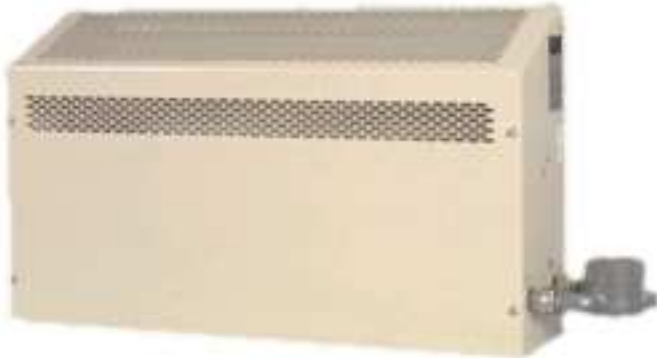


USA / Canada - Explosion Proof Convectors, ICG Series

ICG - Explosion Proof Convectors

SELECTION CHART

ZBL-QICGA 2-06



APPLICATIONS

ICG Series convector heaters are designed to heat areas classified as hazardous locations designated for Class I, Groups B, C, & D. Division 1 and 2 environments.

Typical applications involve petroleum refineries and gasoline storage and dispensing areas, industrial firms that use flammable liquids in dip tanks for parts cleaning, petrochemical companies manufacturing chemicals, dry cleaning plants, utility and natural gas plants, aircraft hangars, fueling areas, and many other hazardous areas covered by these classifications.

FEATURES

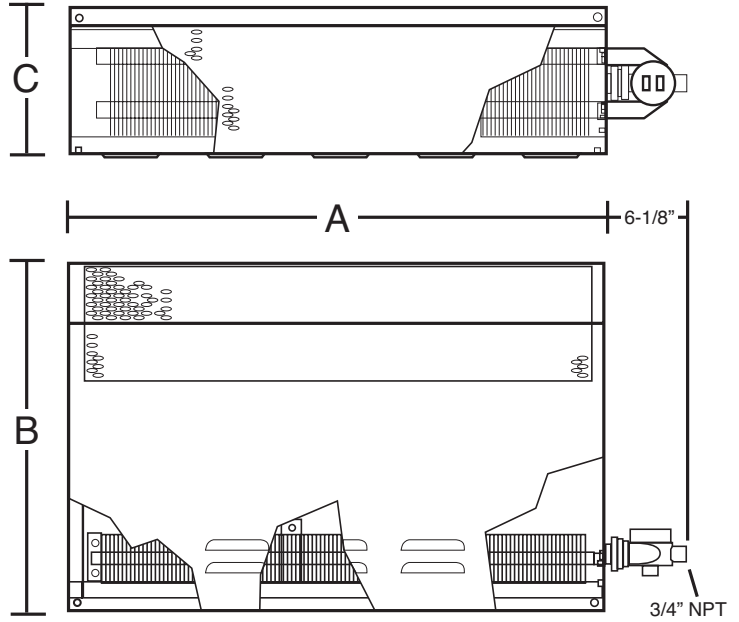
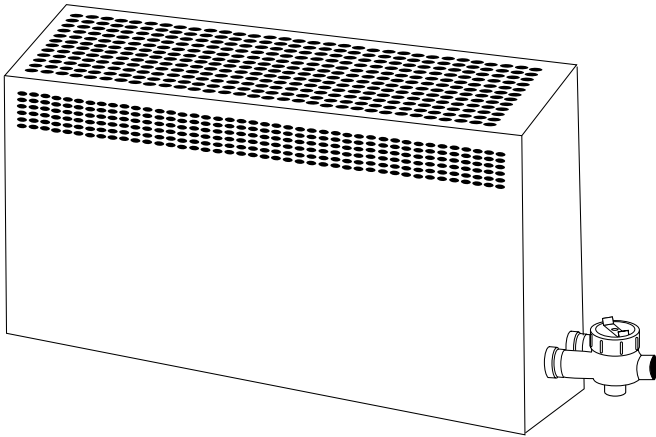
- Easily mounted with integral mounting brackets provided for wall installation.
- Polyester powder coated heavy gauge steel that provides excellent corrosion resistance.
- High quality, long life tubular elements with high grade resistance wire embedded in MGO, centered in heavy gauge 1.25" diameter sheath with 3" x 3.25" fins.
- Explosion proof junction boxes included for conduit entry and ease of wiring.
- Sloped top cabinet prevents objects from being set on top which could restrict airflow.
- These convection heaters have been designed and manufactured to provide a rugged and corrosion resistant heat source for areas where volatile flammable liquids or gases and vapors are present.

