

# Heavy Duty Unit Heater KB Series



## Model Code:

KB	48	10	-1	-T	-B1
A	B	C	D	E	F

**A: Series**  
**B: 20 - 208V, 24 - 240/208V  
 27 - 277V, 48 - 480V**  
**C: kiloWatts (4-66)**  
**D: -1 = Single Phase  
 -3 = Three Phase**  
**E: -T = Built-In Thermostat**  
**F: -B1 = Bracket**



- Spiral finned element
- Long life unit bearing motor
- Manual limit
- Aluminum fan blade
- Built-In Thermostat
- Standard color: gray
- High-temp safety limit
- Universal mounting bracket included
- Tested to UL standards for safety
- Adjustable louvers
- 5-year limited warranty
- Hinged access cover



## The KB Horizontal Unit Heater

King's KB series unit heaters are designed for use as primary or supplemental heat sources in large or exposed areas, including high-rise buildings, stores, warehouses, garages, water treatment and fire room vaults to prevent freezing. Spiral finned steel elements and high CFM ensure even air distribution producing cooler element operation, prolonging heater life. By combining the highest quality components, with a dynamically balanced fan blade the KB unit heater will provide years of trouble-free service. Includes universal wall/ceiling bracket for simple installation and built-in thermostat for precision heating control.

## Engineering Specifications

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

**Construction:** All exterior and interior metal enclosure parts are made from 20 gauge electrogalvanized Steel with a rust inhibiting baked enamel finish. Smooth rounded corners and protective edge trim give an attractive modern appearance.

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

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

**Spiral Fin Elements:** The metal sheath element is copper brazed with spiral fins then molded into a coil configuration. This combination produces the best heat transfer while eliminating the potential for hot spots by positioning the element in the maximum airflow stream.

**Totally Enclosed Fan Motor:** Permanently lubricated long life, unit bearing with 20cc of oil. Epoxy-coated motor with enclosed rotor resists moisture and corrosion for long-lasting, trouble-free operation.

**Staging:** Two-Stage operation is available as an optional feature.

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

**Built-In Thermostat:** Single pole factory installed hydraulic capillary tube thermostat for precision heating control. Operating range 40° to 90

**Manual Thermal Cutout:** Heaters shall be equipped with King's patented thermal overload Smart Limit Protection®, which disconnects elements and motor in the event normal operating temperatures are exceeded. If thermal overload trips due to abnormal operating temperatures, thermal overload shall remain open until manually reset by turning the heater off for 15 minutes. Automatically reset of thermal overloads, which allow the element to continue to cycle under abnormal conditions, will not be accepted. .

**Internal Controls:** Magnetic contactors are standard on all 480V heaters, all 208V/1-Phase, 240V/1-Phase, 277V/1-Phase heaters above 6kW, 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 N.E.C. standards. A fan delay is provided standard on models 12.5-kW and above to dissipate residual heat from the heating elements.

**Easy Installation:** A hinged access panel located on the bottom of the heater allows for quick wiring and easy maintenance for the life of the heater. Includes universal wall/ceiling bracket for simple installation.

**Approvals:** cULus (E41422)

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## Ordering Information - single phase

