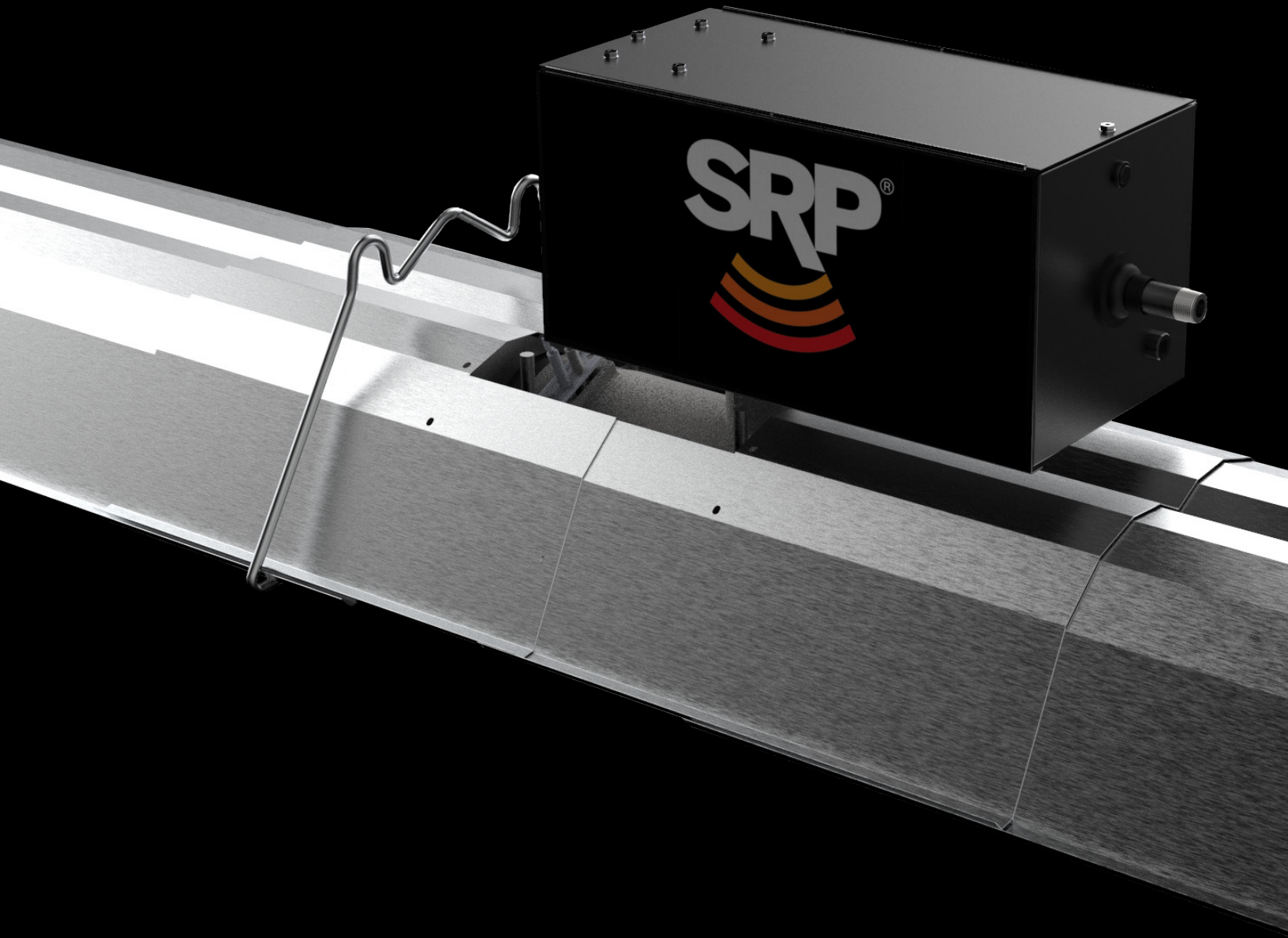




SUPERIOR
RADIANT PRODUCTS

SRP PREMIER VS / VS-VH

**HIGH EFFICIENCY LOW INTENSITY
INFRARED HEATERS SYSTEMS**



AWARD WINNING UNIQUE "IN-SERIES" PATENTED BURNER DESIGN

SAVING **ENERGY** FOR **FUTURE** GENERATIONS
EFFICIENCY • COMFORT • CONTROL
WWW.SUPERIORRADIANT.COM

SRP PREMIER VS / VS-VH



Superior Radiant Products (SRP®) continues to lead the industry with its innovative, patented, value-added and feature rich, position-tuned, high efficiency Premier Vacuum Series continuous radiant systems. A unique combination of quality attributes allows the Premier VS and Premier VS-VH to be custom engineered to provide the unsurpassed **Efficiency, Comfort and Control** demanded in each application.

The Premier Vacuum Series takes full advantage of the performance synergies that only an engineered system can provide. Unlike other “systems” which merely connect multiple unitary style heaters, this maximum design flexibility ensures that all the performance and energy savings requirements of the application can be realized. Designs are further enhanced by a full complement of additional features, including diverse tubing materials, reflector shielding configurations, multiple vacuum pump sizes and advanced control options.

ADVANTAGES OF SRP INFRARED HEATING SYSTEMS

Increased Thermal Comfort

- Even heat distribution for optimal comfort
- Zoned modulation provides heat where it is needed

Fuel savings of more than 60% can be achieved

