

GASMAC

Engineering Submittal Data

GM, GMU, RW & RWU straight and U 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
GM(RW)60-20	21 ft. 8" / 6.6 m	60,000	90 lbs / 40.82 kg
GM(RW)75-20	21 ft. 8" / 6.6 m	60,000 – 75,000	90 lbs / 40.82 kg
GM(RW)80-20	21 ft. 8" / 6.6 m	60,000 – 80,000	90 lbs / 40.82 kg
GM(RW)85-30	31 ft. 5" / 9.56 m	60,000 – 85,000	105 lbs / 47.63 kg
GM(RW)100-30	31 ft. 5" / 9.56 m	70,000 – 100,000	105 lbs / 47.63 kg
GM(RW)125-30	31 ft. 5" / 9.56 m	90,000 – 125,000	105 lbs / 47.63 kg
GM(RW)100-40	41 ft. 2" / 12.55 m	70,000 – 100,000	130 lbs / 58.97 kg
GM(RW)125-40	41 ft. 2" / 12.55 m	90,000 – 125,000	130 lbs / 58.97 kg
GM(RW)150-40	41 ft. 2" / 12.55 m	105,000 – 150,000	130 lbs / 58.97 kg
GM(RW)125-50	50 ft. 11" / 15.5 m	90,000 – 125,000	150 lbs / 68.04 kg
GM(RW)135-50	50 ft. 11" / 15.5 m	95,000 – 135,000	150 lbs / 68.04 kg
GM(RW)150-50	50 ft. 11" / 15.5 m	105,000 – 150,000	150 lbs / 68.04 kg
GM(RW)165-50	50 ft. 11" / 15.5 m	115,000 – 165,000	150 lbs / 68.04 kg
GM(RW)165-60	60 ft. 8" / 18.5 m	115,000 – 165,000	165 lbs / 74.84 kg
GM(RW)200-60	60 ft. 8" / 18.5 m	160,000 – 200,000 (180,000 L.P.)	165 lbs / 74.84 kg
GM(RW)200-70	70 ft. 5" / 21.46 m	160,000 – 200,000 (180,000 L.P.)	180 lbs / 81.65 kg
GMU(RWU)60-10	11 ft. 11" / 3.63 m	60,000	90 lbs / 40.82 kg
GMU(RWU)75-10	11 ft. 11" / 3.63 m	60,000 – 75,000	90 lbs / 40.82 kg
GMU(RWU)80-10	11 ft. 11" / 3.63 m	60,000 – 80,000	90 lbs / 40.82 kg
GMU(RWU)85-15	16 ft. 8" / 5.08 m	60,000 – 85,000	105 lbs / 47.63 kg
GMU(RWU)100-15	16 ft. 8" / 5.08 m	70,000 – 100,000	105 lbs / 47.63 kg
GMU(RWU)125-15	16 ft. 8" / 5.08 m	90,000 - 125,000	105 lbs / 47.63 kg
GMU(RWU)100-20	21 ft. 8" / 6.6 m	70,000 – 100,000	130 lbs / 58.97 kg
GMU(RWU)125-20	21 ft. 8" / 6.6 m	90,000 – 125,000	130 lbs / 58.97 kg
GMU(RWU)150-20	21 ft. 8" / 6.6 m	105,000 – 150,000	130 lbs / 58.97 kg
GMU(RWU)125-30	31 ft. 5" / 9.56 m	90,000 – 125,000	165 lbs / 74.84 kg
GMU(RWU)135-30	31 ft. 5" / 9.56 m	95,000 – 135,000	165 lbs / 74.84 kg
GMU(RWU)150-30	31 ft. 5" / 9.56 m	105,000 – 150,000	165 lbs / 74.84 kg
GMU(RWU)165-30	31 ft. 5" / 9.56 m	115,000 – 165,000	165 lbs / 74.84 kg
GMU(RWU)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.

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SPECIFICATIONS

APPROVALS

- * Intertek Warnock Hersey (WH)
- * Certified for use in Canada and the USA
- * Tested and certified at the Warnock Hersey laboratories 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
- * GM 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>NG</u>	<u>LP</u>
<u>in W.C.P.</u>	<u>(inches)</u>	<u>(inches)</u>
Manifold	3.5"	10"
Min. Inlet	7"	14"
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
- * 24v Honeywell Smart valve with status/diagnostic LED. 5 trials for ignition with safety lockout.
- * LTH 2 stage models c/w White Rogers valve and dedicated control module

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.
- GM** 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
- * GM 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**

