

# QUAD-GLOW® HEATER

## Advantages vs. Tube Heat

- More even heat pattern – no extreme hot spots.
- More efficient conversion of fuel to heat.
- Rectangular heat profile matches the shape of a poultry house.
- Flexible for various house widths – no need to install a variety of heater sizes to get good, even heat.
- Winchable for easy access for service.
- Quicker up-to-temperature throughout house.
- No problematic air intakes or ducting.

## Advantages vs. Brooders

- Requires fewer units – perhaps as few as one QuadRadiant® Unit to replace two infrared brooders or four convection brooders, depending on house configuration.
- More even heat pattern – no extreme hot spots.
- More efficient conversion of fuel to heat.
- Rectangular heat profile matches the shape of a poultry house.

Agile's policy is one of continuous product improvement. We reserve the right to change models and specifications at any time without notice or obligation to update previous models. Heating products should be installed only in accordance with local laws, codes and regulations. These products are not for residential use. Gas pipe layout assistance available to customers through authorized distributors. Contact Agile for further details if heater will be used at high altitudes (2000 feet or more above sea level). Orifice size options for high altitude use are available for all models. All models meet stringent standards for low carbon monoxide. Stir fans, inlets and tunnel doors should not blow directly on the heaters.



**Shenandoah**

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Manufactured by:



QuadRadiant® Heating Systems



**Not A Tube Heater, Not A Brooder,  
Not A Space Heater, But QuadRadiant® Heat  
... Because Poultry Houses Aren't Round**



**Shenandoah**

## Fuel Cost Savings



### Performance Efficiency

- Delivers 80,000 BTUs of high-pressure infrared heat – double the standard output – while using less fuel to heat the same area.
- Requires fewer units and less run time to heat a typical house.
- Uses fuel more efficiently by converting more of the thermal capacity of the gas to infrared heat and transferring more of that heat to the floor.
- Infrared transmission of heat efficiently warms floors and birds without the need to “superheat” the air.
- High-pressure models use small gas piping making retrofits more cost-efficient.
- Quicker up-to-temperature warming reduces time and energy costs before chick placement.

**Based on 2009-2010 case studies, QuadRadiant® Heat can save 20% in fuel costs over brooder heat and 15% over tube heat.\***

### Case Study Results

At Farm C, first flock fuel savings comparing brooder to QuadRadiant® Heater saw a savings in fuel of over 25%. Last flock savings during the winter saw a savings of 20.4% over conventional brooders.\*

\*Results may vary depending on house construction and other factors.



## What Growers Are Saying About Their Fuel Savings

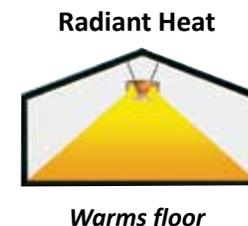
“I had [QuadRadiant Heaters] installed two years ago when I retrofitted my poultry houses. I was told then to expect about a 30% gas savings. At that time, I was spending \$22,000 - \$24,000 a year on propane to heat my three [40 x 400] houses. I now have had two years with less than \$12,000 a year in gas consumption. Thanks to your heaters, a little extra insulation, and a solid north sidewall, I have seen 50-55% savings, and *an extra \$10,000 per year in my pocket*. I can’t begin to tell you how much of an impact that has made to my farm budget.

I also am still convinced that the square heat pattern the heaters put out is second to none. Purchasing your heaters was a decision that has made a positive impact to my farm. Thank you again for your great radiant heaters!”

Jon Bennett  
Lewisville, Arkansas

### About Radiant Heat

**Radiant heat** is like the sun’s heat and is transferred by infrared heat waves. It is very efficient because it does not heat the building’s air in order to heat the objects in the building. Instead, infrared waves heat the objects they are directed toward. In the case of a radiant heater, the heat waves emitting from the heater’s glowing surface heat the birds and the litter. A small amount of convection heat is also produced.





# Better Bird Environment Improved Mortality Rates

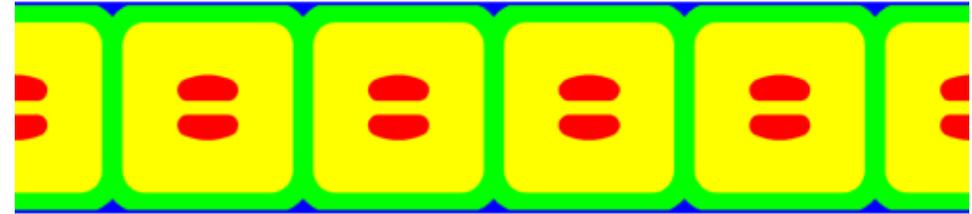


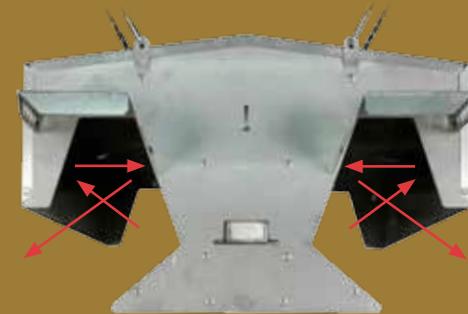
Diagram shows heat pattern from QuadRadiant® Heaters.\*\*

## Great Chick Starts

- QuadRadiant® Heat penetrates the litter and warms it to the desired temperatures, reducing ammonia production.
- Reduced ammonia requires less exhaust, thus less fan run time. Fans can be set to minimum ventilation guidelines, saving energy and allowing maximum run-time efficiency of both heaters and fans.
- Chicks tend to move from wall to wall to find their individual comfort zones throughout the brood chamber, allowing maximum utilization of feed and water.

