

# RE-VERBER-RAY HEATER SUBMITTAL SHEET

## MP3 SERIES TUBE HEATERS

### MODULATING, 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 #	TAG	INDICATE GAS TYPE	STANDARD MODULATING RANGE (BTU/h Input)	STRAIGHT LENGTH	U-TUBE LENGTH	STD. WEIGHT	TYP. OR RCMD. MOUNTING HEIGHTS <sup>1</sup>
	MP3-20-75		Nat. or Prop.	65,000–75,000	21'–9"	13'–1"	120 lbs.	12' to 20'
	MP3-20-80		Nat.	65,000–80,000	21'–9"	13'–1"	120 lbs.	12' to 20'
	MP3-25-75		Nat. or Prop.	65,000–75,000	26'–5"	15'–3" <sup>2</sup>	145 lbs.	12' to 20'
	MP3-25-80		Nat.	65,000–80,000	26'–5"	15'–3" <sup>2</sup>	145 lbs.	12' to 20'
	MP3-30-80		Nat. or Prop.	65,000–80,000	31'–5"	17'–9" <sup>3</sup>	160 lbs.	12' to 20'
	MP3-30-115		Nat. or Prop.	85,000–115,000	31'–5"	17'–9" <sup>3</sup>	160 lbs.	14' to 22'
	MP3-40-80		Nat. or Prop.	65,000–80,000	41'–1"	22'–9"	190 lbs.	12' to 20'
	MP3-40-115		Nat. or Prop.	85,000–115,000	41'–1"	22'–9"	190 lbs.	15' to 25'
	MP3-40-150		Nat. or Prop.	110,000–150,000	41'–1"	22'–9"	190 lbs.	15' to 28'
	MP3-50-115		Nat. or Prop.	85,000–115,000	50'–9"	27'–5" <sup>3</sup>	235 lbs.	15' to 28'
	MP3-50-150		Nat. or Prop.	110,000–150,000	50'–9"	27'–5" <sup>3</sup>	235 lbs.	17' to 30'
	MP3-50-200		Nat. or Prop.	135,000–200,000	50'–9"	27'–5" <sup>3</sup>	235 lbs.	19' to 37'
	MP3-60-150		Nat. or Prop.	110,000–150,000	60'–5"	32'–5"	265 lbs.	17' to 32'
	MP3-60-200		Nat. or Prop.	135,000–200,000	60'–5"	32'–5"	265 lbs.	19' to 37'
	MP3-70-200		Nat. or Prop.	135,000–200,000	70'–1"	37'–3" <sup>3</sup>	300 lbs.	19' to 42'

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

<sup>2</sup>Model requires 2.5EA-SUB accessory package when installing in a 'U' configuration.

<sup>3</sup>Model requires 5EA-SUB accessory package when installing in a 'U' configuration.



**DETROIT RADIANT  
PRODUCTS COMPANY**

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LSMP3-01/25 (DRPC)

## MP3 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

### GAS CONNECTION

- 3/8" x 3/4" 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

- Modulating gas valve
- Air proving safety switch
- Silicon carbide hot surface ignition
- Flame rod sensing
- 0-10 VDC thermostatic control voltage

### REFLECTOR

- Highly polished aluminum
- Two end caps included
- Reflector tension springs
- Continuous overlap design
- One reflector center support per reflector

### 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.
- ☐ **2.5EA-SUB** Substitute one 5 ft. radiant tube and reflector for two 2.5 ft. pieces. This is ideal for making U-shaped heaters from 25 ft. models. Maximum of one per heater.
- ☐ **5EA-SUB** Substitute one 10 ft. radiant tube and reflector for two 5 ft. pieces. This is ideal for making U-shaped heaters from 30 ft., 50 ft., and 70 ft. models. Maximum of one per heater.
- ☐ **OD-KIT** For use when applying heaters outdoors. SILSEAL comes standard with this option.
- ☐ **ERK** External Relay Kit used to control multiple heaters with one thermostat.
- ☐ **4000-01V** 40 VA External Transformer, 1 per thermostat when using ERKs.
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_

## STAINLESS STEEL UPGRADES

- ☐ **SSRAO** 10 ft. Reflector Section.
- ☐ **SSRAO-5** 5 ft. Reflector Section.
- ☐ **SSTA0** 10 ft. Tube Section (75–200 MBH only).  
Not available on MP3-50-200)
- ☐ **SSTRA0** Tubes & Reflectors (75–200 MBH only).  
Not available on MP3-50-200.
- ☐ **SSB-##** Mounting Brackets (## = heater length).
- ☐ **SSC-##** Tube Clamps (## = heater length).



