DR Series High Intensity Infra-Red Heaters Specification Sheet

⚠WARNING: This heater must be installed and serviced by trained gas installation and service personnel only! Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. Protect yourself and others by observing all safety information. Retain instructions for future reference.

DR SERIES HIGH INTENSITY

ENGINEERING SUBMITTAL DATA - GAS FIRED INFRA-RED SPACE HEATERS

Qty.	Model No.	MBTU/H (circle gas type) Natural Gas	MBTU/H (circle gas type) Propane Gas	Ceramic Operating Temp.	SQ. IN. of Radiating Surface	Mtg. Heights Standard Reflector	Net Weight	Control Type (see page 2) Spark	Control Type (see page 2) Millivolt	Control Voltage (see page 2) 120 V	Control Voltage (see page 2) 24 V	Control Voltage (see page 2) MV
	 DR 30	30,000	30,000	1780° F	85	12' - 14'	18 #					
	 DR 30(S)	30,000	30,000	1780°F	85	12' - 14'	18 #					
	 DR 45	45,000	45,000	1660°F	170	12' - 14'	27 #					
	DR 50	50,000	50,000	1690°F	170	12' - 14'	27 #					
	DR 55	55,000	55,000	1740°F	170	13' - 15'	27 #					
	DR 60	60,000	60,000	1780°F	170	14' - 16'	27 #					
	 DR 75	75,000	75,000	1690°F	255	15' - 17'	36 #					
	DR 80	80,000	80,000	1720°F	255	15' - 17'	36 #					
	DR 85	85,000	85,000	1750°F	255	16' - 18'	36 #					
	DR 90	90,000	90,000	1780°F	255	16' - 18'	36 #					
	DR 95	95,000	N/A	1800°F	255	17' - 20'	36 #					
	DR 100	100,000	N/A	1810°F	255	17' - 20'	36 #					
	 DR 130	130,000	120,000	1810°F	340	21' - 24'	45 #					
	 DR160	160,000	145,000	1810°F	425	24' - 28'	54 #					

Project: _____ **Date**: _____

Location: _____ **Customer Name**: _____

City: _____ **State**: _____ **Zip**: _____

Engineer: _____

Address: _____ **City**: _____ **State**: _____ **Zip**: _____

Phone #: _____ **Fax #**: _____

Local Representative: _____

Contractor: _____

Printed in U.S.A.

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Form# LSDR-3M-10/04 (ID)
replaces form# LSDR-3M-6/03

Specifications & Clearances

Normal Manifold Pressure
Natural Gas - 6" W.C.
Propane Gas - 10" W.C.

Minimum Heater Inlet Pressure
Natural Gas - 7" W.C.
Propane Gas - 11" W.C.

Maximum Inlet Pressure
1/2 lb. or 14" W.C.

Mounting Angle
20º to 35º from horizontal
Optional - Horizontal to 15º - when using horizontal parabolic reflector (specify)

Inlet Pipe Size
1/2" NPT

Mounting hole Diameter
5/16"

VA Draw	Amps
24V - 12.0	24V - 0.48
120V - 12.0	120V - 0.10

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

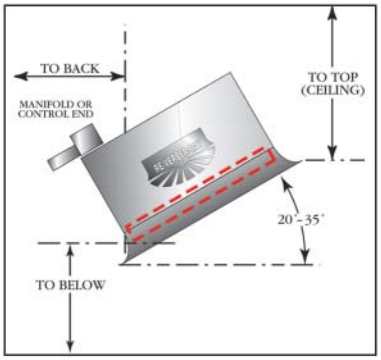
120V model includes potted circuitry board for use in high moisture applications.
24V potted circuit board (PBAO) available upon request.

⚠ WARNING!

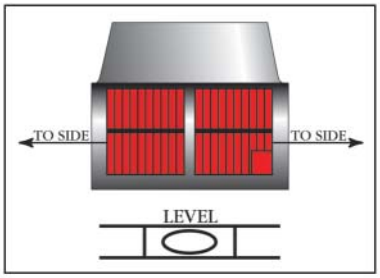
In locations used for the storage of combustible materials, signs must be posted to specify the maximum permissible stacking height to maintain the required clearances from the heater to the combustibles. Signs must either be posted adjacent to the heater thermostats or in the absence of such thermostats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

⚠ WARNING

This heater should be installed so that the minimum clearances to vehicles, as marked on the heater, will be maintained. If vehicle lifts are present, ensure that these clearances will be maintained from the highest raised vehicle.



