



Stars Management DMCC

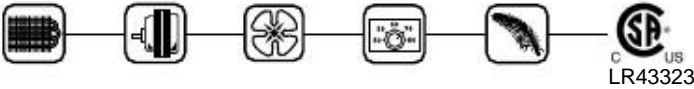
SUBMITTAL

**ELECTRIC
UNIT HEATER
(KBP Series)**

UNIT HEATER

KBP
SERIES

PIC-A-WATT® • MULTI-PURPOSE • 950 - 6000 WATTS
CEILINGS UNDER 10 FT



FEATURES

- Pic-A-Watt® Element
 - Cast Iron Motor
 - Aluminum Fan Blade
 - Built-in Thermostat
 - Quiet Running
- Multiple wattage selection
 - Powder-coated finish
 - Standard color: almond
 - Universal mounting bracket
 - Fan delay
 - Selector switch - Fan / Heat / Off
 - Tested under UL1278
 - Bi-metallic limit turns element off if an over temperature condition occurs then automatically resets when normal temperature returns

OPTIONS

- 30 Amp plug, cord, handle kit
- Remote thermostat (-RT)
- 24 Volt control (-RTLTV)



The KBP is an excellent choice for a garage or shop heater with the capacity to easily heat a large space. The flow-through design moves air efficiently by pulling air from the back of the heater and discharging it out the front.

This heater can be purchased with optional (-K1) (120 Volt) or (-K2) (240 Volt) accessory kits.

This rugged heater has quality components suitable for commercial applications as well.

It comes standard with a 3-position switch and an accurate built-in thermostat listing degrees on the label for precise temperature control. An included fan delay helps dissipate heat from the elements.



ENGINEERING SPECIFICATIONS

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

Pic-a-Watt® heating element: Exclusive King multi-tap element allows field adjustment to several wattages at time of installation. Steel sheath elements of various resistance are copper brazed to steel plate fins producing a multi-wattage heating element.

Built-in Thermostat: Single Pole factory installed hydraulic capillary tube thermostat with precision heating control. Operating range 40° to 90° F.

Fan / heat / Off Switch: 3-position switch provides heating and summer fan only operation. The DPST off switch provides a "positive off" that disconnects all ungrounded conductors. Not available in 480V and 3-Phase models.

Fan delay Switch: The fan continues to operate after the Thermostat shuts off in order to remove the residual heat left in the elements. Power must not be interrupted.

Universal Mounting bracket: Combination ceiling/wall/floor bracket is included with every heater.

Unit bearing Motor: Permanently lubricated, cast iron, 4 -Pole Motor with 20 cc of oil. Enclosed rotor provides long-lasting, trouble-free operation. Thermally protected. 1300 RPM.

Auto-Reset Thermal limit Control: Heater shuts off when an over temperature conditions exist and automatically resets when the normal operating temperature returns.

Exterior: Textured acrylic powder-coating provides an attractive Durable finish in almond color.

Approval: cCSA_{us} (LR43323)

Tested under UL1278

SELECTION:

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

MODEL	UPC #093319 PART #	VOLTS	PHASE	WATTAGE RANGE	PHASE AMPS SINGLE / THREE	MOTOR SIZE	CFM	TEMP RISE (°F)	AIR ThROW	WT. (lbs.)
KBP1230	15191	120	1	2850 • 1900 • 950	24	5W	270	35°	16 ft.	26
KBP2406	15190	240*	1	5700 • 4750 • 3800 2850 • 1900 • 950	24	5W	270	70°	16 ft.	24
KBP2006-3MP**	15193	208	1-3	5700 • 2850	27 / 16	5W	270	70°	16 ft.	26
KBP2406-3MP**	15188	240*	1-3	5700 • 2850	24 / 14	5W	270	70°	16 ft.	25
KBP2704	15187	277	1	4000 • 3000 2000 • 1000	15	5W	270	47°	16 ft.	26
KBP4804-3MP**	15196	480***	1-3	4160	9/5	5W	270	49°	16 ft.	26
KBP4806-3MP**	15197	480***	1-3	6000	13 / 8	5W	270	71°	16 ft.	26

* Approved for 208V operation. Heater will draw 13% less Amps and 25% less wattage
 ** 3-Phase units do not have Heat / Fan / Off
 *** 480 Volt models are 24 Volt control

