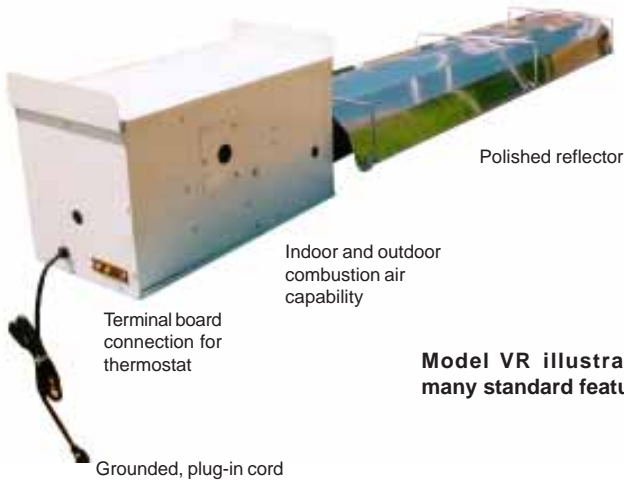
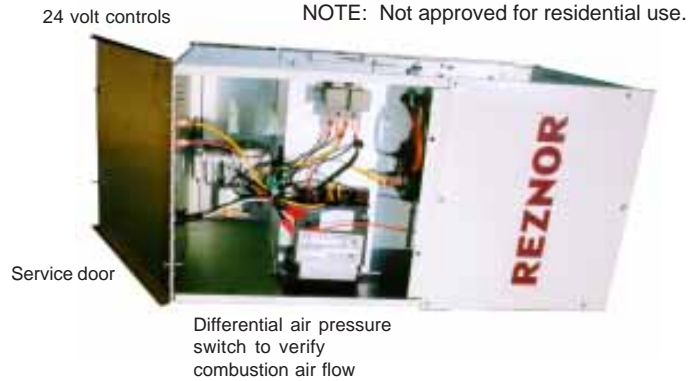


REZNOR®**Model VR Gas-Fired Tubular Radiant, Low Intensity Heater for Indoor Commercial-Industrial Use****Model VR illustrating many standard features.****ANSI Z83.20****DESCRIPTION**

Model VR tubular radiant heaters are available in BTUH inputs of 50,000 to 200,000 and in tube lengths from 20 to 70 feet (see the Technical Data Table for BTUH/length combinations). All sizes are available for use with natural gas or optional propane gas. Model VR heaters provide full input rate heating capacity to 2,000 feet elevation. Tubular radiant heaters are engineered to provide quiet, reliable, energy-efficient, comfort level heating for both spot and space applications.

Model VR is designed with a burner/control box housing a power burner that fires into a 4" diameter tube, 20 to 70 feet in length. The burner is equipped with a blower for supplying combustion air and a multi-try direct ignition with 100% lockout. Controls include a single-stage gas valve and a pressure switch to verify combustion air flow.

The tubes are in 10-foot sections with each section having a polished reflector. The tube attached to the burner is the combustion chamber, all other sections are highly emissive heat exchanger tubes. The standard configuration is straight, but optional "L" shaped, "U" shaped and 5-foot straight heat exchanger tubes are available to change the configuration to adapt to various applications. A tubular system including an optional "U" tube provides the best balance of radiant emission over the length of any system. For maximum efficiency, the exhaust end of all systems is equipped with an aluminized steel turbulator strip.

Combustion air can either come from the heated space or be piped from the outside. Outside combustion air should be supplied (1) if the building atmosphere has negative pressure; (2) if the building atmosphere is dirty or dusty; (3) if the building atmosphere contains substances that will cause toxic gas when combined with flame or flue products; or (4) if the heater is being installed in a tightly closed room that does not provide required air for combustion.

Venting may be either vertical or horizontal. Dual venting of two units is permissible when using a Reznor Optional Dual Vent Kit.

Model VR tubular heater systems are shipped in modular packages requiring field assembly and installation. Standard features, such as wire form hangers for chain suspension, compression coupling tube connections, and terminal board thermostat connection, are designed to facilitate installation.

These heaters are approved for use in the United States and Canada by the Canadian Standards Association (CSA). Reznor provides a five-year limited warranty on the burner and a ten-year limited warranty on all tubes.

STANDARD FEATURES

- Natural gas operation
- Full input rate for elevations to 2,000 ft.
- 115/1 supply voltage
- Multi-try direct ignition with 100% lockout
- Single-stage combination gas valve (field adjustable for operation to 10,000 ft. elevation)
- Pre-purge and post-purge
- Differential air pressure switch to verify combustion air flow
- Diagnostic indicator light
- Sight glass for burner observation
- External terminal board connection for 24-volt thermostat
- Grounded, plug-in cord
- 16-gauge aluminized steel combustion chamber (10 ft. length)
- High emissivity radiant tubes, 16-gauge HRS (10 ft. lengths)
- Compression coupling tube connections
- Wire form hangers
- Polished aluminum reflectors (10 ft. lengths) that overlap for continuous reflector system
- Aluminized steel flue gas turbulators for maximum efficiency
- Horizontal or vertical venting
- Painted Cabinet
- Transformer for 24-volt controls

OPTIONAL FEATURES - Factory Installed

- Single stage propane gas valve (field adjustable for operation to 10,000 ft. elevation)
- 208/1 Supply Voltage (Models 50 - 175)
- 230/1 Supply Voltage (Models 50 - 175)

OPTIONAL FEATURES - Field Installed

- "U" Heat Exchanger Tube with Reflector
- "L" Heat Exchanger Tube(s) with Reflector
- 5-ft. Heat Exchanger Tube with Reflector
- Reflector End Covers
- Side Shield
- Hanger Kit
- Outdoor Combustion Air Inlet Kit
- Dual Vent Kit
- Multiple Heater Control for zoning up to 6 units
- Flexible Gas Connector
- High Altitude Field Conversion Kits (6,000 - 10,000 ft.)
- Unit-Mounted Thermostat Bracket
- Gas conversion kits (natural & propane)
- Vent Cap
- Manual shutoff valve & union
- Thermostat

