



Hearth Products Controls Co

Match Lit Fire Pit Insert MLFPK Series

Installation & Operation Instructions

Select Models
Certified to
ANSI Z21.97-2014
CSA 2.41-2014



PENTA24MLFPK

Installation

We suggest that our products be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping.

Service



We suggest that our products be serviced by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists.

⚠ WARNING: FOR OUTDOOR USE ONLY

⚠ WARNING

•Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

⚠ WARNING

- Do not store or use gasoline or other flammable vapors and liquids in 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.

⚠ DANGER

If you smell gas:

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

⚠ 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.

Index:

- 1) **Parts List**
- 2) **General Information**
- 3) **Selecting the Location**
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- 6) **Installation of Fire Pit**
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1. Parts List

- Fire Pit Insert
- Installation and Operation Instructions

2. General Information

Instructions are also available at hpcfire.com

- Please carefully follow the instructions in this manual to prevent personal injury or property loss. Instructions are updated as needed. It is the installer's responsibility to periodically review instruction for applicable updates. These instructions contain information critical to the safe installation and operation of the fire pit.
- To qualify for warranty, instructions must be strictly followed. Warranty may be void if not followed. Never alter product or configuration in any way.
- **IMPORTANT:** It is the installer's responsibility to ensure a safe installation and to educate the end user as to proper operation. Leave this manual with the end user.
- We suggest that our products be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping. We suggest that our products be serviced annually by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists or in Canada by WETT (Wood Energy Technical Training). Installer must follow all instructions carefully to ensure proper performance and safety. Hearth Products Controls Company is not responsible for your actions.
- It is the responsibility of the installer to follow:
 - The *National Fuel Gas Code, ANSI Z223.1/NFPA 54* or *International Fuel Gas Code*.
 - The *National Electrical Code, ANSI/NFPA 70*.
 - Local Codes
- Only use gas/fuel type specified for this fire pit refer to label on the fire pit control Box. Never use an alternative fuel to include bio-fuel, ethanol, lighter fluid or any other fuel. Gas pressure and type should be checked prior to use and installation.
 - **Natural Gas Fire Pit:**
Supply Pressure: Minimum: 3.5" W.C.; Maximum: 7.0" W.C.
 - **LP Gas:**
Supply Pressure: Minimum: 8.0" W.C.; Maximum: 11.0" W.C.

IMPORTANT: Ensure any flex line that may be used from the permanent main fuel supply to the product is rated to the stated max BTU of the product and certified to ANSI Z21.75*CSA 6.27.

3. Selecting the Location

- All fire pits and systems are designed and intended for outdoor use only.
- Select a location where the fire pit can be attended during operation. Never leave an operating fire pit unattended or by someone not familiar with its operation or emergency shut off locations.
- Both children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns and clothing ignition.
- **Young children should be carefully supervised when they are in the area of fire pit.**
- Clothing or other flammable materials should not be placed on or near fire pit.
- Fire pits create very high temperatures - Combustibles must be located far enough away that there is no risk of ignition.
- **IMPORTANT:** It is recommended that material such as granite, marble or other dense stone be kept away from heat and especially flame due to risk of cracking. Manufacturer is not responsible for damage.

Fire Pit Clearances – See Figure 1 On Last Page	Up to 200k Btu
Under Valve Box When Applicable For Drainage	2”
Sides Surrounding Fire Pit From Structure or Combustibles	36”
Overhead Clearance Above Product	84”

- Select a location with good drainage and allows easy access for installation and maintenance of the fire pit.
- Pick a location that allows sufficient horizontal room to enjoy the fire pit while allowing a safe distance from the heat and flame.

