CARBOLITE®
a VERDER company



PRODUCT OVERVIEW

LABORATORY & INDUSTRIAL OVENS & FURNACES TO 3000 °C

A WHOLE WORLD
OF HEATING

PROVIDING OUTSTANDING SOLUTIONS



HEAT TREATMENT TO 3000 °C

CARBOLITE – OVER 85 YEARS OF INNOVATION

The Carbolite brand is synonymous with high quality, leading heat technology in the design and manufacture of laboratory and industrial ovens & furnaces ranging from 30 °C to 3000 °C which are sold globally to over 100 countries.

In 2016 Carbolite (UK) and Gero (Germany) merged to become one company under the name of Carbolite Gero. With the combined product lines, the company has strengthened its market position locally and globally. In 2025 the company rebranded to Carbolite.

Carbolite has two manufacturing and sales sites. One is based in Derbyshire in the United Kingdom, where Carbolite manufactures laboratory and industrial ovens and furnaces up to 1800 °C; the second facility is located in Neuhausen, southern Germany, where high temperature furnaces up to 3000 °C with a large variety of solutions for vacuum and other modified atmospheres have been manufactured since 1982.

In addition to the extensive range of standard products as shown in this catalogue, Carbolite is an expert in the development of customized equipment for complex heat treatment processes. Solving customers' individual application requirements has given Carbolite an important place in aerospace, engineering, materials science, heat treatment, medical, bioscience and contract testing laboratories globally.

Not only can Carbolite supply products with standards-compliant furnace and oven designs (e.g., Nadcap heat treatment processes (AMS2750H)), but also fully traceable certification for control, measurement, recording and data acquisition devices, issued by an independent UKAS accredited laboratory.

All products, and more, featured in this catalogue are available through your local Carbolite office, Verder Scientific office or an extensive network of third-party dealers and sales organisations.



Carbolite,
Neuhausen (Germany)



Carbolite,
Hope (United Kingdom)

