



multiDC mini booster

Widest modulation and
highest efficiency for
small and medium-sized
supermarkets

The best modulation technology applied to small compressor racks

MultiDC is CAREL's high-efficiency solution for CO₂ compressor racks in convenience stores and small and medium-sized supermarkets.

- Up to 6 MT compressors (around 50 kW);
- Up to 2 LT compressors (around 10 kW);
- Extremely wide range of modulation, from 5 to 100% of unit capacity;
- Innovative patented oil management system.

This silent and compact compressor rack, equipped with DC rotary compressors only, contains the best CAREL technologies, the result of extensive experience with transcritical CO₂ systems.



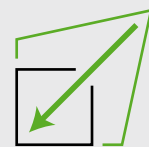
Perfect for retrofits

Replace old HFC compressor racks with efficient natural refrigerant units.



Very low noise.

Silent operation thanks to continuous compressor speed control.



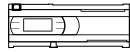
Compact design

Compact unit, around 2 m high and the same footprint as a Euro-pallet.

The complete package for state-of-the-art compressor racks

CAREL directly supplies everything needed to create the multiDC system, for maximum synergy between components.

- Intuitive programming and fast commissioning tools
- Enhanced safety: full envelope control and oil return functions



- **pRack pR300T:** Complete management of CO₂ booster racks with built-in valve driver for HPV and RPRV valves and backup power supply



- **power+ DC inverter:** Capacity modulation based on demand from the cabinets, with advanced compressor envelope control system.



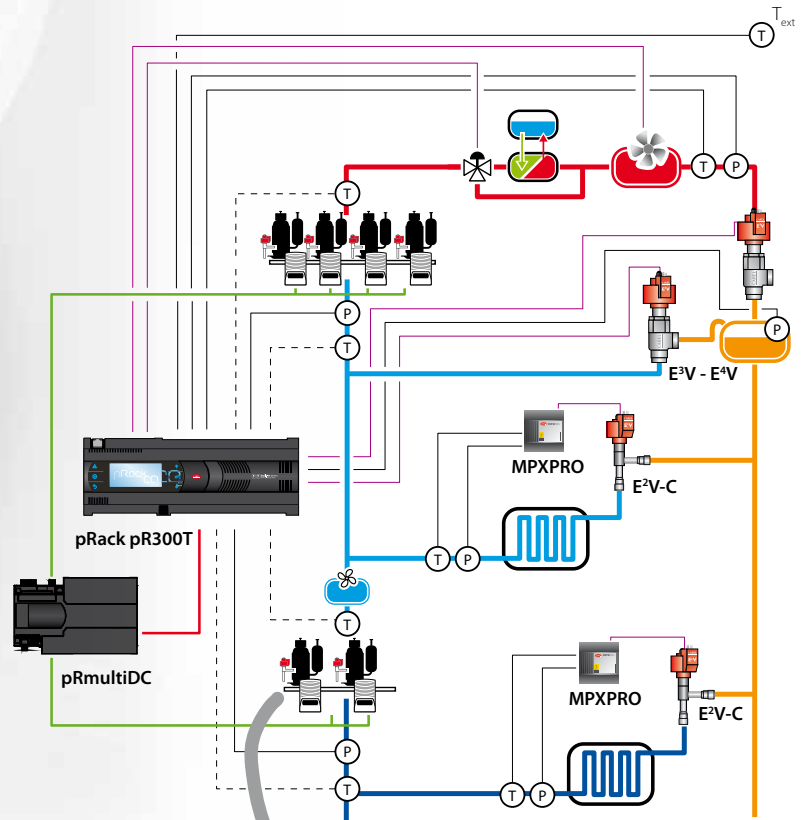
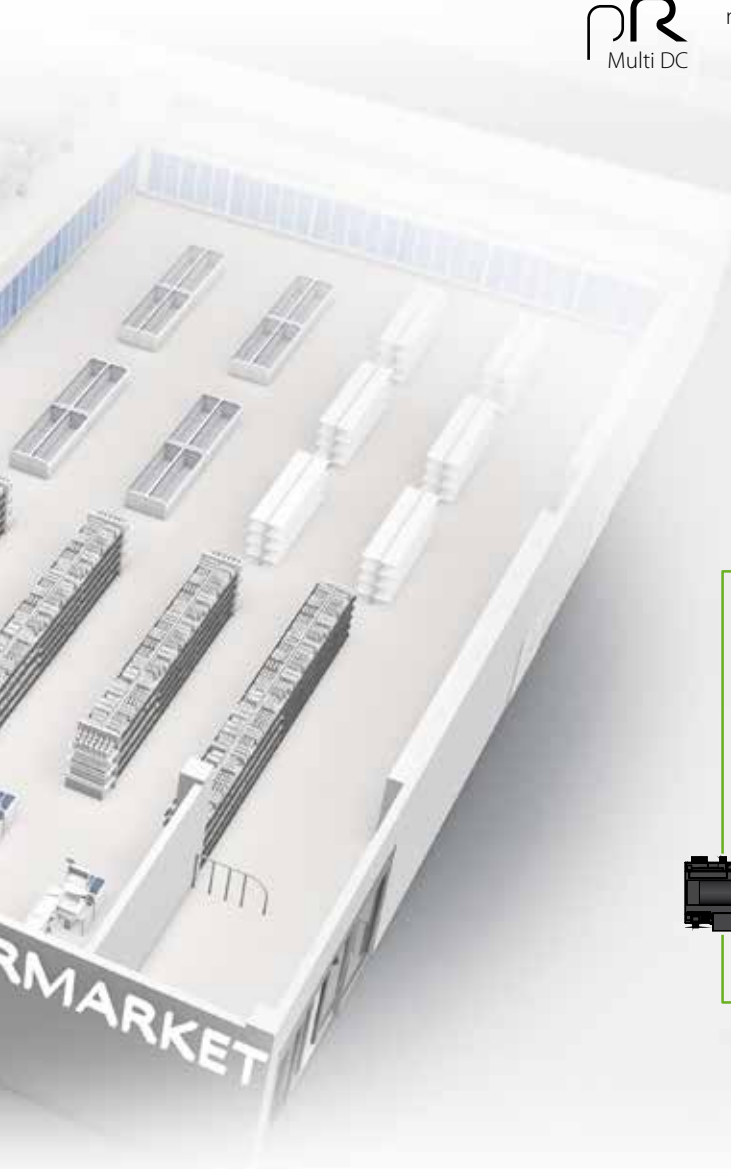
- **pRmultiDC:** Auxiliary control for DC compressor and oil management



