



SERVICE REFERENCE

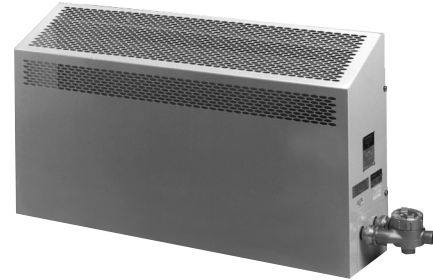
SALES REFERENCE 5200-2472-000

161-302639-002

DATE MAY, 2002

INSTALLATION, OPERATION RENEWAL PARTS IDENTIFICATION

G Series (Model B) Convactor Heater for Hazardous Locations



GENERAL

Type G-Series Convection Heaters are designed for use in Class I, Div I hazardous environments. Units without control options are suitable for areas classified as Groups B, C & D. Units with built-in controls can be supplied for groups C and D or B, C and D. Refer to classification stamped on heater nameplate.

⚠ WARNING

FIRE/EXPLOSION HAZARD. To prevent ignition of hazardous atmospheres, this heater should not be installed in areas where vapors or gases having an ignition temperature less than 280°C (536°F)(T2A) at 1.8kW, 3.6kW, 4.5kW, 7.6kW, 9.0kW or 180°C (356°F)(T3A) at 1.6kW, 3.2kW, 4.0kW are present. These heaters must not be operated in ambient temperatures exceeding 40°C (104°F).

NOTE: Article 500 of the National Electric Code (NEC) outlines requirements for installation of electrical equipment in hazardous (Classified) locations.

1. Connect air heaters to the same line voltage as on heater nameplate.
2. Heaters can be mounted individually end to end.
3. Heaters can be mounted directly on any type of surface masonry, concrete, block, plastered walls, metal framework, etc. - using

appropriate hardware.

4. All controls such as thermostat and contactor, when required must have the same explosion-proof rating as heater.
5. Do not install one unit above the other.
6. Units are mounted a minimum of 8" above the floor.
7. Heaters are mounted on wall in a horizontal position with terminal end at right. **Never** recess heater into wall.
8. NOTE: Article 500 of the National Electric Code (NEC) outlines requirements for installation of electrical equipment in hazardous (classified) locations.
9. All unit electrical installation fittings, conduit, wiring and seals must meet NEC and local codes for hazardous locations. External line fusing or circuit breaker protection is required.
10. Failure to understand and follow these installation instructions and the "WARNING" notes contained therein may result in severe personal injury, death or substantial property damage.

⚠ WARNING

ELECTRIC SHOCK HAZARD. Any installation involving electric heaters must be performed by a qualified person and must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

SAVE THESE INSTRUCTIONS

INSTALLATION

⚠ WARNING

ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage. Heater must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.

Note: Heaters can be mounted individually end to end. Heaters can be mounted directly on any type of surface (masonry, concrete, block, plastered walls, metal framework, etc.) using appropriate hardware.

1. Remove front panel by removing screws.
2. Locate desired heater position on wall.
3. Locate mounting holes for rear panel. Rear panel must be a minimum of 8" from the floor.

4. Refer to Figure 1A, 1B or 1C for mounting hole layout for each cabinet size.
5. Drill a pilot hole in wall mounting surface at each mounting hole location. Use a convenient small size drill.
6. Drill the mounting holes in accordance with size in Table 1. Insert anchors where applicable.
7. Fasten rear panel to wall with screws noted in table 1.
8. Replace front panel and screws.

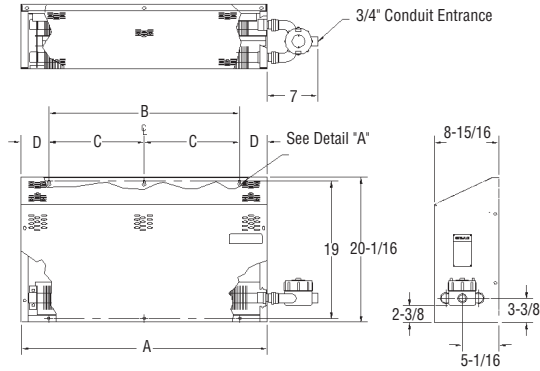
⚠ WARNING

Never operate heater with front panel off. Adequate air flow across heating elements requires the front panel to be in place. The heating elements could overheat, causing equipment damage or personal injury.