- Improved Flock Performance
- Better Feed Conversion\*

ABOVE: Broad **yellow** comfort zone (approximately 85 to 100 degrees Fahrenheit) and **green** band at perimeter of comfort zone (approximately 80 to 85 degrees Fahrenheit) allow birds to choose their area of greatest comfort.



The special shape of Shenandoah's QUAD-GLOW® Heater reflects heat in a wide pattern 30 x 40 feet to 40 x 60 feet.

## Grower Testimonial

**"The houses with the Quads are the driest houses I have ever seen after a flock of birds."**

## Case Study Results

**At Farm B, there was a 28.3% better mortality rate for the QuadRadiant® House over these two flocks.\***

\*Based on 2009-2010 case studies. Results may vary depending on house construction and other factors.

1. Rectangular, house-shaped heat patterns from QuadRadiant® Heaters are even and match the rectangular shape of a poultry house.
2. More even heat patterns result in a larger comfort zone for birds and save fuel (hot spots waste fuel).

\*\*Actual house temperatures may vary depending on house type and installation.

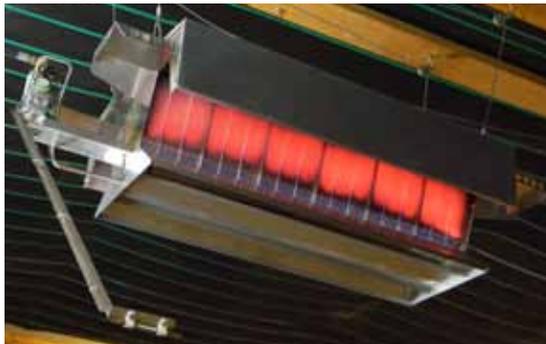
## QUAD-GLOW® Heater Pressure, Fuel and Power Options

Quad-Glow® Heater Model Overview		High Pressure			Low Pressure	
		Std	Can.†	B/P	Snap	Zone
Fuel	Propane	●	●		●	●
	Natural Gas	●	●			
	Butane/ Propane Mix			●	●	●
Power	120 V AC**	●	●	●		
	No Electricity				●	
	24 V AC or 12 V DC					●



- For 5-psi operation, users have a choice of Standard, Canadian or Butane/Propane Model.
- Zone control models save fuel by permitting users to heat only the areas of the house where heat is needed.\*

\*Zone control models include all high-pressure QuadRadiant® heater models and the low-pressure zone control model.



- The Low-Pressure, Snap Action Model pictured above requires no electricity. Shown with sensor arm lowered into operating position.
- Also available but not pictured – the Low-Pressure, Zone Control Model permits 12 V DC battery back-up.

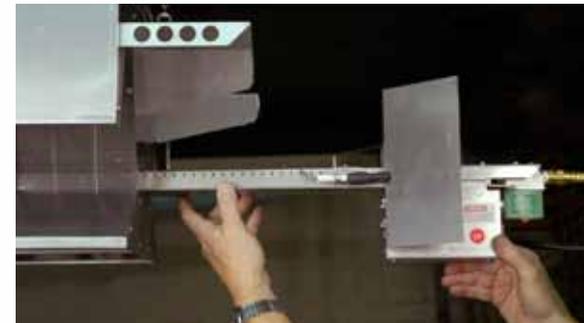
\*\*Transformers are available to convert a 230 V power source to 120 V or to convert a 120 V power source to 24 V.

† CSA approved model.

## QUAD-GLOW® Heaters Delivered Assembled; Easy Maintenance Access

### Delivered Assembled

- Heaters are delivered assembled and ready to hang, reducing installation labor costs.
- Units include 8-foot (2.44-meter) gas hoses and power cords for flexible heater placement.
- 120-volt zone control (on applicable high-pressure models) eliminates transformers.
- Slotted tabs at the corners of the heater permit secure four-point suspension for extra stability.



*Heavy-duty 18-gauge stainless steel burner is easy to access and includes a flame-sensing direct spark ignitor. Low-pressure models feature a fuel-efficient 500-BTU pilot.*

### Easy Access for Maintenance

- Designed for accessibility for cleaning and maintenance with minimal tools and simple hardware removal.
- Heaters are winchable for house clean-out.
- Designed for compressed air cleaning.
- Stainless steel emitter and inner cone protect internal fiber insulator during cleaning process.
- Corrosion-resistant stainless steel burner is easy to access by removing one screw.