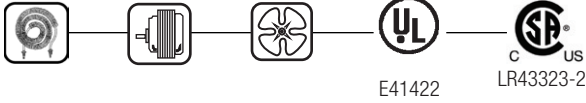


# unit heater

**KB**  
SERIES

**LARGE AREA / 2000 - 66,000 WATTS / CEILINGS UNDER 12 FT**



*All New Design!*



## FEATURES:

- Spiral Steel Fin Element
- Cast Iron Motor
- Aluminum Fan Blade
- Heavy gauge Steel enclosure
- Adjustable discharge louvers
- Totally enclosed motor
- Control options
- Auto-reset thermal cutout
- Tested under UL1278

## OPTIONS:

- 1-Pole or 2-Pole thermostat
- Two stage thermostat (single phase only)
- Summer fan switch
- 3-Position switch (Heat-Off-Fan)
- Pilot light (power On indication)
- Door interlocking disconnect
- Wall mounted thermostat
- Stainless Steel (refer to index)

**Convenient, small and powerful** are great words that describe our unit heaters. They have been standard equipment in highrise buildings, garages, water treatment and fire room vaults to prevent freezing. Other applications are residential garages and warehouse heating. High-mass steel elements and high CFM keep outlet temperatures low for long life.

Under 6kW use the KBP Series for higher outlet temperatures where needed. Long life comes

standard with the highest quality components custom designed for use in the KB Series unit heater.



Freeze/moisture protection in a generator vault

## 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 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 airflow stream.

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

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

**Auto-Reset Thermal Cutout:** Power is disconnected from the element if an overheated condition occurs. The fan continues to run to dissipate excess heat from the element. The element 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 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. See page 64 for control voltages.

**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 quick access panel located on the bottom of the heater allows for quick wiring and easy maintenance for the life of the heater.

**Approvals:** UL (E41422), cSAUS (LR43323-2)

**FACTORY INSTALLED OPTIONS:**

**Power Contactor:** Standard on heaters above 5kW and on all 3-Phase models; optional on 2 to 5kW 1-Phase heaters.

**24 Volt Control:** Standard on 480V heaters; optional on all other heaters.

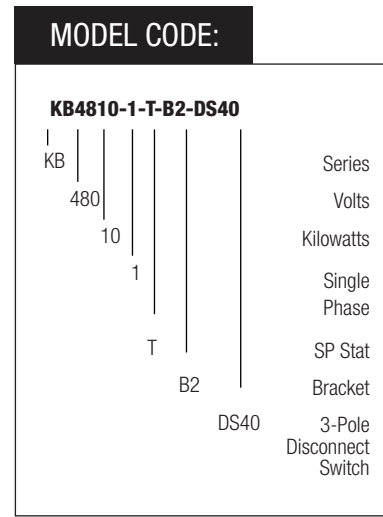
**Mounting:** Available universal or low profile ceiling bracket made from heavy gauge Steel.

**Rough Service:** 5 lugs are provided to securely mount heater in heavy industrial applications or marine vessels where vibration and movement are a concern. Includes 5-hole bracket.

**Other Control Options:**

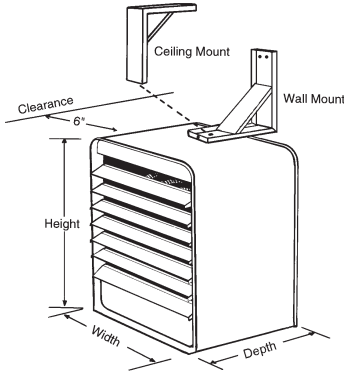
- 1-Pole or 2-Pole thermostat temperature indicated label with 44°F energy code setting
- Built-in two-stage thermostat on single phase heaters
- Summer fan switch
- 3-position switch (Heat-Off-Fan)
- Pilot light (power On indication)
- Door interlocking disconnect
- Wall-mounted thermostat line or low voltage

*NOTE: Multiple heaters can be controlled by a single thermostat if phasing is coordinated in the control wiring.*

