



Project _____
 Item # _____
 Quantity _____

Glo-Ray® Infrared Strip Heaters with Lights

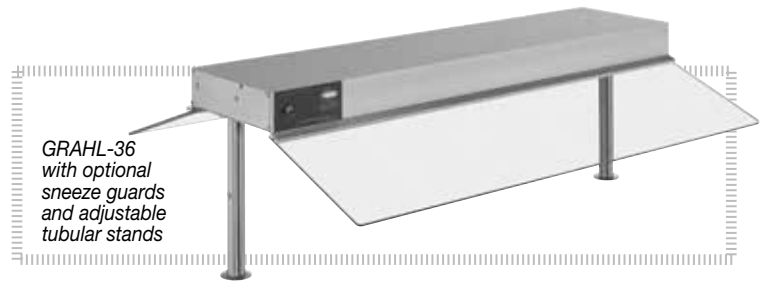
Models:

GRAL -18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144
 GRAHL-18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144

Keep food hot and fresh and hold optimum serving temperatures longer. Extruded aluminum housings go up to 144" (3658 mm) in length and have lights to illuminate your food holding area. Heavy-duty stainless steel housings are available for marine applications.

Standard features

- Provides even heat distribution – no “cold spots”
- Pre-focused heat maintains safe serving temperatures longer
- Standard and High Watt available
- Sturdy extruded aluminum housings that do not sag, from 18" to 144" (457 to 3658 mm)
- Metal sheathed heating elements guaranteed against burnout and breakage for two years
- Reflector does not blacken, maintaining a consistent heat pattern
- Reinforced wire guard provides operator safety without affecting heat distribution
- Coated shatter-resistant incandescent lights enhance brilliant product display while safeguarding food from bulb breakage
- 60 watt teflon coated bulbs (1 per foot), Halogen bulbs available
- Extra lights available – two per foot, minus one (GRAHL-48 with extra lights will have seven bulbs)
- Optional sneeze guard made of shatterproof, easy-to-clean acrylic provide safe food serving environment
- Additional reflector styles and lower wattage elements also available, please consult factory for more information



GRAHL-36 with optional sneeze guards and adjustable tubular stands

Options (available at time of purchase only)

- Housing in *Designer Color* or *Gloss Finish** – Aluminum finish Standard
 - Warm Red Black Gray Granite White Granite
 - Navy Blue Hunter Green Antique Copper Radiant Red
 - Glossy Gray Bold Black Gleaming Gold Brilliant Blue
- Indicator Light (Remote only)
- Tandem Elements, Single Glo-Ray®s – maximum of two elements end-to-end (wattage will change based on configuration)
- Leads – Extended beyond Standard 3' (914 mm) Conduit (specify lead length)
 - 1'-5" (305-1525 mm) 6'-10" (1829-3048 mm)
 - 11'-15" (3352-4572 mm) 16'-20" (4877-6096 mm)
- Sneeze Guard
 - 9.375" (238 mm) – One Side 9.375" (238 mm) – Two Sides
 - 14" (356 mm) – One Side 14" (356 mm) – Two Sides
- Bulbs
 - No Bulbs (GRAL 120V models only)
 - Halogen Bulb in lieu of Standard Display Light (60 watt), 120V only
- Extra Lamps – Installed (max. two per 12" (305 mm) less one) – one per 12" (305 mm) is standard
- Bright Annealed Reflector for Lights
- Infinite Control in lieu of Toggle – Remote Enclosure Recommended
 Consult factory if rating of element exceeds 12.2 amps – choose below:
 - Built-in (max. of 12.2 amps) (remote installation recommended)
 - Remote Infinite Switches (max. 12.2 amps)
- Remote Toggle Switches (max. 15 amps)
- Remote Box – Aluminum finish standard
 - Optional *Designer Color* or *Gloss Finish**
 - Warm Red Black Gray Granite White Granite
 - Navy Blue Hunter Green Antique Copper Radiant Red
 - Glossy Gray Bold Black Gleaming Gold Brilliant Blue
- Adjustable Tubular Stands 10"-14" (254-356 mm) (Aluminum finish only)
- Non-Adjustable Tubular Stands – specify length (Aluminum finish standard)
 - 10" (254 mm) 12" (305 mm) 14" (356 mm) 16" (406 mm)
- Optional *Designer Color* or *Gloss Finish**
 - Warm Red Black Gray Granite White Granite Navy Blue
 - Hunter Green Antique Copper Radiant Red Glossy Gray
 - Bold Black Gleaming Gold Brilliant Blue
- C-Leg Stands – for models up to 6' (1829 mm) – choose wattage and clearance
 - Standard Watt –10" (254 mm) High Watt –13.5" (343 mm) T-Leg
- Stands – for models up to 6' (1829 mm) – choose clearance
 - 10" (254 mm) (Standard Watt) 13.5" (343 mm)
 - 16" (406 mm) 18" (457 mm)
- Attached 6' (1829 mm) Cord and Plug Set – choose below
 - 120V models up to 72" (1829 mm) – requires Standard Chain Mount Kit or add optional C-leg Stands, or T-leg Stands
 - Export models up to 96" (2438 mm)
- Two S hooks with two 6" (153 mm) lengths of chain

