



KE40 / PE32

# BLAZE KING KING / PRINCESS

## Free Standing Wood Stoves



Blaze  King

— Since 1977 —

[www.blazeking.com](http://www.blazeking.com)



optional

King 40 with standard convection deck, pedestal base and ash drawer

# KING

**Maximum Performance** Blaze King manufactures the 3 most efficient wood stoves in the world. At 81% real world efficiency, as listed by the EPA, the King is one of these most efficient wood stoves. This allows you to get the most heat out of your wood to reduce your heating costs.

**Maximum Size** The King has the deepest and also one of the largest fireboxes of any stoves on the market—it is for serious wood stove users. This firebox is great for families who live in colder climates, have larger homes, or need heat for longer periods of

time. You can fit up to 80 lbs. of wood into the King's 4.35 cu.ft. firebox; that is equal to 708,275 BTUs of available wood energy. The King can run for up to 40 hours on low or produce a tremendous amount of heat for 12 to 16 hours on high, depending on your installation and wood type.

The distance from the door opening to the bottom of the firebox is 9". Our design minimizes any chance of coals rolling forward and out of the firebox when the door is opened. The deep firebox keeps the removal of ash to a minimum making it safer to use.



**Style Choices** There are three styles to choose from: Parlor Legs, Classic Base, and the Ultra Pedestal. The Parlor cast iron leg option creates a more traditional look. The Ultra Pedestal option comes with a removable ash drawer with lid as standard. The Classic Base lowers the stove height when replacing an older Blaze King or for low ceiling installs. The King comes complete with standard side shields, convection deck, and your choice of four door options: Painted, Satin Plated, Gold Plated or Solid. You can also add an optional dual fan kit.



| Specifications: King (KE40) | Real World Tested Performance |
|-----------------------------|-------------------------------|
| Efficiency                  | 81% (EPA listed efficiency)   |
| Maximum Heat Input*         | 708,275 BTUs                  |
| Heat Output on High, BTUs   | 38,516 (EPA listed)           |
| Heat Output on Low, BTUs    | 10,392 (EPA listed)           |
| Square Feet Heated          | 1500 - 3000                   |
| Average Heating Time*       | 10 to 20 hours                |
| Potential Run Time on Low*  | 40 hours                      |
| Emissions (grams/hour)      | 1 g/hr                        |
| Usable Firebox Volume       | 4.35 cu.ft.                   |
| Flue Size                   | 8"                            |
| CO (g/min)                  | 0.49                          |

\* BTU, heat input and output and heating times depend on influences such as home size, home insulation, installation configuration, wood species, wood moisture content and climatic conditions.



Optional plated doors available for King 40 and Princess 32



Satin Plated Door



Brushed Gold Plated Door

Our standard convection deck provides a finished appearance and, when optional dual fans are installed, is engineered to keep air moving across the hottest part of the stove.





Princess 32 with standard convection deck, optional pedestal and ash drawer

# PRINCESS

**Correct Firebox Size** Blaze King manufactures the 3 most efficient wood stoves in the world. At 82% real world efficiency, as listed by the EPA, the Princess is one of these most efficient wood stoves. This allows you to get the most heat out of your wood to reduce your heating costs.

**A Deeper Firebox is a Safer Firebox** Our design minimizes any chance of coals rolling forward and out of the firebox when the door is opened. The distance from the door opening to the bottom of the firebox is 6", allowing the Princess to hold up to 60 lbs. of wood. Our deeper fireboxes reduce the frequency of ash removal.

| Specifications: Princess (PE32) | Real World Tested Performance |
|---------------------------------|-------------------------------|
| Efficiency                      | 82% (EPA listed efficiency)   |
| Maximum Heat Input*             | 473,811 BTUs                  |
| Heat Output on High, BTUs       | 34,435 (EPA listed)           |
| Heat Output on Low, BTUs        | 34,435 (EPA listed)           |
| Square Feet Heated              | 1200 – 2500                   |
| Average Heating Time*           | 8 to 14 hours                 |
| Potential Run Time on Low*      | 30 hours                      |
| Emissions (grams/hour)          | .55 g/hr                      |
| Usable Firebox Volume           | 2.91 cu.ft.                   |
| Flue Size                       | 6"                            |
| CO (g/min)                      | 0.62                          |

\* BTU, heat input and output and heating times depend on influences such as home size, home insulation, installation configuration, wood species, wood moisture content and climatic conditions.



