KAZ-TT INFERNO AUTOMATED TORCH INSTALLATION INSTRUCTIONS

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INSTALLATION PROCESS

A few simple steps :

1. Select your length (for double cross configuration, traditionally one torch is shorter than the first.

2. Select a location for each torch, making sure that each location is not in the way of any flammable objects e.i. shrubbery, soffits, etc.

3. Select how the torches will be zoned e.i. front yard/backyard.

4. Select a location for power supplies, and how they will be controlled e.i. controlled outlet, Crestron Automation System, Vantage Controls, Lutron, AMX, and Remote etc.

5. Run gas supply from the propane tank to each torch location. Provide threaded female fitting at the end of the pipe. See installation illustration.

6. Run low voltage conduit with direct burial low voltage wire from the power supply or relay station to each torch location. Consult chart to select wire gauge. Each torch requires its own 2 conductor wire. Current requirements 24V @ 1 amp. Draw.

7. Install the torch, using pipe dope and black 20mm pvc pipe wrap. Wrap the pipe joint using black tape approx. 8 in up the galvanized pipe. Gas pipe installation must be completed by licensed professionals.

8. Solder the 2 conductor wire to the torch assembly lead from the bottom of the torch. Make sure to use shrink tubing to insulate the connections from corrosion. If soldering does not permit, please use waterproof wire nuts.
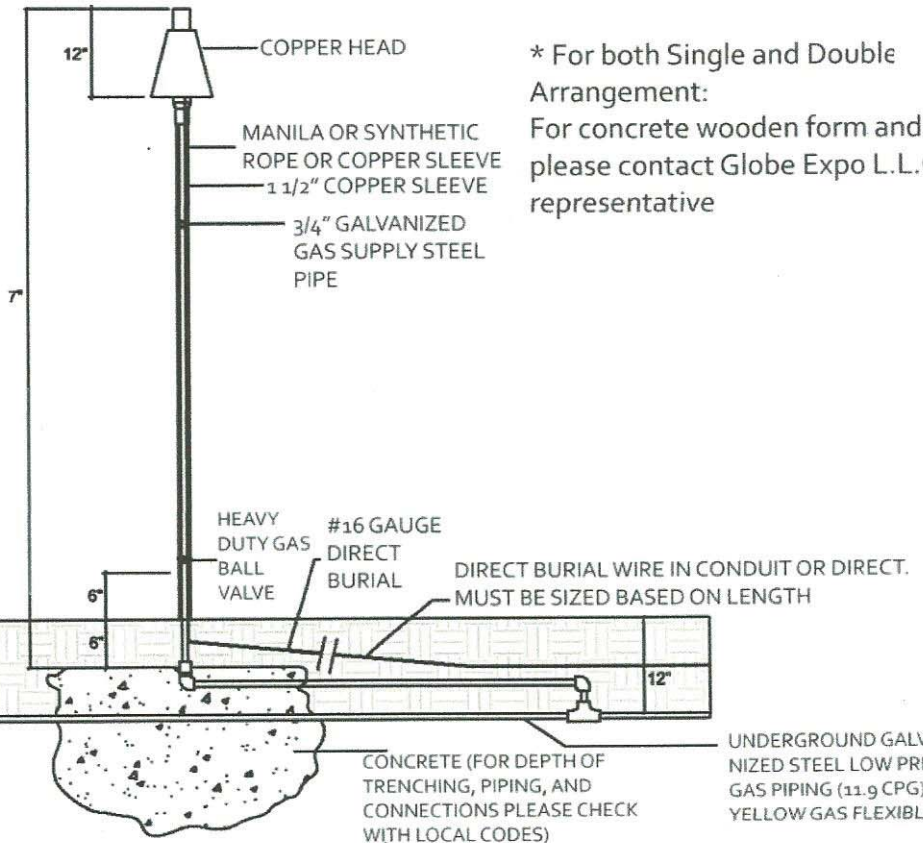
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KAZ INFERNO TT Fully Automated 24V AC Single — Torch Dimensions and Installation

