

RE-VERBER-RAY HEATER SUBMITTAL SHEET

REV SERIES PREMIER PLUS TUBE HEATERS

TWO STAGE, LOW INTENSITY, GAS-FIRED INFRARED TUBE HEATERS & ACCESSORIES

PROJECT ID: _____	ADDRESS: _____
PROJECT NAME: _____	_____
DATE: _____	CITY: _____ STATE: _____ ZIP: _____
Submitted By: _____ Address: _____	
Company: _____	_____
Phone: _____	City: _____
Email: _____	State: _____ Zip: _____
.....	
Engineer: _____	Contractor: _____
Phone/Email: _____	Phone/Email: _____
Address: _____	Address: _____
City: _____	City: _____
State: _____ Zip: _____	State: _____ Zip: _____

QTY.	MODEL #	CONFIG. TYPE ²	TAG	INDICATE GAS TYPE	BTU/h High Fire	BTU/h Low Fire	STRAIGHT LENGTH	STD. WEIGHT	TYP. OR RCMD. MOUNTING HEIGHTS ¹
	REV-20-65			Nat. or Prop.	65,000	50,000	21'-9"	206 lbs.	9' to 14'
	REV-20-75			Nat. or Prop.	75,000	50,000	21'-9"	206 lbs.	10' to 15'
	REV-30-65			Nat. or Prop.	65,000	50,000	31'-5"	289 lbs.	10' to 15'
	REV-30-75			Nat. or Prop.	75,000	50,000	31'-5"	289 lbs.	11' to 18'
	REV-30-100			Nat. or Prop.	100,000	65,000	31'-5"	289 lbs.	12' to 20'
	REV-40-65			Nat. or Prop.	65,000	50,000	41'-1"	362 lbs.	11' to 18'
	REV-40-75			Nat. or Prop.	75,000	50,000	41'-1"	362 lbs.	11' to 18'
	REV-40-100			Nat. or Prop.	100,000	65,000	41'-1"	362 lbs.	12' to 20'
	REV-40-125			Nat. or Prop.	125,000	82,000	41'-1"	362 lbs.	13' to 23'
	REV-40-150			Nat. or Prop.	150,000	100,000	41'-1"	362 lbs.	14' to 25'
	REV-50-125			Nat. or Prop.	125,000	82,000	50'-9"	450 lbs.	15' to 27'
	REV-50-150			Nat. or Prop.	150,000	100,000	50'-9"	450 lbs.	15' to 27'
	REV-50-175			Nat. or Prop.	175,000	125,000	50'-9"	450 lbs.	16' to 30'
	REV-50-200			Nat. or Prop.	200,000	145,000	50'-9"	450 lbs.	17' to 35'
	REV-60-150			Nat. or Prop.	150,000	100,000	60'-5"	523 lbs.	16' to 30'
	REV-60-175			Nat. or Prop.	175,000	125,000	60'-5"	523 lbs.	16' to 30'
	REV-60-200			Nat. or Prop.	200,000	145,000	60'-5"	523 lbs.	17' to 35'

¹Typical or recommended mounting heights are provided as a guideline. Actual conditions may dictate variations from this data.

²See page 3 for configuration options.



**DETROIT RADIANT
PRODUCTS COMPANY**

Detroit Radiant Products
21400 Hoover Rd.
Warren, MI 48089

Phone: (586) 756-0950
Email: sales@drp-co.com
www.reverberray.com

LSREV-II/22 (DRPC)

REV SERIES FEATURED SPECIFICATIONS

APPROVALS

- CSA Design Certified
- Commercial/Industrial Approval
- Outdoor Approval with OD-KIT

BURNER CONTROL BOX

- Sight glass for burner inspection
- Totally enclosed components
- Serviceable while in operation
- Coated enameled steel
- Operational indicator lights
- Pre-heated combustion air

GAS CONNECTION

- 7/8 in. flare-M FPT connection to 1/2 in. x 24 in. (304) SS flex connector provided.

GAS SUPPLY (Inches W.C.)