INSTALLATION

G SERIES MODELS WITHOUT CONTROLS — GROUPS B, C AND D

Figure 1A

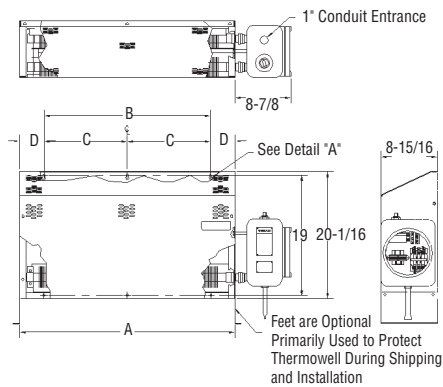


Dimensions (In.)

kW	A	B	C	D
1.6 1.8 3.6	34	20	10	7
3.2 7.6	58	32	16	13
4.0 4.5 9.0	70	48	24	11

G SERIES MODELS WITH BUILT-IN CONTROLS — GROUPS B, C AND D

Figure 1B

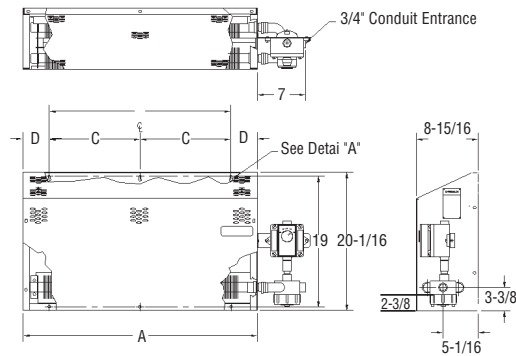


Dimensions (In.)

kW	A	B	C	D
1.6 1.8 3.6	34	20	10	7
3.2 7.6	58	32	16	13
4.0 4.5 9.0	70	48	24	11

G SERIES MODELS WITH THERMOSTAT ONLY — GROUPS C AND D

Figure 1C

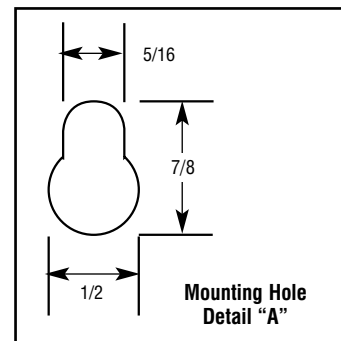


Dimensions (In.)

kW	A	B	C	D
1.6 1.8 3.6	34	20	10	7
3.2 7.6	58	32	16	13
4.0 4.5 9.0	70	48	24	11

Table 1 — Suggested Heater Mounting Screws — Types and Sizes

Type of Mounting Surface	** Accessory Hardware	Screw Type	Drill Size and Type	Screw Size to Fit Mtg Hole Size
Concrete Block Masonry	Ackerman	Rd. Hd. Mach. Steel	1/2" Masonry	† 1/4" x 20 x.....lg
	Lead Anchor	Rd. Hd. Mach Steel or Pan Hd. Metal (Self Tapping)	5/16" Masonry	† # 1/4" xlg
Wood Studs	— —	Wood or Metal (Self Tapping)	— —	† # 1/4" xlg
Plaster wall Hollow or Similar Type	— —	Toggle Bolt	#7 Twist	† # 1/4" xlg
* Metal Beam, Channel, etc.	Nuts Washers	Rd. Hd. Mach. Steel	#7 Twist	† 1/4" x 20 x.....lg



*If clearance permits use washer, lockwasher and nut; otherwise drill and tap to these lengths add thickness of beam, washers, nut, etc.
 **If mounting structure permits. Except plastered hollow walls explosive type anchors can be used. Suggested size noted in Table and/or sketches be used to determine size of anchors.
 †Select overall length of screw to provide a minimum penetration of 1 inch into base wall material.