CLEARANCES TO COMBUSTIBLES DIAGRAM: SIDE VIEW



CLEARANCES TO COMBUSTIBLES DIAGRAM: FRONT VIEW

⚠ WARNING

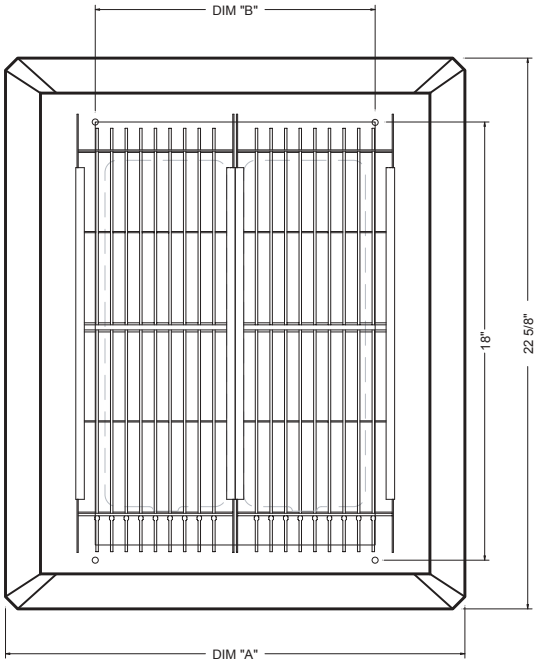
Failure to comply with the stated clearance to combustibles could result in personal injury, death, and/or property damage.

Clearances To Combustibles (IN.)				
Model No.	Sides	Back	Top	Below
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*
DR 60	32	18	40	72*
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
DR160	50	32	60	132

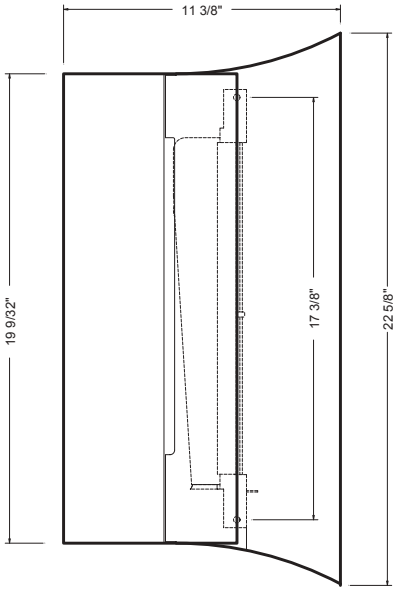
* Clearance is 80 in. when heater is fitted with a parabolic reflector.

Field Data & Dimensional Information

DIMENSIONAL INFORMATION



FRONT/REAR



SIDE VIEW

MODEL	DIM "A"	DIM "B"
DR 30, 30(S)	12-3/8"	5"
DR 45, 50, 55, 60	18-7/8"	11-1/2"
DR 75, 80, 85, 90, 95, 100	25-3/8"	18"
DR 130	31-3/8"	21"
DR 160	38-3/8"	27-1/2"

TYPICAL WIRING DIAGRAMS

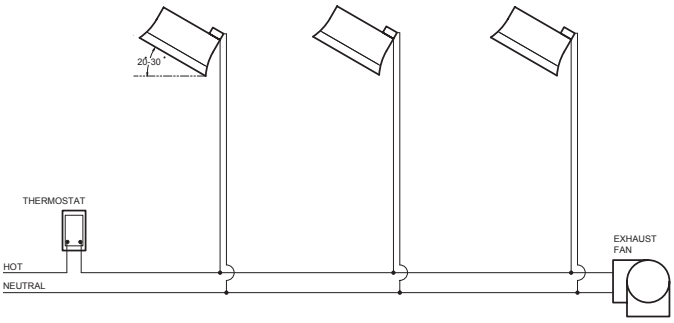


Figure 1 - Typical 120-volt units with thermostat & exhauster.

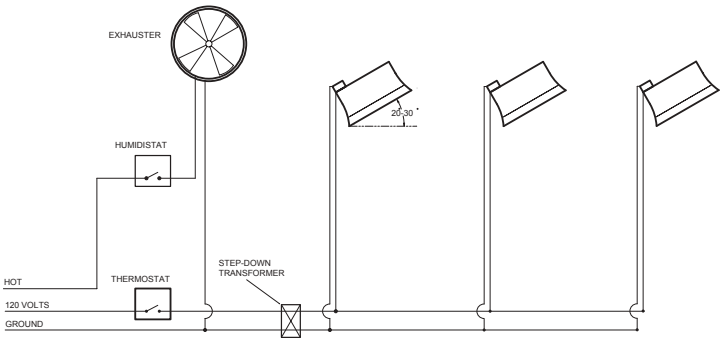


Figure 2 - Typical 24-volt units with 120/24 volt step down transformer, thermostat & exhauster.

Written Specifications

HEATER PARAMETERS/SPECIFICATIONS

- High Intensity Infra-Red Heaters shall be **RE-VERBER-RAY DR SERIES,** as manufactured by Detroit Radiant Products Company, Warren, MI 48089.
- High Intensity Infra-Red Heaters shall be Designed Certified by the American Gas Association (CSA), approved by Underwriter's Laboratories, Inc. (UL), comply with current Occupational Safety and Health Act (OSHA) requirements, and be accepted by Factory Insurance Association (FIA) and Mutual Fire Insurance Companies (FM).
- 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 Infra-Red 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 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 25 years of manufacturing experience producing high intensity infra-red heaters.

HIGH INTENSITY INFRA-RED HEATER BURNER CONTROLS

- High Intensity Infra-Red Heaters must be CSA Design Certified to operate at the designated rating of _____BTU/H.
- 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 INFRA-RED 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 infra-red heating pattern is desirable.
- Protective screens shall be used in facilities where debris may damage the heater.