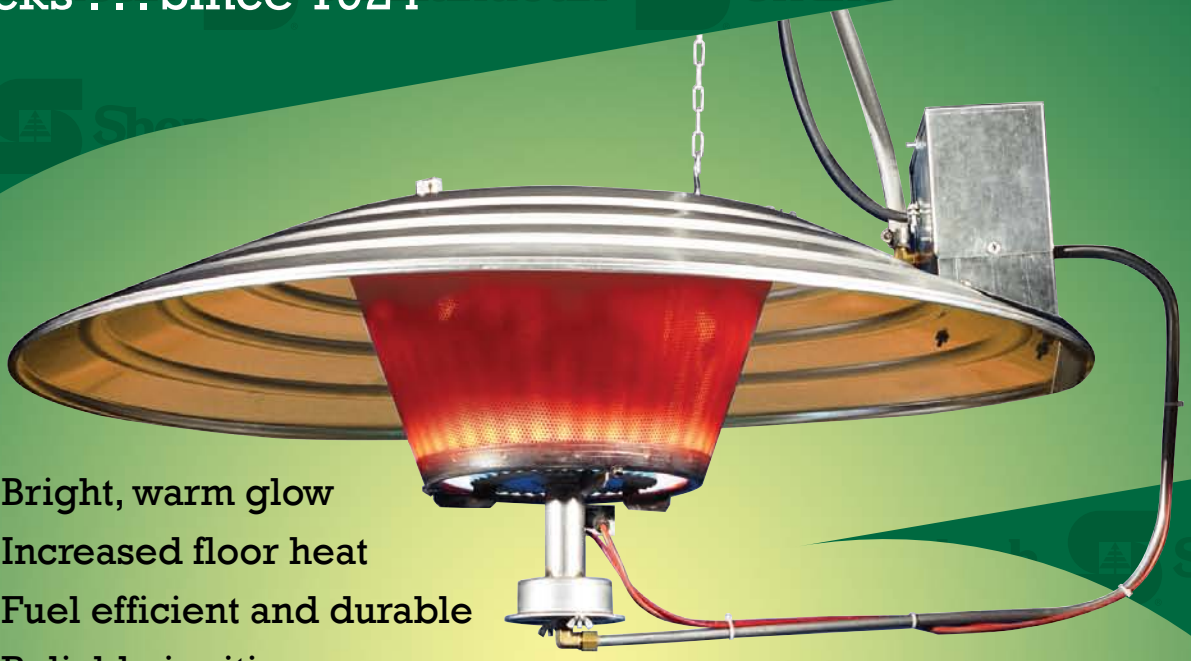
Brooders

Shenandoah®

Better Brooding for Your Chicks . . . Since 1924



- Bright, warm glow
- Increased floor heat
- Fuel efficient and durable
- Reliable ignition
- Patented features
- Easy to clean and assemble

Shenandoah's 42,000 and 40,000 BTU Infrared Brooders

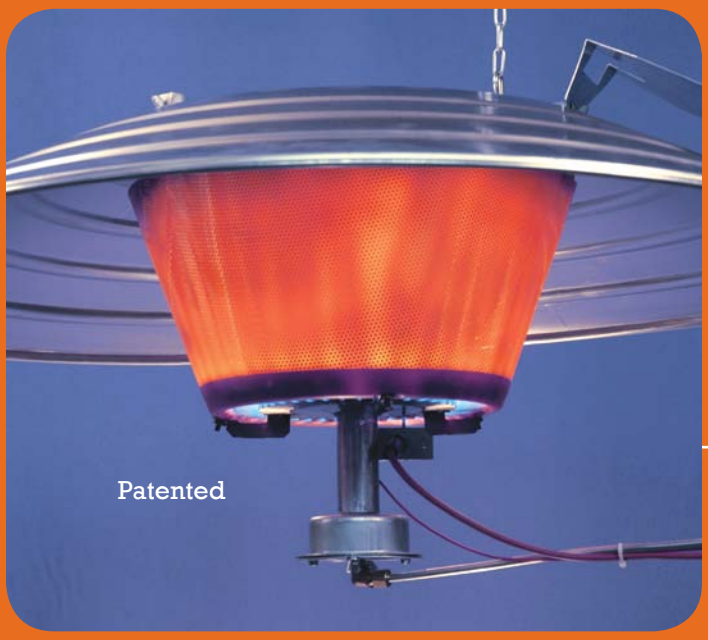
The Ultimate in Reliable, Efficient Radiant Heat

Shenandoah SHEN GLOW® Infrared Brooder

Heats an average of 800 to 1000 square feet (74.3 to 92.9 square meters) per brooder.