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# RE-VERBER-RAY SAFETY SUBMITTAL SHEET

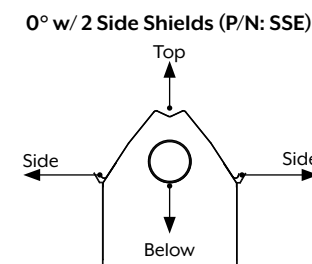
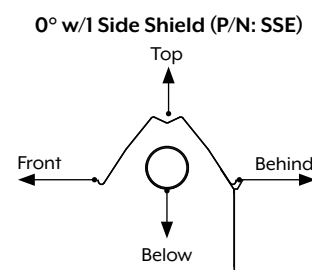
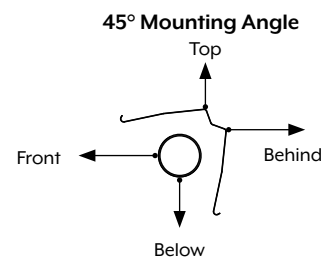
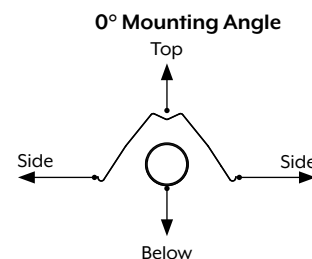
## MP3 SERIES CLEARANCES TO COMBUSTIBLES

All listed clearances to combustibles are in inches.

MODEL NO.	MOUNTING ANGLE <sup>1</sup>	SIDES		TOP	BELOW
		FRONT	BEHIND		
MP3-(20,25,30,40)-(75,80)[N,P]	0°	14	14	6	66
	45°	39	8	10	66
w/1 side shield	0°	29	8	6	66
w/2 side shields	0°	16	16	6	66
20 ft. from burner	0°	7	7	6	30
MP3-(30,40,50)-115[N,P]	0°	20	20	6	76
	45°	58	8	10	76
w/1 side shield	0°	42	8	6	76
w/2 side shields	0°	20	20	6	76
20 ft. from burner	0°	7	7	6	30
MP3-(40,50,60)-150[N,P]	0°	24	24	6	83
	45°	58	8	10	83
w/1 side shield	0°	42	8	6	83
w/2 side shields	0°	23	23	6	83
20 ft. from burner	0°	11	11	6	46
MP3-(50,60,70)-200[N,P]	0°	41	41	6	100
	45°	63	8	10	100
w/1 side shield	0°	54	8	6	100
w/2 side shields	0°	30	30	6	100
20 ft. from burner	0°	11	11	6	50

The minimum end clearance for all models is 12 inches.

<sup>1</sup> Heaters mounted on an angle between 0° and 45° must maintain clearances posted for 0° or 45°, whichever is greater.



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.



