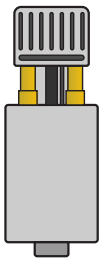
VFM Ignition System

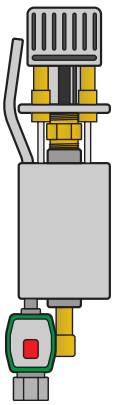
VULCAN FIRE MODULE > INSTRUCTIONS

Models Covered in this Instruction Set



Vulcan Fire Module

- VFMNG
  25k BTU | 24VAC | Natural Gas
- VFMLP
  25k BTU | 24VAC | Liquid Propane



Vulcan Fire Module with Burst

- VFMBNG
  50k BTU (Burst) | 24VAC | Natural Gas
- VFMBLP
  50k BTU (Burst) | 24VAC | Liquid Propane

Product Certifications

This QR Code will always take you to the most recent certifications for the entire Fire by Design product line.

You can also type in the URL directly: **http://fbdqr.com/product-certs**

WARNING: For Outdoor Use Only

STOP: If you cannot read or understand these instructions, do **NOT** attempt to install or operate this appliance.

STOP:

IF YOU SMELL GAS

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

INSTALLER: Leave this manual with the appliance.

CONSUMER: Retain this manual for future reference.

Proposition 65 Warning

Operating, servicing and maintaining this appliance can expose you to chemicals including

Carbon Monoxide and Lead which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.Prop65Warnings.ca.gov

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

For use with NATURAL or LP GAS Only

NO SOLID FUELS TO BE USED WITH THIS SYSTEM

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.

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.

Installation must conform with local codes or, in the absence of local codes, with the

National Fuel Gas Code, ANSI Z223.1 / NFPA 54, or International Fuel Gas Code.

The appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electric Code, ANSI/NFPA 70, if applicable.

AVERTISSEMENT

Ne pas entreposer ni utiliser de l'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de l'appareil, ni de tout autre appareil.

Une bouteille de propane qui n'est pas raccordée en vue de son utilisation, ne doit pas être entreposée dans le voisinage de cet appareil ou de tout autre appareil.

AVERTISSEMENT

Une installation, un ajustement, une modification, une réparation ou un entretien inapproprié peuvent être la cause de blessures ou de dommages. Veuillez lire attentivement les instructions d'installation, d'utilisation et d'entretien avant d'installer ou de réparer ce matériel.

AVERTISSEMENT

Ne pas utiliser cet appareil s'il a été plongé, même partiellement, dans l'eau. Appeler un technicien qualifié pour inspecter l'appareil et remplacer toute partie du système de commande et toute commande qui a été plongée dans l'eau.

AVERTISSEMENT

Pour utilisation

à l'extérieur seulement.

AVERTISSEMENT

Pour utilisation avec naturel ou propane ne gaz seulement Aucun combustibles solides pour être utilisés avec ce système.

DANGER

S'il y a une odeur de gaz:

Coupez l'admission de gaz de l'appariel.

Éteindre toute flamme nue.

Si l'odeur persiste, éloignez-vous de l'appareil et appelez immédiatement

le fournisseur de gaz ou le service d'incendie.

MONOXYDE DE CARBONE

Cet appareil peut produire dumonoxyde de carbone, un gaz inodore.

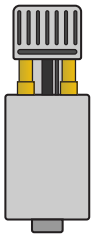
L'utililisation de cet appareil dans des espases clos peut entrainer la mort.

Ne jamais utilizer cet appareil dans un espace clos comme un vehicule de damping, une tente, une automobile ou une maison.

