

## Hispacold launches “Breeze”: The new wave of HVAC

The new Breeze Range Systems cover all the needs of electromobility and fuel vehicles for any transport application (city buses, intercity buses and coaches), for all climatic and environmental zones.

Combining design, power and sustainability, the Breeze range has an absolutely renovated design. These new systems are lighter than the latest generations in the market, with a significant decrease in the weight of more than 35% compared to former ranges. Furthermore, its modular design eases the adaptation to customer needs thanks to the installation availability to any vehicle roof radius whilst shortening the delivery term.



HVAC System Breeze 200

By launching this range of systems, Hispacold continues with the highest quality standards in the market, thus also contributing to decrease the systems life cycle costs.

The mechanical fixing of the system on the vehicle roof top not only reduces the installation time and costs, but also allows a better and cleaner execution that guarantees water tightness.

The reduction of the refrigerant charge is another key feature of this new range. The Breeze range reduces the refrigerant charge by more than 60% regarding former ranges and can achieve a reduction in the GWP (global warming potential) of more than 80%, due to the possibility of using R513A as an alternative refrigerant (along with R134a).

At the same time, the Breeze range has also improved the refrigerant leakage rate by reducing the amount of refrigerant connections in the system and by following IMACA standards recommendations in the design of the refrigeration circuit.

Fecha 14/10/2019

2/3

The Breeze range incorporates inside the unit, as an option, the indoor air extraction, thus avoiding the installation of an independent and specific extraction system, contributing to additional savings for the bus constructor.

Its design allows increasing the overall HVAC system efficiency without compromising comfort or quality due to:

- Reduced weight, achieving a very low kg/kW ratio
- Up to 100% fresh air in free cooling mode. The fresh air intake can be significantly increased when outside conditions are favourable, therefore decreasing the number of operating hours for the compressor, compared to systems with lower fresh air intake flow.
- By installing a CO<sub>2</sub> sensor, when external conditions are not favourable, the fresh air intake can be reduced to the minimum necessary, therefore reducing also to the minimum the additional thermal load provided by the fresh air intake under these conditions.
- Through the installation of eco<sub>3</sub> air purifier, an increase in the oxygen concentration inside the vehicle is achieved, contributing as well to improve the indoor air quality, thus reducing the needs of fresh air intake under not favourable outside conditions.
- The use of brushless motors in fans and blowers, besides reducing the electrical consumption, also allows an accurate system regulation, so the system can perform under optimal energy efficiency conditions.



The City Transport Company of Seville, TUSAM, has awarded Hipacold Breeze Range for its new articulated buses

Fecha 14/10/2019

3/3

Hispacold Breeze range also reduces the systems Life Cycle Costs (LCC):

- Using high durable components.
- Reducing the number of refrigerant connections and hence the potential number of leaks in the circuit.
- Designing the refrigerant connections according to IMACA recommendation, reducing the yearly rate of leaks through connections.
- Using highly efficient condensers, achieving a reduced high pressure in the refrigeration circuit.
- Maintenance friendly design, thanks to the use of brushless electrical motors, the lower amount of refrigerant connections and the ease of assembling and dismantling the system components.
- Possibility of auto diagnosis for fans and blowers motors.

