



## Examples of customized furnaces Carbolite has manufactured:



### RHF 15/35 Furnace With Door Interlock

All Carbolite chamber furnaces are fitted with an interlock switch which turns off the elements when the door is opened. However when working at high temperatures with ceramic materials opening the door can damage samples that are sensitive the thermal shock.

This 1500°C [RHF 15/35](#) furnace has been customized to include a door interlock which prevents the up and away door from being lifted until the programmer releases it.

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**Vertical thermal cycling rig for testing of ceramic coatings for turbine blades**

- Maximum operating temperature: 1600 °C
  - Heated length: 1 x single z one of 300 mm
  - Maximum sample weight: 8 kg
  - Automatic process lifts the sample into the heated zone; when the sample thermocouple reaches 1400 °C, a time of 2 hours is counted down and the sample then passes into the quench zone for cooling by fans. When the sample thermocouple reaches 100 °C, the cycle is repeated
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### **RHF14/35 Furnace With Catalytic Afterburner**

***This [RHF 14/35 Furnace](#) with a maximum temperature of 1400°C and a capacity of 35 litres has been equipped with a catalytic afterburner.***

*The furnace is used for research into the production of foamed ceramics for fuel cells.*

*A polyurethane foam is impregnated with a ceramic slip. As the binder and foam burn off the fumes are further combusted to completion within the afterburner. After which the programmable control operates a flue valve so as to protect the catalyst during the subsequent higher temperature sintering of the remaining ceramic matrix.*

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**Double Elevator Hearth Furnace**

***With a maximum operating temperature of 1700°C this dual bogie raised hearth furnace is designed for sintering boron nitride SAPI & ESAPI (enhanced small arms protective insert) plates.***

*The dual hearth system allows one bogie to be loaded and unloaded whilst a second bogie hearth rolls into place and is raised into position. Faster processing without and load turn around can be achieved with consequential energy savings.*

*Raised hearth furnaces are also frequently described as elevator hearth furnaces. With multiple bogie hearths they are an ideal solution for high volume industrial processing at high temperature*