



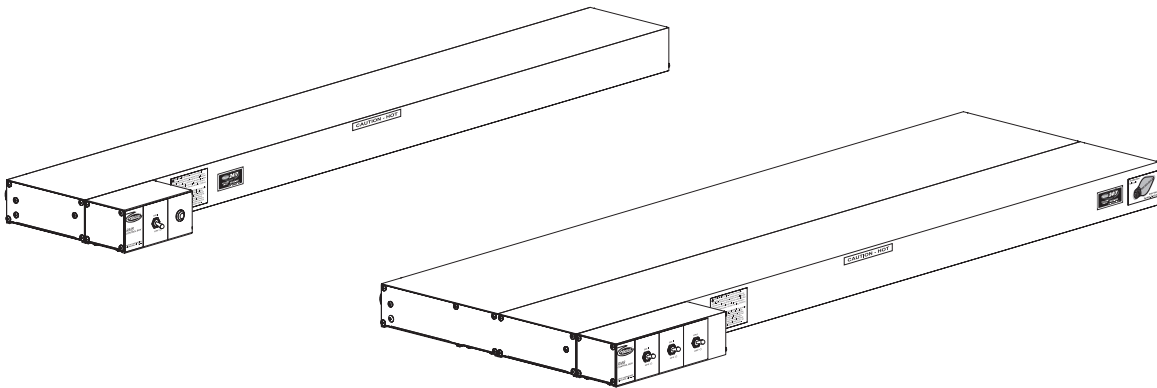
GLO-RAY®

Max Watt Infrared Strip Heaters

GRAM and GRAML Series

Installation and Operating Manual

I&W #07.05.208.00



Do not operate this equipment unless you have read and understood the contents of this manual! Failure to follow the instructions contained in this manual may result in serious injury or death. This manual contains important safety information concerning the maintenance, use, and operation of this product. If you're unable to understand the contents of this manual, please bring it to the attention of your supervisor. Keep this manual in a safe location for future reference.



No opere este equipo al menos que haya leído y comprendido el contenido de este manual! Cualquier falla en el seguimiento de las instrucciones contenidas en este manual puede resultar en un serio lesión o muerte. Este manual contiene importante información sobre seguridad concerniente al mantenimiento, uso y operación de este producto. Si usted no puede entender el contenido de este manual por favor pregunte a su supervisor. Almacenar este manual en una localización segura para la referencia futura.

CONTENTS

Important Owner Information.....	i	Permanent Surface Mount	9
Introduction	i	Undershelf Mounting	10
Important Safety Information	1	Overhead Mounting	11
Model Designations	2	Electrical Wiring Hook-Up	12
Model Descriptions	3	Operation	13
Specifications	4	Maintenance	14
Electrical Rating Charts	4	General	14
Dimensions	6	Replacing Display Light Bulbs	14
Installation	7	Accessories	15
General	7	Troubleshooting Guide	16
Minimum Clearance Requirements	8	Hatco Limited Warranty	18
Recommended Mounting Heights	8	Authorized Parts Distributors	Back Cover
Assembly	9		

IMPORTANT OWNER INFORMATION

Record the model number, serial number (identification decal located on the underside of the unit), voltage, and purchase date of your strip heater in the spaces below. Please have this information available when calling Hatco for service assistance.

Model No. _____

Serial No. _____

Voltage _____

Date of Purchase _____

Business Hours: 8:00 a.m. to 5:00 p.m.
Central Standard Time
(Summer Hours: June to September –
8:00 a.m. to 5:00 p.m. C.S.T.
Monday through Thursday
8:00 a.m. to 2:30 p.m. C.S.T. Friday)

Telephone: (800) 558-0607; (414) 671-6350

Fax: (800) 690-2966 (Parts and Service)
(414) 671-3976 (International)



24 Hour 7 Day Parts and Service Assistance available in the United States and Canada by calling (800) 558-0607.

Additional information can be found by visiting our web site at www.hatcocorp.com.

INTRODUCTION

Hatco Glo-Ray® Max Watt Strip Heaters ensure maximum food holding and minimize the risk of food-borne illness. Optimum safety and quality is the result of food held at the proper serving temperatures using Glo-Ray's pre-focused heat patterns. The pre-focused heat pattern prevents foods from being over-cooked in the middle and cooling off around the edges by concentrating higher temperatures to the outer edges of holding surfaces where heat loss is the greatest. Utilizing specially designed reflectors to direct the heat from the element, Glo-Ray Strip Heaters safely maintain peak serving temperatures longer without cooking the food beyond the point of excellence.

Glo-Ray Max Watt Strip Heaters are available from the factory with or without shatter-resistant incandescent lights to illuminate the warming area. These bulbs have a special coating that guards against injury and food contamination in the event of breakage.

Glo-Ray Max Watt Strip Heaters are a product of extensive research and field testing. The materials used were selected for maximum durability, attractive appearance, and optimum performance. Every unit is inspected and tested thoroughly prior to shipment.

This manual provides the installation, safety, and operating instructions for Glo-Ray Max Watt Strip Heaters. Hatco recommends all installation, operating, and safety instructions appearing in this manual be read prior to installation or operation of the Strip Heaters.

Safety information that appears in this manual is identified by the following signal word panels:

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

IMPORTANT SAFETY INFORMATION



Read the following important safety information before using this equipment to avoid serious injury or death and to avoid damage to equipment or property.



WARNING

ELECTRIC SHOCK HAZARD:

- For hard-wired units, all electrical connections must be in accordance with local electrical codes and any other applicable codes. Connections should be made by a qualified, licensed electrician.
- Units equipped with a cord and plug supplied by Hatco must be plugged into a properly grounded electrical outlet of the correct voltage, size, and plug configuration. If the plug and receptacle do not match, contact a qualified electrician to determine and install the proper voltage and size electrical outlet.
- Unplug the power cord or turn the power OFF at the fused disconnect switch/circuit breaker and allow the unit to cool before performing any maintenance or cleaning.
- Discontinue use if power cord is frayed or worn.
- Do not attempt to repair or replace a damaged power cord. The cord must be replaced by Hatco, an Authorized Hatco Service Agent, or a person with similar qualifications.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.
- This unit is not “jet-proof” construction. Do not use jet-clean spray to clean this unit.
- Use only Genuine Hatco Replacement Parts when service is required. Failure to use Genuine Hatco Replacement Parts will void all warranties and may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn. Genuine Hatco Replacement Parts are specified to operate safely in the environments in which they are used. Some aftermarket or generic replacement parts do not have the characteristics that will allow them to operate safely in Hatco equipment.



WARNING

FIRE HAZARD:

- Do not install Glo-Ray Max Watt strip heaters above or around combustible surfaces. Discoloration or combustion could occur. Glo-Ray Max Watt strip heaters must be installed in non-combustible surroundings only.
- Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

Use only light bulbs that meet or exceed (National Sanitation Foundation (NSF) standards and are specifically designed for food holding areas. Breakage of light bulbs not specially coated could result in personal injury and/or food contamination.

For installation with chains, make sure the chains have sufficient strength and are securely fastened to both the unit and the mounting location. Poorly installed chains may cause the unit to loosen and fall. Do not place anything on top of units installed with chains.

This unit has no “user-serviceable” parts. If service is required on this unit, contact an Authorized Hatco Service Agent or contact the Hatco Service Department at 800-558-0607 or 414-671-6350; fax 800-690-2966; or International fax 414-671-3976.

IMPORTANT SAFETY INFORMATION

CAUTION

BURN HAZARD: Some exterior surfaces on the unit will get hot. Use caution when touching these areas.

Standard and approved manufacturing oils may smoke up to 30 minutes during initial startup. This is a temporary condition. Operate unit without food product until smoke dissipates.

Light-equipped strip heaters that require a circuit breaker 20 amps or larger must be installed with a remote control enclosure containing a fuse rated at 20 amps or less for the light circuit.

To ensure safe and proper operation, refer to the "Minimum Clearance Requirements" listed in the INSTALLATION section of this manual.

NOTICE

Installation of two or more separate units with less than 3" (76 mm) between housings may result in premature failure of component parts. Failure to provide proper spacing may result in heat damage to electrical components.

To prevent unit failure, do not add a decorative soffit to hide a pass-through mounted strip heater.

To prevent premature failure of components due to excessive heat, remote mounted control boxes must be installed outside the strip heater heat zone.

Heat damage to countertop material such as Corian® and similar products (other than stainless steel) is not covered under the Hatco warranty. Contact the manufacturer of the base material for temperature limits and application information before installing the unit.

Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of the unit, marring its appearance and making it susceptible to dirt accumulation.