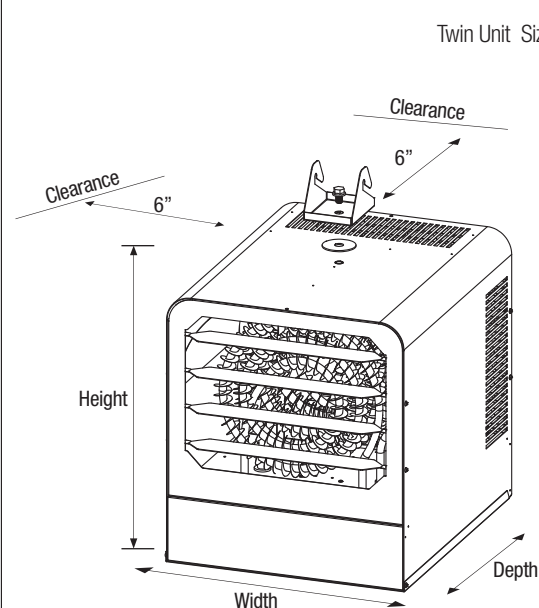
MODEL	UPC	KW	BTUH	PHASE	VOLTS	AMPS **	THERMOSTAT CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	SIZE	WT. (lbs.)
KB2003-1-T-B1	13294	3.3	11.1	1	208	15.8	208	9W	400	36°	15ft.	8ft.	A	30.5
KB2004-1-T-B1	15011	4	13.5	1	208	19.2	208	9W	400	38°	15ft.	8ft.	A	30.5
KB2404-1-T-B1	13356	4	13.5	1	240/208*	16.6/14.4	240	9W	400	38°	15ft.	8ft.	A	30.5
KB2704-1-T-B1	13360	4	13.5	1	277	14.4	277	9W	400	38°	15ft.	8ft.	A	30.5
KB4804-1-T-B1	15017	4	13.5	1	480	8.3	24	9W	400	38°	15ft.	8ft.	A	30.5
KB2005-1-T-B1	13368	5	17	1	208	24	208	9W	400	40°	16ft.	8ft.	A	30.5
KB2405-1-T-B1	13376	5	17	1	240/208*	20.8/18	240	9W	400	40°	16ft.	8ft.	A	30.5
KB2705-1-T-B1	13384	5	17	1	277	18.1	277	9W	400	40°	16ft.	8ft.	A	30.5
KB4805-1-T-B1	13390	5	17	1	480	10.4	24	9W	400	40°	16ft.	8ft.	A	30.5
KB2007-1-T-B2	30780	7.5	25.6	1	208	36.1	208	16W	600	40°	20ft.	9ft.	B	45.0
KB2407-1-T-B2	13436	7.5	25.6	1	240/208*	31.2/27	240	16W	600	40°	20ft.	9ft.	B	45.0
KB2707-1-T-B2	13464	7.5	25.6	1	277	27	277	16W	600	40°	20ft.	9ft.	B	45.0
KB4807-1-T-B2	30781	7.5	25.6	1	480	15.6	24	16W	600	40°	20ft.	9ft.	B	45.0
KB2010-1-T-B2	13540	10	34.1	1	208	48.1	208	25W	725	44°	24ft.	10ft.	B	45.0
KB2410-1-T-B2	13548	10	34.1	1	240/208*	41.6/36.1	240	25W	725	44°	24ft.	10ft.	B	45.0
KB4810-1-T-B2	13562	10	34.1	1	480	20.8	24	25W	725	44°	24ft.	10ft.	B	45.0
KB2012-1-T-B2	13618	12.5	42.7	1	208	60.1	208	35W	825	48°	30ft.	11ft.	C	46.5
KB2412-1-T-B2	13626	12.5	42.7	1	240/208*	52/45.1	240	35W	825	48°	30ft.	11ft.	C	46.5
KB2712-1-T-B2	30782	12.5	42.7	1	277	45.1	277	35W	825	48°	30ft.	11ft.	C	46.5
KB2015-1-T-B2	13674	15	51.2	1	208	72.1	208	50W	925	51°	33ft.	12ft.	C	46.5
KB2415-1-T-B2	13682	15	51.2	1	240/208*	62.5/54.1	240	50W	925	51°	33ft.	12ft.	C	46.5

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

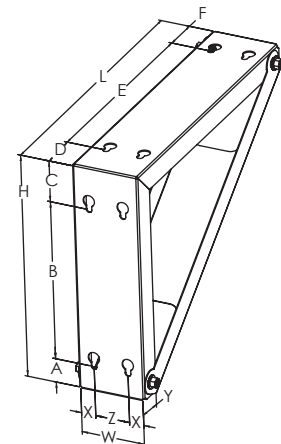
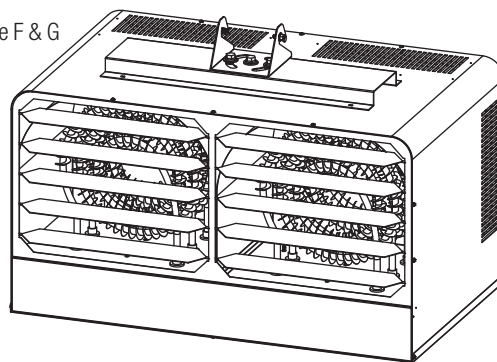
Maximum mounting height is manufacturer's recommendation

\*\*Over 5kw line voltage control is operating the contactor coil only, and will draw under 1 amp.

## Dimensional Data



Twin Unit Size F & G



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

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## Ordering Information - three phase