1938
Carbolite founded in Sheffield

1966
Production moves from Sheffield to Bamford Mill

1982
Gero founded in Germany

1993
Carbolite relocates to a new site in Hope as Gero relocates to Neuhausen

2012/13
Carbolite and Gero acquired by Verder Group

2016
Companies merged as Carbolite Gero

2025
Carbolite Gero rebranded to Carbolite

Carbolite launches its own temperature controller AriesPlus

OVEN & FURNACE SELECTION

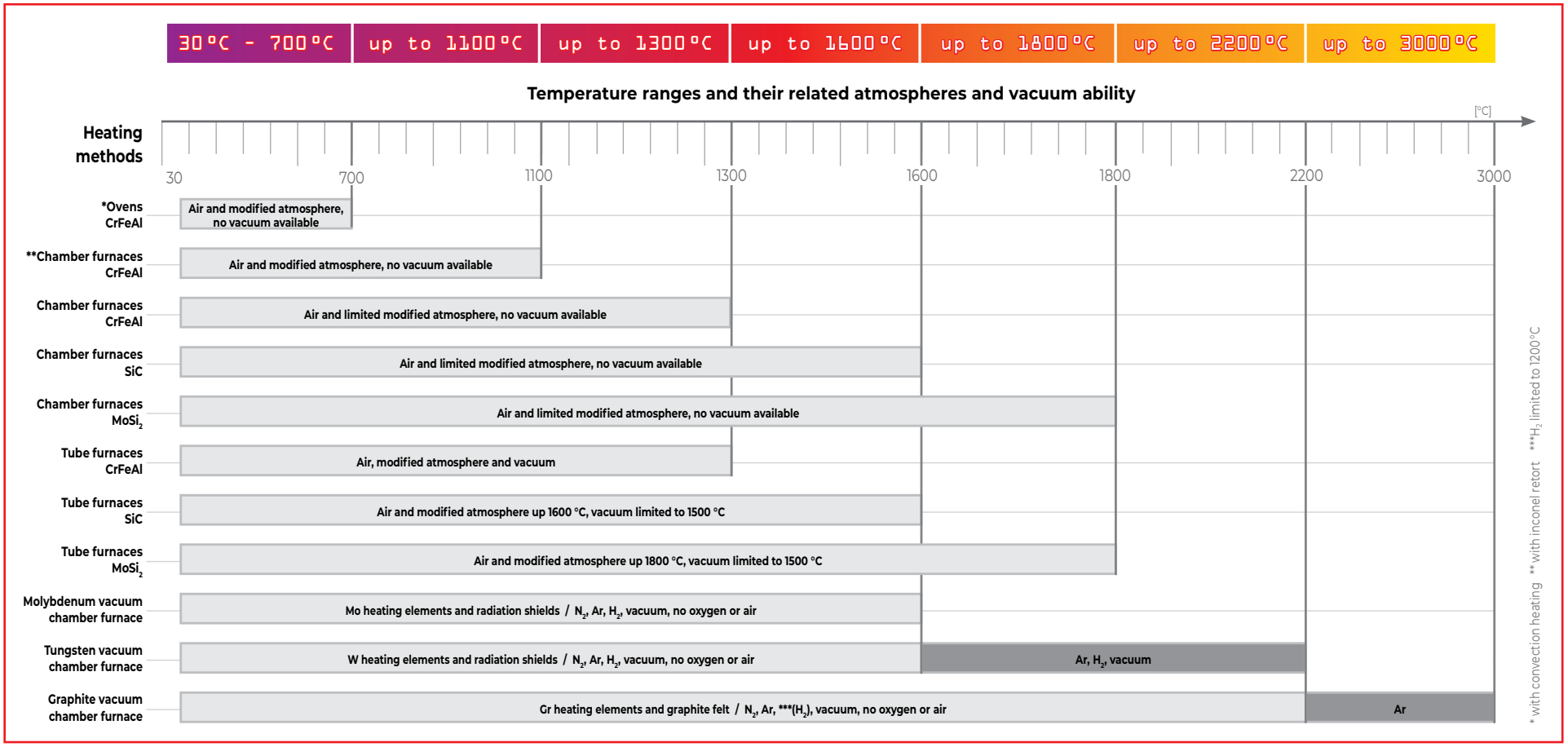
THE CORRECT HEAT TREATMENT FOR EVERY APPLICATION

A critical factor in the use of Carbolite products is the determination of the atmosphere required for a specific heat treatment process. The table below provides an overview of product type, its heating element material and the type of atmospheres or vacuum in relation to the temperature range.

For gas tight ovens below 700 °C modified atmospheres are available but vacuum is not possible.

Standard chamber furnaces are available to run with an air atmosphere up to 1800 °C. Alternatively, vacuum chamber furnaces are available when either a nitrogen, argon or hydrogen atmosphere, or vacuum is required. When working at temperatures above 2200 °C, an argon atmosphere must be used.

Tube furnaces can be used with work tube packages to enable vacuum up to 1500 °C and modified atmospheres up to 1800 °C.





QUALITY COMES
AS STANDARD

OVER 85 YEARS OF EXPERIENCE AND EXPERTISE IN EVERY SINGLE PRODUCT

INDUSTRIES OVERVIEW

Carbolite specializes in advanced heat treatment solutions, ovens and furnaces tailored for a multitude of global industries. Our products meet the specific demands of aerospace, automotive, energy, and research sectors, ensuring precision, efficiency, and reliability. We are committed to innovation and improving industrial processes worldwide.

We adhere to international standards like the Machinery Directive, CE, UL, CSA, and UKAS, ensuring top quality. Our portfolio includes batch and continuous furnaces for various production needs.

Our team of engineers, physicists, chemists, and material scientists offers consultations to align our solutions with your individual needs. Carbolite is dedicated to advancing thermal technology and enhancing industrial processes globally.

LEARN MORE!
Would you like to find out more about our **Industries?** Scan the QR code and discover our solutions.

