



Press Release

New design options with modern lamps

Thermal management for LED car headlights

Modern LED headlights offer progress in power consumption, luminance and service life, but they also require special attention to thermal management. Small fans, specially tailored to the needs of cars, can help.

Legislation only allows LED lamps in cars as self-contained units. If even one LED fails, the entire headlight must be replaced. So it is important for all components to be durable and perform reliably. At an efficiency of approx. 30%, LEDs also produce considerable waste heat – on a very small chip surface. If the chip gets too hot, the service life and light output both suffer. Small fans that are powerful yet smooth-running and durable help to direct the cooling airflow with pinpoint accuracy to protect the electronics. Ruggedly designed fans that can stand up to vibrations, shocks, heat and cold (-40 to +120 °C) are called for in the closed headlight housing. They emit no chemicals that could be deposited on the optics and reduce the light output. Special grease lubricates the ball bearings dependably even after 10 years under all climatic conditions. Achieving these results in spite of the adverse influences requires consultations among all specialists at an early stage of development to ensure optimum cost-effectiveness and lighting efficiency.



Photo Ruggedly designed fan that resists vibrations, shocks, heat and cold in the headlight housing (photo ebm-papst)

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About ebm-papst

The ebm-papst Group is the world's leading manufacturer of fans and motors. Since it was founded, the technology company has continuously set global market standards. Developments have ranged from electronically controlled EC fans (recently launched onto the market), to aerodynamic improvements to fan blades, to resource-conserving selection of materials, including biomaterials.

In the 2012/13 fiscal year, the company achieved a turnover of just under €1.4 billion. ebm-papst employs around 11,000 people at 18 production sites (including in Germany, China and the USA) and in 57 sales offices worldwide. Fans and motors from the global market leader are used in many branches of industry, including ventilation, air conditioning and refrigeration technology, household appliances, heating systems, IT and telecommunications, as well as automotive and commercial vehicle applications.

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