Preliminary report for the IAA Commercial Vehicle Show in Hannover

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Again at this year's IAA Commercial Vehicles Show in Hanover, ebm-papst, a leading producer of motors and fans, will be present with its automotive product range of innovative fans for commercial vehicle air conditioning.

The following products will be presented from September 25 to October 2, 2008 in Hall 11, Stand C09:

- Dual centrifugal blowers and axial fans for bus air conditioning systems, 24 VDC
- Axial and centrifugal fans for cold storage transport systems, 24 VDC or 12 VDC
- Axial fans and dual centrifugal blowers for agricultural vehicles and industrial trucks in 12 VDC

ebm-papst is presenting to the public something absolutely new: an axial fan developed for rough ambient conditions (Figure 1). The fan design is based on a new concept and features a high protection class for the electronics. "Hot-climate applications" in particular place high demands on the fans used, since heat, dust, and the extreme weather changes have an impact on the material. Using innovative ideas, the new fan was designed to meet these demands optimally. In the range of offroad applications, this axial fan also displays its clear superiority when long-term reliability is concerned.

Among the innovations there is another axial fan (Figure 2) with a densely integrated electronics module. This fan, which was developed for a market leader in the field of industrial trucks, is representative of ebm-papst's expertise in the area of electronics. The fan evaluates the electrical information it receives from the vehicle's central control unit and changes its operating state accordingly. At the same time, the fan is capable of sending feedback about the corresponding operating state to the control unit via a diagnostic line. Thus the fan assumes an essential role in the cooling management of the vehicle's motor and contributes to optimizing the vehicle's energy balance. As with all EC fans by ebm-papst, this fan also offers high efficiency and low energy consumption. Up to 7 dB(A) quieter than comparable designs, the noise the driver is exposed to can be reduced by up to 4 db(A). So two industrial trucks driving next to each other are just as loud as one of the predecessor models. The accurately controllable electric fan sets new standards for energy-efficient solutions to reduce climate change.

But public means of transportation are also increasingly employing state-of-the-art environmentally friendly technology. To protect the environment, Mercedes-Benz developed the Citaro bus with a diesel-electric hybrid drive. The prototype uses state-of-the-art technological components. Take, for example, the electronically commutated fans by ebm-papst that supply the various cooling circuits of the bus's overhead system with fresh air. Unlike the 24 V power supplies that were common in buses until now, voltages of 450 V and 750 V are available here in the DC-link. To meet this challenge, ebm-papst could rely on its broad product range and fall back on fans that were actually designed for voltages of 350 V to 400 V. Modified to meet automotive requirements, they now operate reliably at a DC voltage up to 750 V. ebm-papst has also succeeded here as a development partner in realizing innovative components for future-oriented advanced customer applications.

Figure 1: A new axial fan developed specifically for hot-climate applications.

Figure 2: A new concept for motor cooling. The previously used conventional hydraulic fans or Visco fans have been replaced with accurately controllable electric EC fans.

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