BUSINESS AREAS

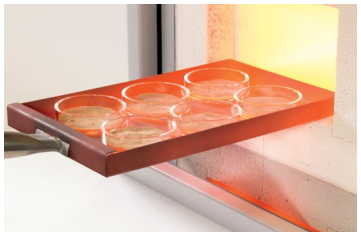
OUR SOLUTIONS FOR YOUR APPLICATIONS


Aerospace


Automotive

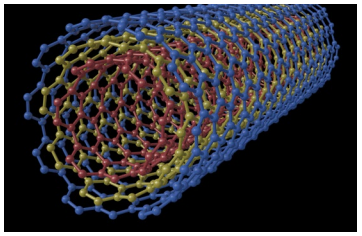

Additive Manufacturing


Annealing

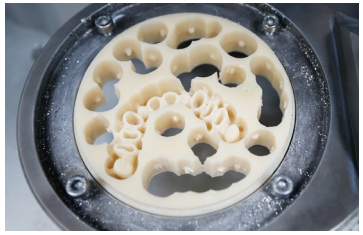

Ashing


Asphalt Binder Analysis


Calcination


Carbon nanotubes


Carbonization


Ceramics / Glass


Chemistry / Plastics


Cement


Coal and coke testing

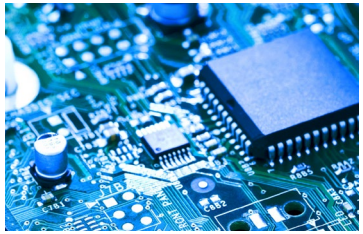

Coal / Power plant / Energy


Crystal Growth


Debinding



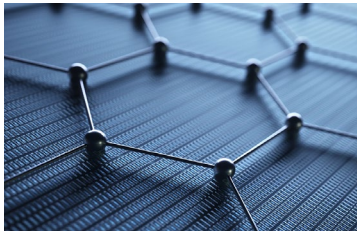
Drying



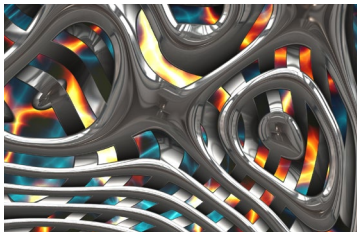
Electronics



Food / Feed



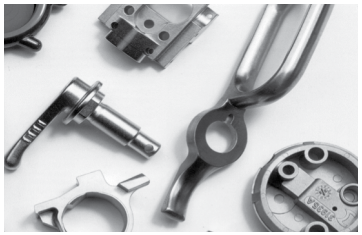
Graphitization



Materials Research



Medical Device / Pharmaceuticals



Metal Injection Moulding (MIM)



Pyrolysis



Research / University



Sintering



Steel / Metallurgy



Smelting



Technical Ceramics



Thermocouple Calibration



Vacuum Soldering & Brazing

HEATING APPLICATIONS

Carbolite offers a wide range of ovens and furnaces for over 70 applications across various industries. Our focus on innovation and quality ensures advanced thermal processing solutions tailored to client needs. Key areas include Additive Manufacturing, Crystal Growth, Debinding & Sintering, Graphitization, Stress Relieving, Vacuum Soldering, and Brazing.

These critical applications advance manufacturing techniques, enhance material properties, and ensure component integrity. By concentrating on these areas, Carbolite supports cutting-edge technologies and improves industrial processes. Our ovens and furnaces provide precision, control, and reliability, making Carbolite a trusted partner in thermal processing.

LEARN MORE!
Would you like to find out more about our **Heating Applications?** Scan the QR code and discover our solutions.

LABORATORY OVENS

Carbolite offers several oven ranges with different maximum operating temperatures from 250 °C to as high as 600 °C with minimum working temperatures of ambient +30 °C to +60 °C.

Our smallest bench mounted oven has a capacity of 30 litres, but larger standard volume ovens up to 2,160 litres are available.

Simple ovens have heating elements mounted in the base of the chamber, and are not fitted with fans. Instead, air is circulated via convection.

In fan convection ovens, the heating elements are located on the side of the oven chamber. On smaller ovens, the fan blows air through an air guide, over the heating elements, and around the chamber.

On larger ovens, where a more complex air guide is required, the fan pulls air over the heating elements. The fan action thoroughly mixes the heated air before blowing it around the chamber. This provides a uniform volume within the oven chamber for applications that require a specific temperature uniformity.

LABORATORY OVENS

EXCELLENT TEMPERATURE UNIFORMITY AND EASE OF USE

LABORATORY OVEN LHT

- Fan oven: Forced convection
- Max temp: 400 °C to 600 °C
- Min temp: Ambient +60 °C
- Volume: 30 to 120 litres



LABORATORY OVEN PN & PF

- Natural or forced convection
- Max temp: 300 °C
- Min temp: Ambient +30 °C
- Volume: 57 to 230 litres



INDUSTRIAL OVENS

IDEAL FOR HEAVY DUTY APPLICATIONS



INDUSTRIAL OVEN GP

- Max temp: 300 °C
- Volume: 220 to 450 litres
- Vertical or Horizontal airflow



INDUSTRIAL OVEN LGP

- Max temp: 425 °C to 700 °C
- Volume: 500 to 1,750 litres
- Single & double door models



INDUSTRIAL OVEN HT

- Max temp: 400 °C to 700 °C
- Volume: 95 to 343 litres
- Robust construction



INDUSTRIAL OVEN HTMA

- Max temp: 400 °C to 700 °C
- Volume: 95 to 220 litres
- Modified for inert atmospheres



INDUSTRIAL OVEN HTCR

- Max temp: 400 °C to 600 °C
- Volume: 95 to 220 litres
- SO 14644-1 Class 5 or 6 compliance

INDUSTRIAL OVENS

Typical applications for our industrial ovens include drying, tempering, or curing components. In addition to these applications, all of the industrial ovens that we offer can be highly customised, and are therefore able to completely fulfil the demanding requirements of many different industries.

For applications such as heat treatment processes compliant to Nadcap or AMS 2750H standards, our general purpose and high temperature industrial ovens can all be modified to include sophisticated control systems and data recording. All modifications must be specified at the time of order.