- **CAREL EEV and probes:** Constant and precise modulation of gas cooler and receiver pressure, oil management system



- **boss mini supervisor:** Remote supervision of system performance



Patented oil management system

The wide range of modulation brings the need for compressor oil management, so as to ensure high reliability even with large variations in compressor speed and refrigerant flow-rates.

This is why Carel offers a patented oil management and refilling system.

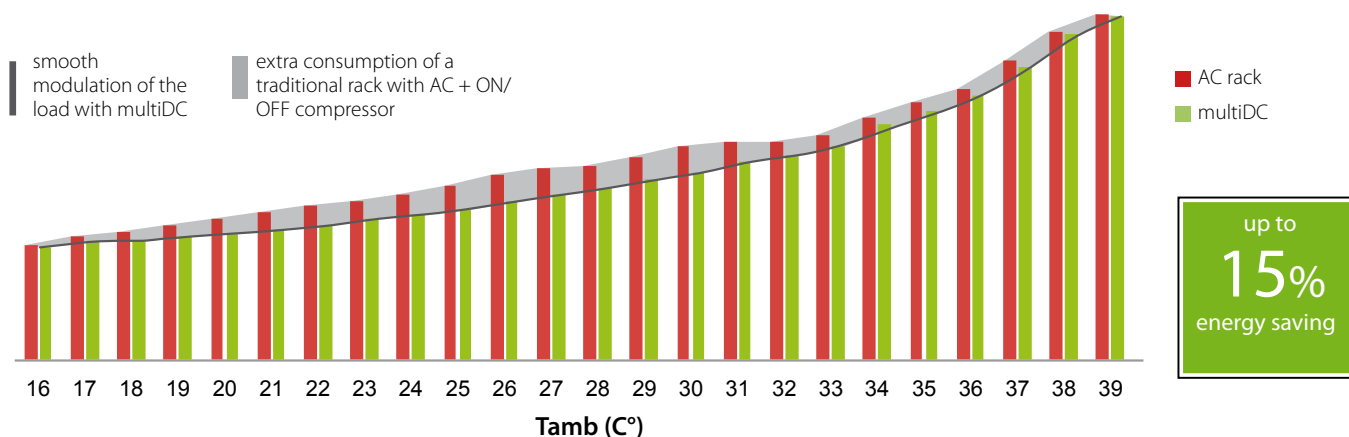
Oil check EEVs

- Check the presence of oil during compressors running conditions;
- Equalize the pressures and oil level inside the compressors;
- Activate and check oil reintegration in case of oil missing.



Capacity modulation means energy saving

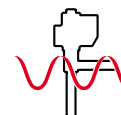
Constant modulation of cooling capacity means the cooling demand can be met in all operating conditions. Combining up to four compressors gives a modulation range from 5 to 100% of total capacity, allowing smooth control without the abrupt variations due to ON/OFF compressor duty cycles.



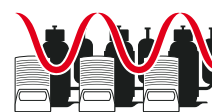
DC compressors and EEV valves: the most efficient synergy



CAREL electronic valves make it possible to adopt advanced control logic that would be impossible with traditional mechanical valves.



DC compressors are the state-of-the-art for modulating compressors: they combine high efficiency with an unrivalled speed control range of 25 to 100%.



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