COPPER HEAD

12"

MANILA OR SYNTHETIC ROPE OR COPPER SLEEVE

1 1/2" COPPER SLEEVE

3/4" GALVANIZED GAS SUPPLY STEEL PIPE

* For both Single and Double Arrangement:
For concrete wooden form and prints, please contact Globe Expo L.L.C representative

*For concrete preparation forming process SEE ATTACHED PRINTS

*If the torch is 5' or less from any water effect, builder/contractor must provide grounding cable to comply with local electrical codes.
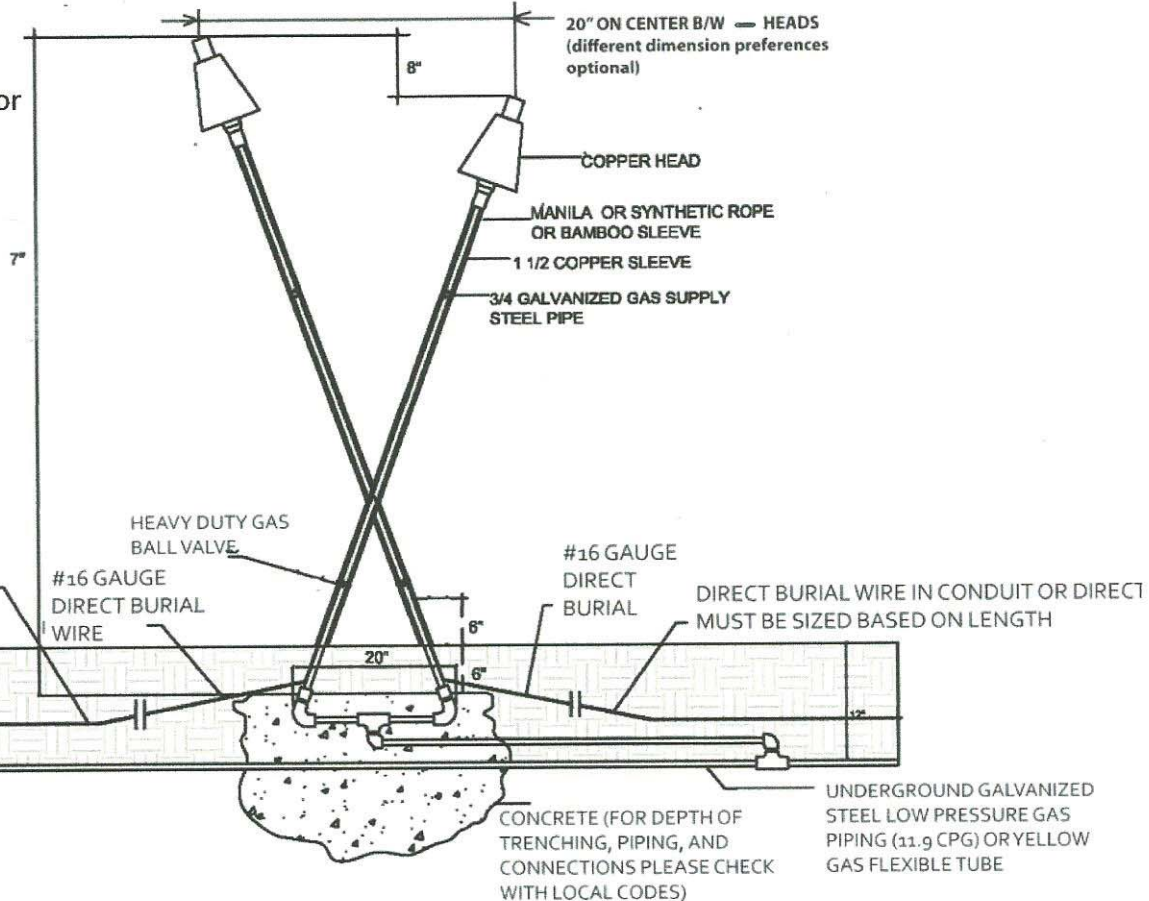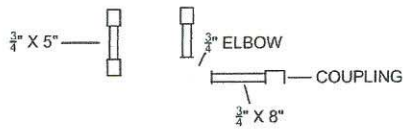
7"

