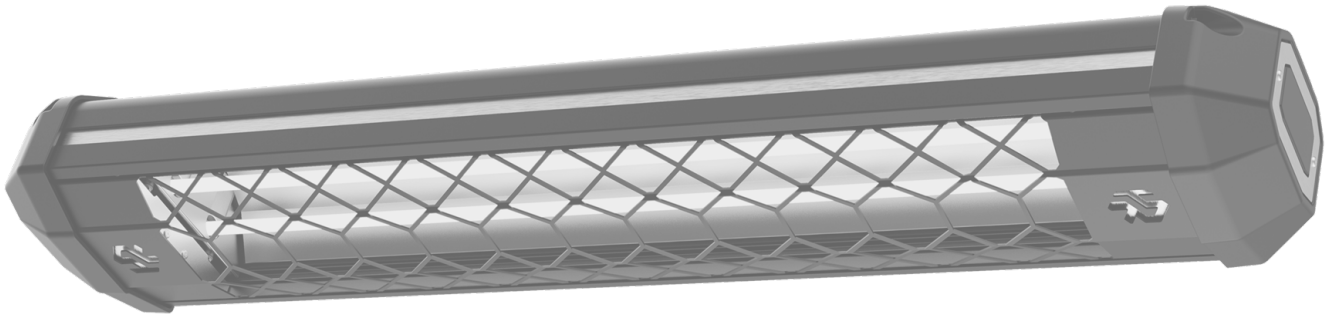


HRE Series Installation Manual



Overhead Electric Infrared Heater

Single and Dual Lamp Units



All persons involved with the installation, operation, and maintenance of the heater system must read and understand the information in this manual.

WARNING



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

INSTALLER: Present this manual to the end user.

Keep these instructions in a clean and dry place for future reference.

Model#: _____ Serial #: _____
(located on rating label)

LIOHRE-Rev. 15226
Print: XM-08/26 (XXX)

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WARNING

California Proposition 65

This product can expose you to chemicals including lead, which is known to the State of California to cause birth defects or other reproductive harm.

For more information, go to www.P65Warnings.ca.gov.

1.0 Safety

⚠ WARNING



Improper installation, adjustment, alteration, service, or maintenance can cause property damage, serious injury, or death. Read and understand the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment. Only trained, qualified personnel with proper electrical experience may install or service this equipment.

Safety Symbols

Safety is the most important consideration during installation, operation, and maintenance of the infrared heater. You will see the following symbols and signal words when there is a hazard related to safety or property damage.

⚠ WARNING

Warning indicates a potentially hazardous situation which, if not avoided, could result in death or injury.

⚠ CAUTION

Caution indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Notice indicates a potentially hazardous situation which, if not avoided, could result in property damage.

Applications

This is not an explosion proof heater. No HRE series heater may be used in a Class 1 or Class 2 Explosive Environment. Consult your local fire marshal, insurance carrier, and other authorities for approval if the proposed installation is in question.

Commercial / Industrial (Indoors & Outdoors)

Infrared heaters are designed and certified for use in industrial and commercial buildings such as warehouses, manufacturing plants, aircraft hangars, and vehicle maintenance shops. For maximum safety, the building must be evaluated for potential hazards before installing the heater system. A critical safety factor to consider before installation is the clearances to combustibles.

Outdoor Residential Only

This heater is **NOT** approved for use in an indoor residential application. This includes, but is not limited to, attached garages, living quarters, solariums, etc. Consult the local fire marshal and/or insurance provider if unsure of your application.

⚠ WARNING



Not For Residential Use.

Installation of this infrared heater system in residential indoor spaces, RVs, mobile homes, etc. may result in property damage, fire, serious injury, or death.

Chart 1.1 • Model Number Designation Chart

Series	Type	Length	Material Type	Lamp Qty.	Voltage	Total Heater Wattage
HRE	M = Medium Wave T = H.O. Medium Wave	27 = 27" 36 = 36" 49 = 49" 63 = 63"	B = Black Powder Coat	1 2	120 208 240 277 480 575	Total heater wattage in kW (e.x., 2.72 = 2,720 W)

Model Configuration Examples: HRET-27B2-120-2.72

Chart 1.2 • Available Models and Specifications - Single Element

Model Number	Replacement Lamp	Voltage*	Total Amps	Total Watts	BTU/h	Weight
HREM-27B1-120-.75	EL-MW-A24	120	6.25	750	2,559	9.5 lbs.
HREM-27B1-208-.75	EL-MW-B24	208	3.61	750	2,559	9.5 lbs.
HREM-27B1-240-.75	EL-MW-C24	240	3.13	750	2,559	9.5 lbs.
HREM-27B1-277-.75	EL-MW-D24	277	2.71	750	2,559	9.5 lbs.
HREM-36B1-120-1.25	EL-MW-A33	120	10.42	1,250	4,265	14 lbs.
HREM-36B1-208-1.25	EL-MW-B33	208	6.01	1,250	4,265	14 lbs.
HREM-36B1-240-1.25	EL-MW-C33	240	5.21	1,250	4,265	14 lbs.
HREM-36B1-277-1.25	EL-MW-D33	277	4.51	1,250	4,265	14 lbs.
HREM-49B1-208-2.0	EL-MW-B46	208	9.62	2,000	6,824	16 lbs.
HREM-49B1-240-2.0	EL-MW-C46	240	8.33	2,000	6,824	16 lbs.
HREM-49B1-277-2.0	EL-MW-D46	277	7.22	2,000	6,824	16 lbs.
HREM-49B1-480-2.0	EL-MW-G46	480	4.17	2,000	6,824	16 lbs.
HREM-49B1-575-2.0	EL-MW-H46	575	3.48	2,000	6,824	16 lbs.
HREM-63B1-208-3.0	EL-MW-B60-3.0	208	14.42	3,000	10,236	21 lbs.
HREM-63B1-240-3.0	EL-MW-C60-3.0	240	12.50	3,000	10,236	21 lbs.
HREM-63B1-277-3.0	EL-MW-D60-3.0	277	10.83	3,000	10,236	21 lbs.
HRET-27B1-120-1.36	EL-HO-A24	120	11.33	1,360	4,641	9.5 lbs.
HRET-27B1-208-1.36	EL-HO-B24	208	6.54	1,360	4,641	9.5 lbs.
HRET-27B1-240-1.36	EL-HO-C24	240	5.67	1,360	4,641	9.5 lbs.
HRET-27B1-277-1.36	EL-HO-D24	277	4.91	1,360	4,641	9.5 lbs.
HRET-27B1-480-1.36	EL-HO-G24	480	2.83	1,360	4,641	9.5 lbs.
HRET-36B1-208-2.0	EL-HO-B33-2.0	208	9.62	2,000	6,824	14 lbs.
HRET-36B1-240-2.0	EL-HO-C33-2.0	240	8.33	2,000	6,824	14 lbs.
HRET-36B1-277-2.0	EL-HO-D33-2.0	277	7.22	2,000	6,824	14 lbs.
HRET-36B1-480-2.0	EL-HO-G33-2.0	480	4.17	2,000	6,824	14 lbs.
HRET-36B1-208-2.13	EL-HO-B33	208	10.22	2,125	7,251	14 lbs.
HRET-36B1-240-2.13	EL-HO-C33	240	8.85	2,125	7,251	14 lbs.
HRET-36B1-277-2.13	EL-HO-D33	277	7.67	2,125	7,251	14 lbs.
HRET-36B1-480-2.13	EL-HO-G33	480	4.43	2,125	7,251	14 lbs.
HRET-49B1-240-3.0	EL-HO-C46-3.0	240	12.50	3,000	10,236	16 lbs.
HRET-49B1-277-3.0	EL-HO-D46-3.0	277	10.83	3,000	10,236	16 lbs.
HRET-49B1-480-3.0	EL-HO-G46-3.0	480	6.25	3,000	10,236	16 lbs.
HRET-49B1-277-3.2	EL-HO-D46	277	11.55	3,200	10,919	16 lbs.
HRET-49B1-480-3.2	EL-HO-G46	480	6.66	3,200	10,919	16 lbs.
HRET-49B1-575-3.2	EL-HO-H46	575	5.56	3,200	10,919	16 lbs.
HRET-63B1-277-3.25	EL-HO-D60-3.25	277	11.73	3,250	11,090	21 lbs.
HRET-63B1-480-3.25	EL-HO-G60-3.25	480	6.77	3,250	11,090	21 lbs.
HRET-63B1-480-4.0	EL-HO-G60	480	8.33	4,000	13,648	21 lbs.
HRET-63B1-575-4.0	EL-HO-H60	575	6.96	4,000	13,648	21 lbs.

* Heaters are configured at the factory for single phase wiring. If three phase service is desired, it must be wired as such in the field by a trained installer / electrical contractor.

