

# INSTALLATION AND MAINTENANCE

Figure 1



## KBP-RCS Rugged Cold Start Unit Heater



Do not install bottom of heater less than 6 ft above the floor 6 inches to side wall, 5 inches to back wall, and 2 inches to ceiling when clearance to ceiling is 2 inches. Do not point heater at ceiling.

KBP-RCS unit heaters are to be operated at **voltage listed on the rating label**. It is important that you verify the power supply voltage is the same as the nameplate voltage of the heater. Connecting the heater to an improper voltage or failure to follow the procedures as outlined in this manual can result in damage to the heater and void the warranty. This heater is provided with a provision for 24V Remote Thermostat (purchased separately). Disconnect all power from the heater at the main service panel before attempting to install or service this unit. All electrical wiring must conform to local electrical codes. Heater circuit must be properly protected.

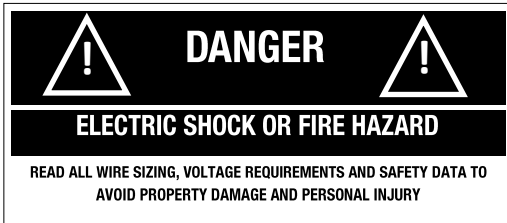
### ⚠️ WARNING ⚠️

**READ CAREFULLY** - Use the heater only as described in this manual. Any other use is not recommended and could result in fire, electric shock, and personal injury. Following these instructions will prevent difficulties that might occur during the installation and use of the heater. Please study the instructions first, as they may save considerable time and trouble during use addition to providing important safety information. Make sure to save these instructions for future use.

Read all instructions before wiring or using this heater.

- ⚠️ WARNING** Heaters outlet grill is very hot when in use. To avoid burns, do not touch hot surfaces with bare skin. Keep combustible materials, including furniture, pillows, bedding, papers, clothes, curtains, and boxes at least 3 feet from the front of the heater and keep them away from the sides and rear.
- ⚠️ WARNING** Do not use outdoors.
- ⚠️ WARNING** Heater is not intended for use in bathrooms, laundry areas or similar indoor locations. Never locate heater where it may fall into a bathtub or other water container.
- ⚠️ WARNING** Do not insert or allow foreign objects to enter any inlet or outlet openings as this may cause an electric shock, fire, or damage to the heater.
- ⚠️ WARNING** To prevent a possible of fire, do not block air intakes or exhaust in any manner.
- ⚠️ WARNING** Heater has hot surfaces. Internal thermostat and limiting parts will arcing or create sparks inside. Do not use this heater in areas where gasoline, paint, or flammable liquids or gases are used or stored.
- ⚠️ WARNING** Use this heater only as described in this manual. Any other use is not recommended by the manufacturer and may cause fire, electric shock, explosion or injury to people and or property.
- ⚠️ WARNING** If heater shows signs of overheating immediately turn the circuit breaker off to the heater. Remove and inspect for any objects on or adjacent to the heater that may cause the high temperatures. Have a professional inspect the internals until the reason is clear why the heater is overheating. Do not reinstall until it has been professionally serviced.
- ⚠️ WARNING** Do not operate heater after it malfunctions. Disconnect heater at service panel and have heater inspected by a reputable electrician before reusing. To disconnect heater, turn controls to off position, and turn off power to heater circuit at main electrical panel or operate internal disconnect switch to off if provided.
- ⚠️ WARNING** Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended too.

# SAFETY INFORMATION



Figure



Chart 2

Minimum Clearance From Combustibles	
Front	18 in.
Top	2 in.
Sides	6 in.
Rear	5 in.
Floor	6 ft.

**Warning:** Prior to operating, make sure the circuit breaker is of the configuration and capacity appropriate for the heater.

- Designed for Ceiling Mount installation only.
- Minimum installed distance from the heater to the adjoining ceiling surfaces - 5 inches to back wall.
- Use extreme caution when used near children or people with disabilities.
- Do not use outdoors.
- Not intended for use in bathrooms, laundry areas or other similar wet locations. Never locate heater where it may have contact with water.
- Do not use heater in wet or damp locations .
- Don't place heater against cardboard or low-density fiberboard surfaces.
- Avoid using an extension cord because the extension cord may overheat and cause a risk of fire.
- Use only the electrical power (voltage and frequency) specified on the model plate of the heater.
- Keep all combustible materials away from this heater.

