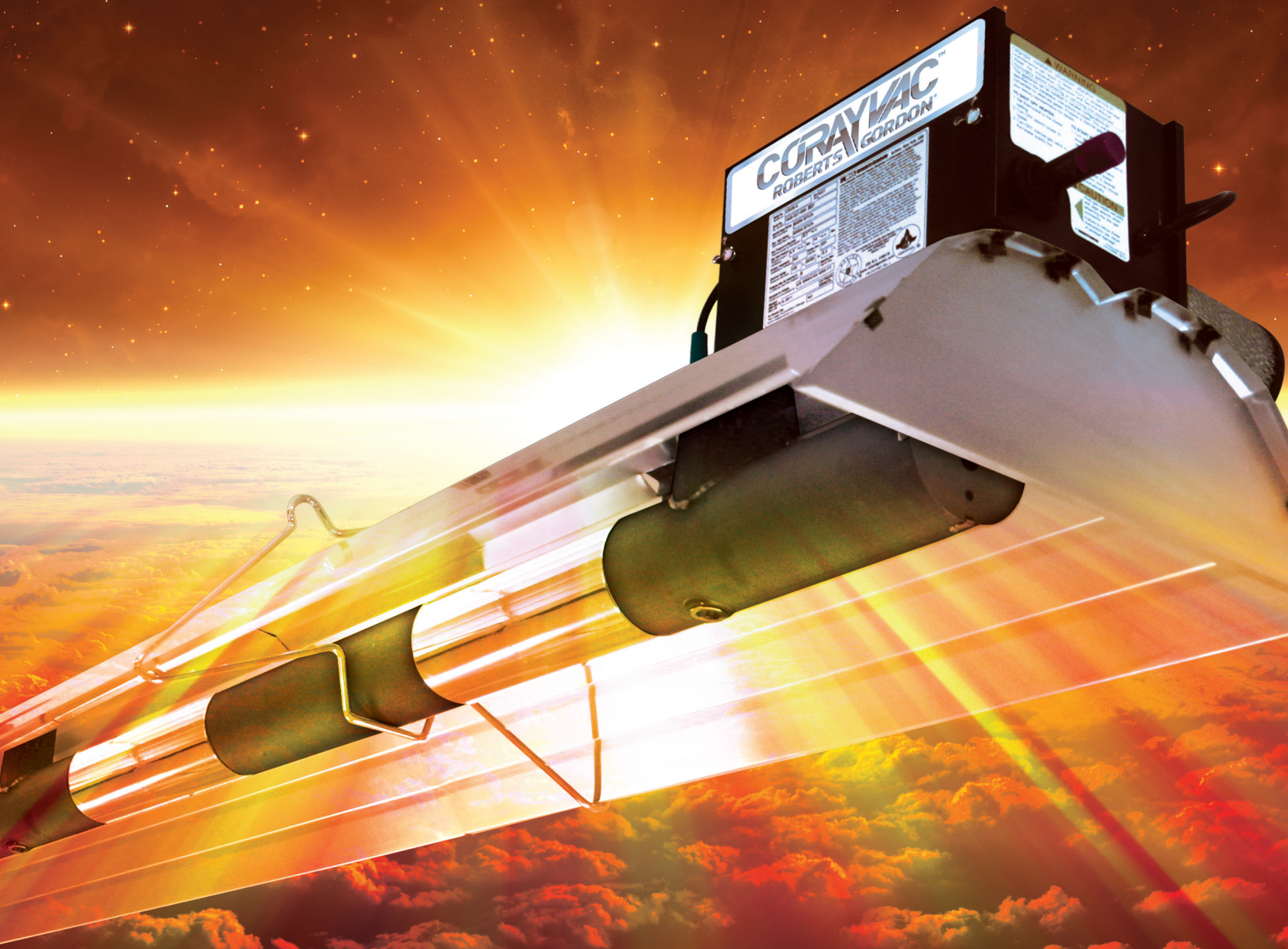


# THE INDUSTRY LEADER™ INFRARED 15 F A C T O R



**RLKUNZ**  
AIR SYSTEM PROS



# How to Choose Infrared Heaters that Maximize Energy Savings

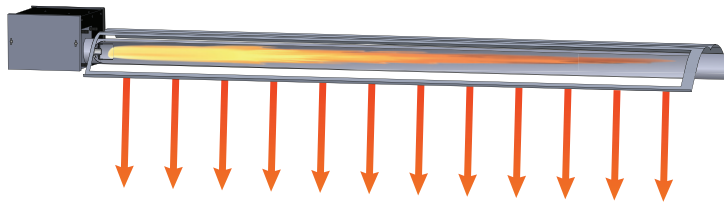
**ROBERTS GORDON® Infrared Heaters Have the Highest Radiant Efficiency in the Industry\***

\*Rated in accordance with AHRI Standard 1330. This standard is endorsed by the Air Conditioning, Heating and Refrigeration Institute (AHRI), the American National Standards Institute (ANSI), and the Canadian Standards Council.

