

GAS-FIRED PATIO HEATER

Engineering & Application Guide



Equipment selection, system design, and sample applications for outdoor patios.

⚠ WARNING



Consult the Installation, Operation, and Maintenance Manual(s) for specific requirements regarding clearances to combustibles, minimum mounting heights, and system design guidelines.





DETROIT RADIANT
PRODUCTS COMPANY

DSRL Series
TopGolf at MGM Grand
Las Vegas, NV

Guide to Selecting the Right Outdoor Heater

Excessive Air Movement

Wind is perhaps the largest variable when trying to achieve comfortable heating in an outdoor or spot-heating environment. The use of barricades such as wind curtains is highly recommended whenever possible.

Mounting Heights

Traditionally, outdoor or spot heating requires the heating equipment to be mounted lower or closer to the people enjoying the heat. Lowering the equipment may result in less coverage but will offer a more focused heat pattern to the desired area. The final mounting height of the heater may need to be adjusted to achieve the results desired by the customer.

Customer Expectations

Depending on the needs of the customer, more or fewer heaters may be required for a given application. There is rarely a “one size fits all” solution to properly size an outdoor or spot-heating application. Some customers may seek maximum comfort in extreme conditions while others may be looking to simply take the chill off for short exposure periods, such as in a designated smoking area.

Look to the Experts in Outdoor Heating

Since 1955, Detroit Radiant Products Company has been setting the standard for high-quality, cost-effective, energy-efficient infrared heaters. Re-Verber-Ray® brand products are recognized as a solution for most commercial, industrial, and specialty applications. Our manufacturing flexibility and efficiencies are a key element in providing optimal customer service and application-specific heating solutions.

Stylish and easy to install, the patio heater series offered by Re-Verber-Ray® have been designed specifically to add warmth to outdoor environments. Whether you are looking to extend your local season, have a designated smoking area, or need to make additional room for peak crowds, our broad offering can provide a solution that will fit your outdoor heating needs.

Gas-Fired Infrared Patio Heaters

Gas-fired patio heaters have long been a popular choice for patio heating. Gas is often a less expensive alternative to electric, and there have never been as many gas-fired options as there are in today's marketplace. Whether you're looking for spot heating over tables or comfort heating for a larger area, there is bound to be a gas-fired option perfect for your application.

PROS

- Larger heat patterns
- Higher BTU inputs
- Two stage or single stage firing modes
- Less expensive to buy, install, and operate vs. electric infrared

CONS

- Requires both gas and electric connections
- Can require greater clearances to combustibles
- Heaters often vent directly into space
- Can be hard to fit into smaller patio applications



Outdoor Heating Questionnaire

Please make copies of this sheet for additional questionnaires.

Is this application commercial or residential? Residential Commercial

What is the available gas type? Natural Gas Propane

What are the dimensions of the area being heated? _____

What is the material of the roof/deck structure above the heater? _____

What is the height of the structure above the heater? _____

Will the area be closed in with curtains or glass during usage months? _____

What is the main purpose of heating? (lounge, smoking area, dining, etc.) _____

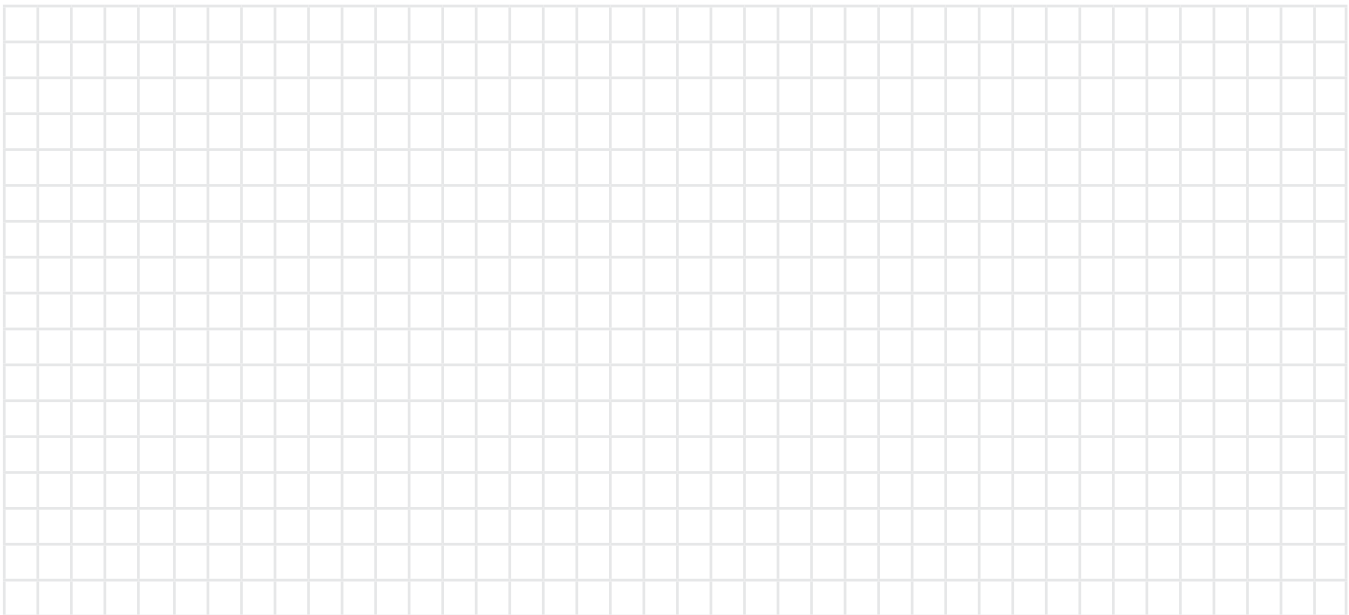
What is your expectation for heat? (comfort, year-round heating**, etc.) _____

**A typical heating system will not be able to overcome all weather conditions, particularly during colder and breezier periods.

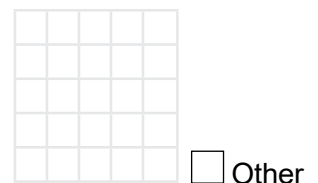
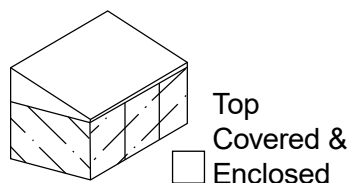
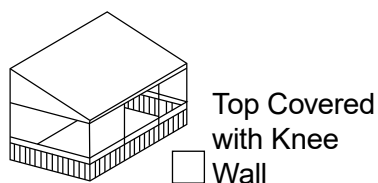
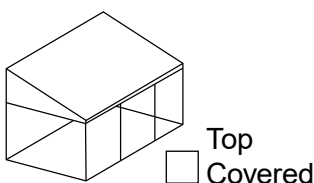
Any additional information? _____

Please sketch your patio below including where obstacles/furnishings will be located.