MODEL	UPC	KW	BTUH	PHASE	VOLTS	AMPS	**THERM. CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX. MOUNT HEIGHT	*SIZE	WT. (lbs.)
KB4803-3MP-T-B2	13320	3	10.2	1-3	480	6.3	240	5W	400	37°	14ft.	8ft.	C	46.5
KB2005-3MP-T-B2	13372	5	17.1	1-3	208	24 & 13.9	208	9W	400	40°	16ft.	8ft.	C	46.5
KB2405-3MP-T-B2	13380	5	17.1	1-3	240/208*	20.8/18 & 18/15.6	240	9W	400	40°	16ft.	8ft.	C	46.5
KB4805-3MP-T-B2	13394	5	17.1	1-3	480	10.4 & 6	240	9W	400	40°	16ft.	8ft.	C	46.5
KB2007-3MP-T-B2	13452	7.5	25.6	1-3	208	36.1 & 20.8	208	16W	600	40°	20ft.	9ft.	C	46.5
KB2407-3MP-T-B2	13460	7.5	25.6	1-3	240/208*	31.2/27 & 18/15.6	240	16W	600	40°	20ft.	9ft.	C	46.5
KB4807-3MP-T-B2	13474	7.5	25.6	1-3	480	15.6 & 24	240	16W	600	40°	20ft.	9ft.	C	46.5
KB2010-3MP-T-B2	13544	10	34.1	1-3	208	27.7	208	25W	725	44°	24ft.	10ft.	C	46.5
KB2410-3MP-T-B2	13552	10	34.1	1-3	240/208*	41.6/24 & 36.1/20.8	240	25W	725	44°	24ft.	10ft.	C	46.5
KB4810-3MP-T-B2	13566	10	34.1	1-3	480	20.8 & 12	240	25W	725	44°	24ft.	10ft.	C	46.5
KB2012-3-T-B2	30783	12.5	42.7	3	208	34.6	208	35W	825	48°	30ft.	11ft.	C	46.5
KB2412-3-T-B2	30784	12.5	42.7	3	240/208*	30/26	240	35W	825	48°	30ft.	11ft.	C	46.5
KB4812-3MP-T-B2	13646	12.5	42.7	1-3	480	26 & 15	240	35W	825	48°	30ft.	11ft.	C	46.5
KB2015-3-T-B2	30785	15	51.2	3	208	41.6	208	50W	925	51°	33ft.	12ft.	C	46.5
KB2415-3-T-B2	30786	15	51.2	3	240/208*	36/31.2	240	50W	925	51°	33ft.	12ft.	C	46.5
KB4815-3MP-T-B2	13700	15	51.2	1-3	480	18	240	50W	925	51°	33ft.	12ft.	C	46.5
KB2020-3-T-B2	13736	20	68.3	3	208	55.5	208	¼HP	1100	57°	47ft.	13ft.	E	55.0
KB2420-3-T-B2	13740	20	68.3	3	240/208*	48.1/41.6	240	¼HP	1100	57°	47ft.	13ft.	E	55.0
KB4820-3MP-T-B2	13750	20	68.3	1-3	480	24	240	¼HP	1100	57°	47ft.	13ft.	E	55.0

6" minimum clearance to walls and ceilings.

Over 5KW line voltage control is operating the contactor coil only, and will draw under 1 AMP.

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

## Field Mount Accessories

MODEL	UPC	DESCRIPTION	WT. (lbs.)
KBB-1	15192	Universal Wall/Ceiling Small Mounting Bracket (for heaters with size A heaters)	1.9
KBB-2	15195	Universal Wall/Ceiling Large Mounting Bracket (for heaters with size B, C, and E)	2.6
KBB-3	13488	Universal Wall/Ceiling Large Mounting Bracket (for heaters with size F & G)	3.9
DS32	13480	Disconnect Switch, Field Installed Kit, 32 Amp, 600V	N/A
DS63	13481	Disconnect Switch, Field Installed Kit, 63 Amp, 600V	N/A
DS80	13482	Disconnect Switch, Field Installed Kit, 80 Amp, 600V	N/A
DS100	13483	Disconnect Switch, Field Installed Kit, 100 Amp, 600V	N/A
KBHS	13486	KB Replacement Hook Swivel	N/A

## 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"	2 <sup>15</sup> / <sub>16</sub> "	10 <sup>1</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>16</sub> "	7"	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "	9¼"	1 <sup>5</sup> / <sub>8</sub> "	¾"	1"	½"
KBB-2	7.5 to 15 kW (1 phase) 3 to 20 kW (3 phase)	16 <sup>7</sup> / <sub>8</sub> "	2 <sup>15</sup> / <sub>16</sub> "	10 <sup>1</sup> / <sub>8</sub> "	1¼"	7"	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>5</sup> / <sub>8</sub> "	13 <sup>5</sup> / <sub>8</sub> "	1 <sup>5</sup> / <sub>8</sub> "	¾"	1"	1½"
KBB-3	25 to 40 kW (3 phase)	19½"	4 <sup>3</sup> / <sub>16</sub> "	13 <sup>3</sup> / <sub>16</sub> "	1 <sup>5</sup> / <sub>16</sub> "	10"	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>5</sup> / <sub>8</sub> "	16¼"	1 <sup>1</sup> / <sub>8</sub> "	11 <sup>1</sup> / <sub>16</sub> "	1"	2"