Table of Contents

4 Specifications for the VFM
4 Gas Requirements
4 Electrical Requirements
5 Daisy Chain Wiring of Multiple Vulcan Fire Modules
5 Clearance to Combustibles
5 Ventilation & Media
6 Vulcan Fire Module Burst Information
6 Vulcan Fire Module Installation
7 Vulcan Fire Module Completed Installation Diagrams
8 Operation of the Vulcan Fire Module
8 Maintenance of the Vulcan Fire Module
8 Troubleshooting the Vulcan Fire Module
9 Return Policy
9 Warranty

Specifications for the VFM



VFM - Natural Gas

Dimensions: 8”H x 3”D

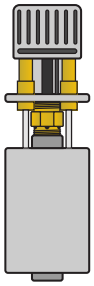
Inlet Size: 1/2” FIP

Gas Load: 25k Btu/hr

Electrical Rating: 24VAC

Flame/Heat Sense: Thermopile

Ignition Type: Silicon Nitride Hot Surface Ignition (Glow Plug)



VFM - Liquid Propane

Dimensions: 11”H x 3”D

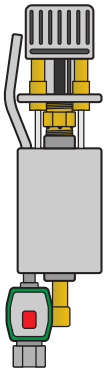
Inlet Size: 1/2” FIP

Gas Load: 25k Btu/hr

Electrical Rating: 24VAC

Flame/Heat Sense: Thermopile

Ignition Type: Silicon Nitride Hot Surface Ignition (Glow Plug)



VFM - Burst NG or LP

Dimensions: 15 1/2”H x 4”D

Inlet Size: 1/2” FIP

Gas Load: 35k - 50k Btu/hr

Electrical Rating: 24VAC

Flame/Heat Sense: Thermopile

Ignition Type: Silicon Nitride Hot Surface Ignition (Glow Plug)

Burst Sequence: Random Short & Long Bursts

Custom Built VFM

Looking to make some custom changes to the VFM like a longer neck built on to a Natural Gas version of the Vulcan Fire Module? Reach out to Fire by Design to see what we can do for you.

Gas Requirements

Fuel Type: Before making gas connections ensure appliance being installed is compatible with the available gas type. *Check the label on the appliance to confirm appliance gas type requirement.*

Gas Pressure: Proper input gas pressures are required for optimum appliance performance.

Pressure	Natural Gas	Propane
Minimum	3.5” W.C.	8.0” W.C.
Nominal	7.0” W.C.	11.0” W.C.
Maximum	14.0” W.C. - $^1/_2$ psi	14.0” W.C. - $^1/_2$ psi

Electrical Requirements

Each Vulcan Fire Module (VFM) is designed to operate on using a 24 Volt AC transformer or a 120 Volt AC Adapter.

DO NOT Attempt to Power using 110 Volts AC Power – Damage **WILL RESULT**

Acceptable Input Voltages to Supplied 24 Volt AC Transformer

110 | 210 | 220 | 240 | 480 Volt AC

Read label on the supplied transformer for proper connection information

Recommended Wire Size: 12-gauge wire for all installations.

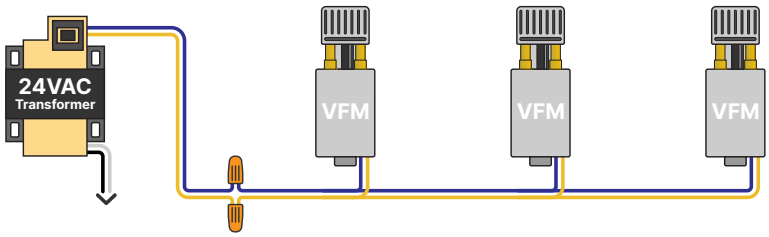
Daisy Chain Wiring of Multiple Vulcan Fire Modules

Each Vulcan Fire Module has a **Blue** and a **Yellow** wire protruding from it. These are the power wires.

When daisy chaining multiple VFMs, the polarity between the VFMs **MUST** be the same.

To achieve this, all the **Blue** wires must be connected to the same wire from the bottom of the module and all the **Yellow** wires connected to the other wire from the bottom of the module as shown in this illustrations below.

24VAC Transformer + Multiple VFMs



According to Fire by Design specifications & warranty, a maximum of 3 Vulcan Fire Modules can be daisy chained together.

Do not daisy chain more than 3 VFMs.

