

First all electric zero emission HVAC unit

REVO[®]-E HP R744



Strong cooling and heat pump performance at zero emission

The REVO[®]-E HP R744 is an all-electric, zero emission HVAC unit specially designed for buses with alternative drives. The use of natural refrigerant R744 makes it an environmentally neutral HVAC system for cooling the bus interior, and it also functions as a heat pump. It operates more efficiently under a wide range of ambient conditions (-20 °C / +50 °C), providing a large heating capacity with less energy consumption.

HIGHLIGHTS



Low life-cycle costs

- Optimized piping without collector therefore no yearly pressure tank inspection necessary
- Compact roof-top-unit: integrated compressor and inverter
- Refrigerant R744 is cost-efficient and permanently available
- Practically maintenance-free



Range of Driving

- Range of Driving: -20 °C to +50 °C
- Maximized range due to reduced system weight and high-efficiency heat pump down to -20 °C (R744)
- Dynamic de-icing on demand for energy saving heat pump operation at cold outside temperatures < 5 °C
- Flexible and efficient power output due to infinitely variable compressor and fans
- Electronic expansion valves (EEV) with Valeo control units for efficient operation with optimum high pressure control (optimal COP control)



Refrigerant

- Natural refrigerant CO₂, GWP = 1 ODP = 0
- Non flammable, non toxic and easily produced



Comfort

- Strong cooling and heat pump performance in one unit
- Fast switching from heat-pump to A/C mode (within seconds)



Environmentally friendly

- Reduced amount of refrigerant (approx. 3,8 kg)
- Environmentally friendly: GWP = 1 and ODP = 0;
- Fulfills requirements of German "Blauer Engel" eco-seal
- No leakage control needed due to the characteristics of the natural refrigerant CO₂



Additional

- R744 / CO₂ compressor integrated
- Plug & play
- Plate heat exchanger with cold water circuit for frontbox and battery cooling
- Plate heat exchanger with hot water circuit for additional heating performance and higher efficiency in heat pump mode

TECHNICAL DATA

	REVO®-E HP R744
Refrigerant	R744 / CO ₂
Cooling capacity (kW)	38* at 35 °C (COP = 2,2) 18* at 50 °C (COP = 1,1)
Heating capacity (Heat pump) (kW)	26* at -10 °C (COP = 2,1) 21* at -20 °C (COP = 2,1)
Chiller (cold water for frontbox or BTM) (kW) PHE (warm water for frontbox or floor heating) (kW)	6* at 5°C coolant temp. 10 at 60°C coolant temp.
Current (26 V DC) (A)	< 80*
Current (600 V DC) (A)	< 36
Fresh air	0 - 100 %
Weight (kg)	ca. 375*
Dimensions L x W x H (mm)	2,990 x 2,081 x 411
Communication	CAN-Control

*spec. highly dependent on application