

# solus

Contemporary design, formed in concrete.

## **FIRE PIT INSTALLATION and USER MANUAL**

INSTALLER: Leave this manual with the appliance

CONSUMER: Retain this manual for future reference



## SOLUS DECOR FIRE PIT INSTALLATION AND USER MANUAL

For Outdoor Use Only. Read Installation and User Manual before use.

This fire pit is tested for compliance to the standards: ANSI Z21.97 – 2004/CSA 2.41 - 2014 Outdoor Decorative Gas Appliance and CSA 2.17 – 2017 Gas-Fired Appliances for Use at High Altitudes.

Made in Canada by Solus Decor Inc. – 109 Braid St., Building C, New Westminster, BC, V3L 5H4 Canada – T: (604) 255-2472 – E: info@solusdecor.com

Gas Type: NG (Natural Gas) LP (Liquid Propane)  
BTU: 60,000 73,000 108,000

Electric if applicable: 24V/110VAC, 1.5A, 60 Hz



### Gas Pressure:

NG – Inlet pressure: 7.0 inwc; Manifold Pressure: 3.5 inwc (Honeywell valve)/5.80 inwc (Baso valve) for 40,000, 60,000 & 73,000 BTU; Inlet pressure: 2.5 inwc for 108,000 BTU

LP – Inlet pressure: 11 inwc; Manifold pressure: 10.80 inwc (Baso valve) for 40,000, 60,000 & 73,000 BTU; Inlet pressure: 4.5 inwc for 108,000 BTU

For installation of Electronic Ignition System, refer to the “Electric Hook Up” Instruction – a separate page included in your shipment.

For general installation, refer to the “Fire Pit Installation”.

 <b>DANGER</b>	<p align="center"><b>CARBON MONOXIDE HAZARD</b></p> <p><b>This appliance can produce carbon monoxide which has no odor.</b></p> <p><b>Using it in an enclosed space can kill you.</b></p> <p><b>Never use this appliance in an enclosed space such as a camper, tent, car or home.</b></p>
	



	<p><b>DANGER:</b> if you smell gas:</p> <ol style="list-style-type: none"><li>1) Shut off gas to appliance</li><li>2) Extinguish any open flame</li><li>3) If odor continues, keep away from appliance and immediately call gas supplier or fire department</li></ol>
	<p><b>WARNING:</b> 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.</p>
	<p><b>WARNING:</b> Do not store or use gasoline or other flammable items near the fire pit.</p>
	<p><b>WARNING:</b> It is the installer's responsibility to ensure a safe installation and to educate the end user about proper operation. Leave this manual with the end user.</p>
	<p><b>WARNING:</b> This manual contains information critical to the safe installation and operation of the fire pit.</p>
	<p><b>WARNING:</b> Never alter product or configuration in any way.</p>
	<p><b>WARNING:</b> FOR REMOTE CONTROL USE: To prevent accidental start-up from unwanted RF signals, it is the responsibility of the end user to turn off power to electrical outlet for the remote-control receiver when the fire-pit is not in use via wall switch or breaker.</p>
	<p><b>WARNING:</b> We require that our products be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping.</p>
	<p><b>WARNING:</b> This fire pit is not intended to be a starter for wood or any other combustibles.</p>
	<p><b>WARNING:</b> It is the responsibility of the installer to follow <u>ALL LOCAL CODES</u> concerning the installation and operation of the fire pit. In the absence of local codes, please follow:</p> <ul style="list-style-type: none"><li>• ANSI Z21.97/CSA 2.41-2004/CSA 2.41-2014 <i>Outdoor Decorative Gas Appliances</i></li><li>• Fixed piping system: <i>The National Fuel Gas Code, ANSI Z223.1/NFPA 54 or International Fuel Gas Code.</i></li><li>• Electrical ground: <i>The National Electrical Code, ANSI/NFPA 70.</i></li><li>• 2012 and 2009 <i>International Fire Code® (IFC)</i></li><li>• 2012 and 2009 <i>International Mechanical Code® (IMC)</i></li><li>• 2012 and 2009 <i>Uniform Mechanical Code® (UMC)</i></li><li>• 2010 <i>Natural Gas and Propane Installation Code</i></li></ul>