Chart 1.3 • Available Models and Specifications - Dual Element

Model Number	Replacement Lamp	Voltage*	Total Amps	Total Watts	BTU/h	Weight
HREM-27B2-120-1.5	EL-MW-A24	120	12.50	1,500	5,118	11.5 lbs.
HREM-27B2-208-1.5	EL-MW-B24	208	7.22	1,500	5,118	11.5 lbs.
HREM-27B2-240-1.5	EL-MW-C24	240	6.25	1,500	5,118	11.5 lbs.
HREM-27B2-277-1.5	EL-MW-D24	277	5.42	1,500	5,118	11.5 lbs.
HREM-36B2-120-2.5	EL-MW-A33	120	20.83	2,500	8,530	17 lbs.
HREM-36B2-208-2.5	EL-MW-B33	208	12.02	2,500	8,530	17 lbs.
HREM-36B2-240-2.5	EL-MW-C33	240	10.42	2,500	8,530	17 lbs.
HREM-36B2-277-2.5	EL-MW-D33	277	9.03	2,500	8,530	17 lbs.
HREM-49B2-208-4.0	EL-MW-B46	208	19.23	4,000	13,648	20 lbs.
HREM-49B2-240-4.0	EL-MW-C46	240	16.67	4,000	13,648	20 lbs.
HREM-49B2-277-4.0	EL-MW-D46	277	14.44	4,000	13,648	20 lbs.
HREM-49B2-480-4.0	EL-MW-G46	480	8.33	4,000	13,648	20 lbs.
HREM-49B2-575-4.0	EL-MW-H46	575	6.96	4,000	13,648	20 lbs.
HREM-63B2-208-6.0	EL-MW-B60-3.0	208	28.85	6,000	20,472	25 lbs.
HREM-63B2-240-6.0	EL-MW-C60-3.0	240	25.00	6,000	20,472	25 lbs.
HREM-63B2-277-6.0	EL-MW-D60-3.0	277	21.66	6,000	20,472	25 lbs.
HRET- 27B2-120-2.72	EL-HO-A24	120	22.67	2,720	9,281	11.5 lbs.
HRET- 27B2-208-2.72	EL-HO-B24	208	13.08	2,720	9,281	11.5 lbs.
HRET- 27B2-240-2.72	EL-HO-C24	240	11.33	2,720	9,281	11.5 lbs.
HRET- 27B2-277-2.72	EL-HO-D24	277	9.82	2,720	9,281	11.5 lbs.
HRET- 27B2-480-2.72	EL-HO-G24	480	5.67	2,720	9,281	11.5 lbs.
HRET- 36B2-208-4.0	EL-HO-B33-2.0	208	19.23	4,000	13,648	17 lbs.
HRET- 36B2-240-4.0	EL-HO-C33-2.0	240	16.67	4,000	13,648	17 lbs.
HRET- 36B2-277-4.0	EL-HO-D33-2.0	277	14.44	4,000	13,648	17 lbs.
HRET- 36B2-480-4.0	EL-HO-G33-2.0	480	8.33	4,000	13,648	17 lbs.
HRET- 36B2-208-4.25	EL-HO-B33	208	20.43	4,250	14,501	17 lbs.
HRET- 36B2-240-4.25	EL-HO-C33	240	17.71	4,250	14,501	17 lbs.
HRET- 36B2-277-4.25	EL-HO-D33	277	15.34	4,250	14,501	17 lbs.
HRET- 36B2-480-4.25	EL-HO-G33	480	8.85	4,250	14,501	17 lbs.
HRET- 49B2-240-6.0	EL-HO-C46-3.0	240	25.00	6,000	20,472	20 lbs.
HRET- 49B2-277-6.0	EL-HO-D46-3.0	277	21.66	6,000	20,472	20 lbs.
HRET- 49B2-480-6.0	EL-HO-G46-3.0	480	12.50	6,000	20,472	20 lbs.
HRET- 49B2-575-6.0	EL-MW-H46	575	10.43	6,000	20,472	20 lbs.
HRET- 49B2-277-6.4	EL-HO-D46	277	23.10	6,400	21,837	20 lbs.
HRET- 49B2-480-6.4	EL-HO-G46	480	13.33	6,400	21,837	20 lbs.
HRET- 49B2-575-6.4	EL-HO-H46	575	11.13	6,400	21,837	20 lbs.
HRET-63B2-277-6.5	EL-HO-D60-3.25	277	23.47	6,500	22,178	25 lbs.
HRET-63B2-480-6.5	EL-HO-G60-3.25	480	13.54	6,500	22,178	25 lbs.
HRET-63B2-480-8.0	EL-HO-G60	480	16.67	8,000	27,296	25 lbs.
HRET-63B2-575-8.0	EL-HO-H60	575	13.91	8,000	27,296	25 lbs.

* Heaters are configured at the factory for single phase wiring. If three phase service is desired, it must be wired as such in the field by a trained installer / electrical contractor.

Clearances to Combustibles

⚠ WARNING



Placement of explosive objects, flammable objects, liquids, and vapors close to the heater may result in explosion, fire, property damage, serious injury, or death. Do not store or use explosive objects, liquids, or vapors in the vicinity of the heater.

Failure to comply with the published clearances to combustibles could result in personal injury, death, and/or property damage.

The outside surfaces of the heater are hot during operation and after operation. If contact is made, permanent skin damage may occur. Do not move, handle, or service the unit during operation or while hot.

⚠ CAUTION



Signs shall be posted specifying the maximum permissible stacking height in order to maintain clearances to combustibles.

Hazards Include:

For maximum safety the building must be evaluated for hazards before installing the heater system. Examples include, but are not limited to:

- Gas and electrical lines
- Combustible and explosive materials
- Chemical storage areas
- Areas of high chemical fume concentrations
- Provisions for accessibility to the heater
- Adequate clearances around air openings
- Vehicle parking areas
- Vehicles with lifts or cranes
- Storage areas with stacked materials
- Lights
- Sprinkler heads
- Overhead doors and tracks
- Dirty, contaminated environment

A critical safety factor to consider before installation is the clearances to combustibles. **Clearance to combustibles** is defined as *the minimum distance you must have between the indicated surface and the combustible item*. Considerations must also be made for moving objects around the infrared heater. The following is a partial list of items to maintain clearances from:

Combustible Items Include:

- Wood
- Paper
- Fabric
- Chemicals
- Wall or roof insulation
- Plastics
- Vinyl siding

Moving Objects Include:

- Overhead doors
- Vehicles on lifts
- Cranes
- Hoists

When installing the infrared heater system, the minimum clearances to combustibles must be maintained. These distances are shown in Chart 1.5 and on the heater. If you are unsure of the potential hazards, consult your local fire marshal, fire insurance carrier, or other qualified authorities on the installation of infrared heaters for approval of the proposed installation.

Chart 1.4 • Clearances to Combustibles in Inches (Millimeters) - see Figure 1.1

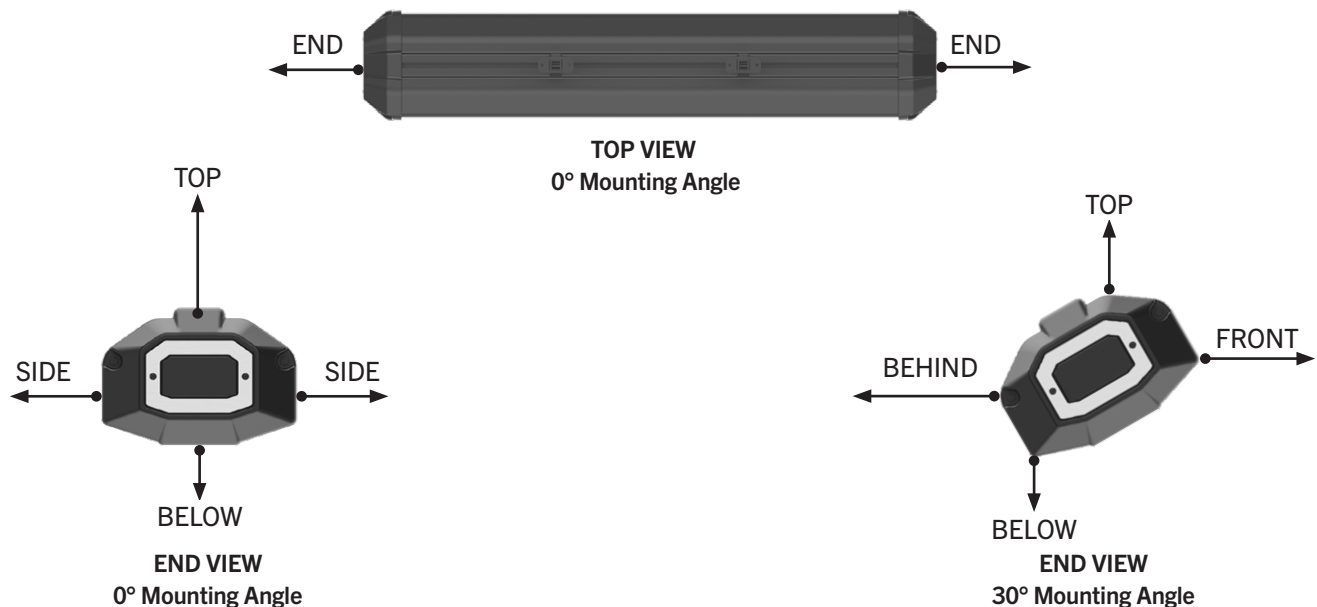
Model	Mounting Angle*	Side		End	Top	Below	Min. Mtg. Height	
		Front	Behind				US	Canada
27" 36"	HREM 0°	17 (432)	17 (432)	10 (254)	6 (153)	48 (1220)	6 ft.	2.4 m
		31 (788)	4 (102)	10 (254)	7 (178)	42 (1067)		
	HRET 0°	27 (686)	27 (686)	14 (356)	9 (229)	48 (1220)		
		34 (864)	7 (178)	14 (356)	9 (229)	48 (1220)		
49"	HREM 0°	17 (432)	17 (432)	10 (254)	6 (153)	48 (1220)	7 ft.	2.4 m
		31 (788)	4 (102)	10 (254)	7 (178)	42 (1067)		
	HRET 0°	30 (762)	30 (762)	14 (356)	9 (229)	61 (1550)		
		42 (1067)	7 (178)	14 (356)	9 (229)	61 (1550)		
60"	HREM 0°	21 (534)	21 (534)	10 (254)	6 (153)	48 (1220)	8 ft.	2.4 m
		31 (788)	4 (102)	10 (254)	7 (178)	42 (1067)		
	HRET 0°	33 (839)	33 (839)	14 (356)	8 (204)	61 (1550)		
		49 (1245)	9 (229)	14 (356)	8 (204)	61 (1550)		