4. Construction of the Fire Pit Enclosure

- Fire pit must have a gas shutoff on the outside of the exterior of the fire pit to allow for emergency shut off and maintenance. The gas shutoff should not be used to adjust flame height.
- Fuel line sizing is the responsibility of the installer and must be able to supply the stated maximum Btu for the product- refer to product label on fire pit.
- Use non-combustible materials and construction for gas supply, power and enclosure.
- Adequate drainage for enclosure must be provided to prevent water damage to fire pit.
- **IMPORTANT:** The enclosure must incorporate 1 vent on at least two opposing sides (2 vents total) at a minimum size of 18 sq. inches of total free area each (Example: 3”x 6” or larger).). Installation of the vents in the mid to lower area of the enclosure is recommended. Ventilation allows for heat and or residual fuel to escape. Failure to properly vent enclosure may result in the fire-pit overheating or explosion. Some enclosures may require more ventilation based on material, size, and extended use. The vent may work as a drain as well when installed at bottom sidewall to prevent water build up.
- The interior void space of the enclosure surrounding the valve box cannot be filled with any material (gravel, crushed rock, concrete, etc.)- It is a requirement to have a minimum of 2” under the valve box for proper ventilation and drainage.
- The fire pit assembly should be recessed a minimum of 2” from the top of the enclosure to protect flame from being blown out.
- The enclosure must be constructed on a stable surface. The weight of the fire pit must be supported by the pan and not by any control/valve box.
 - Make sure that the structure is level. We recommend the use of the installation collar (optional) that may be mortared into the surround.
- HPC recommends that the pan lip is recessed on trough (linear), and large round products as illustrated below.



- HPC cannot guarantee the lip on all of our products will be perfectly flat and will not warp due to heat.
- Product must be accessible for service.

5. Construction of the Remote LP Tank System Enclosure

IMPORTANT: Only select models of Push Button / Flame Sense (FPPK) fire pits are permissible for small tank use—please see HPC Product catalog, visit www.hpcfire.com or contact your HPC Dealer for details.

For an enclosure using an LP tank system, follow these recommended specifications:

- You must follow local codes.
- **IMPORTANT:** The remote LP Tank / Enclosure should be a minimum of 54" from the burner.
- One side of the enclosure shall be completely open; OR
- For an enclosure having four sides, a top, and a bottom:
 - At least two ventilation openings shall be provided in the side walls of the enclosure, located within 5 in (127mm) of the top of the enclosure, equally sized, spaced at a minimum of 180 degrees, and unobstructed. The opening(s) shall have a total free area of not less than 1 in²/lb (14.2 cm²/kg). See Figure 1.
 - Ventilation opening(s) shall be provided at floor level of the enclosure and shall have a total free area of not less than ½ in²/lb (7.1 cm²/kg) of stored fuel capacity. If ventilation openings at floor level are in a side wall, there shall be at least two openings. The bottom of the openings shall be 1 in (25.4mm) or less from the floor level and the upper edge no more than 5 in (127mm) above the floor level. The openings shall be equally sized, spaced at a minimum of 180 degrees and unobstructed. See Figure 1.
- Every opening shall have minimum dimensions so as to permit the entrance of a 1/8 in (3.2mm) diameter rod.
- Ventilation openings in sidewalls shall not communicate directly with other enclosures of the appliance.