MODEL DESIGNATION

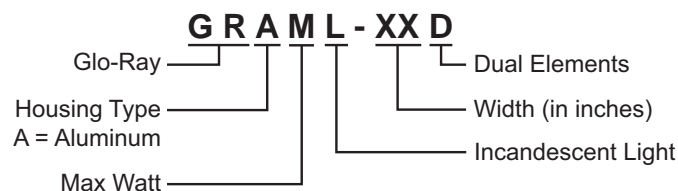


Figure 1. Model Designation

MODEL DESCRIPTIONS

Hatco Glo-Ray® Max Watt Strip Heaters keep hot foods at optimum serving temperatures longer. Foods do not dry out or become discolored; even the most delicate dishes hold that “just-prepared” look. The Glo-Ray pre-focused heat pattern directs heat from a tubular element to bathe the entire holding surface.

Glo-Ray max watt strip heaters are constructed with aluminum housings in lengths of 18" (457 mm) to 144" (3658 mm).

Dual models allow for side-by-side mounting of two heating elements to provide a wider holding area (dual models are constructed with a standard 3" [76 mm] or optional 6" [152 mm] spacer between heating elements).

All Glo-Ray Max Watt Strip Heaters have several mounting options and switch locations. Optional infinite control switches, electronic infinite control switches, remote control enclosures, incandescent lighting, and halogen lighting are available.

GRAM-XX: Aluminum housing, single element

GRAML-XX: Aluminum housing, incandescent lights, single element

GRAM-XXD: Aluminum housing, dual elements

GRAML-XXD: Aluminum housing, incandescent lights, dual elements

NOTE: Incandescent and halogen lights are not available for retrofit.

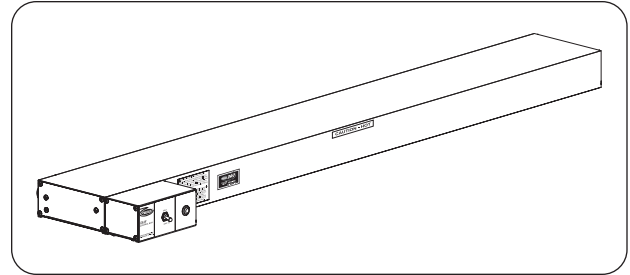


Figure 2. GRAM-48 Model

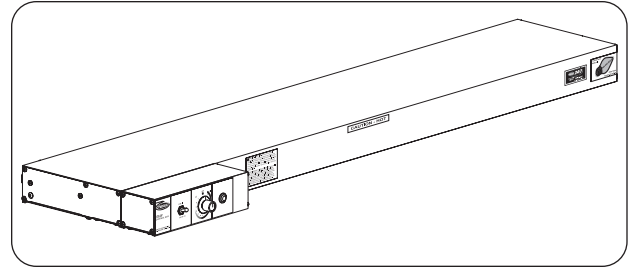


Figure 3. GRAML-48 Model

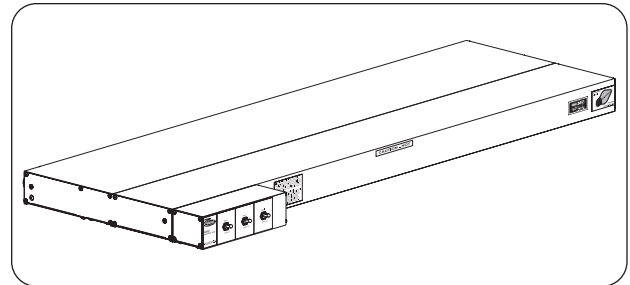


Figure 4. GRAML-48D Model, 3" (76 mm) spacer

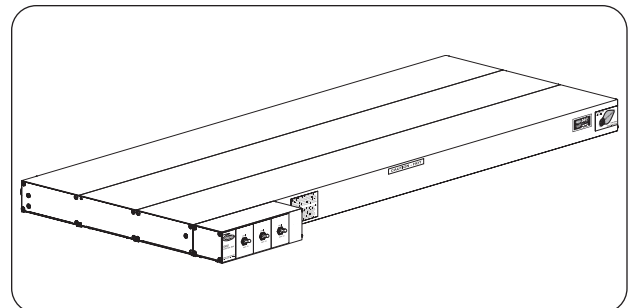


Figure 5. GRAML-48D Model, 6" (152 mm) spacer

SPECIFICATIONS

Electrical Rating Chart — GRAM Models

Model GRAM-18	Watts: 450	Shipping Weight: 6 lbs. (3 kg)*
Voltage 120 208 240		
Amps 3.8 2.2 1.9		
Model GRAM-24	Watts: 650	Shipping Weight: 7 lbs. (3 kg)*
Voltage 120 208 240		
Amps 5.4 3.1 2.7		
Model GRAM-30	Watts: 825	Shipping Weight: 8 lbs. (4 kg)*
Voltage 120 208 240		
Amps 6.9 4.0 3.4		
Model GRAM-36	Watts: 1000	Shipping Weight: 9 lbs. (4 kg)*
Voltage 120 208 240		
Amps 8.3 4.8 4.2		
Model GRAM-42	Watts: 1175	Shipping Weight: 10 lbs. (5 kg)*
Voltage 120 208 240		
Amps 9.8 5.6 4.9		
Model GRAM-48	Watts: 1300	Shipping Weight: 11 lbs. (5 kg)*
Voltage 120 208 240		
Amps 10.8 6.3 5.4		
Model GRAM-54	Watts: 1500	Shipping Weight: 13 lbs. (6 kg)*
Voltage 120 208 240		
Amps 12.5 7.2 6.3		
Model GRAM-60	Watts: 1700	Shipping Weight: 14 lbs. (6 kg)*
Voltage 120 208 240		
Amps 14.2 8.2 7.1		
Model GRAM-66†	Watts: 1875	Shipping Weight: 16 lbs. (7 kg)*
Voltage 120 208 240		
Amps 15.6 9.0 7.8		
Model GRAM-72†	Watts: 2075	Shipping Weight: 17 lbs. (8 kg)*
Voltage 120 208 240		
Amps 17.3 10.0 8.6		
Model GRAM-84†	Watts: 2400	Shipping Weight: 19 lbs. (9 kg)*
Voltage 120 208 240		
Amps 20.0 11.5 10.0		
Model GRAM-96†	Watts: 2675	Shipping Weight: 21 lbs. (10 kg)*
Voltage 120 208 240		
Amps 22.3 12.9 11.1		
Model GRAM-108†•	Watts: 3000	Shipping Weight: 23 lbs. (10 kg)*
Voltage 120 208 240		
Amps --- 14.4 12.5		
Model GRAM-120†•	Watts: 3400	Shipping Weight: 26 lbs. (12 kg)*
Voltage 120 208 240		
Amps --- 16.4 14.2		
Model GRAM-132†•	Watts: 3750	Shipping Weight: 30 lbs. (14 kg)*
Voltage 120 208 240		
Amps --- 18.0 15.6		
Model GRAM-144†•	Watts: 4150	Shipping Weight: 33 lbs. (15 kg)*
Voltage 120 208 240		
Amps --- 20.0 17.3		

▪ May require additional switches, consult factory for applications.

† Glo-Ray models 66" through 144" contain tandem (end-to-end) elements that may be individually controlled.

• Not available in 120 volts.

* Add 2 – 8 lbs. (1 – 3 kg) to shipping weight depending on size of remote control enclosure.

NOTE: GRAML models that have multiple voltages listed, such as 120/208 or 120/240, have multiple internal circuits. For example a 120/208 volt unit utilizes 120 volts for light circuit and 208 volts for the heat circuit(s). Consult the Electrical Diagram supplied with the unit for specific information.