HEAVY DUTY GAS BALL VALVE

#16 GAUGE DIRECT BURIAL
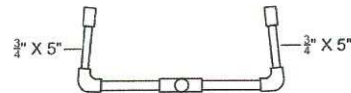
DIRECT BURIAL WIRE IN CONDUIT OR DIRECT. MUST BE SIZED BASED ON LENGTH

FINISHED GRADE

6"

6"

12"

CONCRETE (FOR DEPTH OF TRENCHING, PIPING, AND CONNECTIONS PLEASE CHECK WITH LOCAL CODES)

UNDERGROUND GALVANIZED STEEL LOW PRESSURE GAS PIPING (11.9 CPG) OR YELLOW GAS FLEXIBLE TUBE

KAZ INFERNO TT Fully Automated 24V AC Double — Torch Dimensions and Installation

*If the torch is 5' or less from any water effect, builder/contractor must provide grounding cable to comply with local electrical codes.

20" ON CENTER B/W — HEADS (different dimension preferences optional)

8"

COPPER HEAD

MANILA OR SYNTHETIC ROPE OR BAMBOO SLEEVE

1 1/2 COPPER SLEEVE

3/4 GALVANIZED GAS SUPPLY STEEL PIPE

*For concrete preparation forming process SEE ATTACHED PRINTS
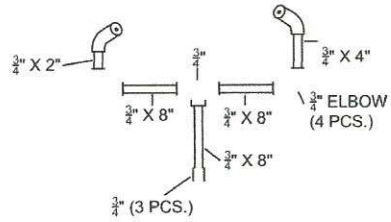
7"

HEAVY DUTY GAS BALL VALVE

DIRECT BURIAL WIRE IN CONDUIT OR DIRECT. MUST BE SIZED BASED ON LENGTH

#16 GAUGE DIRECT BURIAL WIRE

#16 GAUGE DIRECT BURIAL

DIRECT BURIAL WIRE IN CONDUIT OR DIRECT MUST BE SIZED BASED ON LENGTH

FINISHED GRADE

6"

20"

6"

CONCRETE (FOR DEPTH OF TRENCHING, PIPING, AND CONNECTIONS PLEASE CHECK WITH LOCAL CODES)

UNDERGROUND GALVANIZED STEEL LOW PRESSURE GAS PIPING (11.9 CPG) OR YELLOW GAS FLEXIBLE TUBE
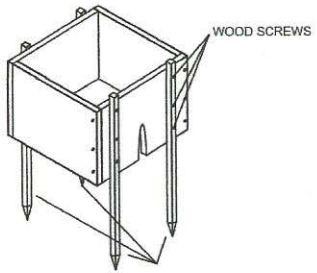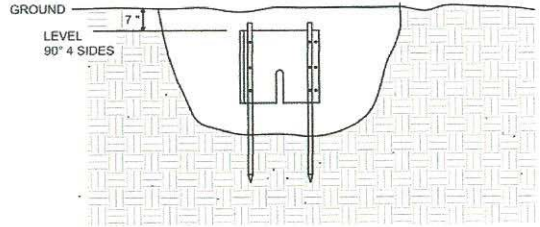
SINGLE PIPE SETUP

$\frac{3}{4}$" X 5"

$\frac{3}{4}$" ELBOW

COUPLING

$\frac{3}{4}$" X 8"

" V " PIPE UNDERGROUND SETUP

$\frac{3}{4}$" X 2"

$\frac{3}{4}$" X 4"

$\frac{3}{4}$"

$\frac{3}{4}$" X 8"

$\frac{3}{4}$" X 8"

$\frac{3}{4}$" ELBOW
(4 PCS.)

