

# Electric High Voltage Heaters HVH 50/70 and HVH 100

Perfect Climate for Electric Vehicles



The electric High Voltage Heater (HVH) is the ideal heating system for plug-in hybrids and electric vehicles. It converts DC electric power into heat with practically no losses. Webasto's innovative technology works with an extremely thin heating layer that is firmly bonded onto the heat exchanger, and a large contact area for heating the coolant. The HVH therefore achieves extremely fast heat-up times, high precision and the highest efficiency.

Customers benefit from greater driving ranges with the same battery capacity and optimum climate comfort. In addition, gentle and optimum conditioning of the battery is possible.

Furthermore, the system requires only a small installation space and can therefore easily be integrated into vehicles. It offers various control solutions with different functionalities based on the customer's requirements. Webasto offers a wide range of accessories for integrating the HVH into vehicles, together with an international support and service network.

Good to know: The HVH 100 delivers up to 10 kW heating power and works with voltages up to 870 V, needed by many busses and trucks, as well as LCV and cars.

- **Powerful 5/7/10 kW heating performance and wide voltage range up to 870 V independent of coolant temperature**
- **Layer technology for extremely fast heat-up**
- **Highest efficiency through quick and direct heat transfer**
- **Stepless and exact controllability with no inrush currents**
- **Reliable safety concept with redundant controls**
- **Certified for automotive requirements with ECE-R10 and ECE-R122 type approval**
- **CE certified for various segments and applications**



Car



Truck



Light Vehicles



Bus



Rail



Off-Highway



Defense



Special Vehicles

## The innovative Water Heater for Hybrid and Electric Vehicles

### Technical Specifications

	HVH 50 HVH 70	HVH 50 Gen 1.5 HVH 70 Gen 1.5	HVH 100
Heating performance (kW)		5 7	10
HV voltage range DC (V)	100 – 450	100 – 490	250 – 870
Efficiency (%)	> 95		
Controllability steps (W)	50		100
Dimensions (mm)	284 x 200 x 54		325 x 200 x 72
Weight (g)	1.95		2.6
Temperature range for heating (°C)	-40 to 90		
Temperature range for ambient (°C)	-40 to 125		
Communication	LIN 2.1 PWM Main switch	LIN 2.1	
Passive discharge (V) according to ISO 6469-3.3.	< 60 in 10 Sec	< 60 in 4 Sec	< 60 in 40 Sec
Dielectric strength (V DC)	3,101		
IP protection class	IP 6K9K IP 6K7		
HV connection	TYCO HVA280		
NV connection	LV FEP connector 8 PIN integrated de-aerating membrane		
Electrical safety	ISO 6469 Part 3/ECE R100		
Functional safety	According to ISO 26262		
EMC	ECE R10 Rev. 5		
Insulation resistance (MΩ)	50		
Service life	15 years or 7,500 heating hours	15 years or 12,000 heating hours	

#### Advantages:

- **Powerful and reliable heat output:** all-time comfort for the driver
- **Efficient and quick performance:** longer driving experience without energy waste
- **Precise and stepless controllability:** better performance and highest driving range
- **Reliable and certified safety:** three mechanisms to handle faults and guarantee safety