Floor Plan (Include dimensions, location of all doors and windows)



Elevation Details: (Note dimensions and interior obstructions such as fans or lights)










Patio Heater Design Guide

FEATURES	DSC SERIES	DST SERIES	DSRS SERIES	DSRL SERIES	DSRF SERIES	HL3 SERIES	MP3 SERIES
Operates on natural gas or propane supply and requires a 120 volt power supply		•	•	•	•	•	•
Operates on natural gas or propane supply and requires a 24 volt power supply	•						
Appliance is certified for indoor or outdoor use		60 MBH Only			•	*	*
Delivers a broad heat pattern for more coverage with less heat intensity		•	•	•	•	•	•
Delivers a focused heat pattern for specific areas such as an entryway or dining tables	•						
Compact design allows for installing in areas that have space constraints	•	•	•	•	•		
Combustion gases can be vented away from the environment		60 MBH Only			•	•	•
Wind-resistant burner design to enhance operational performance and reliability	•	•	•	•	•	•	•
Two stage operation allows for enhanced comfort while reducing energy costs	Optional	•	•	•	•	•	Modulating
Stainless steel for increased longevity and aesthetics ¹	Optional	•				Optional	

• Standard Feature * Certified for outdoor use with the optional outdoor construction option (OD-Kit).

¹ When upgrading model HL3 to stainless steel, the appliance will be fitted with a version 2 control box.

FEATURES	DSC SERIES	DST SERIES	DSRS SERIES	DSRL SERIES	DSRF SERIES	HL3 SERIES	MP3 SERIES
BTU Range	31,000 and 34,000 BTU/h	60,000 to 80,000 BTU/h	50,000 BTU/h	65,000 to 100,000 BTU/h	65,000 to 100,000 BTU/h	50,000 to 200,000 BTU/h	75,000 to 200,000 BTU/h
Gas Type	Natural or Propane	Natural or Propane	Natural or Propane	Natural or Propane	Natural or Propane	Natural or Propane	Natural or Propane
Voltage	24 VAC primary required	120 VAC primary 24 VAC controls	120 VAC primary 24 VAC controls	120 VAC primary 24 VAC controls	120 VAC primary 24 VAC controls	120 VAC primary 24 VAC controls	120 VAC primary 0-10 VDC controls
Amp Draw	[DSCS] .65 starting .48 running [DSCD] .61 starting .55 running	5.2 starting .70 running	4.8 starting 1.1 running	4.8 starting 1.1 running	4.8 starting 1.1 running	4.8 starting, 1.1 running	4.8 starting 1.1 running
Certification							
Limited Warranty	1-year components, 5-year ceramic burner	3-year components, 5-year tubes, 10-year burner	3-year components, 5-year tubes, 10-year burner	3-year components, 5-year tubes, 10-year burner	3-year components, 5-year tubes, 10-year burner	3-year components, 5-year tubes, 10-year burner	3-year components, 5-year tubes, 10-year burner
Outdoor Approval	Standard— Commercial, Industrial, & Residential	Standard— Commercial, Industrial, & Residential (60 MBH)	Standard— Commercial, Industrial, & Residential	Standard— Commercial, Industrial, & Residential	Standard— Commercial, Industrial, & Residential	With optional OD- KIT add-on— Commercial & Industrial	With optional OD- KIT add-on— Commercial & Industrial
Typ. Height Above Patrons²	2 to 6 feet	2 to 5 feet	2 to 5 feet	2 to 6 feet	2 to 6 feet	2.5 to 6 feet	2 to 5 feet

² Typ. Height Above Patrons are recommended and are provided as a guideline only. Actual conditions will dictate variations from the above data. Clearances to combustibles must always be maintained.

DSC Series High Intensity Infrared Patio Heater

Specifically designed for comfort, reliability, and ease of installation, the DSC Series high intensity patio heater was designed to provide outdoor comfort heating. Mounted out of the way, without the hassle of refilling costly propane tanks, this infrared patio heater is an ideal solution to stylishly extend the outdoor season for many commercial and residential

applications, such as restaurant patios and outdoor living spaces. Features include an exclusive and durable stainless steel decorative grille, choice of housing materials, and single stage or two stage options, making this heater an excellent solution for your outdoor heating needs.



Available in natural gas and propane and black or stainless steel finishes

KEY FEATURES

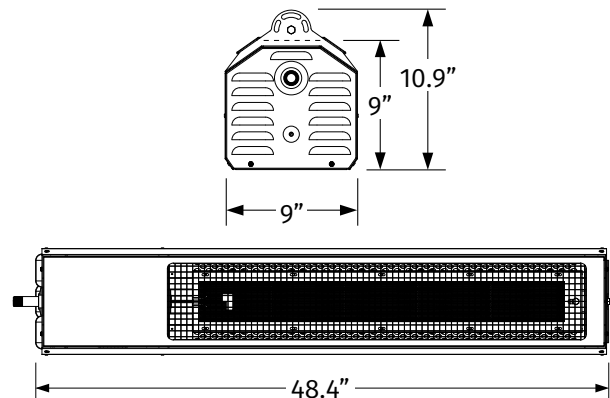
- Decorative stainless egg crate grille
- Wind- and rain-protected design
- Reliable direct-spark ignition
- Available in two BTU inputs and single stage or two stage
- Even level of heat distribution
- Versatile mounting options
- Black-coated aluminized or brushed stainless housing

Available BTU Range

BTU/h	Gas Type
31,000	Natural
31,000	Propane
34,000	Natural

Specifications

SPECIFICATIONS	DSC-31	DSC-34
Gas Type	Natural or Propane	Natural
Heat Input (BTU/h)	31,000	34,000
Voltage	24 VAC-60 Hz	
Dimensions (LxWxH)	48.4" x 9" x 10.9"	
^Rcmd. Mounting Height	8 ft. to 12 ft.	8.5 ft. to 13 ft.
*Approx. Area Heated	8' x 8'	9' x 9'
Weight	59 lbs.	
Approvals	Outdoor Commercial/Industrial Outdoor Residential	
Limited Warranty	1-year components 5-year ceramic burner	



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

* Based upon lab conditions with no wind and targeted 15° temperature rise. Site conditions may vary.