Shenandoah SHEN GLOW® HP High-Capacity High-Pressure Brooder

(For installations with small diameter gas pipes.)



Heats an average of 800 to 1000 square feet (74.3 to 92.9 square meters) per brooder.

Variable and Reliable Heat Distribution

- Variable – Heat is most intense directly under brooder with concentric rings of diminishing heat so birds can choose where they are most comfortable.
- Reliable – Our heating systems are backed by more than 80 years of experience in heater innovation and design.

Broad Heat Pattern and Volume of Heat

- Provides a broad comfort zone with a high volume of heat to the floor and a wide pattern of heat distribution.
- Design of emitter and canopy work together to distribute heat to a larger area.

Maximum Fuel Efficiency

- Infrared transmission of heat efficiently warms floors and birds without the need to "superheat" the air – uses less fuel.

Easy to Clean and Maintain

- Removable air intake, drop-down orifice and patented horizontal pilot are designed for easy cleaning and maintenance with no tools and minimal hardware removal.
- Stainless steel emitter and inner cone protect internal fiber insulator during power washing (be sure to cover the control before power washing). Units may also be cleaned using compressed air.
- Stainless steel burner is corrosion-resistant and stays clean.

- **No air inlet filter needed.**
- **Operate with higher gas pressures to save piping costs.**
- **Ideal for retrofit in houses with small gas piping.**

Shenandoah®

Brooder Specifications

Type	Large Infrared Brooder	High-Capacity High-Pressure Brooder (Shipped pre-assembled)	Small Infrared Brooder	Convection Brooder
Unit Name	SHEN GLOW®	SHEN GLOW® HP	SHEN BEAM®	SHEN VEC™
Heating area per unit	800-1000 sq. ft. (74.3-92.9 m^2)	800-1000 sq. ft. (74.3-92.9 m^2)	250-400 sq. ft. (23.2-37.2 m^2)	250-400 sq. ft. (23.2-37.2 m^2)
Capacity (maximum per hour)				
Pilot Ignition (Note: Brooder pilots burn at 2,000 BTUs per hour and can withstand 5 mph wind speed.)	42,000 BTU (10,584 Kcal)	Not Available	25,000 BTU (6,300 Kcal)	31,000 BTU (7,811 Kcal)
Direct Spark Ignition	40,000 BTU (10,080 Kcal)	40,000 BTU (10,080 Kcal)	23,000 BTU (5,796 Kcal)	Not Available
Modulation Range				
Range per Hour	Not Available	Not Available	10,000-25,000 BTU (2,520-6,300 Kcal)	Not Available
Gas Consumption (maximum) Pilot Ignition				
LP	0.46 gph (1.74 l/h)	Not Available	0.27 gph (1.02 l/h)	0.34 gph (1.29 l/h)
Natural Gas	39.9 cfh (1.13 m^3/h)	Not Available	23.8 cfh (0.67 m^3/h)	29.3 cfh (0.83 m^3/h)
Gas Consumption (maximum) Direct Spark Ignition		***LP Brooder with Natural Gas Conversion Kit**		
LP	0.44 gph (1.67 l/h)	0.44 gph (1.67 l/h)	0.25 gph (0.95 l/h)	0.32 gph (1.21 l/h)
Natural Gas	37.8 cfh (1.07 m^3/h)	37.8 cfh (1.07 m^3/h)*	21.9 cfh (0.62 m^3/h)	27.4 cfh (0.78 m^3/h)
Gas Pressure Requirements (measured at unit for SHEN GLOW® HP and at pressure tap on valve with unit running for other models)				
LP	11" WC (27.5 Mbar)	5 psi max (350 Mbar max)	11" WC (27.5 Mbar)	11" WC (27.5 Mbar)
Natural Gas	7" WC (17.5 Mbar)	5 psi max (350 Mbar max)*	7" WC (17.5 Mbar)	7" WC (17.5 Mbar)
Heater Size, Weight & Assembly Information				
Weight per Complete Unit	18-26 lbs. (8.2-11.8 kg)	18-26 lbs. (8.2-11.8 kg)	18-28 lbs. (8.2-12.7 kg)	15-32 lbs. (6.8-14.5 kg)
Canopy Width Options (Aluminum or Galvanized)	34 in. (86.4 cm)	34 in. (86.4 cm) Heavy-Duty Aluminum Only	34 or 46 in. (86.4 or 116.8 cm)	34 or 46 in. (86.4 of 116.8 cm)
Height	14 in. (35.6 cm)	14 in. (35.6 cm)	17.5 in. (44.5 cm)	20.5 in. (52.1 cm)
Operational Guidelines for Brooding Area (adjust up or down depending on housing construction/condition and climate)				
Height from floor (measure from edge of canopy)	60-72 in. (152.4-182.9 cm)	60-72 in. (152.4-182.9 cm)	30-36 in. (76.2-91.4 cm)	30-36 in. (76.2-91.4 cm)
Space between brooders/side	25-40 ft. (7.6-12.2 m)	25-40 ft. (7.6-12.2 m)	15-25 ft. (4.6-7.6 m)	10-20 ft. (3.0-6.1 m)
Minimum Clearance to Combustibles				
Sides of Brooder/Heater	36 in. (90 cm)	36 in. (90 cm)	30 in. (75 cm)	26 in. (65 cm)
Above Brooder/Heater	14 in. (35 cm)	14 in. (35 cm)	12 in. (30 cm)	10 in. (25 cm)
Below Brooder/Heater	48 in. (120 cm)	48 in. (120 cm)	30 in. (75 cm)	30 in. (75 cm)
Control Options (Electrical Requirements - Direct Spark Zone Control 24 V AC - Pilot Zone Control 24 V AC)				
Electronic Zone Control (Maximum brooders per zone - 40 pilot or 18 direct spark)	Pilot or Direct Spark	Direct Spark (120 volts)	Pilot or Direct Spark	Pilot
On-Off Individual Control	Pilot	Not Applicable	Pilot	Pilot
Modulating Individual Control	Not Applicable	Not Applicable	Pilot	Pilot
Manifold Zone Control (Maximum brooders per zone - 20)	Not Applicable	Not Applicable	Not Applicable	Available