TECHNICAL DATA

Model No.		50-20	50-30	50-40	75-20	75-30	75-40	100-30	100-40	100-50	125-30	125-40	125-50	125-60	
Heating Capacity Input	BTUH	50,000			75,000			100,000			125,000				
	kW	14.7			22.0			29.3			36.6				
No. of 10-ft (3m) Tubes		2	3	4	2	3	4	3	4	5	3	4	5	6	
Gas Supply Pressure	Natural	"w.c."	4.5"-14"			4.5"-14"			4.5"-14"			4.5"-14"			
		mbar	11.2 - 34.9			11.2 - 34.9			11.2 - 34.9			11.2 - 34.9			
	Propane	"w.c."	11"-14"			11"-14"			11"-14"			11"-14"			
		mbar	27.4 - 34.9			27.4 - 34.9			27.4 - 34.9			27.4 - 34.9			
Gas Manifold Pressure	Natural	"w.c."	3.5"			3.5"			3.5"			3.5"			
		mbar	8.72			8.72			8.72			8.72			
	Propane	"w.c."	10"			10"			10"			10"			
		mbar	24.9			24.9			24.9			24.9			
Voltage/Phase		115/1			115/1			115/1			115/1				
Frequency (hertz)		60			60			60			60				
Control Amps (24V)		0.8			0.8			0.8			0.8				
Full Load Amps (115V)		1.1			1.1			1.1			0.8				
Net Weight	lbs	121	154	200	121	154	200	154	200	241	154	200	241	274	
	kg	55	70	91	55	70	91	70	91	109	70	91	109	124	
Ship Weight	lbs	153	186	255	153	186	255	186	255	293	186	255	293	326	
	kg	69	84	116	69	84	116	84	116	133	84	116	133	148	

Model No.		150-40	150-50	150-60	175-40	175-50	175-60	175-70	200-50	200-60	200-70	
Heating Capacity Input	BTUH	150,000			175,000			200,000				
	kW	44.0			51.3			58.6				
No. of 10-ft (3m) Tubes		4	5	6	4	5	6	7	5	6	7	
Gas Supply Pressure	Natural	"w.c."	4.5"-14"			6"-14"			6"-14"			
		mbar	11.2 - 34.9			14.9 - 34.9			14.9 - 34.9			
	Propane	"w.c."	11"-14"			11"-14"			11"-14"			
		mbar	27.4 - 34.9			27.4 - 34.9			27.4 - 34.9			
Gas Manifold Pressure	Natural	"w.c."	3.5"			5"			5"			
		mbar	8.72			12.5			12.5			
	Propane	"w.c."	10"			10"			10"			
		mbar	24.9			24.9			24.9			
Voltage/Phase		115/1			115/1			115/1				
Frequency (hertz)		60			60			60				
Control Amps (24V)		0.8			0.8			0.8				
Full Load Amps (115V)		0.8			1.2			1.2				
Net Weight	lbs	200	241	274	200	241	274	312	241	274	312	
	kg	91	109	124	91	109	124	142	109	124	142	
Ship Weight	lbs	255	293	326	255	293	326	390	293	326	390	
	kg	116	133	148	116	133	148	177	133	148	177	

OPTIONS

Reflector End Covers

End caps vertically "close" both the combustion chamber end and the exhaust end heat exchanger of the reflector system.

