





# Stainless Steel Unit Heater KBS Series



### Model Code:

**KBS 48 10 -1 -T -B1 -CT24**  
**A B C D E F G**

**A: Series**  
**B: 20 - 208V, 24 - 240V**  
**27 - 277V, 48 - 480V**  
**C: KiloWatts**  
**D: -1 Phase, -3 Phase**  
**E: -T = Built-In Thermostat**  
**F: -B1 = Bracket**  
**G: -CT24 = Provision for 24V Remote Thermostat**  
**(Thermostat purchased separately)**



- 304 Stainless Steel Construction
- Permanent Lubricated Unit Bearing Motor
- N.E.M.A. 4 Enclosure
- For Areas Requiring Periodic Hose-Down
- Patented Smart Limit Protection®
- Universal Wall/Ceiling Bracket Included
- Adjustable Louvers to Direct Air
- High Mass Steel Fin Heat Exchanger
- 2-Year Limited Warranty

## The KBS Stainless Steel Unit Heater

**KBS unit heaters are specially constructed** for heating of, and freeze protection in, dirty, dusty or corrosive areas requiring periodic washing or hose-down. Typical places of use are: waste water treatment plants, car/truck washes, cement plants, steel mills or such, canneries and dairy facilities, ship and marine docks, fish processors and load banks for generators. The heater is constructed from 20-gauge type 304 Stainless Steel and elements making it extremely corrosion resistant. The N.E.M.A. 4 wiring compartment is sealed and gasketed making it water tight. All optional control components are U.L. listed for use in N.E.M.A. 4 enclosures.

### Ordering Information - single phase - includes single pole thermostat

MODEL	UPC	KW BTUH PHASE		VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)		
		(000)													
208V	KBS2003-1-T-B1	22064	3.3	11.3	1	208	15.9	208	16W**	520	20°	15ft.	8ft.	A	30.5
	KBS2004-1-T-B1	33683	4	13.7	1	208	19.2	208	16W**	520	24°	15ft.	8ft.	A	30.5
	KBS2005-1-T-B1	22125	5	17.1	1	208	24.0	208	16W**	520	30°	15ft.	8ft.	A	30.5
	KBS2007-1-T-B2	20934	7.5	25.6	1	208	36.1	208	25W**	690	34°	20ft.	9ft.	B	45.0
	KBS2010-1-T-B2	22148	9.9	34.1	1	208	48.0	208	35W**	800	39°	24ft.	10ft.	B	45.0
	KBS2012-1-T-B2	22160	12.5	42.7	1	208	60.1	208	50W**	935	42°	28ft.	11ft.	C	50.0
	KBS2015-1-T-B2	33685	15	51.2	1	208	72.1	208	50W	1050	45°	33ft.	12ft.	C	50.0
240V	KBS2403-1-T-B1	20889	3.3	11.3	1	240/208*	13.8/11.9*	240	9W	520	20°	15ft.	8ft.	A	30.5
	KBS2404-1-T-B1	33690	4	13.7	1	240/208*	16.7/14.4*	240	9W	520	24°	15ft.	8ft.	A	30.5
	KBS2405-1-T-B1	20820	5	17.1	1	240/208*	20.8/18*	240	9W	520	30°	15ft.	8ft.	A	30.5
	KBS2407-1-T-B2	22138	7.5	25.6	1	240/208*	31.3/27*	240	16W	690	34°	20ft.	9ft.	B	45.0
	KBS2410-1-T-B2	22152	10	34.1	1	240/208*	41.7/36.1*	240	16W	800	40°	24ft.	10ft.	B	45.0
	KBS2412-1-T-B2	22160	12.5	42.7	1	240/208*	52.1/45.1*	240	35W	935	42°	28ft.	11ft.	C	50.0
	KBS2415-1-T-B2	33692	15	51.2	1	240/208*	62.5/54.1*	240	50W	1050	45°	33ft.	12ft.	C	50.0
277V	KBS2703-1-T-B1	22216	3	10.2	1	277	10.8	277	9W	520	18°	15ft.	8ft.	A	30.5
	KBS2704-1-T-B1	-	4	13.7	1	277	14.4	277	9W	520	24°	15ft.	8ft.	A	30.5
	KBS2705-1-T-B1	13281	5	17.1	1	277	18.1	277	9W	520	30°	15ft.	8ft.	A	30.5
	KBS2707-1-T-B2	55490	7.5	25.6	1	277	27.1	277	16W	690	34°	20ft.	9ft.	B	45.0
	KBS2710-1-T-B2	33157	10	34.1	1	277	36.1	277	25W	800	40°	24ft.	10ft.	B	45.0
480V	KBS4803-1-T-B1	19734	3.3	11.3	1	480	6.3	24***	9W	520	30°	16ft.	8ft.	A	30.5
	KBS4805-1-T-B1	19759	5	17.1	1	480	10.4	24***	9W	520	30°	16ft.	8ft.	A	30.5
	KBS4807-1-T-B2	55491	7.5	25.6	1	480	15.6	24***	16W	690	34°	20ft.	9ft.	B	45.0
	KBS4810-1-T-B2	55494	10	42.7	1	480	20.8	24***	25W	800	40°	24ft.	10ft.	B	45.0

