

MAHLE

Driven by performance

RELIABILITY, SAFETY AND ENERGY EFFICIENCY

Electric motors & controllers to drive mechatronic systems

MECHATRONIC SYSTEMS

ELECTRIC DRIVES
AND APPLICATIONS



MORE PERFORMANCE, PRECISION, AND PASSION FOR YOUR SUCCESS.

» We see ourselves not just as a supplier, but much more as a reliable guide and expert partner that helps you better reach your goals. «



MAHLE is a leading global development partner for the automotive and engine industry with unique systems competence in the areas of engine systems, filtration, electrics/mechatronics, and thermal management. Automobile and engine manufacturers worldwide rely on products and solutions from **MAHLE**.

This unique expertise and outstanding development competence can be found in our products and solutions around the globe: in commercial vehicles, ships, trains, agricultural and construction machinery, electric vehicles, and other demanding industrial applications such as forklifts, mobile hydraulics and factory equipment.

As your development, systems, and service partner, we know your requirements and processes. We know what you and your customers need and, together with you, we create added value that brings fresh power to your success: tailor-made solutions with the highest performance and reliability, durability, and economic efficiency, which sustainably contribute to increasing energy efficiency and ecological added value.

WE DRIVE YOUR SUCCESS. WORLDWIDE.
WITH PERFORMANCE, PRECISION, AND PASSION.
MAHLE — DRIVEN BY PERFORMANCE.

MECHATRONIC SYSTEMS

Development of mechatronic systems in the automotive industry dictates increasing demands for reliability, comfort, safety, energy efficiency and ecology. Owing to many years of experience in the field of automotive electrical parts and drive systems, we are becoming an important partner to manufacturers of different mechatronic systems that follow these requirements.

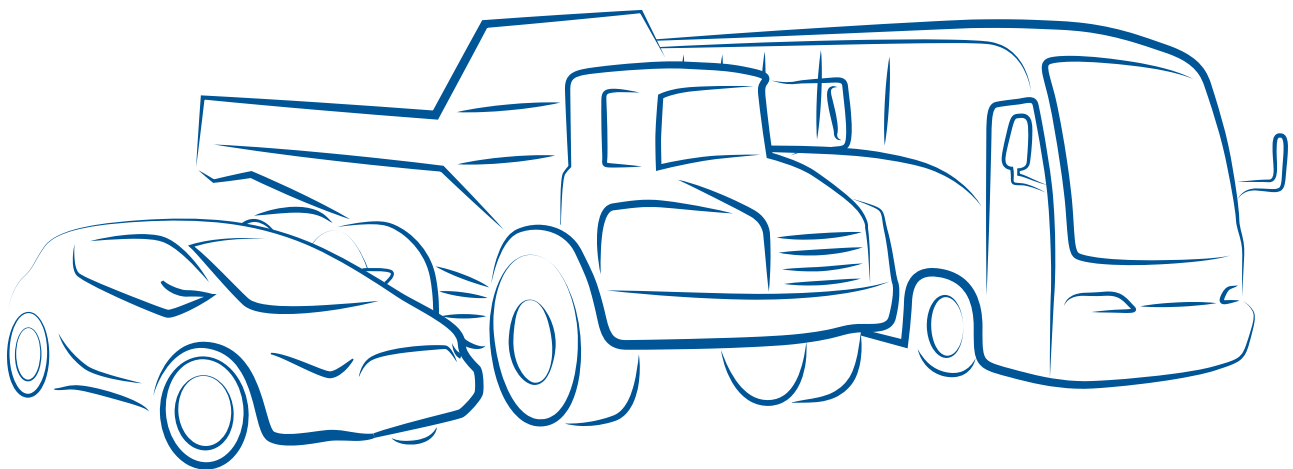
High technological and competitive market abilities mark us as a globally established player and development supplier of electric motors for the most demanding segments of the automotive industry.

Motors for Electric Power Steering
(EPS)

Motors & Controllers for Air & Hydrogen Blowers
(EGT, DPF, SCR, FUEL CELLS)

Motors for Electric Water and other Liquid Pumps

Motors for other Automotive Applications
(Electric Air Conditioning Systems, Electric Turbo Chargers, Actuators, etc.)