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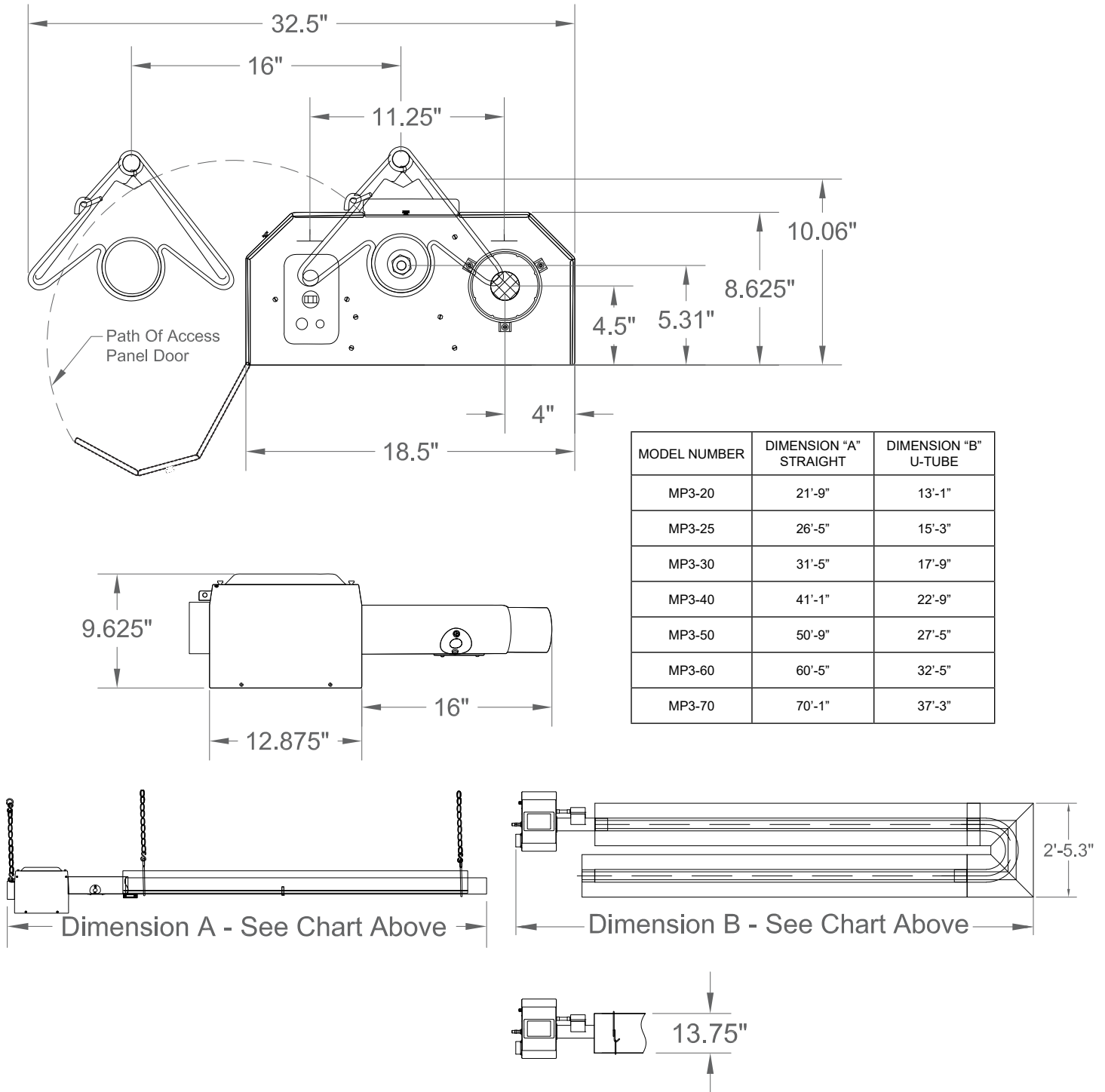
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LSMP3c-01/24 (DRPC)

# RE-VERBER-RAY DIMENSIONAL SUBMITTAL SHEET

## MP3 SERIES DIMENSIONS

Drawing NTS



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# RE-VERBER-RAY DIMENSIONAL SUBMITTAL SHEET

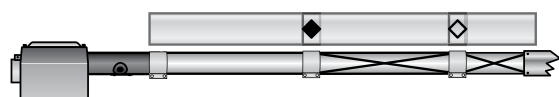
## MP3 FINAL HEATER ASSEMBLY

Tube installation sequence, baffle locations, and secured joints for reflectors.

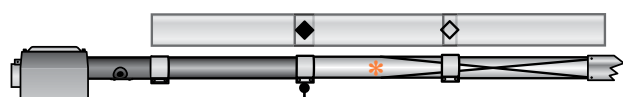
### Drawing NTS



20 Foot



25 Foot



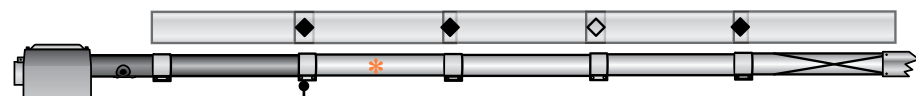
30 Foot

Stainless steel clamp on 150,000 to 175,000 BTU/h models (P/N: TP-220).



