

# PH SERIES HIGH INTENSITY

## SUBMITTAL DATA GAS-FIRED INFRARED PATIO HEATERS

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

JOB TITLE: \_\_\_\_\_ CONTRACTOR: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE #: \_\_\_\_\_

CITY: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ CITY: \_\_\_\_\_

STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

LOCAL REPRESENTATIVE: \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

QTY.	MODEL #	TAG	HOUSING*	GAS TYPE (Circle One)	BTU/H Input	DIMENSIONS			SHIP WEIGHT	SHIP WEIGHT w/ PH-BKT	RCMD. MOUNTING HEIGHTS**	APPROX. AREA HEATED	CONTROL VOLTAGE**	
						Height	Length	Depth					120V	24V
	PH-28		STND	N or LP	28,000	8.5"	45.25"	9.0"	59 lbs.	64 lbs.	8.0' to 8.5'	7' x 7'		
	PH-31		STND	N or LP	31,000	8.5"	45.25"	9.0"	59 lbs.	64 lbs.	8.0' to 9.0'	8' x 8'		
	PH-34		STND	N or LP	34,000	8.5"	45.25"	9.0"	59 lbs.	64 lbs.	8.5' to 10.0'	9' x 9'		
	PH-28-SS		304 SS	N or LP	28,000	8.5"	45.25"	9.0"	59 lbs.	64 lbs.	8.0' to 8.5'	7' x 7'		
	PH-31-SS		304 SS	N or LP	31,000	8.5"	45.25"	9.0"	59 lbs.	64 lbs.	8.0' to 9.0'	8' x 8'		
	PH-34-SS		304 SS	N or LP	34,000	8.5"	45.25"	9.0"	59 lbs.	64 lbs.	8.5' to 10.0'	9' x 9'		

\* STND= Black powder-coated; 304 SS= 304 Series brushed stainless steel.

\*\* Recommended mounting heights are provided as a guideline. Actual conditions may dictate variations from this data. \*\*\* PH-24VAO 24V control add-on with 4000-01V external transformer required. One required per heater.

### PH SERIES FEATURES



- CSA Design Certified for indoor/outdoor commercial and outdoor residential use.
- Decorative aluminum grill with stainless steel frame.
- Wind and rain protected design.
- 28,000 to 34,000 BTU/H inputs.
- Available for natural or propane gas.
- Power assist fan and potted circuitry.
- 120V power cord connection.
- Housing available in black coated aluminized steel or 304 brushed stainless steel.
- Optional adjustable mounting bracket kit available.

DETROIT RADIANT PRODUCTS CO.

VISIT OUR WEBSITE FOR:



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Warren, MI 48089-3162

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Website: www.reverberray.com

- Product Specs
- Parts Support
- Dealer Locator
- Applications
- C.A.D. Library
- Design Guidelines
- Theory of Infrared
- and more!

# PH SPECIFICATIONS



## NORMAL MANIFOLD PRESSURE

- Natural Gas - 5.0 in. W.C.P.
- Propane Gas - 10.0 in. W.C.P

## MINIMUM HEATER INLET PRESSURE

- Natural Gas - 6.0 in. W.C.P.
- Propane Gas - 11.0 in. W.C.P.

## MAXIMUM INLET PRESSURE

- 1/2 lb. or 14.0 in. W.C.P.

## MOUNTING

- 0° to 30° from horizontal
- Optional - Mounting Brackets (PH-BKT(-SS)) preset mounting angles and height adjustment.

## INLET PIPE SIZE

- 3/8" NPT

## ELECTRICAL REQUIREMENT

- 120VAC, 60 Hz. Primary.
- 120V control standard or 24V with optional PH-24VAO add-on.

## AMP DRAW 120V MODELS

- 120V - .25 starting, .24 running.

## AMP DRAW 24V MODELS

- 24V - .10 starting.
- 120V - .25 starting, .24 running.

## LIMITED WARRANTY

- Stainless steel burner - 5 years.
- All components - 1 year.