Electrical Rating Chart — GRAML Models

Model GRAML-18	Watts: 570	Shipping Weight: 9 lbs. (4 kg)*
Voltage 120 120/208 120/240		
Amps 4.8 3.2 2.9		
Model GRAML-24	Watts: 770	Shipping Weight: 10 lbs. (5 kg)*
Voltage 120 120/208 120/240		
Amps 6.4 4.1 3.7		
Model GRAML-30	Watts: 945	Shipping Weight: 11 lbs. (5 kg)*
Voltage 120 120/208 120/240		
Amps 7.9 5.0 4.4		
Model GRAML-36	Watts: 1180	Shipping Weight: 13 lbs. (6 kg)*
Voltage 120 120/208 120/240		
Amps 9.8 6.3 5.7		
Model GRAML-42	Watts: 1355	Shipping Weight: 15 lbs. (7 kg)*
Voltage 120 120/208 120/240		
Amps 11.3 7.1 6.4		
Model GRAML-48	Watts: 1540	Shipping Weight: 17 lbs. (8 kg)*
Voltage 120 120/208 120/240		
Amps 12.8 8.3 7.4		
Model GRAML-54	Watts: 1740	Shipping Weight: 19 lbs. (9 kg)*
Voltage 120 120/208 120/240		
Amps 14.5 9.2 8.3		
Model GRAML-60■	Watts: 2000	Shipping Weight: 21 lbs. (10 kg)*
Voltage 120 120/208 120/240		
Amps 16.7 10.7 9.6		
Model GRAML-66■†	Watts: 2175	Shipping Weight: 22 lbs. (10 kg)*
Voltage 120 120/208 120/240		
Amps 18.1 11.5 10.3		
Model GRAML-72■†	Watts: 2435	Shipping Weight: 24 lbs. (11 kg)*
Voltage 120 120/208 120/240		
Amps 20.3 13.0 11.6		
Model GRAML-84■†	Watts: 2820	Shipping Weight: 28 lbs. (13 kg)*
Voltage 120 120/208 120/240		
Amps 23.5 15.0 13.5		
Model GRAML-96■†	Watts: 3155	Shipping Weight: 32 lbs. (15 kg)*
Voltage 120 120/208 120/240		
Amps 26.3 16.9 15.1		
Model GRAML-108†•	Watts: 3540	Shipping Weight: 36 lbs. (16 kg)*
Voltage 120 120/208 120/240		
Amps --- 18.9 17.0		
Model GRAML-120†•	Watts: 4000	Shipping Weight: 40 lbs. (18 kg)*
Voltage 120 120/208 120/240		
Amps --- 21.3 19.2		
Model GRAML-132†•	Watts: 4410	Shipping Weight: 44 lbs. (20 kg)*
Voltage 120 120/208 120/240		
Amps --- 23.5 21.1		
Model GRAML-144†•	Watts: 4870	Shipping Weight: 48 lbs. (22 kg)*
Voltage 120 120/208 120/240		
Amps --- 26.0 23.3		

CAUTION! Light-equipped strip heaters that require a circuit breaker 20 amps or larger must be installed with a remote control enclosure containing a fuse rated at 20 amps or less for the light circuit.

SPECIFICATIONS

Electrical Rating Chart — GRAM-XXD Models

Model GRAM-18D	Watts: 900		Shipping Weight: 14 lbs. (6 kg)*	
Voltage	120	208	240	
Amps	7.5	4.3	3.8	
Model GRAM-24D	Watts: 1300		Shipping Weight: 16 lbs. (7 kg)*	
Voltage	120	208	240	
Amps	10.8	6.3	5.4	
Model GRAM-30D	Watts: 1650		Shipping Weight: 18 lbs. (8 kg)*	
Voltage	120	208	240	
Amps	13.8	7.9	6.9	
Model GRAM-36D■	Watts: 2000		Shipping Weight: 21 lbs. (10 kg)*	
Voltage	120	208	240	
Amps	16.7	9.6	8.3	
Model GRAM-42D■	Watts: 2350		Shipping Weight: 24 lbs. (11 kg)*	
Voltage	120	208	240	
Amps	19.6	11.3	9.8	
Model GRAM-48D■	Watts: 2600		Shipping Weight: 27 lbs. (12 kg)*	
Voltage	120	208	240	
Amps	21.7	12.5	10.8	
Model GRAM-54D■	Watts: 3000		Shipping Weight: 30 lbs. (14 kg)*	
Voltage	120	208	240	
Amps	25.0	14.4	12.5	
Model GRAM-60D■	Watts: 3400		Shipping Weight: 34 lbs. (15 kg)*	
Voltage	120	208	240	
Amps	28.3	16.3	14.2	
Model GRAM-66D■†	Watts: 3750		Shipping Weight: 37 lbs. (17 kg)*	
Voltage	120	208	240	
Amps	31.3	18.0	15.6	
Model GRAM-72D■†	Watts: 4150		Shipping Weight: 41 lbs. (19 kg)*	
Voltage	120	208	240	
Amps	34.6	20.0	17.3	
Model GRAM-84D■†•	Watts: 4800		Shipping Weight: 44 lbs. (20 kg)*	
Voltage	120	208	240	
Amps	---	23.1	20.0	
Model GRAM-96D■†•	Watts: 5350		Shipping Weight: 52 lbs. (24 kg)*	
Voltage	120	208	240	
Amps	---	25.7	22.3	
Model GRAM-108D†•	Watts: 6000		Shipping Weight: 59 lbs. (27 kg)*	
Voltage	120	208	240	
Amps	---	28.9	25.0	
Model GRAM-120D†•	Watts: 6800		Shipping Weight: 66 lbs. (30 kg)*	
Voltage	120	208	240	
Amps	---	32.7	28.3	
Model GRAM-132D†•	Watts: 7500		Shipping Weight: 73 lbs. (33 kg)*	
Voltage	120	208	240	
Amps	---	36.1	31.2	
Model GRAM-144D†•	Watts: 8300		Shipping Weight: 80 lbs. (36 kg)*	
Voltage	120	208	240	
Amps	---	39.9	34.6	

■ May require additional switches, consult factory for applications.

† Glo-Ray models 66" through 144" contain tandem (end-to-end) elements that may be individually controlled.

• Not available in 120 volts.

* Add 2 – 8 lbs. (1 – 3 kg) to shipping weight depending on size of remote control enclosure.

NOTE: GRAML-XXD models that have multiple voltages listed, such as 120/208 or 120/240, have multiple internal circuits. For example a 120/208 volt unit utilizes 120 volts for light circuit and 208 volts for the heat circuit(s). Consult the Electrical Diagram supplied with the unit for specific information.

Electrical Rating Chart — GRAML-XXD Models

Model GRAML-18D	Watts: 1020		Shipping Weight: 14 lbs. (6 kg)*	
Voltage	120	120/208	120/240	
Amps	8.5	5.3	4.8	
Model GRAML-24D	Watts: 1420		Shipping Weight: 16 lbs. (7 kg)*	
Voltage	120	120/208	120/240	
Amps	11.8	7.3	6.4	
Model GRAML-30D	Watts: 1770		Shipping Weight: 19 lbs. (9 kg)*	
Voltage	120	120/208	120/240	
Amps	14.8	8.9	7.9	
Model GRAML-36D■	Watts: 2180		Shipping Weight: 22 lbs. (10 kg)*	
Voltage	120	120/208	120/240	
Amps	18.2	11.1	9.8	
Model GRAML-42D■	Watts: 2530		Shipping Weight: 25 lbs. (11 kg)*	
Voltage	120	120/208	120/240	
Amps	21.1	12.8	11.3	
Model GRAML-48D■	Watts: 2840		Shipping Weight: 29 lbs. (13 kg)*	
Voltage	120	120/208	120/240	
Amps	23.7	14.5	12.8	
Model GRAML-54D■	Watts: 3240		Shipping Weight: 33 lbs. (15 kg)*	
Voltage	120	120/208	120/240	
Amps	27.0	16.4	14.5	
Model GRAML-60D■	Watts: 3700		Shipping Weight: 37 lbs. (17 kg)*	
Voltage	120	120/208	120/240	
Amps	30.8	18.8	16.7	
Model GRAML-66D■†	Watts: 4050		Shipping Weight: 39 lbs. (18 kg)*	
Voltage	120	120/208	120/240	
Amps	33.8	20.5	18.1	
Model GRAML-72D■†	Watts: 4510		Shipping Weight: 42 lbs. (19 kg)*	
Voltage	120	120/208	120/240	
Amps	37.6	23.0	20.3	
Model GRAML-84D■†•	Watts: 5220		Shipping Weight: 47 lbs. (21 kg)*	
Voltage	120	120/208	120/240	
Amps	---	26.6	23.5	
Model GRAML-96D■†•	Watts: 5830		Shipping Weight: 56 lbs. (25 kg)*	
Voltage	120	120/208	120/240	
Amps	---	29.7	26.3	
Model GRAML-108D†•	Watts: 6540		Shipping Weight: 64 lbs. (29 kg)*	
Voltage	120	120/208	120/240	
Amps	---	33.3	29.5	
Model GRAML-120D†•	Watts: 7400		Shipping Weight: 72 lbs. (33 kg)*	
Voltage	120	120/208	120/240	
Amps	---	37.7	33.3	
Model GRAML-132D†•	Watts: 8160		Shipping Weight: 79 lbs. (36 kg)*	
Voltage	120	120/208	120/240	
Amps	---	41.6	36.8	
Model GRAML-144D†•	Watts: 9020		Shipping Weight: 86 lbs. (39 kg)*	
Voltage	120	120/208	120/240	
Amps	---	45.9	40.6	

CAUTION! Light-equipped strip heaters that require a circuit breaker 20 amps or larger must be installed with a remote control enclosure containing a fuse rated at 20 amps or less for the light circuit.

