



# Electronic Garage Heater KB ECO2S Series



**Model Code:**

KB	24	04	-1	-B2	-ECO
A	B	C	D	E	F

**A: Series**  
**B: 20 - 208V, 24 - 240/208V**  
**C: kiloWatts ( 4 - 15 )**  
**D: -1 = Single Phase**  
**E: -B2 = Universal Bracket**  
**F: -ECO = Electronic Control**



- ECO2S Electronic Controller
- Energy efficient 2-Stage Heating
- Remote Control Included
- Large LED Display
- Patented Smart Limit® Protection
- Auto Reset High Limit
- Unit Bearing Motor
- Standard Color: Textured Gray
- Fan Only and Timer Modes
- Adjustable Louvers
- Spiral Finned Heat Elements
- Universal Bracket Included
- 5-year limited warranty



## ECO2S 2-Stage Garage Heater with IR Remote Control

The ECO2S KB series unit heaters offers unparalleled performance, energy efficiency and user control by incorporating another **King innovation**, the in-built ECO2S electronic thermostat with remote control. Offering energy efficient 2-stage heating, with Eco mode that automatically uses the lowest wattage needed to heat the room, integrated fan only and timer modes, as well as a remote control for simple operation. Designed for use as primary or supplemental heat sources in warehouses, stores or large garages spaces. Spiral steel elements and high CFM ensure even air distribution producing cooler element operation which prolongs the life of the heater. By combining the highest quality components, with a dynamically balanced fan blade, the KB ECO2S unit heater will provide years of trouble-free service and keep heating bills to a minimum. Includes universal wall/ceiling bracket for simple installation.

### ECO2S Electronic Controller Features:

- Electronic control for accuracy
- Energy-saving automatic 2-stage heating
- Large LED display
- Remote control and wall bracket included
- Thermostat timer mode (1-9 Hours)
- Fan only mode
- Built-In fan delay



### Engineering Specifications

*Contractor shall supply and install KB ECO2S Series garage 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 motor with 20cc of oil. Epoxy-coated motor with enclosed rotor resists moisture and corrosion for long-lasting, trouble-free operation.

**Aluminum Fan Blade:** 5 blade 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.

**Electronic Control:** Up, down temperature mode. Start/Stop. Standard on all heaters. The control voltage is equal to the line voltage (208, 240) for 5kW models. Over 5kW the line voltage control is operating the contactors.

**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. Includes universal wall/ceiling bracket for simple installation.