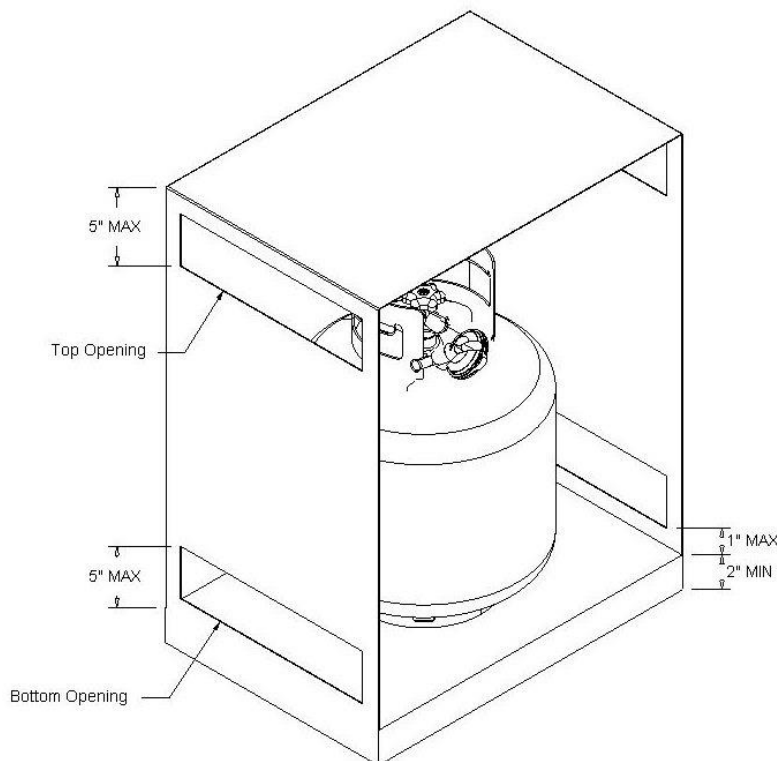


Figure 1

LP Tank Size	Top Opening	Bottom Opening
20 LB (9.1 KG)	20 in ² (130 cm ²)	10 in ² (65 cm ²)
30 LB (13.6 KG)	30 in ² (195 cm ²)	15 in ² (100 cm ²)

LP Tank Enclosure Specifications
2 Openings for each top and bottom - 180° apart
From LP tank base to bottom of opening - Max. 1" (25.4mm)
From floor to base of LP tank - Min. 2" (50.8mm)

- The cylinder valve shall be readily accessible for hand operation. A door on the enclosure to gain access to the cylinder valves is acceptable, provided it is non-locking and can be opened without the use of tools. Designs using a cover to gain access to the cylinder and cylinder valve shall be provided with handles or equivalent at a minimum of 180 degrees apart to facilitate lifting of the cover.
- The enclosure for the LP-gas cylinder shall isolate the cylinder from the burner compartment to provide:
 - Shielding from radiation;
 - A flame barrier; and
 - Protection from foreign material.
- There shall be a minimum clearance of 2 in (50.8mm) between the floor of the non-disposable LP-gas cylinder enclosure and the ground.
- The design of the enclosure shall be such that:
 - A non-disposable LP-gas cylinder can be connected, disconnected, and the connections inspected and tested outside the cylinder enclosure; and
 - Those connections which could be disturbed when installing the cylinder in the enclosure can be leak tested inside the enclosure.

Propane Cylinder:

- A worn cylinder may be hazardous and should be checked by your propane supplier. Never use a cylinder with a damaged valve. Use only a propane supply cylinder constructed and marked in accordance with the specifications for LP gas cylinders of the National Standard of Canada, CAN/CSA B339, Cylinders, Spheres and Tubes for Transportation of Dangerous Goods; and Commission, as applicable or the Specifications for LP-Gas Cylinders of the U.S. Department of Transportation (D.O.T.). This appliance has been designed for use with a 20lb or 30lb size propane cylinder only (not supplied).
- The propane cylinder must be provided with a cylinder connection device compatible with the connection for outdoor appliances. The propane cylinder must be provided with a shut-off valve terminating in a propane cylinder valve type QCC1, and a safety relief device having direct communication with the vapor space of the cylinder. The cylinder supply system must be arranged for vapor withdrawal and the cylinder shall include a collar to protect the cylinder valve. The cylinder shall incorporate listed OPD (overfill protection device). Do not store a spare LP-gas cylinder under or near this appliance. Never fill the cylinder beyond 80 percent full.
- Use only the pressure regulator and hose assembly provided with this appliance. Replacement pressure regulators and hose assemblies must be specified by the manufacturer. The regulator supplies a pressure of 11 inches water column to the appliance and has a QCC1 type fitting. Cylinders to be used with this unit must be supplied with a QCC1 cylinder valve. A QCC1 cylinder has a positive seating connection, which will not allow gas to flow until a positive seal has been achieved. It is also equipped with an excess flow device. In order to attain full flow to the appliance, the valve must be in the off position when the cylinder valve is turned on.