Clearance to Combustibles

FIRE RISK

Please provide adequate clearance to combustible materials as shown below:

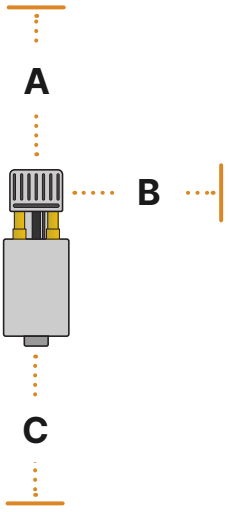
Clearance to Combustibles

A (standard models) - Top of Vulcan Fire Module to Combustible Ceiling - **8ft**

A (burst models) - Top of Vulcan Fire Module with Burst to Combustible Ceiling - **12ft**

B (standard & burst) - Side of Vulcan Fire Module to Combustible Ceiling - **3ft**

C (standard & burst) - Bottom of Vulcan Fire Module to Combustible Ceiling - **2ft**



Ventilation & Media

In order for the VFM to operate properly it needs to be ventilated properly so that gas does not build up. In this section we have provided illustrations to show you where proper levels for media for the VFM.

Failure to provide proper ventilation inside your enclosure could result in part deterioration or at worst cause gas build up and possible explosion.

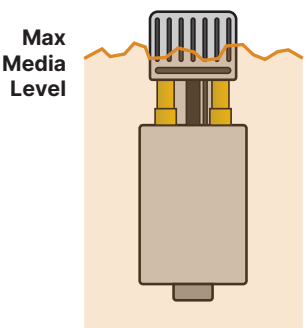
List of Acceptable Media for the VFM

Lava Rock (no larger than 2” in diameter)

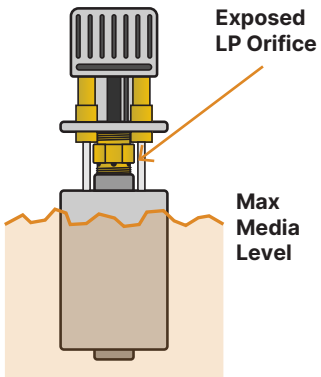
Fire Glass (approved for fire features)

Manmade stone for use in fire features (refractory material)

