

# PCHM

## PLASMA COLD HEARTH MELTING

**Retech provides state-of-the-art Plasma Arc Melting (PAM) systems with cold hearth refining configurations for alloy production.**

Plasma Arc Melting systems use an electrically excited gas, typically helium or argon, to melt the materials in a sealed chamber, under inert atmosphere. The PAM process allows for low evaporative losses, thereby creating higher tolerance alloys. As the world's foremost producer of Plasma Arc Melting systems, our equipment is designed:

- To provide proven refining technology to eliminate high-density inclusions (HDI) and low-density inclusions (LDI)
- With different torch configurations based on melting energy and refining requirements
- To handle each customer's material composition and form
- To create material in the form that is required for any secondary processing

Production of alloys using plasma arc cold hearth melting systems offer significant cost savings compared to traditional methods by eliminating the need for constructing electrodes from sponge compacts by welding and primary Vacuum Arc Remelting (VAR) production steps. Material including scrap, drops and runners can be combined with sponge and master alloys to produce high quality ingots.

Each PAM melting system is custom designed based on the desired product and the materials to be melted. Retech's experience in PAM equipment uniquely positions us to be able to provide each system for optimal performance. This includes hearth design, torch quantity, and total power -- as well as the material feed equipment required, ingot forming and withdrawal systems, and process gas recycle systems.

Retech's experience allows us to provide additional equipment for any melt shop that can include material preparation, material handling and loading, and ingot handling equipment. Utilizing plasma melting technology is the best option for processing a wide range of reactive and refractory metals.

**Contact us to learn more.**