WIRING

⚠ WARNING

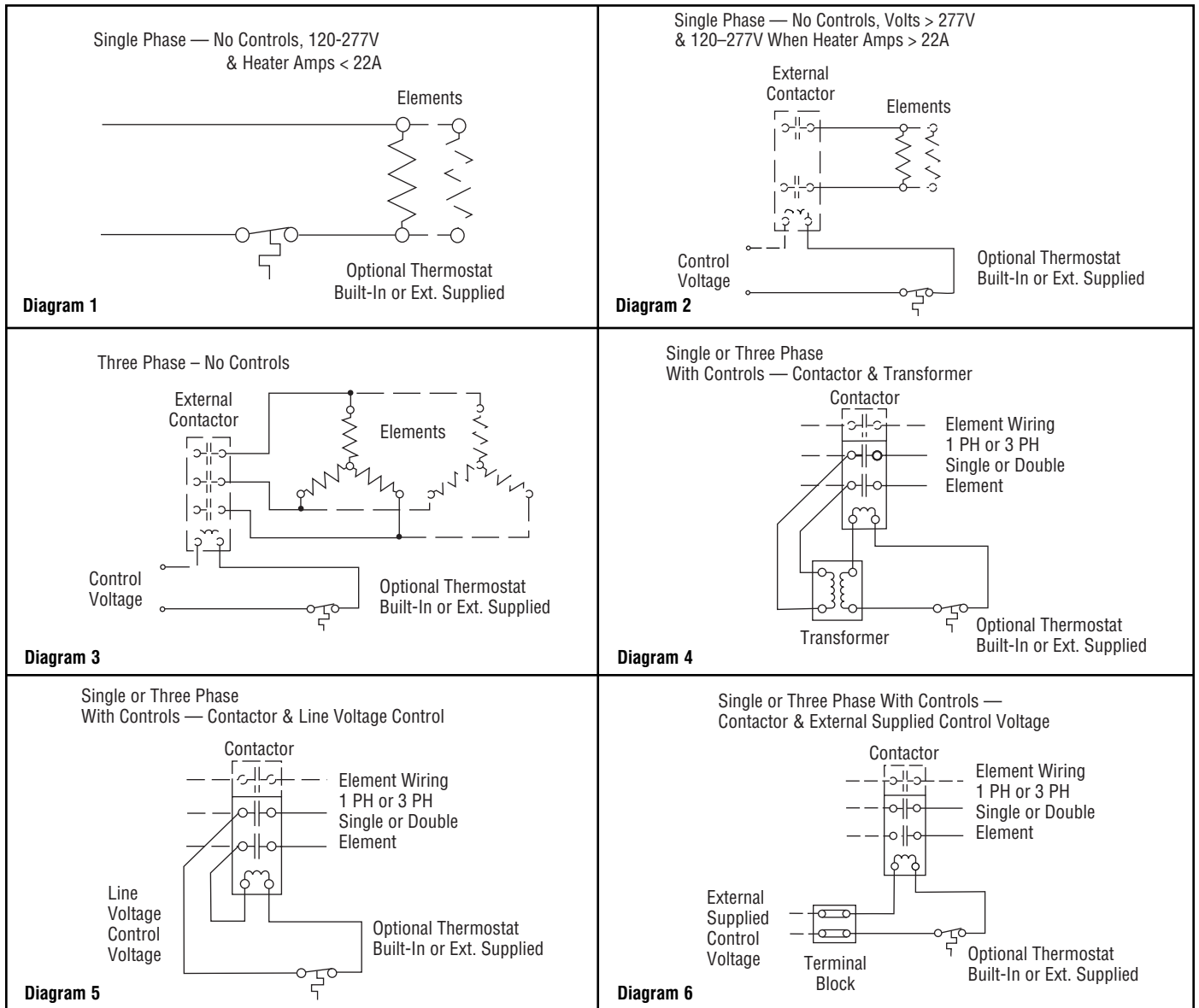
ELECTRIC SHOCK HAZARD. Any installation involving electric heaters must be performed by a qualified person and must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

1. All wiring should be done in accordance with local codes and the National Electrical Code by a qualified person as defined in the NEC.
CAUTION: Use copper conductors only.
2. Rough-in-line-wiring to unit in manner approved for hazardous locations. (See warning below.)
3. Wire per diagrams 1 through 6 based on the rating and control options listed in table 2. Refer to table 3 for amperage specifications.

4. Remove cover of conduit box for connections. Use either opening and plug the other with the plug provided.
5. In single phase units the heaters must be wired in parallel, combining L1 to L1, L2 to L2 and for 3 phase unit, L3 to L3.
6. Re-assemble cover with a minimum of 7 turns.

