1700 degree C Furnaces – Model – EHSK-12

Keith’s 1700 degree C batch furnaces have been recognized in many industries for superior quality, reliable performance, and versatility for more than 25 years. As advanced materials processing demands have become more rigorous, the FastHeat has kept pace with design and performance improvements to meet a wide variety of specialized requirements. For products including space shuttle tile, nanomaterials and miniature devices, medical ceramics and much more, Keith’s FastHeat furnace delivers state-of-the-art precise, rapid, and repeatable furnace performance with a rugged construction that can last for decades.

The FastHeat is an ideal furnace for pilot scale development, precision batch firing, and research and development testing. Available in both front and bottom loading standard models, the FastHeat is often customized for unique applications with optional performance enhancements such as active cooling, process volatile venting, data recording and communications, product setting systems, and more. Additionally, the FastHeat recently achieved CE certification, delivering extraordinary heating performance that can be dependably and precisely replicated in locations all around the world.

If you need precision, dependability, and specialized 1700 C performance, challenge us with your unique requirements. Our reputation for global leadership in this field is based on helping companies just like yours to succeed.

**Standard Model Data**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rating</th>
<th>Load Dimensions</th>
<th>Outside Dimensions</th>
<th>Voltage</th>
<th>Power</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHSK-12</td>
<td>1700 C</td>
<td>12&quot;W x 15&quot;H x 12&quot;D</td>
<td>3&quot;W x 77&quot;H x 29&quot;D</td>
<td>208/240V, 1 Ph.</td>
<td>14 kW</td>
<td>520 lbs.</td>
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</tbody>
</table>

Load dimensions refer to the actual volume available for setting of material or product for firing. All dimensions are approximate. Custom sizes, higher power ratings, or different voltages are available upon request. All specifications are subject to change without notice.

**Typical Applications**

- Laboratory use
- Purifying ceramic compounds
- Sintering small metal parts
- Thermal Gravimetric Analysis
- Creating ceramic substrates for electronic or medical parts
- Small scale production runs
- Materials testing and research
- Small parts production
- Glass or metal melting
- Co-firing multilayer components
- Sintering of ceramics and metals
Heating Rates

- The Keith FastHeat furnace can heat from ambient temperature to 1500°C in 45 minutes.
- The following curve shows heating rates for different sized loads of ceramic material. This is for a 1700 C model with a 2” lining.

![Heating Rates Graph]

Cooling Rates

The FastHeat furnace is not designed for rapid cooling. An empty furnace can cool to 100°C in less than 7 hours. Introduction of an atmosphere gas and the inclusion of an automated damper can enable faster cooling. The mass and heat storage of your load (product and load fixtures) may slow the cooling rate significantly. In a 1700°C furnace, cooling times of 12 hours are reasonable due to the increased thickness (and strength) of the lining, which retains more heat.

Heat Work Uniformity

Based on a heating rate of 1.5 hours to 1700°C and a 15 minute dwell, the FastHeat furnace can achieve 0.50% uniformity within a 6” x 6” x 6” cube, and 1.60% uniformity within 12” x 12” x 12” cube. Uniformity is measured by the final diameter of a pyrometric temperature rings.