Natural Gas Configuration

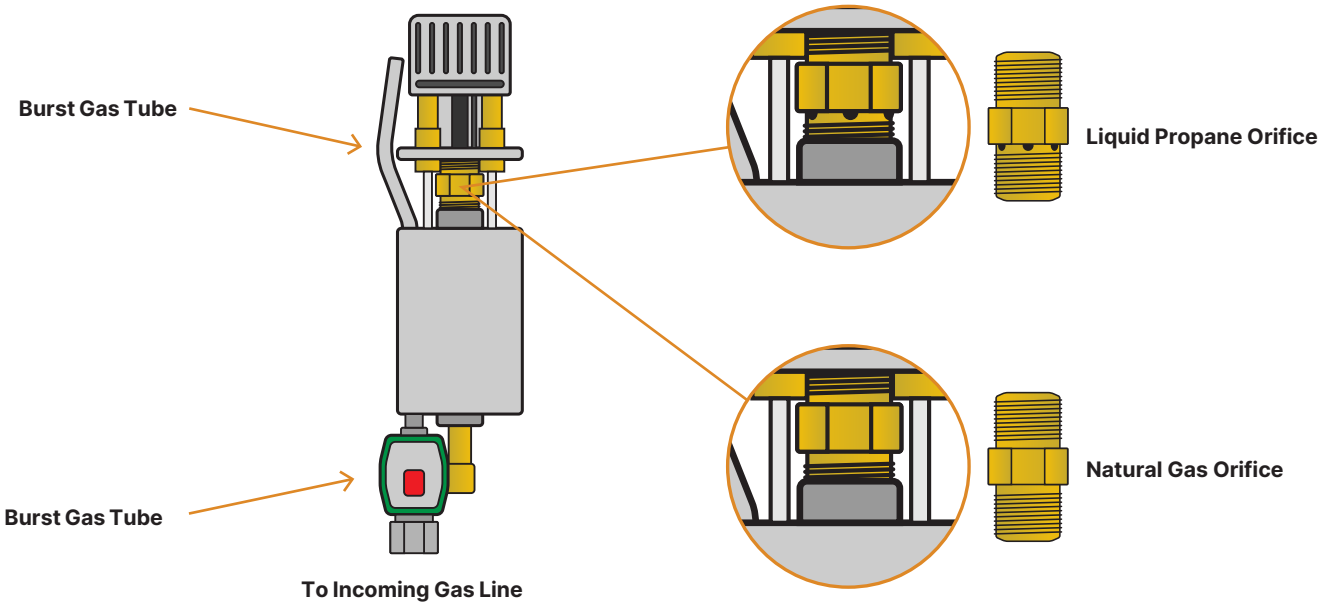


Liquid Propane Configuration



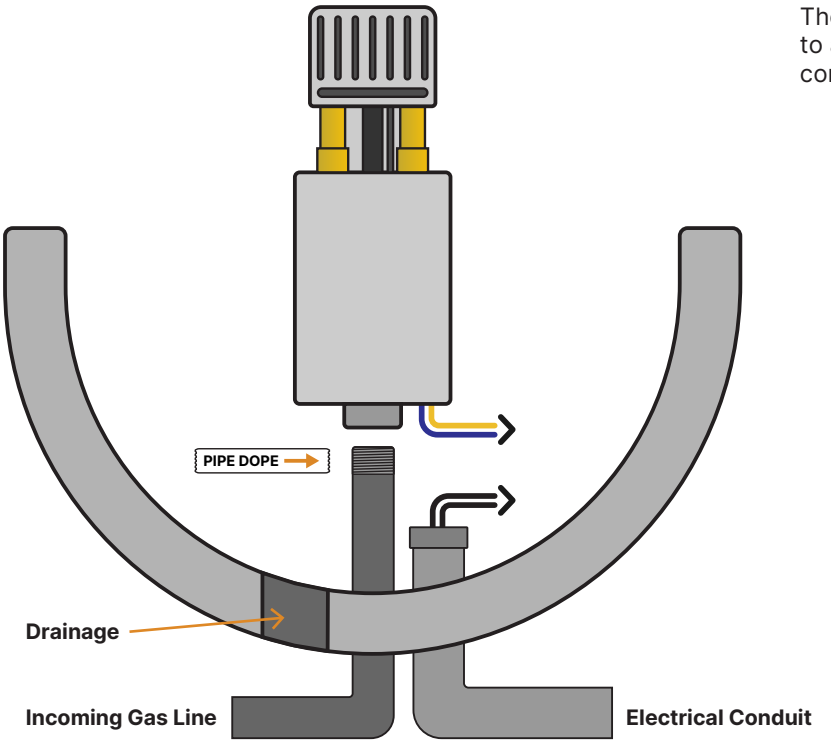
Vulcan Fire Module Burst Information

Fire by Design offers a “Burst” version of the VFM. This version of the VFM has a secondary burst valve located beneath the VFM that runs through the middle of the unit, then branches off a secondary gas tube that ends right next to the burner cage. This secondary valve controls the “burst” feature. Burst Sequence: Random Short & Long Bursts



Vulcan Fire Module Installation

STOP: The installation should be done by a **Qualified Service Technician** that is **Locally Licensed**



The Vulcan Fire Module is actually very simple to assemble. Just follow these few easy steps to complete the installation:

