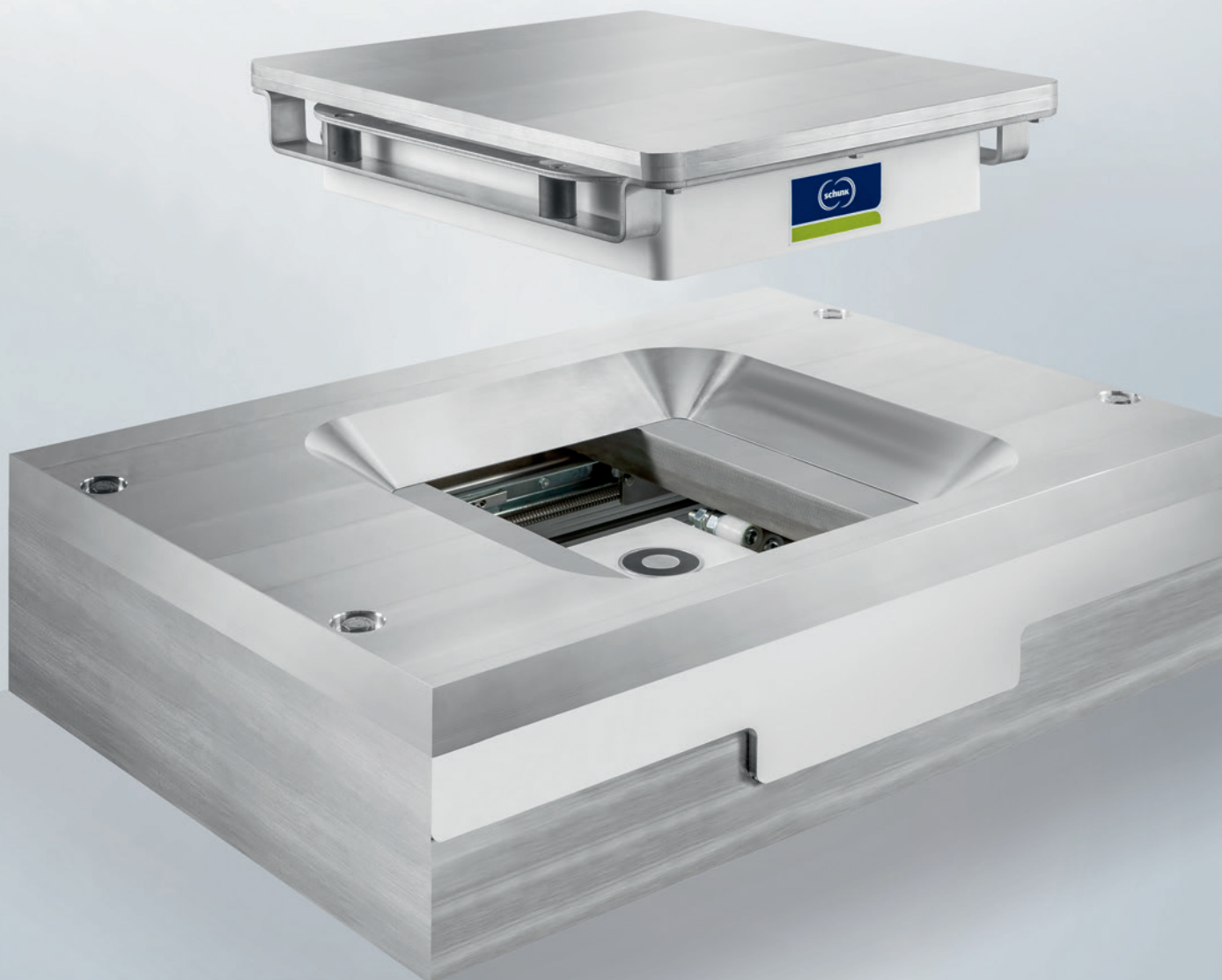




Schunk Carbon Technology

Underbody Charger

Fully automated charging system for electrical vehicles



The Future Charging Station is Located in the Ground

All good things come from below - at least as far as the future of recharging of electrical vehicles is concerned. With the Underbody Charger Schunk has developed a fully-automated charging system that sets new standards.



