



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 element part 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*[†] – (clear anodized 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)
- Power 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 (matches housing color)
 - 10" (254 mm) 12" (305 mm) 14" (356 mm) 16" (406 mm)
- 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

[†]Non-standard colors are non-returnable

For operation, location and safety information, please refer to the Installation & Operating Manual.

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



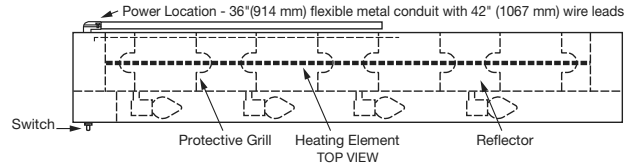
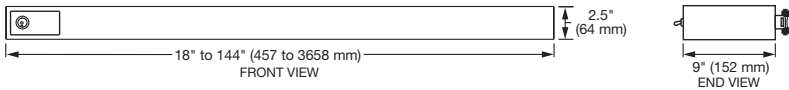


Glo-Ray® Infrared Aluminum Strip Heaters with Lights

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	Amp	Ship Weight	Model	Volts	Watt	Amp	Ship Weight	Width x Depth x Height	Optional Plug			
GRAL-18	120	370	3.1	9 lbs. (4 kg.)	GRAHL-18	120	470	3.9	8 lbs. (4 kg.)	18" x 9" x 2.5" (457 x 229 x 64 mm)	NEMA 5-15P			
	120/208		2.2			2.7		-						
	120/240		2.0			2.5		-						
	-	-	-			4.3	2.0	2.0-2.1			CEE 7-7 Schuko BS-1363			
	200	314	1.6			2.0	2.0	2.0			2.0	2.0	2.0	-
	220-230 (CE)*	350-383	1.6-1.7			2.0-2.1	2.0-2.1	2.0-2.1			2.0-2.1	2.0-2.1	2.0-2.1	-
230-240 (CE)*	340-370	1.5-1.5	1.5-1.5	1.5-1.5	230-240 (CE)*	432-470	1.9-2.0	1.9-2.0	1.9-2.0	-				
GRAL-24	120	470	3.9	10 lbs. (5 kg.)	GRAHL-24	120	620	5.2	10 lbs. (5 kg.)	24" x 9" x 2.5" (610 x 229 x 64 mm)	NEMA 5-15P			
	120/208		2.7			3.4		-						
	120/240		2.5			3.1		-						
	-	-	-			5.8	2.7	2.7-2.9			CEE 7-7 Schuko BS-1363			
	200	407	2.0			2.0	2.0	2.0			2.0	2.0	2.0	-
	220-230 (CE)*	450-492	2.0-2.1			2.0-2.1	2.0-2.1	2.0-2.1			2.0-2.1	2.0-2.1	2.0-2.1	-
230-240 (CE)*	432-470	1.9-2.0	1.9-2.0	1.9-2.0	230-240 (CE)*	569-620	2.5-2.6	2.5-2.6	2.5-2.6	-				
GRAL-30	120	570	4.8	12 lbs. (6 kg.)	GRAHL-30	120	780	6.5	11 lbs. (5 kg.)	30" x 9" x 2.5" (762 x 229 x 64 mm)	NEMA 5-15P			
	120/208		3.2			4.2		-						
	120/240		2.9			3.8		-						
	-	-	-			7.4	3.5	3.5-3.6			CEE 7-7 Schuko BS-1363			
	200	499	2.5			2.5	2.5	2.5			2.5	2.5	2.5	-
