



# MODIFIED ATMOSPHERE CHAMBER FURNACE - GPCMA

The GPCMA modified atmosphere chamber furnaces are equipped with a metallic retort to provide a heated volume with a controlled atmosphere. They are floor-standing models with a smooth action hinged door arrangement.

Available with a range of maximum temperature from 1000 °C to 1150 °C dependent on the selected retort material. Retort working volumes range from 37 to 245 litres.

Oxygen levels can be reduced to 30 ppm depending on the application. Perfect for stress relieving additive manufactured components particularly those produced via DMLS. This range of furnaces can be optionally specified for compliance to AMS2750F Nadcap class 1 for aerospace applications.



[Click to view video](#)

Product Video: Modified Atmosphere Chamber  
Furnace - GPCMA

## STANDARD FEATURES

- | A range of maximum temperatures dependant on retort material:
  - 310 Stainless Steel: 1000 °C max
  - 314 Stainless Steel: 1050 °C max
  - Inconel 601: 1100 °C max
  - Haynes 230: 1150 °C max
- | Programmable 3508P1 controller
- | 2-zone cascade control
- | Over-temperature protection
- | 37, 56, 117, 174, 208 or 245 litre retort working volume
- | Semi-automatic gas system with analogue flowmeters for nitrogen or argon
- | Free radiating coiled wire elements on two sides, the roof and under the hearth (37 litre: two sides and under hearth)
- | Low thermal mass insulation for fast response & energy efficiency
- | Smooth action double pivot door shields the user from excessive heat
- | Type R control thermocouples
- | Type K internal retort thermocouple
- | Silicone rubber water cooled door seal
- | Door safety interlock

## OPTIONS (*SPECIFY THESE AT TIME OF ORDER*)

- | A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications - more information
- | Vacuum option ( $10^{-2}$  mbar) for faster atmosphere exchange at room temperature only. No heat treatment under vacuum possible. A vacuum retort **MUST** be ordered with this option
- | Semi-automatic gas system with analogue flowmeters for argon
- | Semi-automatic gas system with digital flowmeters
- | Automatic gas system with gas monitoring and control with mass flow controllers
- | Oxygen monitoring system with 3504 programmer
- | Forced cooling system
- | Active afterburner torch option (propane or methane with pressured air; NOT compatible with vacuum option/vacuum retorts)
- | Chiller unit, 5 litre/min, 1 kW
- | Loading trolley
- | AMS2750F Nadcap compatible models are available for aerospace applications
- | Various loading and unloading options can be supplied

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# EXAMPLES



GPCMA /174 fitted with optional compliance to AMS2750G class 1 / type A



GPCMA /174 with PLC controlled gas system, HMI touch panel and afterburner with heated gas outlet. Designed to fit against a clean room wall opening.

## TECHNICAL DETAILS (MODELS)

	<b>GPCMA/37</b>	<b>GPCMA/56</b>	<b>GPCMA/117</b>
<b>Retort Volume (litres)</b>	37	56	117
<b>Max temp (°C)</b>	1000 - 1150 (dependant on retort material)	1000 - 1150 (dependant on retort material)	1000 - 1150 (dependant on retort material)
<b>Dimensions: External H x W x D (mm)</b>	1990 x 1180 x 1470	1846 x 1260 x 1725	1896 x 1360 x 1875
<b>Dimensions: Retort Internal Size H x W x D (mm)</b>	205 x 337 x 538	229 x 400 x 610	279 x 500 x 840
<b>Dimensions: Uniform Volume H x W x D (mm)</b>	100 x 250 x 300	150 x 275 x 300	200 x 400 x 550
<b>Max power (W)</b>	17000	24000	30000
<b>Weight (kg)</b>	220	485	608

	<b>GPCMA/174</b>	<b>GPCMA/208</b>	<b>GPCMA/245</b>
<b>Retort Volume (litres)</b>	174	208	245
<b>Max temp (°C)</b>	1000 - 1150 (dependant on retort material)	1000 - 1150 (dependant on retort material)	1000 - 1150 (dependant on retort material)
<b>Dimensions:</b>			
<b>External H x W x D (mm)</b>	2045 x 1360 x 1875	2045 x 1360 x 2025	2145 x 1460 x 2025
<b>Dimensions:</b>			
<b>Retort Internal Size H x W x D (mm)</b>	428 x 500 x 815	428 x 500 x 970	500 x 600 x 815
<b>Dimensions:</b>			
<b>Uniform Volume H x W x D (mm)</b>	350 x 400 x 550	350 x 400 x 750	400 x 500 x 550
<b>Max power (W)</b>	36000	39000	45000
<b>Weight (kg)</b>	705	800	950

[www.carbolite.com/gpcma](http://www.carbolite.com/gpcma)