T2A Temperature Rating (536 deg. F)						
Catalog Number	Heater Volts	Watts (KW)	Phase	Amps	BTU	Ship Wt.
ICG18001	120	1.8	1	15.0	6,140	46 lbs
ICG18081	208	1.8	1	8.7	6,140	
ICG18083	208	1.8	3	5.0	6,140	
ICG18041	240	1.8	1	7.5	6,140	
ICG18043	240	1.8	3	4.4	6,140	
ICG18071	277	1.8	1	6.5	6,140	
ICG180481	480	1.8	1	3.8	6,140	
ICG180483	480	1.8	3	2.2	6,140	
ICG36081	208	3.6	1	17.3	12,300	58 lbs
ICG36083	208	3.6	3	10.0	12,300	
ICG36041	240	3.6	1	15.0	12,300	
ICG36043	240	3.6	3	8.7	12,300	
ICG36071	277	3.6	1	13.0	12,300	
ICG360481	480	3.6	1	7.5	12,300	
ICG360483	480	3.6	3	4.3	12,300	
ICG36063	600	3.6	3	6.3	12,300	
ICG76081	208	7.6	1	36.5	25,930	94 lbs
ICG76083	208	7.6	3	21.1	25,930	
ICG76041	240	7.6	1	31.7	25,930	
ICG76043	240	7.6	3	18.3	25,930	
ICG76071	277	7.6	1	27.4	25,930	
ICG760481	480	7.6	1	15.8	25,930	
ICG760483	480	7.6	3	9.2	25,930	
ICG76063	600	7.6	3	9.2	25,930	
T3A Temperature Rating (356 deg. F)						
Catalog Number	Heater Volts	Watts (KW)	Phase	Amps	BTU	Ship Wt.
ICG16081	208	1.6	1	7.7	5500	82 lbs
ICG32081	208	3.2	1	15.4	11,000	84 lbs
ICG32083	208	3.2	3	8.9	11,000	
ICG32041	240	3.2	1	13.3	11,000	
ICG32043	240	3.2	3	7.7	11,000	
ICG32071	277	3.2	1	11.6	11,000	
ICG320481	480	3.2	1	6.7	11,000	
ICG320483	480	3.2	3	3.8	11,000	
ICG32063	480	3.2	3	5.6	11,000	

Optional Built-In Controls
Class C & D Thermostat – 50° - 90°F Range
24 Volt Control Circuit & Transformer
120 Volt control circuit, transformer and contactor
Class B, C, & D Thermostat – 50° - 90°F Range
Consult our sales office for other models (9KW available)



USA / Canada - Explosion Proof Convectors, ICG Series



UL US
File # E21609



Dimensions - Inches (mm)

kW	a	b	c
1.6, 1.8 and 3.6	34(864)	20(508)	8.5(216)
3.2	58(1473)	20(508)	8.5(216)
7.6	58(1473)	20(508)	8.5(216)

SUBMITTAL SHEET ICG SERIES EXPLOSION PROOF CONVECTORS

ITEM	QTY.	CATALOG NUMBER	TAG	WATTS	VOLTS	Ø	AMPS	GRILLE FINISH	CEILING MOUNT

ACCESSORIES AND CONTROLS

ITEM	QTY.	CAT. NO.	TAG	DESCRIPTION

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.