* Heaters mounted on an angle between 0° and 30° must maintain clearances posted for 0° or 30°, whichever is greater.

** Clearances to combustibles must be maintained when using recessed mount kits (P/N: HRE-RM-XXXX). For additional information, refer to form # LSH123c - Recessed Mounting Frame Installation Instructions or contact the factory.

NOTE: The stated clearances to combustibles represent a surface temperature of 90°F (50°C) above room temperature. Ensure that building materials with a low heat tolerance (i.e, awnings, fabrics, plastics, sprinklers, insulation, etc.) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the material manufacturer for specific details.

Figure 1.1 • Clearances to Combustibles



Safety Labels and Their Locations

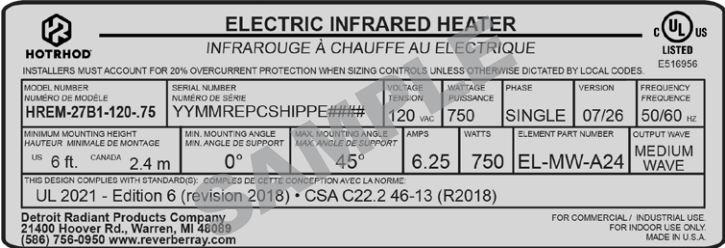
It is important to provide warnings to alert individuals to potential hazards and safety actions. Signs should state the hazards for the particular application and be legible to the building occupants. Consult the factory or a factory representative for additional information on signage compliance.

Safety warning labels must be maintained on the infrared heater. Illustrations of the safety labels and their locations are pictured below. When no longer legible, they must be replaced. Contact either your local distributor or the product manufacturer for obtaining replacement signs or labels.

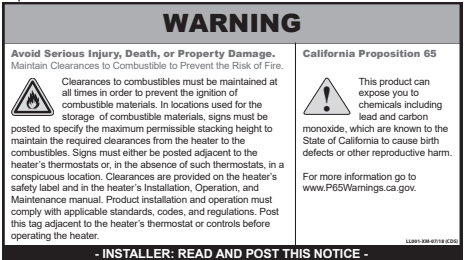
F/N: LLECL008 - HRE Safety Label



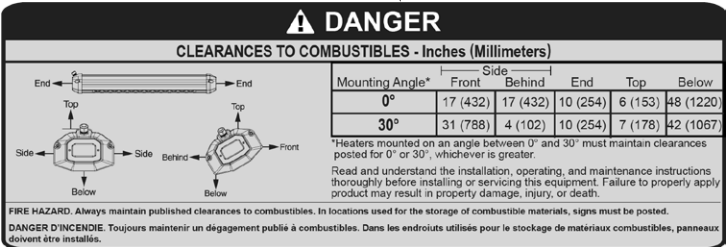
Top View



Rating Plate



F/N: LL001 - Clearance Safety Tag
(Affix adjacent to heater's controller)



Clearances to Combustibles Label

Standards, Certifications, and Government Regulations

Installation of this infrared heater must comply with all applicable local, state, and national specifications, regulations, and building codes. Contact the local building inspector and/or fire marshal for guidance.

The heater must be electrically grounded in accordance with the following codes:

United States: Refer to National Electrical Code®, ANSI/NFPA 70 (latest edition).
Wiring must conform to the latest edition of National Electrical Code®, local ordinances, and any special diagrams from the manufacturer.

Canada: Refer to Canadian Electrical Code CSA C22.1 Part 1 (latest edition).

Detroit Radiant Products Company units comply with or are certified by one or more of the following organizations or standards:

- CSA 22.2 #46 - M1988
- UL 2021

2.0 Installation

⚠ WARNING



Read and understand the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

Design

To ensure a safe, properly designed heating system, a layout should be developed for the correct placement of the infrared heater(s).

Aside from safety factors such as clearances to combustibles (see Chart 1.4 on page 7), consideration should also be given to factors such as the environment (e.g., cold/drafty, average, protected), heat coverage (sq. ft.) needed, heater centers, the distance behind a person or work station(s), etc. Also, the effective infrared surface temperature of a person or object may be diminished with wind above 5 mph. Wind barrier(s) may be required. Most importantly, clearances to combustibles **must** always be maintained! Refer to hazards on page 6.

When positioning the heaters, keep in mind the location of combustible materials, lights, sprinkler heads, overhead doors, storage areas with stacked materials, gas and electrical lines, parked vehicles, cranes, etc. Refer to page 7 for minimum clearances to verify that a safe installation exists.

This installation manual, along with national, state, provincial, and local codes, addresses these issues. It is critical that you read, understand, and follow all guidelines and instructions. Always inspect and evaluate the mounting conditions, application, and wiring.

When heated, materials high in hydrocarbons (solvents, paint thinner, mineral spirits, formaldehydes, etc.) can evaporate and/or degrade. This may result in odors or fumes being emitted into the environment. To correct this problem, clean the area and/or introduce additional ventilation. Heaters installed and serviced in accordance with the installation manual do not emit foul odors into the environment.

IMPORTANT: Fire sprinkler heads must be located at an appropriate distance from the heater to avoid an inadvertent discharge. This distance may exceed the published clearances to combustibles. Certain applications may require the use of high temperature sprinkler heads or relocation of the heaters.

⚠ CAUTION

Fire sprinkler systems containing propylene glycol, antifreeze, or other potentially flammable substances shall not be used in conjunction with this heater without careful consideration for, and avoidance of, inadvertent discharge hazards. For further information consult applicable NFPA codes. Always observe applicable state and local codes.

Chart 2.1 • Estimating Required Heat Load

Type of Building	Watts Required per Square Foot at Floor Level*
Insulated	5 to 10
Uninsulated	10 to 15
Outdoor Sheltered	20 to 30
Outdoor Unsheltered	25 to 40

* For load purposes only, not for determining coverage.

When comfort heating people, two heaters should be used to heat both sides of the individual. Heater installation shall comply with all IOPM, NEC, ANSI/NFPA-70, CEC, and local restrictions.