Step 1: Apply Pipe Dope to the Gas Riser or Incoming Gas Line

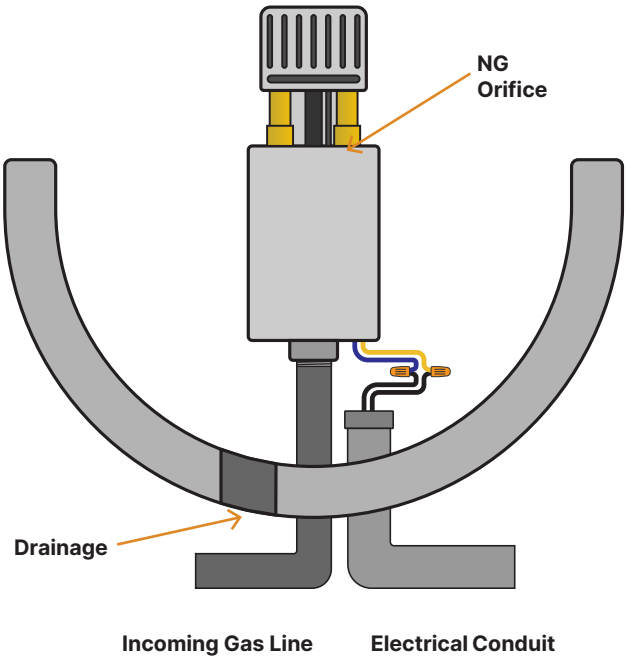
NOTE: The incoming gas tube/line must be a hard tube so that the Vulcan can attach securely.

Step 2: Thread the Vulcan on to the gas line. Make sure the connection is tight to prevent any gas leaks.

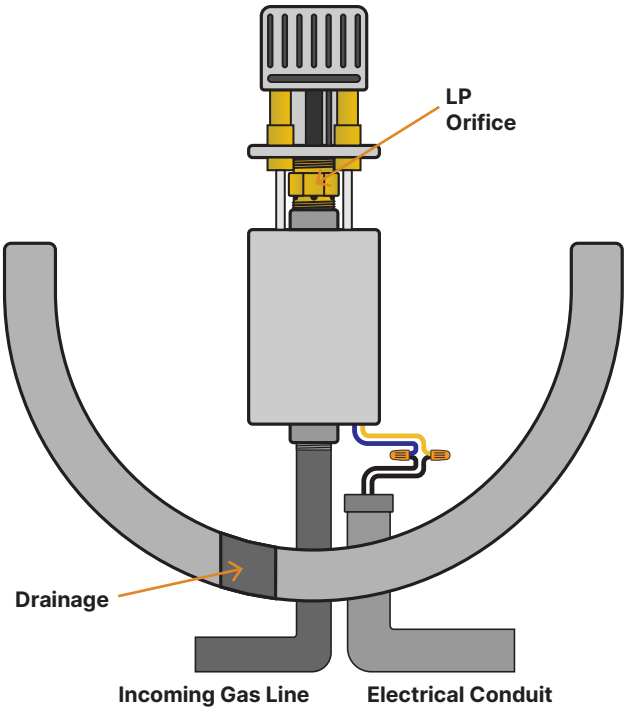
Step 3: Attach the two wires protruding from the bottom of the Vulcan to the two wires coming from the 24 volt transformer.