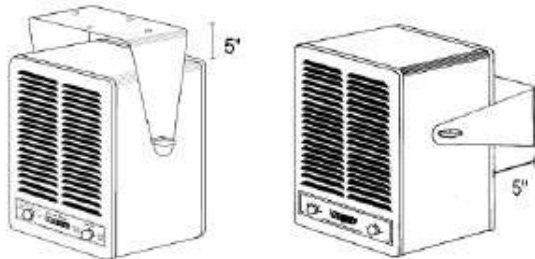
ACCESSORIES

MODEL	DESCRIPTION	UPC #093319 PART #	WT. (lbs.)
KBP-K1	6 ft. Cord / Handle Kit - 120 V, 1-Phase, 30 Amp (receptacle included)	15198	2
KBP-K2	6 ft. Cord / Handle Kit - 240 V, 1-Phase, 30 Amp (receptacle included)	15199	2
KBP-RT	Provision for Remote Thermostat (line voltage)	N/A	N/A
*KBP-RTL1	Provision for Remote Thermostat - 1-Phase (24V)	N/A	N/A
*KBP-RTL3	Provision for Remote Thermostat - 3-Phase (24V)	N/A	N/A

* Factory installed only - Heat / Fan / Off activated at unit only - can not operate remotely

INSTALLATION WIRING FOR REMOTE THERMOSTAT

Power must be routed to heater first, then to remote thermostat. This is due to the fan delay circuit needed to cool the elements on shutdown.



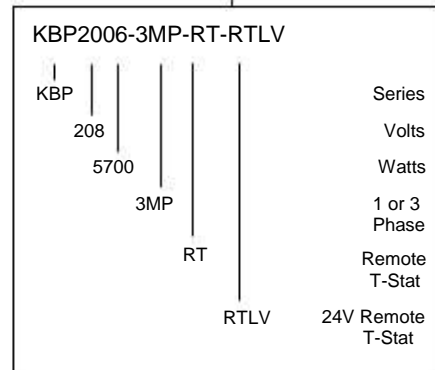
2 MOUNTING STYLES

Multi-positional bracket allows unlimited mounting options



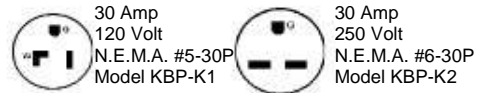
Bracket side and bottom view

MODEL CODE:



Standard Color: Textured Almond

Receptacle configurations included for cord set

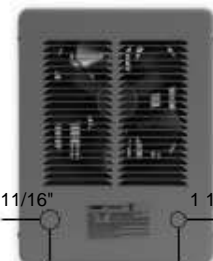


DIMENSION

13½" H x 10" W x 11½" D

FRONT

BACK



1 11/16"

1 13/16"

2 5/16"
¾" knockout

2 3/8"
½" knockout



INSTALLATION & MAINTENANCE MANUAL

Model: **KBP2406** 240V-1phase Unit Heater



Unpack & Inspect Your New Heater

Remove heater from box and inspect it for any damage. Verify you have received the mounting bracket and accessories.

Tools Needed

You will need the following tools to install your unit heater:

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

Hardware Needed

You will need the following hardware:

- Adequate gauge & length of wire for your application
- Proper size fuses or breakers to handle amperage
- Proper wire connectors for your application
- Appropriate size fasteners to mount heater.

In certain applications conduit may be required by code. Check local electrical codes. If you want to be able to turn the heater be sure to use flexible conduit.

Mounting Height

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

Distance From Walls

Maintain 6" minimum clearance to side walls and 2" to ceiling in back of the heater (air intake side). Maintain 18" clearance in front of the heater (discharge side).

WARNING

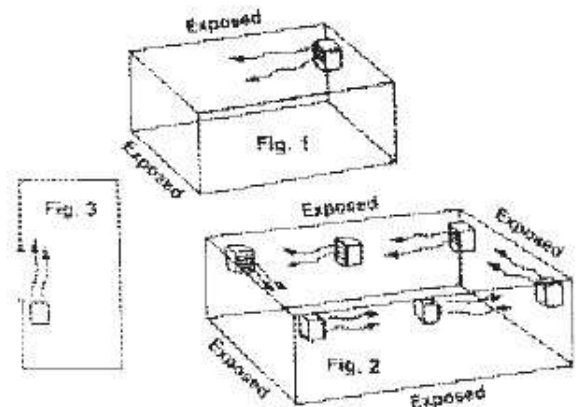
Model: KBP2406 is 240 volt. It is important that you verify the power supply voltage is the same as the nameplate voltage of the heater. Improper installation or failure to follow the procedures as outlined in this manual can result in damage to the heater. Note that the KBP2406 will operate at 208 volt but will produce 25% less wattage and draw 13% less Amps. 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.