SPECIFICATIONS

Dimensions — GRAM and GRAML Models

Models	Width (A)	Depth (B)	Depth (C)	Height (D)
GRAM	18" – 144" (457 – 3658 mm)	6" (152 mm)	11" (279 mm)	2-1/2" (64 mm)
GRAML	18" – 144" (457 – 3658 mm)	9" (229 mm)	14" (356 mm)	2-1/2" (64 mm)

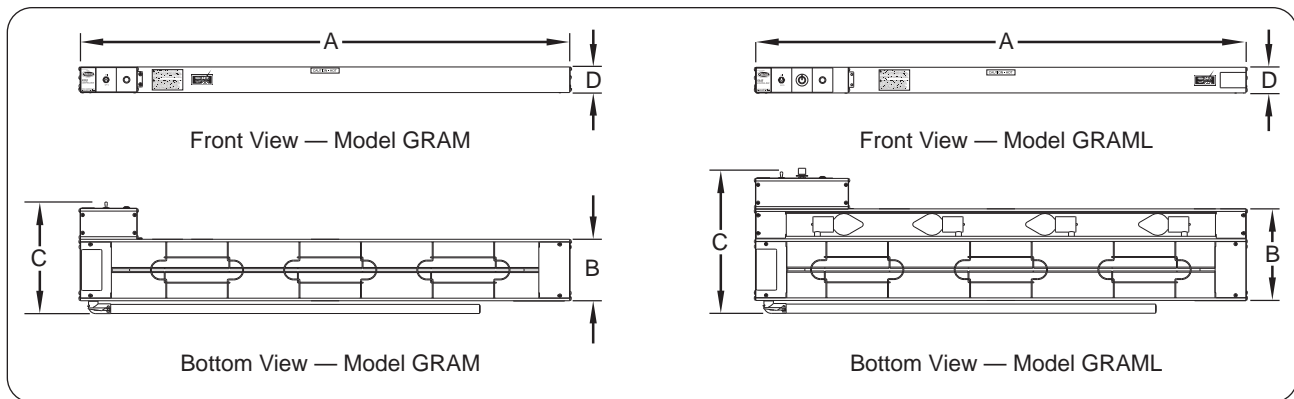


Figure 6. Dimensions — Single Element Strip Heaters

Dimensions — GRAM-XXD and GRAML-XXD Models

Models	Width (A)	Depth* (B)	Depth* (C)	Height (D)
GRAM-XXD and GRAML-XXD	18" – 144" (457 – 3658 mm)	15" (381 mm)	20" (508 mm)	2-1/2" (64 mm)

* Dimension shown is standard with 3" (76 mm) spacer; when used with 6" (152 mm) spacer, add 3" (76 mm).

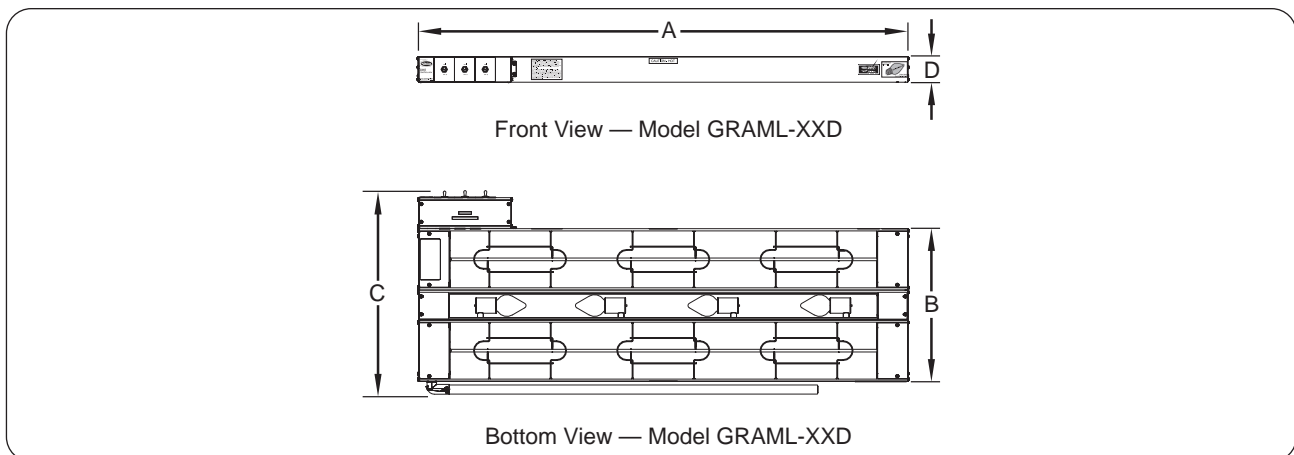


Figure 7. Dimensions — Dual Element Strip Heaters

INSTALLATION

General

Use the information in this section to prepare for installation of the strip heater. Make sure to locate the specific information for the model of strip heater and type of installation.

WARNING

FIRE HAZARD: Do not install Glo-Ray Max Watt strip heaters above or around combustible surfaces. Discoloration or combustion could occur. Glo-Ray Max Watt strip heaters must be installed in non-combustible surroundings only.

CAUTION

To ensure safe and proper operation, refer to the “Minimum Clearance Requirements” listed in the INSTALLATION section of this manual.

NOTICE

Heat damage to countertop material such as Corian® and similar products (other than stainless steel) is not covered under the Hatco warranty. Contact the manufacturer of the base material for temperature limits and application information before installing the unit.

To prevent unit failure from excessive heat, do not add a decorative soffit to hide a pass-through mounted strip heater.

NOTE: Contact the countertop manufacturer of the base material for application information and surface temperature limits before installing the unit.

1. Remove the unit from the shipping carton and remove all packing materials.
2. Remove the information packet.

NOTE: To prevent delay in obtaining warranty coverage, fill out and mail in the warranty card to Hatco.

NOTE: If unit is equipped with optional equipment, see the ACCESSORIES section near the back of this manual.

Dual Mounting

When mounting units side-by-side, a space not less than 3" (76 mm) must be maintained between units. Dual units ordered from the factory are shipped with a pre-assembled 3" (76 mm) or 6" (152 mm) spacer.

NOTICE

Installation of two or more separate units with less than 3" (76 mm) between housings may result in premature failure of component parts. Failure to provide proper spacing may result in heat damage to electrical components.

Under Shelf Mounting

When mounting a unit under a shelf, use adjustable angle brackets to assure proper spacing. Remote control enclosures are recommended to keep switches out of the heat zone and prevent premature failure.

Pass-Through

If pass-through area is 12" to 16" (305 to 406 mm) deep, a single unit can be used. For a 20" to 24" (508 to 610 mm) deep pass-through area, a dual unit is recommended. Installation of multiple units must have a minimum spacing of 3" (76 mm) between heaters.

Over Steam Table

When mounting over a steam table, a remote control switch enclosure must be installed.

INSTALLATION

Minimum Clearance Requirements

⚠ WARNING

FIRE HAZARD:

- Do not install Glo-Ray® Max Watt strip heaters above or around combustible surfaces. Discoloration or combustion could occur. Glo-Ray Max Watt strip heaters must be installed in non-combustible surroundings only.

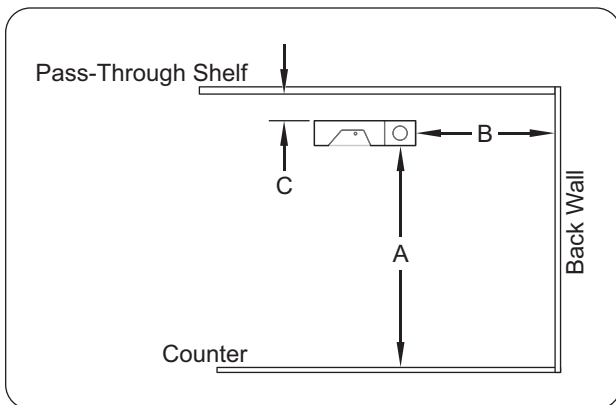


Figure 8. Non-Combustible Clearance Requirements

Corded Units with Built-In Switches

Models	(A)	(B)	(C)
GRAM and GRAML	12" (305 mm)	†	3" (76 mm)

Hardwired Units with Built-In Switches

Models	(A)	(B)	(C)
GRAM and GRAML	12" (305 mm)	3" (76 mm)	1" (25 mm)
GRAM-XXD GRAML-XXD	15" (381 mm)	3" (76 mm)	1" (25 mm)

Hardwired Units with Remote Switches

Models	(A)	(B)	(C)
GRAM and GRAML	12" (305 mm)	3" (76 mm)	1" (25 mm)
GRAM-XXD GRAML-XXD	15" (381 mm)	3" (76 mm)	1" (25 mm)

† Must be a pass-through application, not allowed with back wall installation.