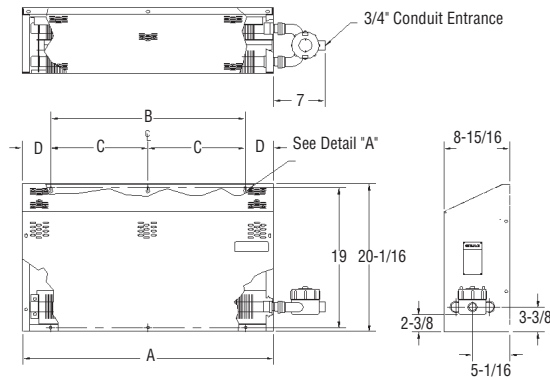
4. Refer to Figure 1A, 1B or 1C for mounting hole layout for each cabinet size.
5. Drill a pilot hole in wall mounting surface at each mounting hole location. Use a convenient small size drill.
6. Drill the mounting holes in accordance with size in Table 1. Insert anchors where applicable.
7. Fasten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

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

Figure 1A

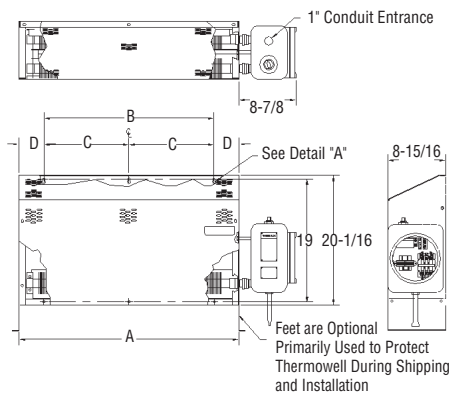


Dimensions (In.)

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

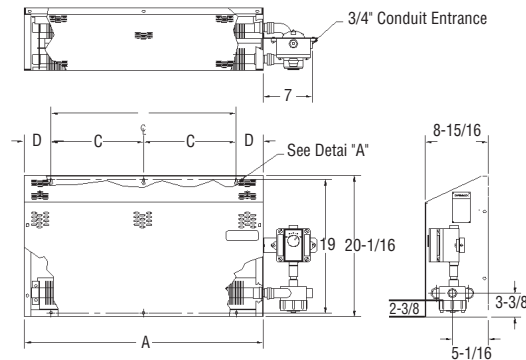


Dimensions (In.)

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

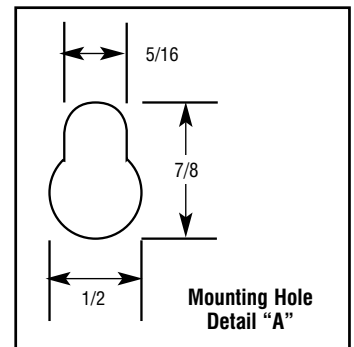


Dimensions (In.)

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" x.....lg
Wood Studs	— —	Wood or Metal (Self Tapping)	— —	† # 1/4" x.....lg
Plaster wall Hollow or Similar Type	— —	Toggle Bolt	#7 Twist	† # 1/4" x.....lg
* 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.

⚠ 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.

- 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.
- Rough-in-line-wiring to unit in manner approved for hazardous locations. (See warning below.)
- Wire per diagrams 1 through 6 based on the rating and control options listed in table 2. Refer to table 3 for amperage specifications.

- Remove cover of conduit box for connections. Use either opening and plug the other with the plug provided.
- 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.
- 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.