	220-230 (CE)*	550-601	2.5-2.6			2.5-2.6	2.5-2.6	2.5-2.6			2.5-2.6	2.5-2.6	2.5-2.6	-
230-240 (CE)*	523-570	2.3-2.4	2.3-2.4	2.3-2.4	230-240 (CE)*	716-780	3.1-3.3	3.1-3.3	3.1-3.3	-				
GRAL-36	120	755	6.3	13 lbs. (6 kg.)	GRAHL-36	120	980	8.2	13 lbs. (6 kg.)	36" x 9" x 2.5" (914 x 229 x 64 mm)	NEMA 5-15P			
	120/208		4.3			5.3		-						
	120/240		3.9			4.8		-						
	-	-	-			9.3	4.3	4.3-4.5			CEE 7-7 Schuko BS-1363			
	200	657	3.3			3.3	3.3	3.3			3.3	3.3	3.3	-
	220-230 (CE)*	725-792	3.3-3.4			3.3-3.4	3.3-3.4	3.3-3.4			3.3-3.4	3.3-3.4	3.3-3.4	-
230-240 (CE)*	693-755	3.0-3.1	3.0-3.1	3.0-3.1	230-240 (CE)*	900-980	3.9-4.1	3.9-4.1	3.9-4.1	-				
GRAL-42	120	855	7.1	15 lbs. (7 kg.)	GRAHL-42	120	1130	9.4	16 lbs. (8 kg.)	42" x 9" x 2.5" (1067 x 229 x 64 mm)	NEMA 5-15P			
	120/208		4.7			6.1		-						
	120/240		4.3			5.5		-						
	-	-	-			10.6	5.0	5.0-5.2			CEE 7-7 Schuko BS-1363			
	200	749	4.3			4.3	4.3	4.3			4.3	4.3	4.3	-
	220-230 (CE)*	825-902	3.8-3.9			3.8-3.9	3.8-3.9	3.8-3.9			3.8-3.9	3.8-3.9	3.8-3.9	-
230-240 (CE)*	785-855	3.4-3.6	3.4-3.6	3.4-3.6	230-240 (CE)*	1038-1130	4.5-4.7	4.5-4.7	4.5-4.7	-				
GRAL-48	120	1040	8.7	17 lbs. (8 kg.)	GRAHL-48	120	1340	11.2	17 lbs. (8 kg.)	48" x 9" x 2.5" (1219 x 229 x 64 mm)	NEMA 5-15P			
	120/208		5.8			7.3		-						
	120/240		5.3			6.6		-						
	-	-	-			12.7	5.9	5.9-6.2			CEE 7-7 Schuko BS-1363			
	200	906	4.5			4.5	4.5	4.5			4.5	4.5	4.5	-
	220-230 (CE)*	1000-1093	4.6-4.8			4.6-4.8	4.6-4.8	4.6-4.8			4.6-4.8	4.6-4.8	4.6-4.8	-
230-240 (CE)*	955-1040	4.2-4.3	4.2-4.3	4.2-4.3	230-240 (CE)*	1231-1340	5.4-5.6	5.4-5.6	5.4-5.6	-				
GRAL-54	120	1165	9.7	19 lbs. (9 kg.)	GRAHL-54	120	1490	12.4	19 lbs. (9 kg.)	54" x 9" x 2.5" (1372 x 229 x 64 mm)	NEMA 5-15P			
	120/208		6.4			8.0		-						
	120/240		5.9			7.2		-						
	-	-	-			14.2	6.6	6.6-6.9			CEE 7-7 Schuko BS-1363			
	200	1022	5.1			5.1	5.1	5.1			5.1	5.1	5.1	-
	220-230 (CE)*	1125-1230	5.1-5.3			5.1-5.3	5.1-5.3	5.1-5.3			5.1-5.3	5.1-5.3	5.1-5.3	-
230-240 (CE)*	1070-1165	4.7-4.9	4.7-4.9	4.7-4.9	230-240 (CE)*	1368-1490	5.9-6.2	5.9-6.2	5.9-6.2	-				