Securing the LP tank:

1. Fasten the L-bracket to the bottom of the propane tank using the nut and bolt supplied. Ensure the nut is tight and will not loosen.
2. Select location for the propane tank and screw the bracket to the mounting surface. For concrete surface, use a concrete anchor (not supplied). Ensure that screw is tight so that the cylinder cannot move.

Cylinder Connection:

Ensure the gas regulator has no kinks and is smooth. Remove the cap or plug from the cylinder fuel valve. Insert the black QCC1 regulator nipple onto the QCC1 fuel valve and tighten until snug. Do not use tools. Leak test all joints prior to using the gas appliance. A leak test must be performed annually and each time a cylinder is hooked up or if a part of the gas system is replaced.

Follow the instructions for natural gas hook-up if the appliance is to be connected directly to a house propane gas supply line.

6. Installation of Fire Pit

Installation

We suggest that our products be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping.

- **IMPORTANT:** To prevent damage, unhook fire pit from gas supply for pressure leak tests.
- **IMPORTANT:** Burn Testing- It is the responsibility of the qualified installer to test for gas leaks at all connections.
- **IMPORTANT:** Gas Plumbing Connections: Use only joint compound or tape that is resistant to all gases. Apply joint compound to all male pipe fittings only- **DO NOT use on flex line flared fittings.** Be sure to tighten every joint securely.
- Refer to cut sheets on our website for important dimensional information for your fire pit- visit www.hpcfire.com
- Perform all leak tests with leak detector or leak reactant.

Installation Steps:

1. Shut off Gas Supply to fire-pit.
2. Connect fire-pit to main gas supply. Flex lines- avoid sharp bends with flex line to prevent whistling.
3. Turn on gas supply, purge gas lines of air and perform leak test on all inlet connections. Repair as needed.
4. Position fire pit safely with access to all gas connections for testing.
5. Light fire pit. It may take several cycles to purge air from the lines.
6. Once fire pit is lit perform leak test on all gas connections. Repair as needed.
7. Turn off fire pit and allow cooling.
8. Apply media as described in (Section 7). When filling the pan with lava rock and/or decorative glass, the instructions in Section 5 must be followed.
9. Turn on fire pit again and perform leak test with media correctly installed. If gas leak is detected verify correct media application and repair as needed.
10. Set fire pit in properly constructed enclosure (Section 6).
11. Verify correct operation and lighting.
12. Review safety manual with end user and instruct not to change/ modify fire pit or media.
13. Leave manual with end user.
14. Please apply the Start Up and Shutdown decal next to control box in an obvious position.

7. Media Application

⚠ WARNING: FOR GLASS MEDIA USAGE WITH LP GAS- WHEN USING APPROVED DECORATIVE GLASS TO COVER BURNER APPLY ONLY ENOUGH TO HIDE BURNER. APPLYING OVER 1/2" MAY CREATE BACK PRESSURE AND GAS LEAKAGE FROM AIR MIXER RESULTING IN LP POOLING UNDER FIRE PIT.

⚠ WARNING: FOR GLASS MEDIA USAGE WITH LP GAS- THE UNIT MUST BE TESTED WITH MEDIA OVER BURNER FOR CONFIRMATION OF NO BACK PRESSURE CREATING GAS TO LEAK OUT OF AIR MIXER VENTURI HOLES. THIS MAY HAVE TO BE DONE PRIOR TO PLACING IN ENCLOSURE IF NO ACCESS DOOR.