Carbolite industrial ovens deliver precise and reliable thermal processing for diverse applications. With temperature ranges up to 700°C, these ovens are engineered for accuracy and performance. They support both air and modified atmosphere operation, ensuring flexibility for sensitive materials or specialized processes. Robust construction, advanced controls, and a variety of chamber sizes make Carbolite ovens the trusted choice for laboratories, manufacturing, and research environments worldwide.

OPTIONS & ACCESSORIES

Air, inert gas atmosphere and vacuum work tube packages options are available for tube furnaces, along with vacuum pump packages and gas safety systems for working with flammable gases. Vertical packages are available to enable tube furnaces to be mounted in a vertical orientation.

Carbolite offers vacuum pumps or complete pumping systems with appropriate vacuum measuring technology.

We also offer accessories and consumables including crucibles, boats, tongs, etc. along with personal safety equipment including face protection and a variety of heat resistant gloves.



TUBE FURNACE CONFIGURATIONS

FLEXIBILITY TO SUIT ANY APPLICATION

MOUNTING CONFIGURATIONS

Carbolite supplies a wide range of tube furnace mounting configurations, suiting any customer specification.

Most Carbolite tube furnaces are supplied in a horizontal configuration as standard. Vertical packages are available to support the tube furnace and work tube in a vertical configuration.

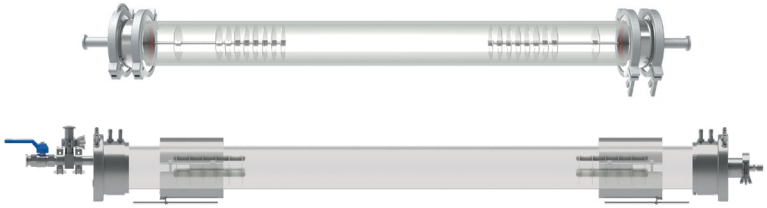


TS tube furnace converted to vertical use with a vertical package.

WORK TUBE PACKAGES

Work tube packages are available for all Carbolite tube furnaces. Work tube packages for use with air, inert atmosphere, or vacuum combine all the accessories required for the majority of users applications.

Each package comprises a work tube with insulation plugs or radiation shields appropriate for the operating atmosphere. End seals are included for the inert atmosphere and vacuum packages.



Examples of work tube packages

VACUUM PUMP PACKAGES

Both rotary vane pump (5 x 10^{-2} mbar) and turbo-molecular pump (5 x 10^{-5} mbar) packages are available. A vacuum pump package consists of vacuum pump, inert gas package module, vacuum gauge, vacuum tight valve, bypass for fast purging, gas outlet valve and safety overpressure valve.

Combining a vacuum pump package with a work tube vacuum package offers a complete solution for horizontal tube furnaces. Please contact Carbolite for assistance.



TF tube furnace combined with the Rotary vane pump package and vacuum work tub package

TUBE FURNACES

IDEAL FOR HEATING SMALL SAMPLES



TUBE FURNACE TF (Universal)

- Max temp: 1100 °C to 1600 °C
- Heated lengths 150 to 1200mm
- Furnace Ø: 32 to 125 mm
- 1 or 3 heated zones



TUBE FURNACE TS (Split)

- Max temp: 1200 °C
- Heated lengths 150 to 1200mm
- Furnace Ø: 60 to 200 mm
- 1 or 3 heated zones



TUBE FURNACE TG (Gradient)

- Max temp: 1200 °C
- Heated lengths 425 or 600mm
- Furnace Ø: 60 to 125 mm
- 2 or 3 heated zones



TUBE FURNACE F-Range

- Max temp: up to 1350 °C
- Heated length 200 to 1250mm
- Furnace Ø: 40 to 150 mm
- Split and non-split, 1 or 3 heated zones



TUBE FURNACE H-Range

- Max temp: 1700 °C to 1800 °C
- Heated length 100 to 600 mm
- Furnace Ø: 47 to 200 mm
- Split and non-split, 1 or 3 heated zones



TUBE FURNACE HTRV-A-Range

- Max temp: 1600 °C to 1700 °C
- Heated length 120 to 1700 mm
- Furnace Ø: 70 to 100 mm
- Split, 1 heated zone

TUBE FURNACES

Carbolite's range of tube furnaces are frequently selected as the most economical way of heating a small sample with our standard tube furnaces capable of operating between 1100 °C and 1800 °C.

Our power-efficient tube furnace design significantly lowers the overall power consumption required for every heating cycle. This, in turn, reduces the day-to-day running costs and can improve your Return on Investment.