**Approvals:** cULus (E41422)

# Electronic Garge Heater KB ECO2S Series

## Ordering Information

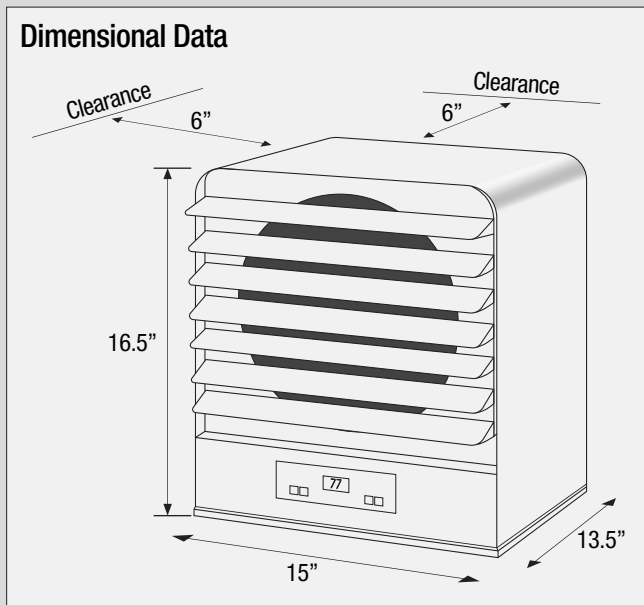
MODEL	UPC	kilo WATTS	BTUH	PHASE	VOLTS	AMPS	MOTOR HP	CFM	TEMP. RISE	AIR THROW	MAX MOUNT HEIGHT	WT. (lbs.)
KB2404-1-B2-ECO	22037	4	13.5	1	240/208	16.6/14.4	5W	400	38°F	15 ft.	8 ft.	28.5
KB2004-1-B2-ECO	22045	4	13.5	1	208	19.2	5W	400	38°F	15 ft.	8 ft.	28.5
KB2405-1-B2-ECO	22038	5	17	1	240/208	20.8/18	9W	400	40°F	16 ft.	8 ft.	28.5
KB2005-1-B2-ECO	22046	5	17	1	208	24	9W	400	40°F	16 ft.	8 ft.	28.5
KB2406-1-B2-ECO	22039	6	20.5	1	240/208	25/21.6	9W	400	45°F	16 ft.	8 ft.	28.5
KB2006-1-B2-ECO	22047	6	20.5	1	208	28.8	9W	400	45°F	16 ft.	8 ft.	28.5
KB2407-1-B2-ECO	22040	7.5	25.6	1	240/208	31.2/27	16W	600	40°F	20 ft.	9 ft.	28.5
KB2007-1-B2-ECO	22048	7.5	25.6	1	208	36.1	16W	600	40°F	20 ft.	9 ft.	29
KB2410-1-B2-ECO	22042	10	34.1	1	240/208	41.6/36.1	25W	725	44°F	24 ft.	10 ft.	42
KB2010-1-B2-ECO	22050	10	34.1	1	208	48.1	25W	725	44°F	24 ft.	10 ft.	34
KB2412-1-B2-ECO	22043	12.5	42.7	1	240/208	52/45.1	35W	825	48°F	30 ft.	11 ft.	32
KB2012-1-B2-ECO	22051	12.5	42.7	1	208	60.1	35W	825	48°F	30 ft.	11 ft.	32
KB2415-1-B2-ECO	22044	15	51.2	1	240/208	62.5/54.1	35W	925	51°F	33 ft.	12 ft.	37
KB2015-1-B2-ECO	22052	15	51.2	1	208	72.1	35W	925	51°F	33 ft.	12 ft.	37

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

## Accessories

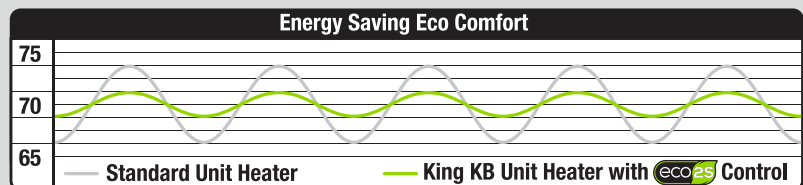
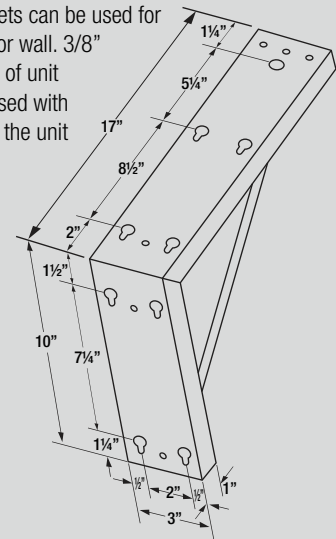
MODEL	DESCRIPTION	WT. (lbs.)
61747	ECO2S Replacement Infrared Remote Control	0.125

### Dimensional Data



### • KBB-2 Wall/Ceiling Bracket Included

Garage 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.



\*Reduces temperature swings

# Selecting The Proper Unit Heater

To obtain the best performance from King unit heaters use this chart for proper heater selection. To determine which type of unit is best note the ceiling height and room size. In addition to the air throw capabilities of each type of unit heater, wall and ceiling insulation must be considered when determining wattage requirements. The most common error of unit heater selection is installing a unit designed for low ceiling application on a high ceiling. In this application heat is unable to circulate properly to the floor – the result: unsatisfactory comfort or performance level. Following this guide allows correct unit heater selection for the determined space and environment. With correct selection and placement this King unit heater will provide years of high performance heating.