Mounting Heater

Locate a stud in ceiling or wall and securely fasten bracket with a minimum of two #12 fasteners 1-1/4" long. Attach heater to bracket with 3/8" x 1" wingnut & lock washer supplied. Install the lock washer between the bracket and heater. Do not put lock washer on the plastic wingnut. After desired air discharge position has been determined tighten wingnut so heater will not pivot.

Location of Heater

The heater should be installed out-of-reach of persons. The direction of airflow should not be restricted by machinery, beams, etc. and the airflow should wipe exposed 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 airflow of the others to provide best circulation of warm air. (see airflow chart)



Wiring Heater

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.

1. Remove wiring compartment cover.
2. Remove one of the knockouts from back of unit. It is not necessary to remove grill covers.
3. Size service wire to adequately handle Amp load of heater. Refer to the Circuit Sizing Table for proper wire size and circuit protection.
4. Connect supply wire to L1 & L2 as shown in the diagram below.
5. Secure power supply cable with clamps.
6. Connect groundwire to the green pigtail.
7. Reinstall wiring compartment cover.
8. Adjust the heater to the desired position.

CIRCUIT SIZING TABLE

WATTS	BTUH	VOLTS	AMPS 1-PHASE	WIRE AREA COVERED SIZE PROTECTION* (sq. ft.** / cubic ft.***)	CIRCUIT
1900	6484	240	8	#14 / 2	15A - 2P
2850	9727	240	12	#14 / 2	15A - 2P
3800	12969	240	16	#12 / 2	20A - 2P
4750	16211	240	20	#10 / 2	30A - 2P
5700	19454	240	24	#10 / 2	30A - 2P

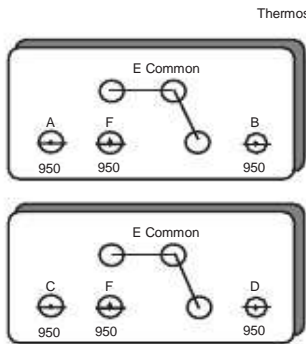
* Per the National Electric Code heating circuits are considered a continuous load and therefore must be derated by 20%. For example: a 20 Amp heating circuit can not have more than 16 Amps of load connected. If heater is operated at 208V it will draw 13% less Amps and produce 25% less wattage.
 ** Assumes an 8 ft. high ceiling; Use cubic feet to estimate wattage requirement when ceiling is not 8 ft.
 *** If area is larger than 720 sq. ft. / 5,760 cubic feet use more than one heater.

INSTALLATION INSTRUCTIONS

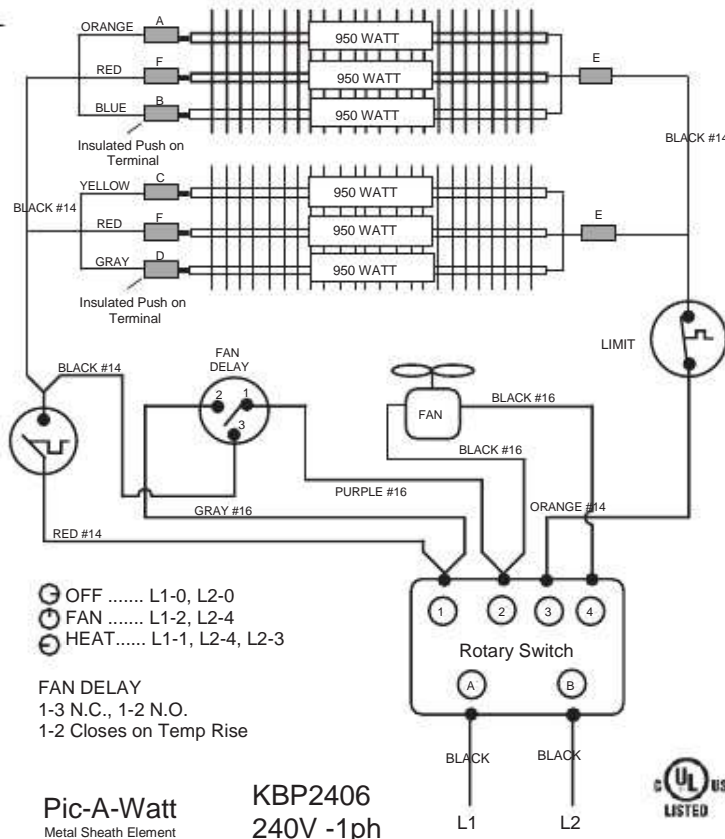
This heater is shipped from the factory wired for maximum wattage of 5700 Watts at 240 Volts. To reduce the wattage unplug (disconnect) an insulated push on terminal and wrap with electrical tape to prevent the possibility of electrical contact with other parts.