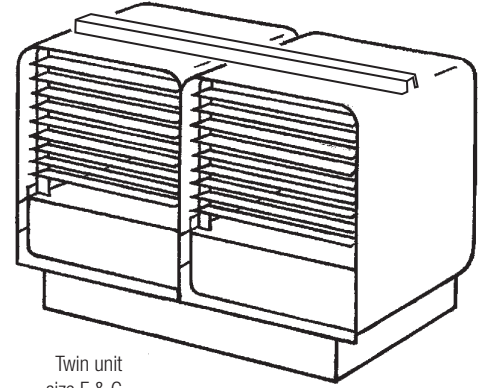


**QUICK SELECTION CHART:**

KILOWATTS	PHASE	208V		240V		277V		480V	
		MODEL	UPC #093319 PART #	MODEL	UPC #093319 PART #	MODEL	UPC #093319 PART #	MODEL	UPC #093319 PART #
4	1	KB2004-1	15012	KB2404-1	15010	KB2704-1	15204	KB4804-1	15015
5	1	KB2005-1	15224	KB2405-1	15018	KB2705-1	15206	KB4805-1	15021
	3	KB2005-3MP	15228	KB2405-3MP	15075			KB4805-3MP	15105
6	1			KB2406-1	15024	KB2706-1	15208	KB4806-1	15027
	3			KB2406-3MP	15078			KB4806-3MP	15108
7.5	1	KB2007-1	15029	KB2407-1	15030	KB2707-1	15209	KB4807-1	15033
	3	KB2007-3MP	15233	KB2407-3MP	15079			KB4807-3MP	15109
9	1					KB2709-1	15212		
	3			KB2409-3MP	15081			KB4809-3MP	15111
10	1	KB2010-1	15226	KB2410-1	15042	KB2710-1	15214	KB4810-1	15045
	3	KB2010-3MP	15230	KB2410-3MP	15082			KB4810-3MP	15113
12.5	1	KB2012-1	15227	KB2412-1	15054	KB2712-1	15216	KB4812-1	15057
	3	KB2012-3MP	15235	KB2412-3MP	15087			KB4812-3MP	15117
15	1	KB2015-1	15229	KB2415-1	15064	KB2715-1	15221	KB4815-1	15065
	3	KB2015-3MP	15232	KB2415-3MP	15090			KB4815-3MP	15120
18	3			KB2418-3	15093			KB4818-3MP	15123
20	3	KB2020-3	15237	KB2420-3	15094			KB4820-3MP	15122
25	3	KB2025-3	15239	KB2425-3	15100			KB4825-3	15130
30	3	KB2030-3	15223	KB2430-3	15101			KB4830-3	15162
33	3			KB2433-3	15138			KB4833-3	15165
40	3	KB2040-3	15225	KB2440-3	15103			KB4840-3	15169
50	3	KB2050-3	15241	KB2450-3	15148			KB4850-3	15175
60	3	KB2060-3	15243	KB2460-3	15153			KB4860-3	15180



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



### SINGLE PHASE TECHNICAL DATA

380V-3Ø heaters are available in most kW ratings

CATALOG #	UPC #093319 PART #	KILOWATTS	BTUH (000)	PHASE	VOLTS	AMPS	**THERMOSTAT CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE (°F)	AIR THROW	MAXIMUM MOUNTING HEIGHT	*SIZE	WT. (lbs.)
KB2004-1 KB2404-1 KB2704-1 KB4804-1	15012 15010 15204 15015	4	13.5	1	208 240/208 277 480	19.2 16.6/14.4 14.4 8.3	208 240 277 24	5 Watt	400	38°	15 ft.	8 ft.	A	28.5 28.5 25 28
KB2005-1 KB2405-1 KB2705-1 KB4805-1	15224 15018 15206 15021	5 / 3.3	17	1	208 240/208 277 480	24 20.8/18 18.1 10.4	208 240 277 24	9 Watt	400	40°	16 ft.	8 ft.	A	28.5 28.5 25 28
KB2406-1 KB2706-1 KB4806-1	15024 15208 15027	6	20.5	1	240/208 277 480	25/21.6 21.6 12.5	240 277 24	9 Watt	400	45°	16 ft.	8 ft.	B	28.5 29 32
KB2007-1 KB2407-1 KB2707-1 KB4807-1	15029 15030 15209 15033	7.5	25.6	1	208 240/208 277 480	36.1 31.2/27 27 15.6	208 240 277 24	16 Watt	600	40°	20 ft.	9 ft.	C C D C	29 28.5 29 32
KB2010-1 KB2410-1 KB2710-1 KB4810-1	15226 15042 15214 15045	10	34.1	1	208 240/208 277 480	48.1 41.6/36.1 36.1 20.8	208 240 277 24	25 Watt	725	44°	24 ft.	10 ft.	B	34 42 42 35
KB2012-1 KB2412-1 KB2712-1 KB4812-1	15227 15054 15216 15057	12.5	42.7	1	208 240/208 277 480	60.1 52/45.1 45.1 26	208 240 277 24	35 Watt	825	48°	30 ft.	11 ft.	B	32 32 42 35
KB2015-1 KB2415-1 KB2715-1 KB4815-1	15229 15064 15221 15065	15	51.2	1	208 240/208 277 480	72.1 62.5/54.1 54.2 31.3	208 240 277 24	35 Watt	925	51°	33 ft.	12 ft.	B	37 37 37 40