## ⚠ WARNING

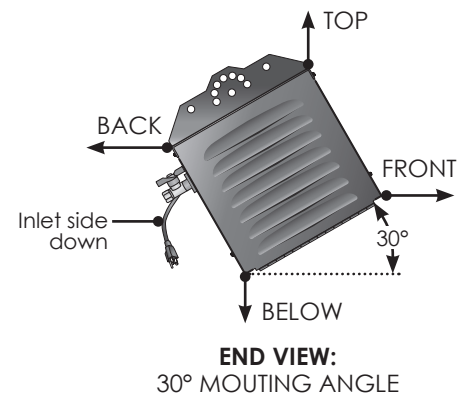
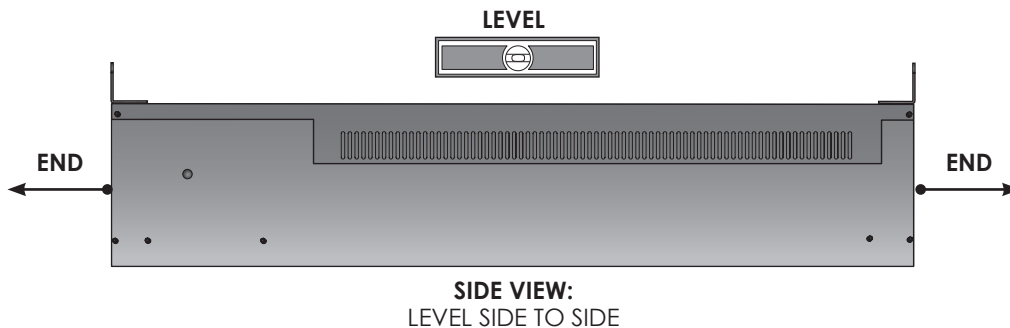
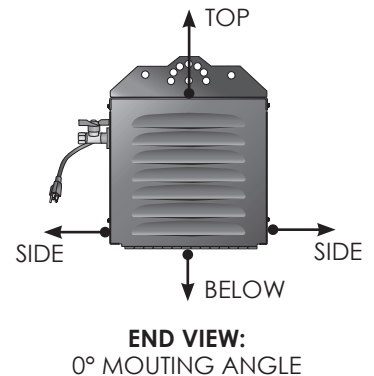
**NOT FOR INDOOR RESIDENTIAL USE.**



Do not use this heater in the home, sleeping quarters, attached garages, etc.

# PH SERIES CLEARANCES TO COMBUSTIBLES (IN.)

MODEL & INPUT	MOUNTING ANGLE*	SIDES	BACK	TOP	BELOW	END(S)	FRONT
PH 28 (-SS) 28,000 [N,P]	0°	14	N/A	13	46	22	N/A
	30°	N/A	8	17	46	22	46
PH 31 (-SS) 31,000 [N,P]	0°	14	N/A	13	46	22	N/A
	30°	N/A	8	17	46	22	46
PH 34 (-SS) 34,000 [N,P]	0°	14	N/A	13	46	22	N/A
	30°	N/A	8	17	46	22	46



## ⚠ WARNING



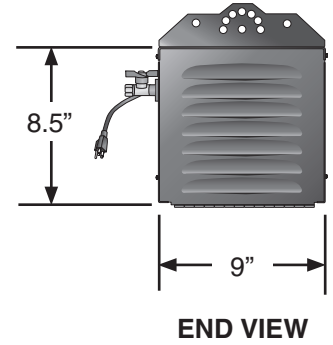
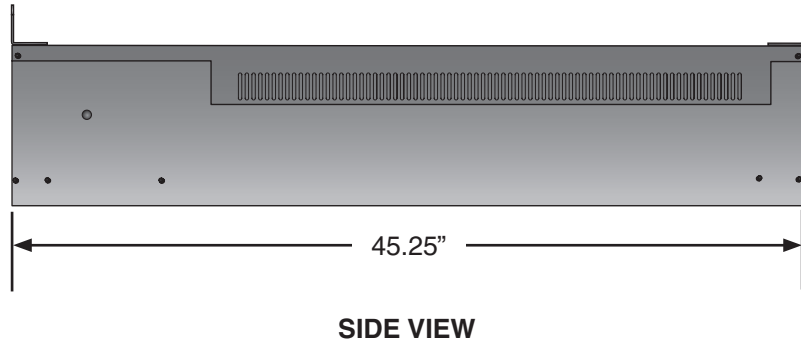
Failure to comply with the stated clearance to combustibles could result in personal injury, death and/or property damage.