Accessories

- Adjustable Angle Brackets (with clearance above unit)
 - 1"-2" (25-51 mm) 7" (178 mm) - GRAL models only
- Chain Suspension
- ChefLED bulb 120V (GRAHL requires pass-through usage only and unit must be 254 mm (10") or higher from surface)
 - 2700K Warm 3000K Warm 4000K Cool

*Non-standard colors are non-returnable



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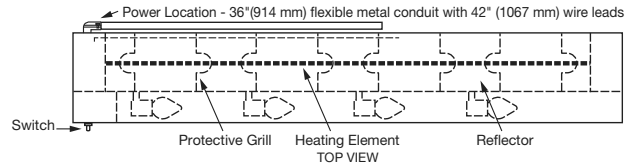
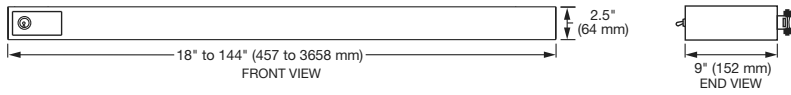


Glo-Ray® Infrared Aluminum Strip Heaters with Lights

Models: GRAL-18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144

GRAHL-18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144

GRAL and GRAHL



SPECIFICATIONS -Glo-Ray® Infrared Aluminum Strip Heaters with Lights

Phase: All Single Phase (3-wire)

Amps: Amps on all models vary based on configuration – please consult factory.

The shaded areas contain electrical information for International models

Standard Watt			High Watt			Both Models		
Model	Volts	Watt	Model	Volts	Watt	Width x Depth x Height	Optional Plug	Ship Weight*
GRAL-18	120	370	GRAHL-18	120	470	18" x 9" x 2.5" (457 x 229 x 64 mm)	NEMA 5-15P	9 lbs. (4 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	433		-	
	200	314		200	407		-	
	220	351		220	451		CEE 7-7 Schuko BS-1363	
	220-230 (CE)*	351-383		220-230 (CE)*	451-493		-	
	230-240 (CE)*	340-370		230-240 (CE)*	432-470		-	
240	370	240	470	-				
GRAL-24	120	470	GRAHL-24	120	620	24" x 9" x 2.5" (610 x 229 x 64 mm)	NEMA 5-15P	10 lbs. (5 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	583		-	
	200	407		200	546		-	
	220	451		220	601		CEE 7-7 Schuko BS-1363	
	220-230 (CE)*	451-493		220-230 (CE)*	601-657		-	
	230-240 (CE)*	432-470		230-240 (CE)*	569-620		-	
240	470	240	620	-				
GRAL-30	120	570	GRAHL-30	120	780	30" x 9" x 2.5" (762 x 229 x 64 mm)	NEMA 5-15P	12 lbs. (6 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	743		-	
	200	499		200	694		-	
	220	551		220	761		CEE 7-7 Schuko BS-1363	
	220-230 (CE)*	551-602		220-230 (CE)*	761-832		-	
	230-240 (CE)*	523-570		230-240 (CE)*	716-780		-	
240	570	240	780	-				
GRAL-36	120	755	GRAHL-36	120	980	36" x 9" x 2.5" (914 x 229 x 64 mm)	NEMA 5-15P	13 lbs. (6 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	925		-	
	200	657		200	864		-	
	220	726		220	951		CEE 7-7 Schuko BS-1363	
	220-230 (CE)*	726-794		220-230 (CE)*	951-1040		-	
	230-240 (CE)*	693-755		230-240 (CE)*	900-980		-	
240	755	240	980	-				
GRAL-42	120	855	GRAHL-42	120	1130	42" x 9" x 2.5" (1067 x 229 x 64 mm)	NEMA 5-15P	15 lbs. (7 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	1075		-	
	200	749		200	1003		-	
	220	826		220	1101		CEE 7-7 Schuko BS-1363	
	220-230 (CE)*	826-903		220-230 (CE)*	1101-1204		-	
	230-240 (CE)*	785-855		230-240 (CE)*	1038-1130		-	
240	855	240	1130	-				
GRAL-48	120	1040	GRAHL-48	120	1340	48" x 9" x 2.5" (1219 x 229 x 64 mm)	NEMA 5-15P	17 lbs. (8 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	1267		-	
	200	906		200	1184		-	
	220	1002		220	1302		CEE 7-7 Schuko BS-1363	
	220-230 (CE)*	1002-1095		220-230 (CE)*	1302-1423		-	
	230-240 (CE)*	955-1040		230-240 (CE)*	1231-1340		-	
240	1040	240	1340	-				

