Webasto presents electric heater for the first time

Market leader for automobile parking heaters presents an innovative product: a high-voltage heater (HVH) for vehicles with alternative drives

Stockdorf/Munich. – October 19, 2012 – As the market leader in fuel-powered auxiliary and parking heaters for automobiles, electricity-powered mobility is one of the key pillars for Webasto’s growth strategy. In order to tap this new market, the automotive supplier has developed a highly efficient electrically powered heating system for hybrid and electric vehicles which heats the interior while driving. After all, every vehicle needs a heater. Without one, the windows fog up or become icy, impairing the driver’s vision, especially in winter. Since motors of hybrid and electric vehicles do not produce enough waste heat for heating, alternative heating concepts are required. With its high-voltage heater, Webasto provides a water heater for the efficient heating of vehicles with alternative drives.

“Plug-in hybrids and electric vehicles will account for a significant proportion of mobility in the future. For this reason, we believe that our high-voltage heater has very good chances on the market” says Dr. Joachim Damasky, Chairman of the Webasto Thermo & Comfort division. “Our goal is clear. We want to be the market leader for the heating of electric vehicles; our new product gives us an excellent means of doing so.”

From the parking heater to the driving heater
With the Webasto HVH (high-voltage heater), Webasto is presenting a newly developed heater for heating hybrid and electric vehicles. Since there is still no uniform battery voltage for electric vehicles, the device has been designed so that it can be used in ranges between 250 and 450 V without a loss in power. With an efficiency of 99%, the high-voltage heater converts electricity into heat with virtually no loss. This is made possible using the so-called thin film technology, which Webasto is using for the first time in a heater. The infinitely variable heat output ranges from 0.2 up to 5 kW. At 1.9 kg, the device is also very light. The compact design permits flexible installation positions in the engine compartment. All connections are located on the front of the heater, so that quick and easy “plug-and-play” installation is possible on the assembly belt; the necessary space for cables and hoses is also minimized. In order to avoid voltage intrusions on surrounding components, multi-level redundant safety measures are integrated in the hardware and software. The Webasto HVH is designed to be standard equipment and can be installed in all hybrid and electric vehicles. Technologically, it can also be used as a parking heater – the vehicle manufacturer decides whether this option is to be enabled.

How the high-voltage heater works
The water heater is integrated in the water circulation system of the vehicle. The heater contains a control unit, a heat exchanger as well as the heart of the device, the layered heating element. When the heater is turned on, current flows from the battery to the heater and heats the thin film heating element. Simultaneously, the circulation pump of the water circulation system turns on and transports water through the heater. The thin film heating element heats it to 70 degrees Celsius; then the water is transported to the heat exchanger of the vehicle’s HVAC system. There, the heat of the water is transferred to the air, which is then passed into the interior of the vehicle using the fan. This warm air ensures clear windows and heats the interior of the vehicle.
No rare earths and lead are used
Before designing the heater, the development team first impartially analyzed and evaluated all the available technologies that allow electric heating in the high-voltage range. “After numerous tests, the thin film technology proved to be the most efficient heating technology. Therefore, we decided to use it” explains Dr. Christian Hainzmaier, Project Manager of the high-voltage heater at Webasto Thermo & Comfort. “It was also important to us to use readily available raw materials. We need neither rare earths nor lead for the heater core.”

Market launch
Webasto started the development of the high-voltage heater in 2010. After numerous discussions with automobile manufacturers, the decision for the layered heating technology was made in early 2011. Webasto will deliver the first prototypes to the OEMs at the start of 2013. In the second quarter of 2015, mass production of the high-voltage heater can begin. The production site will be Neubrandenburg.

A heater for every vehicle
Thus, Webasto has a heating solution on offer for every type of drive. For high-efficiency diesel engines, the company supplies fuel-powered auxiliary heaters that heat the interior. In hybrid and electric vehicles, the high-voltage heater provides warmth and safety. The Thermo Top Evolt heater is a hybrid solution – powered by CO₂-neutral bioethanol, it provides continuous heating to electric vehicles.

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About Webasto:
The Webasto Group, based in Stockdorf near Munich, Germany has been a family-owned company ever since its founding in 1901. As of July 1, 2012 the former Webasto AG was transferred to Webasto SE (Holding). The two corporate divisions for roof and thermo systems were spun off into legally autonomous companies, also in the legal form of SE: Webasto Roof & Components SE and Webasto Thermo & Comfort SE. Both companies are owned 100% by Webasto SE.

The group operates internationally at over 50 locations (over 30 of these production sites) in the divisions roof and thermo systems. Webasto is one of the top 100 automotive supply firms worldwide. In 2011 the Group generated a sales volume of 2.3 Billion Euros, which represents a revenue increase over the previous year of 12.6 percent, and had more than 9,500 employees per end of year. Its core competencies encompass the development, production and sales of complete roof and convertible roof systems as well as heating, cooling and ventilation systems for passenger cars, commercial and specialty vehicles, recreational vehicles and boats. For more information, please visit us at www.webasto.com

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