$\frac{3}{4}$" X 8"

$\frac{3}{4}$" (3 PCS.)

$\frac{3}{4}$" X 5"

$\frac{3}{4}$" X 5"
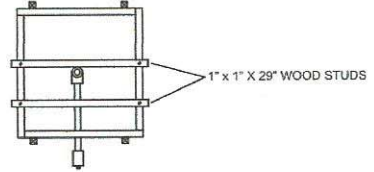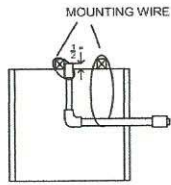
*Galvonized pipe with galvonized elbow, "T",
and coupling pieces
*Rust-proof underground paint
*.20mm Teflon tape
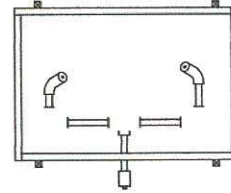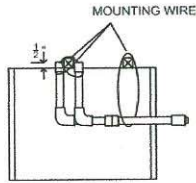*Rust-proof tape paint after tape
*Facotry-set proper angle

KING SETUP FORM
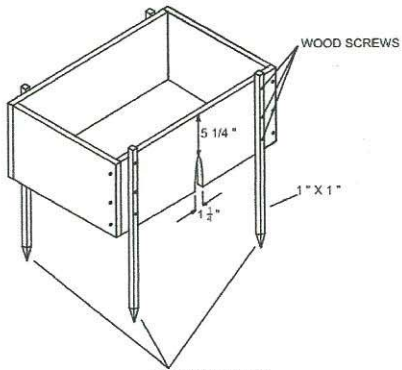

14 " 14 "

10 "

5 1/4 "

1 1/2 "

1" x 1" X 29" WOOD STUDS

MOUNTING WIRE

GROUND

LEVEL
90° 4 SIDES

7 "

WOOD SCREWS
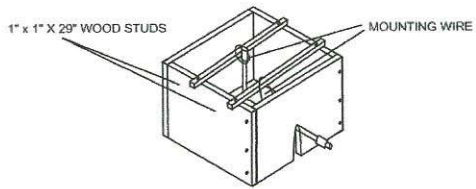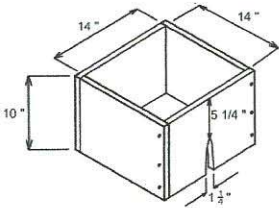
1" x 1" WOOD STUDS
(LENGTH TBD ON JOB SITE)

MOUNTING WIRE

1 1/2 "

1" x 1" X 29" WOOD STUDS

DOUBLE SETUP FORM

MOUNTING WIRE

GROUND
LEVEL
90° 4 SIDES
7"

25"
17"
3/4"
10"
5 1/4"
1 1/4"

WOOD SCREWS

5 1/4"
1 1/4"
1" X 1"
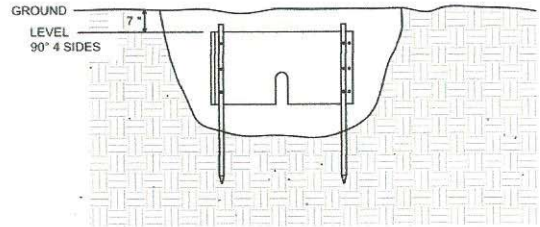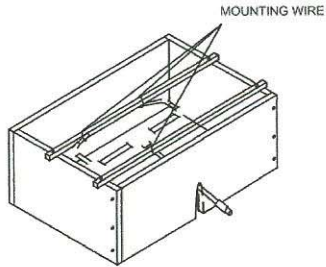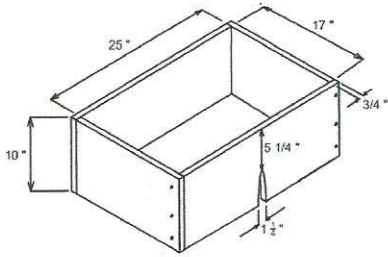
1" X1" WOOD STUDS
(LENGTH TBD AT JOB SITE)

