

Addressing industry critical aspects and today's needs: Solutions for powder metallurgy and vacuum melting

Retech, a SECO/WARWICK Group company, has been a global leader in the supply of metallurgical processing equipment since 1963. As the most fully integrated furnace manufacturer in the world, the company provides customer access to a wide range of in-house resources, including technology, material and process development.

Vacuum metallurgical equipment is manufactured in company facilities in the United States, Poland and China, but delivered to all regions with the highest demand for high-melting and foundry technologies. Since 2006, as a result of strategic acquisition of Retech, SECO/WARWICK Group offers customers worldwide a comprehensive solution in the field of melting furnaces and heat treatment furnaces. They have become the beneficiaries of synergies resulting from the merger of companies.

Strong roots, expertise, record-breaking achievements

For decades, the company has been actively working with partners and customers to develop equipment and process solutions to meet and exceed their expectations, conducting R&D projects, constructing, building and testing equipment for customers in the global markets.

Retech's technology beats a record by providing a consumable electrode casting furnace to AMRC Castings (AMRCC), capable of delivering up to 1000kg of molten titanium, which produced the heaviest ever ceramic shell casting in this material from a single pour in Europe.

The achievement was unveiled by the Castings Group of the Advanced Manufacturing Research Centre (AMRC), a world-class centre for research into advanced manufacturing technologies used in the aerospace, automotive, medical and other high-value manufacturing sectors.

Another significant and recent company achievement took place when Retech was announced as the main supplier of advanced vacuum metal technology for the very first European recycling and refining plant for titanium alloys.

Dynamic industry: additive manufacturing and powder production

When speaking about recent achievements it is impossible not to mention current trends, like additive manufacturing, or 3D printing – one of the key future production process technologies. Noticing its great potential, and the last, truly exciting twelve months, with multiple new players

appearing on the scene, Retech puts more emphasis on developing systems tailored to realise the specific demands of its customers and their clientele.

The company's powder production systems combine melting of reactive metals and alloys with inert gas atomisation to meet a variety of powder specifications, and are designed in a range of capacities, from laboratory and pilot to large scale production.

The industry preferred system for nickel, cobalt, aluminium, copper and ferrous alloys atomisation

Retech gas atomizer (REGA) is an industry solution, when it comes to a system for nickel, cobalt, aluminium, copper and ferrous alloys atomisation.

The Retech vacuum metal powder system combines vacuum induction melting of oxygen sensitive metals and alloys with inert gas atomisation for the production of a variety of powder specifications.

Titanium and titanium alloys atomisation

As an expert in titanium gas atomisation systems to the aerospace industry, Retech is well acquainted with the demands of high performance materials. Consequently, cold-wall induction (CWI) melting systems can also be combined with inert gas atomisation die for powder production of titanium and titanium alloys.

Innovation is imperative to success in the metals industry

Retech research and development capabilities, experienced R&D staff, including pilot production, material development, process technology, and toll melting services (which can all be performed at company facilities) allow customers to explore ideas and objectives. Retech frequently works with companies in the creation of new materials and processes. In many instances, these companies do not have a reason or means to buy a melting system but still need innovation in their business model and their products. Utilising its cadre of IR&D systems along with new, state-of-the-art controls, Retech can help resolve such challenges for individuals, small businesses, corporations or universities – like the above mentioned record breaking achievements.

Euro PM – a chance to talk

Retech and SECO/WARWICK vacuum melting furnaces team will be available at booth 140 at the upcoming *Euro PM2018 Congress & Exhibition*, Europe's annual powder metallurgy congress and exhibition organised by the European Powder Metallurgy Association, held in Spain, Bilbao 14-18th October 2018 at the Bilbao Exhibition Centre (BEC).

Solutions of vacuum melting systems, focused on technology related to vacuum systems for powder metallurgy such as the Retech gas atomizer (ReGA) and titanium gas atomizer (TiGA) will be presented. These systems allow for inert gas atomisation of a variety of different metals and alloys including titanium and aluminium.

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