



Sync It All case study

Food Retail - Upright Freezer

Synchronize to optimize

Integrated electronic devices for
performance optimization



Synchronize
to optimize



About the Sync It All Portfolio

For more intelligent,
reliable and
Energy-saving
solutions

Embraco is leading the way once more, developing an integrated portfolio with electronic devices, all synchronized to increase performance, improve food preservation, reduce noise and decrease energy consumption.

Through the controller, fan, variable-speed compressor, and the YouControl development interface, all working together, it makes it easy to reach efficiency goals.

Sync it all during the development stage and have a better experience today and in the future.



The future is connected

Embraco's electronic devices together mean more intelligence and energy efficiency



Total flexibility in equipment parameterization



Reduced approval time for new products



Lower energy consumption

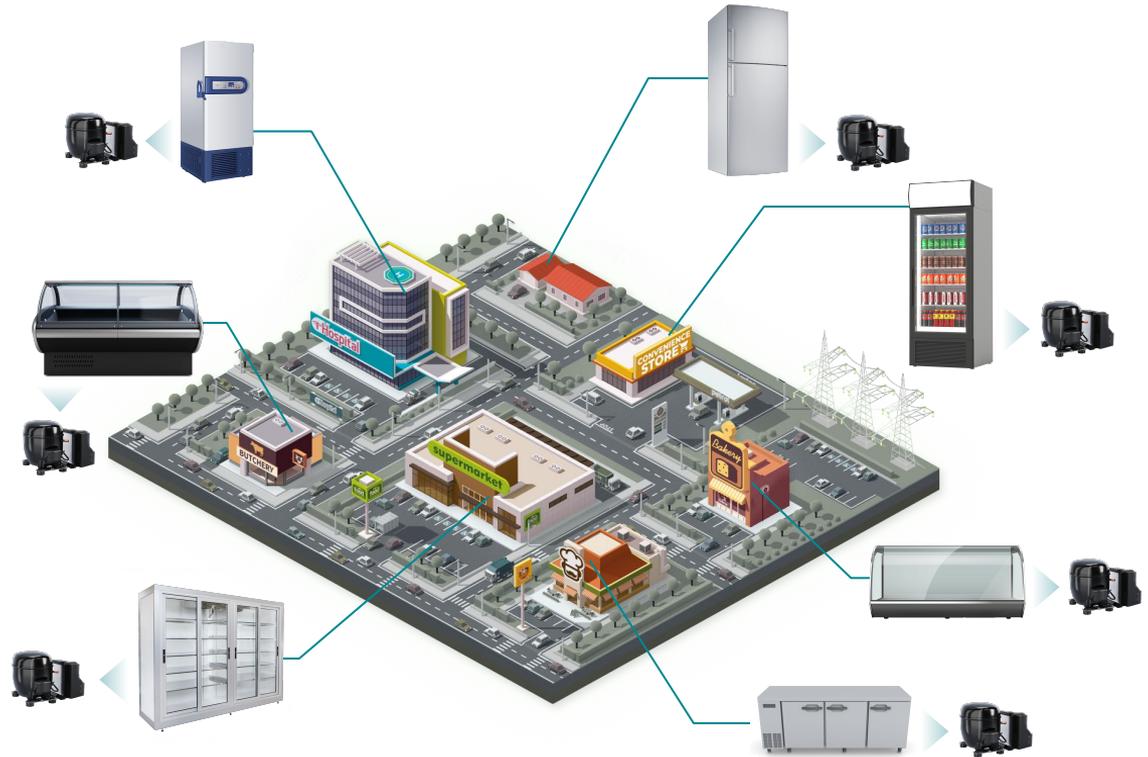


Less noise

PRESENT EVERYWHERE: VARIABLE SPEED FITS ALL THE APPLICATIONS

Main benefits of the VCC technology

- High Efficiency
- Low noise & vibration
- Temperature Control
- Variable Speed/Capacity
- Fast cooling and Freshness
- Wide Voltage Range
- Reduced Pull Down Time