\*Refer to DIMENSIONS Chart

Dual rated heaters will draw 13% less amps 25% less wattage when operated on 208 Volts.

Note: Consult factory for special wattages and/or voltages.

Rated kW load tolerance of plus 5% minus 10%.

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

### 3-PHASE TECHNICAL DATA CHART:

380V-3Ø heaters are available in most kW ratings

CATALOG #	UPC #093319 PART #	KILOWATTS	BTUH (000)	PHASE	VOLTS	AMPS		**THERMO-STAT CONTROL VOLTAGE	MOTOR HP	CFM	TEMP. RISE (°F)	AIR THROW	MAXIMUM MOUNTING HEIGHT	*SIZE	WT. (lbs.)
						1-PH	3-PH								
KB2005-3MP KB2405-3MP KB4805-3MP	15228 15075 15105	5	17.1	1-3	208 240/208 480	24 20.8/18 10.4	13.9 12/10.4 6	208 240 24	9 Watt	400	40°	16 ft.	8 ft.	B	32 32 46.5
KB2007-3MP KB2407-3MP KB4807-3MP	15233 15079 15109	7.5	25.6	1-3	208 240/208 480	36.1 31.2/27 15.6	20.8 18/15.6 9	208 240 24	16 Watt	600	40°	20 ft.	9 ft.	B	42 42 46
KB2009-3MP KB2409-3MP KB4809-3MP	15135 15081 15111	9	30.7	1-3	208 240-208 480	43.2 37.5/32.5 18.7	24.9 21.6/18.7 10.8	208 240 24	25 Watt	725	42°	24 ft.	9 ft.	B	42 42 45
KB2010-3MP KB2410-3MP KB4810-3MP	15230 15082 15113	10	34.1	3 1-3 1-3	208 240/208 480	41.6/36.1 20.8	27.7 24/20.8 12	208 240 24	25 Watt	725	44°	24 ft.	10 ft.	B	42 42 45
KB2012-3MP KB2412-3MP KB4812-3MP	15235 15087 15117	12.5	42.7	3 3 1-3	208 240/208 480	26	34.6 30/26 15	208 240 24	35 Watt	825	48°	30 ft.	11 ft.	B	42 42 45
KB2015-3MP KB2415-3MP KB4815-3MP	15232 15090 15120	15	51.2	3 3 1-3	208 240/208 480	31.2	41.6 36/31.2 18	208 240 24	35 Watt	925	51°	33 ft.	12 ft.	B	46 46 49
KB2418-3 KB4818-3MP	15093 15123	18	61.4	3 1-3	240/208 480	37.5	43.3/37.5 21.6	240 24	35 Watt	925	55°	33 ft.	12 ft.	B	46 49
KB2020-3 KB2420-3 KB4820-3MP	15237 15094 15122	20	68.3	3 3 1-3	208 240/208 480	41.6	55.5 48.1/41.6 24	208 240 24	50 Watt	1100	57°	37 ft.	13 ft.	D	46 46 49
KB2025-3 KB2425-3 KB4825-3	15239 15100 15130	25	85.3	3	208 240/208 480		69.4 60.1/52.1 30.1	208 240 24	¼ hp 50 Watt	1350	58°	41 ft.	14 ft.	E D	48 48 51
KB2030-3 KB2430-3 KB4830-3	15223 15101 15162	30	102.4	3	208 240/208 480		83.3 72.1/62.5 36.1	208 240 24	¼ hp	1800	53°	48 ft.	15 ft.	E	49 49 64
KB2433-3 KB4833-3	15138 15165	33	113	3	240/208 480		79.3/68.8 39.7	240 24	¼ hp	1800	53°	48 ft.	15 ft.	E	49 52
KB2040-3 KB2440-3 KB4840-3	15225 15103 15169	40	136.5	3	208 240/208 480		111 96.2/83.3 48.1	208 240 24	(2) 50 Watt	2200	57°	53 ft.	15 ft.	F	100 100 110
KB2050-3 KB2450-3 KB4850-3	15241 15148 15175	50	170.6	3	208 240/208 480		138.8 120.2/104.2 60.1	208 240 24	(2) 50 Watt	2400	65°	58 ft.	15 ft.	F	103 103 113
KB2460-3 KB4860-3	15153 15180	60	204.8	3	240/208 480		144.3/125 72.2	240 24	(2) ¼ hp	2700	70°	65 ft.	18 ft.	G	105 115
KB2466-3 KB4866-3	15156 15183	66	225	3	240/208 480		158.7/137.6 79.5	240 24	(2) ¼ hp	2700	70°	65 ft.	18 ft.	G	105 115

