



# Easy Radiant "Works"

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## Engineering Submittal Data

### **EZ, EZU, SH & SHU straight and U shape radiant tube heaters.**

Adding the letter B to the prefix indicates a brooder model.

Adding the suffix LTH indicates dual input with the low input being 70% of the high input.

Adding the suffix CW indicates a car wash heater.

Model	O/A Length	Input (BTU)	Weight
EZ(SH)60-20	21 ft. 8" / 6.6 m	60,000	90 lbs / 40.82 kg
EZ(SH)75-20	21 ft. 8" / 6.6 m	60,000 – 75,000	90 lbs / 40.82 kg
EZ(SH)80-20	21 ft. 8" / 6.6 m	60,000 – 80,000	90 lbs / 40.82 kg
EZ(SH)85-30	31 ft. 5" / 9.56 m	60,000 – 85,000	105 lbs / 47.63 kg
EZ(SH)100-30	31 ft. 5" / 9.56 m	70,000 – 100,000	105 lbs / 47.63 kg
EZ(SH)125-30	31 ft. 5" / 9.56 m	90,000 – 125,000	105 lbs / 47.63 kg
EZ(SH)100-40	41 ft. 2" / 12.55 m	70,000 – 100,000	130 lbs / 58.97 kg
EZ(SH)125-40	41 ft. 2" / 12.55 m	90,000 – 125,000	130 lbs / 58.97 kg
EZ(SH)150-40	41 ft. 2" / 12.55 m	105,000 – 150,000	130 lbs / 58.97 kg
EZ(SH)160-40	41 ft. 2" / 12.55 m	112,000 – 160,000	130 lbs / 58.97 kg
EZ(SH)125-50	50 ft. 11" / 15.5 m	90,000 – 125,000	150 lbs / 68.04 kg
EZ(SH)135-50	50 ft. 11" / 15.5 m	95,000 – 135,000	150 lbs / 68.04 kg
EZ(SH)150-50	50 ft. 11" / 15.5 m	105,000 – 150,000	150 lbs / 68.04 kg
EZ(SH)165-50	50 ft. 11" / 15.5 m	115,000 – 165,000	150 lbs / 68.04 kg
EZ(SH)165-60	60 ft. 8" / 18.5 m	115,000 – 165,000	165 lbs / 74.84 kg
EZ(SH)200-60	60 ft. 8" / 18.5 m	160,000 – 200,000 (180,000 L.P.)	165 lbs / 74.84 kg
EZ(SH)200-70	70 ft. 5" / 21.46 m	160,000 – 200,000 (180,000 L.P.)	180 lbs / 81.65 kg
EZU(SHU)60-10	11 ft. 11" / 3.63 m	60,000	90 lbs / 40.82 kg
EZU(SHU)75-10	11 ft. 11" / 3.63 m	60,000 – 75,000	90 lbs / 40.82 kg
EZU(SHU)80-10	11 ft. 11" / 3.63 m	60,000 – 80,000	90 lbs / 40.82 kg
EZU(SHU)85-15	16 ft. 8" / 5.08 m	60,000 – 85,000	105 lbs / 47.63 kg
EZU(SHU)100-15	16 ft. 8" / 5.08 m	70,000 – 100,000	105 lbs / 47.63 kg
EZU(SHU)125-15	16 ft. 8" / 5.08 m	90,000 - 125,000	105 lbs / 47.63 kg
EZU(SHU)100-20	21 ft. 8" / 6.6 m	70,000 – 100,000	130 lbs / 58.97 kg
EZU(SHU)125-20	21 ft. 8" / 6.6 m	90,000 – 125,000	130 lbs / 58.97 kg
EZU(SHU)150-20	21 ft. 8" / 6.6 m	105,000 – 150,000	130 lbs / 58.97 kg
EZU(SHU)125-30	31 ft. 5" / 9.56 m	90,000 – 125,000	165 lbs / 74.84 kg
EZU(SHU)135-30	31 ft. 5" / 9.56 m	95,000 – 135,000	165 lbs / 74.84 kg
EZU(SHU)150-30	31 ft. 5" / 9.56 m	105,000 – 150,000	165 lbs / 74.84 kg
EZU(SHU)165-30	31 ft. 5" / 9.56 m	115,000 – 165,000	165 lbs / 74.84 kg
EZU(SHU)200-30	31 ft. 5" / 9.56 m	160,000 – 200,000 (180,000 L.P.)	165 lbs / 74.84 kg

## CLEARANCES TO COMBUSTIBLES

BTU RANGE	BELOW	TOP	SIDES	BACK (Angle Mount)
60,000 - 150,000	48" / 121.92 cm	4" / 10.16 cm	25" / 63.5 cm	16" / 40.64 cm
150,001-165,000	58" / 147.32 cm	4" / 10.16 cm	25" / 63.5 cm	16" / 40.64 cm
165,001-200,000	74" / 187.96 cm	4" / 10.16 cm	25" / 63.5 cm	16" / 40.64 cm

Clearances "below" can be reduced by 40% beginning 15 ft. downstream of burner.