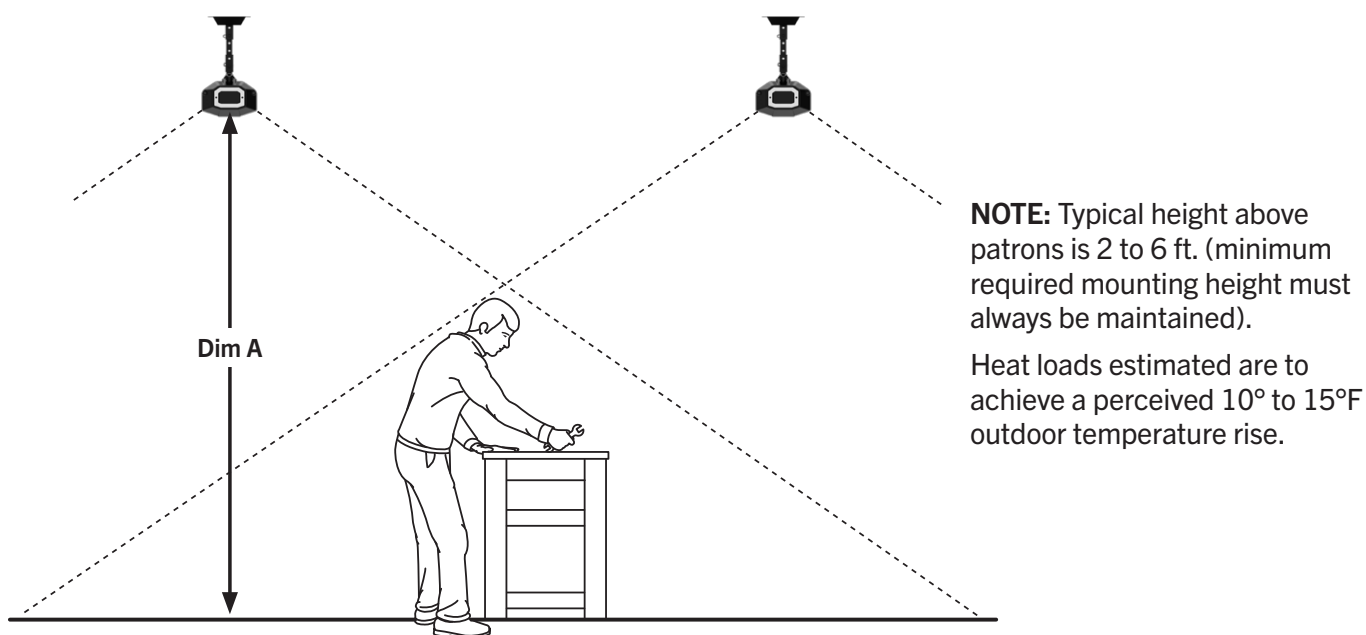
Chart 2.2 • Heating Application Chart

Length	Minimum Mounting Height (Ft.)		Recommended Mounting Height (Ft.)** [Dim. A]	Outdoor Unprotected†	Outdoor Protected†	Average†
	US	Canada				
27 in.	6 ft.	2.4 m	6 to 7	6' x 6'	8' x 8'	7' x 7'
36 in.	6 ft.	2.4 m	7 to 8	7' x 7'	9' x 9'	8' x 8'
49 in.	7 ft.	2.4 m	8 to 10	8' x 8'	11' x 11'	10' x 10'
63 in.	8 ft.	2.4 m	8 to 12	8' x 8'	13' x 13'	12' x 12'

** Clearances to combustibles published in this manual and on safety labels must be maintained at all times.

Factory recommended mounting heights are listed as a guideline. If infrared heaters are mounted too low or too high, they may result in discomfort or lack of heat.

† Approximation only. Mounting height and environmental conditions will impact performance.

Figure 2.1 • Heating Application

Heater Mounting

⚠ WARNING



Improper suspension of the infrared heater may result in collapse and being crushed. Always suspend from a permanent part of the building structure that can support the total force and weight of the heater.



Failure to maintain minimum clearance to combustibles may result in fire and/or explosion, property damage, serious injury, or death. Always maintain minimum clearances and post signs or provided tags (F/N: LL001) adjacent to heater's controller. Signs should state the hazards for the particular application and be legible to the building occupants. Consult the factory or a factory representative for additional information on signage compliance.

The heater can be suspended with the included bracket(s), chains, or rigid threaded rod. Local codes, or conditions that would cause the unit to move (e.g., wind drafts, blowers, crane rails, etc.), may require rigid threaded rod. Consult all applicable codes before installation.

Clearances to combustibles must be maintained when using recessed mount kits (P/N: HRE-RM-XXXX). For additional information, refer to form # LSH123c - Recessed Mounting Frame Installation Instructions or contact the factory.

The heater must be level from end to end and may be 0° to 30° on horizontal. Refer to Figures 2.2 and 2.3.

Figure 2.2 • Heater Dimensions

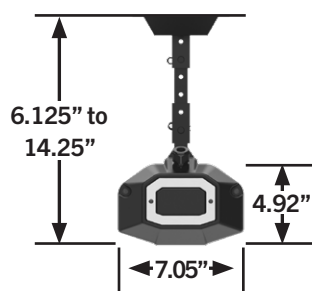
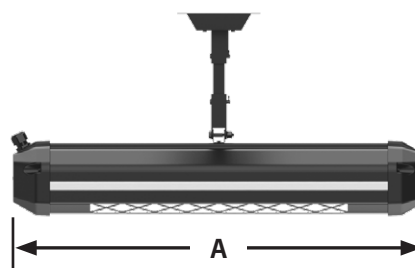


Chart 2.3 • Physical Dimensions (inches)

Model No.	A
HRE[M,T]-27B[1,2]	27.20
HRE[M,T]-36B[1,2]	36.20
HRE[M,T]-49B[1,2]	49.20
HRE[M,T]-63B[1,2]	63.20

Figure 2.3 • Heater Dimensions - Mounts

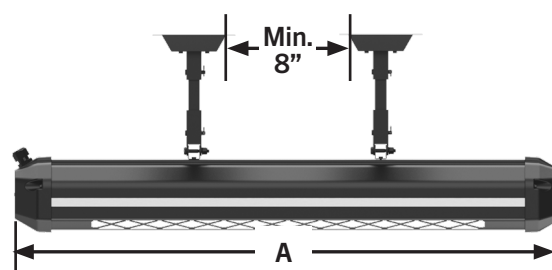
HRE 27" Models



Mount Heater Level
- End to End -



HRE 36", 49", & 63" Models



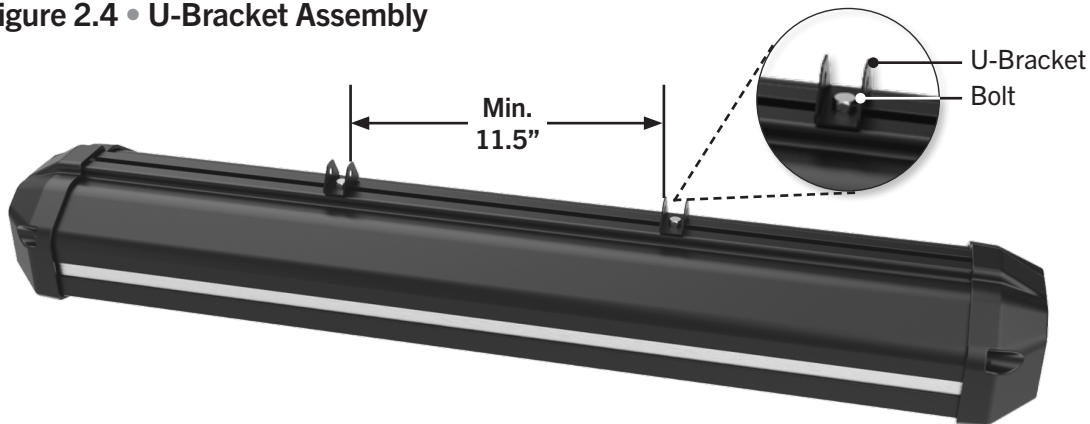
Mount Heater Level
- End to End -



Bracket Assembly

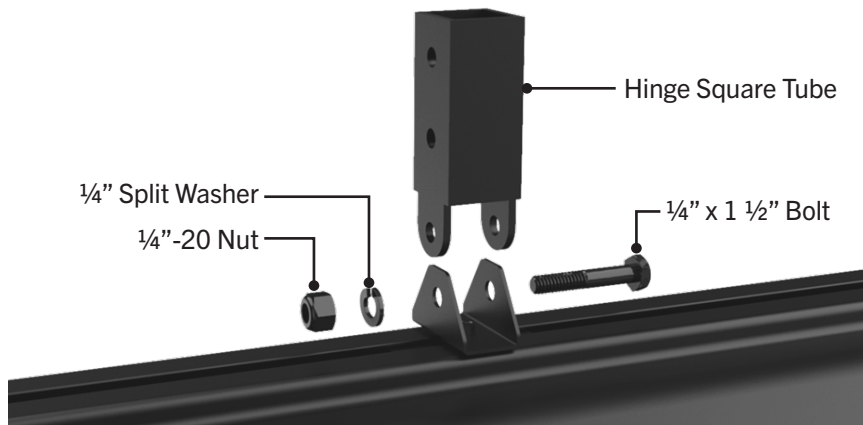
- 1 Adjust the U-brackets to the desired positions, maintaining at least 11.5" between brackets if your model has two brackets. Tighten the bolts located inside the reinstalled brackets. Refer to Figure 2.4.

Figure 2.4 • U-Bracket Assembly



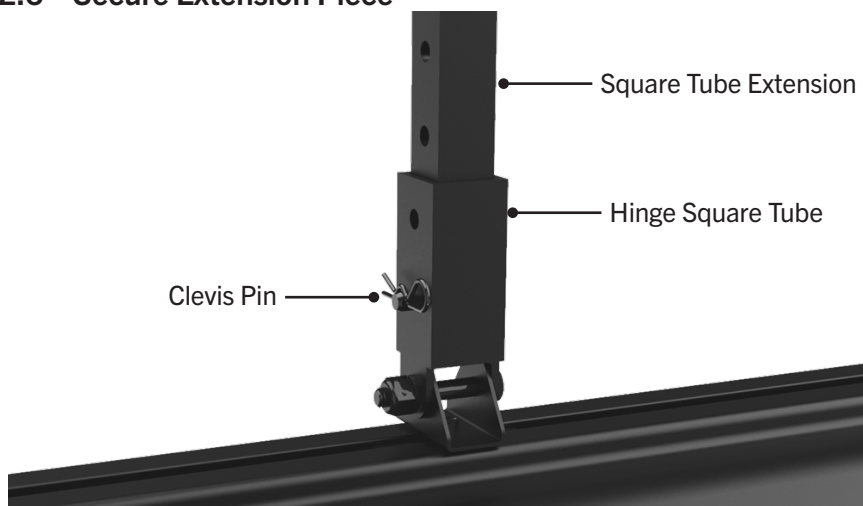
- 2 Install the hinge square tube with the provided $\frac{1}{4}$ " x $1\frac{1}{2}$ " partially threaded bolt, $\frac{1}{4}$ " split washer, and $\frac{1}{2}$ "-20 nut as shown in Figure 2.5.

