

# DR SERIES HIGH INTENSITY

## SUBMITTAL DATA GAS-FIRED INFRARED SPACE HEATERS

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

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

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

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

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

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







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

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

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

\_\_\_\_\_

\_\_\_\_\_

QTY.	MODEL #	TAG	INPUT BTU/h (Indicate Gas Type)		CERAMIC OPERATING TEMP.	SQ. IN. of RADIATING SURFACE	TYP. OR RCMD. MOUNTING HEIGHTS (Standard Reflector)	NET WEIGHT	CONTROL VOLTAGE (See Page 2)		
			NATURAL GAS	PROPANE GAS					120V	24V	Millivolt
		DR 30	30,000	30,000	1780° F	85	12' to 14'	18 lbs.			
		DR 30(S)	30,000	30,000	1780° F	85	12' to 14'	18 lbs.			
		DR 45	45,000	45,000	1660° F	170	12' to 14'	27 lbs.			
		DR 50	50,000	50,000	1690° F	170	12' to 14'	27 lbs.			
		DR 55	55,000	55,000	1740° F	170	13' to 15'	27 lbs.			
		DR 60	60,000	60,000	1780° F	170	14' to 16'	27 lbs.			
		DR 75	75,000	75,000	1690° F	255	15' to 17'	36 lbs.			
		DR 80	80,000	80,000	1720° F	255	15' to 17'	36 lbs.			
		DR 85	85,000	85,000	1750° F	255	16' to 18'	36 lbs.			
		DR 90	90,000	90,000	1780° F	255	16' to 18'	36 lbs.			
		DR 95	95,000	N/A	1800° F	255	17' to 19'	36 lbs.			
		DR 100	100,000	N/A	1810° F	255	17' to 20'	36 lbs.			
		DR 130	130,000	120,000	1810° F	340	21' to 24'	45 lbs.			
		DR 160	160,000	145,000	1810° F	425	24' to 28'	54 lbs.			

DETROIT RADIANT PRODUCTS CO.

VISIT OUR WEBSITE FOR:



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Website: www.detroitradiant.com

- Product Specs
- Parts Support
- Dealer Locator
- Applications
- CAD/Revit Library
- Design Guidelines
- Theory of Infrared
- and More!



### NORMAL MANIFOLD PRESSURE

- Natural Gas - 6 inches W.C.
- Propane Gas - 10 inches W.C.

### MINIMUM HEATER INLET PRESSURE

- Natural Gas - 7 inches W.C.
- Propane Gas - 11 inches W.C.

### MAXIMUM INLET PRESSURE

- 1/2 lb. or 14 inches W.C.

### VA DRAW

- 24V - 12.0
- 120V - 12.0

### MOUNTING

- 20° to 35° from horizontal
- Optional - Horizontal parabolic reflector (specify size) to emulate 0-15° angle.

### INLET PIPE SIZE

- 1/2" NPT

### MOUNTING HOLE DIAMETER

- 5/16"

### AMPS

- 24V - 0.48
- 120V - 0.10

## WARNING

### NOT FOR RESIDENTIAL USE.

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

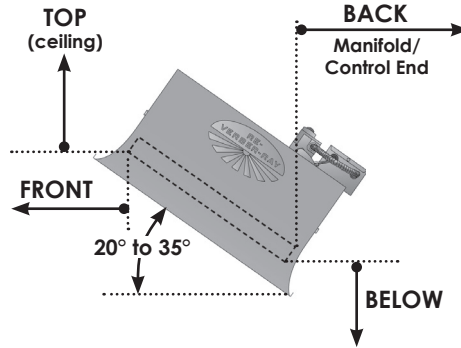
CONTROL		CONTROL VOLTAGE	CONTROL DESCRIPTION
Nat.	L.P.		
NMV-2	PMV-2	Millivolt	Manual Ignition, Constant Pilot, 100% Shutoff, Self-energizing wire & thermostat.
NFS-2	PFS-2	120V or 25V	Direct Spark Ignition, 100% Shutoff.

All spark models include potted circuitry for use in high moisture applications.

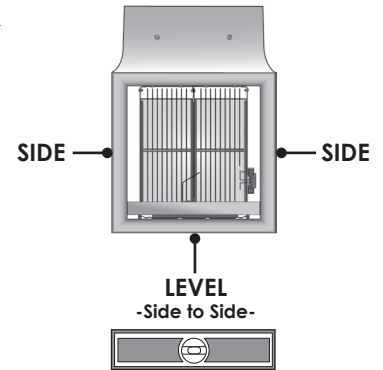
## CLEARANCES TO COMBUSTIBLES (IN INCHES)

MODEL NO.	SIDES	BACK	TOP	BELOW/FRONT
DR 30	30	18	28	72
DR 30(S)	30	18	28	72
DR 45	30	18	28	72
DR 50	30	18	34	72
DR 55	32	18	40	72 <sup>1</sup>
DR 60	32	18	40	72 <sup>1</sup>
DR 75	48	30	42	98
DR 80	48	30	42	98
DR 85	48	30	42	98
DR 90	48	30	42	98
DR 95	48	30	52	120
DR 100	48	30	52	120
DR 130	48	30	52	120
DR 160	50	32	60	132

<sup>1</sup> Clearance is 80 in. when heater is fitted with a parabolic reflector.



