



**Model BJ 5**

**Arc  
Furnace**

# Arc Furnace

**THERMAL TECHNOLOGY'S** Arc Furnace is effective for powder melting, arc casting, metallic and non-metallic buttons, annealing, compound synthesis and material densification. The Arc Furnace features ease of operation, dependability, versatility and affordability while offering instant high temperature and extremely pure melts. This furnace accepts a variety of hearth configurations and can accommodate a titanium getter.

Because of its simplicity, ease of interior access and small volume, the furnace is easily purged. Work specimens are quickly prepared and a high degree of purity is maintained. The Model BJ 5 Arc Furnace consists of a water-cooled stainless steel bell jar hinged to a fixed baseplate. The electrode (stinger) shaft penetrates down the top of the bell jar. The stinger is sealed at the top of the bell jar by means of a ball joint and stainless steel bellows. The hearth is water-cooled copper with an interchangeable top surface. Various cavity configurations can be machined in the hearth top surface. Light and window ease inside observation. Clamps are provided for operation at a slightly positive pressure. Pressure compensation for "zero feel" is incorporated into the seal design. Provision is made for attachment to a vacuum pump for evacuation prior to back-filling with inert gas. Also included are ports and gauges for inert gas.



## Specifications:

Max Temp: over 3000°C

Light: Located at bell jar top

Hearth: 9" (22.9cm) O.D. water-cooled copper

Bell Jar: 10" (24.4cm) dia. x 11 1/2" high (29.2cm) Stainless Steel water-jacketed

Stinger Tip: 1/4" (6.4mm) dia. Thoriated Tungsten Rod

Arc Starter: 1/4" (6.4mm) dia. Thoriated Tungsten Rod

Base Plate: 18.5" (47cm) dia. Aluminum

Window: Filtered view port at bell jar top

Typical Sample Size: 1/2" - 3" dia. (13mm - 76mm)

## Requirements:

Electrical: Up to 1000 amps D.C. welding-type power supply

Water: 4 GPM @ 50 PSI and 70°F (30.4 LPM @ 3.5 kgs/cm<sup>2</sup>)

Evacuation Pump: 2 CFM (56.6 LPM) vacuum pump

Inert Gas: 2-10 CFM (56.6-283.2 LPM)

## Typical System:

A typical system consists of Basic Furnace, Evacuation Kit, Inert Gas Kit, Power Cables, Power Supply and Base Cabinet

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HIGH TEMPERATURE EXPERTS

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