Princess 32 with standard convection deck, and optional classic base



Princess 32 with standard convection deck, optional ash drawer and optional legs

## King and Princess

**Clearances to Combustibles** (See owner's manual for complete list prior to install)

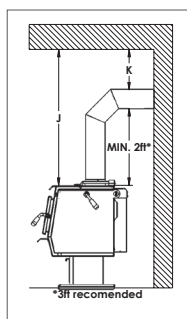
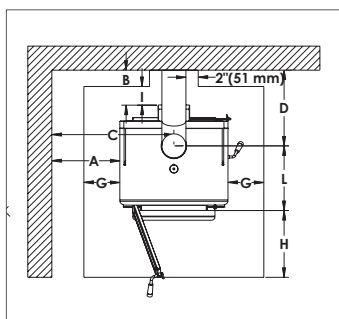
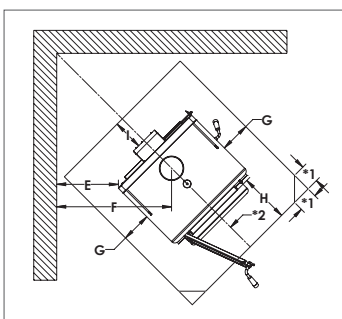
|                                                       | King 40<br>Single Wall<br>Pipe* | Princess 32<br>Single Wall<br>Pipe* |
|-------------------------------------------------------|---------------------------------|-------------------------------------|
| <b>A</b> – Side Wall to Side of Unit                  | 10"                             | 10"                                 |
| <b>B</b> – Rear Wall to Back of Unit                  | 6"                              | 6"                                  |
| <b>C</b> – Side Wall to Flue Center                   | 25½"                            | 23½"                                |
| <b>D</b> – Rear Wall to Flue Center                   | 16⅞"                            | 15⅞"                                |
| <b>E</b> – Adjacent Wall to Corner of Unit            | 4"                              | 4"                                  |
| <b>F</b> – Adjacent Wall to Flue Center               | 19⅞"                            | 17⅞"                                |
| <b>G</b> – Edge of Hearth Pad to<br>Side of Unit      | 2" (US)<br>8" (Canada)          | 3" (US)<br>8" (Canada)              |
| <b>J</b> – Minimum Ceiling Height<br>(from stove top) | 48⅞"                            | 44"                                 |
| <b>K</b> – Horizontal Flue to Ceiling*                | 18"                             | 18"                                 |
| <b>L</b> – Center of Flue to Edge of<br>Door Opening  | 17"                             | 17⅞"                                |

Do not install in an alcove in Canada

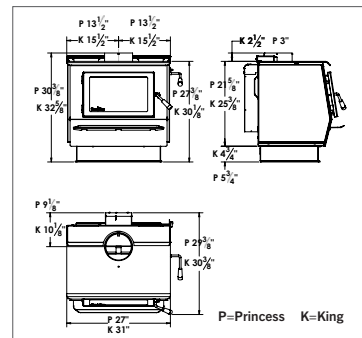
\*Check Local Codes/Pipe Manufacturer Requirements for Clearances. In all of Canada and most of USA, 18" Clearances from Single Wall Pipe are required.

Although Single Wall Pipe is used for clearance tests, Blaze King recommends Double Wall Stove Pipe to achieve the best performance from our high efficiency wood stoves

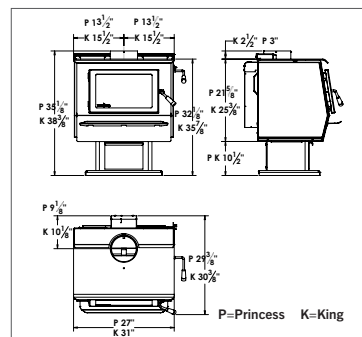
### Clearance Diagrams



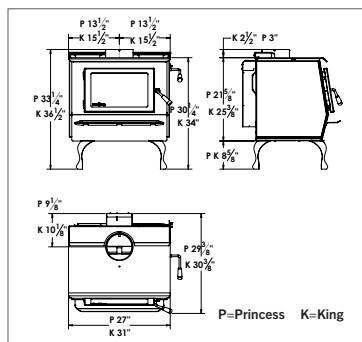
### Classic



### Ultra



### Parlor



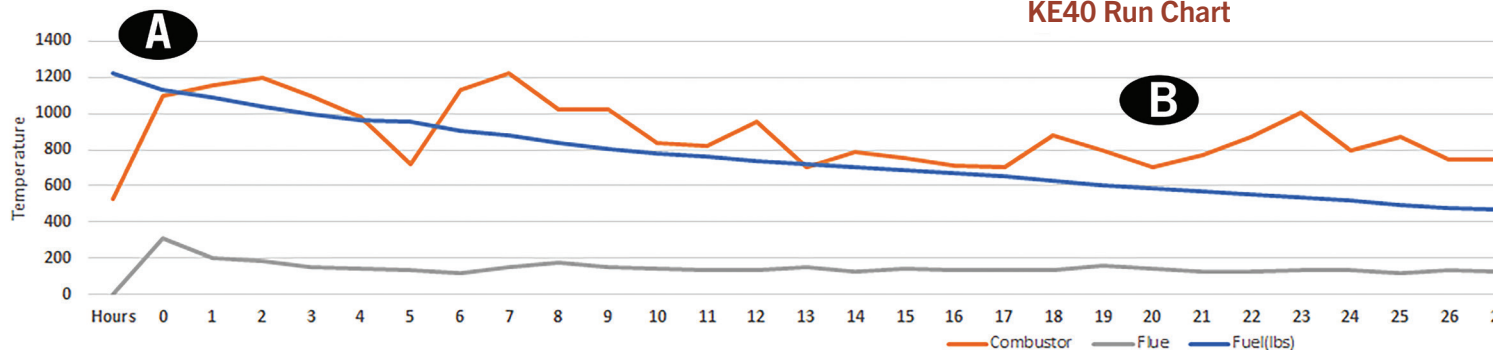
## Test Run Chart demonstrating how a Blaze King heats longer, cleaner & more efficiently