MOTORS FOR ELECTRIC POWER STEERING (EPS)

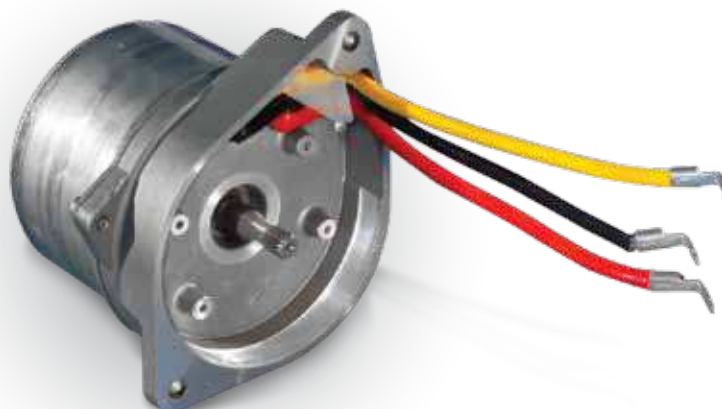
Compared to the conventional steering systems, EPS systems bring many advantages, which are reflected in greater system efficiency and comfort for the driver. It is delightful to note that reduction of fuel consumption in some applications amounts also to 6%, which is ca. 8 g/km of CO₂.

Advantages

- Long life
- High efficiency
- Silent operation
- Great reliability
- Low level of cogging

Main technical data

Nominal power	0.3 – 0.6 kW
Nominal voltage	12 V
Maximal speed	3600 min ⁻¹ (upon demand)
Maximal torque	3-5 Nm (upon demand)
Maximal cogging	9 mNm
Design (slot/pole)	27/6, 9/6, monolithic, segmented



MOTORS & CONTROLLERS FOR AIR & HYDROGEN BLOWERS (EGT, DPF, SCR, FUEL CELLS)

Compact and high efficient electric motors are running air blowers / pumps, which are part of EGT, DPF, SCR systems, which contribute to lower fuel consumption and CO₂ emissions by roughly 3 percent.

They are designed for running hydrogen blowers for fuel cells and different pumps for AdBlue systems etc. The brushless permanent magnet motors may also be equipped with Letrika controllers.

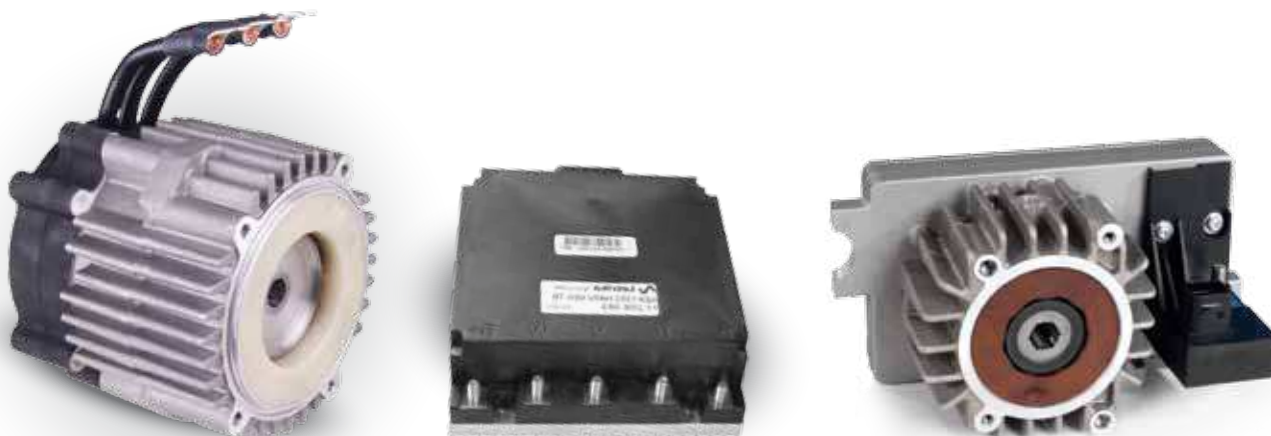
Advantages

- Long life
- High efficiency
- Silent operation
- Great reliability
- Heat resistance

Main technical data

Nominal power	0.4 – 1.5 kW (upon demand)
Nominal voltage	12 V, 24 V (upon demand)
Maximal speed	6000 min ⁻¹ (upon demand)
Maximal torque	0.7 – 1.3 Nm (upon demand)
Design (slot/pole)	6/4, 9/6, 12/8
System efficiency	≥ 90 %

EGT, DPF, SCR, FUEL CELLS



MOTORS FOR ELECTRIC WATER AND OTHER LIQUID PUMPS

An electric motor is running a water (or other liquid) pump. It can be applied in a wet or dry rotor environment. More controlled flow of coolant, reduction of fuel consumption and pollution (CO₂), longer pump life and more quiet operation are advantages which are implemented in the new – modern, hybrid and electric automobiles with electric driven water pump.