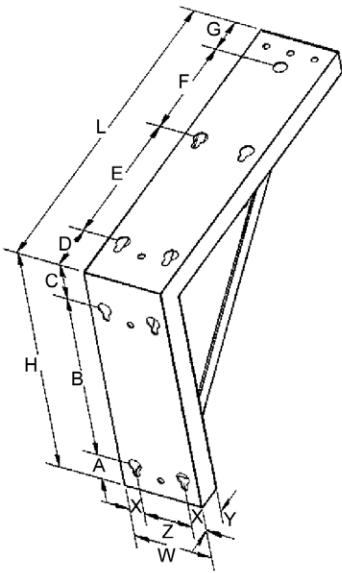
\*Refer to DIMENSIONS Chart

Heater will draw 13% less Amps 25% less wattage.

Note: Consult factory for special wattages and/or voltages.

Rated kW load tolerance of plus 5% minus 10%.

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



KBB-1 & KBB-2 - 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 unit closer to floor.

**BRACKET SELECTION CHART:**

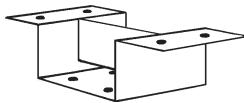
BRACKET #	HEATER KW SIZE USED WITH	BRACKET DIMENSIONS												
		L	W	H	A	B	C	D	E	F	G	X	Y	Z
KBB-1	3 to 7.5 kW (1 phase)	12½"	3"	10"	1¼"	7¼"	1½"	1¾"	5½"	4"	1¼"	½"	1"	2"
KBB-2	10 to 15 kW (1 phase) 3 to 30 kW (3 phase)	17"	3"	10"	1¼"	7¼"	1½"	2"	8½"	5¼"	1¼"	½"	1"	2"

**FIELD MOUNT ACCESSORIES:**

MODEL	UPC #093319 PART #	DESCRIPTION	WT. (lbs.)
KBB-1	15192	Universal Wall/Ceiling Small Mounting Bracket (for heaters with size A and C)*	3
KBB-2	15195	Universal Wall/Ceiling Large Mounting Bracket (for heaters with size B, D and E) (Use 2 brackets for size F&G)	4
KBB-4	15351	Rough Service or Low Profile Mounting Bracket for any heater (2 each required for size F and G)*	4
KBT	15189	Capillary Bulb-Style Thermostat Kit (single pole single throw) 25 Amp	.5
KBT-2	18209	Capillary Bulb-Style Thermostat Kit (double pole single throw) 25 Amp	.5

\* see BRACKET SELECTION CHART

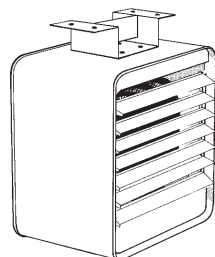
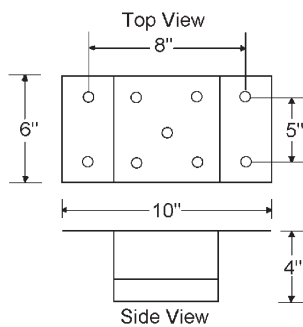
**Rough Service / Low Profile • KBB-4 Mounting Bracket**