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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.

CSA (Canadian Standards Association) approved models are available.
All models meet stringent standards for low carbon monoxide.

Reliable Control Options

ZONE CONTROLS Allow one thermostat or control to regulate all brooders in a specified area.				**INDIVIDUAL CONTROLS** Allow control of each individual brooder independently of the others.	
Electronic (Pilot)	**Electronic (Direct Spark)**	**Electronic High-Pressure (Direct Spark)**	**Manifold**	**Modulating (Pilot)**	**On-Off (Pilot)**
Mounted on each individual brooder with up to 40 brooders per zone	Mounted on each individual brooder with up to 18 brooders per zone	Mounted on each individual brooder with maximum per zone determined by thermostat or control used	One manifold per zone with up to 20 brooders per zone	Mounted on each individual brooder	Mounted on each individual brooder
Includes 100% safety cut-off valve	Reliable ignition uses less fuel with no pilot and gives three tries before lockout	Reliable ignition uses less fuel with no pilot and gives three tries before lockout	Available with step rate control or modulating	Combines a snap-action thermostat with 100% safety cut-off valve	Combines a snap-action thermostat with 100% safety cut-off valve
24 V AC	24 V AC	120 V AC	120 V AC	No electricity needed	No electricity needed
Can be powered by a battery back up system or generator	Can be powered by a back-up generator	Can be powered by a back-up generator		Modulates between maximum and minimum BTU rates before snapping off at control setting	Snaps from high to off based on control setting

See Brooder Specification chart for which controls can be used with each style of brooder.

Shenandoah´s 23,000 to 31,000 BTU Brooders

Backed by More Than 80 Years of Heater Innovation and Design Experience

Shenandoah SHEN VEC™ Convection Brooder

Convection Heating with Unique Spiral Ceramic Radiant for Added Efficiency

Reliable Heat Distribution

- Two canopy size options for a heat area that is broad or more focused.