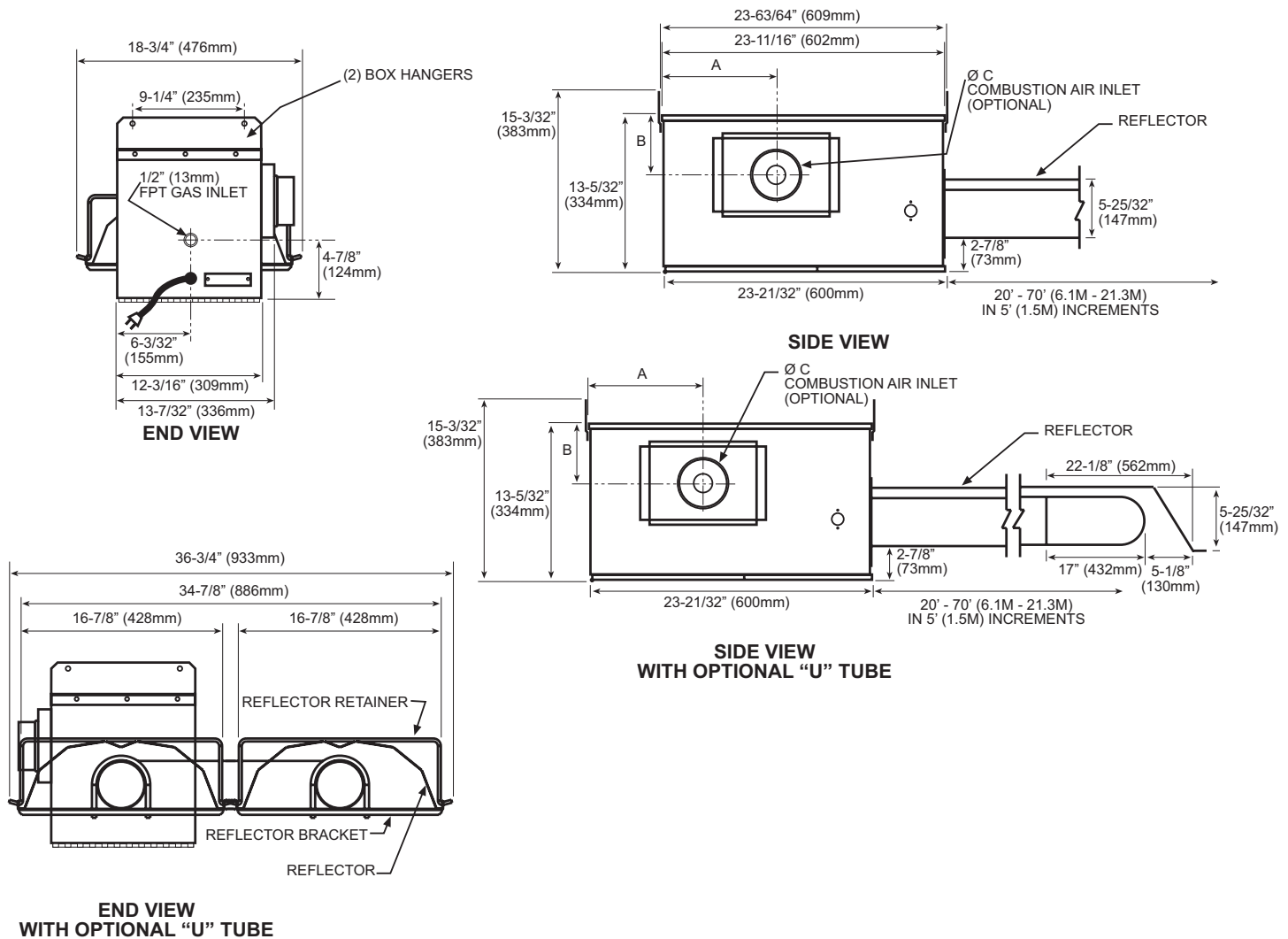
Side Shield

An optional side shield may be added to Model VR heaters. With an optional side shield installed along one side of the length of a straight tubular system, the heater may be installed with much less clearance to combustibles.

The aluminum side shield is a modular design with two sections per 10-ft. tube. The modular sections hang from the tube reflector brackets. Reflector brackets, reflectors, and optional side shield are designed for easy installation.

Dimensions

Model VR



Size	A		B		C	
	in.	mm	in.	mm	in.	mm
50, 75, 100	9 17/32	242	5 1/32	128	4	102
125, 150	9 5/8	244	5 1/16	129	4	102
175, 200	9 5/8	244	5 1/16	129	5	127

5-Foot Heat Exchanger

Five-foot heat exchanger tubes are available to customize a tubular system to "fit" the area needing heat.

Overall minimum and maximum lengths by size do not change:

Order the shorter length system plus the needed quantity of 5-ft. heat exchanger tubes (Option UA1); or, see the "Ordering Methods" section of this catalog for information on how to order and stock the components to build a modular system. Whether ordered as an option or a part, the 5-ft. tube, its reflector, and hardware will arrive in a separately-marked carton.

Note: A 10 ft. tube must always be placed at the exhaust end of the unit.

Size	Alternate Tube Lengths							
	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	20	6.1	25	7.6	30	9.1	35	10.7
	40	12.2	50	15.2	60	18.3	70	21.3
75	20	6.1	25	7.6	30	9.1	35	10.7
	40	12.2	50	15.2	60	18.3	70	21.3
100	30	9.1	35	10.7	40	12.2	45	13.7
	50	15.2	60	18.3	70	21.3	80	24.4
125	30	9.1	35	10.7	40	12.2	45	13.7
	50	15.2	60	18.3	70	21.3	80	24.4
150	40	12.2	45	13.7	50	15.2	55	16.8
	60	18.3	70	21.3	80	24.4	90	27.4
175	40	12.2	45	13.7	50	15.2	55	16.8
	60	18.3	70	21.3	80	24.4	90	27.4
200	50	15.2	55	16.8	60	18.3	65	19.8
	70	21.3	80	24.4	90	27.4	100	30.5

Venting Requirements

Model VR

- Compliance with National and Local Codes
- 4” Vent Pipe (26-gauge single-wall galvanized metal)
- Terminal Vent Cap - use Reznor vent cap or equivalent
- Vent Length - see table below

SINGLE WALL METAL VENT PIPE

Model No.		50					75					100					125						
Length	Feet	20	25	30	35	40	20	25	30	35	40	30	35	40	45	50	30	35	40	45	50	55	60
	Meters	6.1	7.6	9.1	10.7	12.2	6.1	7.6	9.1	10.7	12.2	9.1	10.7	12.2	13.7	15.2	9.1	10.7	12.2	13.7	15.2	16.8	18.3
Vent Diameter		in. 4					4					4					4						
		mm 102					102					102					102						
Vent Length	Minimum	Feet	5					5					5					5.0					
		Meters	1.5					1.5					1.5					1.5					
	Maximum	Feet	20					45	35	20	45	35	20	60									
		Meters	6.1					13.7	10.7	6.1	13.7	10.7	6.1	18.3									
Equivalent Length for	90° Elbow	Feet	3					6	5	3	6	5	3	12									
		Meters	0.9					1.8	1.5	0.9	1.8	1.5	0.9	3.7									
	45° Elbow	Feet	1.5					3.0	2.5	1.5	3.0	2.5	1.5	6									
		Meters	0.5					0.9	0.8	0.5	0.9	0.8	0.5	1.8									
	Dual Vent Adapter*	Feet	3					6	5	3	6	5	3	12									
		Meters	0.9					1.8	1.5	0.9	1.8	1.5	0.9	3.7									

Model No.		150					175					200						
Length	Feet	40	45	50	55	60	40	45	50	55	60	65	70	50	55	60	65	70
	Meters	12.2	13.7	15.2	16.8	18.3	12.2	13.7	15.2	16.8	18.3	19.8	21.3	15.2	16.8	18.3	19.8	21.3
Vent Diameter		in. 4					4					4						
		mm 102					102					102						
Vent Length	Minimum	Feet	5					5					5					
		Meters	1.5					1.5					1.5					
	Maximum	Feet	60					60					60					
		Meters	18.3					18.3					18.3					
Equivalent Length for	90° Elbow	Feet	12					12					12					
		Meters	3.7					3.7					3.7					
	45° Elbow	Feet	6.0					6.0					6.0					
		Meters	1.8					1.8					1.8					
	Dual Vent Adapter*	Feet	12					12					12					
		Meters	3.7					3.7					3.7					

- Vent Terminal Direction - Horizontal or Vertical
- Dual Venting - with Optional Dual Vent Kit only**
- Unvented - Approved for Unvented Operation

Factors to Consider for Unvented Operation

- Check local codes
- Fresh Air Requirements - Natural gas, 4 CFM/1000 BTUH; Propane gas, 5 CFM/1000 BTUH
- Unvented operation may cause excessive condensation inside the building
- Do not operate unvented in dusty or dirty atmosphere
- Do not operate unvented in a building where contaminants in the air will produce a toxic gas when burned or exposed to high temperature
- Do not operate unvented with outside combustion air
- Reznor **STRONGLY** recommends venting to the outdoors in any application that do not have independent exhaust systems and/or high volumes of dilution with outside air. See installation manuals for unvented operation requirements.