Clearances to Combustibles

Model No.	BTU/h	Voltage	Mounting Angle*	Sides	Back	Top	Below**	Ends	Front
DSC-31	31,000	24 VAC	0°	18"	N/A	13"	48"	12"	N/A
			30°	N/A	18"	18"	40"	12"	36"
DSC-34	34,000	24 VAC	0°	18"	N/A	13"	48"	12"	N/A
			30°	N/A	18"	18"	40"	12"	36"

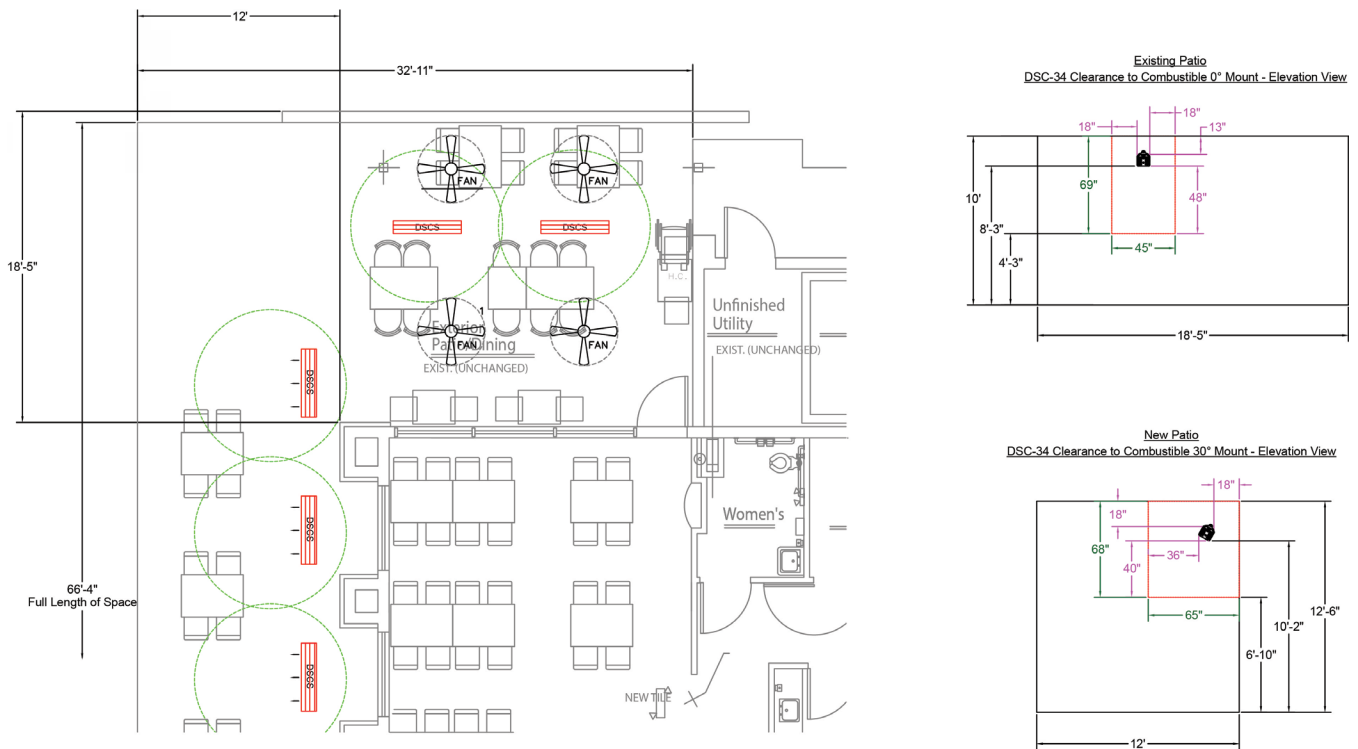
* Heaters mounted on an angle between 0° and 30° must maintain clearances posted for 0° or 30°, whichever is greater.

**Heater must be installed at least 6 1/2 ft. above the finished floor.

Important! If the heater is mounted beneath a non-combustible surface an 8 in. minimum top clearance must be maintained from the top of the heater to prevent overheating the controls.

Clearances to combustibles distances represent a surface temperature of 90°F (50°C) above ambient temperature. Ensure that building materials with a low heat tolerance (i.e. awnings, fabrics, plastics, sprinklers, insulation) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the factory or the building material manufacturer for additional information.

Sample Layout



TIPS:

- Use 1 heater per two tables.
- Best placed in aisleways to allow customer comfort.
- Verify bottom of heater placement is not too low for visual obstructions or clearance issues.

DST Series Low Intensity Infrared Patio Heater

The DST Series is a top-of-the-line patio heater with an aesthetically pleasing, modern design featuring our patented two stage technology. This heater was designed specifically with the outdoor market in mind. Not only does the DST Series deliver an even heat pattern throughout its 10-foot span, but it also comes equipped with a smart LED self-diagnostic light

and a decorative modular grille. Certified for indoor[†] and outdoor commercial applications and outdoor residential applications, the DST Series patio heater is an excellent choice for heating a wide variety of applications.



Available in natural gas and propane

KEY FEATURES

- Highly decorative stainless housing
- 30 linear feet of radiant tube in a 10-foot span
- 3/4" decorative modular grille
- Unified control panel with easy access and serviceability
- Smart LED self-diagnostic light

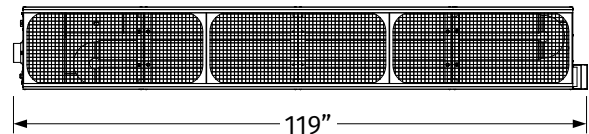
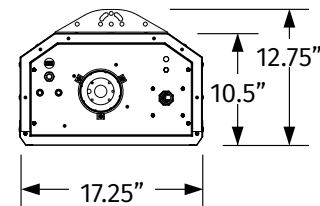
Available BTU Range

BTU/h	Gas Type
60,000 High Fire; 40,000 Low Fire	Natural
60,000 High Fire; 50,000 Low Fire	Propane
80,000 High Fire; 50,000 Low Fire [†]	Natural

[†]80,000 model is not certified for indoor commercial applications.

Specifications

SPECIFICATIONS	DST-60	DST-80
Gas Type	Natural or Propane	Natural
Heat Input (BTU/h)	60,000 High Fire 40,000 Low Fire (Nat.) 50,000 Low Fire (Prop.)	80,000 High Fire 50,000 Low Fire
Voltage	120 VAC-60 Hz	
Dimensions (LxWxH)	119" x 17.25" x 12.75"	
^Rcmd. Mounting Height	8 ft. to 14 ft.	9 ft. to 15 ft.
*Approx. Area Heated (LxW)	20' x 12'	
Weight	150 lbs.	
Approvals	Outdoor/Indoor Commercial Outdoor Residential	Outdoor Commercial Outdoor Residential
Limited Warranty	3-year components 5-year tubes 10-year burner	



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

* Based upon lab conditions with no wind and targeted 15° temperature rise. Site conditions may vary.