Recommended Mounting Heights

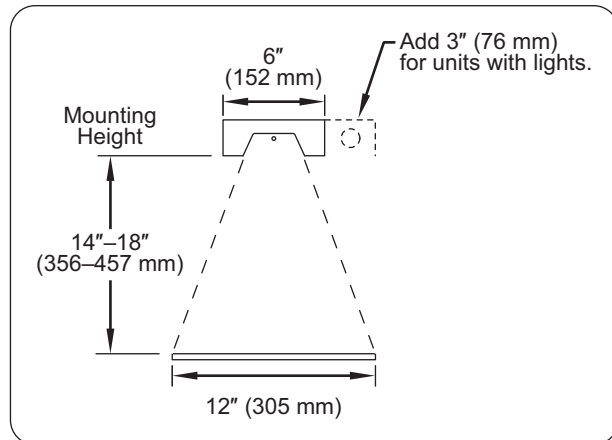


Figure 9. Recommended Mounting Height for GRAM and GRAML models in all lengths (excluding dual models).

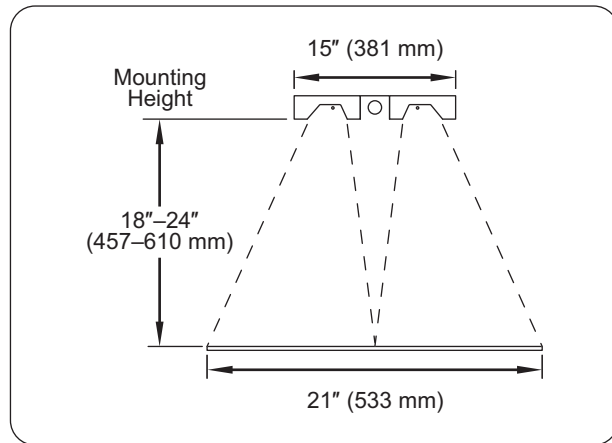


Figure 10. Recommended Mounting Height for GRAM-XXD and GRAML-D dual models with a 3" (76 mm) spacer in all lengths.

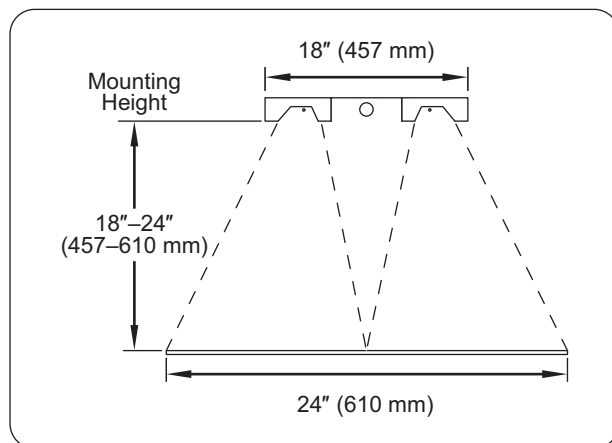


Figure 11. Recommended Mounting Height for GRAM-XXD and GRAML-XXD dual models with a 6" (152 mm) spacer in all lengths.

INSTALLATION

Assembly

Glo-Ray Max Watt Strip Heaters are shipped with most components pre-assembled. Dual units are available with a required 3" (76 mm) or 6" (152 mm) spacer pre-assembled at the factory.

Optional mounting equipment and remote control enclosures must be installed on location.

Permanent Surface Mount

Tubular stand mounting permanently attaches the unit to a countertop or serving table. All wiring may be concealed within one of the tubular stands.

CAUTION

To ensure safe and proper operation, refer to the "Minimum Clearance Requirements" listed in the INSTALLATION section of this manual.

Tubular stands are available in aluminum non-adjustable heights from 12"-24" (305-610 mm).

NOTE: Tubular stands are not field retrofittable.

NOTE: If wiring is to be concealed, a 1" (25 mm) diameter hole must be provided in the mounting surface centered under the stand containing the wiring conduit.

Distance from end of unit to center of conduit hole.
Needed for 1" diameter hole cutout in mounting surface.

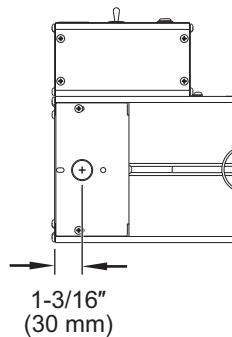


Figure 12. Countertop Conduit Hole Dimension

1. Position the unit upside-down on a flat surface.

NOTE: Units for this application are supplied with the conduit attached to one side of the unit. Conduit should not be removed.

2. If applicable, route the flexible conduit through the center of one of the stands (see Figure 13).
3. Pull the conduit-side stand up against the unit and secure the stand to the unit using the screws supplied.

4. Align the other stand with the mounting holes at the opposite end of the unit and secure the stand to the unit using the screws supplied.
5. If applicable, route the flexible conduit through the 1" diameter hole cut into the mounting surface.
6. Secure the stands to the mounting surface.

NOTE: Two pairs of stands will be needed for mounting dual units.

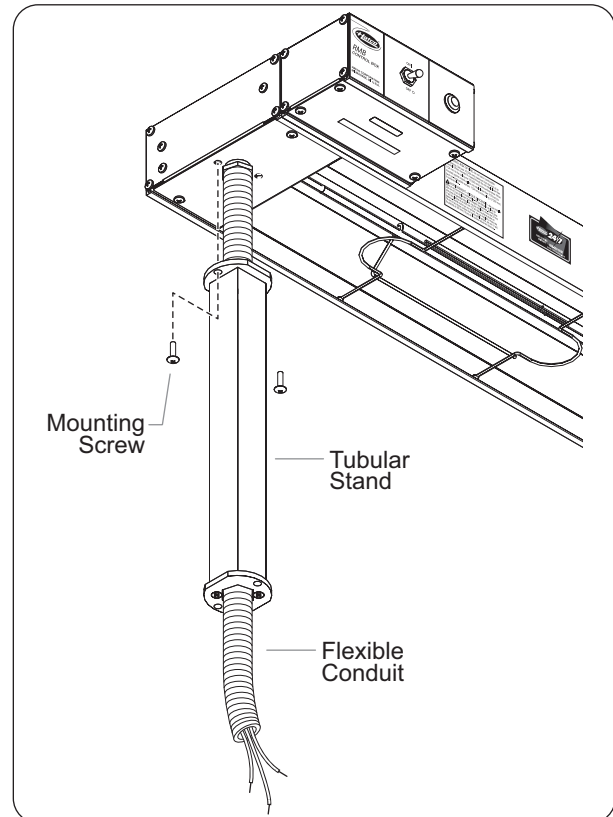


Figure 13. Tubular Stand Mounting

INSTALLATION

Undershelf Mounting

Undershelf mounting permanently attaches the unit to the underside of a shelf. It can be mounted to a flat shelf or a shelf with rolled/flanged edges using the included adjustable angle brackets. A minimum gap of 1" [25 mm] is required between the unit and the underside of the shelf to prevent heat damage to the electrical system of the unit.

CAUTION

To ensure safe and proper operation, refer to the "Minimum Clearance Requirements" listed in the **INSTALLATION** section of this manual.

NOTE: When mounting the unit under a shelf, it is recommended to use a remote switch enclosure.

If the shelf has a rolled or flanged edge, use the appropriate screw hole locations on the adjustable angle brackets to mount the unit below the lowest edge of the rolled or flanged shelf. The adjustable angle brackets can provide a 1" [25 mm], 1.5" [38 mm], or 2" [51 mm] gap between the unit and the underside of the shelf.

NOTICE

DO NOT conceal unit. Unit must be installed below the lowest edge of a rolled or flanged shelf. Failure to mount unit properly may result in premature failure of switches and void the product warranty.

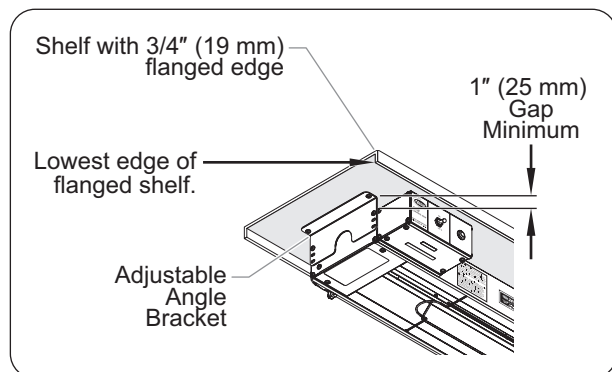


Figure 14. Flanged Shelf Installation

Adjustable Angle Bracket Mounting

1. Position the unit on a flat surface with the heating element facing down.
2. Remove the two center screws from the end plate at one end of the unit. These screws do not need to be replaced.
3. Remove the two upper end plate screws.
4. Align the appropriate holes on the adjustable angle bracket with the end plate mounting holes on the unit. Secure the angle bracket with the end plate screws.
5. Repeat steps 2 – 4 for the opposite end of the unit.