MOUNTING WIRE
1 1/4"
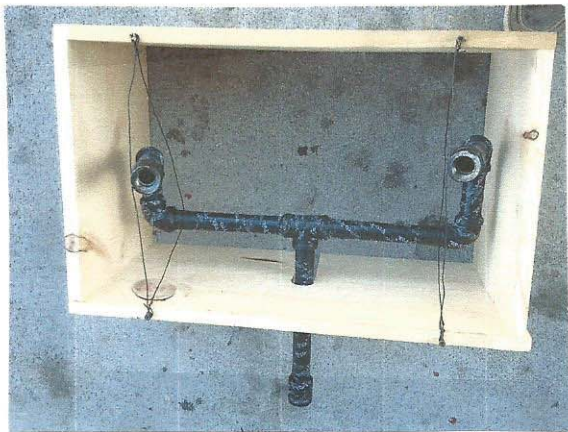
VOLTAGE DROP CALCULATION

How to Calculate Voltage Drop For Long Paired Wire Runs A primary concern when installing lengths of wire is voltage drop. The amount of voltage lost between the originating power supply and the device being powered can be significant. Improper selection of wire gauge can lead to an unacceptable voltage drop at load end. The following chart is designed to help calculate voltage drop per 100 feet of paired wire as a function of wire gauge and load current.

By matching load current (in AMPs) across the top of the chart with wire gauge (AWG) down the left side of the chart, one can determine voltage drop per 100 feet of paired wire run.

NOTE: A paired wire run represents the feed and return line to the load. Therefore, a 500 foot wire pair is equivalent to 1000 feet of total wire.

EXAMPLE ONE:

Given a load current of 1 AMP, and using 18 AWG wire, how much voltage drop can we expect at the load end for a 350 foot run of paired wire?

Using the chart, we match the row for 18 AWG and the column for 1 AMP and determine that voltage drop per 100 feet is 1.27 Volts. By dividing the paired wire length by 100, we get the factor by which we need to multiply voltage drop per 100 feet to determine total voltage drop. Therefore, 350 feet divided by 100 equals 3.5. Multiply 3.5 by 1.27 volts drop per 100 feet to get your total voltage drop. Thus the total voltage drop is 3.5 times 1.27, or 4.445 voltage drop for 350 feet.

$$\frac{350}{100} \times 1.27 = 4.45 \text{ Volts}$$

FORMULA METHODS:

These handy equations can be used to determine voltage drop per 100 feet or wire gauge as an alternative to the chart, even for values that are not on the chart. To arrive at total voltage drop, always divide paired wire run length by 100, and then multiply that number by voltage drop per 100 Feet:

1. To determine voltage drop per 100 feet given load current and wire gauge:

$$V_D = .2 * I_L * 1.26^{(AWG-10)}$$

VD = Voltage drop per 100 feet (Volts)
IL = Current load (AMPs)
AWG = Wire gauge

GAUGE (AWG)	.5 AMPS - Load Current	1 AMP - Load Current	2 AMPS - Load Current	4 AMPS - Load Current	10 AMPS - Load Current
10	0.10	0.20	0.40	0.80	2.00
11	0.13	0.25	0.50	1.01	2.52
12	0.16	0.32	0.64	1.27	3.18
13	0.20	0.40	0.80	1.60	4.00
14	0.25	0.50	1.01	2.02	5.04
15	0.32	0.64	1.27	2.54	6.35
16	0.40	0.80	1.60	3.20	8.00
17	0.50	1.01	2.02	4.03	10.08
18	0.64	1.27	2.54	5.08	12.71
19	0.80	1.60	3.20	6.40	16.01
20	1.01	2.02	4.03	8.07	20.17
21	1.27	2.54	5.08	10.17	25.42
22	1.60	3.20	6.40	12.81	32.02

