

Electric traction motors from MAHLE—scalable and zero-emissions

- MAHLE offers a wide portfolio of traction motors for passenger cars and two-wheelers
- High power density, efficiency, and flexible design are hallmarks of MAHLE traction motors

Stuttgart/Germany, October 10, 2019 – MAHLE offers manufacturers of electric vehicles sophisticated drive solutions with maximum performance. MAHLE traction motors are suitable for all applications: for mild and full hybrid vehicles and for vehicles with a range extender, as well as for purely battery-powered vehicles or fuel cell vehicles and even two-wheelers. Traction motors from MAHLE make e-mobility reliable and affordable. High power density, efficiency, and a flexible design provide decisive sales arguments for the end consumer: more driving pleasure, long cruising range, and low purchase price.

MAHLE offers traction motors in voltages ranging from 48 to 800 volts, with high power density, a robust design, and optimized cooling. At high power densities and speeds, MAHLE's wide-ranging expertise in thermal management is especially effective. MAHLE is continuously developing new technologies to further increase the long-term performance of the motors.

MAHLE traction motors are also available in various designs, thus guaranteeing optimal packaging. They cover a performance range of up to 250 kilowatts.

Up to 40 kilowatts for 48-volt applications

The replacement of the 12-volt electrical system by a 48-volt system is already underway for passenger cars. This means that MAHLE 48-volt drive motors are now not only suitable for urban mobility applications, but also for heavy vehicles. It will thus be possible to use 48-volt drives in high-performance or heavy

vehicles—e.g., as a mild hybrid—in the future. The major advantage is that the 48-volt drives remain below the voltage limit of 60 volts, eliminating the need for various safety precautions and complicated connector plugs. The costs for the motor and power electronics can also be reduced by about 25 percent in comparison with a high-voltage solution. To further expand the range of application of 48-volt systems, MAHLE has developed a traction motor that has an output of up to 40 kilowatts and is thus able to deliver up to 80 kilowatts to the wheels from a drive unit consisting of two motors.

Two-wheeler drive motors from MAHLE for scooters or pedelecs

With integrated high-energy permanent magnets and low-loss materials, two-wheeler drive motors from MAHLE power scooters or pedelecs at over 90 percent efficiency. The motor torque characteristics are especially suitable for direct-belt drive applications and for various transmission solutions. The inverters used achieve an efficiency of 97 percent, are able to regenerate, and, thanks to their field-oriented vector controls, ensure dynamic and quiet driving behavior with maximum efficiency. They are ideal for applications in which space, weight, and efficiency are of high relevance.

Lifestyle meets performance – MAHLE in the pedelec

With the acquisition of ebikemotion[®], MAHLE has continued to grow in all areas relating to compact and lightweight rear wheel hub motors, batteries, electronic control units, and other pedelec components that can be integrated unobtrusively into the bicycle. The hardware is supplemented by an integrated connectivity solution featuring mobile and web-based apps. The MAHLE ebikemotion[®] system is particularly suitable for use in lightweight racing bikes, gravel bikes, and city bikes.

About MAHLE

MAHLE is a leading international development partner and supplier to the automotive industry as well as a pioneer for the mobility of the future. The MAHLE Group is committed to making transportation more efficient, more environmentally friendly, and more comfortable by continuously optimizing the combustion engine, driving forward the use of alternative fuels, and laying the foundation for the worldwide introduction of e-mobility. The group's product portfolio addresses all the crucial issues relating to the powertrain and air conditioning technology—both for drives with combustion engines and for e-mobility. MAHLE products are fitted in at least every second vehicle worldwide. Components and systems from MAHLE are also used off the road—in stationary applications, for mobile machinery, rail transport, as well as marine applications.

In 2018, the group generated sales of approximately EUR 12.6 billion with more than 79,000 employees and is represented in more than 30 countries with 160 production locations. At 16 major research and development centers in Germany, Great Britain, Luxembourg, Spain, Slovenia, the USA, Brazil, Japan, China, and India, more than 6,100 development engineers and technicians are working on innovative solutions for the mobility of the future.

For further information, contact:

MAHLE GmbH
Christopher Rimmele
Corporate Communications/Public Relations
Pragstraße 26–46
70376 Stuttgart/Germany
Phone: +49 711 501-12374
Fax: +49 711 501-13700
christopher.rimmele@mahle.com