Development and delivery of motor's active parts is also possible.

Advantages

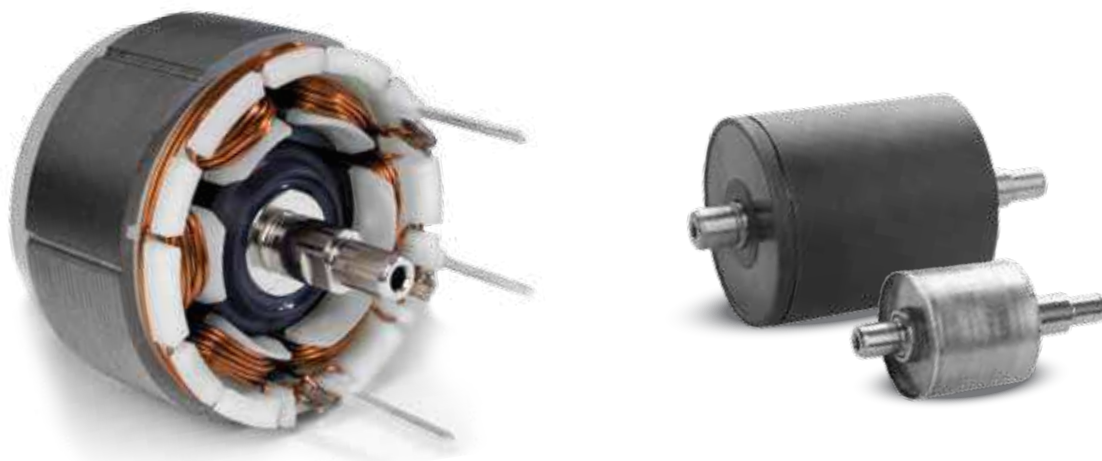
- Long life
- High efficiency
- Silent operation
- Great reliability
- Resistance to coolant
(50 % water, 50 % glycol)

Main technical data

Nominal power	30 – 1500 W (upon demand)
Nominal voltage	12 V, 24 V, 48 V (upon demand)
Maximal speed	5900 min ⁻¹ (upon demand)
Maximal torque	0.075 - 3 Nm (upon demand)
Design (slot/pole)	6/4, 9/6, 12/8
Motor efficiency	≥ 85 %

Option: Wet runner & Dry runner

EPS





ALWAYS THERE FOR YOU: WITH COMPETENT CONTACTS WORLDWIDE.

SHIPPING ADDRESSES AND BRANCHES ELECTRIC DRIVES AND APPLICATIONS

BELARUS

MAHLE Letrika Bel Ltd.

Ul. Dombrovskogo 69
230002 Grodno
T: +375 152 487 484
F: +375 152 487 485

BIH

MAHLE Letrika

Laktaši d.o.o.
Nemanjina 63a
78250 Laktaši
T: +387 51 53 53 15
F: +387 51 53 07 85

BRAZIL

Letrika do Brasil Ltda.

Rua Testa, no 81
Jardim Sao Sebastiao
Jaguariúna - (SP)
CEP.: 13820-000
T: +55 19 3837 6060
F: +55 19 3837 3185

CHINA

MAHLE Letrika (Suzhou) Automotive Electrics Co., Ltd.

No. 11, Ou'jiang Road
Shuangfeng Town
Taicang City 215400
T: +86 512 8160 6888
F: +86 512 8160 7799

FRANCE

MAHLE Letrika France S.A.S.

22 rue du Chapeau Rouge
56000 Vannes
T: +33 2 97 45 59 90
F: +33 2 97 45 59 99

GERMANY

MAHLE Letrika Deutschland GmbH

Danziger Straße 1
D-71691 Freiberg am Neckar
T: +49 714 1702 69 0
F: +49 714 1702 69 33

GREAT BRITAIN

MAHLE Letrika UK Ltd.

Redlands, Ullswater Crescent
Coulsdon, Surrey CR5 2HT
T: +44 208 668 7141
F: +44 208 668 3108

ITALY

MAHLE Letrika Italia S.r.l.

Via Ragazzi del '99 n. 39
42124 Reggio Emilia
T: +39 0522 506 285
F: +39 0522 272 025

USA

MAHLE Letrika USA Inc.

4814 American Road
Rockford, IL 61109
T: +1 800 474 1996
F: +1 815 874 4024

www.letrika.mahle.com

MAHLE Letrika d.o.o.

Polje 15

5290 Šempeter pri Gorici, Slovenia

T: +386 5 33 93 000

F: +386 5 33 93 801

si_info@si.mahle.com

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