40 Foot

Stainless steel clamp on 150,000 to 200,000 BTU/h models (P/N: TP-220).



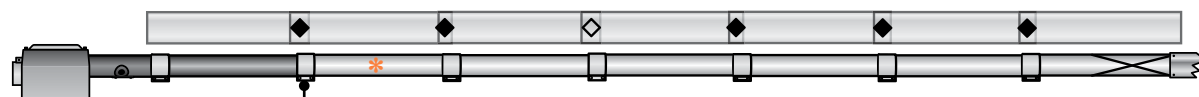
50 Foot

Stainless steel clamp on 150,000 to 200,000 BTU/h models (P/N: TP-220).



60 Foot

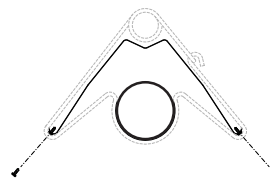
Stainless steel clamp on 150,000 to 200,000 BTU/h models (P/N: TP-220).



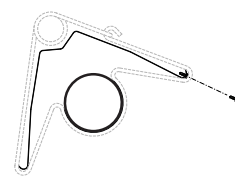
70 Foot

Stainless steel clamp on 150,000 to 200,000 BTU/h models (P/N: TP-220).

**NOTE:** When securing joints on reflectors that are rotated on an angle from horizontal, secure joint only on top side of reflector to allow for sufficient heater expansion and contraction.

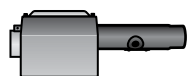


0° Mounting Angle



1° to 45° Mounting Angle

### KEY



Burner Control Box  
w/16 in. Burner Tube



Expansion Joint on Reflectors



Secured Joint on Reflectors (see **NOTE** above)



Primary Combustion  
Chamber with Clamp



Radiant Tube Exchanger with Clamp



Baffle Location (Refer to Series Manual for baffle quantity.)



Secure vent material to exchanger with three #8 sheet metal screws. Seal with high temperature silicone sealant. Do not use tube clamp.

\* A secondary combustion chamber is installed as the second tube downstream from the burner control box on 150,000 to 200,000 BTU/h models. Refer to the Series Insert Manual for installation requirements.