⚠ WARNING

FIRE/EXPLOSION HAZARD. (Group B atmospheres) To prevent ignition of Group B atmospheres, conduit runs must not exceed 3/4" in size and all conduit runs 1/2" size and larger must have a sealing fitting connected within 2", 6" or 18" of the terminal enclosure depending on the exact model. For correct placement, refer to data located on the enclosure label.



OPERATION

⚠ CAUTION

The system designer is responsible for the safety of this equipment and should install adequate back-up controls and safety devices with their electric heating equipment. Where the conse-

quences of failure could result in personal injury or property damage, back-up controls are essential.

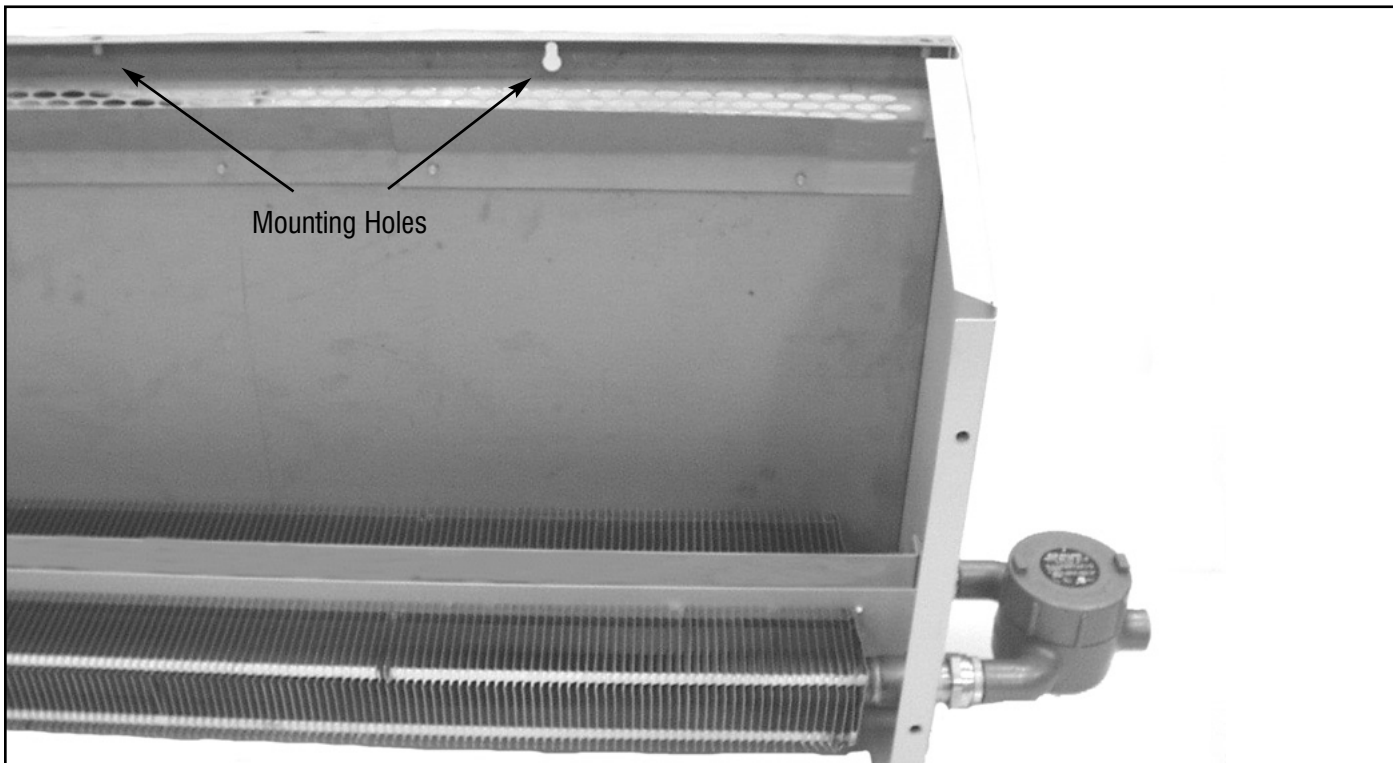
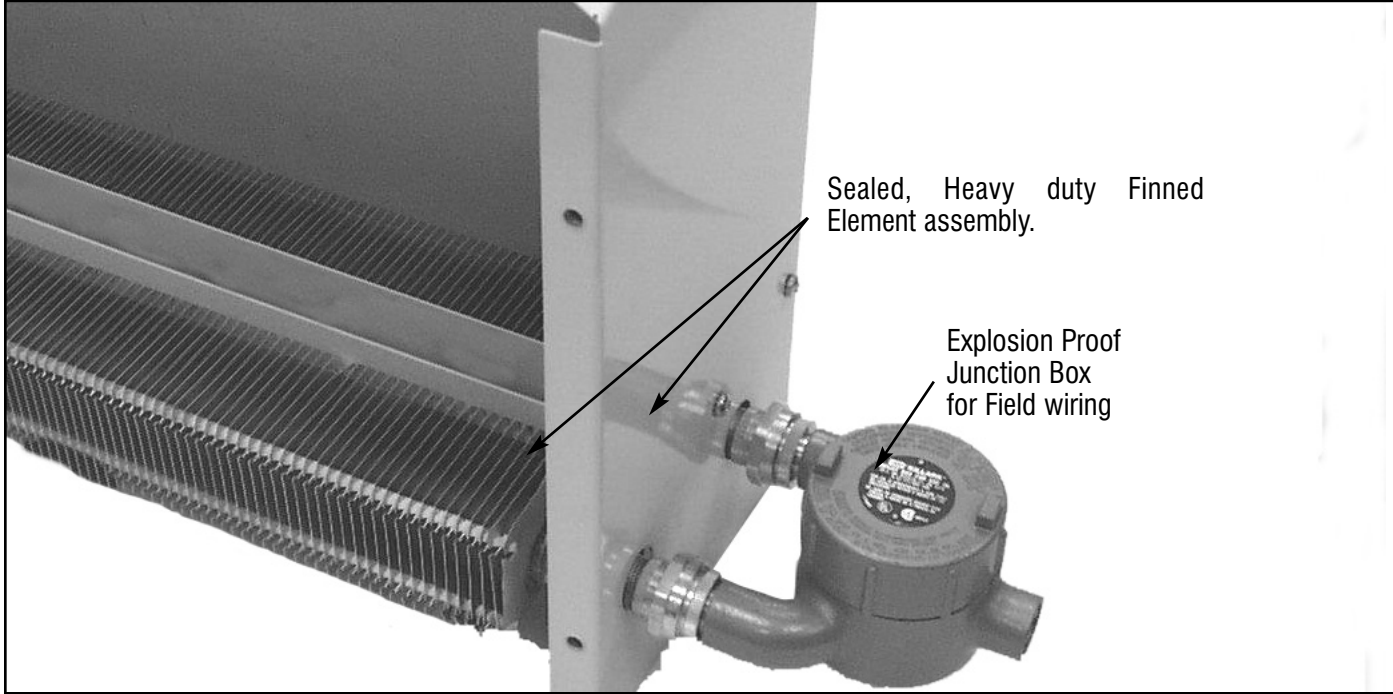
1. Do not operate heater at voltages in excess of that stamped on the heater since excess voltage will shorten heater life and cause high element temperatures which may exceed allowable temperatures of operation in a hazardous atmosphere.