Figure 2.5 • U-Bracket Hinge Assembly



- 3 Insert the desired length extension piece, and secure with a clevis pin as shown in Figure 2.6.

Figure 2.6 • Secure Extension Piece



- ④ Secure the top bracket piece to the cover plate using two (2) ¼"-20 bolts and two (2) ¼"-20 nuts. See Figures 2.7 and 2.8.

Figure 2.7 • Top Bracket Assembly

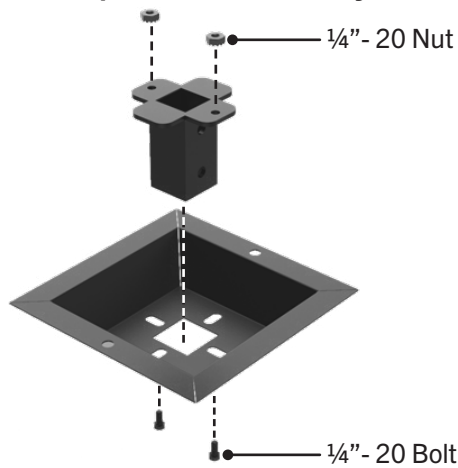
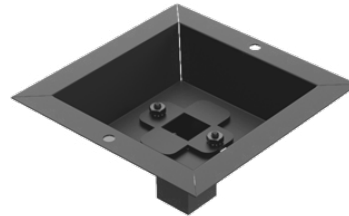
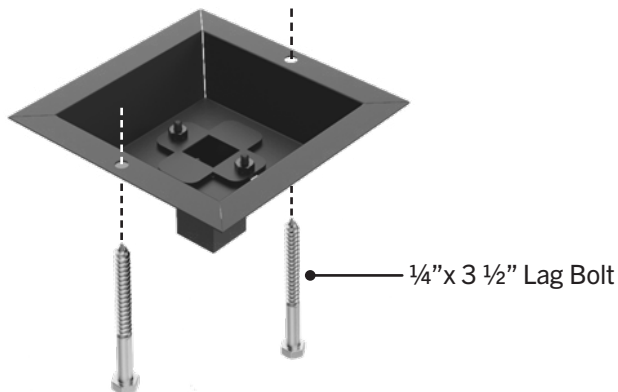


Figure 2.8 • Assembled Top Bracket



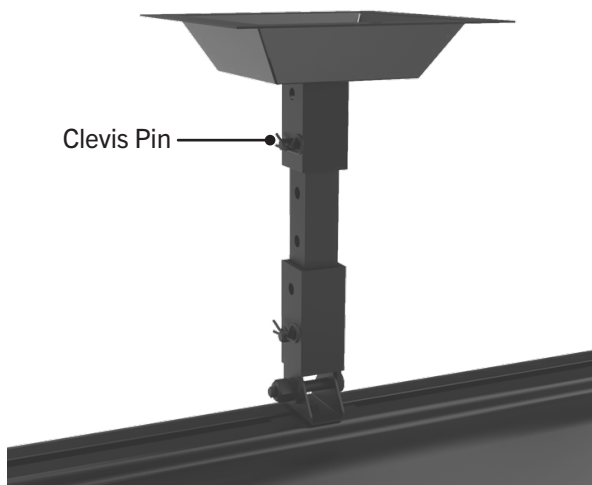
- ⑤ Secure plate to ceiling/wall using the included ¼" x 3 ½" hex zinc plated lag bolts, or mounting hardware suitable for the application and the heater's weight (refer to Chart 1.2 on page 4 and/or Chart 1.3 on page 5 for heater weight).

Figure 2.9 • Lag Bolt Installation



- ⑥ Insert the other side of the extension piece into the top hinge piece to the desired length, and secure using a clevis pin as shown in Figure 2.10. If your model has two brackets, repeat for the second bracket.

Figure 2.10 • Assembled Bracket



Element Installation

⚠ CAUTION

Disconnect power prior to installing or replacing supplied quartz lamp(s). The elements can and should be installed prior to mounting the heater.

- ❶ Ensure the appliance is OFF and cool to the touch.
- ❷ Remove two (2) ¼" screws from the end cap that does not contain the power cord as shown in Figure 2.11.
- ❸ Slide the egg crate out as shown in Figure 2.12, and set aside.

Figure 2.11 • End Cap Removal

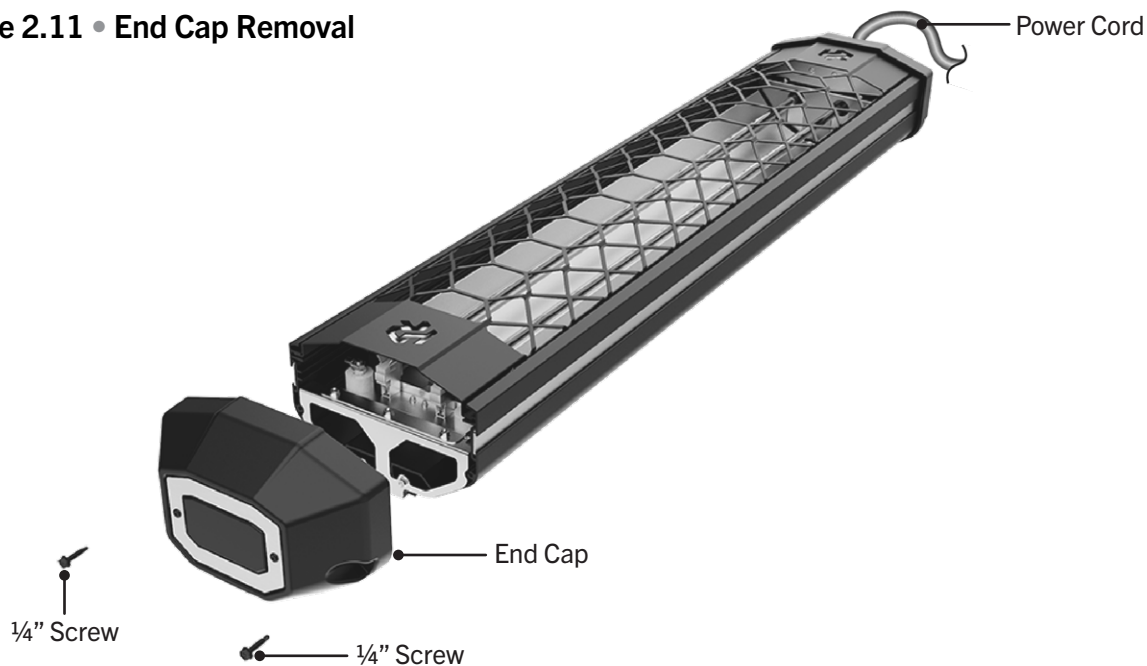
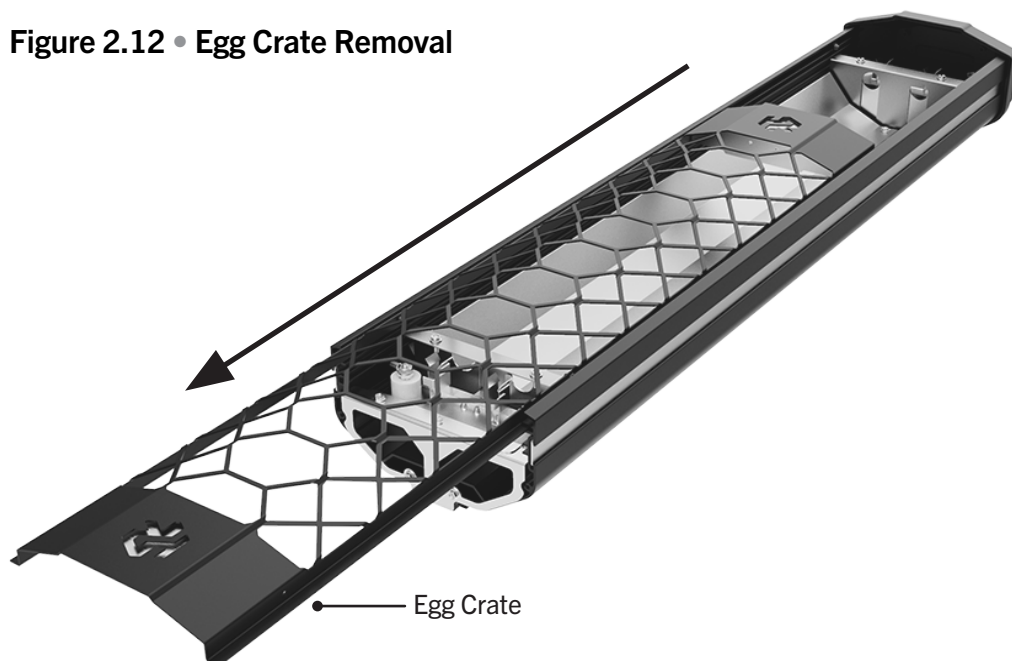


Figure 2.12 • Egg Crate Removal



- ④ Remove two (2) ¼" screws from each heat shield, then set both heat shields aside (Figure 2.13).
- ⑤ Position the heating elements in the "U" slots and firmly press the ceramic connector end into the clips, one end at a time. Avoid handling the quartz glass as much as possible.
- ⑥ Remove the top element wire retaining nut. Slide the ring terminal over the bolt until it meets the bottom retaining nut as shown in Figure 2.14. Replace the top retaining nut and torque to 15 in.-lbs. Do not overtighten.