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

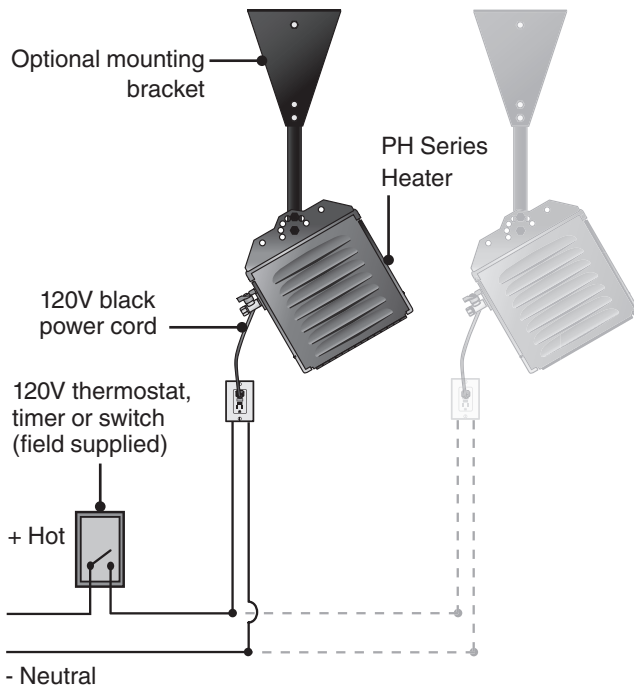
# PH SERIES FIELD DATA

## DIMENSIONAL DATA

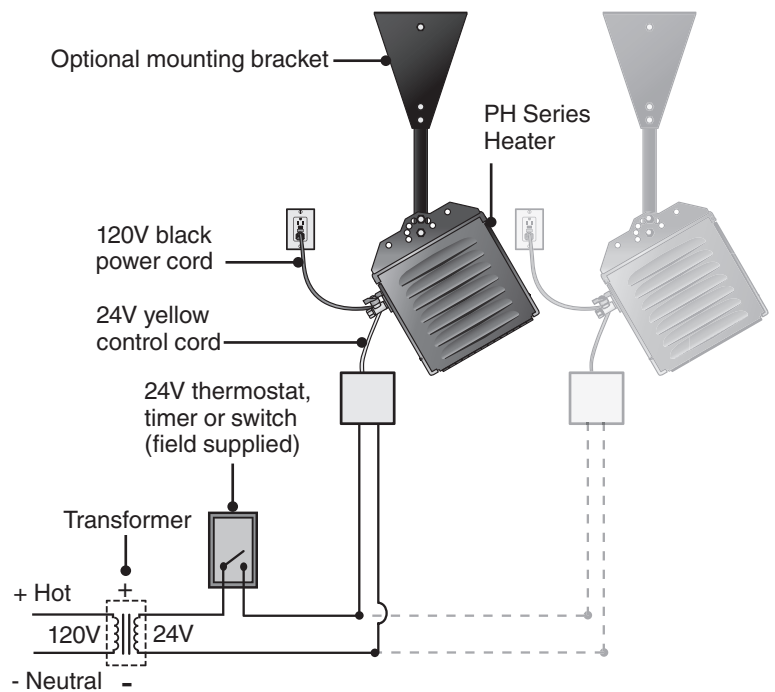


## FIELD WIRING DIAGRAMS

### PH Series 120V



### PH Series 120V with Optional 24V Control (PH-24VAO)



## PH SERIES OPTIONAL ACCESSORIES

QTY.	PART NO.	DESCRIPTION	NOTES
	4000-01V	40VA external transformer	40VA transformer 120-25VAC. Mounted on a 4"x4" base plate.
	PH-24VAO	24-volt control add-on	Field supply 24VAC to control heater operation. External transformer req.
	PH-BKT	Adjustable mounting bracket (black powder-coated)	Pre-set adjustable mounting kit for ease in installation.
	PH-BKT-SS	Adjustable mounting bracket (304 Series stainless steel)	Pre-set adjustable mounting kit for ease in installation.
	PH-FC24	24" Flexible Gas Connector	Includes 3/8" Adapter Fitting.
	PLQ	Clearance warning plaque	Hung below heater, restates the clearance to combustible warning.
	THCS	Chain mounting set	5 ft. chain set with four (4) S-hooks used for hanging heater. Two (2) needed per heater.

# PH SERIES WRITTEN SPECIFICATIONS

## HEATER PARAMETER/SPECIFICATIONS

- High Intensity Infrared Patio Heaters shall be **RE-VERBER-RAY® PH SERIES**, as manufactured by Detroit Radiant Products Company, Warren, MI 48089.
- High Intensity Infrared Patio Heaters shall be Designed Certified by CSA and comply with current Occupational Safety and Health Act (OSHA) requirements. The supplier shall provide the CSA certification number and the heater shall bear the CSA Seal of Certification.
- The manufacturer shall provide a published limited warranty to the original owner against defects in workmanship or materials under normal use for a period of one (1) year components and five (5) years on the heater's stainless steel burner.
- High Intensity Infrared Patio Heaters shall be designed to operate when burning natural gas having a heat value of \_\_\_\_\_ BTU per cubic foot with a specific gravity of \_\_\_\_\_, or when burning propane gas having a heat value of 2500 BTU per cubic foot with a specific gravity of 1.53.
- The ceramic burner face shall operate at a temperature range of 1550 degrees F to 1625 degrees F.
- An Installation, Operation and Maintenance manual shall be supplied with each heater.