Advantages of the Underbody Charger

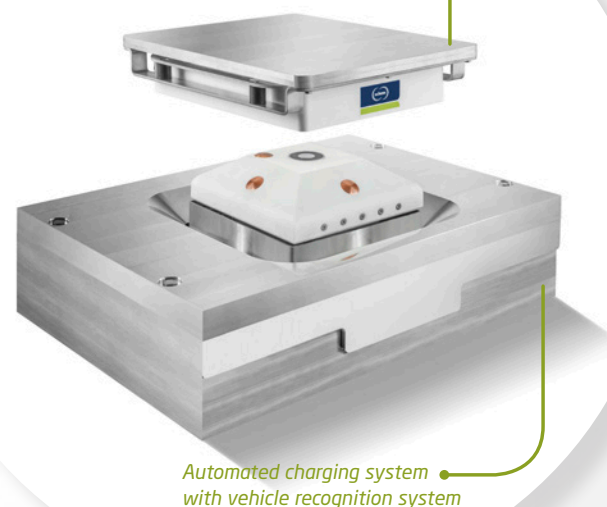
Use in public charging stations:

- ↪ 1 MW capacity for cars - 600 km of range in 5 minutes
- ↪ Floor load will support up to 40 tons of vehicle weight (Load Class D400)
- ↪ Completely automated charging process
- ↪ Integrated parking tolerance of +/- 60 mm
- ↪ Integrated vehicle recognition system
- ↪ Robust, durable and low-maintenance
- ↪ Conforms with DIN EN 61851-23-1

Use in private charging areas (home/garage):

- ↪ Cost efficient solution for installation on garage floor (no vault necessary)
- ↪ Connection via cable to home wallbox or main power supply
- ↪ Compatible with Underbody High Power Charger (same vehicle interface)
- ↪ Integrated vehicle recognition system

Compact, light and passive installation assembly



Automated charging system with vehicle recognition system

Charging becomes as simple as filling the tank

Being able to easily recharge batteries will decisively advance the suitability of e-mobility for everyday use. It is exactly for this purpose that Schunk is developing the electric charging station of the future: the Underbody Charger. This in-the-ground charging system will permit safe, efficient, comfortable and autonomous recharging in seconds in the future. This is made possible by a charging station that retracts into the ground, the interface that is built into the underside of the vehicle and the extraordinarily high rate of power transfer of up to 1 MW.

The charging system retracts approximately 70 cm into the ground, and the vehicle that is to be recharged drives over it. This makes it possible to realize some 10 recharging cycles on one contact system per hour.

Simple and safe

The vehicle interface - simple and maintenance friendly

In line with the demands of the automotive industry, the vehicle interface is small, light and cost efficient. As a passive assembly it will be simple to integrate or retrofit and only has an installation volume of 5 liters and a weight of 5 kg.

Safety - we've thought of everything

During the development of the Underbody Charger, all relevant safety and execution standards were observed as were fundamental safety regulations, for example those concerning the danger of limbs being caught in the device or slipping hazard. Due to the high level of system voltage, particular attention was given to safety and reliability in the design of the contact systems. This applies to protection from direct contact, the prevention of arcing or unwanted heat build up as well as a safe charging sequence control.

Payment system - simple and comfortable

The Underbody Charger is also ideal for autonomous vehicles in connection with a networked payment system: in this combination soon the driver can enjoy the comfort and silence of an electric vehicle without worrying about the charging process anymore - no thoughts have to be given to the driving, the recharging or payment.



High-performance charging system

Schunk Carbon Technology

Always at your side.

Schunk Carbon Technology is a worldwide leader in the development, production and application of carbon and ceramic solutions. With a highly-specialized technology-based product portfolio consisting of mechanical carbon, electrical carbon, thermal carbon and technical ceramics, Schunk Carbon Technology offers solutions for a wide industrial spectrum. In addition, our customers benefit from the know-how we have accumulated over decades as well as from an extensive development partnership that continuously generates pathbreaking material technologies. Among these are, for instance, customized solutions in the fields of current transmission, high-temperature applications and engineering ceramics for extreme conditions.

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