Fuel-Efficient Spiral Ceramic Radiant

- Fuel-efficient, spiral ceramic radiant gets more heat down to the birds quickly (compared to smooth ceramic radiants). A fiber radiant option is also available.
- Jet burner burns cleanly and efficiently.

Easy to Clean and Maintain

- Easy access to orifice in jet burner and patented horizontal pilot for easy cleaning and maintenance with no tools. Compressed air cleaning is recommended – do not power wash.

Heats an average of 250 to 400 square feet (23.2 to 37.2 square meters) per brooder.

Shenandoah SHEN BEAM® Infrared Brooder

An Efficient and Reliable Mid-Range Radiant Heater

Reliable Heat Distribution

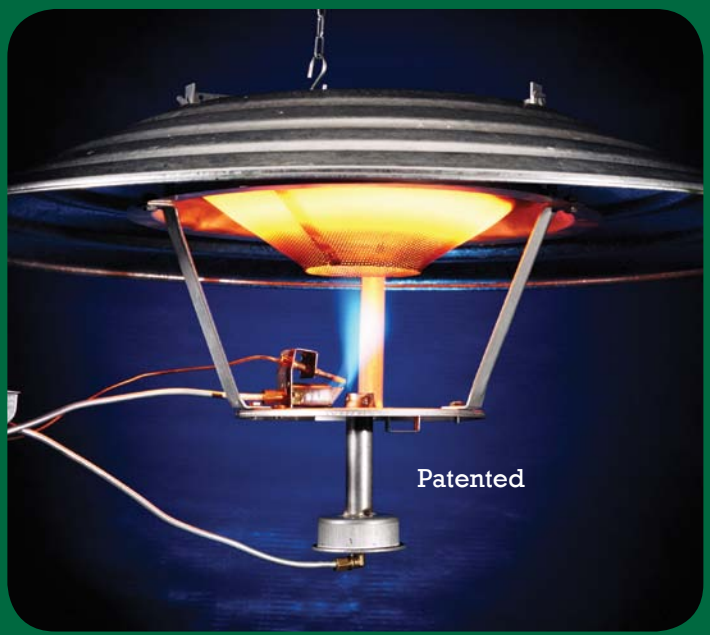
- Two canopy size options for a heat area that is broad or more focused.

Maximum Fuel Efficiency

- Efficient infrared heating uses less fuel because the floor stays warm at cooler room temperatures.

Easy to Clean and Maintain

- Removable air intake, drop-down orifice and patented horizontal pilot are designed for easy cleaning and maintenance with no tools and minimal hardware removal. Compressed air cleaning is recommended – do not power wash.



Heats an average of 250 to 400 square feet (23.2 to 37.2 square meters) per brooder.

Shenandoah®

Better Brooding for Your Chicks

Advantages of Shenandoah Brooders Compared to Tube-Style Heaters

- Losing one brooder reduces overall heating capacity only a small amount compared to tube heaters.
- Easily move one or more brooders to another location in the house in just a few minutes if needed. (Assumes gas supply is already in place.)
- Some Shenandoah brooder models operate without electricity – keeps your birds warm even during power interruptions.
- Shenandoah's brooder hanging height makes units easily accessible for routine maintenance.

About Heat

There are two main types of heat used in poultry and livestock facilities – radiant (infrared heat) and convection (hot-air heat).

Radiant Heat

Warms floor

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 brooder, 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.

With **convection heat**, the majority of the brooder's BTU input is transferred to the air through convection. This means that most of the air in the building must be warmed to obtain the desired temperature at bird level. A space heater is an example of a 100 percent convection heater. The heater blows heated air into the house, and the birds and litter will not be warmed until the majority of the air volume in the house has been heated.

Convection Heat

Warms room

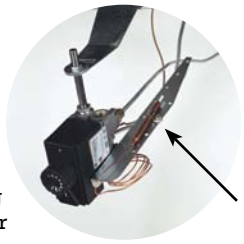
Reasons to Consider a New Heating System

- Install reliable, fuel-efficient Shenandoah heaters in new houses.
- Replace worn-out brooders and space heaters.
- Upgrade your BTU output and fuel efficiency with newer models.
- Gain control of your heat with reliable whole-house electronic controls.