CLEARANCES TO COMBUSTIBLES  
DIAGRAM: SIDE VIEW



CLEARANCES TO COMBUSTIBLES  
DIAGRAM: FRONT VIEW

## WARNING



In locations used for the storage of combustible materials, signs must be posted to specify the maximum permissible stacking height to maintain the required clearances from the heater to the combustibles. Signs must either be posted adjacent to the heater thermostats or in the absence of such thermostats in a conspicuous location.

If vehicles are parked below the heater or lifts are present, ensure that these clearances will be maintained from the highest raised vehicle.

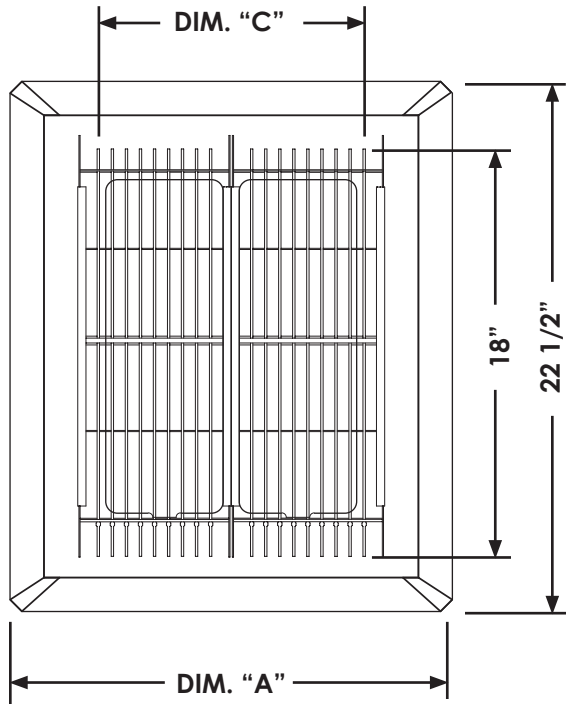
Failure to comply with the stated clearance to combustibles could result in personal injury, death and/or property damage.



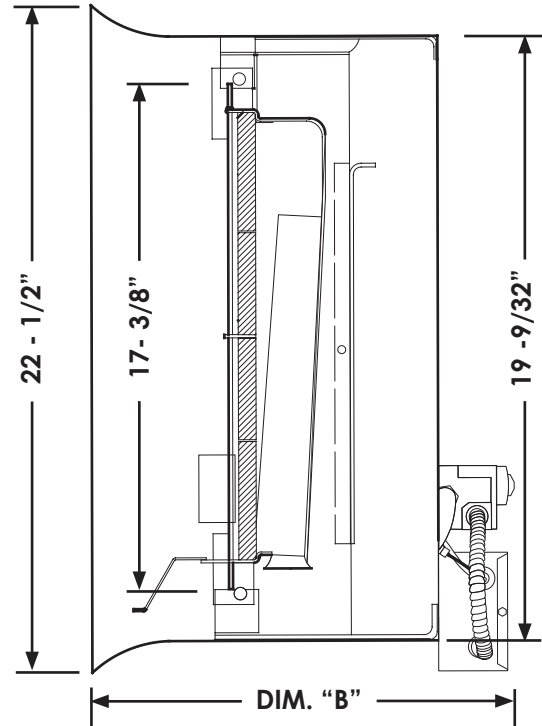
Read and understand the installation, operation and maintenance manual prior to installing or servicing this unit.

# FIELD DATA

## DIMENSIONAL INFORMATION



FRONT/REAR



SIDE VIEW

MODEL NO.	HEATER WIDTH DIM "A"	HEATER DEPTH DIM "B"	RAYHEAD WIDTH DIM "C"
DR 30, 30(S)	12 <sup>3</sup> / <sub>4</sub> "	14 <sup>1</sup> / <sub>4</sub> "	5"
DR 45, 50, 55, 60	19 <sup>1</sup> / <sub>8</sub> "	15 <sup>1</sup> / <sub>4</sub> "	11 <sup>1</sup> / <sub>2</sub> "
DR 75, 80, 85, 90, 95, 100	26 <sup>5</sup> / <sub>8</sub> "	15 <sup>1</sup> / <sub>4</sub> "	18"
DR 130	32"	15 <sup>1</sup> / <sub>4</sub> "	21"
DR 160	38 <sup>1</sup> / <sub>2</sub> "	15 <sup>1</sup> / <sub>4</sub> "	27 <sup>1</sup> / <sub>2</sub> "

