

Specialist presentation by ebm-papst at the International Engine Congress

Efficient high-pressure air supply in catalytic converter heaters

The International Engine Congress is a central meeting point for the industry and will be held in Baden-Baden, Germany from February 22 – 23, 2022, probably as a hybrid event. Jens Löffler, Head of Automotive Technology at ebm-papst St. Georgen, will show in his presentation how different solutions for efficient high-pressure air supply – particularly using turbo compressors – can be used in catalytic converter heaters.

Climate protection is a key issue for our society and a transition to sustainable mobility to reduce CO₂ emissions seems inevitable. The Euro 7 emission standard is already casting its shadow here, with new car models falling within its scope having to comply with stricter limits and test procedures in future.

In vehicles with internal combustion engines, the rapid heating of catalytic converters is critical for efficient exhaust gas purification at the earliest possible stage. This requirement is exacerbated by hybrid driving profiles and the associated cooling of the catalytic converters. However, secondary air systems, exhaust burners, and electric heater catalysts (EHC) with auxiliary blowers are solutions, with different power requirements for the air supply.

Low pressures and mass flows can be achieved using single or multi-stage centrifugal blowers. More power-intensive operating points often require the use of side channel compressors. In principle, these can only achieve limited efficiencies, which results in increased tension between installation space, weight, energy efficiency, acoustic characteristics, and system costs for the emerging requirements and performance classes.

The product platform of blowers, side channel compressors, and fast-moving high-speed compressors from ebm-papst enables significantly higher efficiencies to be achieved in a smaller installation space. This means that future requirements can be met even with limited installation space, while placing less strain on the vehicle electrical system.

In his presentation, Jens Löffler will elaborate on which solutions are suitable for specific requirements. For example, turbo compressors show their advantages at high capacities and blowers at lower capacities.

Specialist presentation by Jens Löffler

When: Tuesday, February 22
Location: Congress hall 1. Upper floor

About Jens Löffler

Jens Löffler, a graduate engineer, has been Head of Automotive Technology at ebm-papst in St. Georgen since April 2021 after working for the company for many years. He studied electrical engineering and microsystems engineering.

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Characters approx. 2,000, including headings and sub-headings
Tags Turbo compressors, energy efficiency, emissions, Euro 7 emission standard, air supply, catalytic converter heating, sustainable mobility, Löffler
Link <https://ebmpapst.com/automotive>

About ebm-papst

The ebm-papst Group, a family-run company headquartered in Mulfingen/Germany, is the world's leading manufacturer of fans and drives. Since the technology company was founded in 1963, it has continuously set the global industry standard with its core competences in motor technology, electronics, digitization and aerodynamics. With over 20,000 products in its portfolio, ebm-papst provides the best energy-efficient, intelligent solution for virtually every ventilation or drive-engineering task.

In fiscal year 2020/21, the "hidden champion" generated revenues of € 2.129 billion. The group employs roughly 15,000 people at 29 production sites (in Germany, China and the USA, to name but a few) and in 51 sales offices worldwide. ebm-papst sets the benchmark with their fan and drive solutions which are used in almost all industries, such as ventilation, air conditioning and refrigeration, heating, automotive, information technology, mechanical engineering, household appliances, intralogistics and medical engineering.