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Depowdering Electronic and Hardware Components: Rohde & Schwarz relies on Solukon

In the facility of Rohde & Schwarz in Teisnach, Germany, where mechanical and electronic assemblies are created for this global technology corporation in a production plant alliance, the additive manufacturing team recently commissioned a Solukon SFM-AT350.

Through its three corporate divisions – Test & Measurement, Technology Systems, and Networks & Cybersecurity – Rohde & Schwarz stands for a secure, interconnected world. For 90 years, the global technology corporation with over 14,000 employees worldwide has been redefining the boundaries of what is technically feasible when it comes to developing cutting-edge technology. Its leading products and solutions give customers from the worlds of business, government and the public sector the ability to shape their technological and digital sovereignty. In the Bavarian town of Teisnach, the team led by Peter Scherer, Head of Additive Manufacturing, produces a wide range of applications from RF components to heat exchangers using 3D printing based on the LPBF process. To ensure that these components perform flawlessly, they must be post-processed with the utmost care. An important step in this process is depowdering, which means removing excess powder from the interior channels of the component. To do this, Rohde & Schwarz relies on a solution from the market leader Solukon and has installed the SFM-AT350 depowdering system.

SFM-AT350: The details

SFM-AT350 is a depowdering system for medium-size parts up to 100 kg and maximum dimensions of 400 x 400 x 400 mm or 500 x 280 x 400 mm. The system features a compact structure that supports low inert gas consumption, plenty of freedom of movement and top cleaning quality. Alongside adjustable pneumatic vibration, a high-frequency knocker disperses powder clumps in the components of Rohde & Schwarz, which are manufactured on a dual-laser TruPrint 2000. The optional sensor and interface kit Digital-Factory-Tool makes the entire depowdering operation transparent by tracking all relevant depowdering data and summarizing it in a protocol file.

A look into depowdering at Rohde & Schwarz

Depending on the workload, the Solukon system completes two to four cleaning jobs a week at Rohde & Schwarz – with an upward trend. After all, their 3D printing is currently in the ramp-up phase and will soon complete the transition to serial production. Parts made of stainless steel and an aluminum alloy (AlSi10Mg) are depowdered. Since



aluminum is a reactive material, the SFM-AT350 chamber is inerted with protective gas before the cleaning process begins. The current challenge in depowdering is to remove the powder from the interior channels and support structures. SFM-AT350 does the job, to the customer's complete satisfaction: "We are very pleased with both the cleaning quality and the quality of the Solukon system itself. The system is very easy to operate and we have not had any malfunctions or problems yet," said Peter Scherer, Head of Additive Manufacturing at Rohde & Schwarz in Teisnach.

Quality Made in Germany

With its decision in favor of Solukon, Rohde & Schwarz deliberately sets their focus on Quality Made in Germany. "Short coordination channels with a German manufacturer, a high system quality and safe concepts were very important to us, and Solukon completely fulfilled our requirements in the best possible way," said Peter Scherer, summarizing why Rohde & Schwarz chose the market-leading system from Solukon.

Figures:

Figure 1: Peter Scherer, Head of Additive Manufacturing and Josef Weisstanner, Technologist & Specialist Additive Manufacturing at Rohde & Schwarz (from left to right) in front of their new Solukon depowdering system

About Solukon

Solukon Maschinenbau GmbH is a German high-quality supplier of powder removal and processing systems for metal and polymer additive manufacturing. Founded in 2015 by Andreas Hartmann and Dominik Schmid, the company, located in Augsburg, has extensive experience in the development of AM systems and related peripheral equipment, and offers a full range of industrial powder processing systems. Since 2022 Solukon offers an intelligent software for automated depowdering of laser-melted metal parts as exclusive licensee, the SPR-Pathfinder®. Solukon products meet the highest functionality and safety standards and are approved for safe and reliable removal of tough-to-handle and reactive materials such as titanium and aluminum.

Solukon is present on four continents. The systems are trusted by leading manufactures of 3D-printing systems, like EOS, SLM Solutions and AMCM, by institutions like NASA and Cern as well as by companies like Siemens and Ariane Group.



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