- Infrared heaters can reduce the required heat needed by at least 15% to maintain a comfortable temperature—ASHRAE Handbook¹
- Heat recovery is faster using infrared

Better Building Performance

- Design flexibility to match comfort needs of any application
- Simple or advanced, fully integrated control systems
- Less building penetrations

High Return on Investment

- Fuel savings without sacrificing design energy requirement
- Energy savings, combined with low operating and maintenance costs ensure quick payback

Contribute to LEED® & Green Initiatives

- Infrared contributes points to Energy and Atmosphere; Indoor Air Quality; Innovation and Design categories.
- Government and utility incentive programs available

- ASHRAE HANDBOOK (HVAC Systems and Equipment)

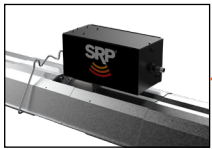


Thermal efficiencies of up to 95%, (depending on the configuration), are combined with the well known benefits of radiant heat to maximize fuel savings.

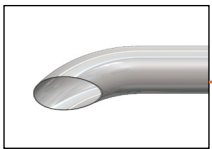
SRP IS THE ONLY COMPANY THAT OFFERS ALL OF THESE UNIQUE FEATURES

EFFICIENCY • COMFORT • CONTROL

The Premier Vacuum Series, combines thermal efficiencies of up to 95% with the reduced air stratification and directed energy benefits of radiant heat to maximize fuel savings, while providing superior occupant comfort. Fuel savings of 60% over conventional heating methods are possible.



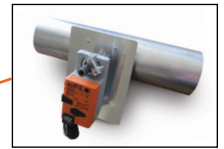
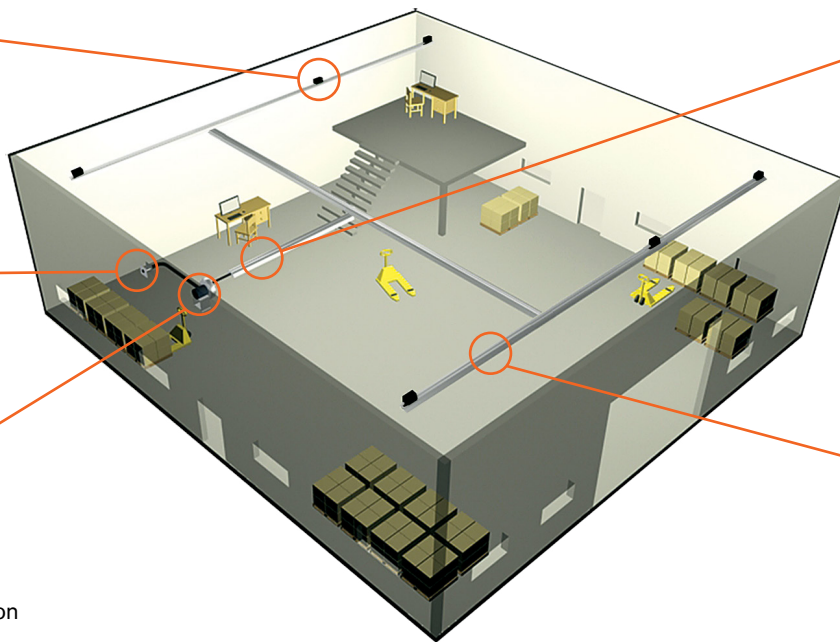
Even heat with in-series position-tuned burners



