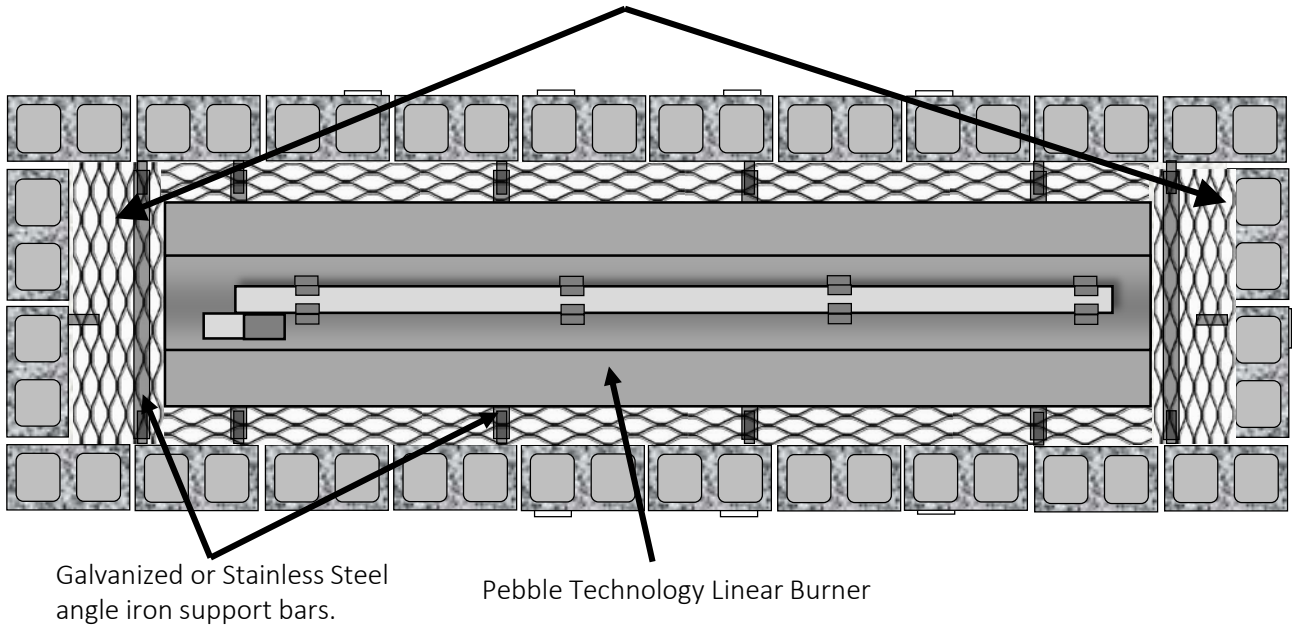


SIDE VIEW OF BURNER CAVITY – OUTER MOUNT

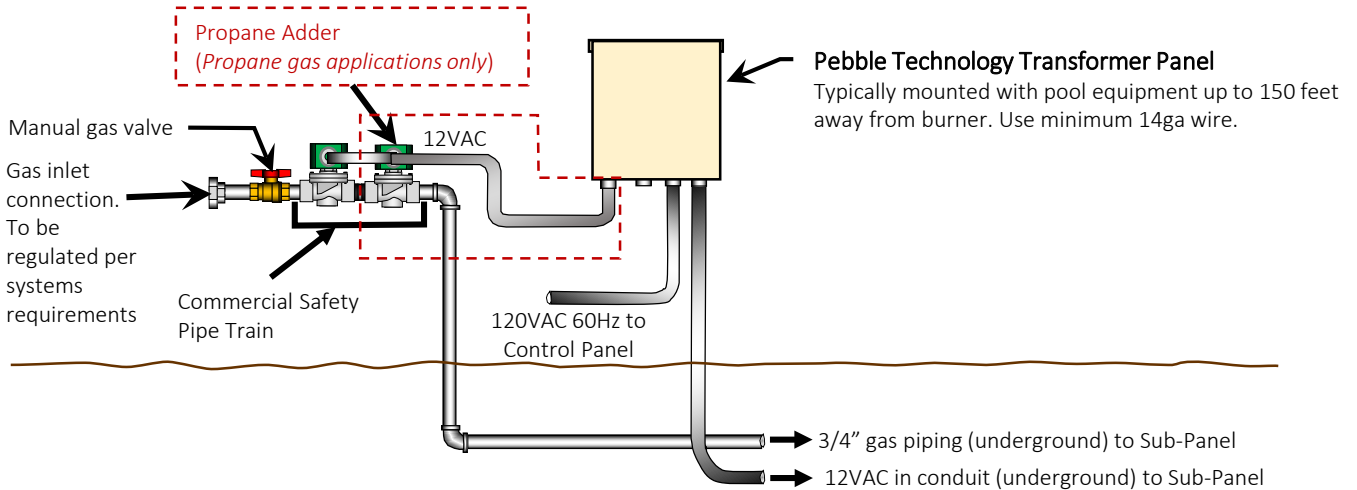


INSTALLATION, OVERSIZED BURNER CAVITY

Use only Stainless Steel perforated or expanded metal around the burner. Using solid pieces of metal will result in overheating, and will void warranty.



COMMERCIAL INSTALLATION, EQUIPMENT PAD – GAS & ELECTRICAL



ALL FIRE FEATURES

WARNING:

Fire features are for outdoor use only. Use only high quality fire approved decorative media to cover the support plate and burner assembly. High temperature rated lava and tumbled lava/ceramic stone are all acceptable media for natural gas systems and propane. Fire glass is **ONLY** acceptable for natural gas systems. PTI offers lava rock and fire glass that is approved for fire applications. For optimal performance, 2" – 4" sized lava rock and 1/4" – 1/2" fire glass is recommended. Use caution if using other suppliers' media as pieces may pop or explode when exposed to heat.

NOTE: Install decorative media on top of the support plate and burner assembly. Be sure the decorative media is not packed too tightly around the pilot box. For proper ventilation and flame sensing, both sides of the pilot box must be kept clear of decorative media.

NOTE: DO NOT USE FIRE GLASS WITH PROPANE SYSTEMS. For natural gas systems, use of a mesh screen is necessary to maintain fire glass above the support plate. When using lava rock smaller than 1/2", use of a mesh screen is necessary. For proper ventilation and flame sensing, the top of the pilot box needs to be kept clear of decorative media.

NOTE: Do not add decorative media until after all testing and flame height adjustments are satisfactorily complete.

LINEAR BURNER – MANUAL OPERATION

- Purge air from gas line at fire feature enclosure using the following instructions:
 - Close manual gas valve
 - Disconnect gas hose from burner assembly
 - Open manual gas valve and hold gas hose outside enclosure while purging air
 - When you smell gas, close manual gas valve and reconnect gas hose to burner assembly
 - Make certain all gas connections are tight and that there are no leaks using a leak detection method
- Test and balance flame height
 - Open the manual gas valve near the fire feature to turn on the flow of gas
 - Use stick lighter to ignite gas and light flame
 - Check flame height and make adjustments at the gas valve to achieve a balanced flame. Flame height should be adjusted to 6" – 10". Excess flame height can result in overheating of the burner and potentially damage the unit
