



CRYSPI USES EMBRACO PLUG N´COOL IN FOOD RETAIL APPLICATION

A RUSSIAN SUPERMARKET CASE STUDY

embraco Nidec

ABOUT EMBRACO



48 *YEARS IN THE VANGUARD OF* ***COOLING SOLUTIONS***



1971

- Embraco is founded



1980s

- **USA** sales office inauguration

- The first compressor with **100% Embraco** technology is produced



1990s

- Italy, China (Beijing) and **Slovakia** units are inaugurated



2000s

- **Mexico** sales office inauguration

- China EECON inauguration

- **Fullmotion with variable speed launch**

- Embraco is acquired by Whirlpool Group



2010s

- **Russia** sales office inauguration

- **Mexico** unit inauguration

- GBS office (in Slovakia) inauguration

2019

- Embraco is part of **Nidec Corporation**

EMBRACO IS PART OF NIDEC GA'S PORTFOLIO WHICH ENCOMPASSES COLD AND WET APPLIANCES MOTORS

COLD

WET











Household Refrigeration

Light Commercial Refrigeration

Washing Machines

Dryer

Dishwasher

FIXED SPEED















VARIABLE SPEED















CASE STUDY | THE OEM AND THE END USER

OEM: CRYSPI

One of the leading high-tech production of **professional refrigeration equipments**

Develops solutions taking into account current **trends in the market of commercial refrigeration** equipment using energy-saving technologies



END USER: Verny

520+ supermarkets in four key regions of Russia: Central, North-West, Ural and Volga

Main goal:
Deliver quality goods, as close to customers as possible, at the lowest prices



CASE STUDY | MOTIVATIONS & REQUIREMENTS

OEM MOTIVATION

• New concept of multideck for convenience stores

• Market trends of saving energy and natural refrigerants

END USER REQUIREMENTS

- Reduce Costs
- Easy/quick Maintenance
- Better usage of space
- Natural Refrigerant

Embraco embraced the challenge

CASE STUDY | THE STORE

STORE DETAILS

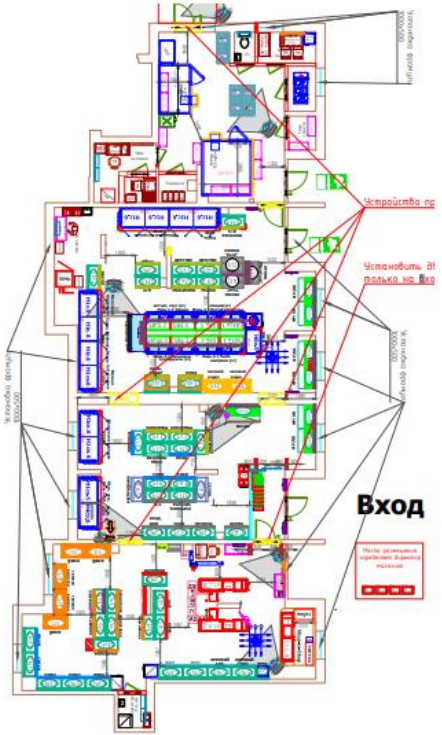
Total Area: 400 m2

Selling Area: 280 m2

Storage: Yes (Cold room)

Reach-ins: Yes, 4 glass door reach-ins

- 1 pcs 2,5 m for Fish and Poultry Temperature setting 0.. +2
- 1 pcs 2,5 m for Meat Gastronomy Temperature setting +2.. +4
- 1 pcs 5 m for Dairy, Cheese, etc. Temperature setting +2.. +4
- 1 pcs 5 m for Dairy, Tarts. Temperature setting +2.. +4



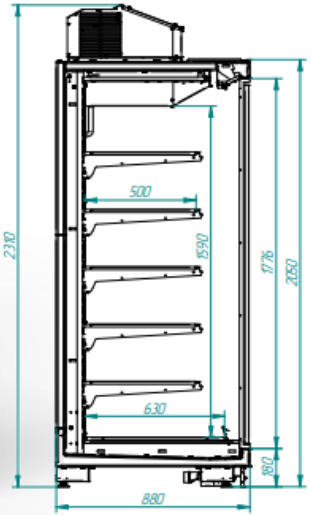
Draft of the store project

CASE STUDY | EMBRACO PROPOSAL IN CUSTOMER APPLIANCES









EMBRACO SUGGESTIONS TO THE MULTIDECK

- Plug and play solution
- Variable speed technology
- Natural refrigerants

For the store, the customer needed 12 units of Plug'n Cool
(1 unit for each 1,25 m segment with 2 glass doors)

CASE STUDY | COMPARISON AMONG OPTIONS

Needs	*Solution Config. Refrigerant*	Remote R404a	Plug n' Cool R290
Environmentally Friendly		✗	✓
Increase Merchandising Area		✗	✓
Quick and Simple Maintenance		✗	✓



Reach-ins and islands with/without doors, with remote refrigeration

Cabinets refrigerated By Plug n' Cool



- No need of specialized technicians
- No leakage
- Less complexity on cleaning condensers

CASE STUDY | COMPARISON AMONG OPTIONS

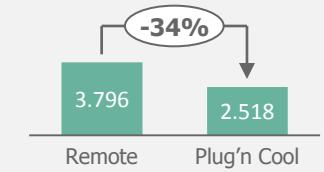
Needs / *Solution Config. Refrigerant*	Remote R404a	Plug n' Cool R290
Fast Installation	✗	✓
Modularity	✗	✓
Less Energy Consumption	✗	✓



Plug and play instalation: Cabinets ready in 15 minutes with 3 workers. Time includes preparation, installation and insulation.