**Engineering Submittal Data**  
**EZ, EZU, SH & SHU straight and U shape radiant tube heaters.**

**SPECIFICATIONS**

**APPROVALS**

- \* Certified by Intertek ETL
- \* Certified for use in Canada and the USA
- \* Tested and certified to all applicable CAN/CGA, CSA, and ANSI standards.
- \* Commercial, Industrial, and Agricultural approvals.

**BURNER CONTROL BOX**

- \* Totally enclosed controls
- \* Sight glass for visual combustion observation
- \* Controls serviceable while in operation and isolated from combustion air
- \* EZ models c/w operating indicator light
- \* CW models c/w stainless steel control box
- \* Easy access to controls with the removal of one screw with exclusive hinged Clamshell control box design.
- \* Thermally protected and permanently lubricated blower motor
- \* 5' long grounded cap and cord plug in 110v connection

**COMBUSTION AIR & VENTING**

- \* 4" combustion air inlet and exhaust
- \* Certified for direct sidewall, roof, and open venting
- \* Maximum 60' of combined intake and vent line (NOT including length of unit) in any combination (eg. 15' intake, 45' vent). Deduct 5' from 60' allowance for every 90 degree bend in intake/vent line.

**GAS SPECIFICATIONS**

<u>Pressures</u> <u>in W.C.P.</u>	<u>NG</u> <u>(inches)</u>	<u>LP</u> <u>(inches)</u>
Manifold	3.5"	10"
Min. Inlet	7"	11.5"
Max. Inlet	14"	14"

**ELECTRICAL SPECIFICATIONS**

- \* 120 V.A.C., 60 Hz, 1 Ph., 3 wire
- \* Supplied via 5 ft. 120v 3 wire cap and cord plug in connection
- \* Factory ready for 120v or 24v thermostatic controls
- \* Ignition current – 3 amps
- \* Running current – 1 amp

**CONTROLS**

- \* Norton ceramic hot surface mini igniter
- \* Air proving safety switch monitors for blocked flu and intake air
- \* Independent flame sensing rod
- \* Honeywell Smart valve OR White Rogers valve with proprietary electronic controls made in the USA
- \* LTH 2 stage models c/w White Rogers valve and proprietary electronic controls made in the USA

**COMBUSTION & EMITTER TUBES**

- \* All emitter & combustion tubes are 16 ga., 4" OD
- \* Tubes press fitted with swaged ends
- \* Primary combustion tubes constructed of high temperature specialty alloys
- \* Secondary tubes are constructed of highly emissive low carbon black steel. EZ model secondary tubes are coated with high temperature, corrosion resistant black coating. CW tubes constructed of coated Aluminized steel for superior corrosion resistance in harsh environments
- \* High temperature, aluminized steel turbulator baffle factory installed (if required)

**REFLECTOR**

- \* Highly polished, high grade seamless aluminum for maximum reflective efficiency
- \* EZ models c/w upgraded mirror polish for superior reflectivity and emission

**"NO IFS, ANDS, OR BUTS" WARRANTY**

- \* 4 Years on ALL heater components
- \* 20 year burnout guarantee on combustion and emitter tubes