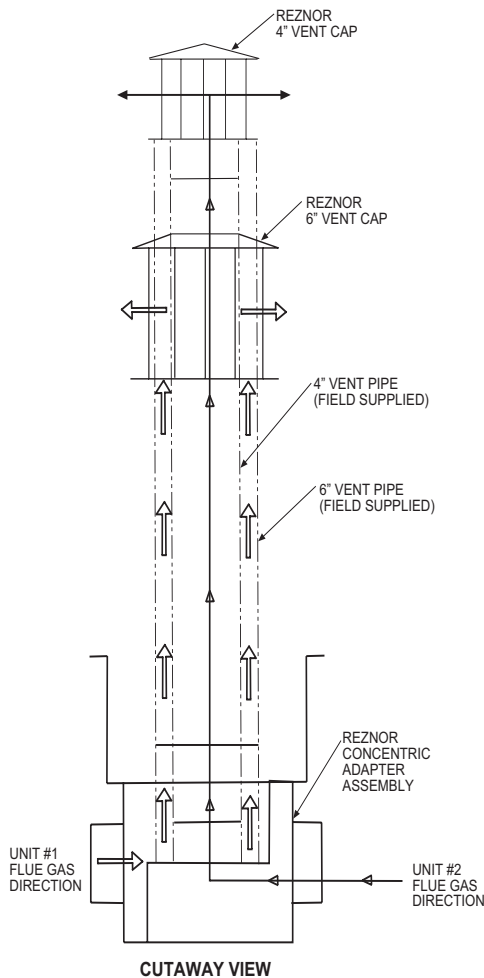
** Technical data for these options is found elsewhere in this catalog.

Venting Requirements and Outside Air Combustion

Model VR

Dual Venting

This design (U.S. Patent No. 5,421,774) allows dual venting of two Model VR heaters. The concentric design of the vent allows each of the two heaters to be safely operated totally independent of the other. Heaters vented through the optional dual vent do not have to match in capacity, length, or configuration and may be controlled by the same or different thermostats.



Outside Combustion Air

Model VR heaters may be operated with combustion air from the heated space or with combustion air piped from outside. If outside combustion air is selected, a Reznor outside combustion air kit must be installed. Outside combustion air may be supplied in any vented application but should always be supplied (1) if the building atmosphere has negative pressure; (2) if the building atmosphere is dirty or dusty; (3) if the building atmosphere contains substances that will cause toxic gas when combined with flame or flue products; (4) if the heater is installed in a tightly closed room that does not provide required air for combustion.

The outside combustion air kit for Model VR heaters includes a section of 4" (5" on sizes 175 & 200) flexible pipe expandable to three feet, a special designed inlet air cap, an air inlet cover with collar, relay with wiring, and two clamps. The maximum length of the field-supplied combustion air pipe depends on the size and length of heater and the type of pipe.

Combustion Air Inlet Length Table


NOTE: Do not install an outside combustion air inlet on an unvented heater.

MAXIMUM LENGTH OF OUTSIDE COMBUSTION AIR INLET PIPE							
TYPE OF INLET PIPE	SIZE MBH	MAXIMUM LENGTH		EQUIVALENT LENGTH FOR			
		Feet	Meters	90° Elbow		45° Elbow	
				Feet	Meters	Feet	Meters
Smooth Wall ^A	50	80	24.4	10	3.0	5	1.5
	75						
	100						
	125	60	18.3	10	3.0	5	1.5
	150						
175							
200							
Corrugated or Flexible	50	40	12.2	N/A	N/A	N/A	N/A
	75						
	100						
	125	30	9.1	N/A	N/A	N/A	N/A
	150						
	175						
200							

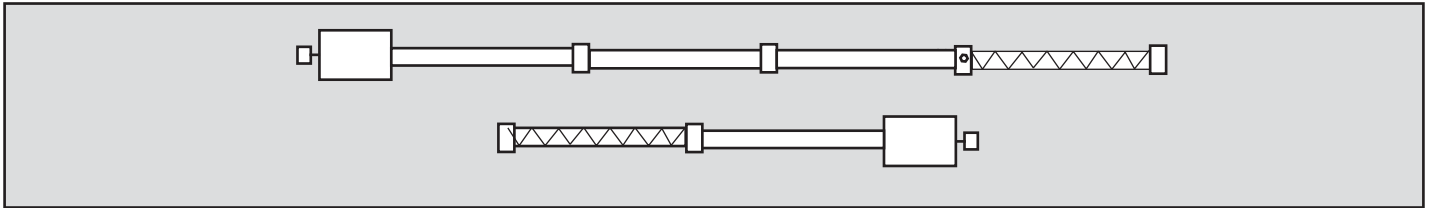
^A Assumes the use of three feet of flexible pipe at the combustion air inlet on the burner/control box