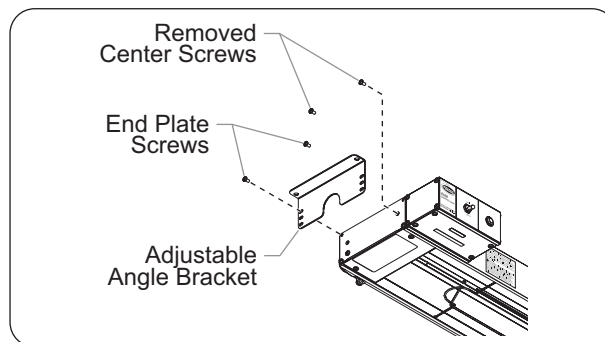


Figure 15. Adjustable Angle Bracket Installation

6. Fasten the angle brackets to the underside of the shelf using appropriate fasteners (not supplied by Hatco).

NOTE: Two pairs of brackets will be needed for dual units.

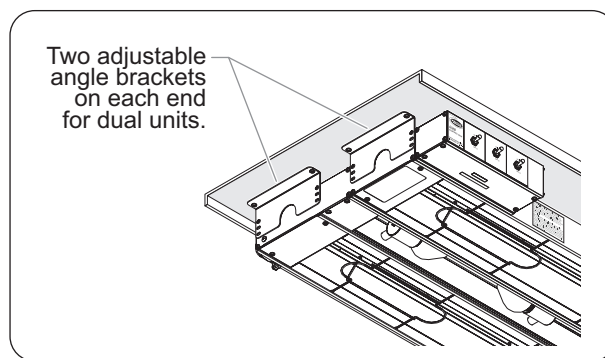


Figure 16. Dual Unit Mounting

Overhead Mounting

Overhead mounting attaches single element units to an overhead surface with the use of “S” hooks. “S” hook mounted units can be up to 48” (1219 mm) wide, are available in 120V only, and are required to have built-in controls as well as a power cord and plug connection.

NOTE: Units ordered with the “S” hook option come with two hanger tabs mounted to each end of the unit, two “S” hooks, and two 6” (152 mm) pieces of connecting chain. Additional chain (P/N 05.03.020.00) can be ordered from Hatco for the overhead mounting system or another option can be determined by a qualified installer.

⚠ WARNING

For installation with chains, make sure the chains have sufficient strength and are securely fastened to both the unit and the mounting location. Poorly installed chains may cause the unit to loosen and fall. Do not place anything on top of units installed with chains.

To ensure safe and proper operation, refer to the “Minimum Clearance Requirements” listed in the **INSTALLATION** section of this manual.

NOTE: The strength of the chain supplied by Hatco is sufficient to hold the weight of the unit securely only when mounted properly.

1. Prepare the overhead mounting system for the “S” hooks. Make sure the system is secure and is set up so the unit will be suspended at a level, safe, and proper distance from walls, counter, and food.
2. Loosen, but do not remove the screws securing the hanger tabs on each end of the unit. Rotate the tabs up, then tighten the screws securely.
3. Securely attach one of the 6” (152 mm) connecting chains between each pair of hanger tabs.
4. Attach an “S” hook to the center of each connecting chain.
5. Carefully lift the unit and attach the “S” hooks on each end of the unit to the overhead mounting system. Make sure the unit is level.

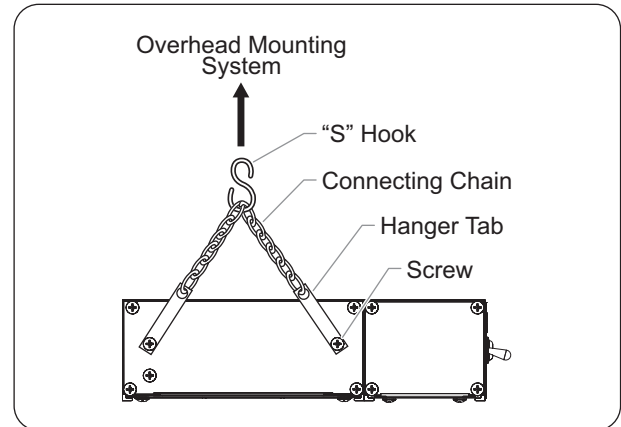


Figure 17. “S” Hook Mounting

NOTE: Dual units cannot be mounted using the “S” hook and chain system.

INSTALLATION

Electrical Wiring Hook-Up

Refer to the ELECTRICAL RATING CHARTS for unit specific information.

⚠ WARNING

ELECTRIC SHOCK HAZARD: For hard-wired units, all electrical connections must be in accordance with local electrical codes and any other applicable codes. Connections should be made by a qualified, licensed electrician.

⚠ CAUTION

Light-equipped strip heaters that require a circuit breaker 20 amps or larger must be installed with a remote control enclosure containing a fuse rated at 20 amps or less for the light circuit.

NOTE: If the unit being installed is not shown or listed in this manual, refer to the wiring diagram supplied with the unit and the installation information on the unit for further instructions.

Power Supply

Install supply wire and connectors suitable for at least 194°F (90°C).

- Use a minimum of No. 14 AWG copper wire for individual circuits up to 15 amps.
- Use a minimum of No. 12 AWG copper wire for individual circuits 15 to 20 amps.
- Use a minimum of No. 10 AWG copper wire for individual circuits 20 to 25 amps.

NOTE: Refer to the wiring diagram supplied with the unit and specifications label attached to the unit for specific electrical information.

Conduit Connection

Units supplied with a right angle fitting and flexible conduit attached have had all internal connections completed at the factory. Attach the proper power supply leads to the high temperature lead wires in the conduit.

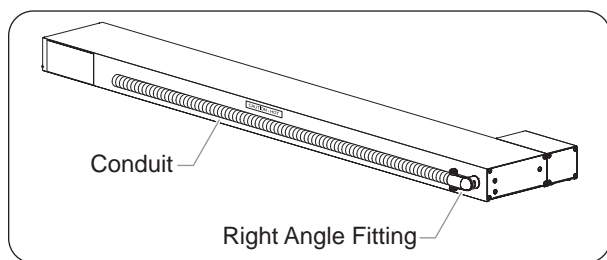


Figure 18. Conduit Connections

NOTE: Refer to the wiring diagram supplied with the unit and specifications label attached to the unit for specific electrical information.

Power Cord and Plug Models

Units can be supplied with a 6' (1829 mm) power cord and plug attached at the factory if the unit meets the following guidelines:

- 120 volt only
- Single unit only, no dual units
- 48" (1219 mm) or less in length
- Built-in switches
- Stationary mounting using "S" hooks and mounting chain supplied by Hatco.

⚠ WARNING

ELECTRIC SHOCK HAZARD: Units equipped with a cord and plug supplied by Hatco must be plugged into a properly grounded electrical outlet of the correct voltage, size, and plug configuration. If the plug and receptacle do not match, contact a qualified electrician to determine and install the proper voltage and size electrical outlet.

NOTE: Units intended for fixed or permanent mounting cannot have a power cord attached and must be hard wired according to local and national electrical codes.

Remote Mounted Control Boxes

Hatco Remote Mounted Control Boxes (RMBs) include switches, wire leads, and/or indicator lights and are ready for installation. Proper use of RMB's require one RMB per strip heater.

NOTICE

To prevent premature failure of components due to excessive heat, remote mounted control boxes must be installed outside the strip heater heat zone.

Control Switches

When two or more units are mounted where the heat from one housing tends to raise the temperature of another, the control switches should be installed in a remote control enclosure. Units in a multiple installation should use remote control enclosures.

NOTE: Remote mounted control boxes are available in several sizes. All models are built in accordance with U.L. standards to accommodate switches, indicator lights, and wiring, ready for installation. See the ACCESSORIES section near the back of this manual.

OPERATION

General

Use the following information to operate the Glo-Ray® Max Watt Strip Heaters.

⚠ WARNING

Read all safety messages in the **IMPORTANT SAFETY INFORMATION** section before operating this equipment.

⚠ CAUTION

Standard and approved manufacturing oils may smoke up to 30 minutes during initial startup. This is a temporary condition. Operate unit without food product until smoke dissipates.

Heating Element(s)

Heating element(s) are controlled either by an ON/OFF toggle switch(es) or an optional infinite control(s). To turn each element on, move the ON/OFF toggle switch to the ON position or turn the infinite control to the desired setting. If the unit is equipped with an indicator light(s), the light(s) will illuminate when the element is turned on.

Allow 15-20 minutes to reach operating temperature.

⚠ CAUTION

BURN HAZARD: Some exterior surfaces on the unit will get hot. Use caution when touching these areas.

NOTE: Dual units cannot be equipped with built-in infinite switches or indicator lights.

