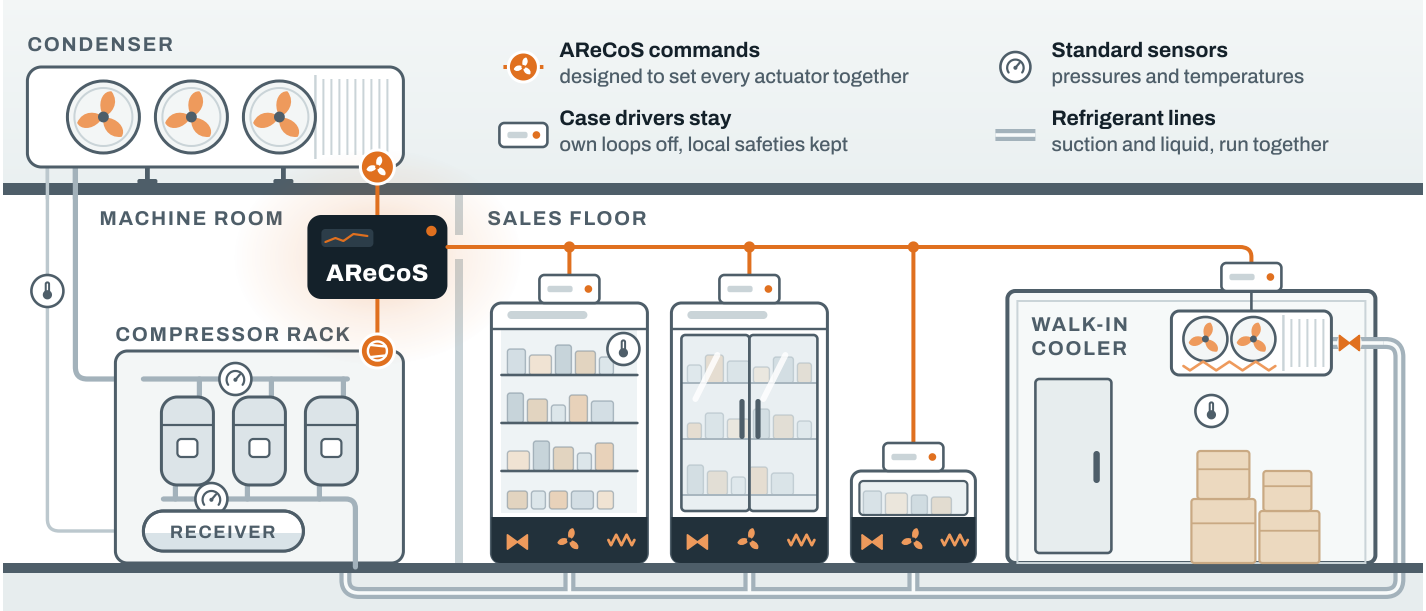
FOR SUPERMARKET RACKS, COLD STORAGE, CO2, AMMONIA AND CHILLERS

Physics-based refrigeration optimization and early fault detection, built into the machine.



Lower total energy

Compressors, valves and fans are coupled. It is designed to set them together for the least total power that holds product temperatures.

Faults found early

It ranks the likely causes and names the check that confirms the top one.

The model runs on the machine

A digital twin on the controller. No cloud in the control path; it keeps working offline.

Where it stands

Demonstrated

On hardware: compressor, valve, blower and fan set together.[1]

On the record

U.S. Patent 12,768,557, issued Oct. 20, 2026.

Ready for you

Site evaluation on HFC and HFO racks, CO2, ammonia and chillers.

Modeled

Fault scenarios and the CO2 and ammonia cycles.

Two paths

A pilot on the rack you run

With your contractor we agree what stays, what it reads, what it commands and how control hands back. Your safeties stay in place.

Inside the machine you build

Embedded as the machine's controller, licensed per unit, with integration defined with you.

The first step: one rack, one agreed baseline. Send the refrigerant, compressor type, existing controller and a high-level diagram. Nothing on site changes until the plan is agreed in writing.
arecos.net/controller/evaluation · info@arecos.net

[1] US 2024/0295337 A1, FIGS. 4–7, a cooling machine. · arecos.net · Rev 1