Single Phase — No Controls, 120-277V & Heater Amps < 22A

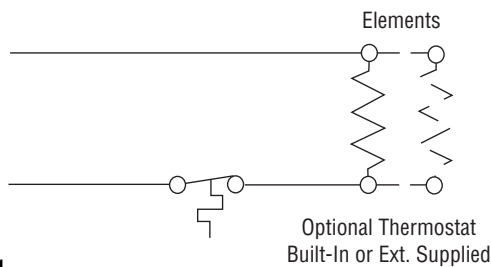


Diagram 1

Single Phase — No Controls, Volts > 277V & 120-277V When Heater Amps > 22A

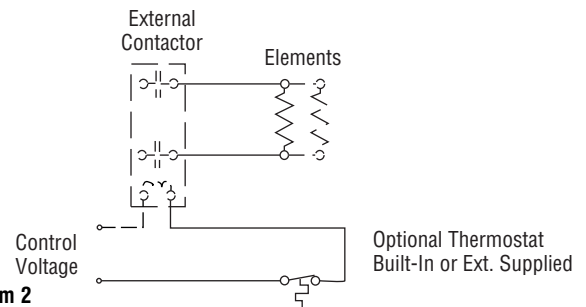


Diagram 2

Three Phase — No Controls

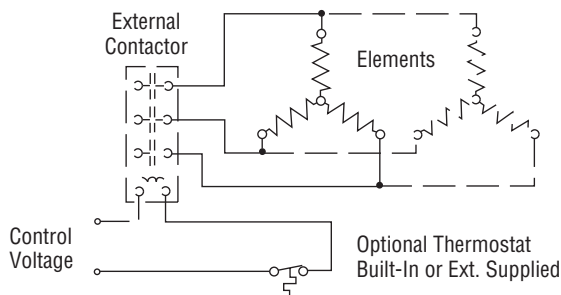


Diagram 3

Single or Three Phase With Controls — Contactor & Transformer

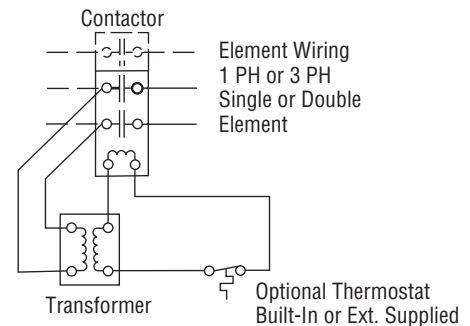


Diagram 4

Single or Three Phase With Controls — Contactor & Line Voltage Control

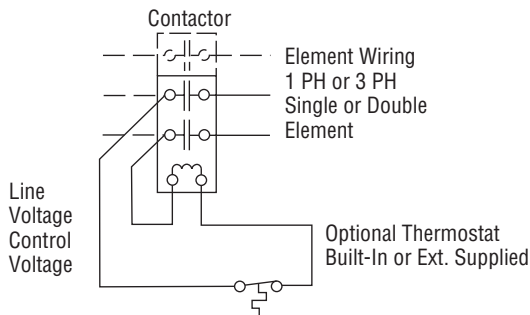


Diagram 5

Single or Three Phase With Controls — Contactor & External Supplied Control Voltage

