Press Release

Farmington Hills, MI, January 3, 2025

CES 2025: MAHLE on Display with Electrification as the Focus

- MAHLE at CES, Booth 5652
- Featured products focusing on innovative product technology, in thermal management and electrification, showcasing efficiency in motion

At CES 2025, MAHLE will feature products focusing on innovative product technology in thermal management and electrification, showcasing efficiency in motion. Efficient thermal management is what makes efficient e-mobility possible. Highlights include the new technology kit for electric motors, a bionic battery cooling plate, the brand-new bionic fan and the new MAHLE positioning system for wireless charging, which was chosen as the global standard technology by SAE International. MAHLE will be on display at CES 2025, Booth 5652, January 7- 10, 2025.

“Electrification and thermal management are two major strategy fields of MAHLE, as we continue to position ourselves as a systems expertise champion in e-mobility“, stated Peter Lynch, Vice President Sales & Application Engineering and President, MAHLE in North America.

MAHLE will feature products focusing on electric drive and intelligent charging. The new technology kit for electric motors combines the advantages of MAHLE’s benchmark Superior Continuous Torque (SCT) and MAHLE Contactless Transmitter (MCT) electric motors. The "perfect motor" combines permanently high peak power, contactless and wear-free power transmission, the absence of rare earths, and maximum efficiency.

MAHLE has developed a positioning system for wireless charging that allows an electric vehicle to be simply, reliably, and precisely aligned above the charging coil in the floor. This solution, recognized as the global standard by SAE International, now paves the way for the comprehensive and rapid market launch of this attractive alternative to wired charging for batteries and electric and hybrid vehicles.

MAHLE will feature a range of thermal products – two of them inspired by nature, the bionic fan and the bionic cooling plate. The new high-performance bionic fan reduces loud noises from fans under full load and when charging vehicles. It was

developed for particularly demanding fuel cell and battery electric vehicles. When optimizing its ventilation blades with the use of AI, the MAHLE engineers took inspiration from the wings of an owl: One of the quietest birds in the world, the owl's plumage has a noise-reducing effect. The bionic fan blades can reduce the fan noise of a truck by up to 4 dB(A) – this is equal to more than halving the sound output. The fan demonstrates a rule of 10's – reduction potential of 10% in consumed electrical power and a unique fan design that is 10% lighter.

The bionic cooling plate, which is essential for battery electric vehicles for heating and cooling in the car – the so-called thermal management. Using nature as a model, MAHLE's battery cooling plates, which ensure fast charging, long cruising range and long service life for sensitive lithium-ion batteries, make the complete system significantly more efficient with up to 20% battery life. MAHLE was able to increase cooling performance by 10% and reduce pressure loss by 20%. As a result, the battery can be reliably and homogeneously kept within the necessary temperature window.

Adding to thermal efficiency in motion, the next generation refrigerant thermal management module and the MAHLE e-compressor on display are important for temperature control and service life. The Thermal Management Module offers simplified "plug and play" vehicle installation. It enables battery megawatt charging and is compatible with PFAS free R290 refrigerant. The MAHLE e-compressor shows off a compact design, reduces charging speed, and increases battery cruising range.

Visit MAHLE at the CES, Las Vegas: First floor, LVCC West Hall Booth #5652

Note: The press release is also available with photos here: https://newsroom.mahle.com/press/en/events/ces-2025/

Using nature as a model, MAHLE has now achieved a technological leap forward with its new battery cooling plate

The new high-performance bionic fan is inspired by the wings and feathers of an owl reducing loud noises from fans under full load and when charging vehicles.

The next generation refrigerant thermal management module is compact for cabin and battery efficiency with improved packaging.

MAHLE e-compressors are important for temperature control and crucial for service life, high charging speed and range of the battery. E-compressors are the heart of thermal management in electric vehicles.

With the new technology kit for electric motors, MAHLE is combining the advantages of its benchmark products SCT and MCT electric motors for the first time

MAHLE has developed a positioning system for wireless charging that allows an electric vehicle to be simply, reliably, and precisely aligned above the charging coil in the floor.

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About MAHLE

MAHLE is a leading international development partner and supplier to the automotive industry with customers in both passenger car and commercial vehicle sectors. Founded in 1920, the technology group is working on the climate-neutral mobility of tomorrow, with a focus on the strategic areas of electrification and thermal management as well as further technologies to reduce carbon emissions, such as fuel cells or highly efficient, clean combustion engines that also run on renewable fuels, such as hydrogen. Today, one in every two vehicles globally is equipped with MAHLE components.

MAHLE generated sales of almost EUR 13 billion in 2023. Employing more than 72,000 people at 148 production locations and 11 technology centers, the company is represented in 29 countries. (Last revised: December 31, 2023)

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