1200 SERIES

LABORATORY BOX FURNACES 1200°C (2192°F)

The most reliable and widely used lab furnaces available today, the CM 1200 Lab Box Furnaces offer controlled heating and cooling rates, uniform temperature control, compactness, and sturdy construction for long term use. Configurations are available for virtually any requirement with three basic configurations including front loading, bottom loading and front loading atmosphere retort. Thermal cycling systems, as well as custom designs and specialized control systems are offered.

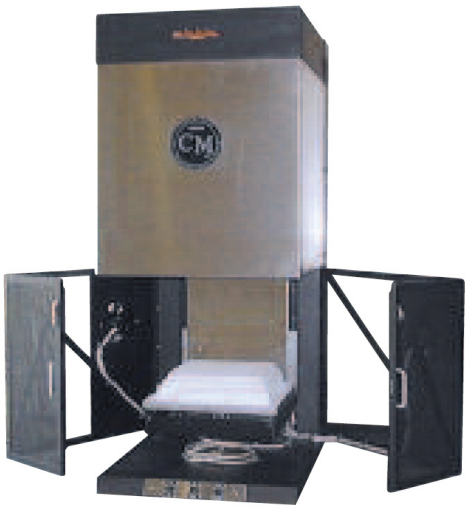
The 1200 Series furnaces incorporate a graded insulation package using high purity alumina fiber. These furnaces will not hot spot at high temperatures and are resistant to degradation. The double wall shell construction allows the fan cooling feature to maintain reduced skin temperatures while keeping the element terminals cool.

The heating elements consist of Kanthal A1 wire embedded in ceramic plate heaters. The elements are kept independent of the furnace insulation for more efficient operation and much longer life than vacuum formed element/insulation combinations. Four-sided heating is offered to ensure uniform temperature control. The Kanthal A1 alloy in these elements is very durable at high temperatures, due to the formation of a protective oxide layer formed by reaction with the oxygen in air.

The 1200 Series Control and Power Supply console includes all components required for immediate installation and operation. Proper control of Kanthal A1 plate heaters requires a zero-crossover SSR, firing indicating light, circuit breaker and a multiple segment programmable control such as Honeywell or Eurotherm used in conjunction with a Type "N" thermocouple.

The atmosphere retort configuration includes a high quality nickel alloy retort with gas inlet and outlet ports located through the rear wall of the furnace and a water-cooled o-ring sealed front door with positive latching. Both inert and reducing atmosphere systems are offered. CM Furnaces' time-tested hydrogen atmosphere safety package includes a gas burnoff with dual electric ignitor system, process and safety gas pressure sensors, automatic switching of atmospheres and automatic shutdown with alarms. The retort system maximum use temperature is 1150°C (2100°F).

Model 1212 Front Loader With Retort

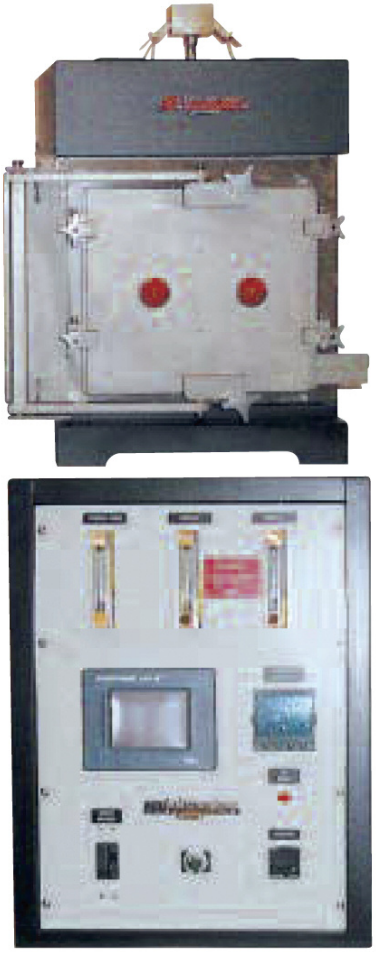


Model 1216 Bottom Loader

USED FOR THESE AND OTHER APPLICATIONS:

- Ceramics
- Glass
- Powders
- Laboratory Research
- Materials Testing
- Thermal Cycling
- Brazing
- Heat Treating
- Melting
- Annealing
- Firing
- Sintering
- Cleaning
- Reducing

SPECIFICATIONS



Model 1210 FL with Retort and Hydrogen Safety System

FULL SYSTEM INCLUDES:

- Double Shell Construction
- High Purity Alumina Fiber Insulation
- Heating Elements consisting of Kanthal A1 Wire Embedded in Ceramic Plates
- Cubed Chamber for Best Uniformity
- Fan Cooling of Element Terminals
- Type "N" Thermocouple
- Programmable Ramp and Soak control
- Zero-Crossover SSR Power Controller
- SSR Firing Indicator Light
- Separate Controls/Power Supply Console
- 10' Interconnecting Wire and T/C Extension Leads

CONFIGURATIONS:

- Front Loading Box Furnace (FL)
- Bottom Loading Box Furnace (BL)
- Atmosphere Retort Box Furnace (FL)
- Thermal Cycling Box Furnace (BL)
- Custom Materials Testing Configurations

STANDARD SIZES (ADDITIONAL SIZES AVAILABLE)

MODEL	1208 FL/BL (in)	1208 FL/BL (mm)	1210 FL/BL (in)	1210 FL/BL (mm)	1212 FL/BL (in)	1212 FL/BL (mm)	1216 FL/BL (in)	1216 FL/BL (mm)	1218 FL/BL (in)	1218 FL/BL (mm)
Chamber WxHxD	8 x 8 x 8	203 x 203 x 203	10 x 10 x 10	254 x 254 x 254	12 x 11 x 12	305 x 279 x 305	16 x 16 x 16	406 x 406 x 406	10 x 10 x 18	254 x 254 x 457
Door Opening WxH (FL)	5.5 x 6.5	139.7 x 165	8 x 8.5	203 x 216	10.5 x 10	267 x 254	12 x 13	305 x 330	8 x 8.5	203 x 216
Outside Dim. WxHxD (FL)	13 x 20.5 x 14.5	330 x 520 x 368	15 x 22.5 x 16.5	381 x 571 x 419	18.5 x 22.5 x 19	470 x 571 x 483	21 x 32 x 21	533 x 213 x 533	15 x 22.5 x 24.5	381 x 571 x 622
Furnace Weight	65 lb	29.55 kg	75 lb	34 kg	93 lb	42 kg	130 lb	59 kg	93 lb	42 kg
Power Supply Dimensions WxHxD	22.5 x 16 x 18	571 x 406 x 457	22.5 x 16 x 18	571 x 406 x 457	22.5 x 16 x 18	571 x 406 x 457	22.5 x 29.5 x 18	269 x 749 x 457	22.5 x 16 x 18	571 x 406 x 457
Power Supply Weight	75 lb	34 kg	80 lb	36 kg	80 lb	36 kg	130 lb	59 kg	90 lb	41 kg
Power Requirement (Max) KVA	4.5	4.5	7	7	10	10	16	16	10	10
Standard Voltage Requirement	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase
Service Entrance Current Requirement at 208 Volts	25	25	50	50	60	60	100	100	60	60
Optional Retort Dimensions-Inside WxHxD	6.6 x 6.6 x 6.75	168 x 168 x 171	8.6 x 8.3 x 8.75	218 x 211 x 222	10.6 x 9.5 x 10.75	269 x 241 x 273	14 x 14 x 14	356 x 356 x 356	8.6 x 8.3 x 16.75	218 x 211 x 425

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