MAINTENANCE

⚠ WARNING

ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage. Heater must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.

1. Before activating for next heating season, vacuum or use compressed air to remove accumulated dust or lint, which otherwise may restrict proper air flow.
2. Periodically check all electrical connections and retighten to avoid electrical wiring difficulties.
3. Check to ensure terminal cover is tightly closed, before energizing.



RENEWAL PARTS IDENTIFICATION

Model

G-Series

Explosion Proof Convection Heater

G	<u>Temperature Rating</u>					
	Code	kW	ID Number	°F	°C	(BTU)
↓	160	1.6	T3A	356	180	5,500
	180	1.8	T2A	536	280	6,150
	320	3.2	T3A	356	180	11,000
	360	3.6	T2A	536	280	12,300
	400	4.0	T3A	356	180	13,600
	450	4.5	T2A	536	280	15,350
	760	7.6	T2A	536	280	25,930
	900	9.0	T2A	536	280	30,700
↓	Code		Voltage		Maximum kW Allowable	
	0		120		1.8	
	4		240		9.0	
	38		380		9.0	
	48		480		9.0	
	6		600		9.0	
	7		277		9.0	
	8		208		9.0	
↓	Code		Phase			
	1		1Ø			
↓	3		3Ø (Not available in 120, 277V)			
	Control Combination					
↓	Code		Contactor Coil		Transformer Secondary	
	CX		None		None	
	CX*		24 Volt 120 Volt		24 Volt 120 Volt	
↓	Code		Temperature Control			
	TB		None Thermostat 40 - 90°F Group B, C & D			
↓	T		Thermostat Group C & D 50 - 90°F			
	G	760	48	3	CX	T

Note: Letter "B" will appear after phase code to indicate engineering version.