* Shipping weight includes packaging, does not include RMB.

* CE approved units for 220-230V utilize a 220V heating system; 230-240V CE units utilize a 240V heating system.

NOTE: GRAL and GRAHL models that have multiple voltages listed, such as 120/208 or 120/240 have multiple circuits. For example, a 120/208V unit utilizes 120V for the light circuit and 208V for the heat circuit(s). Consult the electrical diagram supplied with the unit for specific information.

CAUTION: Strip heaters equipped with incandescent lights that require a circuit breaker larger than 20 amps for the heat element must have a separate circuit breaker for the incandescent lights that is 20 amps or less.

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Glo-Ray® Infrared Aluminum Strip Heaters with Lights

Models: GRAL-18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144
 GRAHL-18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144

SPECIFICATIONS -Glo-Ray® Infrared Aluminum Strip Heaters with Lights

Phase: All Single Phase (3-wire)

Amps: Amps on all models vary based on configuration – please consult factory.

The shaded areas contain electrical information for International models

Standard Watt			High Watt			Both Models		
Model	Volts	Watt	Model	Volts	Watt	Width x Depth x Height	Optional Plug	Ship Weight*
GRAL-54	120	1165	GRAHL-54 [‡]	120	1490	54" x 9" x 2.5" (1372 x 229 x 64 mm)	NEMA 5-15P	19 lbs. (9 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	1417		-	
	200	1022		200	1322		-	
	220	1127		220	1452		-	
	220-230 (CE) [•]	1127-1231		220-230 (CE) [•]	1452-1587		CEE 7-7 Schuko BS-1363	
	230-240 (CE) [•]	1070-1165		230-240 (CE) [•]	1368-1490			
240	1165	240	1490					
GRAL-60	120	1350	GRAHL-60 [‡]	120	1700	60" x 9" x 2.5" (1524 x 229 x 64 mm)	NEMA 5-15P	21 lbs. (10 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	1608		-	
	200	1179		200	1503		-	
	220	1302		220	1652		-	
	220-230 (CE) [•]	1302-1423		220-230 (CE) [•]	1652-1806		CEE 7-7 Schuko BS-1363	
	230-240 (CE) [•]	1240-1350		230-240 (CE) [•]	1561-1700			
240	1350	240	1700					
GRAL-66 [‡]	120	1460	GRAHL-66 ^{•‡}	120	1860	66" x 9" x 2.5" (1676 x 229 x 64 mm)	NEMA 5-15P	22 lbs. (10 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	1768		-	
	200	1281		200	1651		-	
	220	1412		220	1812		-	
	220-230 (CE) [•]	1412-1543		220-230 (CE) [•]	1812-1981		CEE 7-7 Schuko BS-1363	
	230-240 (CE) [•]	1341-1460		230-240 (CE) [•]	1708-1860			
240	1460	240	1860					
GRAL-72 [‡]	120	1635	GRAHL-72 ^{•‡}	120	2085	72" x 9" x 2.5" (1829 x 229 x 64 mm)	NEMA 5-15P	24 lbs. (11 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	1975		-	
	200	1429		200	1845		-	
	220	1578		220	2028		-	
	220-230 (CE) [•]	1578-1724		220-230 (CE) [•]	2028-2216		CEE 7-7 Schuko BS-1363	
	230-240 (CE) [•]	1502-1635		230-240 (CE) [•]	1915-2085			
240	1635	240	2085					
GRAL-84 ^{•‡}	120	1920	GRAHL-84 [†]	120	2470	84" x 9" x 2.5" (2134 x 229 x 64 mm)	-	28 lbs. (13 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	2342		NEMA 5-15P	
	200	1679		200	2187		-	
	220	1853		220	2403		-	
	220-230	1853-2025		220-230	2403-2626		CEE 7-7 Schuko BS-1363	
	230-240	1763-1920		230-240	2268-2470			
240	1920	240	2470					
GRAL-96 ^{•‡}	120	2205	GRAHL-96 [†]	120	2880	96" x 9" x 2.5" (2438 x 229 x 64 mm)	-	32 lbs. (15 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	-	-		100	2733		NEMA 5-15P	
	200	1928		200	2552		-	
	220	2128		220	2803		-	
	220-230	2128-2326		220-230	2803-3064		CEE 7-7 Schuko BS-1363	
	230-240	2025-2205		230-240	2645-2880			
240	2205	240	2880					
GRAL-108 [†]	120	2390	GRAHL-108 [†]	120	3040	108" x 9" x 2.5" (2743 x 229 x 64 mm)	-	36 lbs. (17 kg.)
	120/208			120/208			-	
	120/240			120/240			-	
	220	2304		220	2954		-	
	220-230	2304-2518		220-230	2954-3228		-	
	230-240	2195-2390		230-240	2792-3040		-	
	240	2390		240	3040		-	