- Manifold pressure: Nat 3.5; Prop 10.0
- Min. inlet pressure: Nat 5.0; Prop 11.0
- Max. inlet pressure: Nat 14.0; Prop 14.0

POWER SUPPLY

- 120 VAC, 60 Hz GRD, 1 Ph., 3-wire
- 60 in. grounded power cord
- Ignition current: 4.8 amps
- Running current: 1.1 amps

CONTROLS

- Two stage gas valve (at 100% and 65%)
- Air proving safety switch
- Silicon carbide hot surface ignition
- Pre- & post-purge controls
- Flame rod sensing
- 24 V thermostatic control voltage
- Self-diagnostic LED

REFLECTOR

- 16 ga. (0.060") adjustable solid aluminum extruded reflector with insulated air pockets
- Configurable for single pass (100%) and dual pass (94%)
- Minimum 18 reverberatory facets
- Hangerless sliding mounting track
- 304 stainless steel adjustable end caps

COMBUSTION & RADIANT TUBES

- 16 ga. 4" O.D. aluminized coated steel radiant emitter tubes
- Titanium coated combustion chamber (150–200 MBH models)
- All tubes coated with high temperature, corrosion-resistant black coating, 0.95 emissivity
- Slip-fit swaged tube connection
- Turbulator baffle

COMBUSTION AIR INLET & VENTING

- Preset 4 in. combustion air inlet collar
- Sidewall or roof venting

LIMITED WARRANTY

- 3 year–Burner box components
- 5 years–Combustion and radiant tubes
- 10 years–Burner

OPTIONAL UPGRADES

Options in this section must be ordered at time of manufacture and cannot be added after heater is built.

☐ **SILSEAL** Protects internal burner box components against contaminants. Do NOT order if OD-KIT is ordered.

☐ **OD-KIT** For use when applying heaters outdoors. SILSEAL comes standard with this option.

☐ **HLRP** Optional internal dual relays used to control multiple heaters with one thermostat.

☐ _____

☐ _____

☐ _____



**DETROIT RADIANT
PRODUCTS COMPANY**

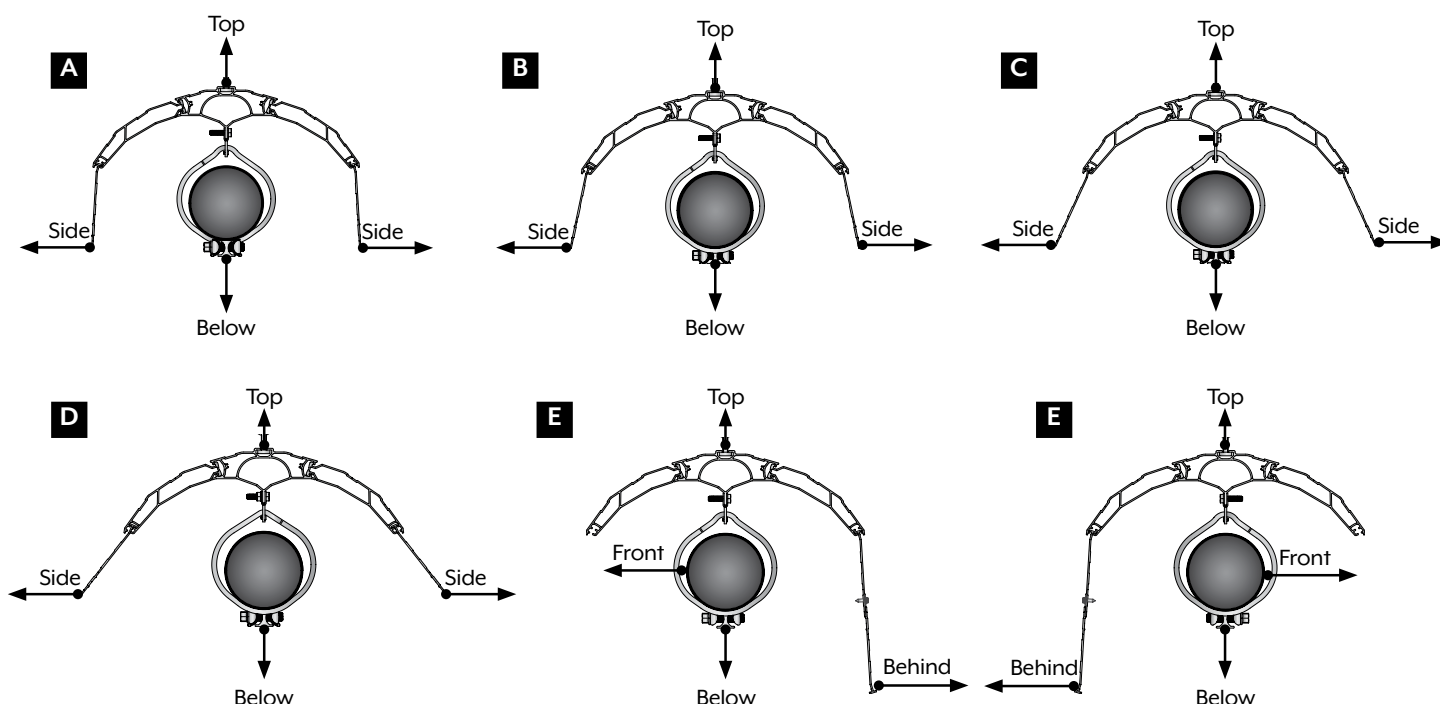
Detroit Radiant Products | Phone: (586) 756-0950
21400 Hoover Rd. | Email: sales@drp-co.com
Warren, MI 48089 | www.reverberray.com

