



Travel in **comfort** with
Hispacold HVAC systems

HVAC SYSTEMS FOR RAILWAY APPLICATIONS



Specialists in **passenger comfort**
with first-class engineering quality

The legacy **of tomorrow**

*Strategic contribution to the
Sustainable Development Goals (SDGs)*

NEW HISPACOLD FACILITIES

Free Trade Zone port
SEVILLA SPAIN

36,000 m²



Hispacold is a world leader company in climate systems specialized in passenger comfort with more than 45 years' experience.

Hispacold designs, manufactures and distributes HVAC systems for all rail vehicles: trams, metros, EMUs, DMUs, LRVs... with proven and reliable technology solutions.

Hispacold is certified in the most recognized international quality management, environment and safety standards: ISO 9001, ISO 14001, ISO 45001, EN 15805-2 and ISO/TS 22163 (IRIS).

Hispacold has developed technology of its own, becoming a reference worldwide actor in the passenger transportation air conditioning sector. Hispacold fully aligned with the United Nations 2030 Agenda and strategically contributes to the Sustainable Development Goals (SDGs).

INDIRECT EMISSION

 **Integration of
key processes
in a single facility**

 **New factory with
self-sufficient energy**

 **Carbon-neutral
foot print**

DIRECT EMISSION

 **Use of natural
refrigerants (R290)**

 **Recyclable
materials**

 **Ultralight and
efficient systems**

Sustainable Global Solutions

Our most natural air

R290

NATURAL REFRIGERANT

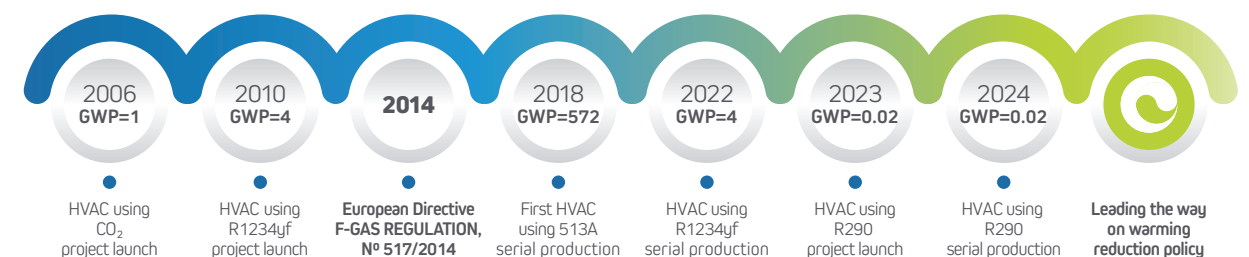
After several studies, evaluations, and tests, **Hispacold** R&D, selected **R290** as a global and long-term natural refrigerant to enhance **sustainability and energy efficiency** in HVAC for railway transportation.

- > **Low Environmental Impact:** with a low Global Warming Potential (GWP), R290 reduced environmental impact compared to synthetic refrigerants, which is crucial for reducing the carbon footprint.
- > **Performance and energy efficiency:** proven tested and extensively used in different HVAC applications, R290 demonstrate reliable performance, cost-effective across a wide range of operational conditions, which makes it suitable for application in different climatic zones.
- > **Cost and Availability:** R290 is widely available, based equipment operates with comparable components and configurations to synthetic refrigerant which simplifies its use and maintenance in train HVAC systems.
- > **Reliability:** reliability concerns have been effectively resolved in railway application, risk assessment and tests carried out by Hispacold confirms that R290 performs reliably under the demanding conditions, meeting the high standards required for passenger trains.

Natural refrigerants and low GWP solutions

Hispacold has always been committed with global warming reduction policies.

Since 2006 **Hispacold** R&D works in development and testing of alternative refrigerants with lower GWP and Natural refrigerants: CO₂, R290, HFO's and blended HFO's.





Energy efficiency



Selecting innovative components for design and testing in very hard climate conditions, **Hispacold** developed its **own heatpump technology, with up to 30% consumption reduction.**

Inaugurated new Technological and Innovation Center: climatic test laboratory, data monitoring test room, automatic test programming and HVAC system performance results in terms of cooling, heating capacity and Energy efficiency. Capacity COP and EER of HVAC system under ASHRAE-37, EN 14825, AHRI 210-240 and EN 14511 standards covering temperatures between -25 °C and 60 °C and humidity between 5% and 95%.