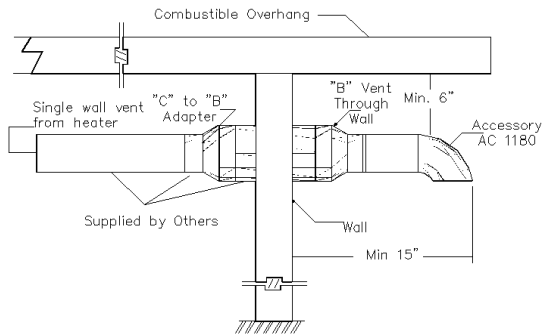
COMMON ACCESSORIES

PART #	DESCRIPTION	NOTES
AC1072	½" x 36" Neoprene Flexible Gas Connector	Required for units with inputs of 150,000 BTUH and under
AC1073	¾" x 36" Neoprene Flexible Gas Connector	Required for units with inputs over 150,000 BTUH
AC1220	FreRW 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 – www.easyradiantworks.com/easyset.html
P-1930	9" x 10' Side Reflector	Reflector side shield to reduce output on sides of heater

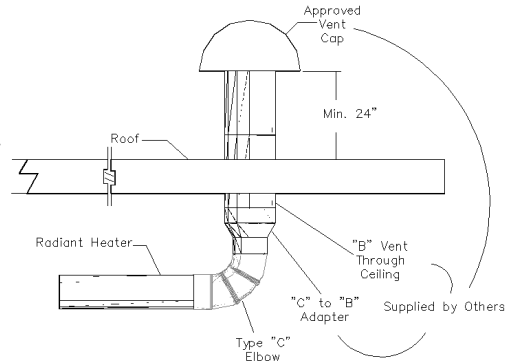
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FIELD SPECIFICATIONS

SIDEWALL VENTING

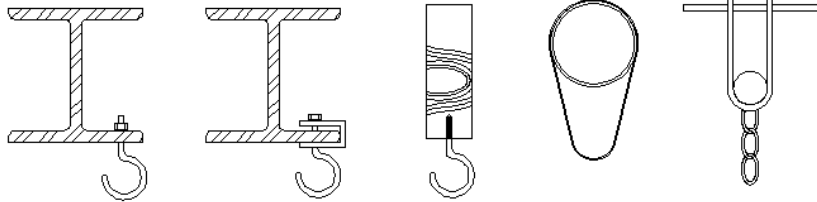


ROOF VENTING



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

Typical mounting hardware



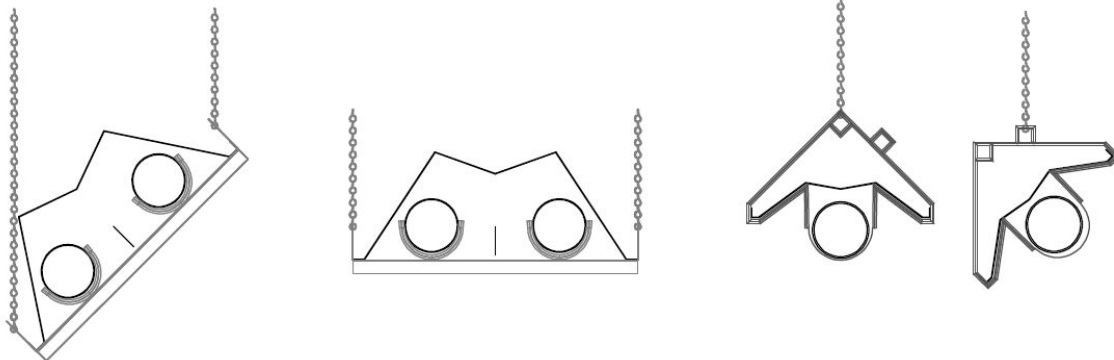
Eye bolt through hole in beam Beam clamp with eye bolt Eye hook screw Pipe or clevis hanger Bar or joist clamp



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.