## OPTIONAL ACCESSORIES

QTY.	PART NO.	DESCRIPTION	NOTES
	DRCS	Chain mounting set	5' chain set with 4 "S" hooks. Preset mounting angle of 30°.
	DR#HPR	Horizontal parabolic reflector	Directs rays directly downward. Can be used for matching horizontal mounting specifications.
	DR#PR	Full parabolic reflector	Directs rays in a more focused pattern. Typically used in high mounting applications.
	DR#PRSC	Full parabolic reflector with screen	Directs rays in a more focused pattern. Outer screen protects ceramic grids from objects striking the heater.
	DR#SC	DR heater screen	Screen slips on the outside of the reflectors and protects the ceramic grids.
	PLQ	Warning plaque	Hung below heater, restates the clearance to combustible warning.

# = Specify Number : 1 = DR 30; 2 = DR 45-60; 3 = DR 75-100; 4 = DR 130; 5 = DR 160

# WRITTEN SPECIFICATIONS

## HEATER PARAMETER/SPECIFICATIONS

- High Intensity Infrared Heaters shall be **Re-Verber-Ray® DR SERIES**, as manufactured by Detroit Radiant Products Company, Warren, MI 48089.
- High Intensity Infrared Heaters shall be Designed Certified by CSA.
- The manufacturer shall provide a published warranty covering the heater's ceramic burner for a period of five (5) years and all components utilized in the heater control assembly for a period of one (1) year.
- High Intensity Infrared Heaters shall be designed to operate when burning natural gas having a heat value of 1025 BTU per cubic foot with a specific gravity of 0.62, 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 1660 degrees F to 1810 degrees F and shall incorporate a secondary re-radiating surface of stainless steel rods to obtain optimum operating temperature and radiant output.
- The manufacturer shall have a minimum of 30 years of manufacturing experience producing high intensity infrared heaters.

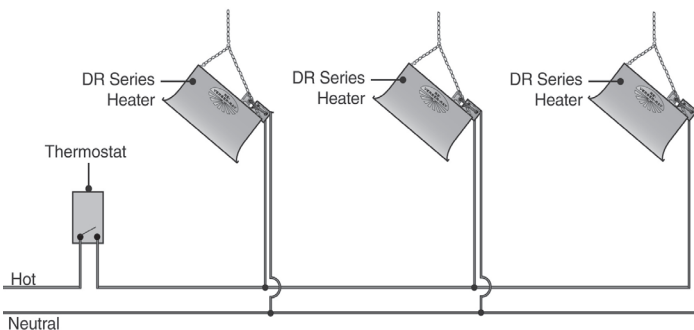
## HIGH INTENSITY INFRARED HEATER BURNER CONTROLS

- Heaters shall be equipped with one of the following control systems:
  - Standing Manual Pilot System with 100% safety shut-off of pilot and main burner in case of pilot outage, operating with no external electrical connection but on milli-voltage generated by the pilot flame (NMV-2 or PMV-2).
  - 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). System operates on 120 or 24 volts (NFS-2 or PFS-2).

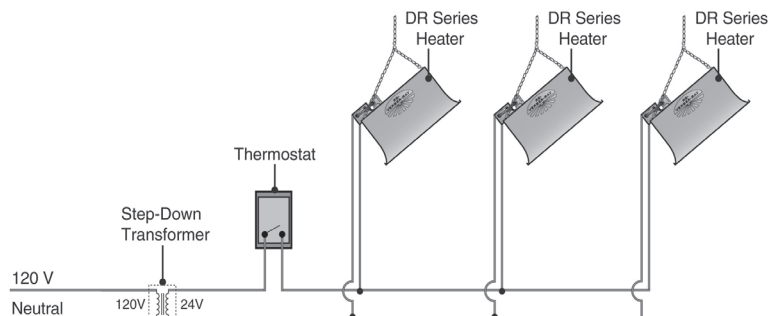
## HIGH INTENSITY INFRARED HEATER CONSTRUCTION

- The heater reflector housing shall be constructed of one-side bright polished aluminum. 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 employing multiple burners to achieve the specified input.
- The venturi is constructed of stainless or aluminized steel.
- The secondary re-radiating rods shall be constructed of high temperature stainless steel alloy placed in close proximity of the ceramic burner face.
- Parabolic reflectors shall be used when units are installed in high mounting applications or when focusing of the infrared heating pattern is desirable.
- Protective screens shall be used in facilities where debris may damage the heater.

## TYPICAL WIRING DIAGRAMS



**Figure 1**  
Typical 120-volt units with 120V thermostat



**Figure 2**  
Typical 24-volt units with 120/24V transformer and 24V thermostat.

**NOTE:** Local codes may require that an exhauster is interlocked with the thermostat.