	<p><b>WARNING:</b> Only use gas/fuel type specified for this fire pit. See label on the fire pit burner plate. Verify correct gas/fuel type and pressure. 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.</p> <p><b>NG:</b> Supply Pressure: Inlet pressure: 7.0 inwc Manifold Pressure: 3.5 inwc (Honeywell valve) / 5.80 inwc (Baso valve)</p> <p><b>LP:</b> Supply Pressure: Inlet pressure: 11 inwc Manifold Pressure: 10.80 inwc (Baso valve)</p>
	<p><b>WARNING:</b> This fire pit is designed and intended for outdoor use only.</p>
	<p><b>WARNING:</b> For electronic ignition models there must be an electrical shut off (wall switch or breaker) on the exterior of the fire pit or on adjacent wall to allow for emergency shutdown and maintenance.</p>
	<p><b>WARNING:</b> All fire pits must have a gas shutoff on the outside of the exterior of the fire pit to allow for emergency shut off and maintenance.</p>
	<p><b>WARNING:</b> 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.</p>
	<p><b>WARNING:</b> Both children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns and clothing ignition.</p>
	<p><b>WARNING:</b> Young children should be carefully supervised when they are in the area of the fire pit.</p>
	<p><b>WARNING:</b> Clothing or other flammable materials should not be placed on or near the fire pit.</p>
	<p><b>WARNING:</b> This fire pit emits very high temperatures – Combustibles must be located far enough away that there is no risk of ignition.</p>
	<p><b>WARNING:</b> All Solus vessels for Natural and Liquid Propane Gas are vented at the bottom. The ventilation allows for heat and/or residual fuel to escape. The vents also function as a drain to prevent water build-up. These vents must not be blocked or tampered with at any time. Failure to follow this instruction may result in the fire-pit overheating or explosion. Overheating could also lead to heat damage to internal components.</p>



	<b>WARNING:</b> The interior void space of the Solus vessel surrounding the gas valve and electrical box cannot be filled with any material (gravel, crushed rock, concrete, etc.) to allow for proper ventilation.
	<b>WARNING:</b> Solus concrete vessels are HEAVY. Use care and caution during lifting, positioning and repositioning to prevent injury, damage to fire pits and damage to property. Some fire pits will require 2 or more people to lift; some may require 4 or more people to lift. The fire pit must be evenly supported and level – Shim appropriately as required.
	<b>WARNING:</b> The fire pit must be serviced annually by a professional certified in your jurisdiction.
	<b>WARNING:</b> Installer must confirm the appliance is built for the appropriate gas used – NG or LP. Do not use natural gas appliance with LP or LP appliance with natural gas. Refer to the label on the appliance.
	<b>WARNING:</b> To prevent damage, unhook the fire pit from gas supply for pressure leak tests.
	<b>WARNING:</b> Fuel line sizing is the responsibility of the installer and must be able to supply the stated 40K or 60K BTU for the product. Natural gas 7 inwc pressure and for propane 11 inwc pressure.
	<b>WARNING:</b> Burn Testing - It is the responsibility of the qualified installer to test for gas leaks at all connections.
	<b>WARNING:</b> 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 FLARED fittings. Be sure to tighten every joint securely.
	<b>WARNING:</b> An LP-cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.
	<b>WARNING:</b> FOR OUTDOOR USE ONLY



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## **1. LOCATION OF INSTALLATION**

The Solus fire pit vessel must be placed on a stable surface. Select a location with good drainage that 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 (see "Safe Fire pit Clearance")

The weight of the burner unit must be supported as per original assembly supplied by Solus and not by any control/valve box. For electronic ignition models the control/valve box must be above grade with adequate drainage to prevent water damage to the controls inside the box.

