



CO₂ CO₂ CO₂ CO₂ CO₂ CO₂

R290 R290 R290 R290 R290

Propane

R290 HFC HFO HFC HFO HFC HFO



Heospro sistema

Efficiency, safety and connectivity
for your plug-in and semi plug-in
showcases

The cutting edge in plug-in and semi plug-in showcases

HEOSpro sistema is CAREL's solution for the decentralisation of refrigerated cabinets in supermarkets, drastically reducing the refrigerant content. Plug-in units are air-cooled, while on semi plug-in units can be air-cooled (ducted) or water-cooled (water loop systems).

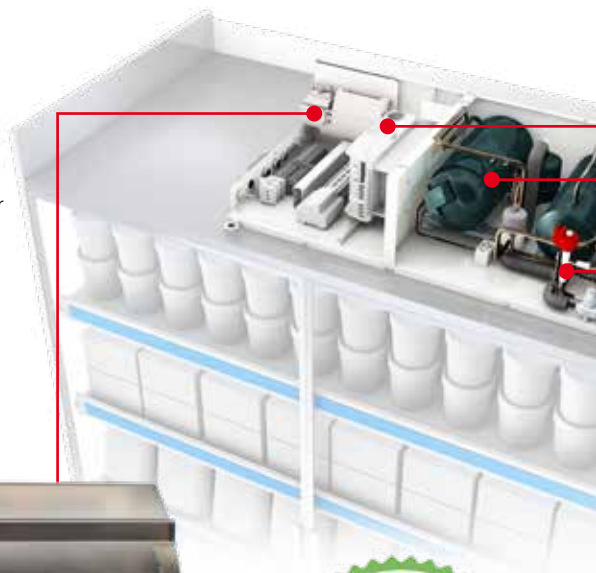
- Natural refrigerants: R290, CO₂;
- High efficiency;
- Easy installation and maintenance;
- Connectivity.

User interface

The user interface is an accessory designed for direct installation on the refrigerated cabinet. It stands out for its aesthetics and ease of use. Furthermore, wireless connectivity to the **Heospro** controller is available (NFC or Bluetooth), eliminating the need for cables. Both models can be used on propane or HFO cabinets. Furthermore, the operating parameters and system optimisation can be managed by the boss supervisor.

HEOS controller

- Complete management of the condensing unit and showcase
- Perfect synchronisation of compressor and electronic valve for the highest efficiency
- Advanced control and monitoring functions: real-time COP calculation, smart defrosting, etc.
- Compatibility with CAREL and third-party supervisors via Ethernet or RS485.



Advantages of continuous modulation

Continuous modulation represents the ability to perfectly meet system requirements. This is achieved using:

- Variable-speed BLDC compressors;
- DC drivers;
- Electronic expansion valves.



Wireless connectivity

HMI connection via Bluetooth or NFC allows the parameters to be set and commissioning completed directly from the CAREL "Applica" app.



A3 ready

In addition to normal HFCs and CO₂, all system components are compatible for use with A3 flammable refrigerants, such as propane (R290), or A2L fluids.



Power+ inverter

- Precision electronic control for maximum efficiency
- Compliance with the strictest standards on electromagnetic interference (EMC)
- Class B firmware and safety functions
- Active PFC for single-phase models



Variable-speed compressors

- Wide control range (25-100 rps)
- Permanent magnet brushless motor for the highest electrical efficiency;
- Low noise due to the "double rotation" design;
- Maximum reliability through an intelligent drive system, backed by CAREL's many years of experience;
- models for both HFCs and HFOs, and for R290 and CO₂.

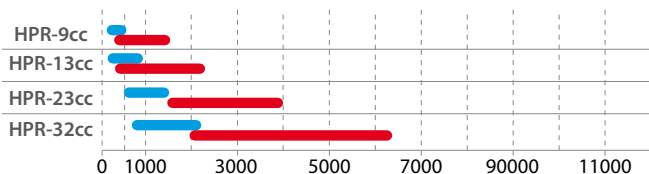


Electronic expansion valve

The CAREL electronic valve ensures perfect superheat control, operating in sync with the compressor for maximum system efficiency.

Range of main compressors integrated into the system

Propane (R290)



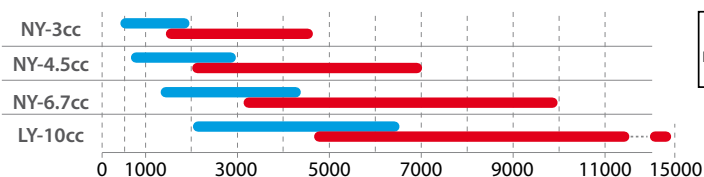
SIAM DPW22/28/36/42 compressors can also be used.