- **IMPORTANT:** The fire pit is designed to use approved media correctly installed over the burner to achieve proper combustion.
- Never install a mesh or screen under the media.
- Media affects flame pattern greatly. It is possible to create an unusual flame pattern that could damage your enclosure. Enclosure damage from an open flame fire feature is not covered under any warranty.
- The use of concrete logs is not recommended.

Lava Rock & Glass Application

Please follow the instructions below to add the finishing touch to your fire pit. Particular attention needs to be on the pilot assembly area. Incorrect media installation will cause the pilot flame to suffocate and turn off pit or delay main burner ignition.

Lava Rock Only Application

- 1) Install your fire pit per instructions.



- 2) Apply lava rock ONLY deep enough to cover ring and pan- less than 2" above fire ring.



For Electronic Ignition

- 3) **Blow Out Box:** Do not cover vents with lava rock- leave open. Do not allow any rock to block flame opening.



- 4) **Blowout Box:** Do not cover blowout box vents or opening with lava rock or glass. Incorrect media installation will cause the pilot flame to suffocate and turn off pit or delay main burner ignition.

Decorative Glass Application

- 1) Install your fire pit per instructions.



- 2) Fill Pan with glass. Cover Burner with 1/8 to 1/4" of glass. Do not over fill with glass. All LP installations must be checked for back pressure with media installed. Failure to do so may result in personal injury or property damage.



For Electronic Ignition

- 3) **Blowout Box:** Do not cover blowout box vents or opening with lava rock or glass. Incorrect media installation will cause the pilot flame to suffocate and turn off pit or delay main burner ignition.



DO NOT COVER VENTS!



DO NOT COVER PILOT OPENING!

8. Fire Pit Operation

- Before use, be sure to test all gas connections for leaks. Do not use fire pit if there is any evidence of leaking gas. If leaking gas suspected, turn off the main gas supply and repair immediately.
- Do not use the enclosure as a seating area. Wind and gusty conditions will affect the flame in an unpredictable manner. If conditions exist that are not safe for patrons turn the fire pit off.
- Do not use fire pit if any part has been submerged under water. Immediately call a qualified service technician to inspect the fire pit.
- Never use any material that is non-porous and holds moisture such as gravel, pebbles, river rock, etc. This material, when heated will cause the trapped moisture to boil and fracture unexpectedly. This material is not sufficiently porous to allow heated steam to readily escape which can break and cause personal injury or damage.
- Solid fuels shall not be burned in the fire pit. Leaves, sticks, wood, paper, clothing, food material, should be kept away from the fire pit. Fire pit is not for cooking. Make sure that there is no vegetation or other objects over the top or sides of the fire pit that could interfere with safe operation. See clearances in Section 3- Selecting the Location.
- If lava rock is wet, allow fire pit to burn for 45 minutes prior to coming within 15 feet of the fire pit.
- When fire pit is not in operation turn off gas valve.
- When not in use the fire pit must be covered at all times.

START UP

1. **STOP! Read the safety information on “What to do if you smell gas” (Pg. 1).**
2. Confirm there is no debris in the fire pit (as mentioned in warnings) including water.
3. Place long handled lighter or match while burning on top of the fire pit.
4. Slowly turn “ON” gas valve.
5. After burner lights remove lighter or match.
6. Adjust flame to desired height.
7. If burner does not light turn valve off and allow gas to clear then repeat steps 3~7.
8. Ensure fire pit, children and patrons are supervised by a responsible adult that is familiar with emergency shut down.
9. Flammable materials should not be placed on or near the fire pit.

This product is intended to be connected to fixed piping systems or a LP small tank (only on select models).

SHUTDOWN

1. Turn “OFF” gas valve.
2. Once fire pit is cooled, use appropriate cover to protect fire pit.

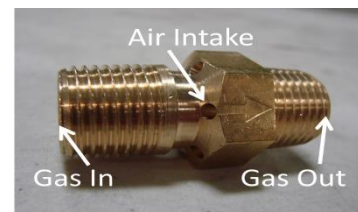
9. Maintenance

Service



We suggest that our products be serviced by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists.

