

ROBERTS GORDON® INFRARED HEATING



SPACE-RAY® INFRARED GAS HEATERS

VANATGE® CTH2V

NX Series

Efficiency: ROBERTS GORDON® innovative high efficiency reflectors are a key component to our low-intensity infrared heaters to provide a radiant efficiency higher than any other low-intensity infrared heater on the market with an Infrared Factory of 15*. This is highly specifiable as no competitor can match our radiant efficiency. However, a higher efficiency heater will mean a higher price. So depending on who the decision maker is, a higher radiant efficiency may not be a guaranteed lock. Identifying the decision maker will help push this through. Particularly if the owner will continue to operate in the building. Efficiencies are more important to owner-operators than owner-developers as the operators are more interested in keeping overall operation costs down and productivity up. This can be achieved with increased comfort and fuel savings as a result from a higher efficient radiant heating system.





*Rated in accordance with AHRI Standard 1330.





Burner Construction: All ROBERTS GORDON® burners are spot-welded durable construction with electrostatically applied powder coating to resist corrosion for long-lasting high quality appearance. An internal partition separates the electrical compartment from the combustion air side which keeps all hot gases and dirt away from the burner controls which will contribute to a longer component life. Serviceability is accessible through easy-to-remove access panels.

Product Warranty: All of our products carry an industry-leading (3) year tip to tip warranty. The warranty includes all parts and components. This is NOT a pro-rated warranty. Other manufacturers may offer short 1 year warranty on parts and a longer warranty on components such as tubes. Warranties such as this are deceiving as most of the failed components are parts from the burner head, not the tubes. You can be confident that when purchasing a high-performance ROBERT GORDON® product that your investment is well protected.

Safety: All heaters are tested and approved to be in compliance with ANSI Z83.20 (latest edition). Each burner has multiple safety features that will lock the burner out in the event of a component failure or other external influences such as combustion air blockage. It is our goal at Roberts-Gordon to always be in compliance with the latest government standards and regulations to ensure safe operation of our heating equipment.

Heater Exchangers: Available in hot-rolled steel, aluminized, or double coated porcelain steel, our highly emissive heat exchangers maximize radiant output. The first 10' (3 m) section of heat exchanger tubing for all unitary heaters consists of ALUMI-THERM® steel, which contains mostly aluminized steel with traces of titanium for added durability and increased longevity.

|  Feature |  Function |  The Real Story |  Sell Up |
|--|---|--|--|
| <p>Higher Radiant Efficiency (30% more efficiency than typical models)</p> | <p>NX Series offers 30% increased radiant efficiency and 30% more fuel efficiency when compared to standard tube heaters.</p> | <p>The heater tested in our lab (NXS-110) produced a respectable radiant efficiency. However, Space-Ray's method to achieve a higher efficiency involves a double layered reflector that traps heat under the reflector to produce higher heat exchanger temperatures. The higher temperatures partially warped their reflectors and can cause excessive stress on the heat exchanger, possibly shortening heater life. Their double layered reflector also creates additional assembly which will increase install costs.</p> | <p>We do not double up our reflectors. Just 1 layer is needed to produce high radiant efficiency results. Our deep-dish, wide parabolic designed reflectors direct all of the radiant energy emitted from the heat exchanger to the floor eliminating bounce back to the heat exchanger, thus increasing longevity. This innovative design maximizes radiant output and provides a radiant efficiency higher than any low-intensity infrared heater on the market.</p> |
| <p>Cast Iron Burner</p> | <p>Heavy-duty cast iron burner for long life.</p> | <p>The cast iron burner directs the flame through the burner cup. However, a typical gas pipe can perform this function. The cast iron manifold offers no advantage over typical methods.</p> | <p>Gas is carried through a standard gas manifold pipe and ignites at the burner cup that is located outside of the burner compartment. The burner cup is inserted into the first section of radiant tube.</p> |
| <p>Pull Through System</p> | <p>Products of combustion are pulled through the heat exchanger for increased combustion performance.</p> | <p>Although a pull through or sometimes called a "negative pressure" unitary heater can provide more even heat throughout the heat exchanger, there is additional installation involved as the combustion blower needs to be located on the end of the heat exchanger and wired back to the burner box. The combustion blower is exposed to hot combustion gasses that can shorten the life of the blower.</p> | <p>Positive or negative pressure burners can achieve optimum combustion performance with an even air to gas ratio. For a positive pressure CTH2V model, the combustion blower is located inside of the burner housing so no additional wiring or mounting is necessary. Also, when designed correctly, both negative and positive pressure heaters can provide even heat distribution throughout the space.</p> |

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|---|--|--|---|
| Calorized Aluminum Steel Emitter Tubes | Calorized emitter tubes produce higher emissivity and resist corrosion. | The “Calorization Process” as Space-Ray calls it, is nothing more than simply heat-treating aluminized tubing. Their aluminized tubing is offered as an upgrade and does have a higher corrosion resistance than their hot-rolled steel option. Also, heat-treated tubing does increase emissivity, but does not increase resistance to corrosion. | “Calorized Aluminum Steel” is simply a play on words. There is no difference to the heat-treated aluminized steel offered by Roberts-Gordon. This does not give Space-Ray a competitive advantage. |
| TISS™ (Tube Integrity Safety System) | With the TISS™ system, an insulated wire is placed above the reflector. A low voltage circuit control continuously monitors the clearance between the reflectors and the ceiling for excessive heat and tube integrity compromise. If the heat increases due to heat exchanger failure, the wire melts, the safety circuit is broken and the gas controls shut down. | The TISS™ system will shut off the heater if the wire melts. According to Space-Ray, the wire has to melt before it shuts the heater off. In the unlikely event the tube fails on the bottom or side, there may not be enough heat to reach the wire to shut the heater off. | Roberts-Gordon does not offer an option like this as extra steps in quality and design are taken to prevent such a failure from happening. The first 10' section of tube in all unitary heaters is made of ALUMI-THERM® steel which contains titanium alloy steel for increased durability and longevity. Also, the burner cup is strategically positioned to avoid over-heating of the tube. |
| Polished Aluminum Reflectors | Polished aluminum reflects the maximum amount of radiant energy emitted from the heat exchanger down towards objects below. | The unit tested in our lab had mill finished reflectors which is the same material that RG uses. Polished aluminum has a very similar reflectivity rating as a mill finished reflector. Our testing showed Space-Ray's reflectors produced excessive radiant bounce back which can shorten the life span of the heat exchanger. | Roberts-Gordon mill finish high efficiency reflectors far exceed the performance of Space-Ray reflectors while eliminating radiant energy from bouncing back into the heat exchanger. We have achieved an Infrared Factor as high as 15*. This is higher than any low-intensity infrared tube heater on the market. |

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This document should be used as a competitive analysis sheet to promote ROBERTS GORDON® Infrared Heating systems over competitors.
 Competitive information is subject to change without notice.

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