Field Wattage Selection

1. 5700 Watts factory wired
 2. 4750 Watts disconnect terminal A
 3. 3800 Watts disconnect terminals A,D
 4. 2850 Watts disconnect terminals A,B,D
 5. 1900 Watts disconnect terminals A,B,C,D
- E - Black Do Not Disconnect (Common)
 F - Red Do Not Disconnect



END VIEW OF ELEMENT SHOWING QUICK CONNECT TERMINALS
 1900•2850•3800•4750•5700
 WATTAGES AVAILABLE IN ONE UNIT



Maintenance & Warranty Information:

The high quality and superior design of this 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 bristle-brush such as a paint brush to assist in removing contaminants from the heater. The motor is permanently lubricated and does not need servicing. Factory will repair or replace without charge any KBP2406 heater found to be defective or malfunctioning for five years after purchase to the original owner.



KKWS.E41422 Air Heaters, Room, Fixed and Location Dedicated

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Air Heaters, Room, Fixed and Location Dedicated

See General Information for Air Heaters, Room, Fixed and Location Dedicated

KING ELECTRICAL MFG CO

E41422

9131 10TH AVE S
SEATTLE, WA 98108 USA

Fixed: Wall surface insert or mounted type, Models*a KCC2-10, -15, -20; Models KCC3-25, -30, KCC4-40, -45, -50, with or without suffix T.

Fixed: Commercial/Industrial, Wall mounted, Models*h KFUH-5, -6, -10, -12, -15, -15-3, -18, -18-3, -20, -22, -25, -30, -30-3, -34, -34-3, -35.

Fixed: Commercial/Industrial Ceiling or Wall Mounted Type, Models*b KB2, KB3, KB4, KB5, KB6, KB7, KB7.5, KB8, KB9, KB10, KB11, KB12, KB13, KB14, KB15, KB16, KB18, KB20, KB21, KB22, KB24, KB27, KB30, KB33, KB36, KB42, KB48, KB54, KB60, KB66, followed by -01, -02, -03, -41, -42, -43, -71, -72, -81, -82, -83, may or may not be followed by -MP, may or may not be followed by T.

Fixed: Wall insert, Models KB3-43MP, -83MP, K85-43MP, -83MP, KB18-42, -82, KB20-42, -82, KB22-42, -82, KB5-01, KB10-02, KB15-03, KB3.71, KB4-71, KB5-71, KB6571, KB8-71, KB9-72, KB10-72, KB12-72, KB13-72, KB14-72; Models*d RW1225*a, -1250*a, -1275*a, -2425*a, -2450*a, -2475*a, -12100*a, -24100*a, with or without suffix T, for use with Cat. No. RW1C wall can; Models*d WHF1205/10, WHF1207/10, WHF2405/10, WHF2407/15, WHF2410/20, WHF2412/24, WHF10, WHF15, WHF20, WHF24, PAW1215, PAW2422, PZ1215, PZ2422.

Fixed: Wall insert type, Models*d PAW1215, PAW2022, PAW2422, PZ1215, PZ2022, PZ2422, DEC1215, DEC2022, DEC2422 with or without suffix letters "PRO" or "DEC" for use with Cat. No. PAWIC wall can .

Fixed: Wall insert or surface mounted type, Models*g KCF220-1, KCF330-1, KCF440-1, KCF450-1; Model *d LPW1227, LPW2045, LPW2445, LPW2740, with or without suffix T, for use with Cat. No. LPW wall can.

Fixed: Wall insert type, Models*d W1205, -07, -10, -12, -15, W2405, -07, -10, -12, -15, -20, -24, for use with Cat. No. W.

Fixed: Wall surface mounted type, Models*e KCV-1202, -2402, -1204, -2404, -1206, -2406, -1207, -2407, -1209, -2409, -1210, -2410, -2412, -1215, -2415, -1218, -2418.

Fixed: Kick space type, Models*f KT1205, KT1207, KT2405, KT2407, KT2410, with or without suffix numerals 10, 15 or 20, KT10, KT15, KT20, with or without prefix letter T.

Fixed: Wall mounted type, Models SL1215*i, SL2422*i.

Fixed: Ceiling Insert type, Models WHFC1205/10*j, WHFC1207/15*j, WHFC2405/10*j, WHFC2407/15*j, for use with Cat. No. WHFCIC ceiling case.