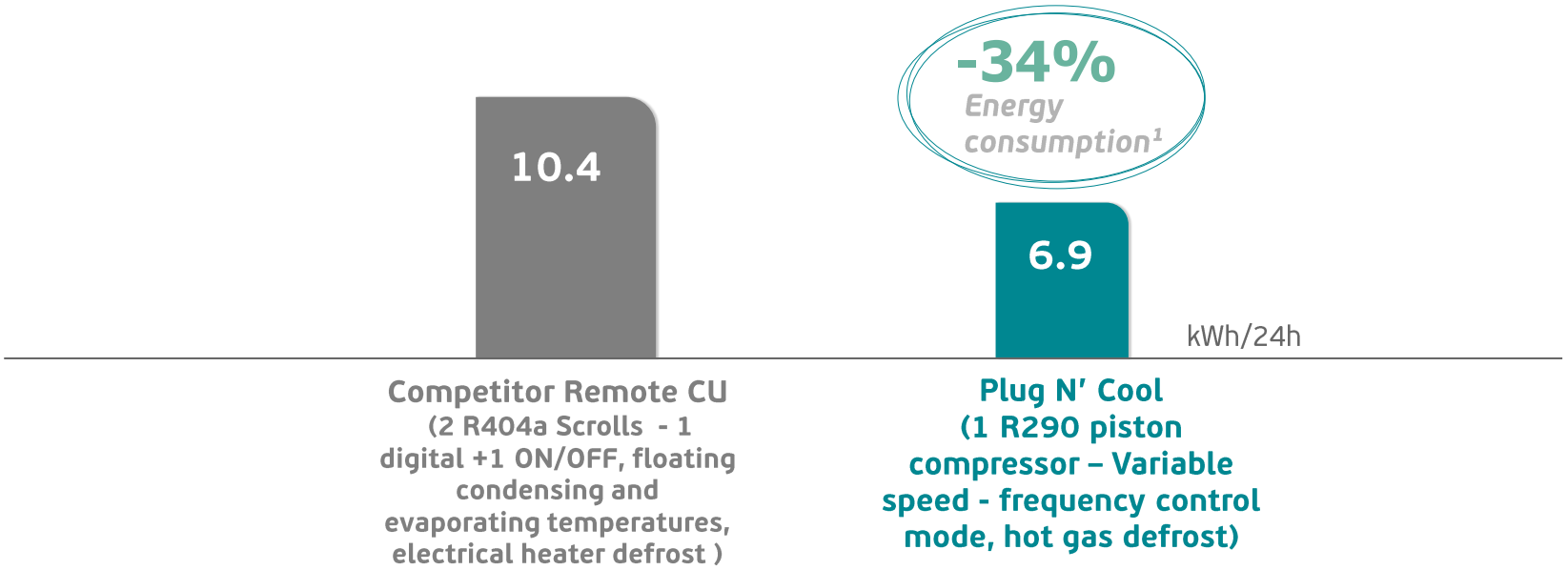


Same system may bring **different temperatures** to same cabinets, pending on user decision.



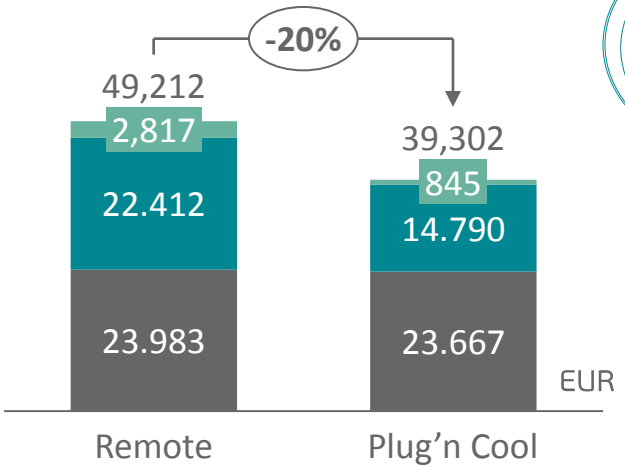
CASE STUDY | COMPARISON AMONG OPTIONS

Energy Savings per Reach-in (L1,25 x H2 x W0,9) with Glass Doors.



CASE STUDY | COMPARISON AMONG OPTIONS

Financial Viability (5 Years)



-20%
Total Cost in 5 Years

Cost of maintenance per year
Total cost of consumption per 5 years*
Total Cost - appliances + installation

*Considers the cost of 1 kW/hour = EUR 0.1 (Russia)

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CASE STUDY | RESULTS

Feedback from OEM and Customer

"Among many advantages of this solution we have to highlight considerable **energy saving** that means **more profit** and **less requirements** to power supply for the premises **broadening the scope of locations** for our network. The solution also provides impressive precision control of internal temperature sin the cabinet, ensuring **better food preservation** and **freshness**.

- Verny – Supermarket says.

"The pilot proved the main objective: a **premium plug-in solution for convenience store** at the cost of current best-in-class remote solution. Plug N' Cool allowed the end-user to start **saving money** on reduced **power consumption** from the first day the store is operative!"

- Cryspi - OEM says.

THANK YOU
FOR LISTENING.

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