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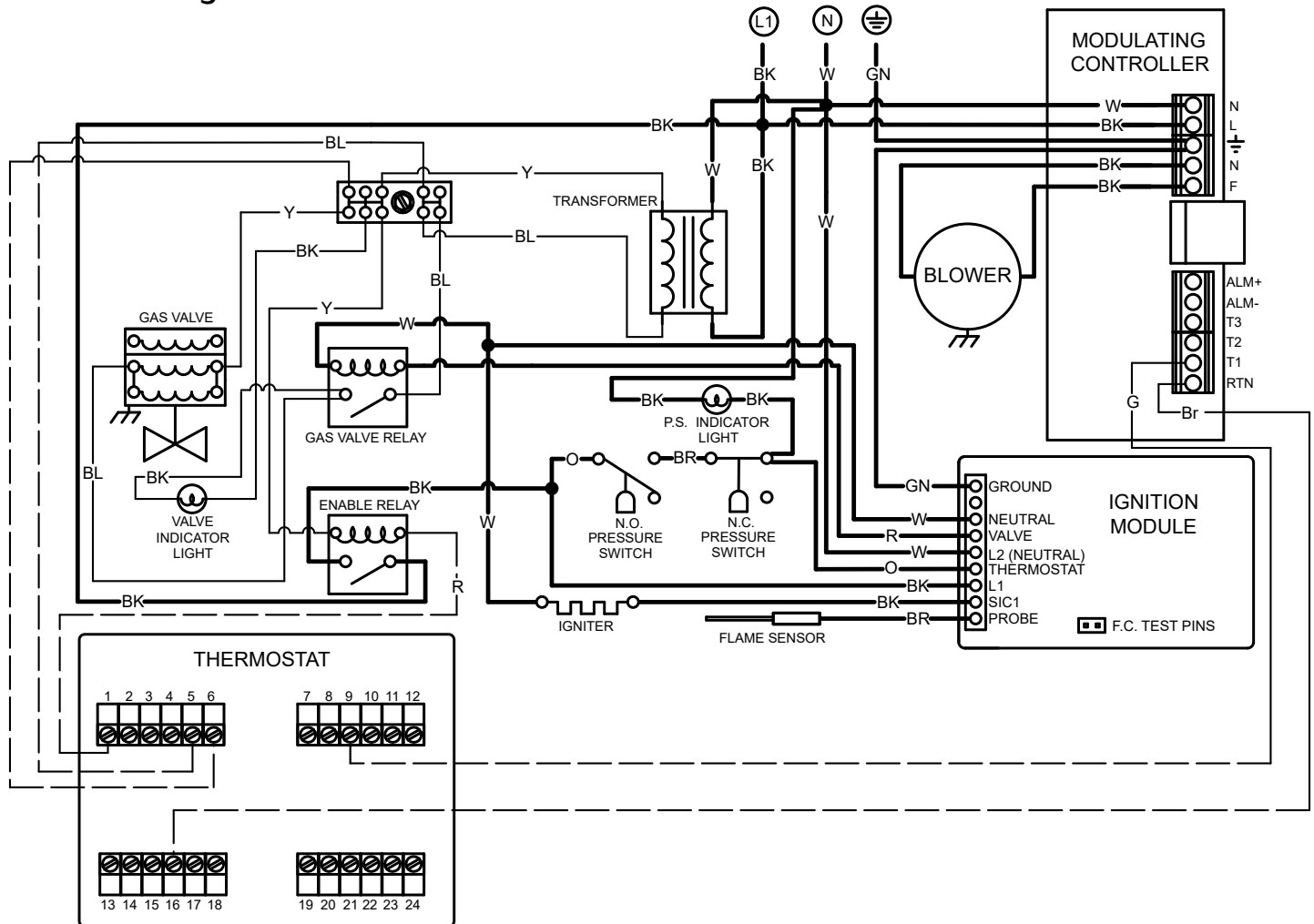
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LSDIMMP3-01/24 (DRPC)

# RE-VERBER-RAY WIRING SUBMITTAL SHEET

## MP3 SERIES WIRING DIAGRAMS

### Internal Wiring



#### WIRING INFORMATION:

##### LOW VOLTAGE:

FACTORY STANDARD \_\_\_\_\_  
 FACTORY OPTION -----  
 FIELD INSTALLED - - - - -

##### LINE VOLTAGE:

FACTORY STANDARD \_\_\_\_\_  
 FACTORY OPTION -----  
 FIELD INSTALLED - - - - -



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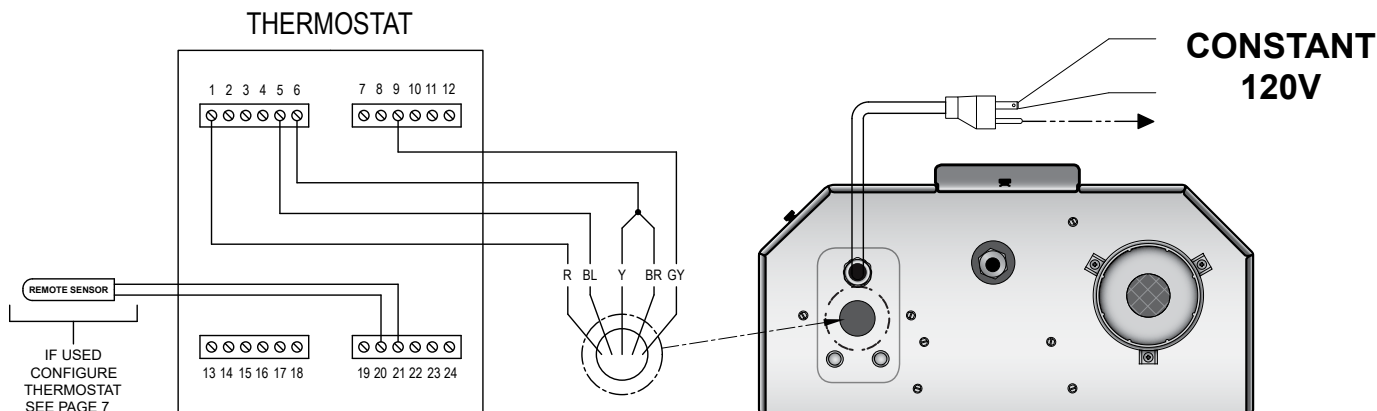
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LSMP3w-01/24 (DRPC)