**MANUFACTURED IN CANADA  
 WITH NORTH AMERICAN MADE  
 COMPONENTS AND MATERIALS**

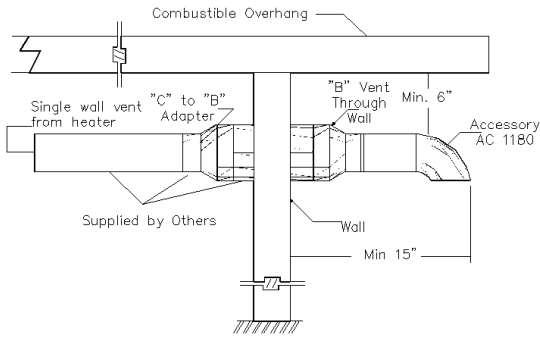
**COMMON ACCESSORIES**

<b>PART #</b>	<b>DESCRIPTION</b>	<b>NOTES</b>
AC1072	½" x 36" Neoprene Flexible Gas Connector	Required for units under 150,000 BTU input
AC1073	¾" x 36" Neoprene Flexible Gas Connector	Required for units 150,000 BTU + input
AC1220	Fresh Air Intake Package	10' flex duct, screened intake cap, c/w clamps & connectors
AC1180	Sidewall Exhaust Cap – 4" OD - type B Vent	Required for direct sidewall venting
AC1190	Sidewall Exhaust Cap – 4" ID - type C Vent	Required for direct sidewall venting
AC1120	4" x 4" x 6" Exhaust T	For common venting – Note: units MUST be jointly controlled.
AC1060	24v Analog Thermostat	In Celsius. For Fahrenheit, use part #AC1062
AC1010	110v Analog Thermostat	For control of single or multiple units
AC1400	24v 2 Stage Thermostat	For control of single or multiple units (req. relays not supplied)
AC2000	24v Light Activated Set Back Digital Stat	The Easy Set – <a href="http://www.easyradiantworks.com/easyset.html">www.easyradiantworks.com/easyset.html</a>
P-1930	9" x 10' Side Reflector	Reflector side shield to reduce output on sides of heater

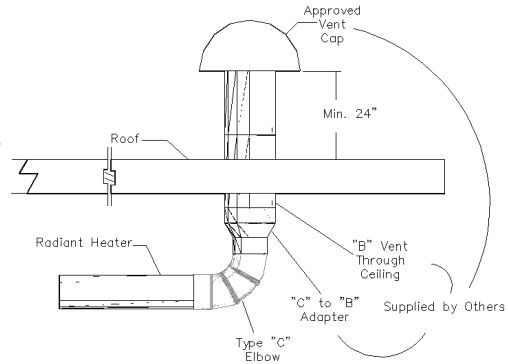
**Engineering Submittal Data**  
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**FIELD SPECIFICATIONS**

**SIDEWALL VENTING**

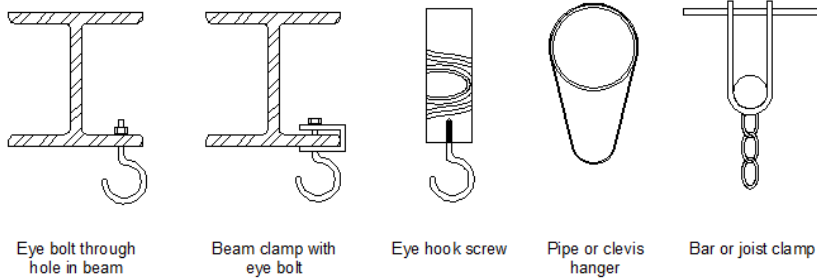




**ROOF VENTING**



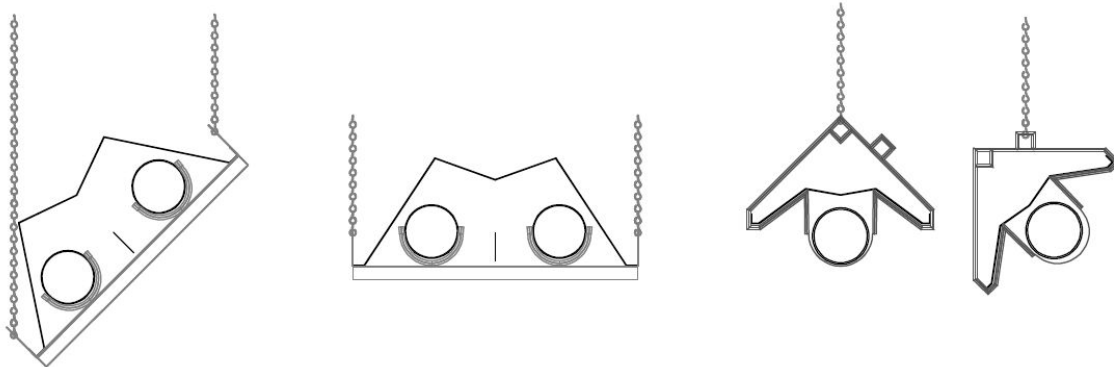
**\*Note:** Vent lines longer than 10' must be insulated or constructed of insulated type "B" material.

Typical mounting hardware




**NOTE:** It is the installer's responsibility to ensure that the mounting hardware and fastening to the structure are of sufficient strength to support system.
 