* Shipping weight includes packaging, does not include RMB.

[‡] Require a NEMA 5-20P cord for Canada.

[•] 100 and 120V models with infinite switch require tandem (end-to-end) elements, consult factory for applications.

[▪] 100V and 120V models may require additional switches, consult factory for applications.

[†] Glo-Ray models 108"-144" (2743-3658 mm), 100V and 120V models of GRAHL-84, -96 contain tandem (end-to-end) elements that may be individually controlled.

[◁] GRAHL-66 and GRAHL-72 require NEMA 5-20P cord (not available for Canada).

NOTE: GRAL and GRAHL models that have multiple voltages listed, such as 120/208 or 120/240 have multiple circuits. For example, a 120/208V unit utilizes 120V for the light circuit and 208V for the heat circuit(s). Consult the electrical diagram supplied with the unit for specific information.

CAUTION: Strip heaters equipped with incandescent lights that require a circuit breaker larger than 20 amps for the heat element must have a separate circuit breaker for the incandescent lights that is 20 amps or less.

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 GRAHL-18, -24, -30, -36, -42, -48, -54, -60, -66, -72, -84, -96, -108, -120, -132, -144

SPECIFICATIONS -Glo-Ray® Infrared Aluminum Strip Heaters with Lights

Phase: All Single Phase (3-wire)

Amps: Amps on all models vary based on configuration – please consult factory.

The shaded areas contain electrical information for International models

Standard Watt			High Watt			Both Models		
Model	Volts	Watt	Model	Volts	Watt	Width x Depth x Height	Plug (optional)	Ship Weight*
GRAL-120† ■	120	2700	GRAHL-120† ■	120	3400	120" x 9" x 2.5" (3048 x 229 x 64 mm)	-	40 lbs. (19 kg.)
	120/208							
	120/240							
	220	2604		220	3304			
	220-230	2604-2846		220-230	3304-3611			
	230-240	2480-2700		230-240	3123-3400			
240	2700	240	3400					
GRAL-132† ■	120	2980	GRAHL-132† ■	120	3780	132" x 9" x 2.5" (3353 x 229 x 64 mm)	-	44 lbs. (20 kg.)
	120/208							
	120/240							
	220	2875		220	3675			
	220-230	2875-3142		220-230	3675-4016			
	230-240	2737-2980		230-240	3472-3780			
240	2980	240	3780					
GRAL-144† ■	120	3270	GRAHL-144† ■	120	4170	144" x 9" x 2.5" (3658 x 229 x 64 mm)	-	48 lbs. (22 kg.)
	120/208							
	120/240							
	220	3155		220	4055			
	220-230	3155-3448		220-230	4055-4432			
	230-240	3003-3270		230-240	3830-4170			
240	3270	240	4170					

* Shipping weight includes packaging, does not include RMB.

■ 100V and 120V models may require additional switches, consult factory for applications.

† Glo-Ray models 108"-144" (2743-3658 mm) and 100V and 120V models of GRAHL-84, -96 contain tandem (end-to-end) elements that may be individually controlled.