Clearances to Combustibles

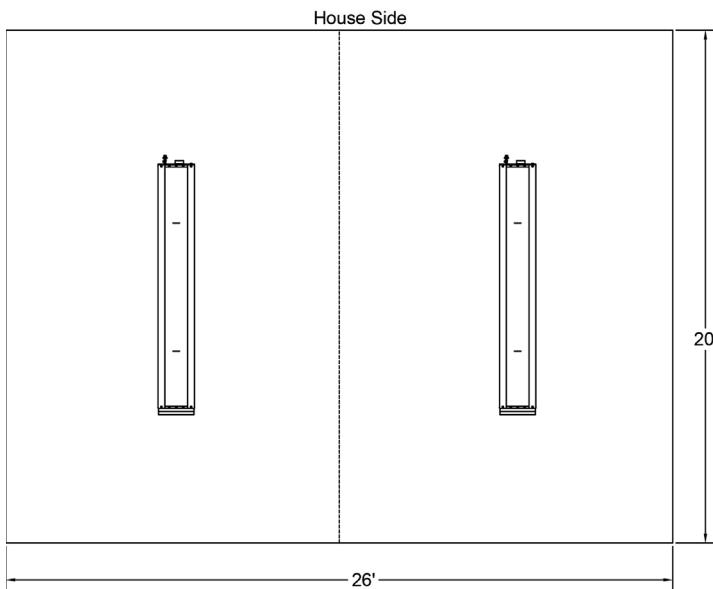
Model Number	Mounting Angle*	Top	Sides		Ends	Below**
			Front	Behind		
DST-60	0°	12"	19"	19"	16"	66"
	30°	14"	45"	24"	16"	45"
DST-80	0°	15"	26"	26"	16"	77"
	30°	16"	74"	31"	16"	74"

* Heaters mounted on an angle between 0° and 30° must maintain clearances posted for 0° or 30°, whichever is greater.

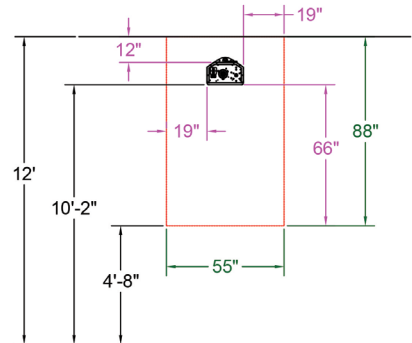
**Heater must be installed at least 6 1/2 ft. above the finished floor in outdoor applications and 8 ft. above the finished floor in indoor commercial/industrial applications.

Clearances to combustibles distances represent a surface temperature of 90°F (50°C) above ambient temperature. Ensure that building materials with a low heat tolerance (i.e, awnings, fabrics, plastics, sprinklers, insulation) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the factory or the building material manufacturer for additional information.

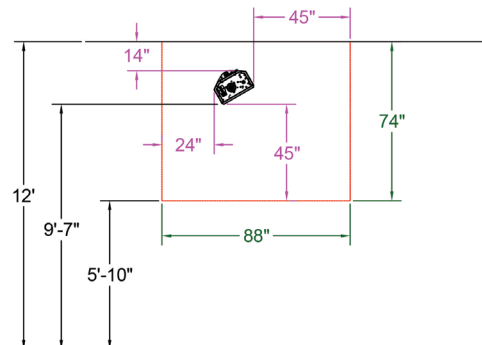
Sample Layout



DST-60 Clearance to Combustible 0° Mount - Elevation View



DST-60 Clearance to Combustible 30° Mount - Elevation View



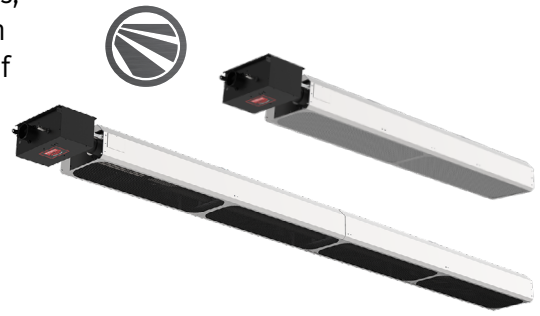
TIPS:

- If clearance window is too low to the ground, consider an alternate patio heater product or, if new construction, adjust patio application dimensions.

DSR Series Low Intensity Infrared Heater

The DSR Series is the preferred heater for high-end applications such as driving ranges and restaurant patios. This heater comes equipped with our patented two stage technology, a decorative modular grille, and 13 linear feet (DSRS) or 28 linear feet (DSRL) of radiant pipe encased in an aesthetically pleasing housing. The DSR Series

offers four different BTU options, along with an even heat pattern that is perfect for a multitude of applications.



Available in natural gas and propane

KEY FEATURES

- Patented two stage operation
- Highly decorative housing with modular grille
- 13 linear feet (DSRS) or 28 linear feet (DSRL) of radiant tube
- Pre- and post-purge controls
- Self-diagnostic LED, microprocessor-based circuitry

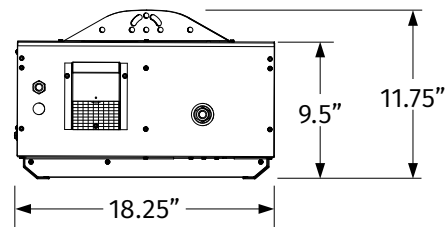
Available BTU Range

BTU/h	Gas Type
50,000 High Fire; 35,000 Low Fire	Natural
50,000 High Fire, 45,000 Low Fire	Propane
65,000 High Fire; 50,000 Low Fire	Nat./Prop.
80,000 High Fire; 52,000 Low Fire	Nat./Prop.
100,000 High Fire; 65,000 Low Fire	Nat./Prop.

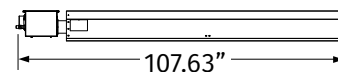
NOT CERTIFIED FOR INDOOR APPLICATIONS.