◆ 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.

† Require a NEMA 5-20P cord 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.

HATCO CORPORATION

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Glo-Ray® Infrared Aluminum Strip Heaters with Lights

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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	Amps	Ship Weight [‡]	Model	Volts	Watt	Amps	Ship Weight [‡]	Width x Depth x Height	Optional Plug
GRAL-60	120	1350	11.3	21 lbs. (10 kg.)	GRAHL-60 [‡]	120	1700	14.2	21 lbs. (10 kg.)	60" x 9" x 2.5" (1524 x 229 x 64 mm)	NEMA 5-15P
	120/208		7.5			9.2		-			
	120/240		6.9			8.3		-			
	200	1179	5.9			100	1608	16.1			-
	220-230 (CE)*	1300-1421	5.9-6.2			200	1503	7.5			CEE 7-7 Schuko BS-1363
	230-240 (CE)*	1240-1350	5.4-5.6			220-230 (CE)*	1650-1803	7.5-7.8			230-240 (CE)*
GRAL-66 [‡]	120	1460	12.2	22 lbs. (10 kg.)	GRAHL-66* [‡]	120	1860	15.5	22 lbs. (10 kg.)	66" x 9" x 2.5" (1676 x 229 x 64 mm)	NEMA 5-15P
	120/208		8.1			10.0		-			
	120/240		7.3			9.0		-			
	200	1281	6.4			100	1768	17.7			-
	220-230 (CE)*	1410-1541	6.4-6.7			200	1651	8.3			CEE 7-7 Schuko BS-1363
	230-240 (CE)*	1341-1460	5.8-6.1			220-230 (CE)*	1810-1978	8.2-8.6			230-240 (CE)*
GRAL-72 [‡]	120	1635	13.6	24 lbs. (11 kg.)	GRAHL-72* [‡]	120	2085	17.4	34 lbs. (16 kg.)	72" x 9" x 2.5" (1829 x 229 x 64 mm)	NEMA 5-15P
	120/208		9.1			11.3		-			
	120/240		8.3			10.2		-			
	200	1429	7.4			100	1975	19.8			-
	220-230 (CE)*	1575-1722	7.2-7.5			200	1845	9.2			CEE 7-7 Schuko BS-1363
	230-240 (CE)*	1502-1635	6.5-6.8			220-230 (CE)*	2025-2213	9.2-9.6			230-240 (CE)*
GRAL-84* [‡]	120	1920	16.0	28 lbs. (13 kg.)	GRAHL-84 [‡]	120	2470	20.6	28 lbs. (13 kg.)	84" x 9" x 2.5" (2134 x 229 x 64 mm)	-
	120/208		10.7			13.4		-			
	120/240		9.8			12.0		-			
	200	1679	8.4			100	2342	23.4			NEMA 5-15P
	220-230 (CE)*	1850-2022	8.4-8.8			200	2187	10.9			CEE 7-7 Schuko BS-1363
	230-240 (CE)*	1763-1920	7.7-8.0			220-230 (CE)*	2400-2623	8.2-8.6			230-240 (CE)*
GRAL-96* [‡]	120	2205	18.4	32 lbs. (15 kg.)	GRAHL-96 [‡]	120	2880	24.0	53 lbs. (24 kg.)	96" x 9" x 2.5" (2438 x 229 x 64 mm)	-
	120/208		12.3			15.5		-			
	120/240		11.2			14.0		-			
	200	1928	9.64			100	2733	27.3			NEMA 5-15P
	220-230 (CE)*	2125-2323	9.7-10.1			200	2552	12.8			CEE 7-7 Schuko BS-1363
	230-240 (CE)*	2025-2205	8.8-9.2			220-230 (CE)*	2800-3060	12.7-13.3			230-240 (CE)*
GRAL-108 [‡]	120	2390	19.9	36 lbs. (17 kg.)	GRAHL-108 [‡]	120	3040	25.3	45 lbs. (21 kg.)	108" x 9" x 2.5" (2743 x 229 x 64 mm)	-
	120/208		13.4			16.5		-			
	120/240		12.2			14.9		-			
	220-230	2304-2518	10.5-10.9			220-230	2954-3228	13.4-14.0			-
	230-240	2195-2390	9.5-10.0			230-240	2792-3040	12.1-12.7			-
	200	2700	15.1			100	3400	28.3			-
GRAL-120 [‡]	120/208	2700	15.1	40 lbs. (19 kg.)	GRAHL-120 [‡]	120/208	3400	18.5	40 lbs. (19 kg.)	120" x 9" x 2.5" (3048 x 229 x 64 mm)	-
	120/240		13.8			16.7		-			
	220-230		2604-2846			11.8-12.4		220-230			3304-3611
	230-240	2480-2700	10.8-11.3			230-240	3123-3400	13.6-14.2			-
	200	2980	16.7			100	3780	20.5			-
	GRAL-132 [‡]	120/208	2980			16.7	44 lbs. (20 kg.)	GRAHL-132 [‡]			120/208
120/240		15.2		18.5	-						
220-230		2875-3142		13.1-13.7	220-230	3675-4016			16.7-17.5	-	
230-240		2737-2980	11.9-12.4	230-240	3472-3780	15.1-15.6			-		
200		3270	18.3	100	4170	22.6			-		
GRAL-144 [‡]		120/208	3270	18.3	48 lbs. (22 kg.)	GRAHL-144 [‡]			120/208	4170	22.6
	120/240	16.6		20.4			-				
	220-230	3155-3448		14.3-15.0			220-230	4055-4432	18.4-19.3		-
	230-240	3003-3270	13.1-13.6	230-240			3830-4170	16.7-17.4	-		

‡ 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 must have a separate circuit breaker for the incandescent lights that is 20 amps or less.

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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 overshelf: 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 overshelf: 3" (76 mm) clearance

Hardwired with Built-In Switches:

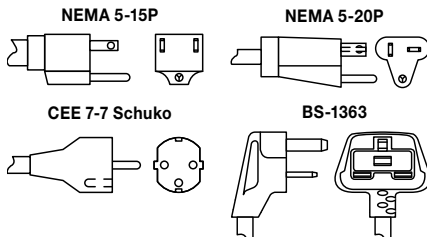
Unit to surface below:
Standard watt: 8" (203 mm)
High watt with infinite control or indicator light: 10" (254 mm)
High watt with On/Off toggle switch: 8" (203 mm)
Must be installed in a pass through area - no back wall installation
Below overshelf: 1" (25 mm) clearance

Hardwired Units with Remote Switches:

Unit to surface below: 8" (203 mm)
Back to wall: 0" (0 mm) clearance
Below overshelf: 0" (0 mm) clearance
Setback from the front of an overshelf: 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 Foodwarmers 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.

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

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