 - Do not adjust manual gas valve too low as this can cause the flame to be unstable resulting in possible flame out
 - To ensure a stable flame, maintain the required gas pressure and flow to the burner assembly
- Add decorative media after all testing and adjustments are complete

LINEAR BURNER – AUTOMATED OPERATION

- Purge air from gas line fire feature enclosure using the following instructions:
 - Close manual gas valve
 - Disconnect gas hose from burner assembly
 - Disconnect X1 & X2 wires at the transformer panel for the Sub-Panel. For propane gas systems, leave propane adder connected such that it can still energize
 - Open manual gas valve and hold gas hose outside enclosure while purging air
 - When you smell gas, close gas valve and reconnect gas hose to burner assembly
 - Reconnect X1 & X2 wires at the transformer panel for the fire feature

- Make certain all gas connections are tight and that there are no leaks using a leak detection method
- Spark ignition check:
 - Close the manual gas valve
 - Using the control switch, turn on the power to the linear burner assembly
 - Check that the spark electrode is arcing across to the pilot hood. You should be able to hear and see the electrode spark. If there is no spark, make sure that the Sub-Panel is receiving 12 VAC from the Transformer Panel
 - Once a spark has been verified, turn off the power to fire feature using the control switch
- Test and balance flame height:
 - Open manual gas valve
 - Using the control switch, turn on the power to the fire feature
 - Check flame height and make adjustments at the red handled manual gas valve located on the Sub-Panel or gas valve provided with the Propane Adder to achieve a balanced flame. Flame height should be adjusted to 6" – 10". Excess flame height can result in overheating of the burner and potentially damage the unit
 - Do not adjust manual gas valve too low as this can cause the flame to be unstable resulting in possible flame out
 - To ensure a stable flame, maintain the required gas pressure and flow to the burner assembly
- Add decorative media after all testing and adjustments are completed successfully

BASIC SYSTEM OPERATION

Caution: Before turning on a fire feature make sure that the area is clear of people, animals or any objects that are combustible. If you smell gas or there are other indications of a gas leak, immediately turn off the manual gas valve, leave the area and do not operate the fire feature. Immediately call your utility gas supplier to inspect the fire feature.

