Schunk Carbon Technology
Powering e-mobility onward
Leading Carbon Technology for the Automobile of Tomorrow

E-mobility is picking up speed – in particular because innovative technology companies such as Schunk Carbon Technology recognized the key role played by electrical motors early on. Hence, Schunk already offers established solutions today, for instance for the supply, storage and efficient use of energy.

This brochure gives you an overview of our wide-ranging e-mobility solutions and in which applications they are used.

Battery technology
The more powerful batteries become, the more heat must be conducted away from them. For this Schunk Carbon Technology offers many innovative solutions, such as a newly-developed high-tech material for passive cooling and high-performance pump components for active cooling.

Charging systems
The charging of the battery plays a decisive role for the question of whether or not and to what extent e-mobility becomes commonplace. Schunk has developed a new underbody solution which automatically connects the vehicle to the power supply in seconds and reliably recharges it.

Traction motor components
E-mobility involves many new challenges. For instance, every component has to be individually matched to the respective requirements. Upon request, Schunk can be on board as an experienced engineering partner right from the beginning and can develop the optimal solution together with you.

Power electronics
In order to be able to cool power electronics efficiently, various materials are used, depending on the requirements, such as Aluminium Graphite, which is particularly light and durable or our innovative Latent Heat Carbon, which has outstanding heat accumulation properties.

Lightweight solutions
The vehicle weight has a big effect on both the driving range and the battery life. Schunk can make use of its entire portfolio of experience in the development of high-performance lightweight components. Here, the potential applications are just as diverse as the material compositions.

Schunk Carbon Technology
Schunk Carbon Technology is a worldwide leader in the development, production and application of carbon and ceramic solutions. Schunk uniquely combines innovation and technological expertise with an exceptional service orientation, offering a greater range of services than anyone else on the market.

With Schunk Carbon Technology you have a partner who offers you all the technological resources of a globally active enterprise and who will pragmatically transform your ideas into action. Our solutions are always customized to your requirements, whether for high-volume industrial markets or for highly-specialized niche markets.

For this is our aspiration: Ahead in carbon technology. Closer to your business.
Automatic conductive charging
- New underbody charging solution
- Automatic connection to power supply in seconds
- Up to 1 MW of charging capacity
- Compensates for parking deviations of up to 60 mm

Shaft grounding assemblies for traction vehicles
- Schunk quality for the e-mobility of the future
- Perfectly matched metal-graphite material
- Effective protection against bearing damage and high-frequency interference in electric vehicles
- For all electric drive units in vehicles

Molded parts with optimal tribological properties
- Individual components for coolant and fuel-pump systems
- Perfectly matched graphite materials
- Outstanding high-performance and efficiency
- Joint development (simultaneous engineering)

Carbon-brush assemblies for traction vehicles
- Metal-graphite material according to individual requirements
- Modular design
- Rotational speed of up to 40 m/s
- Joint development (simultaneous engineering)

Reinforcement sleeves for permanent magnets
- For fastening and securing rotating assemblies
- High tensile strength: fiberglass or carbon-fiber reinforced carbon material
- Customized expansion behavior to substrate and semiconductor material
- Minimal size permits design of smaller assemblies

Latent Heat Carbon
- Innovative composite made of PCM and graphite
- Outstanding heat-accumulation properties
- Exceptional conductivity
- Flexible geometries possible

Carbon Fiber Sheet Molding Compounds
- New molded parts made of sheet molding compounds with carbon fibers (C-SMC)
- Ideal substitute for milled castings
- Up to 40% weight reduction
- Fewer parts needed due to integral design

Shaft grounding assemblies
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Carbon-brush assemblies for traction vehicles
- Metal-graphite material according to individual requirements
- Modular design
- Rotational speed of up to 40 m/s
- Joint development (simultaneous engineering)

Carbon brush for a diversity of servomotors
- For innovative, absolutely low-noise comfort systems
- Perfectly matched metal-graphite material
- Extremely low intrinsic weight
- Minimal size permits design of smaller assemblies

Aluminium Graphite components
- Ideal as a cooling element or voltage buffer in diodes and thyristor modules
- Customized expansion behavior to substrate and semiconductor material
- Low intrinsic weight
- Customer-specific design