

VAR-R

FURNACE FOR R&D

The research environment typically involves small sizes, hands-on operation, and single melts. A Retech VAR-R furnace design is a value-engineered arrangement providing a lower net investment and a reduced cost of ownership appropriate for research and development operations. The VAR-R furnace produces quality, small-diameter ingots in a skid-mounted furnace.

Materials

Reactive metals, refractory metals, amorphous metals, super alloys, and steels

Applications

Powder production, prototype material ingots

Retech's VAR-R systems include process control technology to produce high quality products, and the following features:

- The furnace is a skid mounted design to simplify installation and startup
- Local operator control console
- PLC-based control system with computer-based HMI
- Ethernet communication interface
- Data acquisition
- Multiple-melt recipe storage
- Intuitive multi-segment recipes and a variety of melt modes
- Accurate ram drive positioning and speed regulation
- Stirring coil with programmable directional control
- Viewports for local viewing and monitoring of the process
- Stainless steel head liner for improved pump-down times
- Arc gap control

Retech's VAR-R systems include process control technology to produce high quality products, and the following features:

- Modified designs to accommodate non-standard stubs and crucibles
- Load cell system for melt rate and melt termination control
- Electrode X-Y positioning
- DC power supply sized for melt operation
- DC power supply with drip short control
- Elimination of hydraulics to reduce contamination risk and complexity
- Extended power ram stroke to accommodate compacted and artwork electrodes
- Deep vacuum levels and decreased pump-down times



Designed for ease of maintenance and high uptime. Depending on the customer's needs, Retech offers the following options:

- Modified designs to accommodate the customer's stubs and crucibles
- High precision shear beam load cell system for melt rate and melt termination control
- Elimination of hydraulics to reduce contamination risk and complexity
- Extended power ram stroke to accommodate compacted and artwork electrodes
- Deep vacuum levels and decreased pump-down times
- High-definition viewing cameras showing the melt zone
- Programmable bi-directional stirring
- Helium ingot cooling
- Partial pressure operation and control