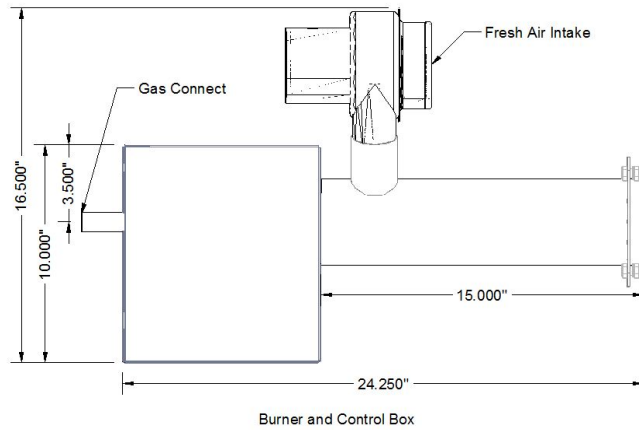
End View – Horizontal and Angle Mount



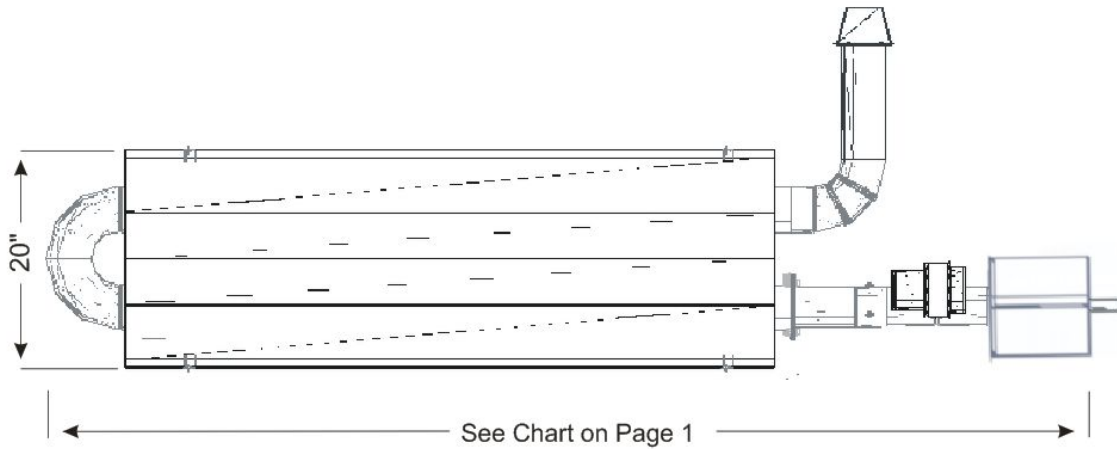
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FIELD SPECIFICATIONS (Cont.)

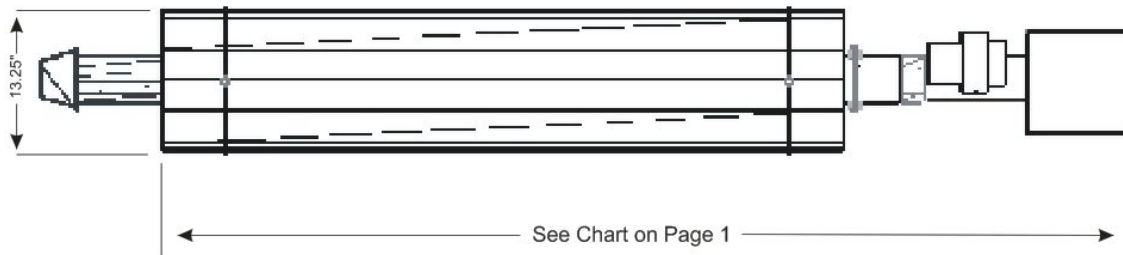
Burner and Controls Side View



U Configuration Top Down



Straight Configuration Top Down



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WRITTEN SPECIFICATIONS

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| <ul style="list-style-type: none">• Gas fired radiant tube heaters shall be Spartan (RW) or Comfortzone (GM) series heaters manufactured by Easy Radiant Works, Wainfleet, Ontario, Canada.• 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.• Radiant tube heaters shall be Design Certified by Intertek Warnock Hershey, and comply with all applicable standards including CAN/CGA, CSA, and ANSI. All radiant tube heaters must bear the Warnock Hershey certification mark and manufacturers serial number.• 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.• Radiant tube heaters shall be supplied with a copy of the manufacturers installation and operation manual.• 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 one (1) exterior retaining screw.• 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.• Emitter tubes shall be constructed of 16 ga. (0.065"), 4" dia. low carbon steel tube. GM 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.• 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. | <ul style="list-style-type: none">• 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".• Heaters shall be equipped with an electronic hot-surface igniter that is enclosed in a protective metal jacket.• Heaters shall be equipped with an independent flame sensor.• Heaters shall be equipped with a sight glass for visual confirmation of combustion and igniter operation. GM models shall be equipped with an operating indicator light on the bottom of the control housing to indicate normal heater operation.• Single stage heaters shall utilize the 24v Honeywell Smart Valve for control sequencing and gas flow regulation. Unit shall attempt ignition no less than five (5) times prior to safety lockout. Two stage units shall utilize a White Rogers two stage valve with proprietary control module.• 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.• Units shall be constructed with a five foot (5') long grounded 110v capped connector.• Units shall be supplied ready to accept both 110v and 24v thermostatic controls.• 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.• 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 five (5) consecutive failures, and only be reset by means of disconnection of 110v power supply. |
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CONTACT INFORMATION

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

GASMAC

For Technical Support / Inquiries Please Call
1-800-403-3279

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.**