RE-VERBER-RAY SAFETY SUBMITTAL SHEET

REV SERIES CLEARANCES TO COMBUSTIBLES

All listed clearances to combustibles are in inches.

CONFIGURATION	MODEL NUMBER (LENGTH) - MBH	SIDES		TOP	BELOW	END
		FRONT	BEHIND			
A, B, C <i>0°-Dual Pass</i>	REV (20, 30, 40)-65, 75, 100 [N, P]	28	28	2	72	12
	REV (40, 50)-125, 150 & (60)-150 [N, P]	37	37		81	
	REV (50, 60)-175, 200 [N, P]	47	47		97	
	20-Ft. From Burner	11	11	2	55	12
D <i>0°-Ultra-Wide Single Pass</i>	REV (20, 30, 40)-65, 75, 100 [N, P]	18	18	2	72	12
	REV (40, 50)-125, 150 & (60)-150 [N, P]	27	27		81	
	REV (50, 60)-175, 200 [N, P]	34	34		97	
	20-Ft. From Burner	10	10	2	55	12
E <i>35°-Forward Shield/ Open Throw</i>	REV (20, 30, 40)-65, 75, 100 [N, P]	43	10	4	59	12
	REV (40, 50)-125, 150 & (60)-150 [N, P]	57	10		76	
	REV (50, 60)-175, 200 [N, P]	70	15		94	
	20-Ft. From Burner	22	10	4	46	12



Read and understand the installation, operation, and maintenance manual prior to installing or servicing this unit.

In locations used for the storage of combustible materials, signs must be posted adjacent to the heater's thermostat specifying stacking heights.



**DETROIT RADIANT
PRODUCTS COMPANY**

Detroit Radiant Products
21400 Hoover Rd.
Warren, MI 48089

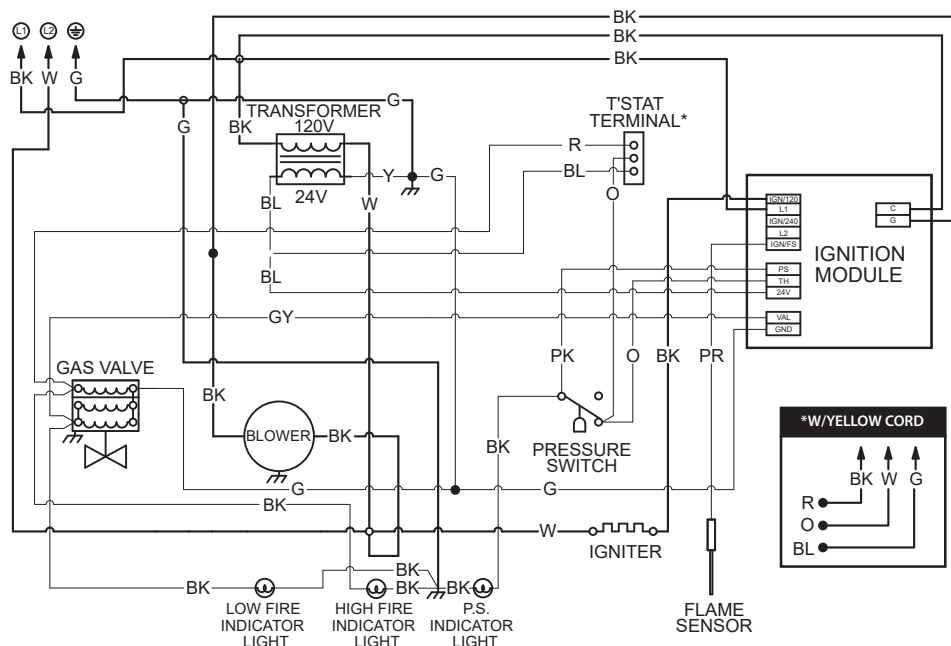
Phone: (586) 756-0950
Email: sales@drp-co.com
www.reverberray.com