### **1.2 Safe Fire Pit Clearances**

Sides surrounding Fire Pit – 16" or more from side of vessel from structure or combustibles; Overhead clearance – minimum 77" overhead from ground where vessel is placed.



## 2. FIRE PIT INSTALLATION

Solus products must be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping.

Every Solus fire pit has a built-in open base or drilled access hole through which the gas line or propane line can be brought in. The gas line or propane line must be brought in through these line access holes so that the line is not pinched and that the positioning of the fire pit is not compromised. The gas line must be positioned in such a way that it is not a tripping hazard.

For Auto Electric Burner, the wiring must be done by a certified electrician and meet the outdoor electrical code requirements. In addition, check with your local utilities before digging to ensure you stay away from utility pipes and cables buried in your yard. The use of approved conduit material in your jurisdiction is required.

For installation at elevations above 2000 ft (610 m), the appliance shall be de-rated 4 percent for each 1000 ft (305 m) of elevation above sea level.

## 3. PLACEMENT of LAVA ROCKS and REFRACTORY STONES

The lava rocks and refractory stones must be properly placed as follows:

a) Position the fire pit per “Location of Installation”.



**3. Placement of Lava Rocks and Refractory Stones continued...**

b) Place the lava rock deep enough to only cover aluminum plate and brass burner fitting. Do not cover the nozzles and the pilot light assembly.



c) Place the refractory stone in the center of the fire pit on top of lava rocks.



d) Do not cover pilot assembly screen or opening with lava rocks or refractory stones. Incorrect placement of rocks or stones will cause the pilot flame to suffocate and delay or prevent main burner ignition.







#### 4. PARTS LIST

Solus fire pit equipped with either Manual Lit System or if optioned Electronic Ignition Systems comes standard with the following:

- Fire pit vessel
- Cross-jet action brass burner
- Aluminum burner plate and burner plate support
- If optioned, Manual Lit System with Flame Supervision Gas Valve and Pilot/Thermocouple Assembly.
- If optioned, Electronic Ignition System with Automatic Gas Valve, Pilot Assembly, Ignition Control Module and 24V Transformer.
- LP Conversion Kits, consisting of the following parts:
  - LP Nozzles (4 pieces) – for both Electronic Ignition and Manual Lit System
  - For Baso Gas Products Components:
    - Baso Gas Products Part # Y90AA-4212 for Pilot Light nozzle conversion (For Electronic Ignition and Manual Lit System)
    - Baso Gas Products Part # GM-70-CLP LP Gas Conversion Kit for regulator adjustment of 8" – 12" WC (For Electronic Ignition System only)
  - For Honeywell Components:
    - Honeywell Part # 393691 LP Gas Conversion Kit for regulator adjustment of 8" – 12" WC (For Electronic Ignition System only)
    - No pilot light conversion required

#### 5. FIRE PIT OPERATION

	<b>WARNING:</b> 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. 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. Always maintain safe fire pit clearances per "Location of Installation".
	<b>WARNING:</b> If lava rock is wet, allow fire pit to burn for 45 minutes prior to coming within 15 feet of the fire pit.
	<b>WARNING:</b> When the fire pit is not in operation turn off the gas valve, and any additional shut-off gas valve.



## 5. Fire Pit Operation continued...

**WARRANTY REQUIREMENT:** When not in use the fire pit must always be covered with the All-Weather Cover and/or Metal Tabletop from Solus.

**IMPORTANT:** During the initial start-up, it may be necessary to purge air in gas lines after system installation.

### 5.2 Lighting Instructions

**IMPORTANT:** During the initial start-up, it is necessary to purge air in gas lines after system installation. Purging the air is especially important for firepits equipped with Electronic Ignition System or Manual Lit System equipped with Flame Supervision Valve System.

A) BEFORE LIGHTING: Smell all around the fire pit area for gas.

B) WHAT TO DO IF YOU SMELL GAS:

- Do not try to light the fire pit.
- Do not touch any electric switch; do not use any phone in the vicinity of the fire pit.
- Shut off the gas supply at the shut off valve and immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach the gas supplier, call the fire department.