# RE-VERBER-RAY WIRING SUBMITTAL SHEET

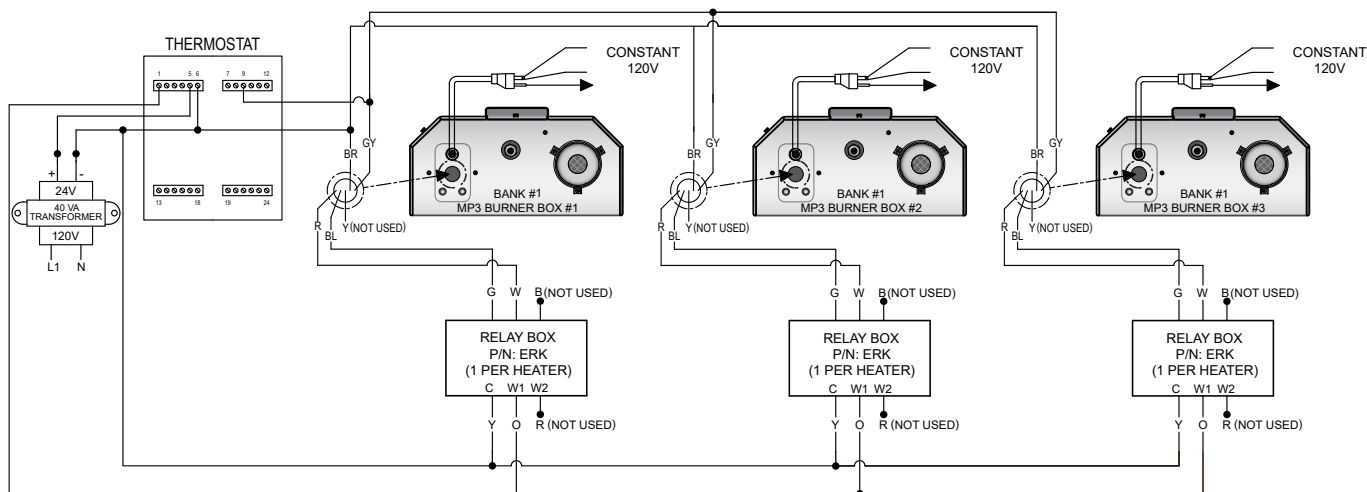
## MP3 SERIES WIRING DIAGRAMS (cont.)