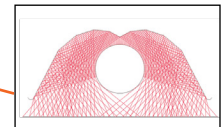
Minimal building penetrations



Largest output up to 1.2 million BTU/Hr on a single pump



Independent zone modulation with modulating damper



100% efficient reflector
+ 95% thermal efficiency
= The best of both worlds

DESIGN EFFICIENCY

- Minimal venting penetrations
- Custom engineered to fit your building heat requirements efficiently
- Can be designed as a condensing system maximizing fuel efficiency and savings
- Up to 1.2 million BTUH on a single vacuum pump – largest system output in the industry
- Varying tubing lengths to maximize radiant output

BURNER EFFICIENCY

- Precise modulation of firing rates
- In-series, position-tuned burner assemblies assure equal energy is extended along the length of the heat exchanger
- Largest selection of burners: 20,000 to 250,000 BTUH
- Up to four burners in series
- Reliable and safe operation with zero regulator ensuring the perfect mix of gas and air
- Reduced carbon emissions

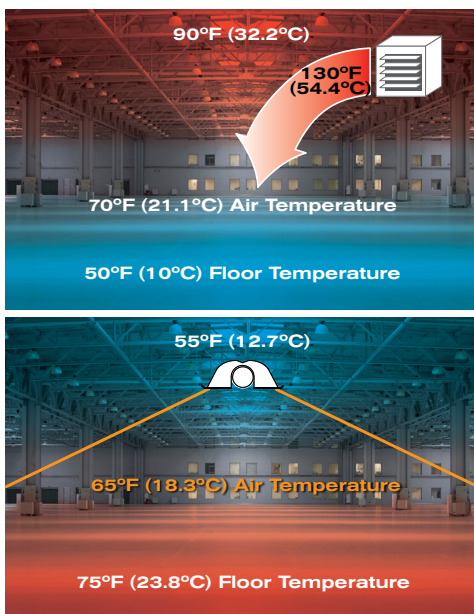
SYSTEM EFFICIENCY

- 100% efficient reflector ensures all the infrared is directed where it is needed
- Thermal efficiencies up to 95% with the condensing Premier VS-VH System and the most efficient reflector in the industry allows unmatched reduction in energy consumption

SRP IS THE ONLY COMPANY THAT OFFERS ALL OF THESE UNIQUE FEATURES

EFFICIENCY • COMFORT • CONTROL

Occupant comfort at the lowest operating cost is the goal of all heating systems. Radiant heating comfort is largely a result of creating a sufficient mean radiant temperature (MRT) in the space, distributed so as to overcome any discomfort associated with cooler air temperature. Properly engineered continuous infrared heating systems will heat the floor and other objects in the space. Together with direct heat from the system, the reradiated heat from these objects increases the MRT in the space at a lower ambient temperature than other systems.



RADIANT COMFORT

“More than 60% of the required heat load can be saved with an efficient layout and intelligent control of the infrared heating system” -

ASHRAE HVAC Systems and Equipment Handbook

- Infrared provides heat where it is needed—people and machines
- Lower ambient temperature setting for equivalent comfort
- Infrared provides greatly reduced temperature stratification
- Even heat distribution
- Quiet and draft free

UNPARALLELED ZONING CAPABILITY

- Zoned modulation provides just the right amount of heat where and as needed assuring maximum comfort and energy savings
- Only SRP offers choice of independent zone or complete system modulation
- Single or multiple burners per zone
- Stand alone control system does not require computer interface vs. other manufacturers
- Optimizes heat comfort
- Maximum energy efficiency