- Any guard or protective device removed for servicing must be replaced prior to operating the fire pit.
- We suggest that our products be serviced annually by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists.
- Ensure gas is shut off and fire pit is cool before servicing.
- Keep fire pit covered at all times when not in use and free of debris.
- In some areas of the country spiders or insects have been known to build nest and or lay eggs in the venture holes of the air-mixer for LP units. This can cause fuel to fill the fire feature cavity and result in personal injury or property damage. Periodical inspection by a qualified service technician of the air-intake is required to ensure your fire feature performs properly.



- **Burner Cleaning:** (1 x YR) If flames exhibit any abnormal shapes or behavior, or if burner fails to ignite properly, then the burner holes may require cleaning. The appliance can be cleaned by carefully removing the logs and media to allow access to burner. Use a brush to carefully remove dust, spider webs, and loose particles from base, logs, and fire ring itself. If evidence of damage, fire ring must be replaced with fire ring specified by manufacturer.

10. Troubleshooting

Below are some potential causes and counter measures to the symptoms indicated in bold. Please contact your retailer or certified technician for service and repair.

Problem	Possible Causes	Solution
Will not light	Air in gas line	If new install, may take several attempts to purge air
	Debris in gas line	Confirm gas line is clear (insulation, dirt, plastic, etc.)
	Gas pressure improper	Confirm proper gas pressure (Section 1)
Will not stay lit	Gas pressure improper	Confirm proper gas pressure (Section 1)
	Fire ring obstructed	Confirm no debris or water in ring (always cover fire pit)
	Improperly applied media	See Section 7
Noise	Whistling sound	Change flex line routing

11. Replacement Parts

Please contact your dealer for parts – if unsure please contact HPC and we will be happy to help you.

12. Warranty

Limited Warranty

Hearth Products Controls Company (HPC) warranties fire pits against manufacturing defects that prevent safe and correct function as follows:

- **Electronics, Gas Valve: Commercial-1yr; Residential- 3 yr.**
- **Pilot Assembly: Commercial-1 yr.; Residential-2 yr.**
- **Stainless Steel Pan, Fire Ring, & Valve Box: Commercial-1yr.; Residential 5yrs.**

This commences from the date of original sale / shipment from HPC FOB Dayton, Ohio.