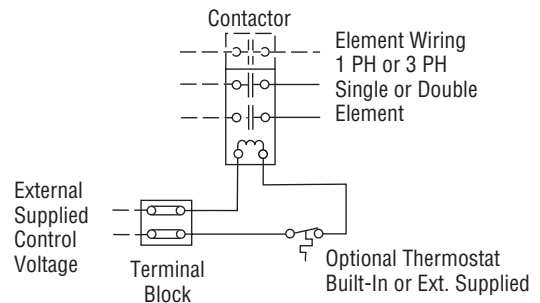


Diagram 6

⚠ 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-

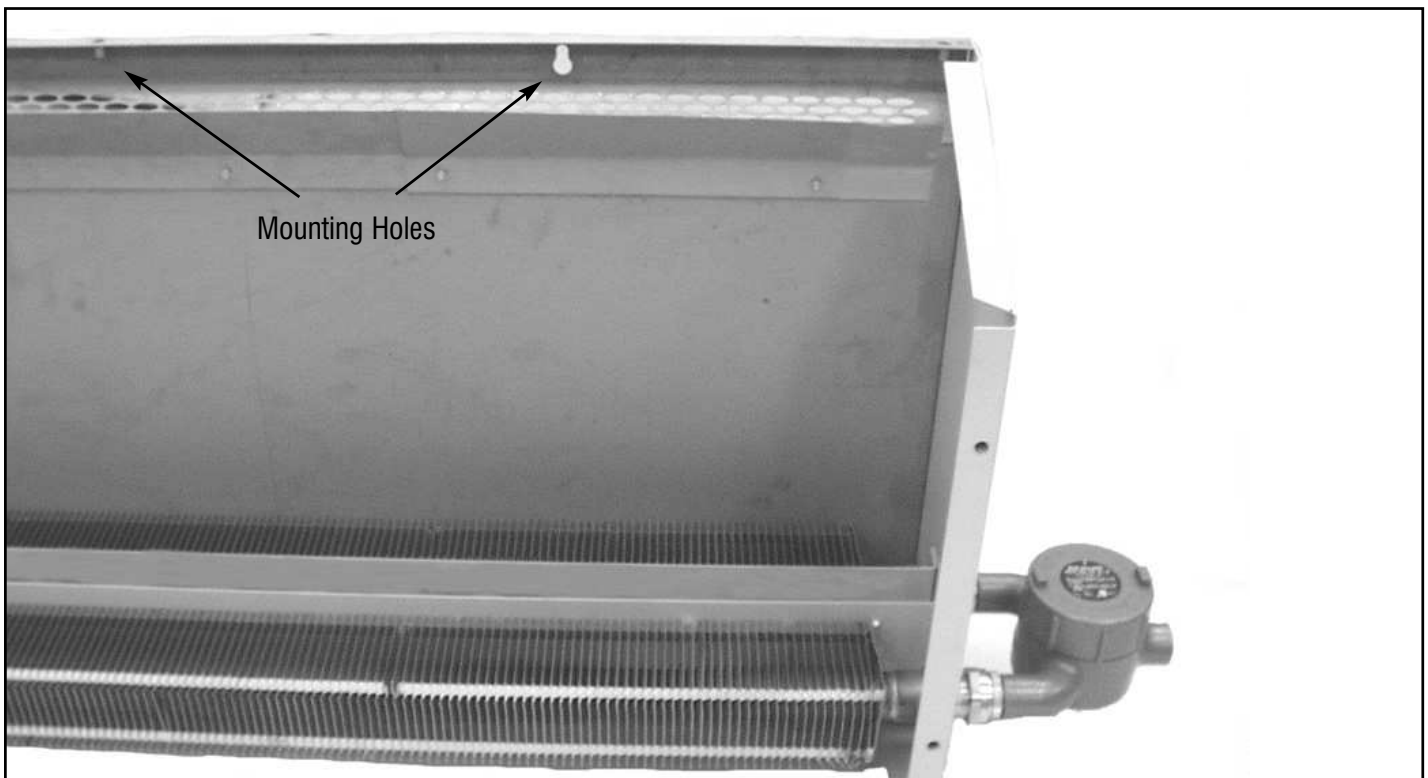