NOTE: GRAL and GRAHL models that have multiple voltages listed, such as 120/208 or 120/240 have multiple circuits. For example, a 120/208V unit utilizes 120V for the light circuit and 208V for the heat circuit(s). Consult the electrical diagram supplied with the unit for specific information.

CAUTION: Strip heaters equipped with incandescent lights that require a circuit breaker larger than 20 amps for the heat element must have a separate circuit breaker for the incandescent lights that is 20 amps or less.

TOGGLE SWITCH - Amps: Max.15 amps. Location: Chef's left side – light side

INFINITE SWITCH - Max. 12.2 amps

CONDUIT/LEADS - 3' (914 mm) conduit standard on 120V, 120/208V and 120/240V models only. **US/Canada:** 3' (914 mm) conduit with leads, server's right
Euro/UK: 6" (152 mm) pigtail leads– server's right.

MINIMUM RECOMMENDED MOUNTING HEIGHTS

(Refer to the Installation section of the Manual on the Hatco website)

Standard Watt: 8"-11" (203-279 mm) **High Watt:** 11"-14" (279-356 mm)

Combustibles

Unit to surface below: Standard watt - 10" (254 mm), High watt 13.5" (343 mm)
 Back to wall: 3" (76 mm) clearance
 Below overshef: 1" (25 mm) clearance

Non-Combustibles

Corded Units with Built-In Switches:

Unit to surface below: Standard watt: 10" (254 mm), High watt: 11" (279 mm)
 Must be installed in a pass through area - no back wall installation
 Below overshef: 3" (76 mm) clearance

Hardwired with Built-In Switches:

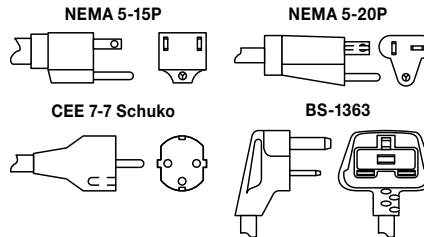
Unit to surface below:
 Standard watt: 8" (203 mm)
 High watt with infinite control or indicator light: 10" (254 mm)
 High watt with On/Off toggle switch: 8" (203 mm)
 Must be installed in a pass through area - no back wall installation
 Below overshef: 1" (25 mm) clearance

Hardwired Units with Remote Switches:

Unit to surface below: 8" (203 mm)
 Back to wall: 0" (0 mm) clearance
 Below overshef: 0" (0 mm) clearance
 Setback from the front of an overshef: Maximum 10" (254 mm)

PLUG CONFIGURATIONS - Optional

Please refer to electrical specifications shown in charts.



REMOTE CONTROL ENCLOSURES

Must order an RMB. One Control Box per Strip Heater - If RMB2 is used, multiple warmers can be controlled from one box. For more details, see "Choose Remote Box" section listed under "Resources" on the Hatco website, www.hatcocorp.com.

Model	Width	Toggle Switches
RMB-3	5.5"(140 mm)	2 Maximum
RMB-7	9" (229 mm)	4 Maximum
RMB-14	14" (356 mm)	6 Maximum
RMB-16	16" (406 mm)	3 Maximum
RMB-20	20" (508 mm)	3 Maximum

Model	Width	Description
RMB2-1R	11" (279 mm)	1 toggle, 1 infinite, 1 relay, 1 indicator light
RMB2-2R	14" (356 mm)	1 toggle, 1 infinite, 2 relays, 1 indicator light

PRODUCT SPECS

Infrared Foodwarmer with Lights

The Infrared Foodwarmer shall be a Glo-Ray®, manufactured by the Hatco Corporation, Milwaukee, WI 53234 U.S.A. The Foodwarmer shall be a Glo-Ray Model ... , rated at ... watts, ... volts, single phase, and be ... inches (millimeters) in overall width. The Glo-Ray shall consist of an aluminum housing and include as standard equipment four stainless steel shelf mounting tabs, incandescent lights, and an on-off switch may be optionally installed to either the front or rear of the unit. The infrared

heating element shall be tubular metal sheathed. The foodwarmer shall be factory-assembled ready for electrical installation. Options and accessories shall include adjustable or non-adjustable tubular stand, C-leg stand, T-leg stand, wall brackets, angle brackets, suspension chain and fittings, sneeze guard, cord and plug set, indicator light, and infinite control - remote or built-in.

24/7 parts and service assistance (U.S. and Canada only).

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