Heater Configurations

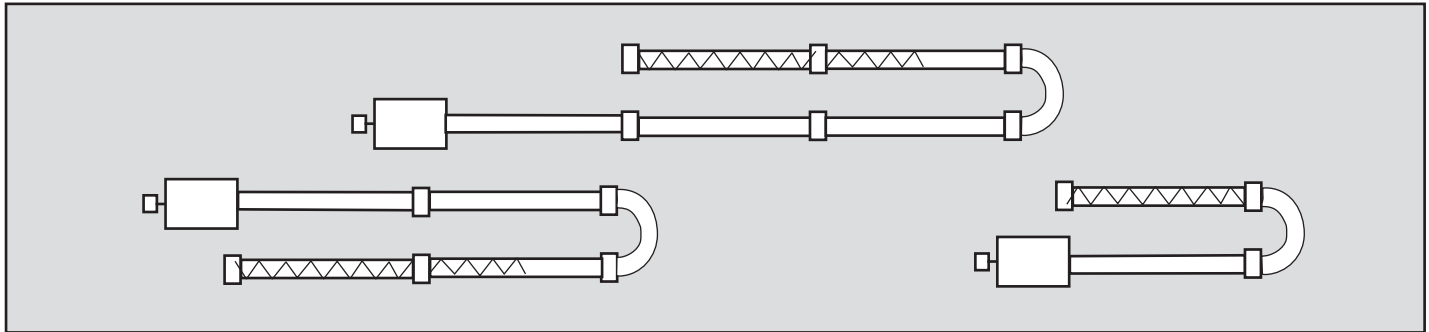
Model VR

An advantage of tubular infrared heating is its versatility in configuration layout. A booklet illustrating all permissible configurations, is available for designing applications. See sample diagrams below. For even harder-to-fit areas, 5-ft. Heat Exchanger Tubes (Option UA1) are available. All configurations require a modular turbulator strip ().

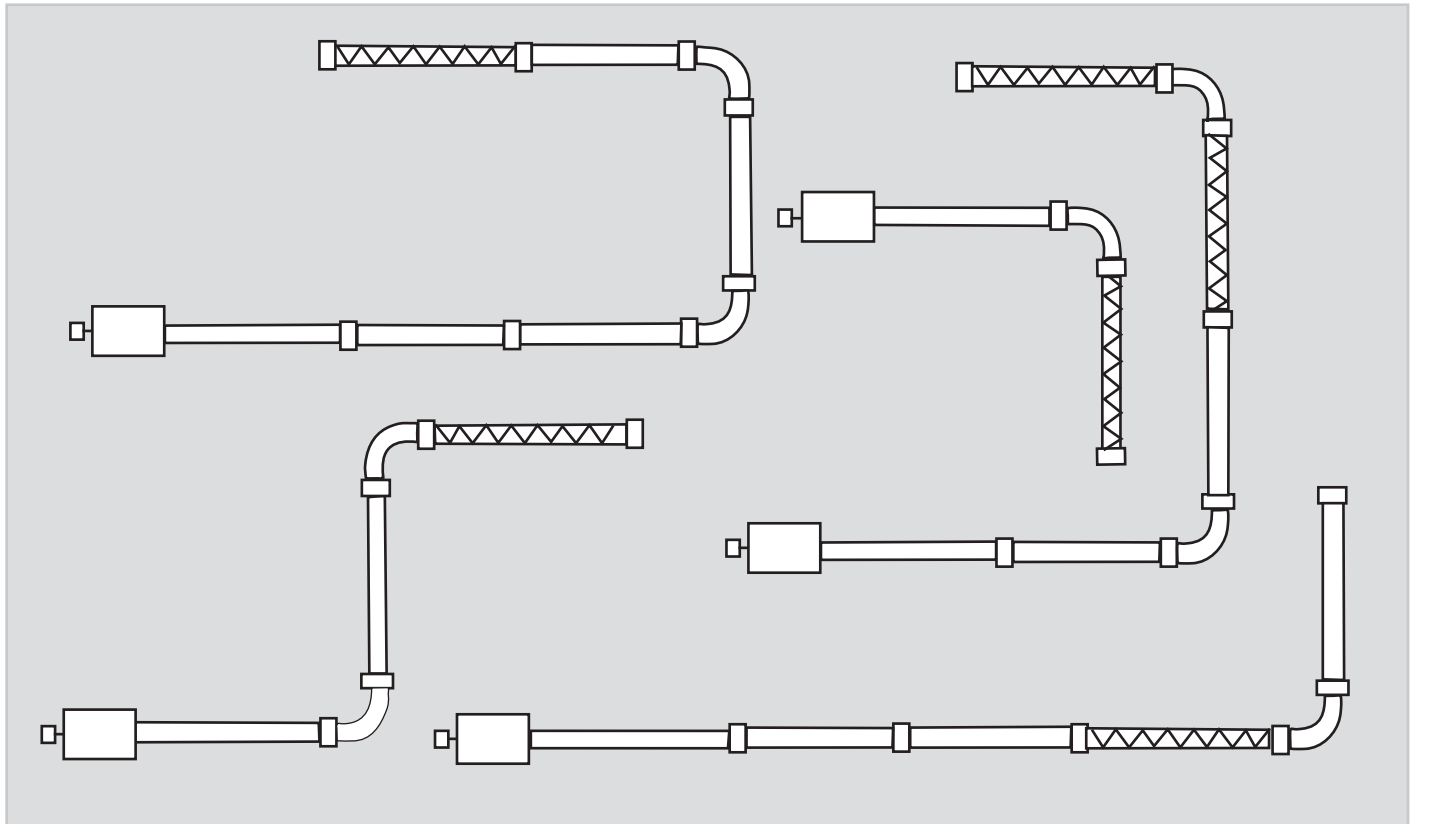
Straight-Standard Configuration for All Sizes and Lengths