Tube furnaces enable rapid temperature changes on the sample and are available with single, three zone or gradient heating capabilities.

Tube furnaces can easily be configured with an inert atmosphere or a vacuum if required and provide a high level of temperature uniformity.

Our TF, TS and TG models are supplied in a horizontal configuration as standard, but can also be operated when dismounted from the control box or mounted vertically with the addition of the vertical package.



DESIGNED
TO PERFORM

HIGH QUALITY COMPONENTS AND EXACTING STANDARDS

TUBE FURNACE VARIATIONS

IDEAL FOR DEFINED ATMOSPHERES



BATCH TUBE FURNACE TSO (Oscillatory Reactor Furnace)

- Max temp: 1100 °C
- Heated length 400 to 1000 mm
- 1 or 3 heated zones



CONTINUOUS TUBE FURNACE TSR (Rotary Reactor Furnace)

- Max temp: 1100 °C
- Heated length 1000 mm, 125 mm diameter
- 1 or 3 heated zones



CRYSTAL GROWTH FURNACE BV-HTRV (Bridgman-Stockbarger)

- Max temp: 1450 °C vacuum, 1800 °C atmosphere
- Rotation of the ampule
- Precisely defined and controlled pulling speed



SLEDGE QUENCH FURNACE IQ-S (Horizontal Quench Furnace)

- Max temp: 1300 °C
- Heated length 500 to 1000 mm
- Thermal Cycling possible



LIQUID QUENCH FURNACE IQ-L (Vertical Quench Furnace)

- Max temp: 1800 °C
- Heated length 200 to 500 mm
- Rapid quench with liquids



AUTOMATED FURNACE MOVEMENT SYSTEM IQ-M (Quench Furnaces)

- Max temp: 1300°C
- Vacuum, inert gas or reactive gas
- Quenching of small parts

MODIFIED TUBE FURNACES

In the field of material science and engineering, tube furnace variations are key developments, particularly for heat treatment processes. Slider technology and a rotary reactor, supports a wide range of uses, including crystal growth experiments and drop quench techniques.

The slider technology at the core of this furnace allows for detailed control of the furnace's interior conditions. This means temperatures can be adjusted very accurately, which is crucial for growing high-quality crystals, especially when materials need to have consistent properties.

Adding a rotary reactor to the tube furnace makes it flexible for both continuous and batch processes, improving efficiency and adaptability in production. The rotary feature ensures materials are evenly heated, which is important for consistent treatment results no matter the scale of production.

LABORATORY FURNACES

An extensive range of chamber / muffle furnaces is available for your laboratory.

Whether you need a small bench mounted affordable solution or a high temperature furnace built to the highest quality, Carbolite has a model that is sure to meet your needs and budget.

Ranging from the entry level ELF models at 1100 °C through to the laboratory sized HTF model with a maximum temperature of 1800 °C, our eight decades of experience in building quality furnaces for customers across the globe, has ensured that the Carbolite name is synonymous with Leading Heat Technology.

Whether you require a front, top or bottom loading chamber furnace, our extensive portfolio ensures there is an appropriate solution to meet your needs. However, our bespoke design service allows us to meet almost every scenario where a standard solution would not meet your requirements.

LABORATORY FURNACES

HIGH TEMPERATURE FURNACES BUILT TO THE HIGHEST QUALITY



LABORATORY FURNACE ELF

- Entry level furnace
- Max temp: 1100 °C
- Volume: 6 to 23 litres



LABORATORY FURNACE CWF

- General purpose
- Max temp: 1100 °C to 1300 °C
- Volume: 5 to 65 litres



LABORATORY FURNACE RWF

- Rapid heating from 3 sides
- Max temp: 1100 °C to 1200 °C
- Volume: 5 to 23 litres



LABORATORY FURNACE RHF

- High temperature
- Max temp: 1400 °C to 1600 °C
- Volume: 3 to 35 litres



LABORATORY FURNACE HTF

- High temperature
- Max temp: 1700 °C to 1800 °C
- Volume: 4 to 10 litres



LABORATORY FURNACE BLF

- High temperature
- Max temp: 1600 °C to 1800 °C
- Volume: 3 litres

ASHING FURNACES

FOR ALL APPLICATIONS & INDUSTRIES



LABORATORY FURNACE AAF

- Ashing furnace
- Max temp: 1100 °C to 1200 °C
- Volume: 5 to 32 litres



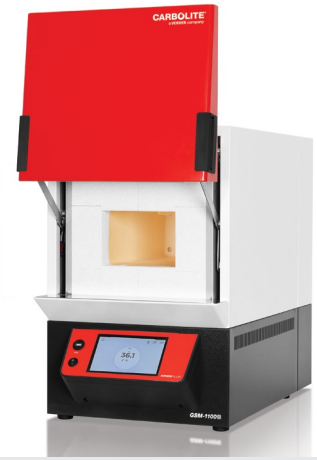
LABORATORY FURNACE ABF

- Ashing furnace with thermal afterburner
- Max temp: 800 °C
- Volume: 28 litres



SPECIAL APPLICATIONS VMF 10/6 (Volatile Matter Furnace)