Vulcan Fire Module Completed Installation Diagrams

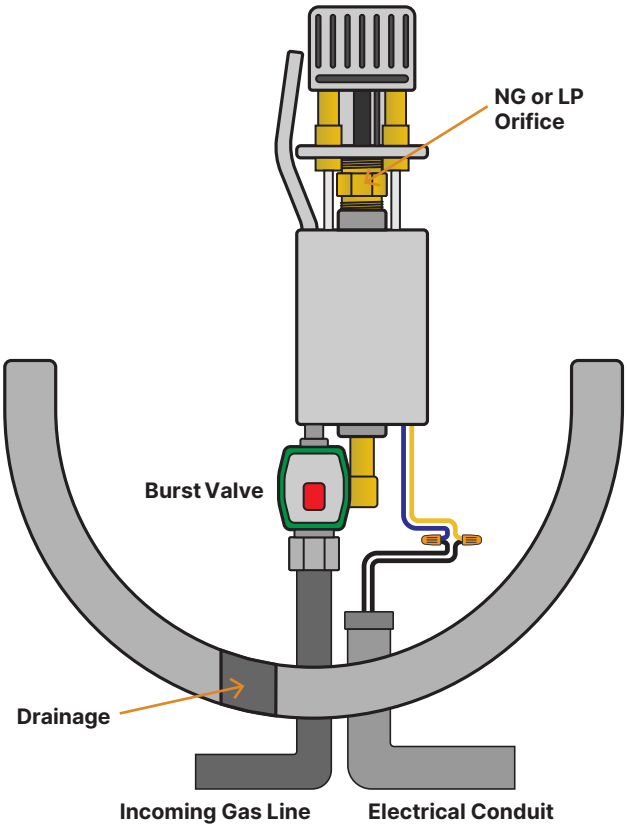
Standard Natural Gas Diagram



Standard Liquid Propane Diagram

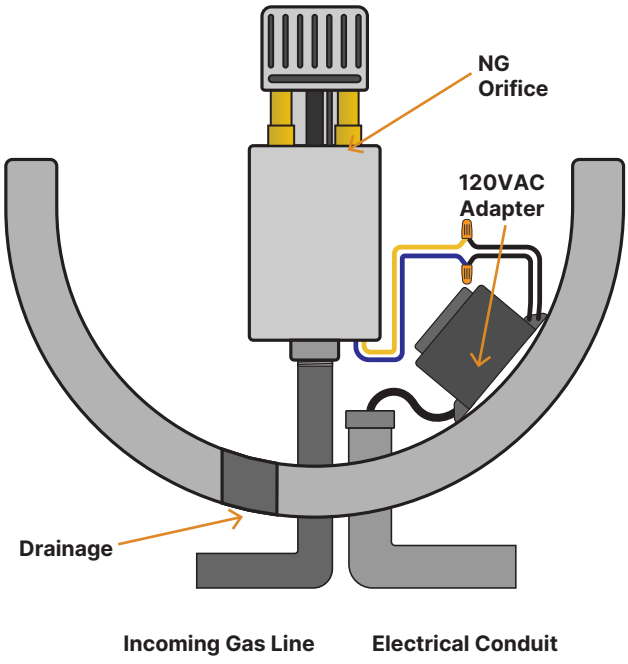


Burst Natural Gas or Liquid Propane Diagram



Installation with a 120VAC Adapter

You can also use the 120VAC adapter outside of the enclosure.



Operation of the Vulcan Fire Module

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 any gas control which has been under water.

HOT! - DO NOT TOUCH - SEVERE BURNS MAY RESULT - CLOTHING IGNITION MAY RESULT!

Carefully supervise children in same area as appliance. Alert children and adults to hazards of high temperatures. Clothing or other flammable materials should not be hung or placed near the appliance

WARNING! **This appliance should be inspected before use and at least annually by a Qualified Service Technician that is Locally Licensed.**

Any guard or protective device removed for servicing must be replaced prior to operation. Keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

Vulcan Fire Module Start-Up

Prior to turning appliance on visually inspect fire feature to ensure debris such as leaves or other combustible material has not collected inside the feature which could burn and emit embers once the fire feature is turned on. Also ensure any person standing close to the fire feature is aware you will be turning the fire feature on prior to actually turning it on.

Turn the fire feature on by turning on the electrical device used to power the fire feature.

Sequence of Operation for 24V:

- Power is applied.
- Hot surface igniter (glow plug) becomes hot, and 4 seconds later the Pilot Gas Valve opens.
- Within 10 seconds of power application, the Pilot Flame should be visible (at night only).

Vulcan Fire Feature Shut-Down

WARNING! **If fire feature fails to turn off completely (small flames still visible) - Turn off gas supply using the manual gas shut-off.**

Turn fire feature off by turning off the electrical device used to power the fire feature. This will turn extinguish the flame.

Maintenance of the Vulcan Fire Module

WARNING! **Maintenance should be done by a Qualified Service Technician. The appliance should be inspected before use and at least annually.** **Ensure gas & power are shut off and the appliance is cool before servicing. Any guard or protective device removed for servicing must be replaced prior to operation.**

Prior to Each Use:

- Inspect for debris in the Fire Feature & inside the enclosure. Remove any debris prior to use.