Specifications

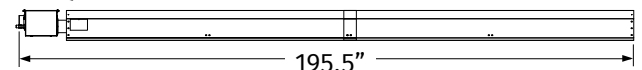
SPECIFICATIONS	DSRS SERIES	DSRL SERIES
Gas Type	Natural or Propane	Natural or Propane
Heat Input (BTU/h)	50,000 High Fire 35,000 Low Fire (Nat.) 45,000 Low Fire (Prop.)	65,000 High Fire; 50,000 Low Fire 80,000 High Fire; 52,000 Low Fire 100,000 High Fire; 65,000 Low Fire
Voltage	120 VAC-60 Hz	
Dimensions (LxWxH)	107.63" x 18.25" x 11.75"	195.5" x 18.25" x 11.75"
^Rcmd. Mounting Height	9 ft. to 16 ft.	9 ft. to 16 ft.
*Approx. Area Heated (LxW)	16' x 10'	26' x 12'
Weight	115 lbs.	170 lbs.
Approvals	Outdoor Commercial Outdoor Residential	
Limited Warranty	3-year components 5-year tubes 10-year burner	



DSRS Series



DSRL/DSRF-30 Series



* Based upon lab conditions with no wind and targeted 15° temperature rise. Site conditions may vary.

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

Clearances to Combustibles

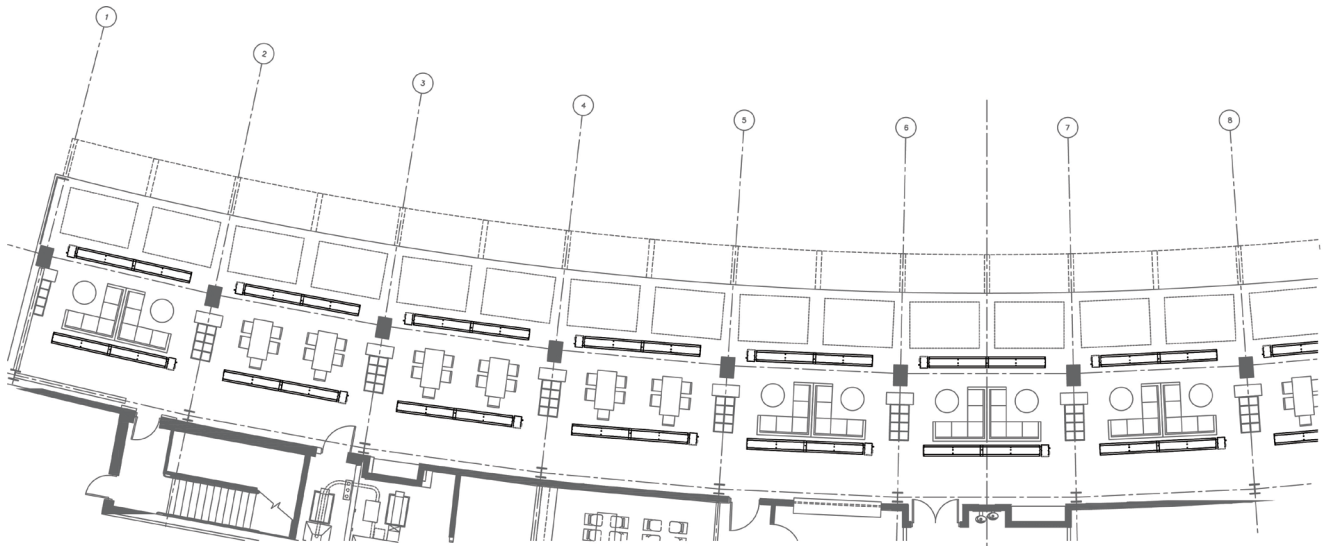
Model Number	Mounting Angle*	Sides			Top	Below**	End
		Front	Behind				
DSRS-15-50 [N, P]	0°	14"	14"	10"	50"	12"	
	30°	25"	10"	12"	40"	12"	
DSRL-30-65 [N, P]	0°	25"	25"	6"	60"	12"	
	30°	36"	10"	9"	47"	12"	
DSRL-30-80 [N, P]	0°	25"	25"	6"	60"	12"	
	30°	36"	10"	9"	47"	12"	
DSRL-30-100 [N, P]	0°	25"	25"	6"	77"	12"	
	30°	45"	10"	9"	64"	12"	

* Heaters mounted on an angle between 0° and 30° must maintain clearances posted for 0° or 30°, whichever is greater.

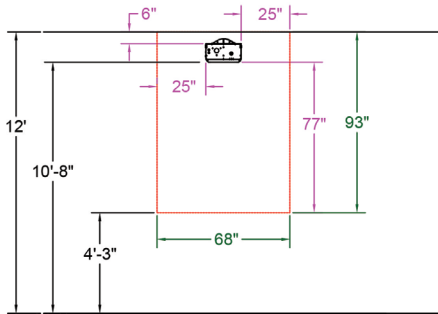
**Heater must be installed at least 6 1/2 ft. above the finished floor.

Clearances to combustibles distances represent a surface temperature of 90°F (50°C) above ambient temperature. Ensure that building materials with a low heat tolerance (i.e. awnings, fabrics, plastics, sprinklers, insulation) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the factory or the building material manufacturer for additional information.

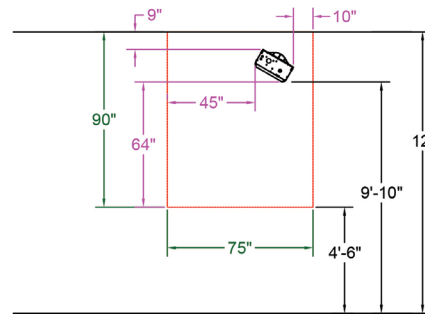
Sample Layout



DSRL-30-100 Clearance to Combustible 0° Mount - Elevation View



DSRL-30-100 Clearance to Combustible 30° Mount - Elevation View



DSRF Series Low Intensity Infrared Heater

The DSRF Series is the preferred heater for high-end applications such as driving ranges and restaurant patios that required a vented solution. This heater comes equipped with our patented two stage technology, a decorative modular grille, and 28 linear feet (DSRF-30) or 35 linear feet (DSRF-35) of radiant pipe encased in an aesthetically

pleasing housing. The DSRF Series offers four different BTU options, along with an even heat pattern that is perfect for a multitude of applications.



Available in natural gas and propane

KEY FEATURES

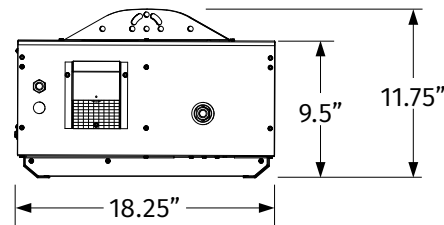
- Patented two stage operation
- Highly decorative housing with modular grille
- 28 linear feet (DSRF-30) or 35 linear feet (DSRF-35) of radiant tube
- Pre- and post-purge controls
- Self-diagnostic LED, microprocessor-based circuitry

Available BTU Range

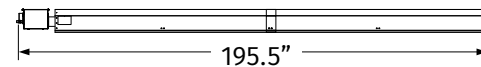
BTU/h	Gas Type
65,000 High Fire; 50,000 Low Fire	Nat./Prop.
80,000 High Fire; 52,000 Low Fire	Nat./Prop.
100,000 High Fire; 65,000 Low Fire	Nat./Prop.