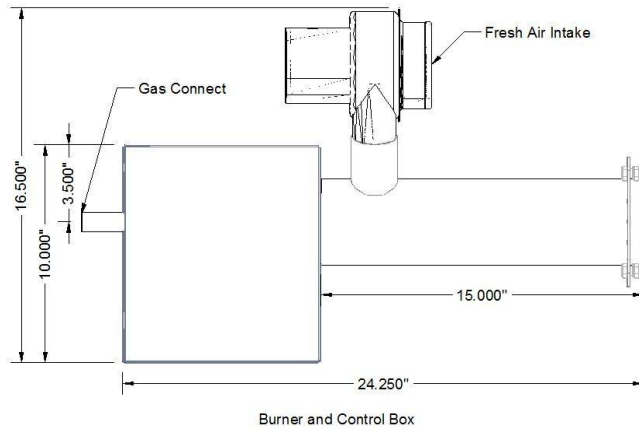
**End View – Horizontal and Angle Mount**



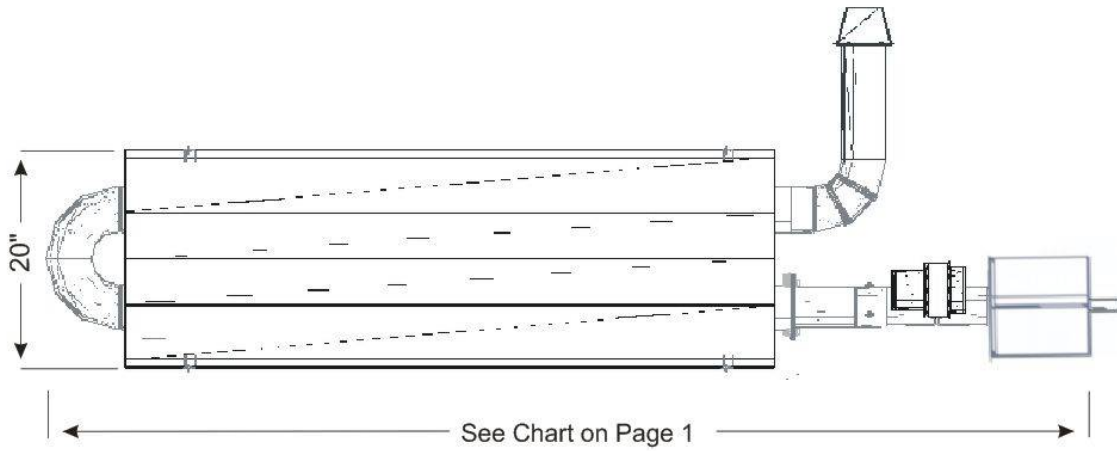
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**FIELD SPECIFICATIONS (Cont.)**

