

Chillventa Specialist Forums 2022 **Chillventa Fachforen 2022**

**CONNECTING
EXPERTS.**





VNEX - New High Efficiency VCC Compressors

Performance comparison
vs on-off high efficiency compressor
on a 2-Doors LBP multideck



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Key Account Senior Advisor
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We are Nidec Global Appliance, a global partner for home and commercial appliances industries



HQs: Joinville (Brazil) and Pordenone (Italy)



12 manufacturing plants and **4** business offices across 9 countries



7 R&D Centers worldwide and **500+** engineers



12,000 employees



Annual production capacity of **80 million** motors and compressors



90 countries served by our products



Scenario

Climate change, legislation (EU Green deal, REPowerEU...) and criticalities about energy (price and availability) are stressing the need of energy saving equipments

Market Needs

Flexible and efficient solutions that meet new regulation requirements, reduce energy consumption and comply sustainability goals

Proposed Solution

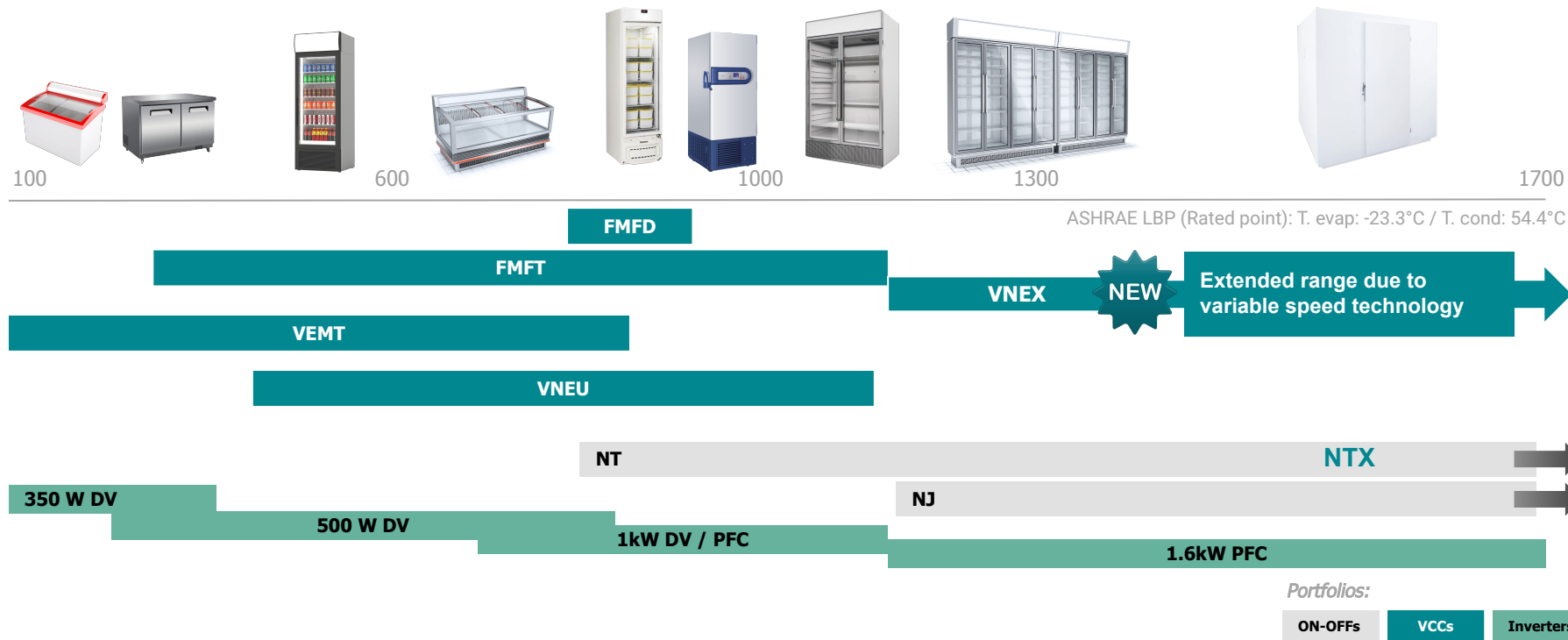


Project Targets

Comparing the new VNEX compressor versus best in class NTX compressor and evaluate

- Energy saving on an already optimized mid-range C Label cabinet
- Indirect CO₂ emissions reduction
- Cabinet's Energy Bill Savings
- Acoustic comfort of the appliance
- Further possibilities for reducing energy consumption

Complete portfolio



A complete and wide portfolio, with different technology platforms to cover all needs of commercial refrigeration

VNEX

The largest reciprocating variable speed compressor in the market with TOP EFFICIENCY.