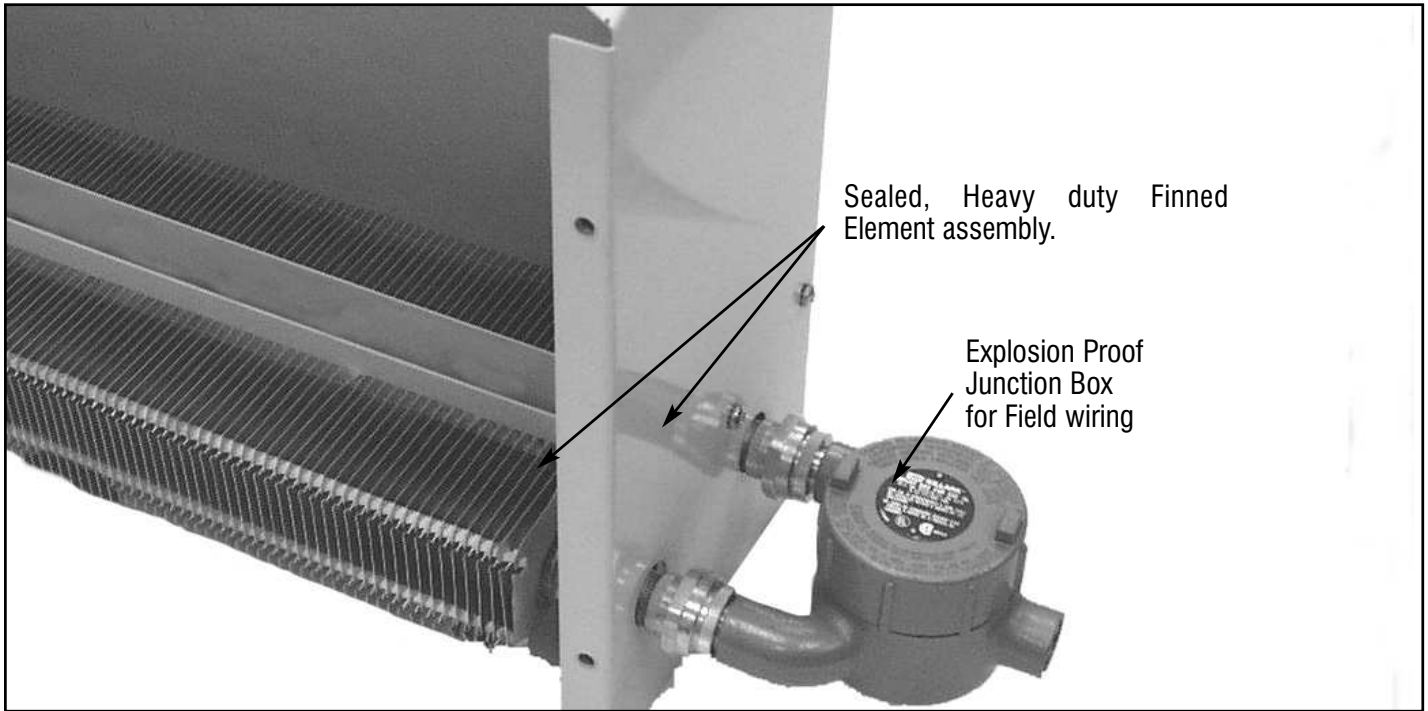
quences of failure could result in personal injury or property damage, back-up controls are essential.

