



## Press release

### **Autonomous charging for E-cars**

**Schunk Group presents new products at IZB**

**Wolfsburg/Heuchelheim, Germany, 16 October 2018 – From autonomous charging through to completely reliable welded joints on cable harnesses: The Schunk Group is presenting its new products for the automobile industry at IZB.**

The electric car drives to the electric gas station autonomously and is charged automatically from below – this is what the future of charging stations could look like. With the Underbody Charger, Schunk Carbon Technology is presenting a prototype of the electric gas station of the future, which makes it possible to autonomously charge a range of different vehicles in just a few seconds – efficiently, safely and conveniently. This is facilitated by a charging station that can be sunk into the road, a docking module built into the base of the vehicle and an extremely high power transmission of up to 1 MW. This means automatic charging processes can be reduced to just a few minutes, even for batteries that are completely empty, and easily integrated into the daily use of vehicles. The Underbody Charger is also ideal for autonomous vehicles – with this combination it will not be necessary to think about driving or charging in future.

### **Testing system for lithium-ion energy storage**

In the field of electromobility, lithium-ion batteries have won through over other storage systems and against fuel cell technology. However, if lithium-ion batteries are placed under temperature tests, this can lead to overloading or malfunctioning. With added storage volume, the effects of

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a malfunction and the potential dangers while testing lithium-ion batteries also increase. That is why safety in the laboratory takes highest priority. Lithium-ion test chambers from Weiss Technik make it possible to safely perform temperature, climate, vibration and temperature shock tests, which may, if necessary, be expanded to include additional safety components in line with EUCAR hazard levels 0-7.

### **Two-component metal injection mold and magnetically soft components**

It is impossible to imagine the automobile industry without components made from sintered metal. Schunk Sinter Metals has updated its material and production expertise once again and is currently the world's only manufacturer offering two-component MIM technology in series production. Using 2C MIM, materials with a wide range of different properties can be combined so that they fit together like two pieces of a puzzle to form a whole. Both parts are manufactured in a single process stage.

Schunk Sinter Metals will also be presenting magnetically soft components at the IZB. These have already been used in electromagnetic systems for a number of years, where they fulfill dual purposes: the transformation of movements into electrical signals (sensors) or electrical signals into movements (actuators). In contrast to magnetically soft components that are manufactured using welding processes, those manufactured using metal injection molding have the advantage of being especially pure. Along with conventional materials used in the axial pressing technique (Fe, FeP etc.) and MIM materials (Fe, FeSi, FeNi, FeCo etc.) axial pressed plastic-bonded SMC Soft Magnetic Composites are also employed. This material is particularly well suited to high-frequency electromotors.



### **Minic-III ultrasonic welding machine**

With the Minic-III ultrasonic welding machine, Schunk Sonosystems is introducing a braid welding machine that can be used in the production of cable harnesses. It is the most modern and fastest ultrasonic welding machine on the global market and covers a cross-sectional area of 0.26 mm<sup>2</sup> to 30 mm<sup>2</sup>. The Minic-III makes it possible to weld aluminum, copper and mixed compounds. The machine supplied the best-possible welding results in global benchmarks at the world's most important cable harness manufacturers with regard to strength, cmk/cpk and visual appearance of the welded knots.

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#### **Pictures:**

Schunk Underbody Charger.jpg: Schunk Carbon Technology presents a prototype of the electric gas station of the future in the shape of the Underbody Charger.

Weiss Technik lithium-ion test chamber.jpg Lithium-ion test chambers from Weiss Technik make it possible to safely perform temperature, climate, vibration and temperature shock tests.

Schunk magnetically soft components.jpg: Schunk Sinter Metals will be presenting magnetically soft components at the IZB, which are manufactured using a sintering process.

Schunk Minic-III: The Minic-III von Schunk is the most modern and fastest ultrasonic welding machine on the global market.

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#### **Schunk Group**

The Schunk Group is a globally operating technology company with more than 8,200 employees in 29 countries. The company offers a broad spectrum of products and services in the fields of carbon technology and ceramics, environmental simulation and air



conditioning, sintered metal and ultrasonic welding. In 2016, the Schunk Group achieved a turnover of around 1.2 billion euros.