Semi-Annually:

- Visually inspect Pilot Burner for debris / insect infestation (spider webs).

Annually:

- Visually inspect Pilot Burner for excess corrosion due to heat and moisture.
- Turn fire feature on to ensure proper operation.

Troubleshooting the Vulcan Fire Module

This QR Code will always take you to the most recent troubleshooting guide for the Vulcan Fire Module.

You can also type in the URL directly:

https://fbdqr.com/vfm-troubleshoot

Return Policy

All orders from Fire by Design (FBD) may be returned within 30 days for a full refund. In order to return or exchange (under the warranty guidelines described in the Fire by Design Limited Warranty section of this instruction set) all or part of your order, you must contact us for a Return Merchandise Authorization number (RMA#). Call toll free (877) 807-8923 to obtain an RMA# from a FBD representative.

All returned merchandise must be in the original packaging including manuals, accessories, cables, etc. with the authorization (RMA#) clearly printed on the outside of the package. Return requests must be made within 30 days of the receipt date. Any shipping and/or handling charges on the original order cannot be refunded. At our discretion, we may levee a restocking fee of 15% of the cost of items returned.

FBD is not responsible for shipping costs or damage on returned items. Units to be returned should be packed carefully. Please be advised that packages sent by normal US Postal Service cannot be tracked to ensure delivery.

Since FBD cannot provide credit for a return without confirming its receipt, we recommend that you use a delivery service that can be tracked and or insured.

Fire by Design | Limited Warranty

Fire by Design warrants its products to be free from defective material and workmanship for the period of time indicated below for each product line. The warranty time periods listed below are from the original date of purchase. Fire by Design agrees to repair or replace, at its sole discretion, a defective product if returned to Fire by Design within the warranty period and accompanied by proof of purchase. This warranty does not extend to any Fire by Design products which have been subject to misuse, neglect, accident, incorrect wiring or to use in violation of operating instructions furnished by us, nor extend to any units altered or repaired for warranty defect by anyone other than Fire by Design or at Fire by Design's direction. This warranty does not cover any incidental or consequential damages and is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products. Some states do not allow limitations on how long an implied warranty lasts, and/or the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to the original CUSTOMER. This warranty gives you specific rights and you may also have other rights, which vary, from state to state. If you have any questions concerning this warranty call (877) 807-8923.

Bowls

All Decorative GFRC, Stainless, Copper or Aluminum Bowls are warranted for (2) years from delivery date against any manufacturing defect or structural failure. Small stress cracks and surface crazing are a natural occurrence in concrete and not covered by warranty.

Fire Rings

All 304 Stainless Steel Rings, 316 Stainless Steel Burners (Marine Grade) and High Output Burners have a Lifetime Warranty.

Burner Pans

All 304 Stainless Steel Burner Pans warranted for (5) years. All Aluminum Burner Pans have a Lifetime Warranty.

Electronic Ignition Systems (Field Serviceable AWEIS SC, HC, XHC, SUBEIS, BP AWEIS)

All Field Serviceable AWEIS and SUBEIS systems are warranted for (1) year from date of purchase for Commercial Applications and (3) years from date of purchase for Residential Applications provided the product has not been modified, abused, misused or improperly installed, maintained or repaired during such period. Fire by Design, at its discretion, will either repair or replace the defective product. If one of the Field Serviceable parts of an AWEIS or SUBEIS fails a replacement part will be provided at no charge to the customer. Labor cost to replace the failed field serviceable is not covered under this warranty. If a part other than a Field Serviceable part fails that part will be replaced or repaired at no charge to the customer.

Vulcan Fire Module & Tiki Torches

Vulcan Fire Modules and Automated Tiki Torches are warranted for (1) year from the date of purchase.

The original purchasing information such as an invoice or product serial number is required on all warranty returns.