LSREVc-11/22 (DRPC)

RE-VERBER-RAY WIRING SUBMITTAL SHEET

REV SERIES WIRING DIAGRAMS

Internal Wiring—No Relay



WIRING INFORMATION:

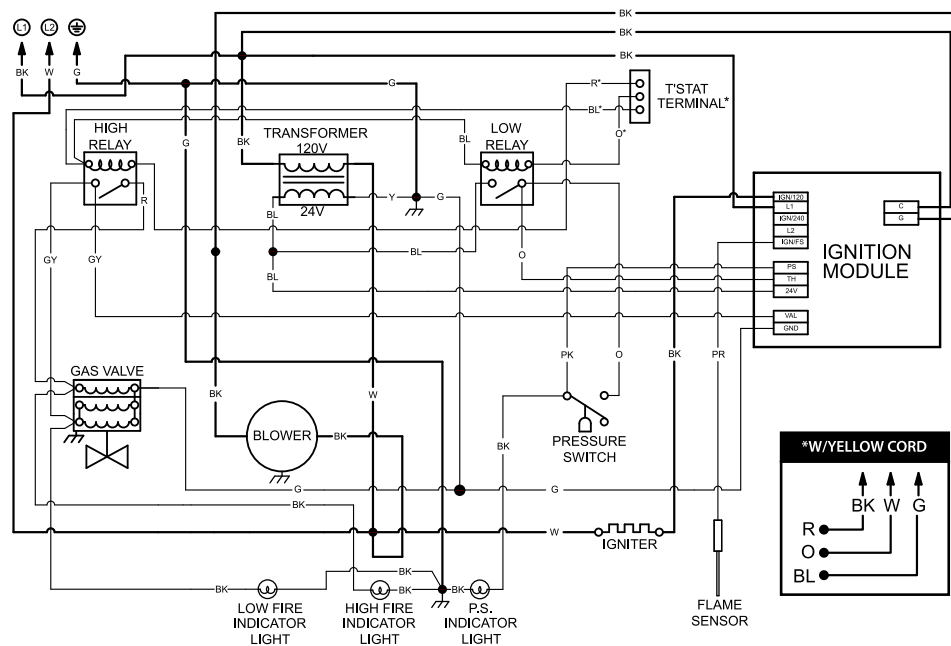
LOW VOLTAGE:

FACTORY STANDARD _____
FACTORY OPTION - - - - -
FIELD INSTALLED - - - - -

LINE VOLTAGE:

FACTORY STANDARD _____
FACTORY OPTION - - - - -
FIELD INSTALLED - - - - -

Internal Wiring—With Optional HLRP Relay



WIRING INFORMATION:

LOW VOLTAGE:

FACTORY STANDARD _____
FACTORY OPTION - - - - -
FIELD INSTALLED - - - - -

LINE VOLTAGE:

FACTORY STANDARD _____
FACTORY OPTION - - - - -
FIELD INSTALLED - - - - -



**DETROIT RADIANT
PRODUCTS COMPANY**

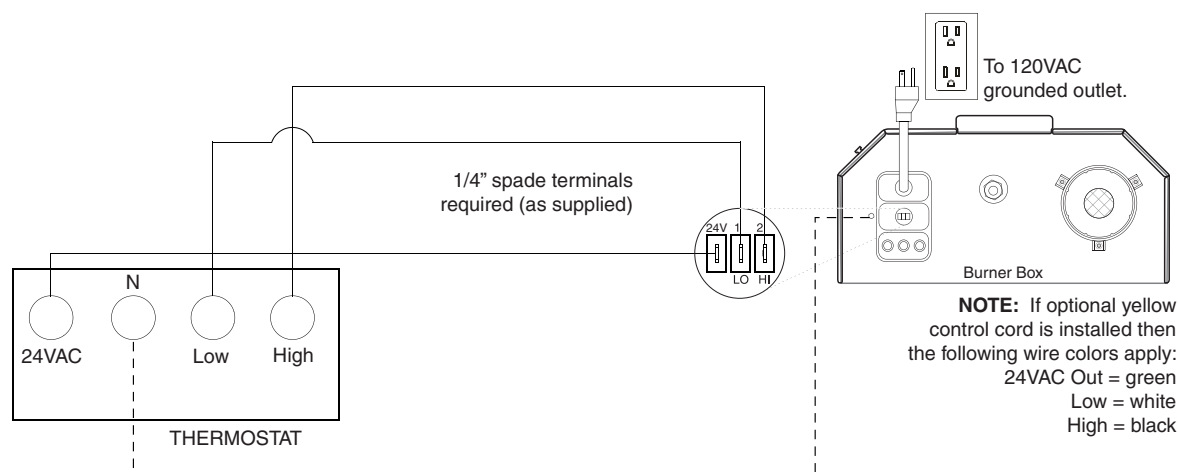
Detroit Radiant Products | Phone: (586) 756-0950
21400 Hoover Rd. | Email: sales@drp-co.com
Warren, MI 48089 | www.reverberray.com

LSREVw-03/22 (DRPC)

RE-VERBER-RAY WIRING SUBMITTAL SHEET

REV SERIES WIRING DIAGRAMS (cont.)

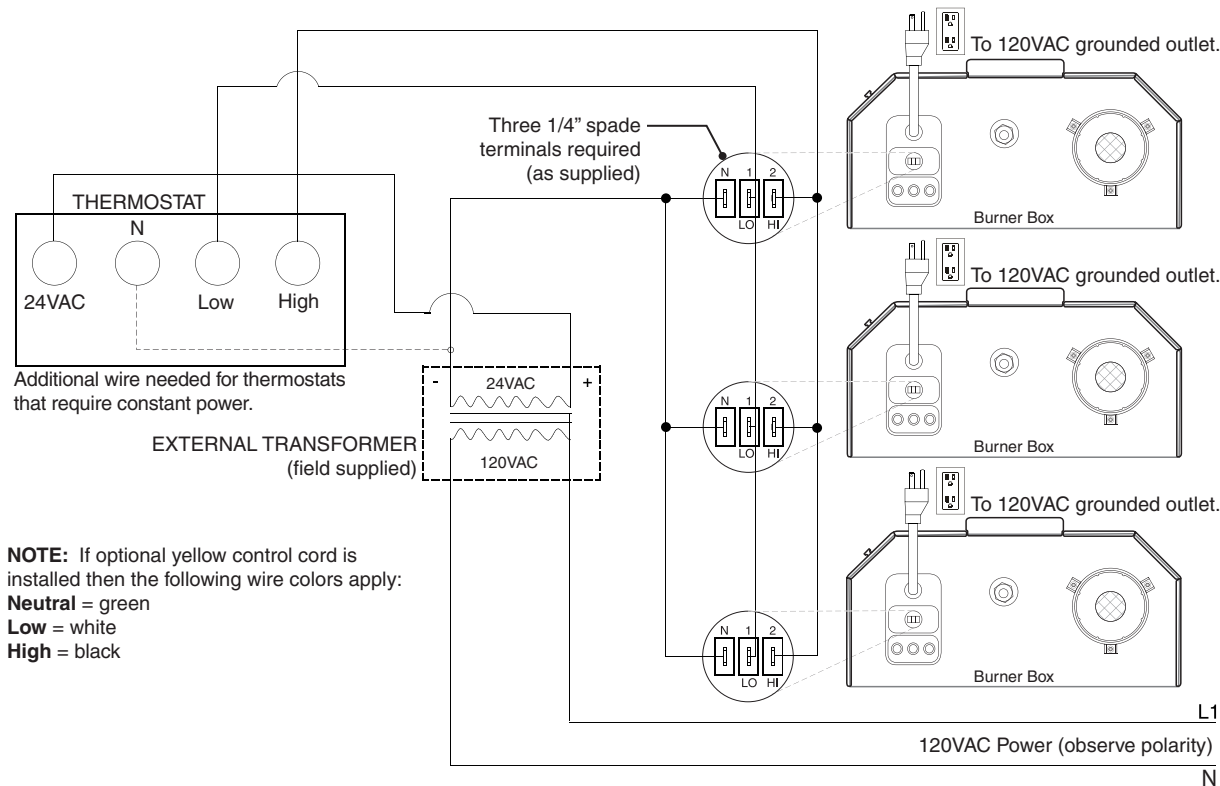
Field Wiring—Single Heater, No Relay (Single Thermostat)



