



- World Leader in Cold Hearth Capabilities:  
30kw Lab Size - 5.4Mw Production Scale
- Proven Technologies & Turn-Key Installations
  - ISO 9001:2000 Certified
  - Over 380 Systems in 16 Countries
- Utilizing Our Global Experience Since 1963
- Fully Integrated Facility - Engineered,  
Manufactured, Assembled and  
Tested at Retech



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# Plasma Melting

Meeting Industry Needs  
Through Thermal  
Technology Innovation



## Retech Plasma Melting Systems

Retech Plasma Furnaces range from single torch research furnaces to multiple-torch, several megawatt, high volume production furnaces. Retech Plasma Furnaces offer a range of material feeder options, such as a rotary feeder for loose chips, sheet clippings, compacts, turnings, etc., and a bar feeder for large diameter, square, rectangular or irregular shaped bar stock. Several sizes and configurations of hearths and crucibles are available to meet process requirements. Single or dual ingot withdrawal chambers, isolation valves and indexing carts are included. Computerized torch motion profiling enables optimum control of the melt pool and temperature, as well as other critical process variables.

### Advantages of Plasma Melting

Retech Plasma melting systems are designed to produce high-quality ingots, slabs, powder or castings from raw and/or recycled materials. An important benefit of plasma melting is its ability to maintain alloy composition over a wide range of complex alloys. This is accomplished through system operating pressures typically ranging from 0.3 to 1.5 atmospheres; systems up to 3 atmospheres have been provided for certain alloys. Processing in an inert gas environment prevents loss of volatile alloying elements during melting, reducing the need to adjust alloy composition during operation.

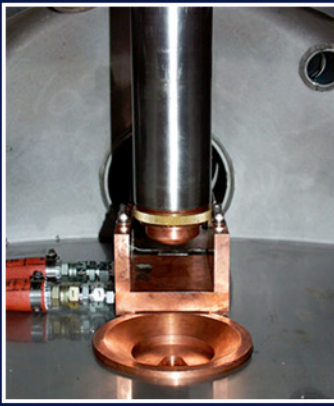
Retech's Plasma Cold Hearth and Plasma Consolidation melting systems offer significant cost savings in an ingot producing melt plant by eliminating electrode welding and primary VAR melting. In addition, Retech's Plasma Cold Hearth melting systems yield clean, as-cast ingots removing high and low density inclusions during the cold hearth refining process.

Utilizing state-of-the-art Plasma Melting technology is an excellent choice for processing a wide range of reactive and refractory metals.

### Retech Melting Systems

Besides being the world's leading supplier of Cold Hearth Melting Furnaces, Retech is also the most integrated manufacturer of a broad range of vacuum and controlled atmosphere furnaces. Advanced process technologies offered by Retech for melting, refining and casting titanium, titanium alloys, and other reactive and refractory metals and superalloys, include:

Electron Beam Cold Hearth Melting, Electron Beam Direct Melting, Electron Beam Welding, Plasma Cold Hearth Melting, Plasma Consolidation, Plasma Welding, Consumable Casting, Cold Wall Induction, Vacuum Arc Remelt, , Rototrode® (non consumable casting), VIM Precision investment Casting Furnaces, powder systems, laboratory systems and custom engineered systems.



- Plasma Arc Furnaces  
-Hearth Melting  
-Scrap Consolidation

- Electron Beam Furnaces  
-Hearth Melting  
-Drip Melting

- Coldwall Induction Melting  
-Tilt Pour  
-Bottom Pour

- Vacuum Arc Remelt Furnaces

- Consumable Casting Furnaces

- Plasma Welding Equipment

- Powder Production Equipment