ASSURED QUALITY

- Vacuum pumps are corrosion resistant cast aluminum, heavy duty construction
- Burner design—cast iron
- Reflector—mill finish aluminum with side, bottom and tilted shield options. End caps are standard
- Tubing/Emitter 16 gauge hot rolled steel, heat treated aluminized, Stainless Steel or Silkote coated
- Heavy gauge aluminized steel couplings that outperform all others



EFFICIENCY • COMFORT • CONTROL

Controls Solutions





FIXED RATE CONTROL (ON-OFF)	TWO STAGE CONTROL (HIGH-LOW)	MODULATING CONTROL (MOTORIZED DAMPERS)	MODULATING CONTROL (VFD)
<ul style="list-style-type: none"> • Most basic of control schemes • System designed for fixed firing rate • Control cycles the system ON and OFF around a set point 	<ul style="list-style-type: none"> • System designed to operate on nominal and partial rate • Burner output rates may be decreased from nominal designed rate by up to 40% 	<ul style="list-style-type: none"> • Control system is designed to adjust the Vacuum settings of individual branches • Burner output rates may be decreased from nominal designed rate by up to 40% 	<ul style="list-style-type: none"> • Variable Frequency Drive adjusts the Vacuum settings for all heaters in the system by adjusting the pump motor speed • Burner output rates may be decreased from nominal designed rate by up to 40%

Controls Equipment

<ul style="list-style-type: none"> • Single stage thermostat • SRP ACCU-RATE® Digital Panel • SRP ACCU-RATE® Pro Panel 	<ul style="list-style-type: none"> • Two stage thermostat • SRP ACCU-RATE® Digital Panel • SRP ACCU-RATE® Pro Panel 	<ul style="list-style-type: none"> • N/A • N/A • SRP ACCU-RATE® Pro Panel 	<ul style="list-style-type: none"> • Modulating thermostat • SRP ACCU-RATE® Digital Panel • SRP ACCU-RATE® Pro Panel
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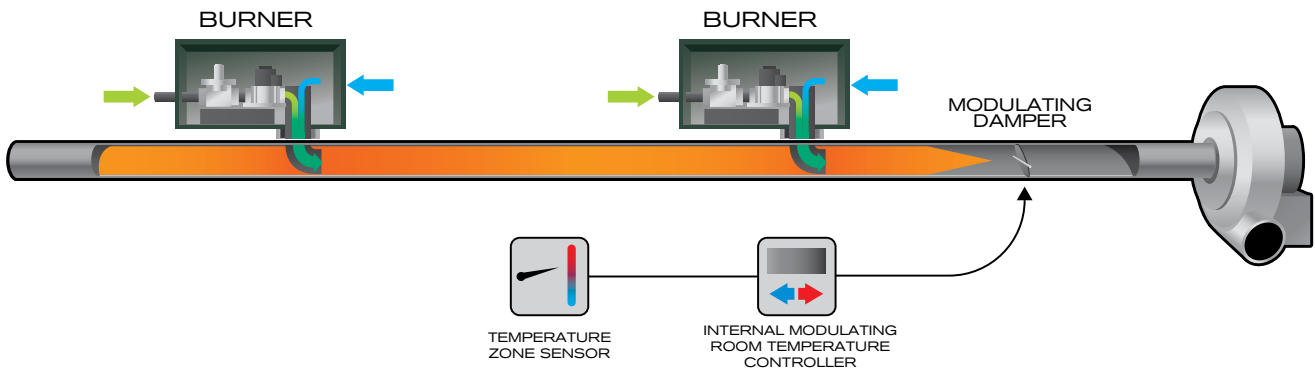
Simple to Sophisticated

SRP has specifically designed the most extensive range of control options for your needs

