Modified Atmosphere Chamber Furnace - GPCMA

General Information

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 AMS2750E Nadcap class 1 for aerospace applications.

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
- 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 double hinged 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)

- 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
- Oxygen monitoring system with Nanodac 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
- A range of sophisticated digital controllers, multi-segment programmers

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and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications
- AMS2750E Nadcap compatible models are available for aerospace applications
- Various loading and unloading options can be supplied

Technical Specifications

GPCMA/37	
Retort Volume (litres)	37
Max temp (°C)	1000 - 1150 (dependant on retort material)
Dimensions: External H x W x D (mm)	1990 x 900 x 1326
Dimensions: Retort Internal Size H x W x D (mm)	205 x 337 x 538
Dimensions: Uniform Volume H x W x D (mm)	100 x 250 x 300
Max power (W)	17000
Weight (kg)	220

GPCMA/56	
Retort Volume (litres)	56
Max temp (°C)	1000 - 1150 (dependant on retort material)
Dimensions: External H x W x D (mm)	1846 x 1260 x 1725
Dimensions: Retort Internal Size H x W x D (mm)	238 x 400 x 665
Dimensions: Uniform Volume H x W x D (mm)	150 x 275 x 300
Max power (W)	24000
Weight (kg)	485

GPCMA/117	
Retort Volume (litres)	117
Max temp (°C)	1000 - 1150 (dependant on retort material)
Dimensions: External H x W x D (mm)	1896 x 1360 x 1875
Dimensions: Retort Internal Size H x W x D (mm)	278 x 500 x 815
Dimensions: Uniform Volume H x W x D (mm)	200 x 400 x 550

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Max power (W)	30000
Weight (kg)	608

GPCMA/174

Retort Volume (litres)	174
Max temp (°C)	1000 - 1150 (dependant on retort material)
Dimensions: External H x W x D (mm)	2045 x 1360 x 1875
Dimensions: Retort Internal Size H x W x D (mm)	428 x 500 x 815
Dimensions: Uniform Volume H x W x D (mm)	350 x 400 x 550
Max power (W)	36000
Weight (kg)	705

GPCMA/208

Retort Volume (litres)	208
Max temp (°C)	1000 - 1150 (dependant on retort material)
Dimensions: External H x W x D (mm)	2045 x 1360 x 2025
Dimensions: Retort Internal Size H x W x D (mm)	428 x 500 x 965
Dimensions: Uniform Volume H x W x D (mm)	350 x 400 x 750
Max power (W)	39000
Weight (kg)	800

GPCMA/245

Retort Volume (litres)	245
Max temp (°C)	1000 - 1150 (dependant on retort material)
Dimensions: External H x W x D (mm)	2145 x 1460 x 2025
Dimensions: Retort Internal Size H x W x D (mm)	500 x 600 x 815
Dimensions: Uniform Volume H x W x D (mm)	400 x 500 x 550
Max power (W)	45000
Weight (kg)	950