Indoor air treatment solutions



**OPTIMIZED
FRESH AIR LEVEL**



UV LAMPS



ECO₃ AIR PURIFIER

Ten years ago, concerned about the air quality inside vehicles and as part of its firm commitment to R&D, **Hispacold** developed various air treatment solutions in response to the demand from rail operators for safe, healthy, and comfortable rail transportation.

eco₃ air purifier eliminates microbes (bacteria, viruses including SARS-Cov-2, fungi), allergens and germs in general.

> Neutralizes bad odours

> Reduces the risk of infection and illness

> Proven and tested in vehicle in real conditions



Own technology and innovation

Hispacold, with a long and deep experience in HVAC solutions, designs systems for all climatic conditions and any type of thermal needs.

Our engineers are working on projects involving new trains, as well as train refurbishing projects.



R290
NATURAL REFRIGERANT
Our most natural air

SALOON UNITS

S100



S101 / S102 / S103 / S104

TRAM
EMU
LRV

S200



S201 / S202

EMU
REGIONAL TRAIN
DMU



S203

EMU
REGIONAL TRAIN
DMU



S204

EMU
REGIONAL TRAIN
DMU



S205

EMU
REGIONAL TRAIN
DMU



S206

EMU
REGIONAL TRAIN
DMU



S291

TRAM
LRV
EMU



S292

TRAM
LRV
EMU

S300



S301 / S302

METRO



S303 / S304

METRO



S305

METRO



S306

METRO

S400



S401

METRO



S402

METRO

BTMS T101



T101

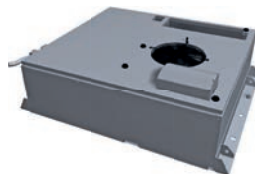
BEMU

CABIN AND LOCOMOTIVE UNITS



C100

TRAM
EMU
LRV



C200

DMU
TRAM
EMU
LRV



C300

METRO



C400

LOCO

CABIN AND LOCOMOTIVE C290



C290

TRAM
LRV
EMU

Main projects



Regional DMU
Sardinia (Italy)



Commuter Train
Toluca (Mexico)



Metro
Malaga (Spain)



Tramway
Granada (Spain)



Tramway
Kaohsiung (China)



Tramway
Tallinn (Estonia)



Tramway
Amsterdam (Netherlands)



Tramway
De Lijn (Belgium)



Metro
Mexico City (Mexico)



Metro
Bucharest (Romania)



Metro
Istanbul (Turkey)



Tramway
Budapest (Hungary)



Tramway
Utrecht (Netherlands)



Tramway
Luxembourg



Tramway
Mauritius Islands



Tramway
Lund (Sweden)



Metro
Barcelona (Spain)



Tramway
Belgrade (Serbia)



Tramway
Birmingham (UK)



Tramway
Saint-Étienne (France)



Tramway
Cagliari (Italy)



Tramway
Canberra (Australia)



EMU FEVE
Spain



EMU FGC
Spain



Tramway
Cuiaba (Brazil)



Tramway
Stockholm (Sweden)



Train-Tram
Cadiz (Spain)



EMU Transpennine
United Kingdom



Hvle Locomotives
Germany



Metro
Amsterdam (Netherlands)



Train Tram
Szeged



Tram
Liège (Belgium)



Metro
Quito (Ecuador)



Tramway
Oslo (Norway)



Metro
Naples (Italy)



Tramway
Vitoria (Spain)



Tramway
Lugano (Switzerland)



LRV
Manila (Philippines)



Train-Tram
Szeged (Hungary)



Loco
Rodoviario (Portugal)



LRV
Essen (Germany)



Metro
Bonn (Germany)



Metro
Cairo (Egypt)



Metro
Hannover (Germany)



Tramway
Marseille (France)



EMU
Lithuania



LRV
Essen (Germany)



Tram
Sarajevo (Bosnia and Herzegovina)

World presence

Hispacold is a company of Irizar Group SC, which employees more than 3500 people and has a global turnover of more than 700 Million €. This gives Hispacold the benefits from a multinational organization while maintaining an individual company spirit.

Hispacold HVAC systems are running in all five continents and in more than 100 countries.

Athens Rabat Bonn Stockholm Amsterdam
Monterrey Istanbul Florence Sarajevo
Madrid Marseille Manila Hanover
Mexico City Vilnius Oslo Seville Brussels
Rome Quito Sydney Kaohsiung Cairo
Calgary Canberra Barcelona Naples
Palermo Budapest