THERMOSTAT 	SRP ACCU-RATE® DIGITAL PANEL 	SRP ACCU-RATE® PRO PANEL 
<ul style="list-style-type: none"> • Single stage • Two stage • Modulating 	<ul style="list-style-type: none"> • Thermostat • Temperature sensors • Relay boards • Timer (post purge) • BACnet MS/TP (via thermostat) 	<ul style="list-style-type: none"> • PLC based • BACnet connectivity • Webserver • Temperature sensors (in & outdoors) • Monitoring capabilities • Human Machine Interface
SENSORS <ul style="list-style-type: none"> • Remote temperature sensor • Black Bulb Radiant Sensor  	1 Pump <ul style="list-style-type: none"> • Single stage • Two stage • Modulation with VFD 2 Pumps <ul style="list-style-type: none"> • Single stage • Two stage • Modulation with VFD 	<ul style="list-style-type: none"> • 3 Pumps / systems from one panel (VFD control) • Up to 4 branches (with motorized dampers control)

Premier System Characteristics

Feature	Benefit	Premier VS	Premier VS-VH
Vacuum operated, in-series burners, continuous heat exchanger	Even heat distribution, maximum comfort possible	✓	✓
60% - 100% variable burner input rates	Fuel savings without sacrificing design energy requirements	✓	✓
Balanced air/gas ratios for all burner rates	Maximum fuel efficiency	✓	✓
Position specific burners Burner firing range ('000 BTUH) (95% burner efficiency)	Full firing rate and maximum radiant output in radiant tubing Even heat distribution, maximum comfort possible Reduced emissions	60 to 250 Operating vacuum defines rate	20 to 120 Rate is burner specific
Direct spark, multi-try ignition	Reliability and low maintenance	✓	✓
Operation indicator lights	Maintenance aid	✓	✓
Dual, easily changed filters	Ease of maintenance to sustain system efficiency	✓	✓
System or independent branch modulation	Fuel savings and design flexibility	✓	✓
Largest total BTUH system capacity	Limited building penetrations	1.2 million BTUH	600,000 BTUH
Multiple sizes/voltages, heavy duty vacuum pump	Design flexibility, operational savings	✓	✓
Outside air capable	Operation in adverse environments	✓	✓
Control flexibility—single relay to SRP Accu-Rate® independent zone control with BMS interface	Controls to match integration of radiant heating system into building automation and monitoring systems, fuel savings	✓	✓
Outside air capable	Operation in adverse environments	✓	✓
Reflectors – 100% efficiency	Maximum radiant energy directed to the space	✓	✓
Reflector Full End Caps	Minimize convective heat loss	✓	✓
Reflector Accessories – 45° Tilt Option (side and below shields, extensions, decorative grille)	Maximum radiant energy directed to the space Minimize convective heat loss	✓	✓
Tubing Materials (HTAL, HRS, Stainless Steel, Coated)	High system radiant efficiency System longevity and reliability	✓	✓
Rigid couplings - aluminized steel	Ease of installation & reliability	✓	✓



PREMIER VS VACUUM SYSTEM

Model	Input Rate BTU/HR	VS										
		60,000	80,000	100,000	120,000	130,000	150,000	165,000	175,000	200,000	225,000	250,000
Radiant Tube Lengths	Min. ft (m)	20 (6.1)	25 (7.7)	30 (9.2)	30 (9.2)	35 (10.7)	40 (12.2)	45 (13.7)	45 (13.7)	50 (15.3)	50 (15.3)	55 (16.8)
	Norm ft (m)	30 (9.2)	30 (9.2)	40 (12.2)	40 (12.2)	40 (12.2)	50 (15.3)	50 (15.3)	50 (15.3)	60 (18.3)	60 (18.3)	70 (21.4)
	Max. ft (m)	40 (12.2)	40 (12.2)	45 (13.7)	45 (13.7)	55 (16.8)	60 (18.3)	65 (19.8)	65 (19.8)	70 (21.4)	70 (21.4)	75 (22.9)