## Application Tips

First, calculate heating loads in the conventional way using the N.E.M.A. handbook or ASHRAE guide. Next, determine quantity and size of heaters to be used. In instances where large groups of people are normally settled in the same location use a large number of smaller kW heaters (Example: people on a production line or skilled machine operations). By utilizing heaters in this manner one can best distribute uniform heat, prevent hot drafts, reduce potential noise levels and balance the electrical operating demand. When considering warehouse areas or storage rooms where heat distribution and constant temperatures are less important, use fewer heaters of higher capacity. To maintain uniform heat and reduce stratified air it is recommended that the total CFM of the units turn the air over approximately 3 times per hour.

## Horizontal Mount

Smaller rooms can be heated by one unit heater. Where two walls are exposed heaters should be mounted as shown below. In larger rooms, units should be located so air streams wipe exposed walls without blowing at them. Units should be located so the airstream of one supports that of another thus setting up a circulatory air movement. (Distance between units to be approximately 1 times published air throw). Units should not be mounted horizontally in areas having ceiling heights in excess of 10 to 12 feet.

## Vertical Mount

Units should be mounted vertically in high bay areas where they may not otherwise interfere with assorted material or handling equipment. Heaters should be situated to provide free air circulation. Size and selection of units should be based on recommended mounting height. Unit heaters are frequently used to combat cold air inrush when loading dock doors are opened. For such applications, one or more units should be arranged to blow warm air vertically in front of opening.

## Dual Mounting

Where square footage is large and comfort essential, both horizontal and vertical installations may best serve your requirements.

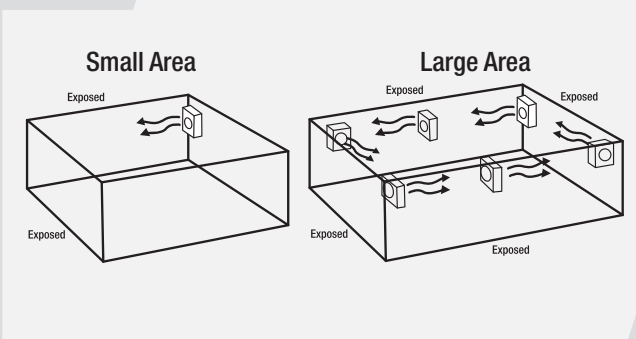
## Mounting Limitations

Unit heaters should not be used in potentially explosive atmospheres. The finish is not intended for direct salt spray exposure in marine applications or the highly corrosive atmospheres of swimming pools, chemical storage bins, etc. Please refer to the factory for explosion proof or marine application heater information. Do not install unit heaters above recommended maximum mounting height. See chart for height information. Obstructions must not block unit heater air inlet or discharge. To prevent possible injury heaters must be mounted at least 6 feet above the floor to prevent accidental contact with heating element or fan blade.

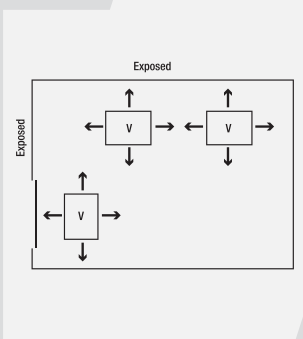
## Selection

CEILING HEIGHT	UNDER 8 FEET	10 FEET	12 FEET	13 FEET AND OVER
250 Sq. Ft.	N/A	KBP	KBP	KFUH
1000 Sq. Ft.	KBP	KBP	KBP / KB	KFUH
2000 Sq. Ft.	KBP / KB	KBP / KB	KB / KFUH	KFUH
3000 Sq. Ft.	KB	KB	KFUH	KFUH
5000 Sq. Ft.	KB	KFUH	KFUH	KFUH
10,000 Sq. Ft.	KB	KFUH	KFUH	KFUH

### Horizontal



### Vertical



### Dual