LINEAR BURNER – MANUAL OPERATION

- Any cover must be removed when burner is in operation
- Open the manual gas valve near the linear burner assembly to turn on the flow of gas
- Use a stick lighter to light flame
- Check flame height and make adjustments at the manual gas valve to achieve a balanced flame. Flame height should be adjusted 6" – 10". Excess flame height can result in overheating of the burner and potentially damage the unit
- Do not adjust manual gas valve too low as this can cause the flame to be unstable resulting in possible flame out
- To ensure a stable flame, maintain the required gas pressure and flow to the burner assembly
- Do not store or use gasoline or other flammable materials in the vicinity of the fire feature
- Do not leave flame on while unsupervised
- Do not operate in windy or rainy conditions as burner may not operate properly or at all
- Linear Burner should be operated only by a responsible adult
- Before any inspection of the Linear Burner, always turn off gas and make sure the fire feature is cool
- **If you experience problems with the fire feature, discontinue use and call a licensed contractor**
- To turn off the Linear Burner, close the manual gas valve to the fully closed position

LINEAR BURNER – AUTOMATED OPERATION

- Any cover must be removed when burner is in operation
- To turn on Linear Burner use the automated control system
- Check flame height and make adjustments at the manual gas valve in the Sub-Panel to achieve a balanced flame. Flame height should be adjusted to 6" – 10". Excess flame height can result in overheating of the burner and potentially damage the unit
- Do not adjust manual gas valve too low as this can cause the flame to be unstable resulting in the system cycling on/off because the sensor cannot read the flame properly
- To ensure a stable flame, maintain the required gas pressure and flow to the burner assembly
- Do not store or use gasoline or other flammable materials in the vicinity of the fire feature
- Do not leave flame on while unsupervised
- Do not operate in windy or rainy conditions as burner may not operate properly or at all
- Linear Burner should be operated only by a responsible adult
- Before any inspection of the Linear Burner, always turn off gas and make sure the fire feature is cool
- **If you experience problems with the fire feature, discontinue use and call a licensed contractor**
- To turn off Linear Burner, use the automated control system

TROUBLE SHOOTING

Prior to beginning any trouble shooting procedures, ensure all gas and electrical components of the system are off. **All procedures should be performed by a licensed contractor.**

While trouble shooting the unit, look for signs of heat or water damage to the burner assembly which may be caused by improper installation, inadequate ventilation and drainage, or adverse environmental conditions.

No spark at the pilot box

- Remove decorative media from the pilot box area. Look for small pieces obstructing the pilot box.
- If there is still no spark, confirm 12VAC output from the transformer panel by measuring the voltage over black X1 to yellow X2 wire leads. At the burner assembly, measure the wire leads at Sub-Panel to verify there is no short in the wire runs.
- If there is voltage from the transformer panel, but no spark, check for proper wire connection at the pilot assembly. If there is still no spark, the ignition module or pilot assembly may need to be replaced.
- If there is no voltage from the transformer panel, check the 30AMP fuse on the yellow X2 wire, and replace fuse as needed. Confirm there is 120VAC at the transformer panel over terminals L and N.
- If 120VAC input to the transformer is confirmed and there is no 12VAC output from the transformer panel, the transformer panel may need to be replaced.
- If there is no 120VAC to the transformer check main electrical source.

Spark but no pilot light

- Remove decorative media from the pilot box area. Look for small pieces obstructing the pilot box.
- The pilot valve may not be opening. Turn on burner assembly and listen for the pilot solenoid to energize and open the valve.
- If not energizing, the pilot solenoid may need to be repaired or replaced.
- If the pilot solenoid is energizing, confirm by sound or smell if gas is coming out of the pilot box. If needed, use a lighter to help determine if gas is coming out of the pilot box.
- If no gas at the pilot box, check that the gas is turned on.
- Check to make sure the in-line gas filter screen is not clogged in any way.
- The pilot orifice may be plugged/blocked. If so, remove debris and verify gas flow. If pilot will still not light, the pilot assembly may need to be replaced.
- If not energizing, the control module may need to be repaired or replaced.