**TABLE 2 — TEMPERATURE SPECIFICATIONS
DIMENSIONS REPLACEMENTS ELEMENTS REQUIREMENTS**

Temperature Rating T3A 356°F (180°C)

Common To Units W & W/O Suffix B

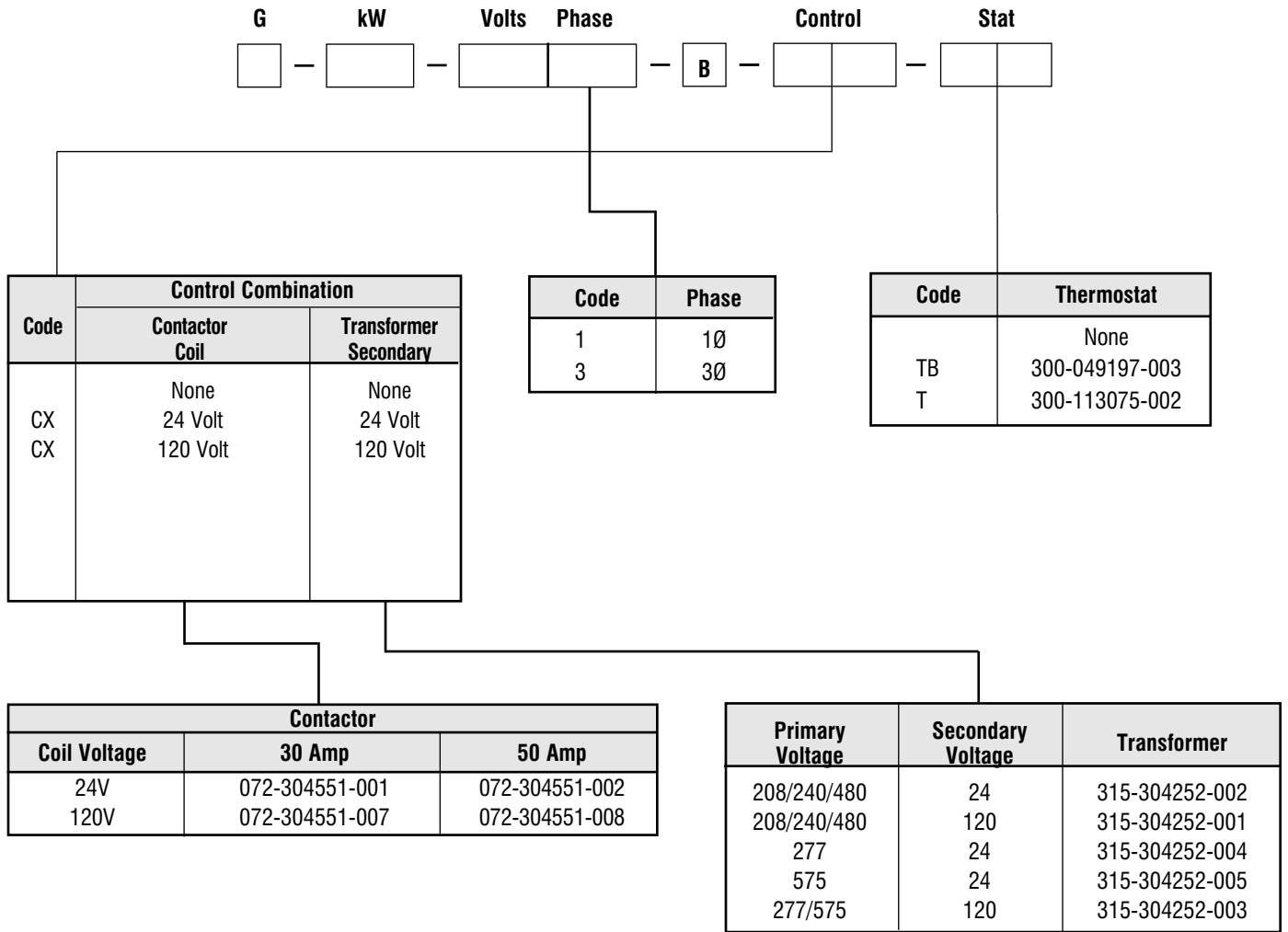
KW	BTU	Volts	Phase	Amps	Model	Width A	Height B	Depth C	Wt. (Lbs.)	Element P/N	Qty.
1.6	5,500	208	1	7.7	G16081	34"	20"	9"	58	003-304650-002	2
1.6	5,500	208	3	4.4	G16083	34"	20"	9"	58	003-304650-005	2
1.6	5,500	240	1	6.7	G16041	34"	20"	9"	58	003-304650-096	2
1.6	5,500	240	3	3.8	G16043	34"	20"	9"	58	003-304650-006	2
1.6	5,500	277	1	5.8	G16071	34"	20"	9"	58	003-304650-004	2
1.6	5,500	480	1	3.3	G160481	34"	20"	9"	58	003-304650-091	2
1.6	5,500	480	3	1.9	G160483	34"	20"	9"	58	003-304650-009	2
1.6	5,500	575	3	1.6	G16063	34"	20"	9"	58	003-304650-010	2
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3.2	11,000	208	1	15.4	G32081	58"	20"	9"	94	003-304650-023	2
3.2	11,000	208	3	8.9	G32083	58"	20"	9"	94	003-304650-026	2
3.2	11,000	240	1	13.3	G32041	58"	20"	9"	94	003-304650-097	2
3.2	11,000	240	3	7.7	G32043	58"	20"	9"	94	003-304650-027	2
3.2	11,000	277	1	11.6	G32071	58"	20"	9"	94	003-304650-025	2
3.2	11,000	480	1	6.7	G320481	58"	20"	9"	94	003-304650-093	2
3.2	11,000	480	3	3.8	G320483	58"	20"	9"	94	003-304650-030	2
3.2	11,000	575	3	3.2	G32063	58"	20"	9"	94	003-304650-031	2
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4.0	13,600	208	1	19.2	G40081	70"	20"	9"	112	003-304650-045	2
4.0	13,600	208	3	11.1	G40083	70"	20"	9"	112	003-304650-048	2
4.0	13,600	240	1	16.7	G40041	70"	20"	9"	112	003-304650-046	2
4.0	13,600	240	3	9.6	G40043	70"	20"	9"	112	003-304650-049	2
4.0	13,600	277	1	14.4	G40071	70"	20"	9"	112	003-304650-047	2
4.0	13,600	480	1	8.3	G400481	70"	20"	9"	112	003-304650-094	2
4.0	13,600	480	3	4.8	G400483	70"	20"	9"	112	003-304650-052	2
4.0	13,600	575	3	7.0	G40063	70"	20"	9"	112	003-304650-053	2

