

SMS Eumuco GmbH Receives Order for Ring Rolling Machine

Rothe Erde GmbH, a company of ThyssenKrupp Technologies, Germany, has placed an order with SMS Eumuco, Witten, Germany, for the supply of a further ring rolling machine for its manufacturing works in Dortmund.

With the radial-axial ring rolling machine of type RAW 63(80)/63(80)-1250/450, Rothe Erde will be expanding its existing production capacities to incorporate a planned product range of rings weighing up to around 250 kg. The maximum dimensions are 1,250 mm ring outside diameter and 450 mm ring height.



The new ring rolling machine is an integral part of a new production line. This line will be the fourth production facility for rings in Dortmund, Germany.

Rothe Erde is one of the world's major producers of large-sized antifriction bearings, such as ball joints and roller-bearing slewing rings, wire-race bearings, and seamless-rolled rings of steel and nonferrous metals.

At the Dortmund works and at the Rotek subsidiary works in the United States, the company operates a total of three ring blank presses and four ring rolling machines from SMS Eumuco. A further ring rolling machine of size RAW 200(250)/200(250)-5500/630 is currently being erected for the ring production in the Chinese manufacturing works of XREM, belonging to Rothe Erde, in Xuzhou, China.

SMS Eumuco GmbH forms part of the Tube, Long Product and Forging Technology Business Area the SMS group.

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QuantumSphere Announces Two Key Patent Applications Leveraging QSI-Nano® Catalysts for Large Primary Battery Market

QuantumSphere, Inc. (Santa Ana, California), a leading manufacturer of nanoscale metals and alloys for applications in portable power, renewable energy, and other markets demanding advanced materials, has announced the filing of two groundbreaking patents covering composition of matter and a paper-thin electrode device responsible for achieving a 320% increase in power and efficiency for zinc-air battery cathodes. These filings follow the company's recently published summary results for low-cost, efficient hydrogen production and complement a consistent stream of recent technology innovations and intellectual property as the company continues its development focus on disruptive solutions for portable power and other clean-energy applications.

"In order to accelerate the adoption of these highly-active nano-catalyst materials in disruptive solutions for portable power and clean-energy applications, it is critical that significant strides be made in the performance, cost-effectiveness, and environmental benefits of these devices and processes," stated Kevin Maloney, chief executive

officer of QuantumSphere, Inc. "These are the fundamental requirements that will enable all participants throughout the value chain to gain tangible advantages from the commercialization of portable power and other clean, renewable energy sources. We are actively working with some of the world's largest corporations to collaborate on achieving those goals, and these filings are the latest step in that ongoing process."



With these latest patent applications, QuantumSphere is tapping into a potential multi-billion dollar battery market with the goal of delivering significant performance enhancement to disposable zinc-air batteries. Primary zinc-air batteries offer 3-6 times the energy of

equivalent size alkaline and rechargeable batteries. Expert electrochemist and lead scientist on the air electrode project, Robert Dopp of DoppStein Enterprises, Inc. (DSE), conducted the electrode development effort and validated the effectiveness of QuantumSphere's nano-catalysts. "These improvements unlock higher power applications previously viewed as impractical for this class of battery," Dopp said. "QuantumSphere and DSE collaborated to find the most effective catalyst and several successful ways to implement it into gas-diffusion electrodes. The resulting performance improvement is unambiguous." Moreover, this dramatic improvement can be achieved with little increase in cost. In addition, this innovation further supports the elimination of mercury and is a direct reflection of the company's commitment to the development of environmentally friendly, portable power solutions. The European Union has recently mandated that all batteries must remove this toxic substance, and the U.S. Environmental Protection Agency is expected to follow shortly.