Specifications

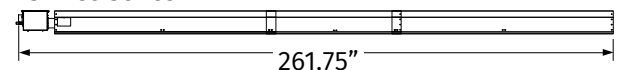
SPECIFICATIONS	DSRF-30 SERIES	DSRF-35 SERIES
Gas Type	Natural or Propane	Natural or Propane
Heat Input (BTU/h)	65,000 High Fire; 50,000 Low Fire 80,000 High Fire; 52,000 Low Fire	65,000 High Fire; 50,000 Low Fire 80,000 High Fire; 52,000 Low Fire 100,000 High Fire; 65,000 Low Fire
Voltage	120 VAC-60 Hz	
Dimensions (LxWxH)	195.5" x 18.25" x 11.75"	261.75" x 18.25" x 11.75"
^Rcmd. Mounting Height	9 ft. to 16 ft.	9 ft. to 16 ft.
*Approx. Area Heated (LxW)	26' x 12'	26' x 12'
Weight	170 lbs.	200 lbs.
Approvals	Outdoor Commercial Outdoor Residential Indoor Commercial	
Limited Warranty	3-year components 5-year tubes 10-year burner	



DSRF-30 Series



DSRF-35 Series



* Based upon lab conditions with no wind and targeted 15° temperature rise. Site conditions may vary.

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

Clearances to Combustibles

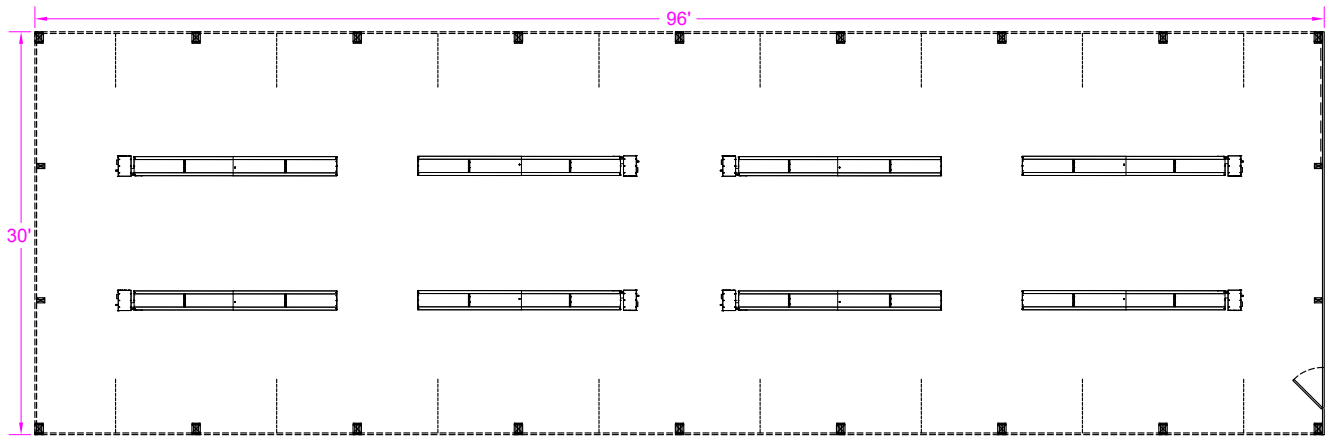
Model Number	Mounting Angle*	Sides		Top	Below**	End
		Front	Behind			
DSRF-(30, 35)-65 [N, P]	0°	25"	25"	6"	60"	12"
	30°	36"	10"	9"	47"	12"
DSRF-(30, 35)-80 [N, P]	0°	25"	25"	6"	60"	12"
	30°	36"	10"	9"	47"	12"
DSRF-35-100 [N, P]	0°	25"	25"	6"	77"	12"
	30°	45"	10"	9"	64"	12"

* Heaters mounted on an angle between 0° and 30° must maintain clearances posted for 0° or 30°, whichever is greater.

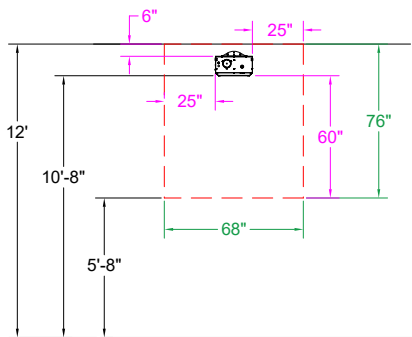
**Heater must be installed at least 6 1/2 ft. above the finished floor.

Clearances to combustibles distances represent a surface temperature of 90°F (50°C) above ambient temperature. Ensure that building materials with a low heat tolerance (i.e, awnings, fabrics, plastics, sprinklers, insulation) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the factory or the building material manufacturer for additional information.

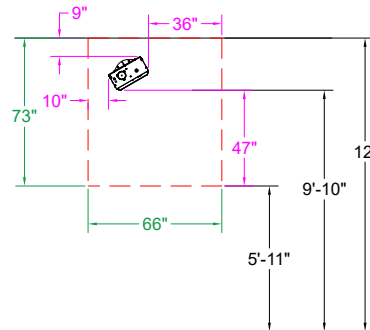
Sample Layout



DSRF-30-80 Clearance to Combustible 0° Mount - End View



DSRF-30-80 Clearance to Combustible 30° Mount - End View



HL3 Series Low Intensity, Infrared Tube Heater

The HL3 Series, packed with quality features, represents today's most energy efficient line of infrared tube heaters. Our patented two stage technology, incorporated into the HL3 Series, provides more comfort while saving valuable energy dollars. In addition, the highest quality materials and construction features ensure years of reliable and efficient operation. No other

infrared heater can match the performance and quality. And with available lengths from 20 ft. to 70 ft., plus configuration options such as straight or U-tube, the HL3 Series is a versatile choice for many patio applications.