### Field Wiring—Single Heater, Single Thermostat Connection



### Field Wiring—Multiple Heaters, Single Thermostat Connection with External Relay Kit Using 1 Bank

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



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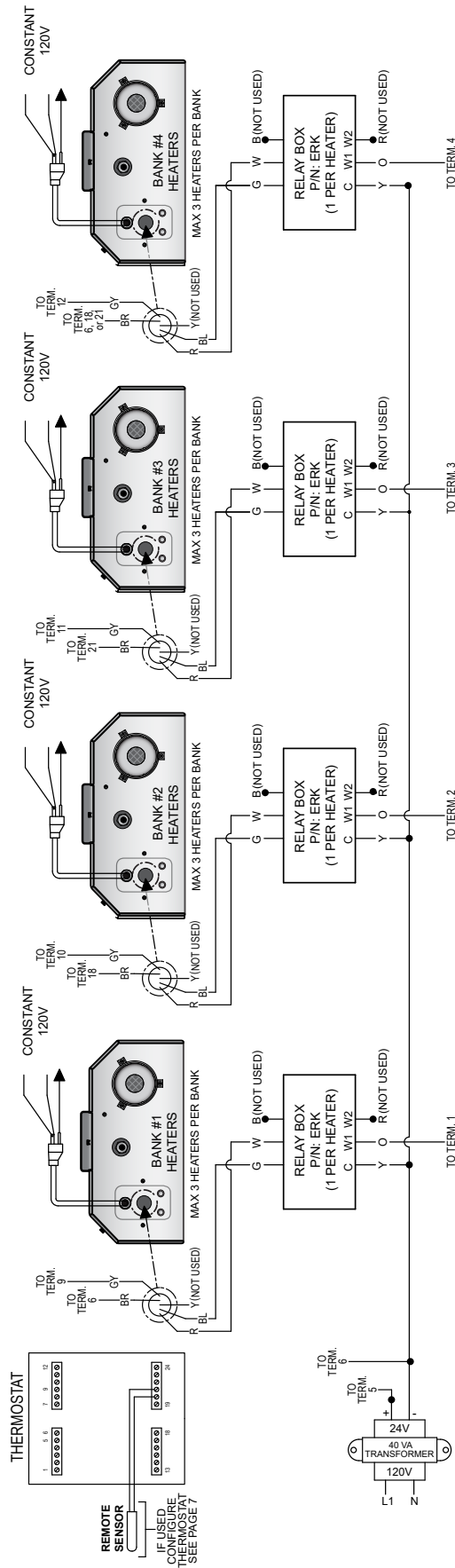
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# RE-VERBER-RAY WIRING SUBMITTAL SHEET

## MP3 SERIES WIRING DIAGRAMS (cont.)

### Field Wiring—Multiple Heaters, Single Thermostat Connection with External Relay Kit Using All 4 Banks

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



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# RE-VERBER-RAY HEATER SUBMITTAL SHEET

## MP3 SERIES TUBE HEATERS

### MODULATING, 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 modulating MP3 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 a modulating range.
  - 1. The heater's control system shall be designed to shut off the gas flow to the main burner in the event either a gas supply or power supply interruption occurs.
- 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. A 409 grade stainless steel chamber shall be used when specified for harsher environments.
- E. 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. A 304 grade stainless steel emitter tube shall be used when specified for harsher environments.
- 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. 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.
- H. Burner: Stainless steel venturi burner. The flame anchoring screen shall have a minimum temperature rating equivalent to 304-grade stainless steel. Non-venturi or ceramic style flame arrester designs shall not be permitted.
- I. Tube Connections: The heater's combustion chamber and radiant emitter tube shall incorporate 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. A butted tube connection system shall not be permitted.
- J. 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.
- K. Reflector Material: Shall be 0.024-inch, highly polished aluminum. Reflector shall have a polished bright finish with clear visual reflection ability. Mill finish material shall not be permitted. A 304-grade stainless steel reflector shall be used when specified for harsher environments.
- L. Reflector Design: Shall be a multi-faceted design with a dual-pass radiant emittance pattern designed to increase tube temperature and maximize radiant output. The reflectors shall be rotatable from 0° to 45° when required and include fitted reflector end cap and clips. The heater's reflector hanging system shall be designed to permit expansion while minimizing noise and/or rattles. Single-pass design reflectors or those that claim 100% emittance pattern thus bypassing the radiant tube shall not be permitted.
- 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. Baffle: Heater shall utilize downstream turbulator baffle(s) for maximum heat transfer.
- P. Flexible Connector: Heater shall be supplied with a stainless steel flexible gas connector.
- Q. Burner Safety Controls:
  - 1. Heater controls shall include dual pressure switch to monitor combustion air flow so as to provide complete burner shutdown due to insufficient combustion air or flue blockage.
  - 2. Modulating operation shall be controlled pneumatically and via a direct 0–10 VDC connection coming from a modulating thermostat. Heaters that control staging via air ducting shall not be permitted.
  - 3. The heater shall incorporate 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 two (2) operational indicator lights indicating status of gas valve operation and pressure switch operation.
  - 6. No condensation shall form as a result of combustion in the combustion chamber or radiant tubes while at operating temperatures.
  - 7. Thermostat control shall be [single stage, two stage, modulating] operating on 0-10 VDC.
- R. Venting: Shall be per manufacturer approval and specifications.



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LSMP3sf-01/24 (DRPC)