Burner assembly cycles on/off

- Moisture can be trapped in the decorative media. As a result, steam from the moisture can cause the burner assembly to cycle on and off until all the moisture has dissipated.
- If the wind is causing an unstable flame or the flame goes out, build up fire media around pilot assembly such that the pilot box is blocked from the prevailing wind.
- If the problem continues, remove decorative media from the pilot box area and burner rail. Retest the flame.
- If flame is working properly, reapply the media in a thin layer over burner rail and loosely around the pilot box.
- Check gas pressure. If pressure is too low or high, it can result in an unstable flame, which can cause the burner assembly to cycle on and off. Check with gas supplier that the proper regulator is installed.
- Check gas flow. If flow is too low or high, it can result in an unstable flame, which can cause the burner assembly to cycle on and off. Regulate gas flow by adjusting the manual gas valve. If problems persist, check with gas supplier that the proper regulator is installed.
- Check to make sure the in-line gas filter screen is not clogged in any way.
- If burner shuts off after a 30-40 minute period and does not come back on the control module may need to be replaced.

Burner assembly will not turn on

- Make sure the pool control system switches are functioning properly (batteries, transmitter signal, etc.).
- Electrical circuit fault: check for loss of power.
- No gas supply: check that all manual gas valves are in the proper position. If applicable, make sure the propane tank is full and that the propane adder is energized.
- Unit may overheat due to improper ventilation. Clear ventilation passageways. Check for heat damage, replace parts as needed.
- Failure of solenoid valve(s) may be indicated by a buzzing noise. Replacement parts may be needed.
- Excessive weather conditions such as rain, wind, snow and dust may affect operation. Wait for weather conditions to clear. Clear debris and eliminate moisture before attempting to operate the unit again.

Pilot light comes on but not the main burner

- Confirm that all manual gas valves at Sub-Panel and elsewhere are in the proper position.
- Check gas pressure. If pressure is too low or high, it can prohibit the main burner from igniting. Check with gas supplier that the proper regulator is installed.
- Check gas flow. If flow is too low or high, it can prohibit the main burner from igniting. Check with gas supplier that the proper regulator is installed.
- Check to make sure the in-line gas filter screen is not clogged in any way.
- Failure of solenoid valve(s) may be indicated by a buzzing noise. Replacement parts may be needed.
- Remove decorative media from the pilot box area and burner ring. Retest the flame.

Main burner or pilot light does not shut off

- Make sure the pool control system switches are functioning properly (batteries, transmitter signal, etc.).
- Remove solenoid coil and clean inside of the solenoid.

For unresolved issues, call service provider. To purchase replacement parts, call PTI at 800-937-5058

GENERAL CARE & MAINTENANCE

General care of the unit is required to maintain proper operation and extend the life of the product. Inspect and clean the unit on a regular basis. Frequency of use will increase the amount of maintenance needed. System should be fired at least once per month to test and ensure proper operation. Over time depending upon use, units will require some form of regular maintenance. This may involve items such as pilot assembly cleaning or replacement and solenoid cleaning or replacement. Please contact your pool care professional for assistance if needed.

LINEAR BURNER FIRE FEATURES

- Periodically clean the burner assembly with a wet cloth to remove carbon build-up.
- Periodically inspect the underside of the burner assembly for any signs of damage from excessive heat (e.g., melted wires, carbon build up, warped parts, etc.)
- Check that all gas connections are tight, clean and sealed.
- Keep base of burner cavity and ventilation passageways clear of debris.
- The unit should be cycled frequently (especially after rain). The Burner Assembly will not work in snow and ice conditions. Fire Features should be covered or removed for storage in snow and ice conditions.
- The unit should not be operated in high wind conditions. High winds can limit the cooling air required for cooling the Burner Assembly.
- Gas should be securely shut-off during non-use.

SEASONAL CARE

Seasonal shut down of the Fire + Water Elements product is recommended if there is a part of the year in which you do not use your features, or if you live in an area where dust, wind, snow or freezing conditions occur. In cold climates, you may need to cover the features to prevent damage from ice and snow. Additionally, summer storms can deposit dust and debris on the functional surfaces. Always clean out the features before use to prevent any debris from affecting the functionality of the system. Please contact your pool care professional for assistance if needed.