The King KE40 graph plots the results of a test run by Blaze King in its R&D laboratory. The lines on this graph trace the temperatures recorded by sensors at the catalytic combustor and in the flue pipe. The stove was placed on a scale to determine fuel weight. The wood species was Douglas Fir with approximate moisture content of 15%.

The Blue Line indicates the amount of wood that was placed in the firebox, 55lbs. The steady decline in the blue line demonstrates how the wood is consumed at an even pace throughout the entire heating cycle.

The Red Line shows the temperatures recorded at the combustor. Wood is consumed in an uneven manner. The fluctuations in temperature are the result of the wood being consumed and collapsing. This channels carbon (smoke) to the combustor

### KE40 Run Chart



# King and Princess Specifications

| Specifications                | King KE 40                                     | Princess PE 32                                 |
|-------------------------------|------------------------------------------------|------------------------------------------------|
| Sq. ft. heating capacity      | 1,500 up to 3,000 sq.ft.                       | 1,200 up to 2,500 sq.ft.                       |
| Wood capacity (soft wood)     | 55 lb.                                         | 40 lb.                                         |
| Wood capacity (hard wood)     | 80 lb.                                         | 60 lb.                                         |
| Flue size                     | 8"                                             | 6"                                             |
| Glass Viewing Area            | 17½" x 10½"                                    | 15½" x 9½"                                     |
| Door opening                  | 18½" x 9¾"                                     | 16½" x 8¾"                                     |
| Firebox depth (front to back) | 17⅜" (brick to brick)<br>21½" (brick to glass) | 17⅜" (brick to brick)<br>19½" (brick to glass) |
| Firebox width                 | 22¾"                                           | 19¾"                                           |
| Firebox height                | 15¼"                                           | 12½"                                           |
| Usable firebox volume         | 4.35 cu.ft.                                    | 2.91 cu.ft.                                    |
| Emissions                     | 1 grams/hour                                   | 0.55 grams/hour                                |
| Maximum heat input*           | 708,275 BTU's                                  | 473,811 BTU's                                  |
| Heat output on high, BTUs**   | 38,516 BTUs<br>(EPA Listed)                    | 34,435 BTUs<br>(EPA Listed)                    |
| Heat output on low, BTUs      | 10,392 BTUs<br>(EPA Listed)                    | 11,358 BTUs<br>(EPA Listed)                    |
| Approx Weight (Firebox only)  | 420 lbs.                                       | 370 lbs.                                       |

\* Heating capacity is determined by geographic location and actual heat loss calculation of the dwelling.

\*\* BTU, heat input, heat output and heating times depend on influences such as home size, home insulation, installation configuration, wood species, wood moisture content and climatic conditions.

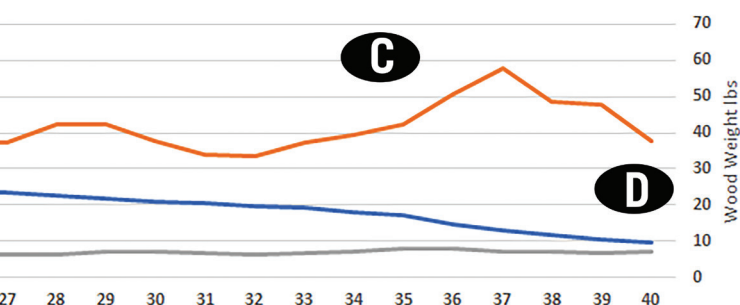
| Options                            | King KE 40 | Princess PE 32 |
|------------------------------------|------------|----------------|
| Ultra Pedestal with Ash Drawer     | O          | O              |
| Parlor Legs (Satin Plated – Black) | O          | O              |
| Ash Pan for Parlor Leg option      | O          | O              |
| Classic Pedestal Base              | O          | O              |
| Painted Door (Black)               | O          | O              |
| Satin or Gold Plated Door          | O          | O              |
| Solid Door                         | O          | O              |
| Dual Fan Kit                       | O          | O              |
| Rear Heat Shields*                 | O          | O              |
| Side Shields                       | S          | S              |
| Convection Deck                    | S          | S              |

S = Standard Feature, O = Optional Feature

\* Rear Heat Shield for mobile home install if fan kit is not fitted

increasing its temperature. Our thermostat then automatically regulates the fire to maintain an even heat distribution into the home.