----- When using a thermostat that requires constant power a common wire must be run from the C terminal on the thermostat back to the transformer.

Field Wiring—Multiple Heaters with Optional Factory Installed Relay (HLRP) (Single Thermostat)

NOTE: For External Relay Kit (ERK) wiring, consult the installation instructions provided with ERK.



**DETROIT RADIANT
PRODUCTS COMPANY**

Detroit Radiant Products | Phone: (586) 756-0950
21400 Hoover Rd. | Email: sales@drp-co.com
Warren, MI 48089 | www.reverberray.com

RE-VERBER-RAY HEATER SUBMITTAL SHEET

REV SERIES PREMIER PLUS TUBE HEATERS

TWO STAGE, LOW INTENSITY, GAS-FIRED INFRARED TUBE HEATER WRITTEN SPECIFICATIONS

TUBULAR INFRARED HEATERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Detroit Radiant Products Company; Re-Verber-Ray two stage REV Series.
- B. Fuel Type: Burner shall be designed for [natural][propane] gas having characteristics same as those of gas available at project site.
- C. Gas Control: Operation shall include a defined input differential. Heater must be CSA Design Certified to operate at an input differential of at least 30% between the low and nominal rated input modes.
- D. Combustion Chamber: Shall be 4-inch O.D., 16 ga. titanium-stabilized aluminized steel (150–200 MBH) or aluminized steel (below 150 MBH), finished with a corrosion-resistant, black coating with an emissivity level documented at 0.92 or higher.
- E. Radiant Emitter Tube: Shall be 4-inch O.D., 16 ga. aluminized steel finished with a corrosion-resistant, black coating with an emissivity level documented at 0.92 or higher. Calorized or hot rolled steel tubes shall not be permitted.
- F. Burner Type: Unit shall be a positive pressure (push) burner with a combustion fan upstream of the burner and exhaust gases for component longevity, maximum combustion efficiency, and energy transfer. Negative pressure (pull) appliances shall not be permitted.
- G. Combustion Air: Unit shall incorporate a connection between the burner box and reflector to supply pre-heated combustion air.
- H. Fan Enclosure: Combustion fan shall be totally housed inside burner control box and not exposed. Appliances with exposed combustion/exhauster fans shall not be permitted.
- I. Premium Combustion Burner: Shall be constructed from 304-grade stainless steel and die formed in a venturi-style design. Flame arrestor shall be a minimum of ¼" thick constructed from sintered steel or perforated stainless steel. Burner design shall also include secondary air vanes to maximize flame rotation and heat distribution. Non-venturi or ceramic style flame arrestor designs shall not be permitted.
- J. Radiant Emitter Tube: Shall be 4-inch O.D., 16 ga. aluminized steel finished with a corrosion-resistant, black coating with an emissivity level documented at 0.92 or higher. Calorized or hot rolled steel tubes shall not be permitted.
- K. Tube Connections: The heater's combustion chamber and radiant emitter tube shall connect via a 4-inch slip-fit, interlocking connection in which the upstream tube slides into the next tube and is held by a 4-inch aluminized bolted clamp. 4-inch 304-grade stainless steel clamps shall be used to join combustion tubes to radiant tubes on systems 150 MBH and above. A non-swaged or butted tube connection system shall not be permitted.
- L. Hangers: Hangers shall be a floating design which allows for tube movement independent of reflectors.
- M. Control Box: Heater's exterior control chassis shall be constructed of corrosion-resistant enameled steel. The heater's top cover shall be constructed of ABS plastic material with hinged and fitted design properties and shall be accessible without the use of tools.
- N. Sight Glass: Heater shall be equipped with a sight glass allowing a visual inspection of igniter and burner operation from floor level.
- O. Air Intake: An air intake collar shall be supplied as part of the burner control assembly fitted to accept a 4-inch O.D. PVW or DWV air supply duct.
- P. Baffle: Heater shall utilize downstream turbulator baffle(s) for maximum heat transfer.
- Q. Flexible Connector: Heater shall be supplied with a stainless steel flexible gas connector.
- R. Ignition System: Hot surface ignition with silicon carbide glo-bar. Direct spark ignition systems shall not be permitted. The heater's ignition and control compartment shall be accessible without the use of tools and serviceable while the heater is operating.
- S. Burner Safety Controls:
 1. Heater controls shall include a single differential pressure switch to monitor combustion air flow so as to provide complete burner shutdown due to insufficient combustion air or flue blockage.
 2. Staged operation shall be mechanical in nature and controlled via a direct 24 V connection directly to the valve assembly. Heaters that control staging via air pressure or air ducting shall not be permitted.
 3. The heater shall incorporate a self-diagnostic ignition module and feature an ignition system with three (3) tries prior to entering soft lockout followed by hard lockout.
 4. Burner assembly shall not require nor incorporate the use of air filters.
 5. Heater control assembly shall include three (3) operational indicator lights indicating status of low fire operation, high fire operation, and pressure switch operation.
 6. The heater's ignitor warm-up control system shall provide a 45-second pre-purge prior to initiating burner operation and a 90-second post-purge upon completion, effectively removing all combustion by-products from the heat exchangers.