Figure 2.13 • Heat Shield Removal

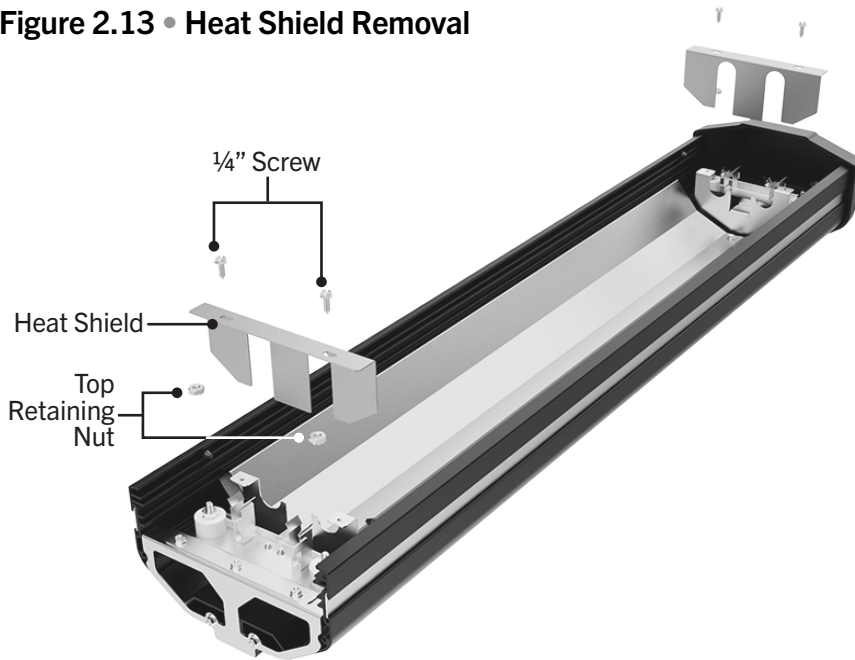
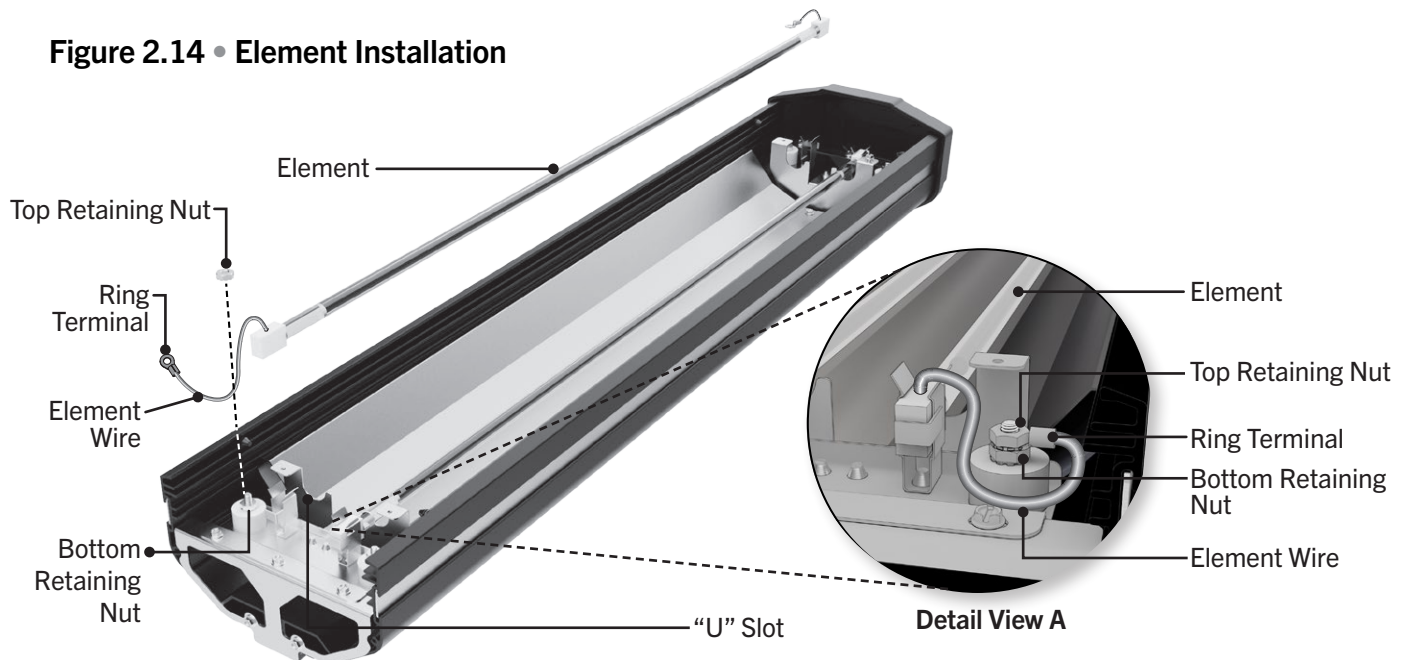


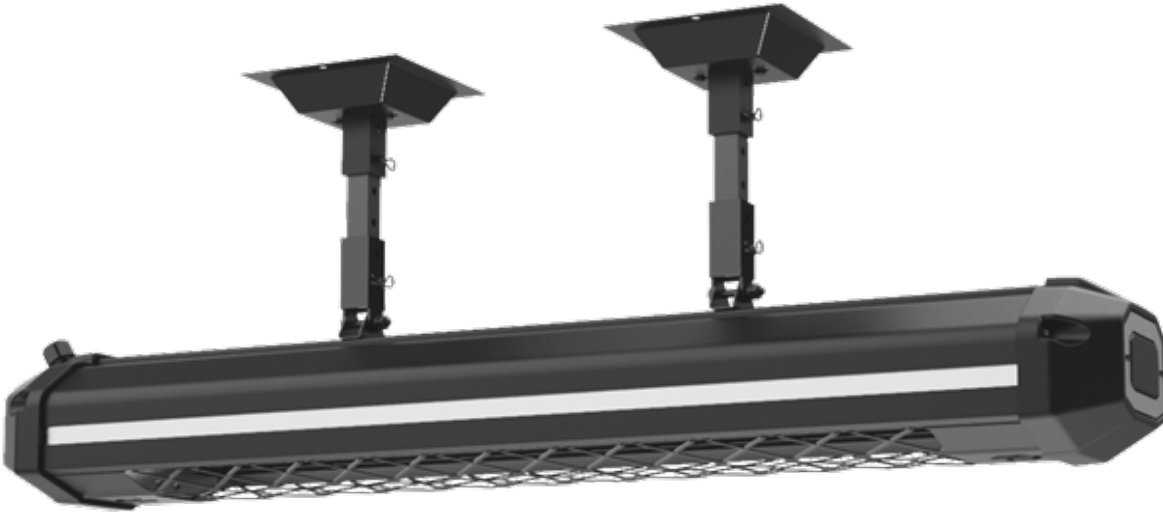
Figure 2.14 • Element Installation



NOTE: HRE Series heaters are designed for use with quartz lamp infrared heating elements only. **They are NOT intended to be used with straight metal rod heating elements. Replace lamps with parts from Detroit Radiant Products Company only!**

- ⑦ Repeat steps 3 through 7 until all heating elements have been installed.
- ⑧ After heating elements have been installed, the quartz glass should be wiped down with alcohol using a clean cloth.
- ⑨ Reinstall both heat shields, the egg crate, and the end cap.

Figure 2.15 • Assembled Heater

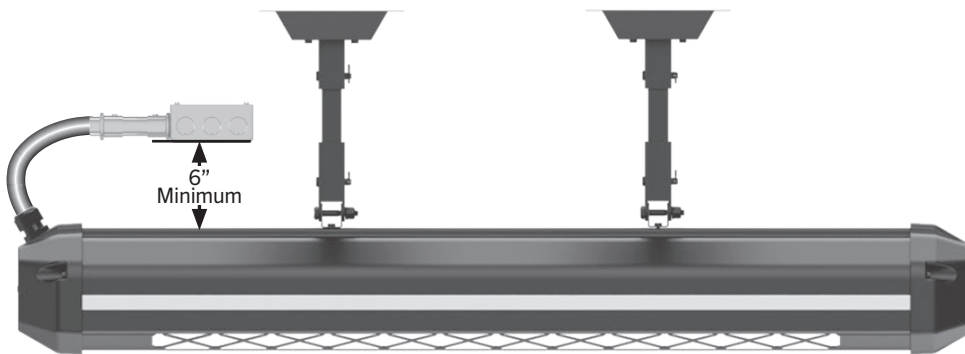


Outdoor Applications

⚠ CAUTION

For totally exposed outdoor applications (not ceiling protected) ensure connections are made as illustrated in Figure 2.16.