Available in natural gas and propane

KEY FEATURES

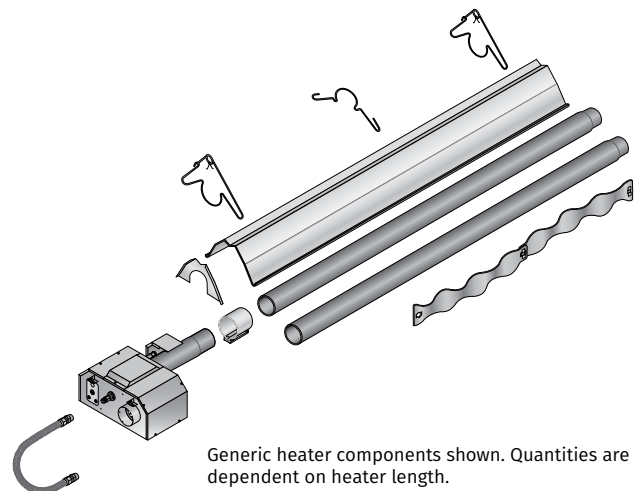
- Wide range of lengths and BTUs
- Pre- and post-purge controls
- Self-diagnostic LED, microprocessor-based circuitry
- Reliable hot surface ignition
- Independent control-air-gas compartments with tool-free access

Available BTU Range

BTU/h	Gas Type
65,000 High Fire; 50,000 Low Fire	Nat./Prop.
75,000 High Fire; 50,000 Low Fire	Nat./Prop.
100,000 High Fire; 65,000 Low Fire	Nat./Prop.
125,000 High Fire; 82,000 Low Fire	Nat./Prop.
150,000 High Fire; 100,000 Low Fire	Nat./Prop.
175,000 High Fire; 125,000 Low Fire	Nat./Prop.
200,000 High Fire; 145,000 Low Fire	Nat./Prop.

Specifications

SPECIFICATIONS	ALL MODELS
Gas Type	Natural or Propane
Heat Input (BTU/h)	Varies
Voltage	120 VAC-60 Hz; 24 VAC Controls
Dimensions (LxWxH)	Varies
^Rcmd. Mounting Height	Varies with model from 9' to 42'
*Approx. Area Heated	Varies based on length, BTU, & configuration
Weight	120 to 300 lbs.
Approvals	Outdoor Commercial Indoor Commercial
Limited Warranty	3-year components 5-year tubes 10-year burner



Generic heater components shown. Quantities are dependent on heater length.

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

* Based upon lab conditions with no wind and targeted 15° temperature rise. Site conditions may vary.

Clearances to Combustibles

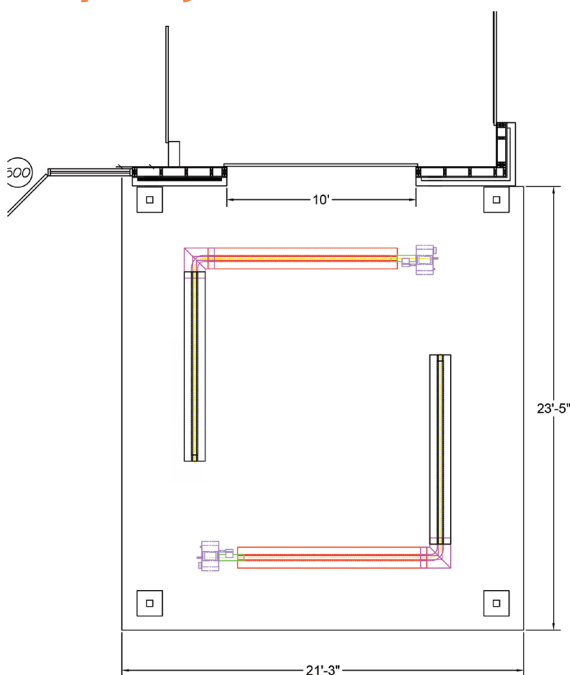
Model Number	Mounting Angle*	Sides		Top	Below**	
		Front	Behind			
HL3-(20, 30, 40) - (65, 75) [N, P]	0°	9"	9"	6"	60"	
	45°	39"	8"	10"	60"	
	with 1 side shield	0°	29"	8"	6"	60"
	with 2 side shields	0°	9"	9"	6"	60"
	20 ft. from burner	0°	7"	7"	6"	30"
HL3-(30, 40) - 100 [N, P]	0°	14"	14"	6"	66"	
	45°	39"	8"	10"	66"	
	with 1 side shield	0°	29"	8"	6"	66"
	with 2 side shields	0°	16"	16"	6"	66"
	20 ft. from burner	0°	7"	7"	6"	30"
HL3-(30, 40, 50) - 125 [N, P]	0°	20"	20"	6"	76"	
	45°	58"	8"	10"	76"	
	with 1 side shield	0°	42"	8"	6"	76"
	with 2 side shields	0°	20"	20"	6"	76"
	20 ft. from burner	0°	7"	7"	6"	30"
HL3-(40, 50, 60) - 150 [N, P]	0°	24"	24"	6"	81"	
	45°	58"	8"	10"	81"	
	with 1 side shield	0°	42"	8"	6"	81"
	with 2 side shields	0°	23"	23"	6"	81"
	20 ft. from burner	0°	11"	11"	6"	44"
HL3-(40, 50, 60, 70) - 175 [N, P]	0°	34"	34"	6"	92"	
	45°	63"	8"	10"	92"	
	with 1 side shield	0°	50"	8"	6"	92"
	with 2 side shields	0°	30"	30"	6"	92"
	20 ft. from burner	0°	11"	11"	6"	44"
HL3-(50, 60, 70) - 200 [N, P]	0°	41"	41"	6"	94"	
	45°	63"	8"	10"	94"	
	with 1 side shield	0°	54"	8"	6"	94"
	with 2 side shields	0°	30"	30"	6"	94"
	20 ft. from burner	0°	11"	11"	6"	44"

* Heaters mounted on an angle between 0° and 45° must maintain clearances posted for 0° or 45°, whichever is greater.

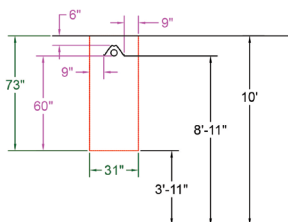
**Heater must be installed at least 8 ft. above the finished floor.

Clearances to combustibles distances represent a surface temperature of 90°F (50°C) above ambient temperature. Ensure that building materials with a low heat tolerance (i.e, awnings, fabrics, plastics, sprinklers, insulation) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the factory or the building material manufacturer for additional information.

Sample Layout



HL3-20-75/50 Clearance to Combustible 0° Mount - Elevation View



TIPS:

- The goal is to create an even heat pattern for optimal patron comfort.
- The use of protective guards (P/N: PG) may be required for lower mounting heights near patrons.