## WHAT'S IN THE BOX

Figure 2-1

**KBP-RCS Heater** (ceiling bracket ships separately)

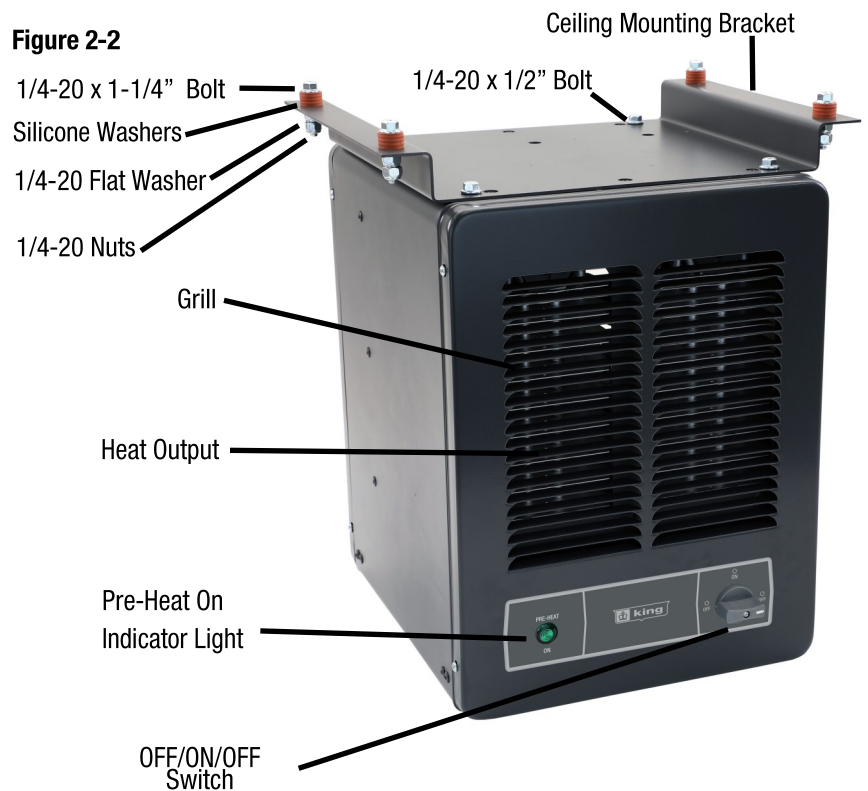


**KBP-RCS-CB1 Ceiling Bracket - Kit Includes:**

- Ceiling Bracket 1pc
- Silicone Washers 16pcs
- 1/4-20 x 1-1/4" Bolts 4pcs
- 1/4-20 x 1/2" Bolts 4 pcs
- 1/4-20 Nuts 8pcs
- 1/4-20 Flat Washer 4pcs

## HEATER DIAGRAM

Figure 2-2



# ASSEMBLY INSTRUCTIONS



DANGER

ELECTRIC SHOCK OR FIRE HAZARD

READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND PERSONAL INJURY

## KBP-RCS Rugged Cold Start Unit Heater

Chart 3

Minimum Clearance From Combustibles	
Front	18 in.
Top	2 in.
Sides	6 in.
Rear	5 in.
Floor	6 ft.

### CEILING INSTALLATION INSTRUCTIONS

#### STANDARD CEILING MOUNT

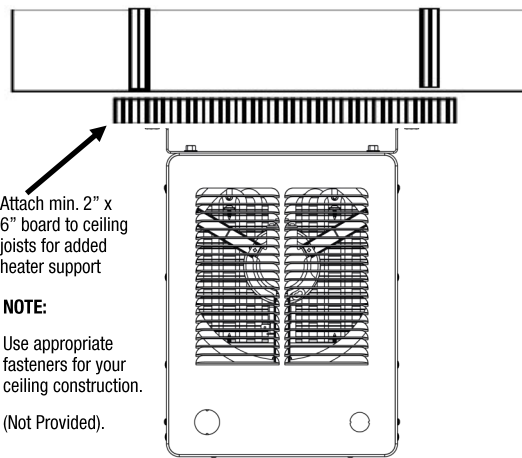


Figure 3-1

#### VIBRATION-RESISTANT CEILING MOUNT (With Vibration Isolation Silicone Washers)

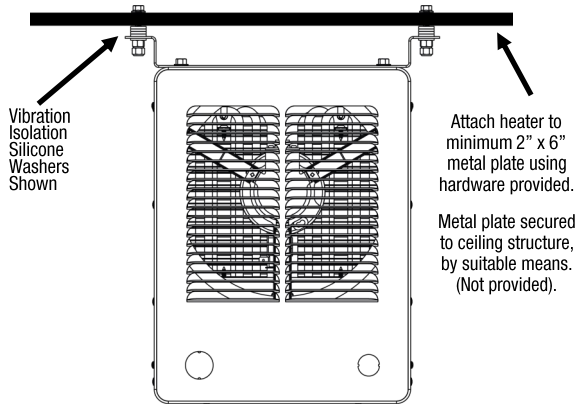


Figure 3-2

#### DISTANCE FROM WALL

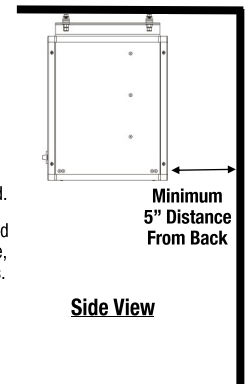


Figure 3-3

#### TOOLS NEEDED:

- Screwdriver (Phillips & Slotted)
- Wire Cutters
- Pliers
- Adjustable Wrench
- Electric Drill

Remove heater & all packaging materials from the box.

