SECO/WARWICK

INVENTION MEETS RELIABILITY

JetCaster

Vacuum Induction Melting furnace for production of directionally solidified or single crystal castings

JetCaster

JetCaster VIM DS/SC DGCC is used for production of high quality precision turbine blades castings in aviation and energy industry. Crystallization method is enhanced by injection of cooling gas which improves casting structure and reduces overall process time.

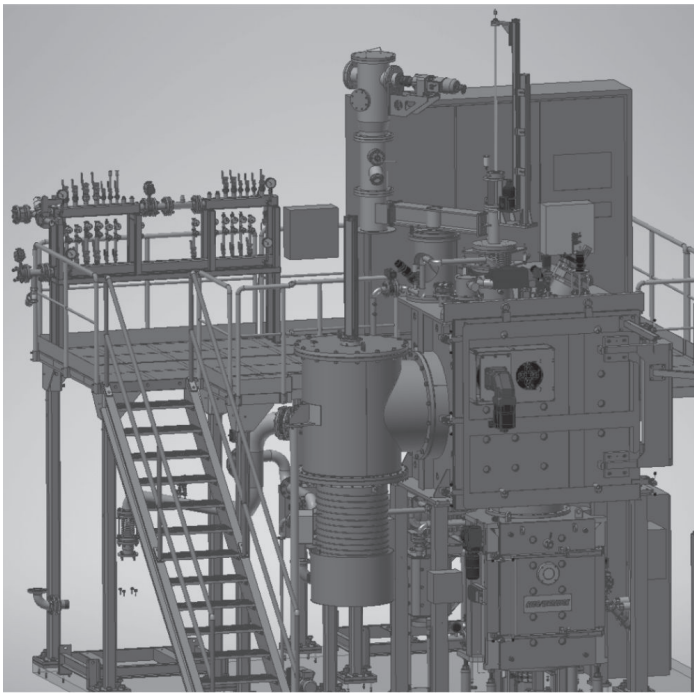
The innovative JetCaster technology opens up a number of new possibilities in the field of monocrystalline casting of nickel and cobalt base superalloys. Years of work of our R&D engineers on the development of a new technology of monocrystalline castings have allowed us to create a device equipped with a casting cooling system with a supersonic argon stream.

The furnace is characterized by a modular structure and easy adaptation to various geometries of casting molds thanks to solutions such as: automatic replacement of the thermal baffle, replaceable meltboxes adapted to various size batches, the possibility of easy configuration of the gas blowing system.

FEATURES

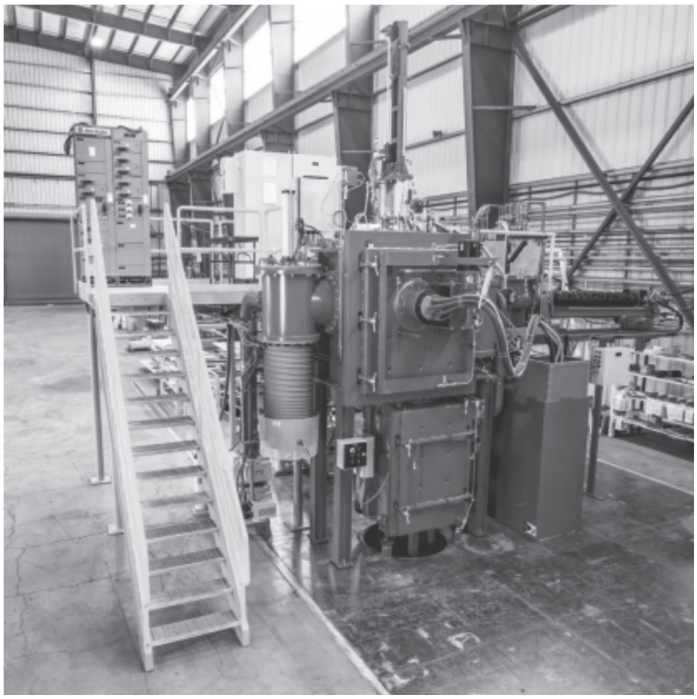
- Metal casting under vacuum or in controlled inert gas atmosphere.
- One touch vacuum system startup and shutdown.
- Industrial touchscreen operator interface with selectable languages.
- All electric and pneumatic actuators, no hydraulics.
- Horizontal and vertical feed systems for bulk feed, ingots, and/or liners.
- Teachable one or two-axis precision pouring systems with manual and automated profile pouring.
- Door mounted melt box for fast change-out and easy overhead access.
- Precision melt temperature measurement with combination.
- Opto/TC calibration independent of crucible fill ratio.