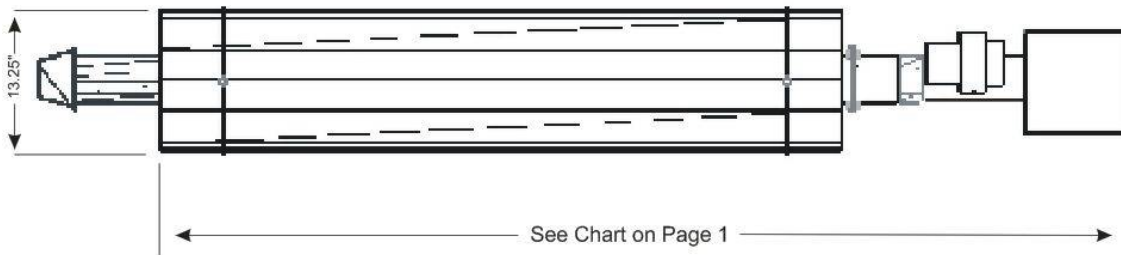
**Burner and Controls Side View**



**U Configuration Top Down**



**Straight Configuration Top Down**



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**WRITTEN SPECIFICATIONS**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Gas fired radiant tube heaters shall be Spartan (SH) or Comfortzone (EZ) series heaters manufactured by Easy Radiant Works, Wainfleet, Ontario, Canada.</li> <li>• Radiant tube heaters shall be furnished and installed in compliance with all applicable governing codes and in compliance with included manufactures specifications. In cases where manufacturers instructions and governing codes conflict, installer shall defer to whichever is most stringent.</li> <li>• Radiant tube heaters shall be Design Certified by Intertek ETL, and comply with all applicable standards including CAN/CGA, CSA, and ANSI. All radiant tube heaters must bear the Intertek ETL certification mark and manufacturers serial number.</li> <li>• Radiant tube heaters shall be supplied with a manufacturers warranty covering all components for a period of no less than four (4) years. Combustion and radiant emitter tubes shall be warranted against burnout for a period of no less than twenty (20) years.</li> <li>• Radiant tube heaters shall be supplied with a copy of the manufacturers installation and operation manual.</li> <li>• Burner controls shall be totally contained within a control housing that is isolated from combustion air. Control housing shall be of such construction that internal components are accessible for diagnostic purposes while heater is in operation. Control housing shall be of the clamshell type, with access granted to controls by the removal of exterior retaining screws.</li> <li>• Combustion tubes shall be constructed of 16 ga. (0.065"), 4" dia. aluminized steel tube coated with black high temperature coating. On units where inputs exceed 165,000 BTU, the unit shall utilize two 10' combustion tubes constructed of GalvAlum alloy.</li> <li>• Emitter tubes shall be constructed of 16 ga. (0.065"), 4" dia. low carbon steel tube. EZ model emitter tubes shall be coated with high temperature black coating. CW model emitter tubes shall be constructed of all aluminized steel with high temperature black coating.</li> <li>• Combustion and emitter tubes joints shall be of press fit design with swaged ends at 4" ID. Tubes shall be mechanically secured by means of manufacturer provided self drilling screws.</li> </ul> | <ul style="list-style-type: none"> <li>• Reflector material shall have a minimum thickness of 0.025" (+/- .001"), shall be constructed of seamless 3003 aluminum sheet, and be tempered to specifications H24-H25. Reflector finish shall be a minimum of "Brite-one-side".</li> <li>• Heaters shall be equipped with an electronic hot-surface igniter that is enclosed in a protective metal jacket.</li> <li>• Heaters shall be equipped with an independent flame sensor.</li> <li>• Heaters shall be equipped with a sight glass for visual confirmation of combustion and igniter operation. EZ models shall be equipped with an operating indicator light on the bottom of the control housing to indicate normal heater operation.</li> <li>• Single stage heaters shall utilize the Honeywell Smart Valve or a White Rogers valve with proprietary control module for control sequencing and gas flow regulation. Two stage units shall utilize a White Rogers two stage valve with proprietary control module.</li> <li>• Units shall utilize two dedicated mechanical air pressure switches, one for blocked flue and one for combustion intake air pressures. Air switches shall be factory set to correct pressures with no requirement for field adjustment.</li> <li>• Units shall be constructed with a five foot (5') long grounded 110v capped connector.</li> <li>• Units shall be supplied ready to accept both 110v and 24v thermostatic controls.</li> <li>• If required, heaters shall be equipped with a pre-installed turbulator baffle constructed of aluminized steel, and pre-installed by the factory in a marked 10' section of emitter tube for installation on the exhaust end of the heater.</li> <li>• Heater shall be constructed that total safety shut down will occur in the events of : loss of combustion, blocked flue, blocked air intake, blower failure, loss of 110v power, increase of gas pressure beyond specification, or combustion failure on ignition attempt. Unit shall lock out operation entirely in the event that there are three (3) to five (5) consecutive failures, and only be reset by means of disconnection of 110v power supply.</li> </ul> |
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**CONTACT INFORMATION**

SUBMITTED BY:	DATE:
<b><u>JOB</u></b>	<b><u>CONTRACTOR</u></b>
JOB TITLE: _____	COMPANY: _____
ADDRESS: _____	ADDRESS: _____
CITY: _____	CITY: _____
STATE/PROV.: _____	STATE/PROV.: _____
ZIP/POSTAL: _____	ZIP/POSTAL: _____
CONTACT NAME: _____	CONTACT NAME: _____
CONTACT NUMBER: _____	CONTACT NUMBER: _____
<b><u>ENGINEER</u></b>	<b><u>EQUIPMENT REPRESENTATIVE</u></b>
COMPANY: _____	COMPANY: _____
ADDRESS: _____	ADDRESS: _____
CITY: _____	CITY: _____
STATE/PROV.: _____	STATE/PROV.: _____
ZIP/POSTAL: _____	ZIP/POSTAL: _____
CONTACT NAME: _____	CONTACT NAME: _____
CONTACT NUMBER: _____	CONTACT NUMBER: _____



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**WARNING!** Heaters must be installed and serviced by qualified and licensed gas personnel only. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. **This spec-sheet is not the installation manual.**