- 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.

⚠ 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.



Model

G-Series

Explosion Proof Convection Heater

G	Temperature Rating					
	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)				
		Code	Control Combination			
			Contactor Coil	Transformer Secondary		
	CX	None	None			
	CX*	24 Volt	24 Volt			
		120 Volt	120 Volt			
		Code	Temperature Control			
		TB	None			
	T	Thermostat 40 - 90°F				
		Group B, C & D				
		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

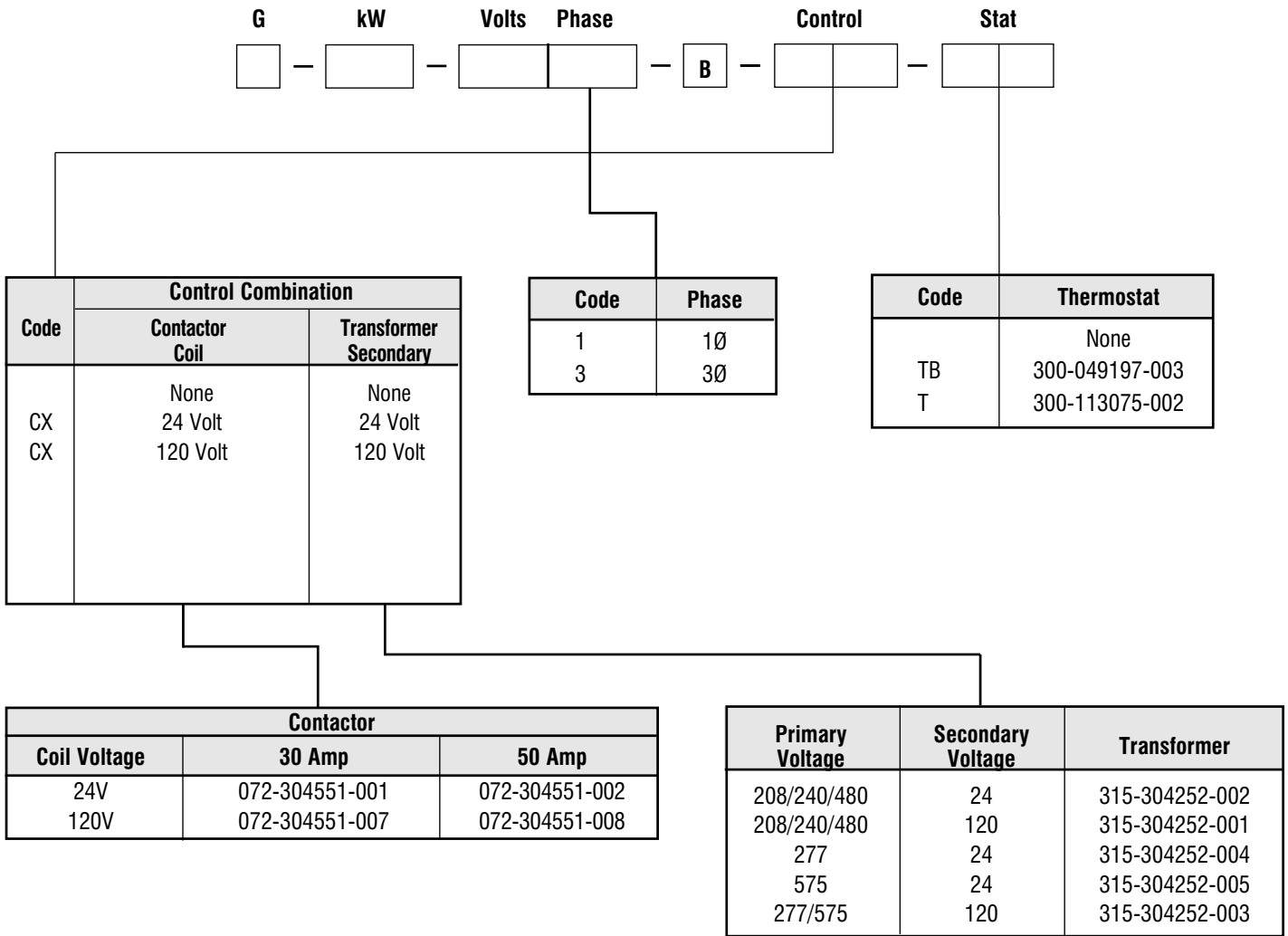
kW	BTU	Volts	Phase	Amps	Model	Width A	Height B	Depth C	Wt. (Lbs.)	Element P/N	Qty.
1.6	5,500	208	1	7.7	G16081	34"	20"	9"	58	003-304650-002	2
1.6	5,500	208	3	4.4	G16083	34"	20"	9"	58	003-304650-005	2
1.6	5,500	240	1	6.7	G16041	34"	20"	9"	58	003-304650-096	2
1.6	5,500	240	3	3.8	G16043	34"	20"	9"	58	003-304650-006	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
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
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
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
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



See latest instructions supplied with product.