**WARNING:** If first attempt at lighting is not successful, allow 5 minutes of shut-off period to allow gas to dissipate and follow lighting instructions A) BEFORE LIGHTING and B) WHAT TO DO IF YOU SMELL GAS before relighting.



### **5.3 Manual-Lit System Lighting Instructions**

#### **Manual Lit System with manual ball valve:**

1. STOP! Read the safety information above and read the User Manual before proceeding to the next step.
2. Turn key valve clockwise to the OFF position.
3. Wait (5) minutes to clear out any gas. Then smell for gas.
  - a. If you smell gas, STOP! See front page- "What to do if smell gas" section.
  - b. If you do not smell gas, proceed to next step.
4. Turn key valve slowly counter-clockwise to the ON position, while simultaneously using a lighter to ignite the burner. Immediately after the pilot light is lighted, retrieve and stay clear of the burner as the burner will ignite immediately.
5. Never leave fire pit unattended by an adult.

#### **Manual Lit System equipped with Flame Supervision Valve (if optioned):**

1. STOP! Read the safety information above and read the User Manual before proceeding to the next step.
2. Turn key valve clockwise to the OFF position.
3. Wait (5) minutes to clear out any gas. Then smell for gas.
  - a. If you smell gas, STOP! See front page- "What to do if smell gas" section.
  - b. If you do not smell gas, proceed to next step.
4. Turn key valve slowly counter-clockwise to the ON position, allow 10 minutes to purge the air off the system, then press on the grey button continuously for 15 seconds while simultaneously using a lighter to ignite the pilot light. Immediately after the pilot light is lighted, retrieve and stay clear of the burner as the main burner will ignite immediately. Note that the cool-off period can be up to 1 minute (depending on surrounding temperature). Within the cool-off period, the burner will light up by simply turning the ball valve to ON position (anti-clockwise).
5. Never leave fire pit unattended by an adult.

### **5.4 Manual Lit System – Extinguishing**

1. Turn the key valve clockwise until it stops.
2. Carefully verify flame is OUT.
3. After cooling, cover fire pit with Solus cover.



## 5.5 Electronic Ignition System – Lighting Instructions

1. STOP! Read the safety information above and read the User Manual before proceeding to the next step.
2. Allow 10 minutes to purge the air off the system, then ON/OFF Switch (such as a wall switch) to ON position.
3. Never leave fire pit unattended by an adult.

## 5.6 Electronic Ignition System – Extinguishing

1. ON/OFF Switch to OFF position.
2. Carefully verify flame is OUT.
3. After cooling, cover fire pit with Solus cover.



**WARNING:** If the flame will not stay lit after several attempts, turn the key valve to the OFF position and call your service technician or gas supplier.

## 6. MAINTENANCE

Please refer to document in this package called “Care and Maintenance – Firepits”



**WARNING:** Ensure gas and power (if applicable) are shut off and fire pit is cool before servicing.

- Keep fire pit covered at all times when not in use. Always keep the firepit covered when it is raining, snowing and during Fall season when leaves and debris are falling.
- Keep any debris out of fire pit. Clean as needed.
- Drain the water in the brass tubing (below burner plate) as water can condensate or rain water can accumulate if the fire pit is not covered when not in use.
- Periodical inspection by a qualified service technician of the air-intake is required to ensure your fire feature performs properly.
- Cross-jet action nozzles cleaning (one cleaning per year): If flames exhibit any abnormal shapes or behavior, or if burner fails to ignite properly, then the burner nozzles may require cleaning. The appliance can be cleaned by carefully removing the media to allow access to burner. Use a paperclip and carefully insert in jet to remove dust, spider webs, and loose particles from base.
- Pilot Light Nozzle, Ignitor and Thermocouple soot cleaning (one cleaning every 6 months or as often as needed): Remove lava rocks & refractory stones around pilot, clean the protective cage, Pilot Light Nozzle, Ignitor and Thermocouple any soot using soft brush. Place lava rocks or refractory stones back as explained in “Placement of Lava Rocks and Refractory Stones”.



