



Superior Radiant VS – VS/VH Series Specification

Acceptable Manufacturer: Superior Radiant Products

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| <ul style="list-style-type: none">• <u>Canadian Location:</u>
563 Barton St.
Stoney Creek, ON, Canada L8E 5S1 | <ul style="list-style-type: none">• <u>United States Location:</u>
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Low Intensity infrared Premier Vacuum System VS or VS-VH high efficiency condensing or mid efficiency non-condensing featuring positioned tuned in-line burners to guarantee the best system efficiency in the industry. Firing rates shall be within the range of 20 MBH to 250 MBH (Model VS shall be 80,000 BTU/HR to 250,000 BTU/HR and Model VS-VH Shall be 20,000 BTU/HR to 120,000 BTU/HR). Burners shall be position-tuned, and shall be factory designed to operate in a specific in-line position in the radiant branch to ensure equal firing rates for each burner in the branch. Except for the first burner, subsequent burners in a leg shall have firing rates within +/- 2% of each other. Radiant branches shall contain up to 4 burners in-line on a single branch and must be capable of modulating from 60% to 100% of normal firing rates. Minimum end vent flow rates based on design may not exceed the design provided. End vent flow rates of 200% or more will not be permitted. Assemblies shall be CSA approved to latest ANSI Z83.20 and CSA 2.34 for use in commercial and industrial applications. Burner shall be a negative pressure burner system where exhaust gases and other products of combustion are routed through the blower. The burner shall operate at a minimum gas inlet pressure of 5.0 inches W.C. (natural gas) or 11.0 inches W.C. (propane – VS Burners only) and draw no more than 0.2 Amp at 120VAC, 60Hz. Burner head and mounting body shall be cast iron and burner controls shall allow service and diagnostic control checks with the burner operating. Reflector shall have a minimum 10-sided reflector design reflecting virtually 100% of the infrared energy out and away from the emitter tubes. Reflector shall be “Deep Dish” design with emitter tubes fully recessed within reflector. Reflectors with fewer than 10 surfaces will not be allowed as they allow energy to bounce back to the main heat exchanger tubing. Reflector shall be mill-finished aluminum, ASTM 1100, .024 inch thickness aluminum sheet metal with two reflector support brackets for each 10 feet (3048 mm) reflector section. Reflectors shall extend below the lowest position of the tubing at all times. Reflector end caps shall be fitted to the end of each reflector run to reduce convective heat loss, and shall be standard equipment. Emitter Tube shall be 4 inch (102 mm) diameter, minimum 16 gauge thickness. Combustion Tube shall be 4 inches (102 mm) diameter, 16 gauge, heat treated type 1 aluminized steel tubing and shall be required for all firing rates. Hot rolled steel combustion tubing shall not be allowed. Combustion tubing shall allow fastening of the burner via dual U clamps to orient the burner to the tube as designed. Couplings shall be 16 gauge aluminized steel, minimum 12 inches in length and be of heavy duty design incorporating two 1-inch wide draw bands.

This product was specified based on best practice design to meet the specific engineered design criteria for this project.

Any submission for substitution must include the following material for consideration or bid will be deemed unqualified and rejected:

- Professional Engineer design showing end vent air flow entry rate as equal as or less than design.
- Professional Engineer Stamped Design, calculations and complete set of stamped drawings with alternate system.
- Stamped fuel usage data showing a minimum 20% fuel savings over specified Superior Radiant Model
- Verification that Manufacturer successfully completed and passed the auditing requirements for ISO 9001 Quality Management System (QMS).