Low temperature conditions:
T_{evap} = -30°C, T_{cond} = 40°C
Superheat 10K, Subcooling 3K

Medium temperature conditions:
T_{evap} = -5°C, T_{cond} = 40°C
Superheat 10K, Subcooling 3K

CO₂ (R744 water loop - subcritical)



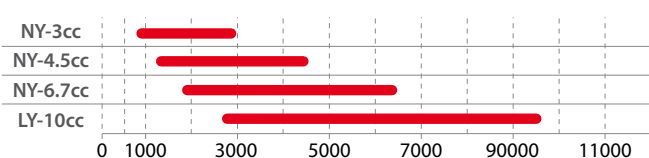
The Toshiba DY30/45/67 and RY100 vertical compressors can also be used.



Low temperature conditions:
T_{evap} = -30°C, T_{cond} = 15°C
Superheat 10K, Subcooling 3K

Medium temperature conditions:
T_{evap} = -5°C, T_{cond} = 15°C
Superheat 10K, Subcooling 3K

CO₂ (R744 air cooled - transcritical)



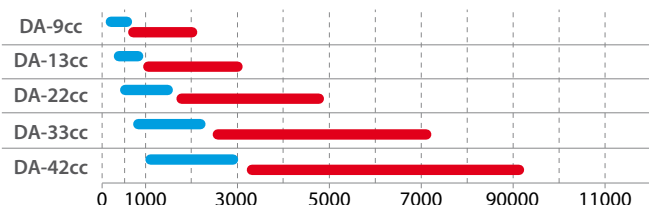
The Toshiba DY30/45/67 and RY100 vertical compressors can also be used.



Low temperature conditions:
Not applicable

Medium temperature conditions:
T_{evap} = -5°C, T_{gas cooler} = 35°C
Superheat 10K, Subcooling 3K

HFC/HFO (R448A, R449A, R454C)

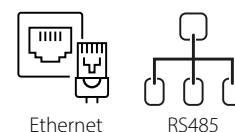


Low temperature conditions:
T_{evap} = -30°C, T_{cond} = 40°C
Superheat 10K, Subcooling 3K

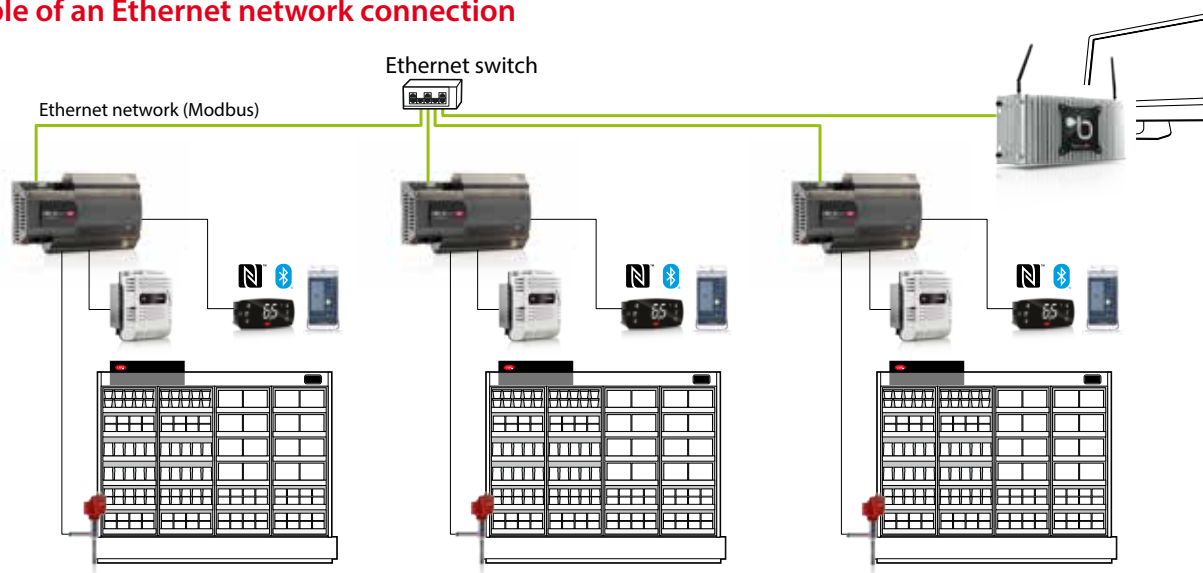
Medium temperature conditions:
T_{evap} = -5°C, T_{cond} = 40°C
Superheat 10K, Subcooling 3K

The cutting edge in connectivity

With Heospro, in addition to the standard RS485 Modbus connection, the individual controllers can be connected to an Ethernet network (Modbus TCP/IP), so as to maximise connection speed. In this way, supervisor polling times, as well as any upgrades to the individual controllers, are significantly faster.



Example of an Ethernet network connection



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