- Max temp: 1000 °C
- Test to ISO 562:2010
- Volume: 6 litres



ACID RESISTANT ASHING FURNACE GSM 11/8

- Max temp: 1100 °C
- Withstands fumes of H_2SO_4, HNO_3, HCl
- Volume: 8 litres

GENERAL FACTS

Typically, an ashing furnace is designed to promote a high level of airflow through the chamber to aid sample combustion and remove the smoke created during processing.

The air is guided through the furnace insulation assembly to ensure that it is pre-heated before entering the chamber; this reduces the risk of inadvertently lowering the temperature during processing. The increased airflow also serves to carry any smoke and volatiles from the chamber and out of the exhaust.

An optional afterburner or thermal catalytic oxidiser fitted to the exhaust can further reduce the emissions escaping into the surrounding atmosphere. Because of the risk that exhaust fumes and volatiles emitted from samples could damage the heating elements, an ashing furnace is often fitted with silicon carbide (SiC) protection tiles that sit within the furnace chamber and provide a barrier between the samples and the heating elements.

In smaller models, the heating elements are wrapped around the outside of a ceramic muffle, into which samples are placed. The muffle contains the smoke and volatiles produced by the process, whilst protecting the heating elements from contamination.

For tests or processes where alumina/silica dust could contaminate results, or react with the sample to produce corrosive vapours, a fused quartz chamber may be necessary to protect both the furnace and the process.

INDUSTRIAL FURNACES

Our industrial furnaces are designed and built to be extremely hard-wearing, safe, and easy to service. Solutions are available in various sizes, from compact bench mounted units, to large floor standing models. Maximum temperatures of up to 1800 °C are available.

They can be built and supplied with a wide range of options to closely meet customer needs. The available options vary but include over-temperature protection and a range of digital controllers, multi-segment programmers, and data loggers.

Typical applications of industrial furnaces include soldering, heat treatment of steels and alloys, and ceramics sintering.

The modular design of our static or bogie chamber furnace allows it to fulfil a number of different roles, and the versatility of our general purpose industrial chamber furnace makes it ideal for batch processing.

INDUSTRIAL FURNACES

FURNACES FOR BATCH PROCESSING



INDUSTRIAL FURNACE GPC

- Max temp: 1200 °C to 1300 °C
- Volume: 131 to 400 litres
- Vertical lift door for safety



INDUSTRIAL FURNACE HTF

- Max temp: 1700 °C to 1800 °C
- Volume: 27 to 165 litres
- Molybdenum disilicide elements



INDUSTRIAL FURNACE HB

- Top Hat furnace
- Max temp: 1700 °C to 1800 °C
- Volume: 80 to 240 litres



AM FURNACE GLO 8/13

- Max temp: 1300 °C
- Volume: 8 litres
- Debinding & Sintering for AM parts



INDUSTRIAL FURNACE GLO

- Max temp: up to 1100 °C
- Volume: 5 to 1,300 litres
- Integrated vacuum retort



INDUSTRIAL FURNACE GPCMA

- Max temp: 1150 °C
- Volume: 37 to 245 litres
- Metallic retort for atmospheres

VACUUM FURNACES

HIGH TEMPERATURE FURNACES BUILT TO THE HIGHEST QUALITY



CATALYTIC DEBINDING EBO

- Max temp: 150 °C
- 25 to 250 litres
- Catalytic debinding of BASF feedstock



VACUUM FURNACE HTK

- Max temp: up to 2800 °C
- Volume: 8 to 600 litres
- Graphite, Molybdenum or Tungsten



HOOD FURNACE HBO

- Max temp: up to 2200 °C
- Volume: 25 to 100 litres
- Fine or high vacuum



QUARTZ HOOD FURNACE V-L

- Max temp: up to 1050 °C
- Higher temperatures upon request
- Volume: 10 to 95 litres
- Fine vacuum, High vacuum, Soldering & Brazing



LABORATORY FURNACE LHTx

- Max temp: up to 3000 °C
- Volume: 1.5 to 10 litres
- Graphite, Molybdenum or Tungsten



BOTTOM LOADER FURNACE HTBL

- Max temp: up to 2200 °C
- Volume: 10 to 100 litres
- Fine or high vacuum

VACUUM FURNACES

The vacuum furnace range offered by Carbolite includes vacuum chamber furnaces, vacuum hood furnaces, bottom loading furnaces, laboratory vacuum furnaces, and vacuum tube furnaces. Each furnace can be used with either a reactive gas or an inert gas. The majority of products in our vacuum furnace range are available with either metal, graphite, or ceramic insulation.