Key Shenandoah Brooder Features

Patented Space-Saver Hanging Bracket

Low-profile "T"-hanger suspension is designed for easy field installation and easy brooder leveling adjustment.



Multi-Location Sensing Bulb Placement

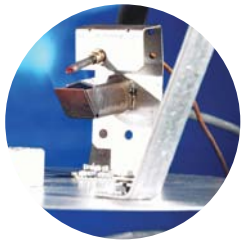
Multi-location bracket for heat sensing bulb allows flexibility in positioning for more precise floor temperature management. Mount the sensor on top of or under the bracket, in various positions from very close to the brooder to farther away from the brooder, or extend the sensor position beyond the bracket.

Three-Layer Emitter Assembly

Standard on 42,000 BTU and 40,000 BTU brooders, the assembly consists of a stainless steel emitter, stainless steel inner cone, and fiber insulator. The inner cone completely shields the insulator, making power washing possible.

Patented Horizontal Pilot

Our patented horizontal pilot improves reliability, maintenance, and combustion. The horizontal pilot position is less prone to clogging from dust and dirt. The pilot shield that protects the orifice is easily removed without tools for standard maintenance.



Sturdy Canopy Design

Spun aluminum or steel canopies feature a beaded, "U"-channel structure for strength and durability.

Heat Shield

(Popular for use with turkey poults) The heat shield is standard on all brooders 31,000 BTUs and under and is available as an option on our higher BTU brooders. Use of the heat shield reduces the intensity of the heat directly under the brooder and spreads the brooder's warmth further. The temperature sensing bulb may be located under the heat shield in turkey applications.

Heat Shield

Shenandoah®

Shenandoah SHEN TURBO™ 250 Space Heater

High-BTU Output Convection Heating

Reliable Heat Distribution

- Design is backed by more than 80 years of experience in heater innovation and design.
- Durable galvanized steel cabinet with stainless steel option and heat-resistant aluminized burn chamber.

Maximum Fuel Efficiency

- High-performance cast-iron burner provides efficient combustion.
- Multiple ignition and fuel source options.

Easy to Clean and Maintain

- Removable panels and controls compartment are designed for easy cleaning and maintenance. Compressed air cleaning is recommended – do not power wash.

Heats an average of 2500 to 4400 square feet (232.3 to 408.8 square meters) per heater.

Outside Mount Kit permits unit to be mounted outside the house – draws in more fresh air, uses less space in house and adds less in-house humidity. An air deflector is also available for layer applications to direct air along walls instead of blowing directly on birds.

Space Heater Specifications

Unit Name	SHEN TURBO™ 250 (Outside Canada)	SHEN TURBO™ (Canada)
Heating area per unit	2750-4400 ft² (255.5-408.8 m²)	2500-4000 ft² (232.3-371.6 m²)
Capacity (maximum per hour)		
Direct Spark or Hot Surface Ignition	250,000 BTU (63,000 Kcal) LP or Nat. Gas	225,000 BTU (56,700 Kcal) - LP 200,000 BTU (50,400 Kcal) - Nat. Gas
Gas Consumption (maximum) - LP		
Direct Spark or Hot Surface Ignition	2.73 gph (10.33 l/h)	2.46 gph (9.31 l/h)
Gas Consumption (maximum) - Natural Gas		
Direct Spark or Hot Surface Ignition	235.85 cfh (6.68 m³/h)	213.8 cfh (6.05 m³/h)
Gas Pressure Requirements (measured at inlet)		
LP	11" WC (27.5 Mbar)	11" WC (27.5 Mbar)
Natural Gas	7" WC (17.5 Mbar)	7" WC (17.5 Mbar)
Heater Size, Weight & Assembly Information		
Weight per Complete Unit	125 lbs. (56.7 kg)	125 lbs. (56.7 kg)
Height x Length x Width	30 x 24.5 x 19 inches (76.2 x 62.2 x 48.3 cm)	30 x 24.5 x 19 inches (76.2 x 62.2 x 48.3 cm)
Minimum Clearance to Combustibles		
Above, below and beside unit	20 in. (50.8 cm)	20 in. (50.8 cm)
Exhaust outlet	120 in. (304.8 cm)	120 in. (304.8 cm)
Electrical Requirements: 120 VAC (220/240 VAC 50 or 60 Hz)		

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ROXELL®

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