"U"-Model VR with a "U" Heat Exchanger Tube, Option UB3

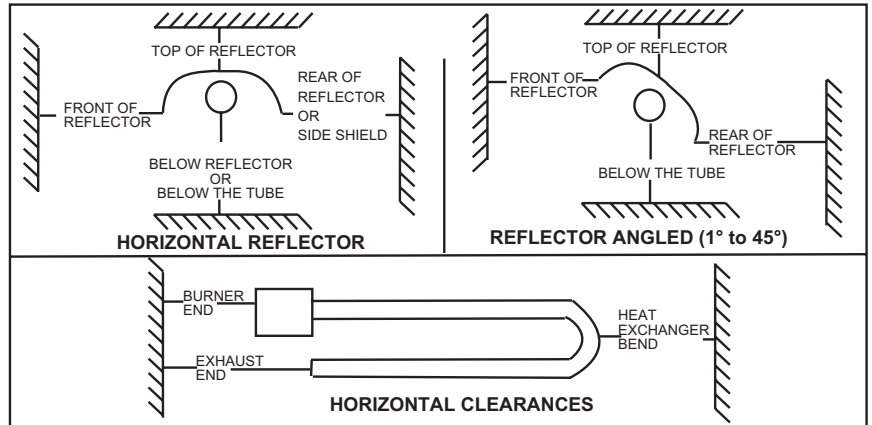


"L"-Model VR with one or two "L" Heat Exchanger Tube(s), Option UC2



IMPORTANT: Do not install an Model VR tubular radiant heater in any configuration other than those intended. For more information, see your Reznor Representative.

Required clearances depend on the size of the heater (BTUH input), the position of the reflector, and the addition of an optional side shield. The side shield is a field-installed, modular shield (2 pieces per 10 ft. tube length). The shield hangs vertically on the “rear” side only, along the entire length of a straight tubular system. Refer to Clearance Orientation Illustrations to define “Top”, “Below”, “Front”, and “Rear” clearances. The clearances listed are installation requirements. In addition, ANSI Z-223.1, Section 6.18, requires that signs be posted specifying the maximum permissible stacking heights to assure that the required clearances from the heater to combustibles are maintained.



Location Recommendations for Efficient Application

When selecting the installation location, major factors to consider are (1) Personal and Property Safety, (2) Personal Comfort, and (3) Heating Efficiency. Because of the unique features of radiant heat transfer, selecting the most efficient location for infrared equipment depends on the “floor” coverage of the emitted heat rays. Floor coverage distance can be figured as approximately two times the mounting height of the unit. However, comfort level heating depends on the infrared intensity and on the balance of the radiant emission over the length of the system. Infrared intensity decreases with higher mounting heights and greater floor coverage. **IMPORTANT: Another factor when locating the heater in relation to people is that the heat emitted**

		CLEARANCES TO COMBUSTIBLES								
SIZE			50	75	100	125	150	175	200	
ALL HEATERS	BELOW	in.	66	66	66	78	78	84	84	
		mm	1,676	1,676	1,676	1,981	1,981	2,134	2,134	
	TOP*	in.	12	12	12	12	12	12	12	
		mm	305	305	305	305	305	305	305	
	HORIZONTAL CLEARANCES	BURNER END	in.	24	24	24	30	30	30	30
			mm	610	610	610	762	762	762	762
		HEAT EXCHANGER	in.	36	36	36	48	48	48	48
			mm	914	914	914	1,219	1,219	1,219	1,219
		EXHAUST END	in.	24	24	24	24	24	24	24
			mm	610	610	610	610	610	610	610
VENT	in.	6	6	6	6	6	6	6		
	mm	152	152	152	152	152	152	152		
WITH REFLECTOR POSITIONED	0 - 30°	FRONT	in.	30	30	30	42	42	54	54
			mm	762	762	762	1,067	1,067	1,372	1,372
		REAR	in.	30	30	30	42	42	54	54
			mm	762	762	762	1,067	1,067	1,372	1,372
	31 - 45°	FRONT	in.	48	48	48	66	66	78	78
			mm	1,219	1,219	1,219	1,676	1,676	1,981	1,981
		REAR	in.	18	18	18	32	32	36	36
			mm	457	457	457	813	813	914	914
	0 - 30° WITH SIDE SHIELD	FRONT	in.	36	36	36	42	42	54	54
			mm	914	914	914	1,067	1,067	1,372	1,372
		REAR	in.	12	12	12	12	12	12	12
			mm	305	305	305	305	305	305	305

* If Model VR is unvented, top clearance is 18 inches (457mm).

from the burner/combustion chamber end of a tubular infrared heater is more intense than the heat emitted from the exhaust end. Configurations including an optional “U” tube provide the best balance of radiant emission over the length of the system.

For space heating infrared applications, the location of the unit must be evaluated as part of the heater size selection. In order to select the proper heater size, determine the total BTUs required, the floor coverage required, and the mounting height. From this information, design a heater size and location plan that will provide the most complete floor coverage without excessive overlapping. In most cases, perimeter heaters should be located parallel to the wall. The distance from the wall to the unit is determined by whether the reflectors will be angled, horizontal, or with side shields.

For spot heating applications, the tubular system should be located to direct the rays toward the area requiring heat. Depending on the installation, this can be done from directly overhead or reflector angled from the side. U-tube configurations are often best suited to overhead spot heating applications. Use the mounting height, the size of the heater, the heater configuration, and the application conditions to determine the most efficient location for the heater.

WARNING: GAS-FIRED APPLIANCES ARE NOT DESIGNED FOR USE IN HAZARDOUS ATMOSPHERES CONTAINING FLAMMABLE VAPORS OR COMBUSTIBLE DUST, OR ATMOSPHERES CONTAINING CHLORINATED OR

HALOGENATED HYDROCARBONS. INSTALLATIONS IN PUBLIC GARAGES OR AIRPLANE HANGARS ARE PERMITTED WHEN IN ACCORDANCE WITH ANSI Z83.6B AND NFPA-408 AND 88 CODES OR CANI-B149 CODES AND ENFORCING AUTHORITIES.

Installations of Model VR heaters in the United States must be in accordance with the National Fuel Gas Code ANSI Z-223.1 (latest edition) and all local codes. In Canada, installations must be in accordance with the latest edition of CAN/CSA B149.1 and B149.2 and any local authorities having jurisdiction.

To allow for thermal expansion, Model VR heaters must be suspended with chain and must have flexible gas and electric connections.