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V.

\*\*240V motor derated for 208V operation \*\*\* 480V models include provision for 24V remote thermostat (thermostat purchased separately).

# Stainless Steel Unit Heater KBS Series

## Ordering Information - three phase - includes single pole thermostat

	MODEL	UPC	KW	BTUH (000)	PHASE	VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
208V	KBS2012-3-T-B2	55501	11.25	42.7	3	208	31.2	208	50W**	935	42°	31ft.	12ft.	C	50.0
	KBS2020-3-T-B2	22174	20	68.3	3	208	55.5	208	¼HP	1750	36°	37ft.	14ft.	E	60.0
	KBS2025-3-T-B3	33687	25	85.3	3	208	69.4	208	(2) 50W**	1870	42°	39ft.	15ft.	F	85.0
	KBS2030-3-T-B3	22182	30	102.4	3	208	83.2	208	(2) 50W	2100	45°	41ft.	17ft.	F	85.0
240V	KBS2412-3-T-B2	55502	12.5	42.7	3	240/208*	30.1/26*	240	35W	935	42°	31ft.	12ft.	C	50.0
	KBS2415-3-T-B2	55504	15	51.2	3	240/208*	36.1/31.2*	240	50W	1050	45°	33ft.	13ft.	C	50.0
	KBS2420-3-T-B2	22175	20	68.3	3	240/208*	48.1/41.6*	240	¼HP	1750	36°	37ft.	14ft.	E	60.0
	KBS2425-3-T-B3	22180	25	85.3	3	240/208*	60.2/52.1*	240	(2) 35W	1870	42°	39ft.	15ft.	F	85.0
	KBS2430-3-T-B3	22184	30	102.4	3	240/208*	72.3/62.5*	240	(2) 50W	2100	45°	41ft.	17ft.	F	85.0
	KBS2440-3-T-B3	33696	40	136.5	3	240/208*	96.3/83.3*	240	(2) ¼HP	3500	36°	43ft.	19ft.	F	100.0
480V	KBS4820-3-T-B2	33680	20	68.3	3	480	24.1	24***	¼HP	1750	36°	37ft.	14ft.	E	60.0
	KBS4825-3-T-B3	13792	25	85.3	3	480	30.1	24***	(2) 35W	1870	42°	39ft.	15ft.	F	85.0
	KBS4830-3-T-B3	19816	30	102.4	3	480	36.1	24***	(2) 50W	2100	45°	41ft.	17ft.	F	85.0
	KBS4840-3-T-B3	33681	40	136.5	3	480	48.1	24***	(2) ¼HP	3500	36°	43ft.	19ft.	G	100.0

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V.

\*\*240V motor derated for 208V operation. \*\*\* 480V models include provision for 24V remote thermostat (thermostat purchased separately).

