Spider*fire* Frequently Asked Questions

Energy Costs Comparison

Based on a monthly consumption of 2,000 therms @ $1.20 / therm.

	80% Efficiency	95% Spider*fire*
What you pay for the fuel	$2,400	$2,400
Gallons of water heated to 100 degree rise	145,600 gals	172,900 gals
Amount of fuel costs transferred into hot water	$1,920	$2,280
Therms lost based on efficiency	400 therms	100 therms
Cost of lost therms based on efficiency	$480 / month	$120 / month
Dollar savings when Spider*fire* installed	**$360 / month**	

The **therm** is a unit of heat energy equal to 100,000 British Thermal Units (BTU). It is approximately the energy equivalent of burning 100 cubic feet (often referred to as 1Ccf) of natural gas.

Fuel cost analysis courtesy of Certispec 3.2 sizing software.

Certifications, Approvals, and Code

What is the design standard? The Spider*fire* was designed to ANSI Z21.10.3a-2007 and certified to CSA 4.3a-2007.

Are the 200 and above tanks ASME rated? Yes, they are. You will find ASME and non-ASME variants of all the BTU inputs.

Can this product be used in the food service industry? Yes, with its energy savings, foodservice is a great application. You will need to order kit number AS42690 UL Sanitation Kit for NSF compliance.

Is the Spider*fire* High Altitude certified? Yes. Spiderfire is certified to 5,200 feet for natural gas only.

Does the Spider*fire* qualify for the Made In America Program? Yes it does. The Spiderfire is built in Montgomery, Alabama and will qualify for the Made in America programs.

Is it NSF or UL Sanitation approved? Yes it is. You will need to order kit number AS42690 UL Sanitation Kit for NSF compliance.

Installation

Can the Spider*fire* be easily converted to LP? Unfortunately, this water heater may not be converted from one fuel source to another.

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Are caps provided on the extra 2 water connections? No they are not. We rely on the installing contractor to provide all connections and caps upon installation.

Venting and Applications

Is the venting material approved for Canada? The fast answer is yes. The Spider*fire*, because of its CSA certification, is available for sale in Canada. This includes any of the PVC materials that are OEM supplied with the product. However, Canada requires that all products vented with PVC must conform to the ULC 636 standards. It is the installing contractors' responsibility to plan and install venting from the appliance to outside the building in accordance with local codes. To comply, simply connect the ULC 636 PVC pipe to the Spider*fire* with a coupling that is approved by your local code inspector. These are normally rubber couplings with hose clamps.

Will the heater come with any venting components? Yes, it does. The final termination fitting (ULC 636 approved) and the intake screen are provided with the Spider*fire* .

What is the maximum length of venting? That is a hard question to answer. Venting is a combination of the straight pipe runs and elbows use to get the exhaust gas outside the building. The vent lengths will also change with BTU input and the size of the vent pipe (2, 3 or 4 inch PVC). Check the use and care manual tables for the appropriate vent lengths. Here is a small extract from the use and care manual.

Two Pipe

Power Direct Vent			
	Vent Pipe Size (In.)		
	2	3	4
Model	Maximum Vent Length for Inlet or Outlet (ft.)		
*GHE100-130	20	60	85
GHE100-160	20	50	75
GHE100-200	20	40	65
GHE100-250	n/a	40	65
GHE100-300	n/a	40	40
GHE100-350	n/a	40	40
For each 90° elbow, reduce pipe length by five (5) feet. For each 45° elbow, reduce pipe length by five (2.5) feet.			

One pipe

Power Vent				
Vent Pipe Size (In.)				
		2	3	4
Model	Maximum Vent Length for Outlet (ft.)			
GHE100-130		20	60	85
GHE100-160		20	50	75
GHE100-200		20	40	65
GHE100-250		n/a	40	65
GHE100-300		n/a	40	40
GHE100-350		n/a	40	40
For each 90° elbow, reduce pipe length by five (5) feet. For each 45° elbow, reduce pipe length by five (2.5) feet.				

Does the venting need to be balanced in the 2 pipe mode? We highly suggest keeping the venting as balanced as possible (in a direct vent installation). The exception is in the case of power vented which only has venting on the exhaust side.

Does the Spider*fire* have a concentric termination kit? Sure does. The Spider*fire* concentric vent is SP20261.

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Does the concentric vent kit work with 2", 3" and 4" piping? Yes it does. Check the use and care manual for specific requirements for the concentric venting.

Operational Characteristics

What is the variance on the set point? The set point (or water temperature) can be adjusted in one degree increments.

What is plus/minus to set point for temperature? Also called the differential, the Spiderfire has a user adjustable range from one degree to 20 degrees. It is factory set a +-5ºF.

Is there a collector for condensate removal? Yes, there is. The Spider*fire* has a built in condensate removal system. All you need to do is pipe the liquid to a suitable drain in accordance with your local installation codes.

What is the minimum gas pressure required? Good question. Two things come into play with a gas burning water heater: fuel pressure and fuel volume. The rating plate on the water heater will tell you the minimum inlet pressure and maximum inlet pressure. Also remember, the more BTU input of the water heater, the larger the gas supply pipe.

Does the Spider*fire* have a cleanout hole? Yes, it does. The Spider*fire* has a hand hole clean out for removal of sediment material and inspection of the anode rods.

What is the temperature differential for burner activation? Let me try to answer that question this way. The digital LCD display and electronic thermistors (temperature sensors) will allow you to adjust the temperature setting (set point) in one degree increments. The differential (or sensitivity) can also be adjusted from one degree plus or minus to 20 degrees plus or minus. Once the temperature sensor determines the water temperature is below the set point and below the differential, it will initiate a recovery sequence.

Is the gas valve a full bore on or a step up type? The Spider*fire* gas valve is a Dungs 120VAC, fast opening & closing, twin relay, gas valve. We have a “negative” premix gas valve that requires negative pressure from the blower to operate.

How loud is the Spider*fire*? Remember, this is a commercial gas water heater. It is designed to go into a mechanical room; not sit in the middle of the restaurant dining room. Having said that, you can have a normal conversation with another person while standing next to the Spider*fire*.

Warranty and Service

How much space do you need above the unit to service controls? You will need approximately 18 inches above the unit to remove the cover and have some elbow and head

room to inspect and test the controls. The power supply connection and the gas supply connection are both located on the top left rear of the Spider*fire*.

What is the warranty? Is there an extended warranty? The Spider*fire* has the industry standard warranty for a commercial gas water heater - 3 years tank leak and one year on parts. You may purchase an extended warranty for five years of tank leak protection.