Chain must have a minimum load-carrying capacity of 200 lbs. Depending on the type of building construction, the installer may either attach the chain support directly to the building or attach and extend a support to the location needed (all chain supporting tube sections must be plumb). SUPERSTRUT® brackets or a comparable metal strut material is well suited as a support structure that requires numerous suspension points. Model VR heaters must be level. The use of turnbuckles is not required but is recommended to assist in leveling the heater. If used, turnbuckles must be of steel or malleable iron. Optional chain kits and turnbuckle kits are available from Reznor.

Each burner/control box is equipped with a grounded, plug-in electrical cord. Gas connection must be with either an expansion coil or an approved stainless steel flexible connector. Optional flexible connectors are available from Reznor. Flexible connectors do affect gas pressure. Pressure drops for flexible connectors available from Reznor are listed below. (Required gas pressures found in Technical Data Tables.)

RECOMMENDED MINIMUM MOUNTING HEIGHTS								
Reflector Position		Model (000 BTUH Input)						
		50	75	100	125	150	175	200
Horizontal	Feet	11	12	13	15	16	17	18
	Meters	3.4	3.7	4.0	4.6	4.9	5.2	5.5
30° Angle	Feet	9	10	11	13	14	15	16
	Meters	2.7	3.0	3.4	4.0	4.3	4.6	4.9
45° Angle	Feet	8	9	10	11	13	14	15
	Meters	2.4	2.7	3.0	3.4	4.0	4.3	4.6

GAS PRESSURE DROP ("W.C.) THROUGH 24" STAINLESS STEEL FLEXIBLE CONNECTORS AVAILABLE FROM REZNOR								
Size		50	75	100	125	150	175	200
13 mm (1/2") I.D.	in. w.c.	0.25	0.25	0.25	0.50	0.75	0.80	0.90
	mbar	0.62	0.62	0.62	1.25	1.87	1.99	2.24
19 mm (3/4") I.D.	in. w.c.	0.05	0.05	0.10	0.15	0.20	0.40	0.50
	mbar	0.12	0.12	0.25	0.37	0.50	1.00	1.25

Model VR heaters are designed with these installation advantages:

-Modular turbulator strips with interlocking connections

All tube packages include a field-installed turbulator strip. The turbulator strip is slid into the tube in small, easy-to-handle sections. By interlocking the sections as they are installed, the required number of sections can be slid into the tube creating the full-sized turbulator strip.

-Reflector retainers/hangers

Reflectors are required to direct radiant heat. Reflectors, reflector brackets, and hardware "kits" are included in the tube packages. The reflector retainers extend over the installed reflectors securing the reflector to the tube and act as a hanger connection.

-Terminal strip for thermostat connection

The burner/control box is equipped with a terminal strip for connection of a remote thermostat, or the thermostat may be attached to the heater by using an optional thermostat bracket. Up to six heaters may be controlled by one thermostat or time clock by installing a multiple heater control option.

- Tube connections

All tubes are joined by a compression coupling. All required parts for each tube connection are shipped in the tube carton.

Step 1

Align tubes and insert into compression coupler.



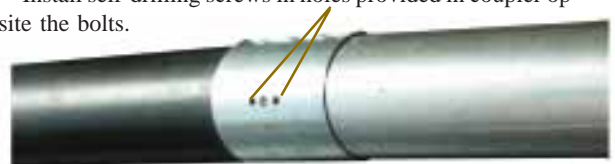
Step 2

Tighten bolts on compression coupler.



Step 3

Install self-drilling screws in holes provided in coupler opposite the bolts.



Model VR

Burner Box Packaging Scheme

- **Ordering for a Specific Job** - Burner boxes are factory-built and shipped in the sizes indicated in the table below. Tube lengths ordered should match the capacity of the heater ordered.
- **Ordering Burner Boxes for Stock** - Burner boxes are designed for convenience of the stocking distributor.

Tubes for any standard length of heater are packaged in a maximum of only four carton types. The Packaging Scheme allows the stocking distributors to inventory the tube packages in whatever lengths meets their most frequent requirements.

By matching the burner/control boxes and the tube packaging scheme, a variety of heater sizes and lengths are “in stock” with minimum inventory.

Desired MBH Input	Model Number	Heater Tube Length Range
50	VR50	20 - 40 ft.
75	VR75/100	20 - 40 ft.
100	VR75/100 ^A	30 - 50 ft.
125	VR125/150	30 - 60 ft.
150	VR125/150 ^B	40 - 60 ft.
175	VR175/200	40 - 70 ft.
200	VR175/200 ^C	50 - 70 ft.

^A VR75/100 - is factory-built as 75 MBH and includes a conversion kit to field-convert to 100 MBH.

^B VR125/150 - is factory-built as 125 MBH and includes a conversion kit to field-convert to 150 MBH.

^C VR175/200 - is factory-built as 175 MBH and includes a conversion kit to field-convert to 200 MBH.

Tube Packaging Scheme

All cartons include the hardware required for assembly. Each tube package includes the equipment necessary to assemble that section including reflectors, reflector brackets, compression couplings, and turbulator strips.

Packaging of Burner/Control Boxes - Burner/control boxes are shipped in individual cartons. Each carton is identified by the Order No. and the Model and Serial No. of the heater.

Packaging Scheme for Tubes - A maximum of only three-packages is required to “build” any standard length of straight tubular system. All packages are identified by No. and contents. Cartons are engineered and packaged to allow for normal freight handling.

Packaging Scheme by Size for Straight Tubes

Contents of Tube Packages				
Part Number	205204	205205	205206	205151
10 ft. (3M) Combustion Chamber Tube	(1)	(1)	-	-
10 ft. (3M) Heat Exchanger Tube	(1)	(2)	(2)	(3)
Turbulators	(4)	(3)	(1)	(2)

Optional tubes are shipped separately in individually labeled cartons.