## Ordering Information - multi-phase - includes single pole thermostat

	MODEL	UPC	KW	BTUH (000)	PHASE	VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
208V	KBS2003-3MP-T-B2	19701	3	10.2	1-3	208	14.4 & 8.3	208	16W**	520	18°	20ft.	8ft.	C	45.0
	KBS2005-3MP-T-B2	22006	5	17.1	1-3	208	24 & 13.9	208	16W**	520	30°	20ft.	8ft.	C	45.0
	KBS2007-3MP-T-B2	22136	7.5	25.6	1-3	208	36.1 & 20.8	208	25W**	690	34°	24ft.	9ft.	C	46.5
	KBS2010-3MP-T-B2	19767	9.98	34.1	1-3	208	48 & 27.7	208	35W**	800	39°	29ft.	11ft.	C	46.5
240V	KBS2403-3MP-T-B2	55499	3	10.2	1-3	240/208*	12.5/7.2* & 10.8/6.2*	240	9W	520	18°	20ft.	8ft.	C	45.0
	KBS2405-3MP-T-B2	55500	5	17.1	1-3	240/208*	20.8/12* & 18/10.4*	240	9W	520	30°	20ft.	8ft.	C	45.0
	KBS2407-3MP-T-B2	22140	7.5	25.6	1-3	240/208*	31.3/18* & 27/15.6*	240	16W	690	34°	24ft.	9ft.	C	46.5
	KBS2410-3MP-T-B2	22152	10	34.1	1-3	240/208*	41.7/24* & 36.1/20.8*	240	25W	800	40°	29ft.	11ft.	C	46.5
	KBS4803-3MP-T-B2	19735	3	10.2	1-3	480	6.3 / 3.6	24***	9W	520	18°	20ft.	8ft.	C	45.0
	KBS4805-3MP-T-B2	22129	5	17.1	1-3	480	10.4 / 6	24***	9W	520	30°	20ft.	8ft.	C	45.0
480V	KBS4807-3MP-T-B2	22129	7.5	25.6	1-3	480	15.6 / 9	24***	16W	690	34°	24ft.	9ft.	C	46.5
	KBS4810-3MP-T-B2	22156	10	34.1	1-3	480	20.8 / 12	24***	25W	800	40°	29ft.	11ft.	C	46.5
	KBS4812-3MP-T-B2	19783	12.5	42.7	1-3	480	26 / 15	24***	35W	935	42°	31ft.	12ft.	C	50.0
	KBS4815-3MP-T-B2	22176	15	51.2	1-3	480	31.3 / 18	24***	50W	1050	45°	33ft.	13ft.	C	50.0
KBS4820-3MP-T-B2	22177	20	68.3	1-3	480	41.7/24	24***	¼HP	2100	30°	47 ft.	13ft.	E	55.0	

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V.

\*\*240V motor derated for 208V operation. \*\*\* 480V models include provision for 24V remote thermostat (thermostat purchased separately).

## Ordering Information - single phase - with provision for 24V remote thermostat (thermostat purchased separately)

	MODEL	UPC	KW	BTUH (000)	PHASE	VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
208V	KBS2003-1-B1-CT24-RT	33706	3	11.3	1	208	15.9	24	16W**	520	20°	15ft.	8ft.	A	30.5
	KBS2004-1-B1-CT24-RT	33682	4	13.7	1	208	19.2	24	16W**	520	24°	15ft.	8ft.	A	30.5
	KBS2005-1-B1-CT24-RT	33707	5	17.1	1	208	24	24	16W**	520	30°	15ft.	8ft.	A	30.5
	KBS2007-1-B2-CT24-RT	33708	7.5	25.6	1	208	36.1	24	25W**	690	34°	20ft.	9ft.	B	45.0
	KBS2010-1-B2-CT24-RT	33712	9.98	34.1	1	208	48.0	24	35W**	800	39°	24ft.	10ft.	B	45.0
	KBS2012-1-B2-CT24-RT	33713	12.5	42.7	1	208	60.1	24	50W**	935	42°	28ft.	11ft.	C	50.0
240V	KBS2015-1-B2-CT24-RT	33684	15	51.2	1	208	72.1	24	50W	1050	45°	33ft.	12ft.	C	50.0
	KBS2403-1-B1-CT24-RT	33714	3.3	11.3	1	240/208*	15.9/13.7*	24	9W	520	20°	15ft.	8ft.	A	30.5
	KBS2404-1-B1-CT24-RT	33689	4	13.7	1	240/208*	16.7/14.4*	24	9W	520	24°	15ft.	8ft.	A	30.5
KBS2405-1-B1-CT24-RT	33715	5	17.1	1	240/208*	20.8/18*	24	9W	520	30°	15ft.	8ft.	A	30.5	