2. To determine wire gauge necessary given paired wire length, load current, and desired voltage drop per 100 feet:

$$AWG = 10 \, Log \left(\frac{V_D}{I_L} \right) + 17$$

With these useful tools, voltage drop problems can be avoided before installation, saving time, money and ensuring a correctly working system.
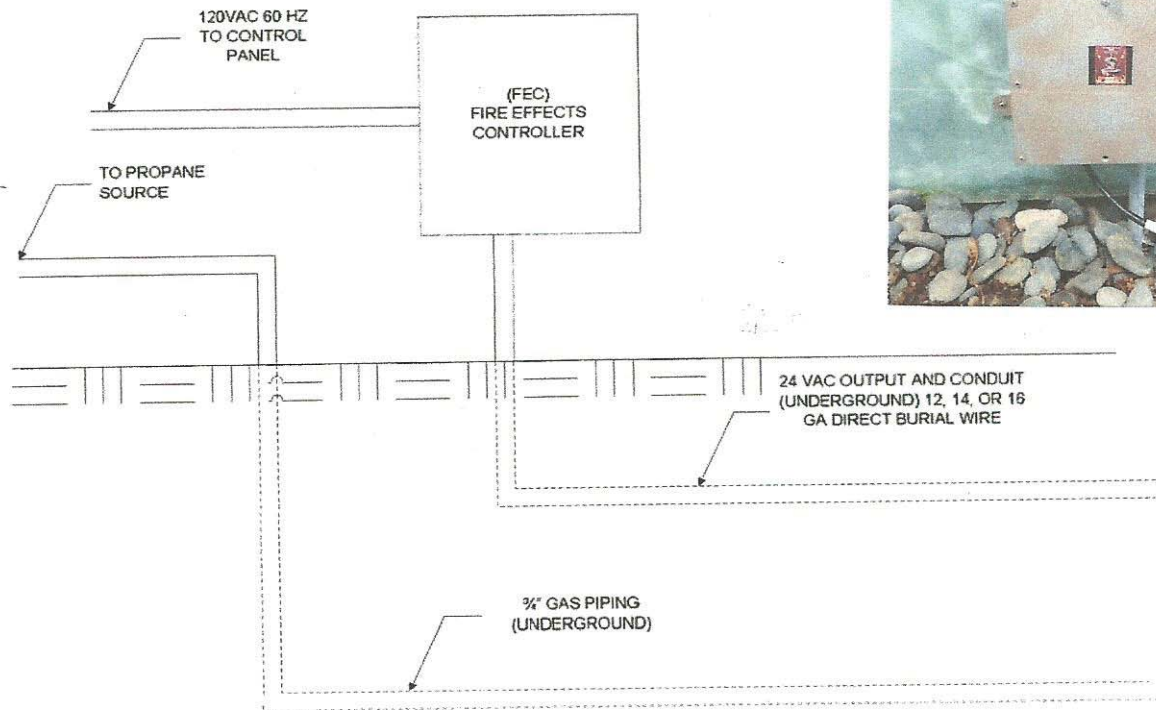
FEC INSTALLATION

Fire Effects controller placed below outside barbecue enclosure in nema approved box.



SETUP FOR PROPANE GAS
FIGURE 1A

120VAC 60 HZ
TO CONTROL
PANEL

(FEC)
FIRE EFFECTS
CONTROLLER

TO PROPANE
SOURCE

24 VAC OUTPUT AND CONDUIT
(UNDERGROUND) 12, 14, OR 16
GA DIRECT BURIAL WIRE

¾" GAS PIPING
(UNDERGROUND)

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FIRE EFFECTS CONTROLLER (FEC)