#### HARDWARE NEEDED:

- Adequate gauge & length of wire for your application
- Proper size fuses or breakers to handle amperage
- Proper wire connectors for your application
- Ceiling Mounting hardware provided.

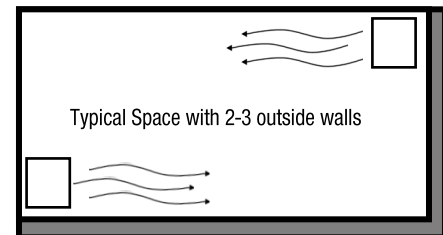
#### MOUNTING HEIGHT:

When the air flow of the heater is directed vertically or horizontally, the minimum mounting height is 6 feet in the USA and 8 feet in Canada. Mounting heights depend upon building utilization and heater KW capacity.

#### LOCATION OF HEATER:

The heater should be installed 6 feet above floor and according to minimum clearance chart (Figure 1) The direction of airflow should not be restricted by machinery, beams, etc., and the air flow should run with walls, rather than blowing directly at them. When more than one heater is used in an area, the heaters should be arranged so that the air discharge of each heater supports the air flow of the others to provide best circulation of warm air. (see figure 4).

Figure 3-2



#### MOUNTING HEATER:

Ceiling joists are typically wider than our mounting bracket which is 12.75" wide. The heater weighs 30 lbs and should be mounted with supporting structure at each corner of the bracket.

# INSTALLATION INSTRUCTIONS

**⚠ WARNING** Before proceeding further with the installation of this heater, turn off the power and lock the supply line for the heater at the main service box.

**WIRING HEATER:**

1. Remove wiring compartment cover.
2. Remove one of the knock outs from the back of the unit. It is not necessary to remove the grill cover.
3. Size service wire to adequately handle amp load of the heater. Refer to the Circuit Sizing Table for proper wire size and circuit protection.
4. Connect supply wire to L1, L2 & L3 as shown in the diagram provided with heater.
5. Secure power supply cable with cable clamp.
6. Connect ground wire to the green pig tail.
7. Adjust the heater to the desired position.

Chart 4

3 PHASE CIRCUIT SIZING TABLE					
Watts (Max)	BTUH	Volts	Amps 3 Phase	Wire Size	Circuit Protection
6000	20,460	480	7.2	#14/3	15A-3P

Per the National Electrical Code heating circuits are considered a continuous load and therefore must be de-rated by 20%. For example a 20 amp heating circuit can not have more than 16 amps of connected load.

**Note 1:**

Power must land at heater uninterrupted by switches or thermostat due to thermal fan delay.

**Note 2:**

Dry contact from external thermostat required to activate.

## MAINTENANCE AND WARRANTY

The high quality and superior design of the Pic-a-Watt heater will provide years of trouble free performance. Each year the heater should be checked and cleaned for lint and dust accumulation. We recommend using a soft bristled brush such as a paint brush to assist in removing contaminants from the heater. The motor is permanently lubricated and does not need servicing. King Electrical Mfg. Co. will repair or replace, with out charge any KBP-RCS heater found to be defective or malfunctioning for five years after purchase to the original owner. For a warranty claim call King at **1-800-603-5464**, do not take the heater back to the store purchased from.

## TROUBLESHOOTING GUIDE

Problem	Cause	Solution
Fan stays on when heat shuts off	Fan delay cycles ON/OFF until elements are cool	Heater is operating correctly
Heating element does not glow red	Heating element is made of stainless steel and will not glow red to produce heat	Heater is operating correctly
Do not feel heat or air flow	No power to heater	Check power connections/connect heater to power supply. Check disconnect switch is ON.
	Desired room temperature is reached	Thermostat will shut off once desired room temperature is reached. Heater is operating correctly
	Heat will be dispersed throughout the entire room and may take time to heat all surfaces.	Heater is operating correctly
	Heater In Pre-Heat Cycle	Verify Pre-Heat Light Is On. Wait for Motor to reach 32F (0C) before Main Heating Circuit Turns On.