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V.

\*\*240V motor derated for 208V operation.

# Stainless Steel Unit Heater KBS Series

**Ordering Information - single phase** - with provision for 24V remote thermostat (thermostat purchased separately)

	MODEL	UPC	KW	BTUH (000)	PHASE	VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
240V	KBS2407-1-B2-CT24-RT	33716	7.5	25.6	1	240/208*	31.3/27*	24	16W	690	34°	20ft.	9ft.	B	45.0
	KBS2410-1-B2-CT24-RT	33717	10	34.1	1	240/208*	41.7/36.1*	24	16W	800	40°	24ft.	10ft.	B	45.0
	KBS2412-1-B2-CT24-RT	33718	12.5	42.7	1	240/208*	52.1/45.1*	24	35W	935	42°	28ft.	11ft.	C	50.0
	KBS2415-1-B2-CT24-RT	33691	15	51.2	1	240/208*	62.5/54.1*	24	50W	1050	45°	33ft.	12ft.	C	50.0
277V	KBS2703-1-B1-CT24-RT	33719	3	10.2	1	277	10.8	24	9W	520	18°	15ft.	8ft.	A	30.5
	KBS2704-1-B1-CT24-RT	33697	4	13.7	1	277	14.4	24	9W	520	24°	15ft.	8ft.	A	30.5
	KBS2705-1-B1-CT24-RT	33720	5	17.1	1	277	18.1	24	9W	520	30°	15ft.	8ft.	A	30.5
	KBS2707-1-B2-CT24-RT	33721	7.5	25.6	1	277	27.1	24	9W	520	40°	20ft.	9ft.	B	45.0
	KBS2710-1-B2-CT24-RT	33722	10	34.1	1	277	36.1	24	25W	800	40°	24ft.	10ft.	B	45.0
	KBS2715-1-B2-CT24-RT	33698	15	51.2	1	277	54.2	24	50W	1050	40°	20ft.	9ft.	B	50.0

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V.

**Ordering Information - three phase** - with provision for 24V remote thermostat (thermostat purchased separately)

	MODEL	UPC	KW	BTUH (000)	PHASE	VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
208V	KBS2012-3-B2-CT24-RT	33723	11.25	42.7	3	208	31.2	24	50W**	935	42°	31ft.	12ft.	C	50.0
	KBS2015-3-B2-CT24-RT	33724	15	51.2	3	208	41.7	24	50W	1050	45°	33ft.	13ft.	C	50.0
	KBS2020-3-B2-CT24-RT	33725	20	68.3	3	208	55.6	24	¼HP	1750	36°	37ft.	14ft.	E	60.0
	KBS2025-3-B3-CT24-RT	33686	25	85.3	3	208	69.5	24	(2) 50W**	1870	42°	39ft.	15ft.	F	85.0
	KBS2030-3-B3-CT24-RT	33688	30	102.3	3	208	83.2	24	(2) 50W	2100	45°	41ft.	17ft.	F	85.0
240V	KBS2412-3-B2-CT24-RT	33726	12.5	42.7	3	240/208*	30.1/26*	24	35W	935	42°	31ft.	12ft.	C	50.0
	KBS2415-3-B2-CT24-RT	33727	15	51.2	3	240/208*	36.1/31.2*	24	50W	1050	45°	33ft.	13ft.	C	50.0
	KBS2420-3-B2-CT24-RT	33728	20	68.3	3	240/208*	48.1/41.6*	24	¼HP	1750	36°	37ft.	14ft.	E	60.0
	KBS2425-3-B3-CT24-RT	33693	25	85.3	3	240/208*	60.1/52*	24	(2) 35W	1870	42°	39ft.	15ft.	F	85.0
	KBS2430-3-B3-CT24-RT	33694	30	102.4	3	240/208*	72.1/62.4*	24	(2) 50W	2100	45°	41ft.	17ft.	F	85.0
	KBS2440-3-B3-CT24-RT	33695	40	136.5	3	240/208*	96.2/83.2*	24	(2) ¼HP	3500	36°	43ft.	19ft.	F	100.0