Many different options are available for the vacuum furnaces range at the order stage, including advanced software, data loggers, and sophisticated digital controllers. These facilitate additional levels of control over the operation of the vacuum furnace and provide complete data recording capabilities. Furthermore in some cases different pumps, vacuum systems, and cooling systems can be provided in order to meet specific requirements.

All of our vacuum furnaces feature a robust construction and can provide rapid and highly consistent heating in a controlled atmosphere, making them ideal for numerous heavy duty industrial and laboratory applications.

Common applications of a vacuum furnace include brazing, sintering, annealing, degassing, drying, tempering, soldering, quenching, and hardening. A vacuum furnace can also be used for metal injection moulding (MIM) or ceramic inject moulding (CIM) as well as metallisation, Liquid Silicon Infiltration, carbonisation, and other industrial processes.

APPLICATION SPECIFIC FURNACES

Carbolite provides an extensive selection of furnaces, each specifically designed for particular processes.

Asphalt Binder Analyzer: This device is used for determining the binder loss in asphalt, which helps in assessing the organic content of the sample. It's essential for quality control in road construction materials, ensuring the organic content is below 11%.

Precious Metal Furnaces CF & SCF: These robust furnaces are designed for smelting and purifying ores to extract noble metals. Features like SiC heating elements and bricked chamber insulation contribute to their durability, making them superior in longevity compared to other similar products.

MTT furnace for Isotope Analysis: In the nuclear sector or labs conducting isotope analysis, these furnaces are essential for determining the amounts of isotopes like ^{14}C or ^{3}H (Tritium), providing crucial data for dating soil samples or measuring low-level radioactivity. They come fully equipped with necessary accessories and guidelines for conducting experiments.

APPLICATION SPECIFIC

SOLUTIONS FOR YOUR BUSINESS



SPECIAL APPLICATIONS ABA (Asphalt Binder Analyzer)

- Max temp: 750 °C with integral balance
- Max temp afterburner: 950 °C
- Max sample weight: 4500g



PRECIOUS METALS CF (Cupellation Furnace)

- Max temp: 1200 °C
- Chamber vol: 10 to 43 litres
- Meets ISO 114296:1999



Tritium & C14 Furnace

- Max temp: 1200 °C
- Originally developed in partnership with AEA Technology



PRECIOUS METALS SCF (Smelting Furnace)

- Max temp: 1400 °C
- specificially designed for fire assaying
- 4 – 48 crucibles



TEMPERATURE CONTROL

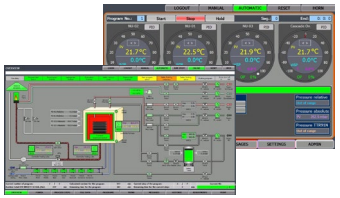
CONTROLLERS FROM MANUAL TO FULL AUTOMATION



NEW Carbolite Temperature Controller







TEMPERATURE CONTROLLER FEATURES AND OPTIONS

Temperature controller model	NEW AriesPlus	EPC3016P1	EPC3008P10	CC-T1	nanodac	TP1200	TP1900
FURNACE CONTROL							
Number of programs	50	1	10	10	100	20	20
Number of segments per program	99	24	24	24	25	12	25
Relay operated options	4 optional	2	3	2	3	6	10
Cascade control	Yes	No	No	Optional	Optional	Yes	Yes
Auto tune	Yes (multiple temps)	Yes	Yes	Yes	Yes	Yes	Yes
USER INTERFACE							
Screen Resolution	TFT colour 1024 x 600	4 digits + 16 segment scrolling text	4.5 digits + 5 character 16 segment text + 16 segment scrolling text	TFT colour LCD 480 x 272 pixels	TFT colour LCD 320 x 240 pixels	TFT colour 1280 x 800 pixels	TFT colour 1280 x 800 pixels
Screen size (inch)	7.0"	1.6"	2.5"	4.3"	3.5"	12.1"	19"
Interface	Touchscreen	4 buttons	4 buttons	Touchscreen	4 buttons	Touch	Touch
Start time configurable	Yes	No	No	Yes	Optional	Yes	Yes
Real-time clock with calendar	Yes	No	No	Yes	Yes	Yes	Yes
Data logging of process data with USB-flash drive	Yes	No	No	Yes	Yes	Yes	Yes
Data logging to secure file	No	No	No	No	Yes	No	Optional
User levels	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Program names displayed	Individual program name	Program number	Program number	Individual program name	Individual program name	Individual program name	Individual program name
Choice of languages	9	5	5	8	5	2	2*
COMMUNICATIONS							
Ethernet communication connection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RS232 / RS485 communication connection	No	Special	Special	No	No	No	No
USB connection for data export	Yes	No	No	Yes	Yes	Yes	Yes
Ethernet to USB adapter	Optional	Optional	Optional	Optional	Optional	No	No
Remote Access	Remote view by browser	iTools	iTools	iTools	iTools	VNC or TeamViewer	VNC or TeamViewer