## 7. LP (Liquid Propane) CONVERSION

To convert the burner system to LP Gas application, the LP conversion kits must be purchased from Solus. The conversion must be conducted by a certified Gas Fitter (Refer to Section 4 - Parts List for additional details).

## 8. TROUBLESHOOTING

All (100%) of our burners are extensively burn-tested and documented for normal functioning in our factory before shipping as part of our Quality Assurance program. This burn-testing is also a key requirement of our CSA, ANSI and CE certification programs. If you experience difficulty in lighting the burner, it is likely due to one or two simple reasons.

The 5 most common reasons we found are:

1. Air in the gas line not purged. SOLUTION: Purge the air, turn on the gas supply and allow 10 minutes to purge all the air and saturate the entire system.
2. Gas pressure or gas line not adequate. SOLUTION: Ensure that the correct supply pressure has been used: 7 inwc for Natural Gas; 11 inwc for LP Gas.
3. Trying to use an LP unit with NG Gas or vice versa without using the prescribed conversion kits.
4. Electrical line not grounded at source.
5. Firepit has been exposed to rain for an extended period of time, resulting in the condensation chamber (vertical brass tubing below burner plate) being over filled with water passing the T- connector and flooding the electronic gas valve. Prolonged flooding of the valve may corrode the valve mechanism resulting in the valve not functioning properly. SOLUTION: see "Care and Maintenance – Firepits" for clearing the burners. Long-term Solution – use a Solus All-Weather cover to limit the exposure to the elements.



## 8. Troubleshooting continued...

Below are some potential causes and possible corrective actions by certified Gas Fitter.

### 8.1 No Pilot Flame (only Ignitor sparks)

Possible Cause and Corrective Action:

- Air in gas line. If new install, may take several attempts to purge air. Simply turn on the gas supply and wait 10 minutes.
- Debris in gas line. Confirm gas line is clear of any debris.
- Improper gas pressure. Confirm proper gas pressure.
- Pilot orifice dirty. Clean pilot head.

### 8.2 Main Burner Won't Light (even though the Pilot lights)

Possible Cause and Corrective Action:

- Firepit has been left unsheltered from rain - too much water accumulates in brass tubing below burner plate, blocking the gas flow. Drain the water by removing the end cap; cap it back and test for gas leakage.
- Improper gas pressure. Confirm proper gas pressure.
- Small pilot flame. Clean pilot head and clean orifice.
- Dirty thermocouple or temperature sensor. Clean thermocouple using a soft brush.
- Crossfire Burner Nozzles are obstructed. Confirm no debris or water in burner. Drain water in vertical brass tubing by remove end cap; recap and ensure gas tightness (Always cover fire pit when not in use)
- Improperly placed lava rocks or refractory stones, totally blocking nozzles. Ensure correct placement.

### 8.3 Main Burner Turning Off/On Frequently

Possible Cause and Corrective Action:

- Improper gas pressure; gas pressure too low. Ensure appropriate gas line size and regulator.
- Small Pilot flame. Clean pilot head and clean orifice.
- Improperly placed lava rocks or refractory stones. Ensure correct placement.
- Thermocouple or temperature sensor defective. Change thermocouple / temperature sensor.



## 8. Troubleshooting continued...

### 8.4 Main Burner Flame /Pilot Flame too low

Possible Cause and Corrective Action:

- o Improper gas pressure; gas pressure too low. Ensure appropriate gas line size and regulator.
- o Wrong gas type; incorrect use of NG on firepit unit meant for LP. Ensure factory approved conversion kits are used and properly installed per instructions provided.

### 8.5 Main Burner Flame /Pilot Flame too high

Possible Cause and Corrective Action:

- o Improper gas pressure; gas pressure too high. Ensure appropriate gas line size and regulator.
- o Wrong gas type; incorrect use of LP on a firepit unit meant for NG. Ensure factory approved conversion kits are used and properly installed per instruction provided.