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V. \*\*240V motor derated for 208V operation.

**Ordering Information - multi-phase** - with provision for 24V remote thermostat (thermostat purchased separately)

	MODEL	UPC	KW	BTUH (000)	PHASE	VOLTS	AMPS	THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
208V	KBS2003-3MP-B2-CT24-RT	33729	3	10.2	1-3	208	14.4 & 8.3	24	16W**	520	18°	20ft.	8ft.	C	45.0
	KBS2005-3MP-B2-CT24-RT	33730	5	17.1	1-3	208	24 & 13.9	24	16W**	520	30°	20ft.	8ft.	C	45.0
	KBS2007-3MP-B2-CT24-RT	33731	7.5	25.6	1-3	208	36.1 & 20.8	24	25W**	690	34°	24ft.	9ft.	C	46.5
	KBS2010-3MP-B2-CT24-RT	33732	10	34.1	1-3	208	48 & 27.7	24	35W**	800	39°	29ft.	11ft.	C	46.5
240V	KBS2403-3MP-B2-CT24-RT	33733	3	10.2	1-3	240/208*	12.5/7.2 & 10.8/6.2*	24	9W	520	18°	20ft.	8ft.	C	45.0
	KBS2405-3MP-B2-CT24-RT	33734	5	17.1	1-3	240/208*	20.8/12 & 18/10.4*	24	9W	520	30°	20ft.	8ft.	C	45.0
	KBS2407-3MP-B2-CT24-RT	33735	7.5	25.6	1-3	240/208*	31.3/18 & 27/15.6*	24	16W	690	34°	24ft.	9ft.	C	46.5
	KBS2410-3MP-B2-CT24-RT	33736	10	34.1	1-3	240/208*	41.7/24 & 36.1/20.8*	24	25W	800	40°	29ft.	11ft.	C	46.5

\*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V. \*\*240V motor derated for 208V operation.

## Replacement Accessories

MODEL	UPC#	DESCRIPTION	WT. (lbs)
KBB-1-SS	15254	Stainless Steel Mounting Bracket (Replacement) - Small	3
KBB-2-SS	15256	Stainless Steel Mounting Bracket (Replacement) - Large	4
KBB-3-SS	-	Stainless Steel Mounting Bracket (Replacement) - Double case	8

## Bracket Selection Chart

BRACKET #	HEATER KW SIZE USED WITH	BRACKET DIMENSIONS											
		L	W	H	A	B	C	D	E	F	X	Y	Z
KBB-1	3 to 5 kW (1 phase)	12½"	215/16"	101/16"	13/16"	7"	17/8"	17/8"	9¼"	15/8"	¾"	1"	½"
KBB-2	7.5 to 15 kW (1 phase) 3 to 20 kW (3 phase)	167/8"	215/16"	101/8"	1¼"	7"	17/8"	15/8"	135/8"	15/8"	¾"	1"	1½"
KBB-3	25 to 40 kW (3 phase)	19½"	43/16"	133/16"	15/16"	10"	17/8"	15/8"	16¼"	11/8"	11/16"	1"	2"