Continued on page 2



**DETROIT RADIANT
PRODUCTS COMPANY**

Detroit Radiant Products | Phone: (586) 756-0950
21400 Hoover Rd. | Email: sales@drp-co.com
Warren, MI 48089 | www.reverberray.com

LSREVsf-04/22 (DRPC)

RE-VERBER-RAY HEATER SUBMITTAL SHEET

REV SERIES PREMIER PLUS TUBE HEATERS

TWO STAGE, LOW INTENSITY, GAS-FIRED INFRARED TUBE HEATER WRITTEN SPECIFICATIONS

- 7. No condensation shall form as a result of combustion in the combustion chamber or radiant tubes while at operating temperatures.
- 8. Thermostat control shall be two stage operating on 24 VAC.
- T. Venting: Shall be per manufacturer approval and specifications.

EXTRUDED ALUMINUM RAIL & REFLECTOR CONSTRUCTION

- A. Material: Reflector shall be solid extruded aluminum with a minimum core wall thickness of 0.070-in. (15-gauge). Rolled or pressed reflectors shall not be permitted.
- B. Design Configurations: Reflector shall feature at least four (4) field configurable designs with a minimum option of:
 - i. A standard “dual pass” (88% design effective) geometric profile, designed to increase tube temperatures and maximize radiant output.
 - ii. A wide-angle “single pass” (100% design effective) geometric profile, designed to lessen tube temperature and maximize radiant flux patterns.
- C. Mounting Rail: Reflector shall feature an integrated sliding track rail with fitted brackets to allow selectable hanging locations. Heaters requiring a predefined mounting location shall not be permitted.
- D. Energy Capturing Cavities: Reflector shall feature integral, insulating energy cavities designed to capture heat energy to pre-heated combustion air to the burner while concurrently reducing the heater’s top clearances to combustibles to a distance as low as 2 inches. Single or dual wall reflectors shall not be permitted.
- E. Reflector Facets: Reflector shall incorporate a minimum of eighteen (18) “reverberatory” facets to best optimize the radiant flux pattern AFF.
- F. Side Shield Mount: Reflector may be mounted with a 35° forward throw side shield using only the supplied materials. No additional accessories shall be required to achieve this profile.
- G. Sway Bracing: Reflector shall be supplied with sway bracing brackets for use in high wind or vibration applications. Sway brackets shall be secured with a factory installed nutsert anchor design.
- H. Energy Optimizer: Reflector shall be capable of being fitted with an optional field mount heat extraction or recapture device. Device shall be designed to release the heat captured in the Energy Capturing Chambers as usable convective air.



**DETROIT RADIANT
PRODUCTS COMPANY**

Detroit Radiant Products | Phone: (586) 756-0950
21400 Hoover Rd. | Email: sales@drp-co.com
Warren, MI 48089 | www.reverberray.com