Press release

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Depowdering of intricate channels: Solukon adds new features to their automated powder removal units

Augsburg, Germany – Since launching the market`s first automated depowdering system, SFM-AT800 in 2015, Solukon is the known pioneer and expert for powder removal. By equipping two depowdering units with new features Solukon directly responds to the (aerospace) market needs of handling even larger and more complex components.

Solukon launches upgrades of their flagships SFM-AT1000-S and the award winning SFM-AT800-S. Both systems are based on Solukon's unique SPR® (Smart Powder Recuperation) process, removing residual powder from complex metal parts by unlimited and programmable part rotation and controlled vibration in a safety-controlled atmosphere.

Both systems are reinforced to handle parts with larger dimensions. The SFM-AT800-S from now on may handle parts with a size up to 600 x 600 x 600 mm^3 (XYZ) and a weight of 300 kg. The SFM-AT1000-S, an advancement of the 800-S-system and a special version particularly designed for large parts, now allows to move parts with a size up to 600 x 600 x 1.000 mm^3 (XYZ) and with a weight up to 800 kg easily.

Martin Bullemer, Managing Director of AMCM GmbH, is more than satisfied with the performance of Solukon's SFM-AT1000-S: "I am excited about the quick turnaround on the need for larger depowdering volumes. The Solukon offering makes an end-to-end solution for large components possible in the first place". AMCM's printer M4K was one of the first ones especially equipped for extraordinary high parts, such as rocket engines. Naturally, Solukon directly replied to AMCM's need for a compatible depowdering unit for such extraordinary part dimensions by developing the SFM-AT1000-S.

In addition, a main customers' need was not only to implement larger parts but also to improve and individualize controlling. Therefore, both systems are now equipped with remote gimbal control in the form of a joystick. By using this device, the part can easily be moved along any imaginal path with variable speed. The moving path and speed can be recorded simultaneously and can later be used as an automatic program for serial cleaning.
Like in the already established versions the systems are also able to save single positions. As provided before each position can later be manually optimized in the software and

assigned by intelligent functions like waiting time, vibrating, knocking and custom-made options, like programmable blowing nozzles.

Figure 1: The new feature, a joystick, here used at SFM-AT-1000-S, enables the operator to move the part in any desired position.

Facing more and more though to handle powders like copper, Solukon reacted with a third new feature: it adapted an additional impactor system for breaking up clogged powder bulks. So far, the Solukon's SPR® technology provides high frequent vibration to ensure a fluidization of the powder. Fluidization in this context means to make the powder as flowable that it can flow out of the finest channels and crevices. Materials like copper and aluminum show very sticky behavior and tend to clog in cavities.
The impactor treats the part with finely tunable knocks to loosen the clogging.
The combination of Solukon's proven vibration system and the new impactor ensures best depowdering results even with tough-to-handle materials. The impactor from now on is available as an additional option for all Solukon systems.

Andreas Hartmann, as co-founder in charge of system development, is proud having responded directly to the market needs: "Taking a closer look at the market, we clearly see a development to larger parts with highly complicated internal geometries as well as a trend for tough-to-handle materials. Especially rocket engineering is a leading force here brilliantly designing with copper. With our latest adjustments we want to give our customers even more opportunities to achieve their goals efficiently and comfortably."
Hartmann also outlines the strategy for 2021: "Listening to our customers and continuous

improvement of our systems have always been our guiding principle. During this year we are planning to come up with new retrofittable add-ons for our customers".

Figure 2: Andreas Hartmann, CEO and co-founder of Solukon.

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 2013, the company, located in Augsburg, Germany, has extensive experience in the development of AM systems and related peripheral equipment, and offers a full range of industrial powder processing systems. 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 AMCM, by institutions like NASA and CERN as well as by companies like Siemens and ArianeGroup.

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