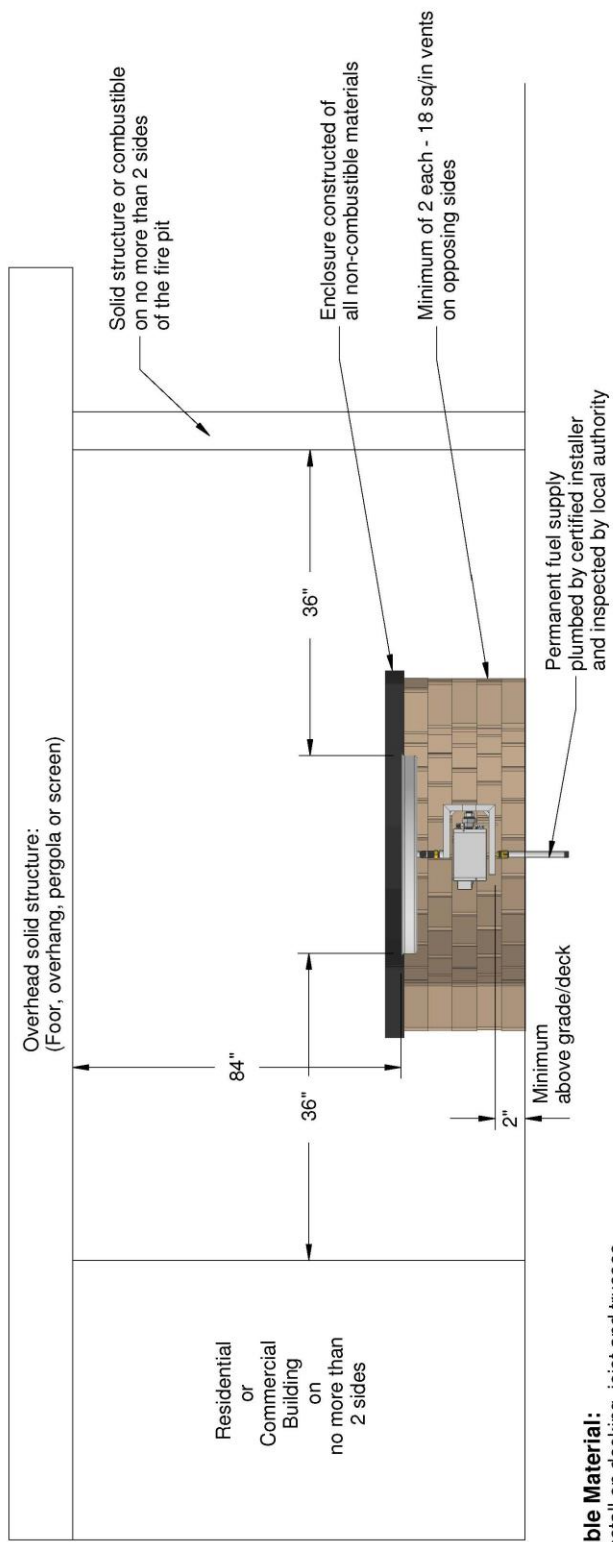
This warranty is for parts and in-house (HPC) labor. The defective product must be sent back to HPC with a Return Merchandise Authorization (RMA) issued by HPC for that specific product and any other additional information for the nature of the defect or warranty claim.

The warranty does not cover items that have been damaged by overheating, modification, abuse, or improper storage. Also any labor involving installation or maintenance with the unit is not covered.

This warranty excludes claims for consequential, indirect-collateral expenses arising from product defects or warranty recovery.

**Figure 1 - Up to 200k BTU
For Outdoor Use Only**

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



Combustible Material:
-For direct install on decking, joist and trusses see Deck Installation Kit drawing and instructions

Note:
-50% free air space minimum. HPC is not responsible for screen that melts.
-For non-combustible screening a 20 x 20 x .013 wire mesh thickness or courser. (More open space)
-For all other non-combustible coverings an on-site estimate of free air space will be necessary.

Free Air Space Mesh Example
3:1 Scale of 20x20x.013

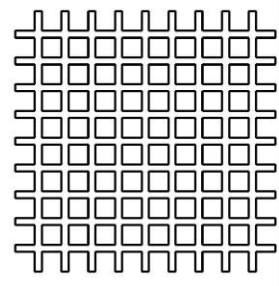
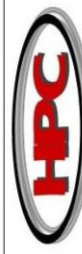


Diagram illustrates common clearance questions.
* Clearance from overhead structure
* Clearance from structure/combustible
All items may or may not apply to your project.
Clearance's apply to any and all sides of the project.
Read and follow all instructions and local codes