VNEX

- Pioneers in the creation of large VCC reciprocating compressors
- LBP and MBP models
- Up to 6 doors applications with 2 VNEX systems



Island
freezer



Reach-In



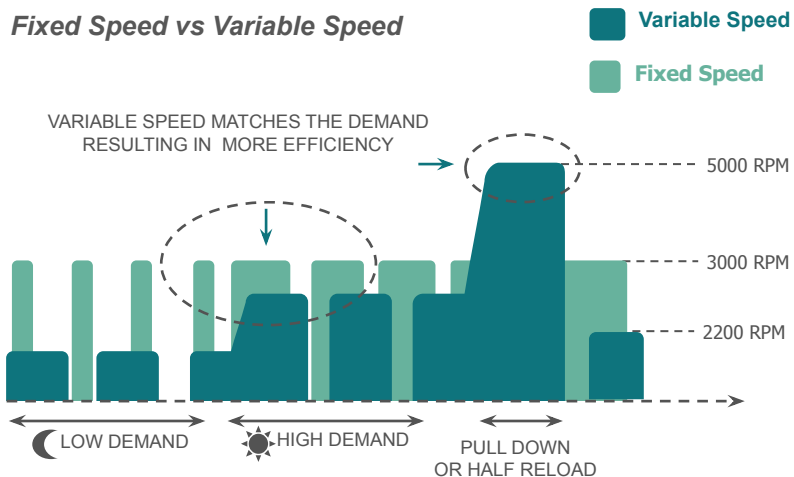
Display
Cabinet



Monoblock

The variable speed technology **adjusts to the demand required by the equipment**, resulting in considerable energy consumption reduction compared to single speed compressors

Fixed Speed vs Variable Speed



Benefits



Energy Efficiency



LOW NOISE

Low noise & vibration



Wide Voltage range



Food Freshness



Temperature Stability

Case Study Results

Case Study Parameters

2 Doors Reach In Freezer

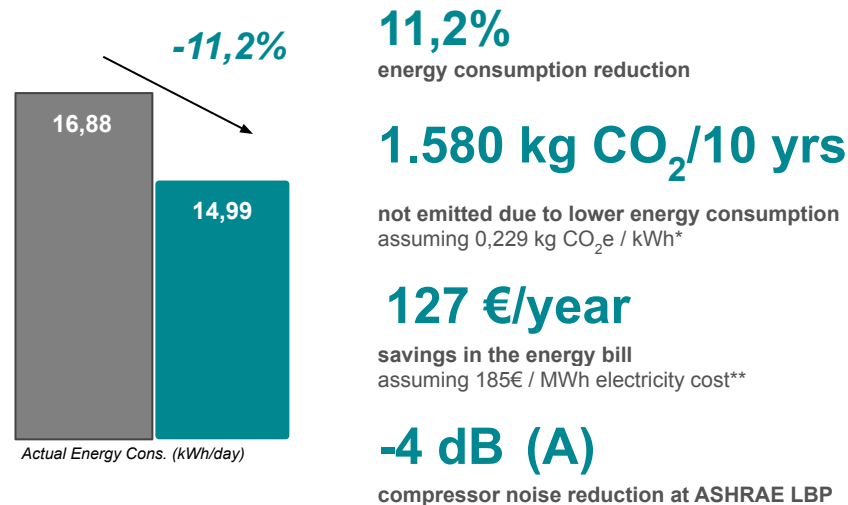


	On-Off	VCC
Compressor	NTX2211U	VNEX221U
Refrigerant	R290	R290
Charge	180 g	150 g
Type	Fixed Speed	Variable Speed
Defrost	Hot Gas	Hot Gas
Evaporator	Finned-tube	Finned-tube
Condenser	Finned-tube	Finned-tube
Nominal Voltage	220-240V 50Hz	208-240V 50/60 Hz
Class	3-L1	3-L1
Energy Label	C	C

TDA (Total Display Area): 2,31 m²

Cabinet test conditions: ISO-23953-2

Energy Consumption Reduction



Results obtained by just switching the compressor.

Further savings can be achieved by optimizing the cooling circuit for the VCC and **applying EC fans** instead of the actual AC fans; simulations indicate that the saving **can approach 20%**

* according to data from the European Environment Agency

** IBIS World Consulting Firm

- The refrigeration sector is **deeply involved in the EU actions to protect the environment** and **counteract the actual energy crisis** pursuing energy saving cabinets and environmental friendly refrigerants
- Embraco is recognized as a **proactive provider of high efficiency solutions** using **natural refrigerants**
- The new VNEX VCC compressors represent a further step on this road: their contribution to the energy saving allows **lower CO₂ emissions** and **important operative cost reductions**, as evidenced in this case study.
- Further energy savings can be achieved by using other **energy saving components such as EC Fans**.
- VNEX energy efficiency facilitate reaching **higher Labelling Class** and **compliance with the Labeling limit** fit for Sept 2023 for the commercial cabinets.
- Due to its **low noise and vibration** level, VNEX is particularly **suitable for large multiplex installations**
- The VNEX cooling capacity offers **interesting options** (such as two independent circuits for the large cabinets, refrigerant charge >150 g) for the **cabinet performances and energy saving optimization**.



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with innovation inside.

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pursuit of performance. Your world works
better with Embraco inside.

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