

## VACUUM INDUCTION MELTING (VIM) FURNACES

● SECO/WARWICK

● RETECH

● SECO/WARWICK

SECO/WARWICK S.A.  
Sobieskiego 8  
66-200 Świebodzin  
POLAND  
tel. +48 68 3820 501  
fax +48 68 3820 555  
info@secowarwick.com.pl  
www.secowarwick.com.pl

RETECH SYSTEMS LLC  
100 Henry Stadion Road  
Ukiah, CA 95482  
USA  
tel. +1 707 462 6522  
fax +1 707 462 4103  
leroy.b.leland@retechsystemsllc.com  
www.retechsystemsllc.com

SECO/WARWICK Corp.  
180 Mercer ST., P.O. Box 908  
Meadville, PA 16335  
USA  
tel. +1 814 332 8400  
fax +1 814 724 1407  
info@secowarwick.com  
www.secowarwick.com

Equiax Casting  
DS/SC Casting  
Counter Gravity Casting  
Cold Wall Induction Casting

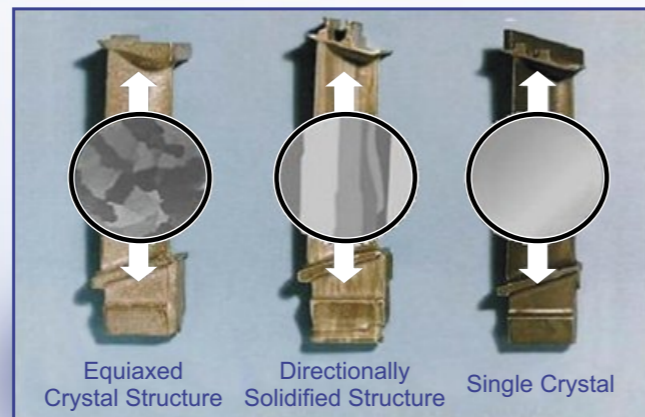
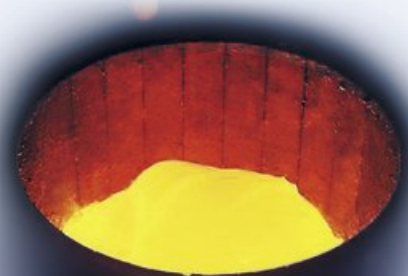
**SECO/WARWICK Group** is a leading manufacturer of industrial heat processing equipment, specializing in state-of-the-art, custom built or standard vacuum furnaces and controlled atmosphere furnaces. The globally integrated organization includes SECO/WARWICK S.A. Poland - headquarters, SECO/WARWICK Corp. in the USA, SECO/WARWICK China and SECO/WARWICK Allied India. SECO/WARWICK has a track record of more than 1000 installations in over 48 countries worldwide.

**Retech Systems LLC**, a world leader in the manufacture of vacuum metallurgical equipment, offers a wide range of in-house casting solutions for the precision investment casting industry. As the world's leading supplier of VIM Precision Investment Casting furnaces, with over 175 installations, Retech offers the widest selection of casting furnace processes, including directional solidification, single crystal casting, equiax casting, counter gravity casting and cold wall induction.

Founded in 1963, today Retech's equipment is located in 17 countries. As the most fully integrated manufacturer of special metals processing equipment, Retech maintains an experienced and innovative engineering department, a comprehensive manufacturing operation and a complete assembly and hot test facility. All Retech furnaces are designed, built, and tested in accordance with the highest industry standards for vacuum metallurgical equipment

Retech's partnership with SECO/WARWICK in Poland enhances its worldwide vacuum processing equipment sales, marketing, engineering, manufacturing and service capabilities. Particularly important to the EU market is SECO/WARWICK's assured abilities to provide metric designs, seamless adherence to EU standards and directives, and local service and support.

- Combination DS/SC/Equiax equipment offers industry's fastest process conversion
- Multi – zone mold heaters
- One- or two-axis precision pouring (auto teach, profile and constant volume)
- Precision temperature measurement (OPTO-TC)
- Closed loop solidification control
- Door-mounted furnace melt box assemblies
- Horizontal bar feeder assembly includes X-Y motion control, for simultaneous loading of bars and liners or alternate bar loading via rotation
- Unmanned startup and/or shutdown of vacuum equipment (Sentry package)
- Video systems provide improved process monitoring and control
- Wide size range from laboratory size units (1 kg and less) up to typical industrial installations (50, 100, 200, 250 kg), and more if required
- Free-standing design independent from building structure.



With more than 30 years of experience as a worldwide supplier of precision casting and melting equipment, our experience with this successful technology has resulted in proven performance control and maintenance. Retech produces equipment known for its high yields and low operating costs, and has responded to demands of the industrial gas turbine market by offering systems capable of producing larger and larger components.

Our maintenance friendly control system offers precision pouring, accurate and repeatable temperature control, a smooth but responsive withdrawal system and comprehensive data acquisition. Each of these features is controlled by a state-of-the art PLC/computer package that can offer automatic, semi-automatic and manual operations. Retech's recipe driven control system offers our customers the repeatability features necessary to maximize throughput and yields, thus supplying them with a competitive advantage.

### Advanced Melt Process Control

We provide the most advanced process control and data acquisition technology to repeatedly produce high quality products, featuring:

- PLC Based Control System
- Operator Interface Station
- Melt Recipes
- Data Acquisition
- Remote Ethernet/modem interface
- Create, modification, and storage of melt and pour profiles
- Create and upload of withdrawal ram velocity profiles (DS)
- Optional Inert Gas Cooling and Partial Pressure Control