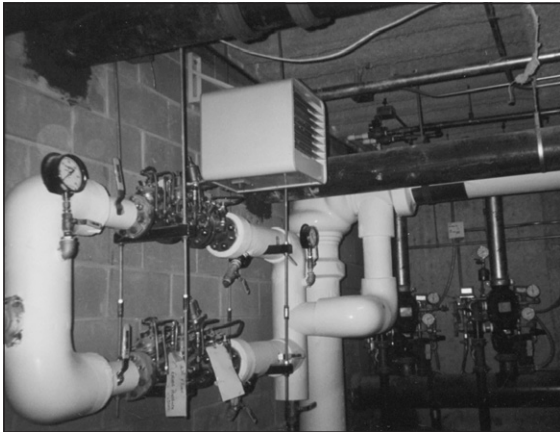
This bracket is manufactured in a Low Profile design with 5 mounting holes. When using this bracket for Low Ceiling Profile installation use center hole only.

Option (-5MT) is for rough service support. Request this option at the time of order placement. The heater will have four mounting holes fabricated into top.

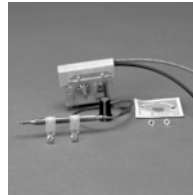
Attach bracket using the four outside mounting holes to provide a rigid mount. The price of option (-5MT) includes the KBB-4 bracket. This is ideal for use on ships, containers or any application where the heater will experience vibration.



A unit heater being installed in a Chicago high rise electrical room for humidity and freeze protection



Water pumping and treatment room, protected from freezing and humidity with King KB unit heater



KBT - Capillary bulb-style thermostat senses intake air for accurate temperature control. Label calibrated from 40° - 75°F with a 44°F setting for unoccupied space as some energy codes require. 25 Amp rating.

Disconnects can be specified in 30, 40, 60, 80 or 100 Amp ratings with door interlock and padlock provision. Standard non-fused interlocking disconnect.



### FACTORY INSTALLED OPTIONS:

ADD SUFFIX:	DESCRIPTION
-T	1-Pole Unit Mounted Thermostat (temperature range 40°F - 100°F)
-T2	2-Pole Unit Mounted Thermostat (temperature range 40°F - 100°F) 6kW and higher
-TP	Tamperproof Thermostat with Slotted Shaft
-B1	Mounting Bracket KBB-1 (included with heater size A and C)
-B2	Mounting Bracket KBB-2 (included with heater size B, D and E)
-SF	Summer Fan Switch
-SFR	Control Relay and 24V Transformer for Remote Summer Fan Operation
-3PS	3-Position Switch (Heat / Fan / Off)
-PL	Pilot Light (power ON indication)
-CX	Power Contactor for 3 kW - 5kW 1-Phase Models (Line Voltage Coil)
-CT24	Transformer that Converts 208, 240 and 277 Volts to 24 Volt Control Circuit (add power contactor (-CX) for 3 kW - 5kW 1-Phase models)
-CT120	Same as (-CT24) except 120 Volt Control Components (add power contactor (-CX) for 3kW - 5kW 1-Phase models)
-DS30	30 Amp, 3-Pole Disconnect Switch w/ Door Interlock and Padlock Provision
-DS40	40 Amp, 3-Pole Disconnect Switch w/ Door Interlock and Padlock Provision
-DS60	60 Amp, 3-Pole Disconnect Switch w/ Door Interlock and Padlock Provision
-DS80	80 Amp, 3-Pole Disconnect Switch w/ Door Interlock and Padlock Provision
-DS100	100 Amp, 3-Pole Disconnect Switch w/ Door Interlock and Padlock Provision
-2S1	2-Stage Control for Single Phase Models
-5MT	5 Mounting Weld Nuts Provided on Heater for Rough Service Use (includes KBB-4 5 hole bracket)
-5MT2	Rough Service Mounting Holes (4 each) fabricated into top of each heater to accept KBB-4 Mounting Brackets (2 each KBB-4 included)