## INFRARED PATIO HEATER BURNER CONTROLS

- High Intensity Infrared Patio Heaters must be CSA Design Certified to operate at the designated rating of \_\_\_\_\_ BTU/H.
- Heaters shall be equipped with a direct spark ignition system with direct spark ignition of the main burner through a solid state ignition module operating a spark electrode. Loss of power causes 100% safety shut-off of main burner(s).
- Power supplied to each heater shall be 120VAC, 60Hz via a 3-prong pigtail.
- Control system shall operate directly on 120 volts or 24 volts when equipped with an optional 24-volt relay.
- Heater controls shall incorporate an internally mounted fan rated to supply sufficient air for combustion and component cooling.
- Heater controls shall include a safety differential switch to monitor combustion air flow, so as to provide complete burner shutdown due to insufficient combustion air or flue blockage.
- The heater's air flow control system shall provide a 7 second pre-purge prior to initiating burner operation.

- Heater controls shall have independent flame rod sensing.
- Circuit control shall incorporate a potting compound for product application in high humidity areas.
- 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. In the event of circuit control lock-out, an interruption of power source will restart the firing sequence.

## HIGH INTENSITY INFRARED HEATER CONSTRUCTION

- The heater's housing shall be constructed of aluminized steel with a corrosion resistant powder-coated finish or 304 Series stainless steel. The emitter shall be composed of a perforated ceramic tile on which combustion takes place on the surface. The burner plenum shall be constructed of aluminized steel of one-piece drawn construction. The heater shall be of a modular design.
- The heater shall be fitted with an aluminum eggcrate with a stainless steel frame.
- The heater shall be manufactured with air louvers and vents to allow sufficient air movement for efficient heater operation.
- The heater shall be designed to protect against excessive wind and rain. The design shall feature a channeling system to purge precipitation entering the unit.
- The heater's control compartment shall be accessible without the use of tools.
- An optional pre-set adjustable mounting kit shall be made available for ease of installation.