DRAWN
CHECKED
QA
MFG
APPROVED

DATE
4/24/2017

Clearance's - Standard Fire Pit Up to 200k btu

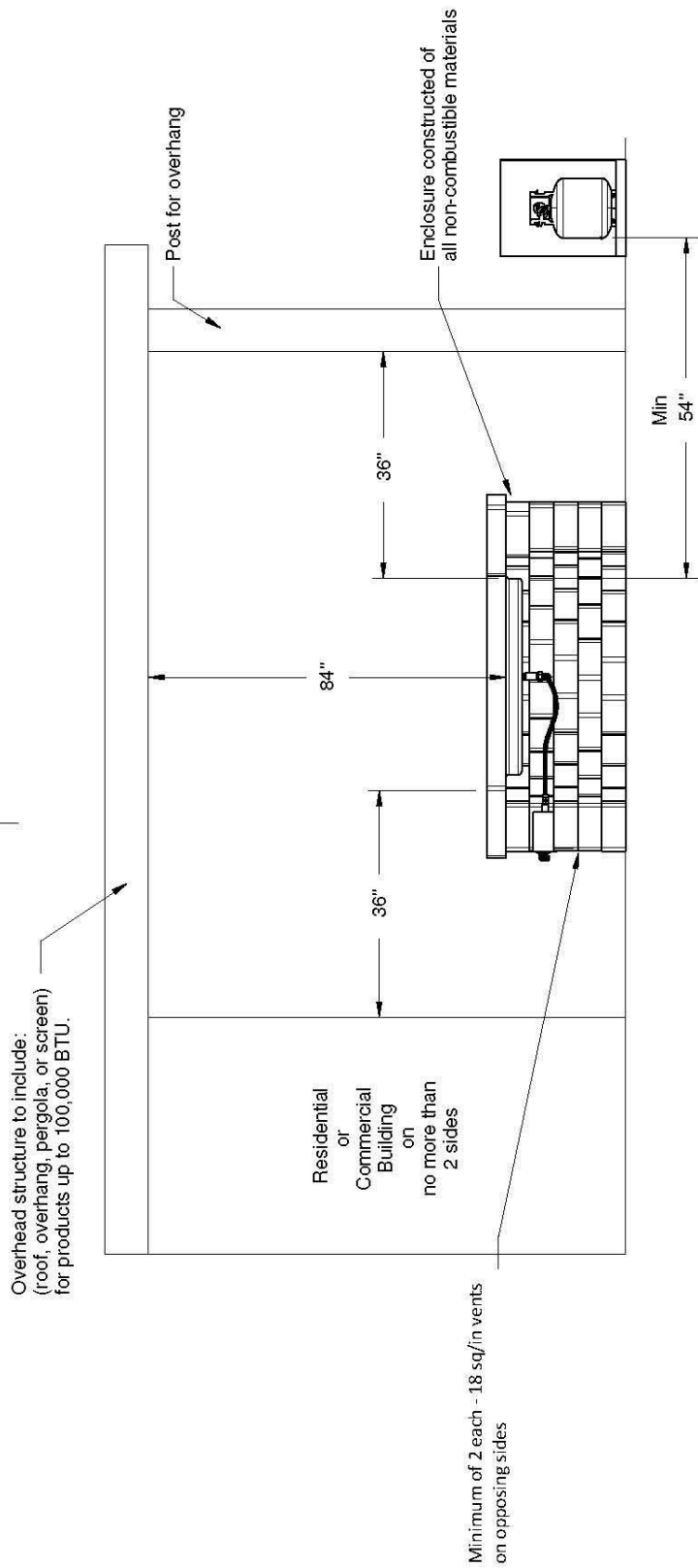


Hearth Products Controls Co

SIZE	FSCM NO.	DWG NO.	REV
A			
SCALE	SHEET		

**Figure 1 - up to 100,000 BTU : LP Tank
For Outdoor Use Only - Select models only**

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



Ceilings shaped like a gazebo must have a minimum of 150 square inches of roof vent to allow heat to escape.

For wall or ceiling screen 50% free air space is recommended. HPC is not responsible for screen that melts.

Diagram illustrates common clearance questions.	DRAWN	DATE
* Clearance from overhead structure	CHECKED	2/27/2017
* Clearance from structure/combustible	QA	
* Deck installation	MFG	
All items may or may not apply to your project.	APPROVED	
Clearance's apply to any and all sides of the project.		
Read and follow all instructions and local codes		

Clearance's - Fire Pit up to 100K BTU's for LP Tank



Hearth Products Controls Co

SIZE	FSCM NO.	DWG. NO.	REV
A			
SCALE			SHEET