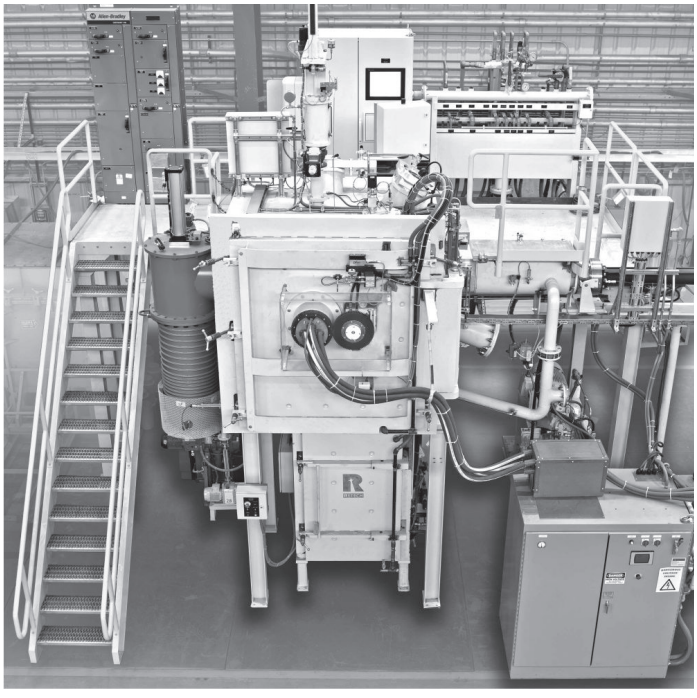
- Single or multi-zone mold heaters.
- Closed loop DS/SC solidification control temperature and withdrawal position.
- Partial pressure control melting and inert gas mold cooling.
- Safe and environmentally friendly technology.



ADVANTAGES

- Ability to achieve Directional Solidified and Single Crystal castings through Bridgman method or/and Developed Gas Cooling Crystallization method.
- Obtaining fragmentation of the casting microstructure determined by the PDAS parameter, which significantly shortens the time of heat treatment of castings.
- Specifically designed for aerospace,automotive and energy industries.
- Low percentage of casting defects, both macro and microstructural.
- Significant shortening the monocrystalline casting process compared to the classic process due to the increased speeds of mold withdrawal.





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SECO/WARWICK is the 1st choice supplier
of solutions for heat treatment and metallurgy.

We create innovative products that provide our customers with reliable, safe and environmentally friendly solutions for heat treatment and metallurgy and ensure the economic efficiency of their businesses. Expertise includes end-to-end solutions in 5 categories: vacuum heat treatment, atmosphere, and aluminum thermal processing, controlled atmosphere brazing of aluminum heat exchangers and vacuum metallurgy.

SECO/WARWICK Group, with 8 companies located on 3 continents, has customers in nearly 70 countries with more than 4000 deployed solutions. The company provides standard or customized state-of-the-art heat processing and metallurgy equipment and technologies to leading companies in the following industries: automotive, aerospace, electronics, tooling, medical, recycling, energy including nuclear, wind, oil, gas, solar and production of steel, titanium, and aluminum.

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