Inverter compressors bringing far more benefits for the application

Beyond energy savings

Fast Cooling

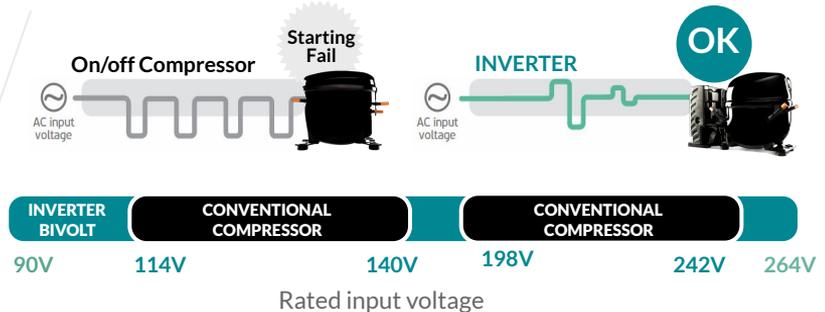
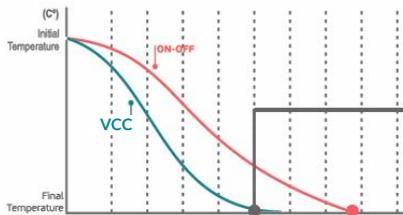
Variable speed compressors **reduce pull-down time**. This feature results in a **much higher temperature stability**, helping to keep products fresh for longer.

Lower Noise & Less Vibrations

After the temperature stabilizes, compressors will run at a lower rotation, resulting in a **better consumer experience at the point of sales**.

Wide Voltage Range

Since the inverter provides regulated tension to the motor, the entire system is much more **tolerant to voltage fluctuation**, resulting in less food loss, less maintenance costs and no need for voltage stabilizers.



Case study: Food Retail - Upright Freezer

570 liter freezer, glass door



Technical specifications

Segment	Food Retail, Merchandising
Application	Frozen food or Ice cream
Detailing	572 liters, glass door w/ heater, Electric heater defrost, Forced draft heat exchangers, LED lights and Electronic Fan motors

PERFORMANCE COMPARISON

Proposed Setups



FMFT213U



FMFT213U
+ Embraco Controller

Baseline

SVS

Test Procedure

Standard	Temp	Humidity	M-Package class	Climate Class	Description
ISO 23953-2	25°C	60%	L1	3	24h test with Steady packages at the beginning: 12 h door openings (3 min at the beginning + 10s every 10 min) + 12 h door closed

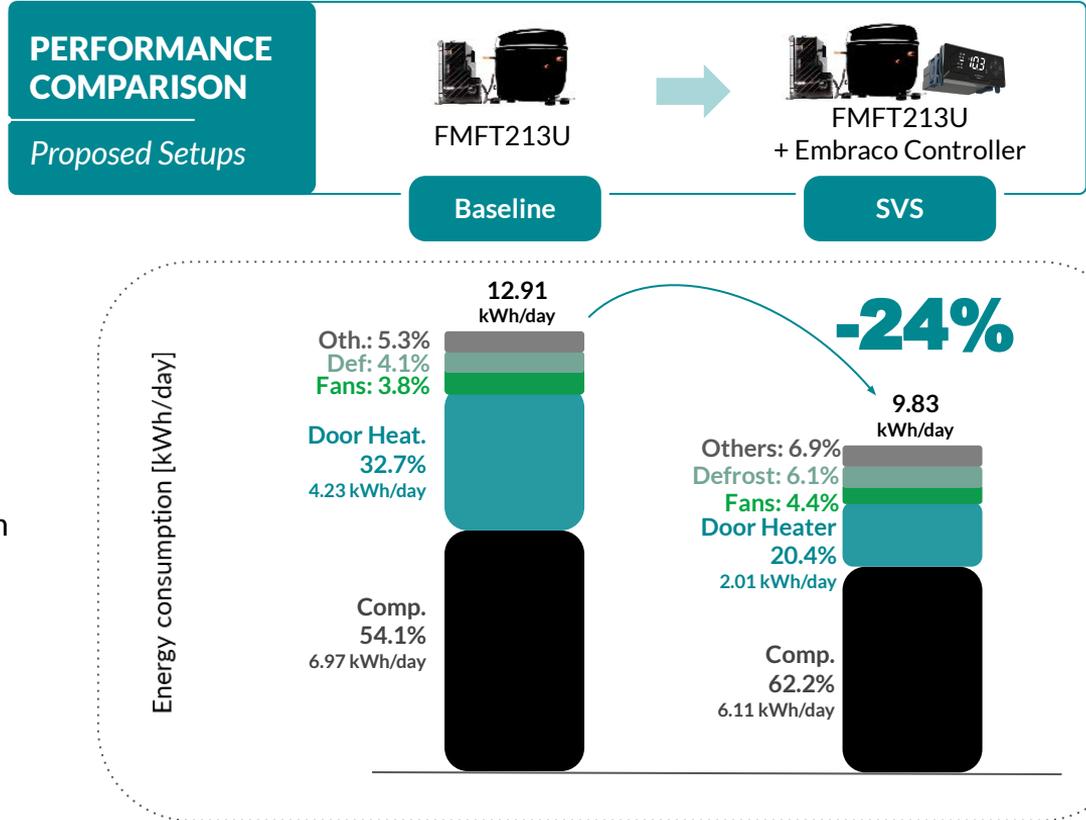
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570 liter freezer, glass door