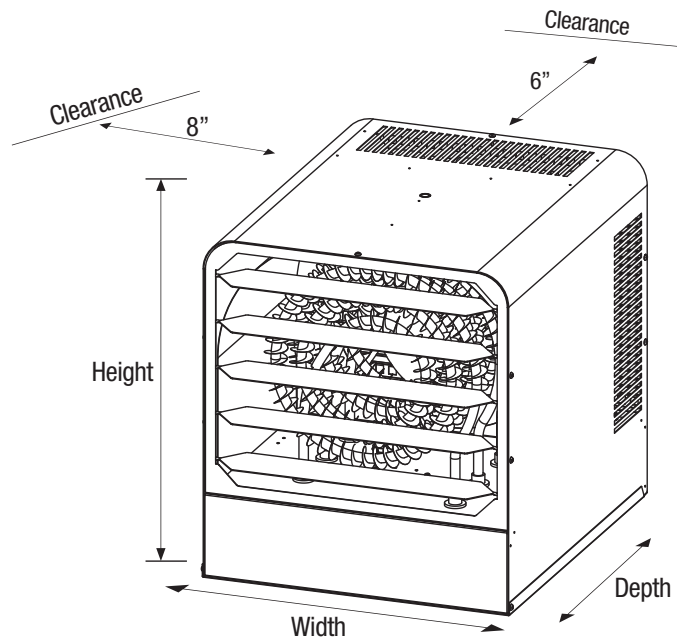
# Stainless Steel Unit Heater KBS Series

## Dimensional Data

HEATER SIZE	HEIGHT	DEPTH	WIDTH
A	16.5"	11"	15"
B	16.5"	13.5"	15"
C	16.5"	18"	15"
E	20.5"	23.8"	15"
F	18.5"	18"	30"
G	16.5"	23.8"	30"

### KBB-1 / KBB-2 / KBB-3

Unit heater brackets can be used for mounting on ceiling or wall. 3/8" threaded hole on top of unit heater can also be used with threaded rod to drop the unit closer to the floor. Refer to bracket selection chart.



## Engineering Specifications

*Contractor shall supply and install KBS Series Stainless Steel heaters, manufactured by King Electrical Mfg. Company. Heaters shall be of the wattage and voltage as indicated on the plans.*

**Stainless Steel Construction:** All exterior and interior metal enclosure parts are made from 20 gauge type 304 Stainless Steel. All fasteners and hardware are Stainless Steel.

**Adjustable Outlet Louver:** Stainless Steel louvers direct air up or down as needed for the heating application.

**Rear Intake Screen:** Heavy gauge Stainless Steel screen protects against foreign objects making accidental contact with the rotating fan blade.

**N.E.M.A. 4 Enclosure:** All wiring compartment penetrations are sealed with a polyurethane adhesive. The bottom access panel is sealed with a 1/4" high density polyurethane gasket. This provides excellent protection against corrosion, windblown dust, dirt, and rain, splashing water and hose-directed water. All optional control accessories are N.E.M.A. 4 rated.

**Stainless Steel Spiral Fin Elements:** The metal sheath element is brazed with spiral fins then molded in to a coil configuration. This combination produces the best heat transfer while eliminating the potential for hot spots by positioning the element in the maximum air flow stream. Stainless steel increases element life in extremely corrosive environments such as waste water treatment plants.

**Totally Enclosed Fan Motor:** Permanently lubricated, long life unit bearing coated motor with enclosed rotor resists moisture and corrosion for long-lasting, trouble-free operation.

**Aluminum Fan Blade:** Axial flow-type mounted directly to the motor shaft for maximum efficiency.

**Manual Reset Limit Electrically Held:** Power is disconnected from the heater if an overheated condition occurs. The heater is re-energized automatically when the normal operating temperature returns.

**Internal Controls:** Magnetic contactors are standard on all 480V heaters, all 208V/1-Phase, 240V/1-Phase, 277V/1-Phase heaters above 5kW, and all 3-Phase heaters. The control voltage is equal to the line voltage (208, 240 or 277) except for 480V models where a transformer is provided for 24V control. Over 5kW the line voltage control is operating the contactor coil only and will draw only 1 Amp.

**Fusing:** Internal circuit fusing is provided when the heater ampacity exceeds 48 Amps to comply with UL standards. A fan delay is provided standard on models 12.5-kW and above to dissipate residual heat from the heating elements.

**Approvals:** cULus