

APPLICATION STUDY: POWERFUL OPTIMIZATION

SECCP

Date: December 2021

SUMMARY

Project: SLVE18CN
in vertical multideck cooler/MBP application

Sector: Food retail, food service

Task: Conversion to a new generation electronic controlled hermetic hydrocarbon compressor.



STATIONARY
COOLING



THE STORY

Energy Class: D level Europe Ecodesign
Dimensions: Length with ends: 2540 mm
Horizontal display surface: 5.35 m²
Number of doors: 4
Net Volume: 1062 l

STARTING CONFIGURATION

Compressor: Fixed-speed drive hermetic compressor
Refrigerant: R404A **Displacement:** 27.8 cc.
Height: 250 mm **Weight:** 18.3 kg

REQUIREMENTS

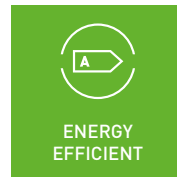
- Achieve targets of new energy regulations
- Adopt low GWP refrigerants
- Electronic controlled variable speed drive for optimized performances

BACKGROUND

Light commercial refrigeration market is driven by the new energy regulations, like Ecodesign in Europe, and the transition to low GWP refrigerants, like F-gas regulation in EU. So installations in food retail, food service require more efficient green solutions, both in LBP and MBP applications.

CHALLENGES

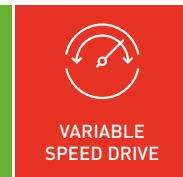
Reduce energy consumption with electronic controlled efficient compressors and optimize performances with the conversion to green refrigerant.



ENERGY
EFFICIENT



NATURAL
REFRIGERANTS



VARIABLE
SPEED DRIVE

THE OUTCOME

SOLUTION:
from FSD* R404A to VSD** R290

Direct drop-in from a R404A compressor to a R290 compressor improved energy savings for the system by up to 15% and ranked the cabinet 1 level higher based on the EU standards.

Upgrade from fixed-speed compressors to variable-speed compressors controlled by optimized electronic control unit.

*Fixed speed drive | **Variable speed drive (electronic controlled)

RESULTS:

Secop SLVE18CN R290 VSD 17.7 cc. compressor installed

-12%

Footprint (Compressor Size vs. FSD 27.8 cc.)

1 Level higher

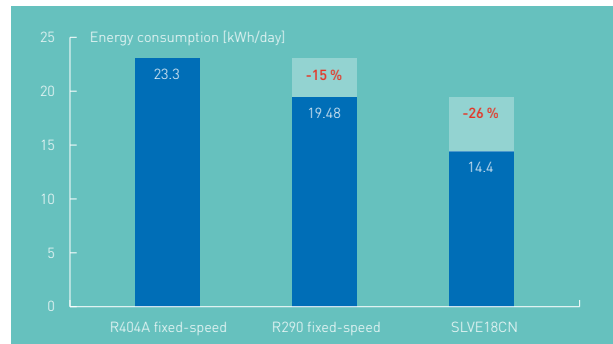
Europe Ecodesign (EU Standard)

-37%

Energy consumption

THE NUMBERS

Key improvements EC R290	vs. R404A fixed-speed	vs. R290 fixed-speed
Footprint (compressor size)	-12 %	-12 %
COP	+20 %	+15 %
Energy consumption	-37 %	-26 %
Pull-down time	-	-14 %



THE BENEFITS

<p>EFFECTIVE SOLUTIONS</p>	<p>ENERGY EFFICIENT</p>	<p>SMALL FOOTPRINT</p>	<p>NATURAL REFRIGERANTS</p>	<p>PREMIUM CONTROLLERS</p>	<p>VARIABLE-SPEED DRIVE</p>
Efficient system settings and control	Better Ecodesign ranking	Advantages in stock management and cooler design	R290 green refrigerant	High level controls and settings	Optimal energy consumption and performances

TAKE AWAY

- Secop's new SLVE18CN is the most powerful hermetic reciprocating variable-speed compressor for propane on the market
- It can operate continuously inside an evaporating temperature range from -45 °C to +10 °C and can cover the full range of LBP and MBP application conditions
- Meets Ecodesign requirements and all related safety regulations
- Intelligent electronics-controlled compressor supports all customers' needs (simple drop-in, frequency control and serial control) with automatic input detection
- Easy customization via Tool4Cool®
- Learn more about the SLVE18CN <https://rb.gy/l2f4st>



ABOUT SECOP

Secop is the expert for advanced hermetic compressor technologies and cooling solutions in commercial refrigeration.

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