* local languages available on request

TEMPERATURE CONTROL

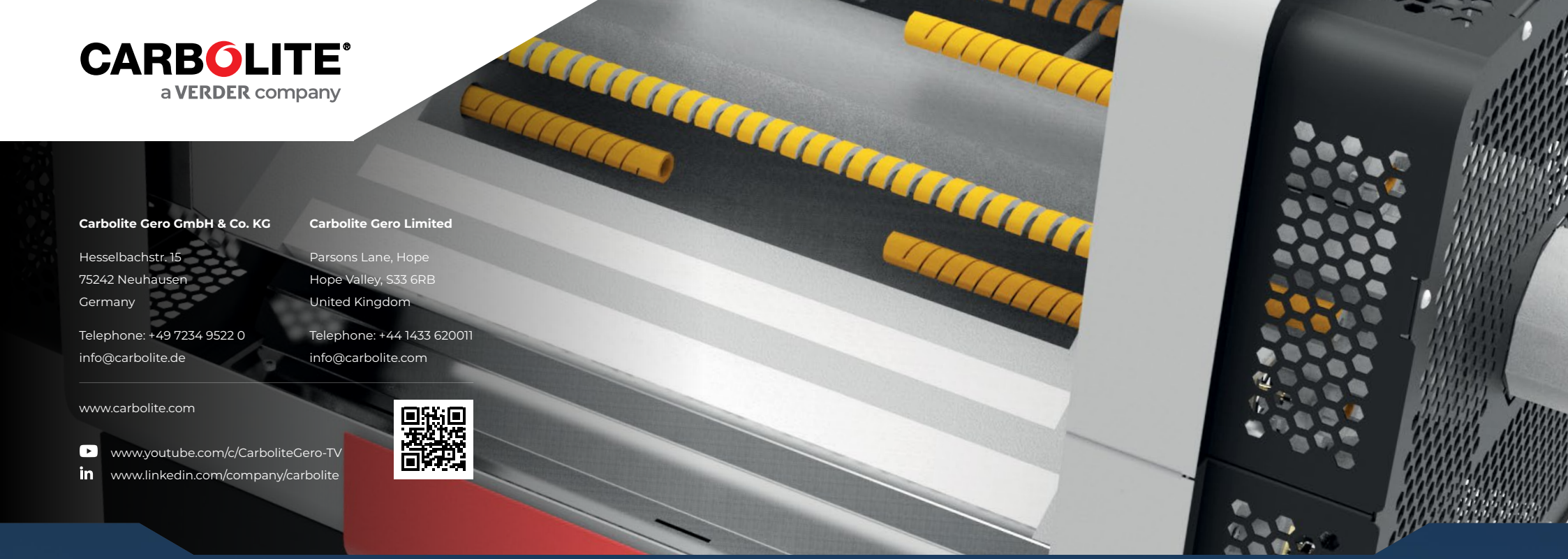
Our ovens and furnaces can be fitted with a range of high-quality PID (Proportional, Integral, Derivative) temperature controllers which provide accurate temperature control that closely follows programmed ramp rates and setpoint temperatures.

Our recently launched AriesPlus touch screen interface provides intuitiv access to a comprehensive menu that includes: selection and editing of program profiles; scheduling of programs at a defined date/time; data logging of setpoint and actual temperature; localization of language and user level security. The AriesPlus series can also store and retreive 50 unique program profiles. Data logging is to a .csv file which is accessed through the adjacent USB port or a browser when connected to an Ethernet network.

The TP1200 and TP1900 HMI interfaces are primarily installed on our vacuum furnaces, enabling complex configurations and setups alongside easy-to-understand operations with detailed schematics. Moreover, the TP1900 interface includes a thorough pre-run health assessment of the furnace.

In an increasingly connected world, all of our temperature controllers are fitted with Ethernet as standard to ensure secure remote access to both the oven or furnace and to all the data as it accumulates.

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VERDER enables organizations worldwide to achieve economic, technological, and environmental progress through advanced scientific applications, making the world healthier, safer, and more sustainable.

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