

New efficient Webasto High Voltage Heaters for electric vehicles

There are now three new electric High Voltage Heaters (HVH) from Webasto with 10 to 12 kilowatts of heating power for electric cars, trucks, buses, construction machinery, and special vehicles. The "HVH 100 Compact", "HVH 100 Compact+" and "HVH 120" heaters are no larger than a DIN A4 sheet of paper and convert direct electric current into heat with practically no losses (more than 95 per cent).

Stockdorf – February 27, 2024 –Every electric vehicle needs a heater, because the interior cannot be heated with heat from the engine as in fuel-powered vehicles. Electric High Voltage Heaters from Webasto not only heat the cabin or the passenger compartment but can also optimise the temperature of traction batteries. This has a positive effect on range and service life.

The thin heating layer of the High Voltage Heaters is firmly bonded onto the heat exchanger having a large contact area. As a result, the three new HVHs heat up extremely fast and are highly efficient. Both the temperature and the heat output are infinitely and steplessly adjustable. This means that only the heat that is actually needed is produced. The service life of the High Voltage Heaters is between 15,000 and 25,000 heating hours.

Small but powerful

The devices require very little installation space. Measuring 284 x 200 x 72 millimetres, the footprint of the HVH 100 Compact and HVH 100 Compact+ is smaller than a DIN A4 sheet of paper and they are only around 7 centimetres high. The HVH 120 is around 4 centimetres longer. The weight is 2.2 and 2.5 kilograms. No rare earths are used for the high-voltage heaters.

The heaters support low voltages of 12 or 24 volts (V) and heat in the high-voltage range from 250 to 880 V. Despite their compact size, the power packs deliver 10 and 12 kilowatts (kW) of heating power and are therefore particularly efficient. If the heat requirement for passenger or cargo compartments is greater, several HVH can be combined. They heat the cabin and keep the batteries in their "comfort zone" between 25 and 30 degrees Celsius.

All three heaters are controlled via LIN bus (Local Interconnect Network). The HVH 100 Compact+ and the HVH 120 also utilise the faster CAN protocol (Controller Area Network), which is commonly used in commercial vehicles.

Safe for all situations

The three HVH are certified for various applications in accordance with CE, ECE-R10 and ECE-R122. They have active discharge support, for example to discharge the high-voltage circuit to a safe voltage range of below 60 V in milliseconds before working on the device. The high-voltage heaters are protected against cyber attacks and certified in accordance with ISO 21434. Functional safety is ensured in accordance with the specifications of ISO 26262 - the 10-kW variants with ASIL B, the 12-kW variant even with the highest level ASIL D (overheating) and thus for vehicles in which people are also sleeping. For special vibration requirements, the HVH 120 fulfils the current vibration standard ISO16750-3 (2023), profile XVI.

"The focus during development was on making the three new High Voltage Heaters more compact, lighter and more sustainable, while at the same time covering the widest possible range of applications. Thanks to the various connection and control options, the HVH can be flexibly integrated into vehicles and machines," says Webasto Chief Technology Officer Marcel Bartling.

About Webasto

As a global innovative systems partner to the mobility industry, Webasto is one of the 100 largest suppliers to the automotive sector worldwide. In development, manufacturing and sales, the company focuses on roof systems on the one hand and on vehicle electrification on the other hand. The product range includes openable and fixed panoramic roofs, electric high-voltage heaters and batteries, as well as thermo management solutions. Among the customers of Webasto are manufacturers of passenger cars, commercial vehicles, and boats, as well as dealers and end customers. In 2022, the Group generated sales of over 4 billion euros and employed about 16,800 people at more than 50 locations. The headquarters of the company, which was founded in 1901, is located in Stockdorf near Munich (Germany). For more information, please visit www.webasto.com

Media Contact

Webasto Group
Alice Röhler
Communications Manager
Phone: +49 89 8 57 94-5 26 62
E-mail: alice.roehler@webasto.com

Michael Halser
Communications Manager
Phone: +49 89 8 57 94-5 33 40
E-mail: michael.halser@webasto.com