

## Large Electric Box Furnaces



Large electric box furnaces are suitable for a wide range of applications for temperatures from 300°F to 2200°F. This general-purpose furnace is commonly used for metal heat-treating in air or protective atmospheres, ingot preheating before forging, wax burnout and mold pre-heating, ceramics firing, heat processing of carbon-composite materials, and many other processes.

### SPECIAL FEATURES

- Clean and quiet – no burner exhaust or noise
- Rapid heat up and cool down
- Rugged, reliable, and economical construction
- Cool furnace exterior
- Maximum energy efficiency
- Available for use with inert atmospheres

### STANDARD FURNACE SPECIFICATIONS

MODEL	RATING	WORKING DIMENSIONS			OUTSIDE DIMENSIONS *			STANDARD	CONNECTED
		W	H	D	W	H	D	VOLTAGE	POWER
K-333-B	2200°F	36"	36"	36"	57"	70"	78"	240 V / 3 PH	60 kW
K-444-B	2200°F	48"	48"	48"	69"	82"	90"	480 V / 3 PH	90 kW
K-555-B	2200°F	60"	60"	60"	81"	94"	102"	480 V / 3 PH	150 kW

Larger custom sizes and higher temperature ratings are also available.

\* These dimensions do not include the control cabinet  
All specifications are subject to change without notice.

### OPTIONS

- Independent over-temperature protection
- Programmable temperature controller
- SCR power control
- Pneumatic door lifting
- Inert atmosphere operation
- Roller hearths, skid rails and loading tables
- Refractory piers
- Stainless steel baffles and retorts

### General Construction

The primary structure of the furnace body is solidly welded heavy wall square steel tubing or heavy gauge rolled sections. The insulating lining is attached to the inside of the frame. Steel sheets cover the frame to provide a smooth attractive exterior. Leg height may be specified. The furnace body is completed with an attractive, heat resistant, ivory finish coat.

## INSULATION

Thermally efficient ceramic fiber installed using Keith's proprietary edge grain construction insulates the furnace to give many years of trouble-free service. This low mass lining is resistant to thermal shock and cracking. Heating and cooling times are substantially reduced compared with denser insulation systems. The hearth can be castable, dense firebrick, insulating firebrick or low heat mass ceramic fiber. Insulating firebrick and other insulation systems are also available.



## HEATING ELEMENTS

The intended operating temperature helps determine the type of metallic heating element that is supplied with each furnace. General duty furnaces include coiled wire elements imbedded in the insulation. Heavy-duty furnaces often use heavier rod type elements suspended from hangers.



## CIRCULATING FAN

A circulation fan is an option recommended for temperatures below 1650°F when temperature uniformity and speed of heat up are important. The fan is located in the roof and the drive on top of the furnace. Fan and fan shaft alloys are selected for the temperature and other conditions the furnace will encounter.

## KEITH COMPANY

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## FURNACE DOOR

The vertical rising door opens smoothly on swing arms strongly pinioned to the furnace structure. A counterweight on the rear of the swing arms makes manual door operation easy and safe, while our optional tadpole gaskets around the door perimeter minimize wear and tear on the fiber lining. A door safety switch turns off the heating elements and the optional fan when the door is opened. Pneumatic door opening is a recommended option on larger furnaces.



## CONTROL SYSTEM

The standard system uses a microprocessor three-mode proportioning set-point temperature controller with digital temperature set and LED temperature indication. The control system can be as simple or as complex as desired, and may include programmable control, computer interface, temperature recording, etc.

## SERVICE

Outstanding service begins the first time you contact **Keith** and continues for as long as you own your equipment. We make a point of responding quickly to your questions with reliable technical information. Our field service engineers are ready to help your installation and start-up go smoothly and quickly. **Your success is our goal!**

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