Lights

On models equipped with display lights, move the light ON/OFF toggle switch to the ON position to turn on the lights.

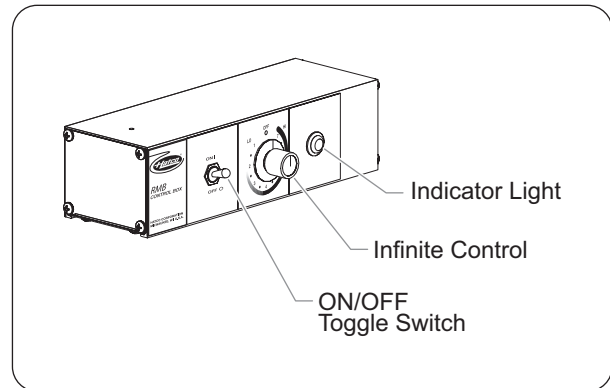


Figure 19. Controls

MAINTENANCE

General

Hatco Glo-Ray® Max Watt Strip Heaters are designed for maximum durability and performance with minimum maintenance.

WARNING

ELECTRIC SHOCK HAZARD:

- Unplug the power cord or turn the power OFF at the fused disconnect switch/circuit breaker and allow the unit to cool before performing any maintenance or cleaning.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.

This unit has no “user-serviceable” parts. If service is required on this unit, contact an Authorized Hatco Service Agent or contact the Hatco Service Department at 800-558-0607 or 414-671-6350; fax 800-690-2966; or International fax 414-671-3976.

NOTICE

Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of the unit, marring its appearance and making it susceptible to dirt accumulation.

Cleaning

To preserve the finish of the strip heater, it is recommended that the surfaces be wiped daily with a clean, soft, damp cloth. Stubborn stains maybe be removed with a good stainless steel cleaner or a non-abrasive cleaner. Hard to reach areas should be cleaned with a small brush and mild soap.

Replacing Display Light Bulbs

WARNING

Use only light bulbs that meet or exceed National Sanitation Foundation (NSF) standards and are specifically designed for food holding areas. Breakage of light bulbs not specially coated could result in personal injury and/or food contamination.

The display light is an incandescent bulb that illuminates the warming area. This bulb has a special coating to guard against injury and food contamination in the event of breakage.

To replace a bulb, disconnect the power supply and wait until the unit has cooled. Display lamps have a threaded base. Unscrew the bulb from the unit and replace it with a new specially coated incandescent bulb. Hatco shatter-resistant bulbs meet NSF standards for food holding and display areas.

NOTE: Hatco shatter-resistant light bulbs meet NSF standards for food holding and display areas. For 120, 120/208, and 120/240 volt units use Hatco part number 02.30.043.00.

WARNING

ELECTRIC SHOCK HAZARD: Use only Genuine Hatco Replacement Parts when service is required. Failure to use Genuine Hatco Replacement Parts will void all warranties and may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn. Genuine Hatco Replacement Parts are specified to operate safely in the environments in which they are used. Some aftermarket or generic replacement parts do not have the characteristics that will allow them to operate safely in Hatco equipment.

Remote Control Enclosures

Hatco Remote Control Enclosures (RMBs) are available in various sizes and configurations for use with the strip heaters. RMBs locate controls away from the constant heat of the unit, increasing the life span of the controls. All models are built in accordance with UL standards to accommodate controls, indicator lights, and wiring. Consult the factory for type and location of controls for enclosure.

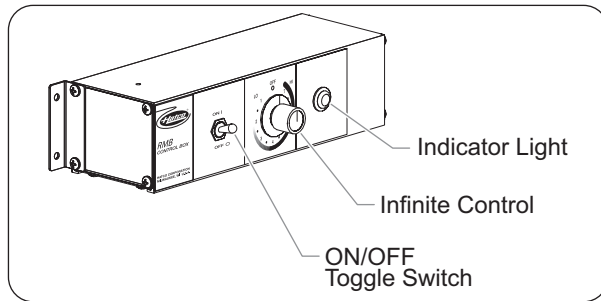
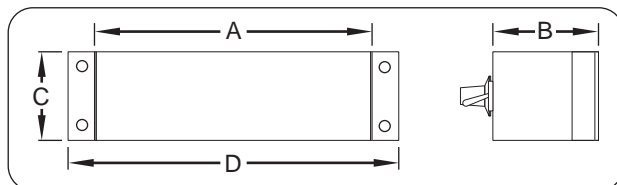


Figure 20. RMB (RMB-7 Series Shown)

NOTICE

To prevent premature failure of components due to excessive heat, remote mounted control enclosures must be installed outside the strip heater heat zone.

NOTE: Proper use of remote control enclosures requires one RMB per strip heater.



Models	Width (A)	Depth (B)	Height (C)	Width (D)
RMB-3 Series	5-1/2" (140 mm)	3" (76 mm)	2-1/2" (64 mm)	7" (178 mm)
RMB-7 Series	9" (229 mm)	3" (76 mm)	2-1/2" (64 mm)	10-1/2" (267 mm)
RMB-14 Series	14" (356 mm)	3" (76 mm)	2-1/2" (64 mm)	15-1/2" (394 mm)
RMB-16 Series	16" (406 mm)	3" (76 mm)	2-1/2" (64 mm)	17-1/2" (445 mm)
RMB-20 Series	20" (508 mm)	3" (76 mm)	2-1/2" (64 mm)	21-1/2" (546 mm)
RMB-22 Series	22" (559 mm)	3" (76 mm)	2-1/2" (64 mm)	23-1/2" (597 mm)
RMB-24 Series	24" (610 mm)	3" (76 mm)	2-1/2" (64 mm)	25-1/2" (648 mm)

Figure 21. Dimensions — RMBs

Display Lights

Max watt strip heaters may be equipped from the factory with incandescent display lights or halogen display lights to illuminate the warming area.

Hatco shatter-resistant bulbs guard against injury and food contamination in the event of breakage. The display lighting meets National Sanitation Foundation (NSF) standards for food holding and display areas.

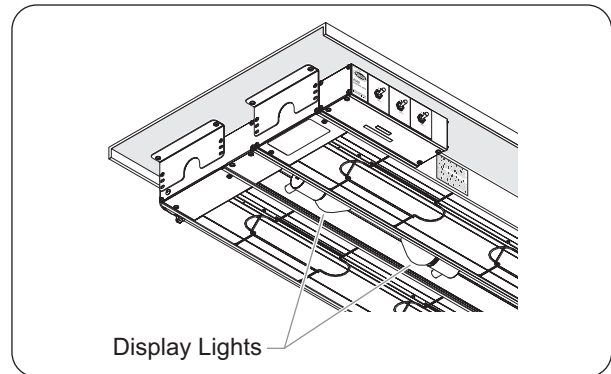


Figure 22. Display Lights

NOTE: Display lights cannot be retrofitted to units.

TROUBLESHOOTING GUIDE

WARNING

This unit must be serviced by qualified personnel only. Service by unqualified personnel may lead to electric shock or burn.

WARNING

ELECTRIC SHOCK HAZARD: Turn the power switch OFF, unplug the power cord, and allow the unit to cool before performing any maintenance or cleaning.

Symptom	Probable Cause	Corrective Action
Unit is turned "ON" but there is no heat.	No power to unit.	Check circuit breaker and reset as necessary. If power cord connected, check for damage to cord. If power cord connected, check power outlet.
	Switch is defective.	Contact Authorized Service Agent or Hatco for assistance.
	Wiring is open.	Contact Authorized Service Agent or Hatco for assistance.
	Heating element defective.	Contact Authorized Service Agent or Hatco for assistance.
Heat is inadequate.	Unit mounted too high above target area.	Lower unit, putting effective heat closer to target.
	Excessive air movement around strip heater target area.	Restrict or redirect air movement (air conditioning duct or exhaust fan) away from unit.
	Incorrect power supply (low).	Check power supply to unit, making sure it matches rating on the unit. If power supply is incorrect, change to match rating on unit.

TROUBLESHOOTING GUIDE

Symptom	Probable Cause	Corrective Action
Heat is excessive.	Unit mounted too close to target area.	Check to see that installation is within specifications for type/model. Increase mounting height if too close.
	Voltage supply too high.	Check power supply to unit, making sure it matches rating on unit. If power supply is incorrect, change to match rating.
Control switches burn-out rapidly.	Switches are mounted in the heat zone.	Check switch location per Hatco guidelines in the Glo-Ray Installation and Operations Manual. Relocate switches to a cooler zone if installation is incorrect.
	Switches used are not Hatco supplied.	Genuine Hatco Parts are specified to operate safely and properly in the environment in which they are used. Contact Authorized Service Agent or Hatco to replace switches with Genuine Hatco Replacement Parts.