## What is Radiant Efficiency?

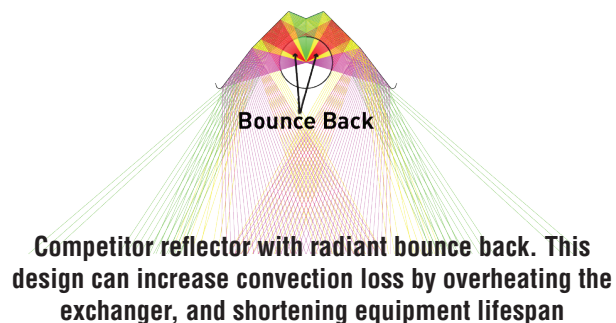
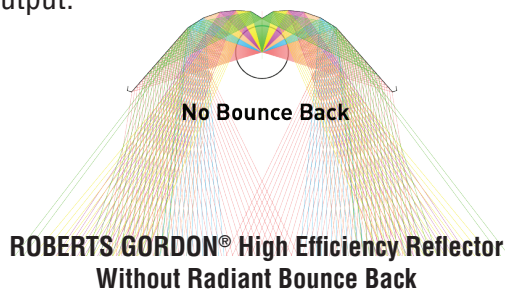
Even though combustion and thermal efficiency contribute to the overall efficiency measurement, the best indicator of radiant heater performance is Radiant Efficiency. AHRI 1330 provides recognized data that accurately measures the performance of gas-fired radiant heaters.

**Definition:** a measurement of energy input that is converted into radiant power in the form of radiant heat. Also defined as the useable heat a radiant heater produces.



## What Variables Influence Radiant Efficiency?

- There are many variables that influence radiant efficiency. Some of the more important variables are stack and convective loss. Roberts-Gordon took an innovative approach by designing a new high efficiency reflector to get more heat to occupant level while reducing stack and convective loss.
- The precise location and angle of each bend in our new high efficiency reflector is strategically positioned to deflect all of the radiant heat emitted from the heat exchanger to the floor.
- This design eliminates radiant energy from bouncing back to the heat exchanger, thus maximizing radiant output.



## Type of materials used also play a role in determining radiant efficiency

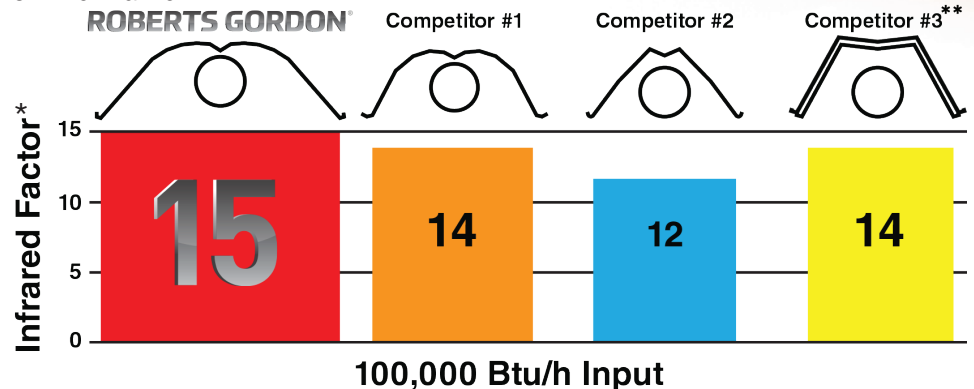
- **Reflector-** Aluminum is recognized as having a high reflectivity rating (.95). A higher reflectivity increases the amount of reflected radiant energy.
- **Heat exchanger-** Roberts-Gordon offers heat-treated aluminized, hot-rolled, and double coated porcelain steel heat exchangers. Each material has a high emissivity rating that emits a maximum amount of radiant energy.

## What is the Infrared Factor?

Similar to a SEER rating for air conditioning equipment, the Infrared Factor (IF) categorizes the radiant coefficient (radiant efficiency) percentages into increments of 5% in a range of IF-7 through IF-15. IF is an alternative method to publish radiant efficiency results since a high radiant efficiency percentage may not be perceived as a good percentage when compared to other measureable efficiency methods.

Radiant Efficiency	Infrared Factor (IF)
≤ 35%	7
> 35% ≤ 40%	8
> 40% ≤ 45%	9
> 45% ≤ 50%	10
> 50% ≤ 55%	11
> 55% ≤ 60%	12
> 60% ≤ 65%	13
> 65% ≤ 70%	14
> 70%	15

Roberts-Gordon's innovative approach to meeting AHRI 1330 and increasing radiant efficiency is with our new High Efficiency reflector that results in an Infrared Factor as high as 15! Higher than any other low-intensity infrared heater on the market!



\*Rated in accordance with AHRI Standard 1330

\*\* IF rating achieved with double layered reflectors

## The Results!

Roberts-Gordon's test laboratory is one of a few in the world with the ability to test radiant efficiency in accordance to AHRI 1330. Below are the results of our industry leading high efficiency reflectors:

Btu/h X (1,000)	40	60	80	100	125	150	175	200
Model	CTH2-40	CTH2-60	CTH2-80	CTH2-100	CTH2-125	CTH2-150	CTH2-175	BH-200
Length (ft)	10	20	20	30	40	50	50	60
Mounting	Horizontal							
Infrared Factor (IF)	13	15	14	15	14	14	14	14

## What does a greater Infrared Factor mean?

You get more heat where you want it at the floor level and less at the ceiling where you get minimal benefit. For many years, we have promoted the fuel savings benefit of using radiant heat. Now, improved efficiency means even more radiant heat and up to 20%\* additional fuel savings!

\*Actual fuel savings may vary depending on product used in comparison. Ask your ROBERTS GORDON® representative to calculate your estimated fuel savings!

## Facts About Measuring Radiant Heater Performance

Before AHRI 1330, it was difficult for the gas-fired, low-intensity infrared heating industry to accurately measure radiant heater performance.

- Combustion Efficiency measures how well fuel being burned is utilized in the combustion process, NOT how well energy is converted into usable energy for infrared heating.
- Thermal Efficiency measures how much energy is available to be turned into radiant and convective heat and the amount of energy NOT lost to atmospheric conditions, such as the exhaust. It does NOT explain how much available heat is converted into radiant heat.