Figure 2.16 • Outdoor Application



NOTE: All conduit, conduit fittings, and junction boxes are field supplied. Must be NEMA Type 4X or equivalent. Heater must be suspended from mounting brackets.

Electrical

⚠ WARNING



Electric Shock

Field wiring to the heater must be connected and grounded in accordance with national, state, provincial, and local codes, and to the guidelines in this manual. In the United States, refer to the most current revisions to the ANSI/NFPA 70 Standard and in Canada, refer to the most current revisions to the CSA C22.1 Part I Standard.

Disconnect power to heater before servicing.

Failure to follow these instructions can result in death or electrical shock.

This fixture is equipped with high temperature silicone lead wires to make connections to branch circuit. Remove the wire ties prior to making electrical connections.

Wiring connections should always be through one of the knockouts in the top wire raceway. Wire connections must also be made outside of the top of the wire raceway. Consult the factory or a qualified electrician for details on staging.

Supply wires must be a copper conductor type with a minimum size of 10 AWG suitable for at least 200°C.

The heater must be connected to the earthing conductor (green wire) installed by the factory.

Wiring Diagrams

Figure 2.17 • Wiring Diagram for Single Element Models

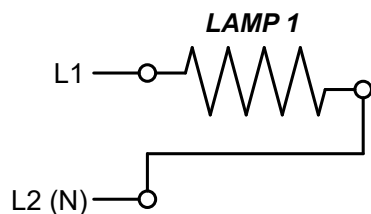
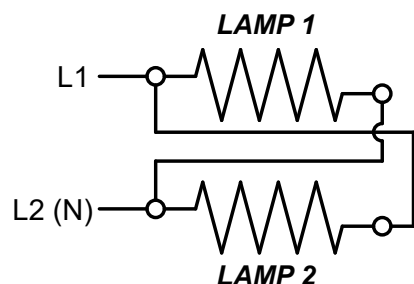


Figure 2.18 • Wiring Diagram for Dual Element Models



Field Wiring

Figure 2.19 • Single Phase Service
Heaters are built as single phase.

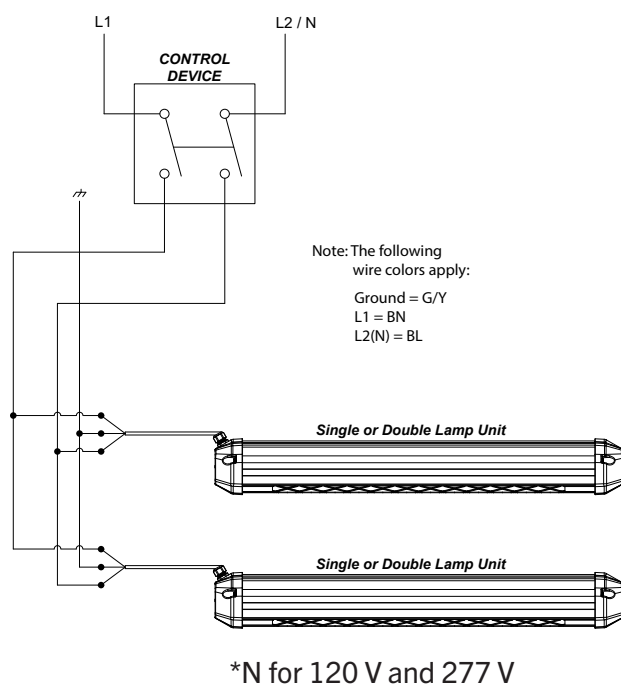
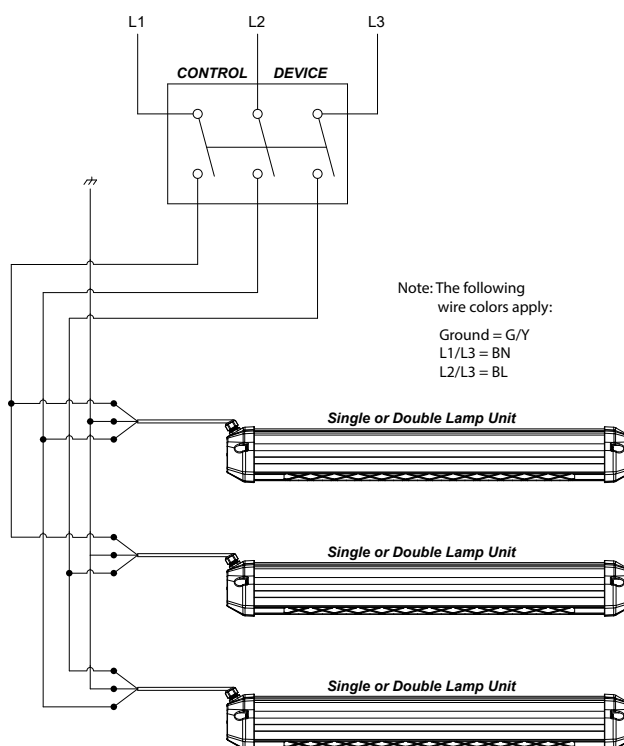


Figure 2.20 • Three Phase Service
Field configured.



3.0 Maintenance

It is recommended that the following become a standard yearly procedure to obtain maximum operating efficiency and trouble-free operation.

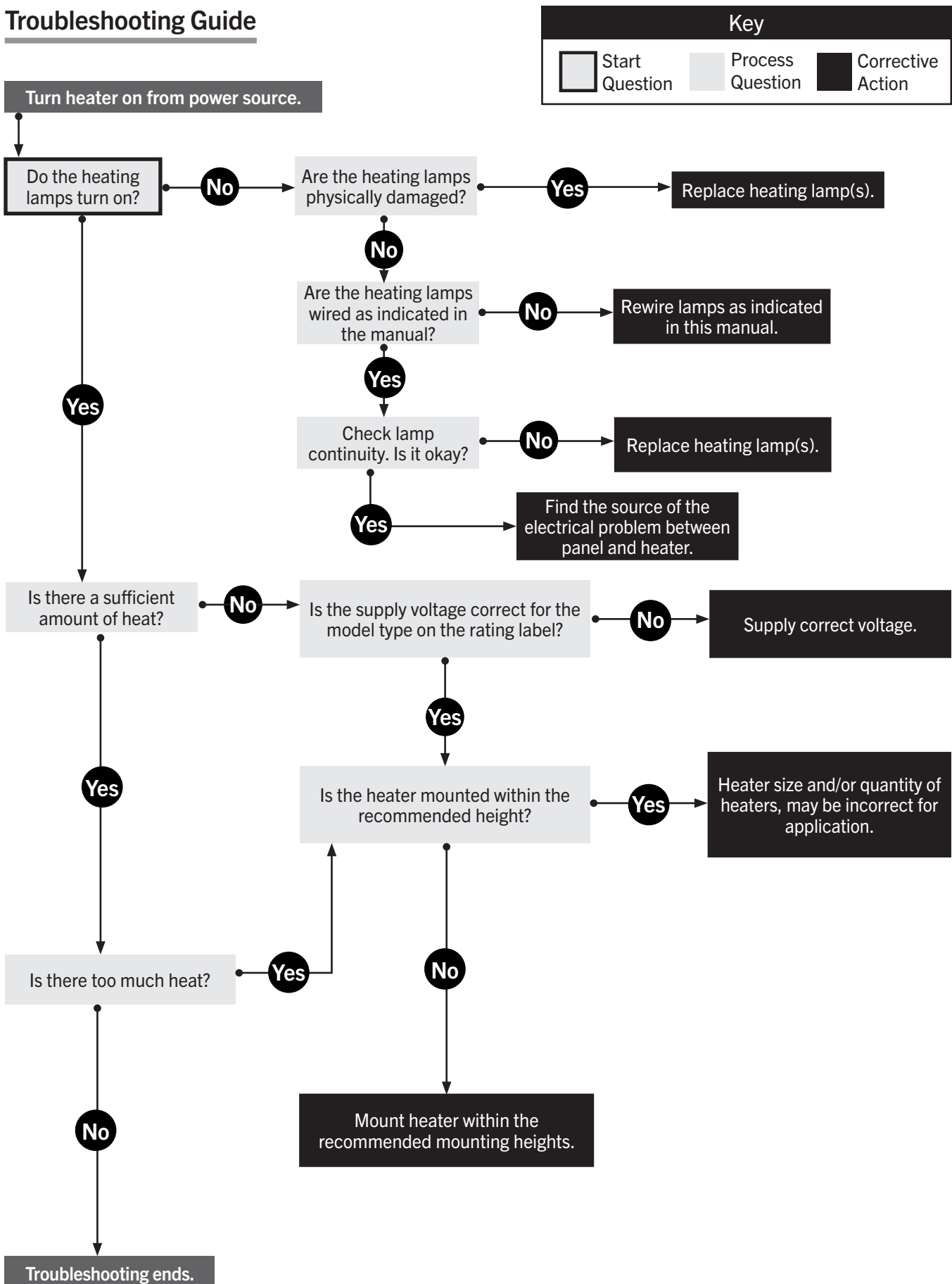
During long periods of non-usage, remove or cover heater with a polyethylene bag and disconnect from power supply. If further service to the heater is desired, contact your representative or the factory.