Findings

ISO Standard 24h test

- 24% Energy Savings keeping compressor
 - SVS** + Adaptive Door Heater
- 22.5% considering day Energy Consumption
- 22.5% considering night Energy Consumption
- Adaptive Door Heater** major savings:
From 4.2 to 2.0 kWh/day (**Run Time Ratio = 47%**)



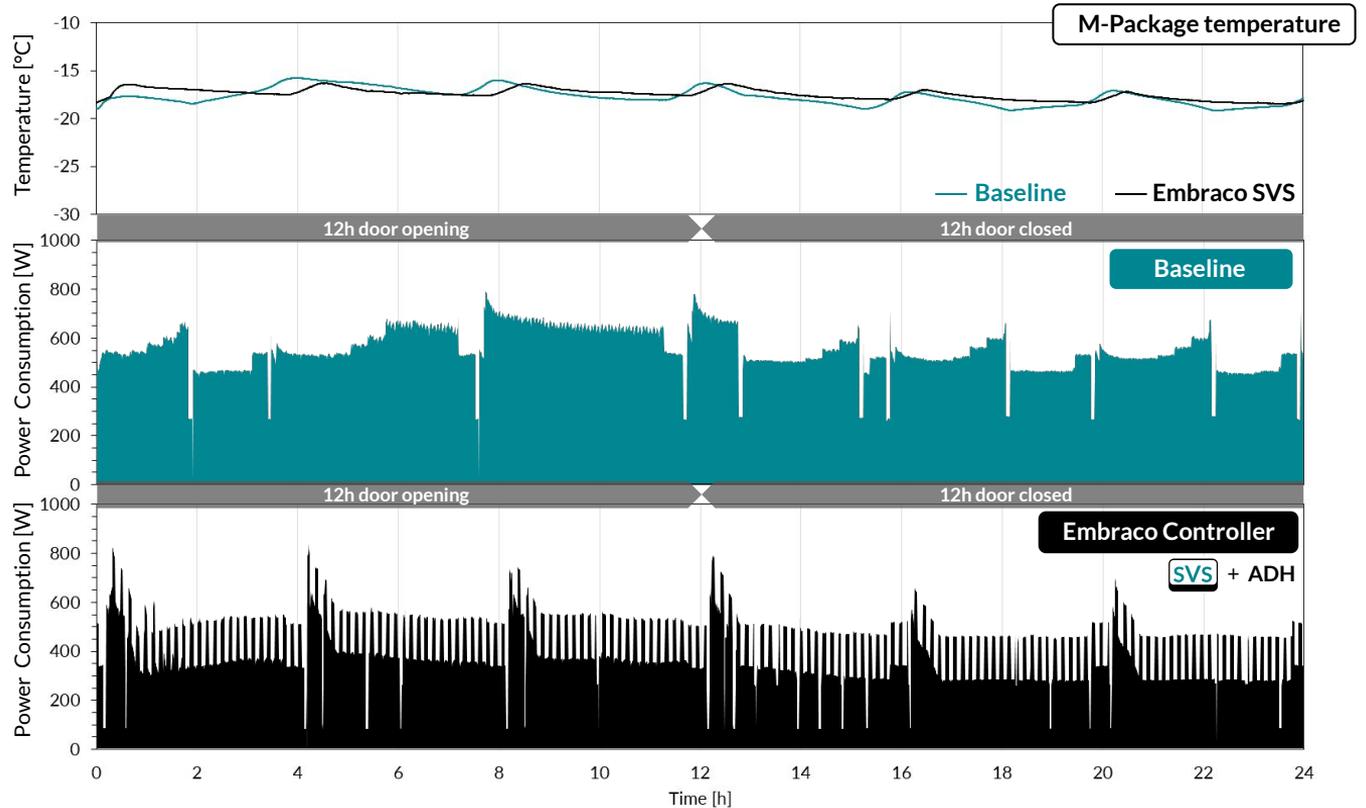
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Findings

ISO Standard 24h test





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our solutions, follow our
pages:



A brand portfolio of

Nidec
Global Appliance