*a For supply wiring, use wire suitable for at least 75 C.

*b To be installed at least 6 ft from floor and 6 in. from adjacent walls.

*d To be installed not less than 4 in. from floor and 6 in. from adjacent walls.

*e To be installed not less than 6 feet from floor and 2 1/2 in. from ceiling.

*f May be installed with zero clearance to walls and floor.

*g To be installed not less than 1 in. from floor and 6 in. from adjacent wall surfaces.

*h To be installed not less than 1 1/2 in. from sides, 1 in. from back and 6 in. to top.

* i to be installed not less than 6 inches from adjacent wall and 0 inches from floor.

*j to be installed not less than 16 in. from vertical wall.

Last Updated on 2004-01-23

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Air Heaters, Room, Fixed and Location Dedicated Certified for Canada

[See General Information for Air Heaters, Room, Fixed and Location Dedicated Certified for Canada](#)

KING ELECTRICAL MFG CO

E41422

9131 10TH AVE S
SEATTLE, WA 98108 USA

Fixed: Wall mounted type, Models SL1215*a, SL2422*a.

Fixed: Wall insert, Models WHF1205/10*b, WHF1207/10*B, WHF2405/10*b, WHF2407/15*b, WHF2410/20*b, WHF2412/24*b, WHF10*b, WHF15*b, WHF20*b, WHF24*b, for use with Cat. No. WHIC wall can.

Fixed: Ceiling Insert type, Models WHFC1205/10*c, WHFC1207/15*c, for use with Cat. No. WHFCIC ceiling case.

*a to be installed not less than 6 inches from adjacent wall and 0 inches from floor.

*b - To be installed not less than 4 in. from floor and 6 in. from adjacent walls.

*c - to be installed not less than 16 in. from vertical wall.

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Technical Information

- Operating Manuals
- FAQs
- Papers
- Technical Compliance

UL, CSA, ETL and CE: What are they and is there a difference?

You may have noticed that New Brunswick Scientific equipment carries a variety of certification marks such as UL, CSA, ETL or CE and so on. What do these certification marks mean and is there a difference?

Basically they are all stamps of approval from independent agencies certifying that our products meet rigorous standards for electrical safety and electromagnetic emissions.

The acronyms are spelled out below:

- UL:** Underwriters Laboratories Inc.
- CSA:** Canadian Standards Association
- ETL:** Originally a mark of ETL Testing Laboratories, now a mark of Intertek Testing Services
- CE:** Conformance European (Communauté Européenne or Conformité Européenne)

Let's review each:



Underwriters Laboratories Inc. (www.ul.com) is an independent, nonprofit organization that writes testing standards and tests products for safety and certifies them. UL has developed more than 800 standards for safety, and millions of products and their components are tested to UL's safety standards.



The Canadian Standards Association (CSA) is a nonprofit association serving business, industry, government and consumers in Canada and the global marketplace. Among many other activities, CSA (www.csa.ca) develops standards that enhance public safety. A Nationally Recognized Testing Laboratory, CSA is very familiar with U.S. requirements. According to OSHA (U.S. Department of Labor, Occupational Safety and Health Administration) regulations **the CSA-US Mark qualifies as an alternative to the UL Mark.**



ETL is a mark provided by Intertek and ETL Semko. Intertek (www.intertek-etlsemko.com) is a global leader in testing inspection and certification services. They are a Nationally Recognized Testing Laboratory and tests products to UL, CSA and CE standards.

A product bearing the ETL Listed Mark is determined to have met the requirements of prescribed product safety standards. Moreover, the mark indicates that the manufacturer's production site conforms to a range of compliance measures and is subject to periodic follow-up inspections to verify continued conformance.

An ETL Listed mark with both "us" and "c" identifiers signifies that the product bearing the mark complies with both UL and CSA product safety standards. If it bears just the "us" identifier, it has been tested and deemed compliant to UL product safety standards only. An ETL Listed mark with a "c" identifier means the product bearing it complies with CSA product safety standards only.



The CE Mark is a requirement for products sold to the European Market. The CE Mark identifies a product as complying with the health and safety requirements spelled out in European legislation (Directives) and is mandatory for equipment operating in the European Union (EU). Once the product has received the CE Mark it can circulate freely throughout the European Union countries.

In summary, the certification marks on NBS products are your assurance that the product meets rigorous standards for electrical safety and EMC (Electro Magnetic Compatibility) testing. It poses no shock hazard (except as noted on the product or in the manual), and it will not cause electromagnetic interference with other devices beyond a certain distance. You can use the product with confidence.



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