Shape	Option Number
5 ft. Straight	UA1
"U" Bend	UB3
"L" Bend	UC2

Reznor’s packaging scheme keeps the number and variety of packages to a minimum. By limiting the number of different cartons, the packaging scheme is designed to be beneficial for both maintaining inventory and ordering for a specific job.

All Model VR Heaters require a burner/control box, and a combustion chamber tube. The “length” of the system is determined by the number of straight heat exchanger tubes that are positioned after the combustion chamber tube. Refer to the installation manual to determine correct number of turbulator strips to be installed.

TOTAL SYSTEM LENGTH		REQUIRED COMPONENTS		REQUIRES THE FOLLOWING PART NUMBERS	
Feet	Meters	COMBUSTION CHAMBER	HEAT EXCHANGERS	1 EACH	2 EACH
20	6.1	1	1	205204	-
30	9.1	1	2	205205	-
40	12.2	1	3	205204 & 205206	-
50	15.2	1	4	205204 & 205151	-
60	18.3	1	5	205205 & 205151	-
70	21.3	1	6	205205	205056

Provide gas-fired tubular radiant heaters manufactured as Reznor brand units. The heaters shall be the Reznor Model VR Series, radiant tubular heaters with a power burner housed in a burner/control box firing into a 4" diameter combustion chamber tube. The burner/control box and tubular system shall be designed for horizontal suspension from field-supplied hanging chains.

Size 50,000 - 175,000 BTUH units shall be equipped for use with natural (propane) gas and 115/1 (208/1) (230/1) volt supply voltage and will operate a full input rate at elevations to 2,000 ft. Size 200,000 BTUH units shall be equipped for use with natural gas (propane) and 115/1 and will operate at full input rate at elevations to 2000 ft.

The burner control system shall have a 24-volt transformer; a multi-try direct spark ignition with 100% lockout; single-stage combination gas valve; LED diagnostic light; sight glass for observing flame; a power burner with pre-purge and post purge; a differential air pressure switch to measure combustion air; and a terminal board for connection of remote (unit mounted) thermostat. Electrical supply connection is with a grounded, plug-in cord. Gas connection to the valve must be with field-supplied expansion coil or approved flexible connector.

The tubular system shall include a 16-gauge aluminized steel combustion chamber, high emissivity radiant 10' (5') straight ("U") ("L") heat exchanger tubes, turbulator strips, wire form suspension hangers, compression coupling tube connections, and polished aluminum overlapping reflectors with reflector retainers. Heater may be individually (or dual) vented horizontally or vertically and may operate on either inside (or outside) combustion air. Reflectors may be positioned from horizontal to 45° angle. Horizontal reflectors may include optional side shield, and optional end covers. All connection hardware kits shall be packaged in individual bags and include illustrated instructions.

These units must be approved for use in The United States and Canada by the Canadian Standards Association (CSA). The manufacturer shall provide a 5-year limited warranty on the burner and all electrical and mechanical operating components and a 10-year limited warranty on the tubes.

(Capacities, lengths, illustration, and additional field-installed options as described in this catalog.)

Limited Warranty

Model VR Tubular Radiant Heaters

Reznor warrants to the original owner-user that this Reznor product will be free from defects in material or workmanship. This warranty is limited to twelve (12) months from the date of original installation, whether or not actual use begins on that date, or eighteen (18) months from date of shipment by Reznor, whichever occurs first.

Extended Limited Warranty

Extended 9-year, non-prorated, limited warranty on all tubes.

Extended 4-year, non-prorated, limited warranty on the burner and all electrical and mechanical operating components.

Limitations and Exclusions

Thomas & Betts Corporation's obligations under this warranty and the sole remedy for its breach are limited to repair, at its manufacturing facility, of any part or parts of its Reznor products which prove to be defective; or, in its sole discretion, replacement of such products. All returns of defective parts or products must include the product model number and serial number, and must be made through an authorized Reznor distributor or arranged through Reznor Customer Service. Authorized returns must be shipped prepaid. Repaired or replacement parts will be shipped by Thomas & Betts F.O.B. shipping point.

1. The warranty provided herein does not cover charges for labor or other costs incurred in the troubleshooting, repair, removal, installation, service or handling of parts or complete products.
2. All claims under the warranty provided herein must be made within ninety (90) days from the date of discovery of the defect. Failure to notify Thomas & Betts of a warranted defect within ninety (90) days of its discovery voids Thomas & Betts's obligations hereunder.
3. The warranty provided herein shall be void and of no effect in the event that (a) the product has been operated outside its designed output capacity (heating, cooling, airflow); (b) the product has been subjected to misuse, neglect, accident, improper or inadequate maintenance, corrosive environments, environments containing airborne contaminants (silicone, aluminum oxide, etc.), or excessive thermal shock; (c) unauthorized modifications are made to the product; (d) the product is not installed or operated in compliance with the manufacturer's printed instructions; (e) the product is not installed and operated in compliance with applicable building, mechanical, plumbing and electrical codes; or (f) the serial number of the product has been altered, defaced or removed.
4. The warranty provided herein is for repair or replacement only. Thomas & Betts Corporation shall not be liable for any loss, cost, damage, or expense of any kind arising out of a breach of the warranty. Further, Thomas & Betts Corporation shall not be liable for any incidental, consequential, exemplary, special, or punitive damages, nor for any loss of revenue, profit or use, arising out of a breach of this warranty or in connection with the sale, maintenance, use, operation or repair of any Reznor product. In no event will Thomas & Betts be liable for any amount greater than the purchase price of a defective product. The disclaimers of liability included in this paragraph 4 shall remain in effect and shall continue to be enforceable in the event that any remedy herein shall fail of its essential purpose.
5. THIS WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY FOR REZNOR PRODUCTS, AND IS IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES. THOMAS & BETTS CORPORATION SPECIFICALLY DISCLAIMS ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. No person or entity is authorized to bind Thomas & Betts Corporation to any other warranty, obligation or liability for any Reznor product. Installation, operation or use of the Reznor product for which this warranty is issued shall constitute acceptance of the terms hereof.