Temperature Rating T2A 536°F (280°C)

KW	BTU	Volts	Phase	Amps	Model	Width A	Height B	Depth C	Wt. (Lbs.)	Element P/N	Qty.
1.8/3.6	6,150/12,300	208	1	8.7/17.3	G(180)36081	34"	20"	9"	46/58	003-304650-034	1 or 2
1.8/3.6	6,150/12,300	208	3	5.0/10.0	G(180)36083	34"	20"	9"	46/58	003-304650-038	1 or 2
1.8/3.6	6,150/12,300	240	1	7.5/15.0	G(180)36041	34"	20"	9"	46/58	003-304650-098	1 or 2
1.8/3.6	6,150/12,300	240	3	4.3/8.7	G(180)36043	34"	20"	9"	46/58	003-304650-039	1 or 2
1.8/3.6	6,150/12,300	277	1	6.5/13.0	G(180)36071	34"	20"	9"	46/58	003-304650-036	1 or 2
1.8/3.6	6,150/12,300	480	1	3.8/7.5	G(180)360481	34"	20"	9"	46/58	003-304650-037	1 or 2
1.8/3.6	6,150/12,300	480	3	2.2/4.3	G(180)360483	34"	20"	9"	46/58	003-304650-042	1 or 2
1.8/3.6	6,150/12,300	575	3	1.8/3.6	G(180)36063	34"	20"	9"	46/58	003-304650-043	1 or 2
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7.6	25,930	208	1	36.5	G76081	58"	20"	9"	94	003-304650-055	2
7.6	25,930	208	3	21.1	G76083	58"	20"	9"	94	003-304650-058	2
7.6	25,930	240	1	31.7	G76041	58"	20"	9"	94	003-304650-099	2
7.6	25,930	240	3	18.3	G76043	58"	20"	9"	94	003-304650-059	2
7.6	25,930	277	1	27.4	G76071	58"	20"	9"	94	003-304650-057	2
7.6	25,930	480	1	15.8	G760481	58"	20"	9"	94	003-304650-095	2
7.6	25,930	480	3	9.1	G760483	58"	20"	9"	94	003-304650-062	2
7.6	25,930	575	3	7.6	G76063	58"	20"	9"	94	003-304650-063	2
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4.5/9.0	15,350/30,700	208	1	21.6/43.3	G(450)90081	70"	20"	9"	87/112	003-304650-065	1 or 2
4.5/9.0	15,350/30,700	208	3	12.5/25.0	G(450)90083	70"	20"	9"	87/112	003-304650-069	1 or 2
4.5/9.0	15,350/30,700	240	1	18.8/37.5	G(450)90041	70"	20"	9"	87/112	003-304650-100	1 or 2
4.5/9.0	15,350/30,700	240	3	10.8/21.7	G(450)90043	70"	20"	9"	87/112	003-304650-070	1 or 2
4.5/9.0	15,350/30,700	277	1	16.2/32.5	G(450)90071	70"	20"	9"	87/112	003-304650-067	1 or 2
4.5/9.0	15,350/30,700	480	1	9.4/18.8	G(450)900481	70"	20"	9"	87/112	003-304650-068	1 or 2
4.5/9.0	15,350/30,700	480	3	5.4/10.8	G(450)900483	70"	20"	9"	87/112	003-304650-073	1 or 2
4.5/9.0	15,350/30,700	575	3	4.5/9.0	G(450)90063	70"	20"	9"	87/112	003-304650-074	1 or 2

REPLACEMENT PARTS

Model Any Voltage	Front Cover Assembly	Rear Cover Assembly	Right Side Panel	Left Side Panel	Element Support Bracket
1.6, 1.8, 3.6 kW	207-304644-101	207-304644-001	207-304644-201	304-304644-301	027-304646-001
3.2, 7.6 kW	207-304644-102	207-304644-002	207-304644-201	304-304644-301	027-304646-001
4.0, 4.5, 9.0 kW	207-304644-103	207-304644-003	207-304644-201	304-304644-301	027-304646-001



LIMITED WARRANTY

All products manufactured by Marley Electric Heating are warranted against defects in workmanship and materials for one year from date of installation. This warranty does not apply to damage from accident, misuse, or alteration; nor where the connected voltage is more than 5% above the nameplate voltage; nor to equipment improperly installed or wired or maintained in violation of the product's installation instructions. All claims for warranty work must be accompanied by proof of the date of installation.

The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs, and shipping costs incurred to return products to Marley Electric Heating Service Center. Within the limitations of this warranty, inoperative units should be returned to the nearest Marley authorized service center or the Marley Electric Heating Service Center, and we will repair or replace, at our option, at no charge to you with return freight paid by Marley. It is agreed that such repair or replacement is the exclusive remedy available from Marley Electric Heating.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. AND ALL

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID EXPRESSED WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS AGREEMENT. MARLEY ELECTRIC HEATING SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES ARISING WITH RESPECT TO THE PRODUCT, WHETHER BASED UPON NEGLIGENCE, TORT, STRICT LIABILITY, OR CONTRACT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

For the address of your nearest authorized service center, contact Marley Electric Heating in Bennettsville, SC, at 1-800-642-4328. Merchandise returned to the factory must be accompanied by a return authorization and service identification tag, both available from Marley Electric Heating. When requesting return authorization, include all catalog numbers shown on the products.

How to order repair parts:

In order to obtain any needed repair or replacement parts, warranty service or technical information, please contact the Marley Electric Heating Service Center toll-free by calling 1-800-642-HEAT.

When ordering replacement parts, always give the information listed as follows:

1. The Part Number
2. The Model Number
3. The Part Description
4. Date of Manufacture



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