The Grey Line shows the temperature of the flue gases exiting the stove. These temperatures rarely exceed 300°F even though the combustor reaches temperatures of 1200°F. This is the magic of a Blaze King as we heat your home and not the great outdoors.



A – The stove was initially run on high to reach equilibrium and then turned to a low setting.

B – After 20+ hours on a low setting and 27 pounds of fuel remain. Average fuel consumption so far 1.4 lbs. per hour. As Douglas Fir contains approximately 8,000 BTU's per lb. As such the stove is delivering 14,343 BTU's of heat per hour.

C – Peaks result as the wood collapses, stirring up sparks and smoke, which is fuel for the combustor, and exposing unused wood to the fire, resulting in rising firebox temperatures. Note how the thermostat responds to this increase, controlling the air intake to the fire, and automatically lowering the combustion to its previous operating level.

D – After 40+ hours of clean heating, the catalytic combustor finally goes out, having simply run out of fuel. The remaining volatile materials are being consumed within the firebox, before they can reach the combustor. The fire itself is not completely out. A bed of hot coals remains, continuing to produce heat for an additional 7 hours! Adding more fuel during that time would recharge the fire and refuel the combustor. That's more than 47 hours of continuous heating, with the potential to continue heating indefinitely.

# BLAZE KING

## King and Princess Features

**Catalytic Technology** Blaze King has been making large wood stoves for over 40 years. Over this time period we have built a tradition of craftsmanship and performance that is unequalled. In 1983 Blaze King invented the first hybrid wood stove using air tubes and a catalytic combustor. A year later Blaze King received the first certificate of compliance, number 001, for the first clean burning wood stove in North America. We received this certificate from the Oregon Department of Environmental Air Quality which regulated wood heaters prior to the EPA. A refined version of this technology is what you see in every Blaze King today.

**Thermostat control (No electricity required)** Blaze King's built-in thermostat constantly monitors the heat output of your stove. It automatically adjusts the air required for combustion. This unique technology, where we combine the efficiencies of a catalytic combustor with a built-in thermostat, provides the longest running times of any wood stove. You get a full night's sleep without having to reload your stove. It also means that when you return from work or play, your stove is still hot and your home is still warm.

**70% heat turn down** Fine-tuned automatic airflow, as our thermostat and catalyst work in tandem, allows you to turn the heat down in your Blaze King stove by up to 70%. Non Blaze King stoves only turn down by 30% and have little control over their heat output. Because of this most people with non Blaze King stoves use expensive electric heat in the spring and fall as they cannot control the heat output of their secondary air wood stove. With a 70% heat turn down ability, a Blaze King is perfect in shoulder seasons, saving you money on heating costs.

**Easy to Operate** Light a fire as per the instructions in your owner's manual. After you have established a good fire and the thermometer needle is well into the active zone simply select your heat setting. Your Blaze King will now automatically control the heat from your stove until you need to load it again, which could be up to 40 hours later depending on the model you selected.

**Use 33% less wood** The combination of our exclusive thermostat and catalytic combustor technology makes your Blaze King stove one of the most efficient wood stoves in the world. The proof of this is in our flue temperatures. Ordinary wood stoves have flue temperatures of between 600°F and 900°F while your Blaze King flue temperatures are between 150°F and 300°F. Non Blaze King stoves allow valuable heat to escape up the flue. Your Blaze King stove keeps the heat in your home saving you money. By making your stove this efficient you will use up to 33% less wood, cut, stack, load and clean 33% less wood. This is a major advantage that only a Blaze King offers.

**Less Cleaning** All Blaze King stove's produce very fine ash because we extract every last drop of energy from the wood. As a result you can go for very long periods before you have to empty your stove.

**Close Clearances** The unique design of a Blaze King makes it possible for it to be placed tightly into a corner. Close clearance options allow for more versatile installs. Blaze King stoves only require a spark protector for ember protection, saving you hundreds of dollars on your installation costs.

**Efficiencies** All Blaze King stoves have efficiencies between 78.7% and 83%. Blaze King is the only company to ever achieve an 82% and 83% efficiency, being the highest certified efficiency (HHV) of any wood stove or insert.



### 10 Year Extended Warranty

Because we believe in the technology and craftsmanship built into every Blaze King stove, we are proud to offer a 10 year 100% extended warranty on your catalytic converter.

**Blaze King**  
— Since 1977 —  
[www.blazeking.com](http://www.blazeking.com)

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