Each torch is placed on a 24 VAC power supply. Each torch requires 1 amp of current. Depending on the amount of torches and the zoning requirements, additional boards and transformers may be needed. For zoning the torches will have to be segregated per board and then triggered from either a home automation relay, or conventional switch.
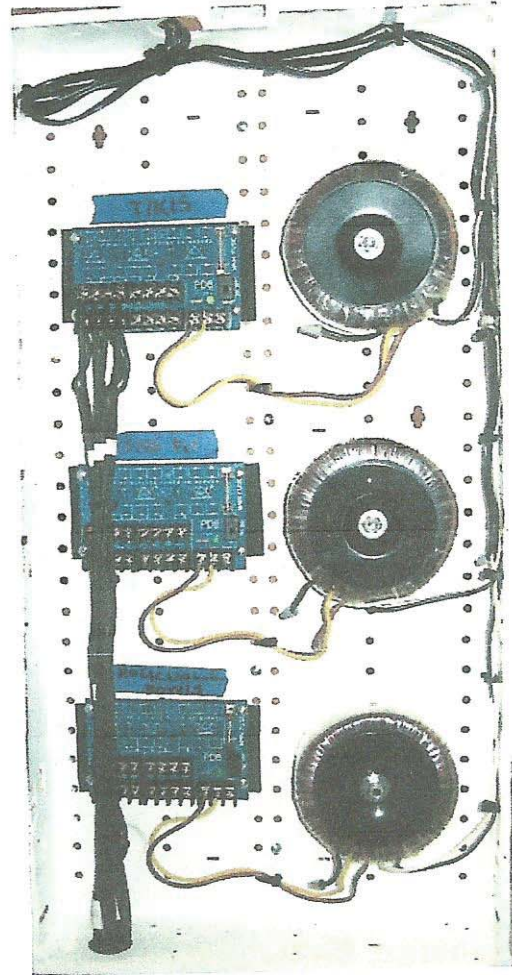
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WARRANTY

KAZ-TT Warranty

Globe Expo L.L.C. warranties its KAZ-TT torches to be free from manufacturing defects for up to three years (consult with your representative for approval) from the date of purchase. This includes deterioration due to oxidation from external elements on the copper cone, base, and other brass fittings. Long term deterioration due to heat and oxidation is normal and is dependent on frequency of use and proximity to the ocean.

Any above warranty is void if the unit is tampered with, opened, disassembled, not installed in accordance to specific fixture instructions, has been modified, or is used in a non-standard application. Should a fixture need to be submitted for return, a Return Goods Authorization (RGA) is required from Globe Expo L.L.C. The repair or replacement of a fixture's component(s) or entire fixture is at Globe Expo's discretion. Any labor needed to remove or re-install the fixture is the responsibility of the purchaser and is not covered in this warranty. Discoloration from heat and soot is normal at areas surrounding the flame. Globe Expo makes no guarantee as to the extent of this discoloration. Copper and brass patina naturally. Globe Expo will not make any guarantee as to the rate or extent of this natural process. While this legalese is a requirement to protect the manufacturer in the above-mentioned instances, any of our client's concerns are of great importance to Globe Expo L.L.C. We realize the value of keeping a satisfied customer.

Return Policy

Returns will be honored within 15 days of the receive date for the following reasons only:

- Error made in order processing (for example, wrong products shipped, wrong quantity shipped, and duplicate product ordered).
- Defective product
- A 25% restocking fee will be charged for every return.
- To be considered for a refund you must send an email to kaz@automatedtiki.com within 15 days from purchase date.

List the following information in the body of your email:

1. Your order number from packing slip
2. The date of order
3. The name of our product that you have purchased
4. Please describe the issue and/or reasons for your return

All shipping and handling expenses will be the responsibility of the customer.

Upon receipt of your request, all eligible refunds will receive a credit within 7 to 10 business days. Due to billing cycles, the refund may not appear on the same credit card statement as the original charge.

Please note that, except for the reasons listed above, GlobeExpo LLC carries a no-refund

policy.