MP3 Series Low Intensity, Infrared Tube Heater

The MP3 Series Modulating Plus Low Intensity Tube Heater raises the bar with modulating technology. This full air and gas modulation line of heaters incorporates cutting edge technology for increased energy efficiency to meet extreme environmental demands in a

myriad of applications, and the heater is compatible with BACnet, Modbus, & Zigbee with the use of the TH-PC-M controller.



Available in natural gas and propane

KEY FEATURES

- Wide range of lengths and BTUs
- Fully modulating
- Modulation can be automatically or manually controlled.
- Reliable hot surface ignition
- Independent control-air-gas compartments with tool-free access

Available BTU Range

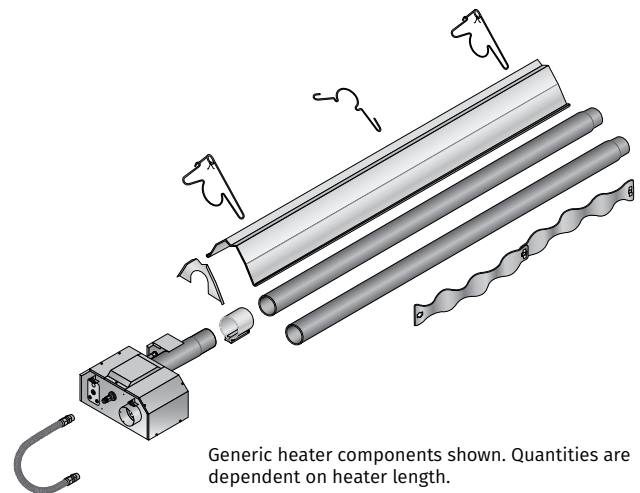
BTU/h (Modulating Range)	Gas Type
65,000 to 75,000	Nat./Prop.
65,000 to 80,000	Nat./Prop.
85,000 to 115,000	Nat./Prop.
110,000 to 150,000	Nat./Prop.
135,000 to 200,000	Nat./Prop.

Specifications

SPECIFICATIONS

ALL MODELS

Gas Type	Natural or Propane
Heat Input (BTU/h)	Varies
Voltage	120 VAC-60 Hz; 0-10 VDC Controls
Dimensions (LxWxH)	Varies
^Rcmd. Mounting Height	Varies with model from 12' to 42'
*Approx. Area Heated	Varies based on length, BTU, & configuration
Weight	120 to 300 lbs.
Approvals	Outdoor Commercial Indoor Commercial
Limited Warranty	3-year components 5-year tubes 10-year burner



Generic heater components shown. Quantities are dependent on heater length.

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

* Based upon lab conditions with no wind and targeted 15° temperature rise. Site conditions may vary.

Clearances to Combustibles

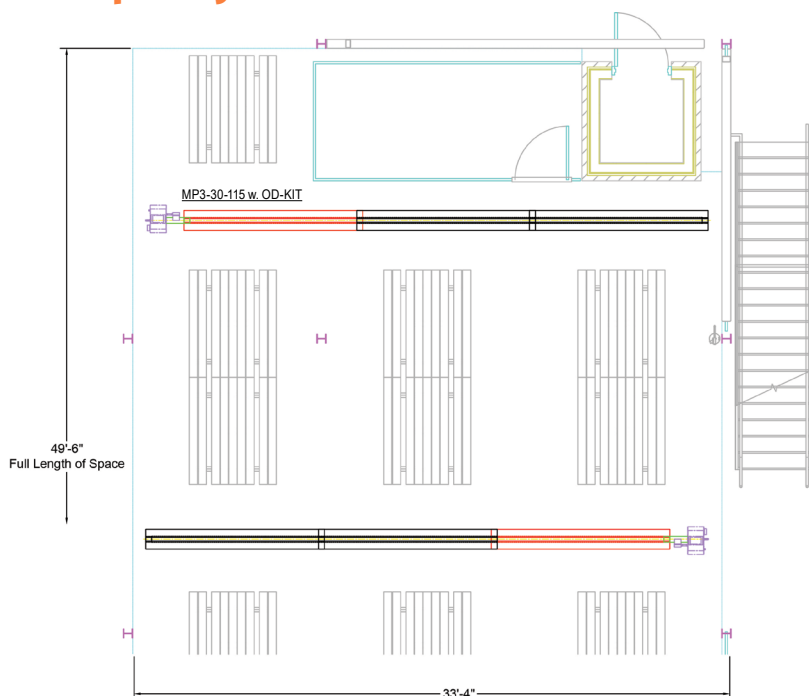
Model Number	Mounting Angle*	Sides		Top	Below
		Front	Behind		
MP3-(20,25,30,40)-(75,80)[N,P] with 1 side shield with 2 side shields 20 ft. from burner	0°	14	14	6	66
	45°	39	8	10	66
	0°	29	8	6	66
	0°	16	16	6	66
	0°	7	7	6	30
MP3-(30,40,50)-115[N,P] with 1 side shield with 2 side shields 20 ft. from burner	0°	20	20	6	76
	45°	58	8	10	76
	0°	42	8	6	76
	0°	20	20	6	76
	0°	7	7	6	30
MP3-(40,50,60)-150[N,P] with 1 side shield with 2 side shields 20 ft. from burner	0°	24	24	6	83
	45°	58	8	10	83
	0°	42	8	6	83
	0°	23	23	6	83
	0°	11	11	6	46
MP3-(50,60,70)-200[N,P] with 1 side shield with 2 side shields 20 ft. from burner	0°	41	41	6	100
	45°	63	8	10	100
	0°	54	8	6	100
	0°	30	30	6	100
	0°	11	11	6	50

* Heaters mounted on an angle between 0° and 45° must maintain clearances posted for 0° or 45°, whichever is greater.

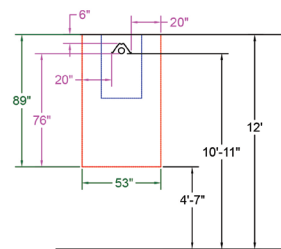
**Heater must be installed at least 8 ft. above the finished floor.

Clearances to combustibles distances represent a surface temperature of 90°F (50°C) above ambient temperature. Ensure that building materials with a low heat tolerance (i.e, awnings, fabrics, plastics, sprinklers, insulation) are protected against degradation. This may require the heater to be mounted at a distance in excess of the published clearances to combustibles. Contact the factory or the building material manufacturer for additional information.

Sample Layout



MP3-30-115 Clearance to Combustible 0° Mount - Elevation View



TIPS:

- When determining heater placement and configuration, keep in mind clearances to combustibles are reduced at 20 ft. downstream of the burner box.
- The goal is to create an even heat pattern for optimal patron comfort.
- The use of protective guards (P/N: PG) may be required for lower mounting heights near patrons.



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