HATCO LIMITED WARRANTY

1. PRODUCT WARRANTY

Hatco warrants the products that it manufactures (the "Products") to be free from defects in materials and workmanship, under normal use and service, for a period of one (1) year from the date of purchase when installed and maintained in accordance with Hatco's written instructions or 18 months from the date of shipment from Hatco. Buyer must establish the Product's purchase date by returning Hatco's Warranty Registration Card or by other means satisfactory to Hatco in its sole discretion.

Hatco warrants the following Product components to be free from defects in materials and workmanship from the date of purchase (subject to the foregoing conditions) for the period(s) of time and on the conditions listed below:

- a) **One (1) Year Parts and Labor PLUS One (1) Additional Year Parts-Only Warranty:**
Conveyor Toaster Elements (metal sheathed)
Drawer Warmer Elements (metal sheathed)
Drawer Warmer Drawer Rollers and Slides
Food Warmer Elements (metal sheathed)
Display Warmer Elements (metal sheathed air heating)
Holding Cabinet Elements (metal sheathed air heating)
Built-In Heated Well Elements
(metal sheathed)
- b) **One (1) Year Parts and Labor PLUS Four (4) Years Parts-Only Warranty on pro-rated terms that Hatco will explain at Buyer's request:**
3CS and FR Tanks
- c) **One (1) Year Parts and Labor PLUS Nine (9) Years Parts-Only Warranty on:**
Electric Booster Heater Tanks
Gas Booster Heater Tanks

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT INFRINGEMENT. Without limiting the generality of the foregoing, SUCH WARRANTIES DO NOT COVER: Coated incandescent light bulbs, fluorescent lights, decorative heat lamp bulbs, coated halogen light bulbs, halogen heat lamp bulbs, heated glass shelves, glass components, Product failure in booster tank, fin tube heat exchanger, or other water heating equipment caused by liming, sediment buildup, chemical attack or freezing, Product misuse, tampering or misapplication, improper installation, or application of improper voltage.

2. LIMITATION OF REMEDIES AND DAMAGES

Hatco's liability and Buyer's exclusive remedy hereunder will be limited solely, at Hatco's option, to repair or replacement by a Hatco-authorized service agency (other than where Buyer is located outside of the United States, Canada, United Kingdom or Australia in which case Hatco's liability and Buyer's exclusive remedy hereunder will be limited solely to replacement of part under warranty) with respect to any claim made within the applicable warranty period referred to above. Hatco reserves the right to accept or reject any such claim in whole or in part. Hatco will not accept the return of any Product without prior written approval from Hatco, and all such approved returns shall be made at Buyer's sole expense. HATCO WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCES, FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR COSTS OR LOST PROFITS RESULTING FROM THE USE OF OR INABILITY TO USE THE PRODUCTS OR FROM THE PRODUCTS BEING INCORPORATED IN OR BECOMING A COMPONENT OF ANY OTHER PRODUCT OR GOODS.

NOTES

[illegible]

NOTES

HATCO AUTHORIZED PARTS DISTRIBUTORS

ALABAMA

Jones McLeod Appl. Svc.
Birmingham 205-251-0159

ARIZONA

Auth. Comm. Food Equip.
Phoenix 602-234-2443

Byassee Equipment Co.
Phoenix 602-252-0402

CALIFORNIA

Industrial Electric
Commercial Parts & Service, Inc.
Huntington Beach 714-379-7100

Chapman Appl. Service
San Diego 619-298-7106

P & D Appliance
Commercial Parts & Service, Inc.
S. San Francisco 650-635-1900

COLORADO

Hawkins Commercial Appliance
Englewood 303-781-5548

FLORIDA

Whaley Foodservice Repair
Jacksonville 904-725-7800

Nass Service Co., Inc.
Orlando 407-425-2681

B.G.S.I.
Pompano Beach 954-971-0456

Comm. Appliance Service
Tampa 813-663-0313

GEORGIA

TWC Services
Smyrna 770-438-9797

Heritage Service Group
Norcross 866-388-9837

Southeastern Rest. Svc.
Norcross 770-446-6177

HAWAII

Burney's Comm. Service, Inc.
Honolulu 808-848-1466

Food Equip Parts & Service
Honolulu 808-847-4871

ILLINOIS

Parts Town
Lombard 708-865-7278

Eichenauer Elec. Service
Decatur 217-429-4229

Midwest Elec. Appl. Service
Elmhurst 630-279-8000

Cone's Repair Service
Moline 309-797-5323

INDIANA

GCS Service
Indianapolis 317-545-9655

IOWA

Electric Motor Service Co.
Davenport 319-323-1823

Goodwin Tucker Group
Des Moines 515-262-9308

KENTUCKY

Certified Service Center
Lexington 859-254-8854

Certified Service Center
Louisville 502-964-7007

LOUISIANA

Chandlers Parts & Service
Baton Rouge 225-272-6620

MARYLAND

Electric Motor Service
Baltimore 410-467-8080

GCS Service
Silver Spring 301-585-7550

MASSACHUSETTS

Ace Service Co., Inc.
Needham 781-449-4220

MICHIGAN

Commercial Kitchen Service
Bay City 517-893-4561

Bildons Appliance Service
Detroit 248-478-3320

Midwest Food Equip. Service
Grandville 616-261-2000

MINNESOTA

GCS Service
Minneapolis 800-822-2303

MISSOURI

General Parts
Kansas City 816-421-5400

Commercial Kitchen Services
St. Louis 314-890-0700

Kaemmerlen Parts & Service
St. Louis 314-535-2222

NEBRASKA

Anderson Electric
Omaha 402-341-1414

NEVADA

Burney's Commercial
Las Vegas 702-736-0006

Hi. Tech Commercial Service
N. Las Vegas 702-649-4616

NEW JERSEY

Jay Hill Repair
Fairfield 973-575-9145

Service Plus
Flanders 973-691-6300

NEW YORK

Acme American Repairs, Inc.
Brooklyn 718-456-6544

Alpro Service Co.
Brooklyn 718-386-2515

Appliance Installation
Buffalo 716-884-7425

Northern Parts Dist.
Plattsburgh 518-563-3200

J.B. Brady, Inc.
Syracuse 315-422-9271

NORTH CAROLINA

Authorized Appliance
Charlotte 704-377-4501

OHIO

Akron/Canton Comm. Svc. Inc.
Akron 330-753-6635

Certified Service Center
Cincinnati 513-772-6600

Commercial Parts and Service
Columbus 614-221-0057

Electrical Appl. Repair Service
Independence 216-459-8700

E. A. Wichman Co.
Toledo 419-385-9121

OKLAHOMA

Hagar Rest. Service, Inc.
Oklahoma City 405-235-2184

Krueger, Inc.
Oklahoma City 405-528-8883

OREGON

Ron's Service, Inc.
Portland 503-624-0890

PENNSYLVANIA

Elmer Schultz Services
Philadelphia 215-627-5401

FAST Comm. Appl. Service
Philadelphia 215-288-4800

Appliance Installation & Service
Pittsburgh 412-809-0244

K & D Service Co.
Harrisburg 717-236-9039

Electric Repair Co.
Reading 610-376-5444

RHODE ISLAND

Marshall Electric Co.
Providence 401-331-1163

SOUTH CAROLINA

Whaley Foodservice Repair
W. Columbia 803-791-4420

TENNESSEE

Camp Electric
Memphis 901-527-7543

TEXAS

GCS Service
Fort Worth 800-433-1804

Armstrong Repair Service
Houston 713-666-7100

Commercial Kitchen Repair Co.
San Antonio 210-735-2811

UTAH

La Monica's Rest. Equip. Service
Murray 801-263-3221

VIRGINIA

Daubers
Norfolk 757-855-4097

Daubers
Springfield 703-866-3600

WASHINGTON

3 Wire/Restaurant Appliance
Seattle 866-770-2022

WISCONSIN

A.S.C., Inc.
Madison 608-246-3160

A.S.C., Inc.
Milwaukee 414-543-6460

CANADA

ALBERTA

Key Food Equipment Service
Edmonton 780-438-1690

BRITISH COLUMBIA

Key Food Equipment Service
Vancouver 604-433-4484

MANITOBA

Air Rite, Inc.
Winnipeg 204-895-2300

NEW BRUNSWICK

EMR Services, Ltd.
Moncton 506-855-4228

ONTARIO

R.G. Henderson Ltd.
Toronto 416-422-5580

Choquette CKS
Ottawa 613-739-8458

QUÉBEC

Choquette CKS
Montreal 514-722-2000

Choquette CKS
Québec City 418-681-3944

UNITED KINGDOM

Marren Group
Northants +44(0)1933 666233

HATCO CORPORATION
P.O. Box 340500
Milwaukee, WI 53234-0500 U.S.A.
(800) 558-0607 (414) 671-6350
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