PREMIER VS-VH VACUUM SYSTEM

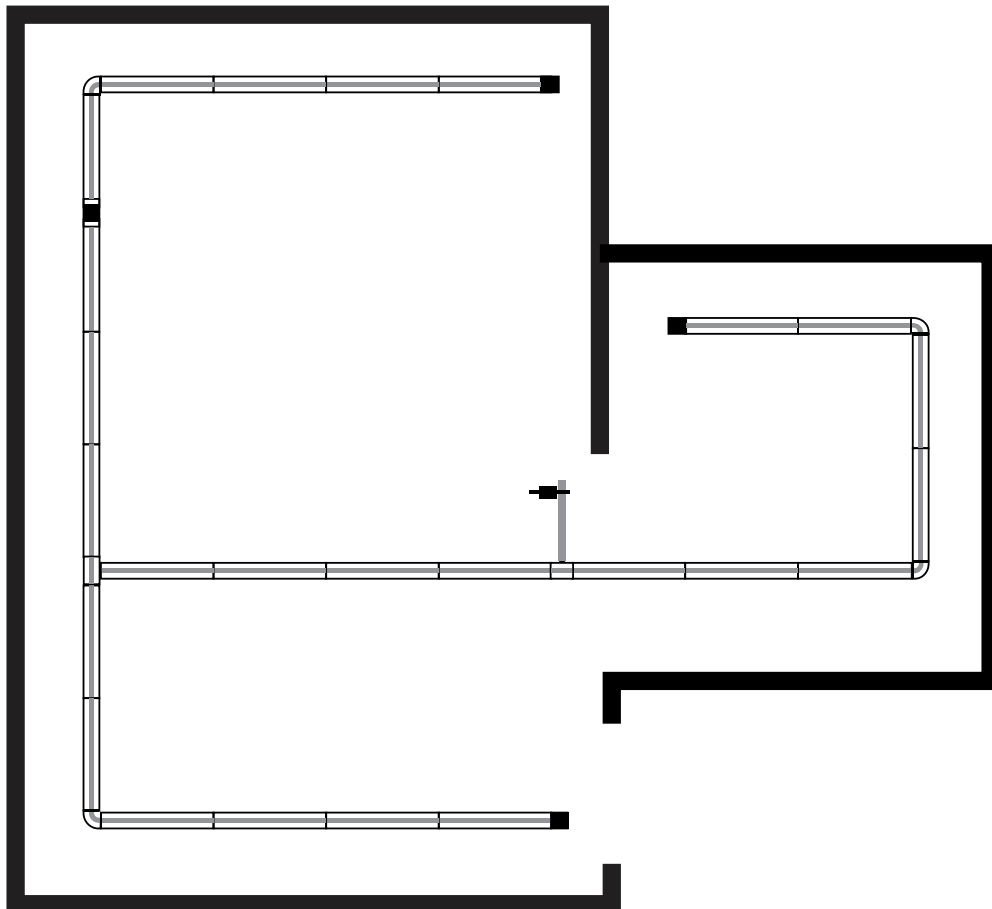
Model	Input Rate BTU/HR	VS-VH02	VS-VH04	VS-VH06	VS-VH08	VS-VH10	VS-VH12
		20,000	40,000	60,000	80,000	100,000	120,000
Radiant Tube Lengths	Min. ft (m)	10 (3.1)	15 (4.6)	20 (6.1)	20 (6.1)	30 (9.2)	40 (12.2)
	Norm ft (m)	15 (4.6)	20 (6.1)	25 (7.7)	30 (9.2)	40 (12.2)	50 (15.3)
	Max. ft (m)	20 (6.1)	25 (7.7)	35 (10.7)	45 (13.7)	60 (18.3)	70 (21.4)

Visit our website for I/O manual, specifications, and submittal.



FLEXIBLE TO FIT TO YOUR HEATING AND SPACE REQUIREMENTS

SRP Premier VS / VS-VH High Efficiency Infrared Heating Systems can be configured in almost endless ways to put heat where you need it.



IMPROVING BUILDING PERFORMANCE WITH SRP'S HIGH EFFICIENCY INFRARED HEATING SYSTEMS



**SPORTS
FACILITIES**

**MANUFACTURING
FACILITIES**

**SERVICE
GARAGES**

**AIRCRAFT
HANGARS**



**SUPERIOR
RADIANT PRODUCTS**

Superior Radiant Products Ltd.
563 Barton Street
Stoney Creek, ON L8E 5S1 Canada

Superior Radiant Products Inc.
315 N Madison Street
Fortville, IN 46040 USA

1 800 527 HEAT(4328) | tel 1 905 664 8274 | fax 1 905 664 8846
sales@superiorradiant.com | www.superiorradiant.com

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