- 1 Clean reflector surface with a damp cloth.
- 2 Ensure heater is secure on all hanging points.
- 3 Maintain clearances to combustibles at all times. Immediately remove objects in violation of any of the published clearances to combustibles.
- 4 Check electrical wires and connections for wear or any kind of damage.

Maintenance Log

[illegible]

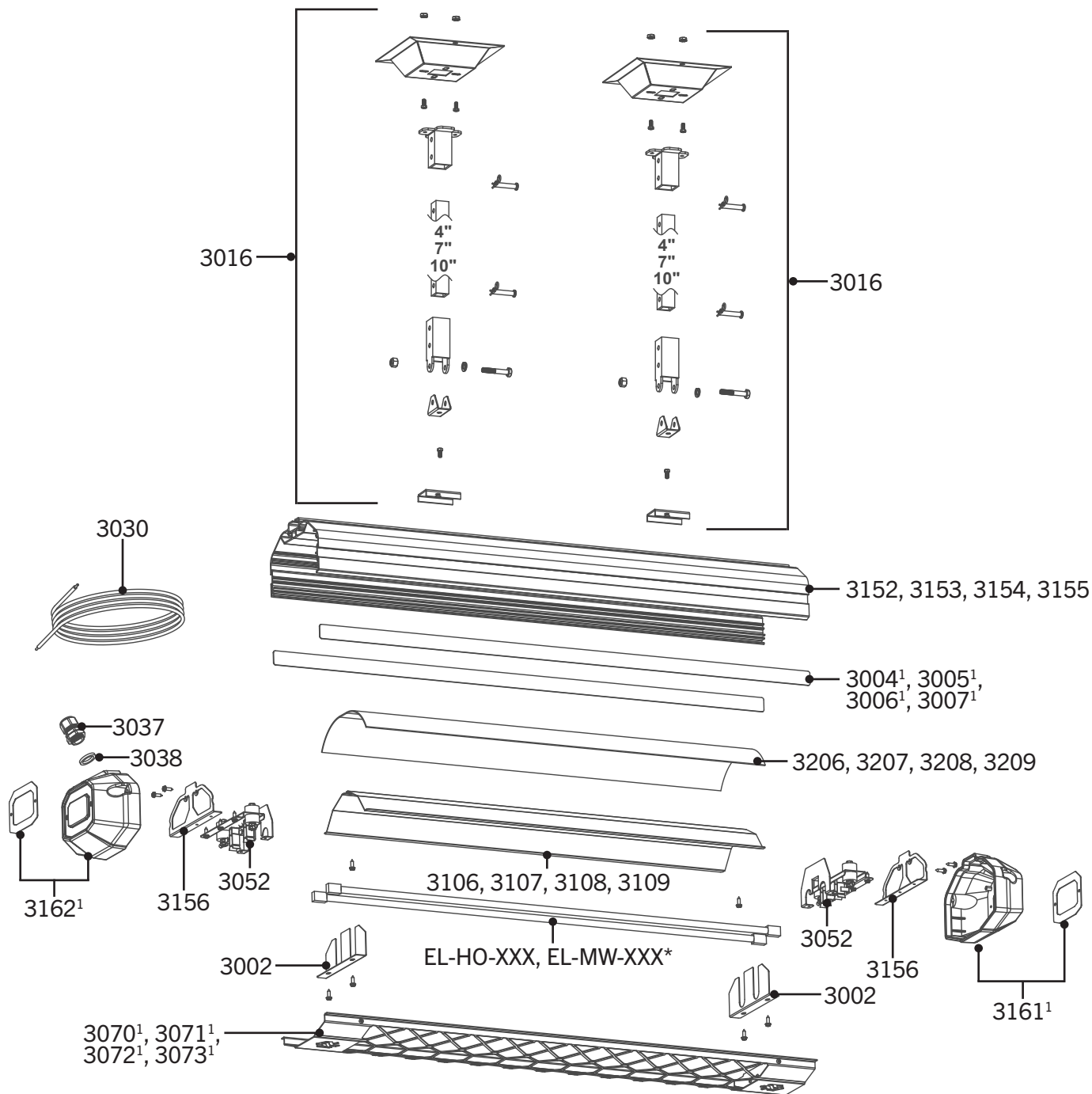
Troubleshooting Guide



Heater Assembly Components

For complete information on HRE series replacement parts, visit the online replacement parts library at www.reverberray.com/shop. For discontinued models, consult the factory.

Figure 3.1 • Components



* For replacement elements, refer to pages 4 and 5.

Parts List

Chart 3.1 • General Parts

Part No.	Description	Part No.	Description
EL-3002	Element Heat Shield	EL-3107	Reflector - 36" Models
EL-3004 ¹	Decorative Trim - 27" Models	EL-3108	Reflector - 49" Models
EL-3005 ¹	Decorative Trim - 36" Models	EL-3109	Reflector - 63" Models
EL-3006 ¹	Decorative Trim - 49" Models	EL-3152	Heater Chassis - 27" Models
EL-3007 ¹	Decorative Trim - 63" Models	EL-3153	Heater Chassis - 36" Models
EL-3016	Mounting Bracket	EL-3154	Heater Chassis - 49" Models
EL-3030	Power Cord	EL-3155	Heater Chassis - 63" Models
EL-3037	Strain Relief Assembly	EL-3156	Element Holster Mounting Bracket
EL-3038	Foam Gasket	EL-3161 ¹	Nylon Endcap Without Cord Hole
EL-3052	Busbar Assembly	EL-3162 ¹	Nylon Endcap With Cord Hole
EL-3070 ¹	Egg Crate - 27" Models	EL-3206	ManniGlas Internal Reflector - 27" Models
EL-3071 ¹	Egg Crate - 36" Models	EL-3207	ManniGlas Internal Reflector - 36" Models
EL-3072 ¹	Egg Crate - 49" Models	EL-3208	ManniGlas Internal Reflector - 49" Models
EL-3073 ¹	Egg Crate - 63" Models	EL-3209	ManniGlas Internal Reflector - 63" Models
EL-3106	Reflector - 27" Models		

¹ Add suffix to part number for desired finish. Ex: EL-3070-BK

-AL for standard aluminum finish

-BK for black finish

-BL for blue finish

-RD for red finish

-GL for gold finish

-MK for 316 marine grade stainless steel

Visit our online parts reference library at www.reverberray.com/shop for further technical data related to parts.

4.0 Limited Warranty

One-Year Limited Warranty. Detroit Radiant Products Company (hereinafter referred to as the Company) warrants to the original purchaser or original user that all Detroit Radiant Electric Infrared Heaters sold by it and all parts thereof are free from defects in material or workmanship under normal use and service. The Company's sole obligation under this warranty shall be limited to furnishing replacement parts, F.O.B. Warren, Michigan, for 12 months from the date of initial installation of the heater, but not to exceed 18 months from the date of shipment by the Company of the heaters, for any parts which the Company's examination shall disclose to its satisfaction to be defective. Defective parts are to be returned to the Company, transportation charges prepaid.

General Conditions. The warranties set out in this certificate are the exclusive remedy of the original owner or user in lieu of all other warranties written, oral or implied (including any warranty of merchantability or fitness for the purpose) and all other obligations or liabilities on the part of the Company, and the Company neither assumes nor authorizes any person to assume for it any other obligation or liabilities on the part of the Company, and the Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale, installation or use of the heater or any parts thereof.

The Company will not be responsible for labor charges for the analysis of a defective condition in the heater or for the installation of replacement parts. The warranties provided herein will not apply if the input of the heater exceeds the rated input at time of manufacturing or if the heater in the judgment of the Company has been subjected to misuse, excessive dust, improper conversion, negligence, accident, corrosive atmospheres, excessive thermal shock, excessive vibration, physical damage to the heater, alterations by unauthorized service personnel, operation contrary to the Company's instructions or if the serial number has been altered, defaced, or removed. The Company shall not be liable for any default or delay in the performance of these warranties caused by contingency beyond its control, including war, government restriction or restraints, strikes, fire, flood, short or reduced supply of raw materials, or parts.

The warranties herein shall be null and void if the heater is not installed by a competent heating contractor and/or if the heater is not installed according to Company instructions, normal industry practices and/or if the heater is not maintained and repaired according to Company's instructions. Normal product degradation and wear (rust, oxidation, etc.) does not constitute a material defect and applicable warranty claim.

Written permission is required for the return of any parts or equipment and any such return must be made on the basis of transportation charges prepaid. Shipment may be refused unless prior written permission is obtained and goods returned prepaid.



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