

APPLICATION STUDY: KLF AND COOL DRINKS

SECCP

Date: May 2024

SUMMARY

Project: KLF7.7CND
in bottle cooler/MBP application

Sector: Retail/Display cabinet refrigerator

Task: Replace the DLE compressor with the new KLF7.7CND



Stationary
Cooling



THE STORY

Cabinet Type: Bottle cooler
Net Volume: 765l
Input Voltage: 230V/50Hz
Dimensions: 785mm x 810*mm x 2139mm
Temperature class: Class 4 M2: 30 °C, 55 % rH

STARTING CONFIGURATION

Compressor: DLE7.5CN **Refrigerant:** R290
Displacement: 7.48 cm³ **Height:** 174 mm
Weight: 8.7 kg

* Excluding 40 mm handle and 80 mm back spacer

Requirements

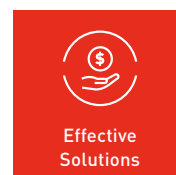
- Reduce electrical energy consumption
- Keep half reload recovery time
- Reduce pull down time
- Lower refrigerant charge

Background

The light commercial refrigeration market is driven by new energy regulations. Therefore, energy efficiency is a key goal for new generation cabinets. Energy consumption must be kept to a minimum for installations.

Challenges

Offer a reliable, top performing and cost-effective solution for the next generation of light commercial display cabinet refrigerators using environmentally friendly propane as the refrigerant.



Effective
Solutions

THE OUTCOME

SOLUTION:
Substitute a DLE series compressor with the new KLF compressor to improve system efficiency with minimum system adjustments.

Keeping the same capillary tube [26 l/min] the KL-Series compressor improves the coolers performance in all important areas.

RESULTS: the new KLF compared to a DLE compressor

-7.4%
Energy consumption

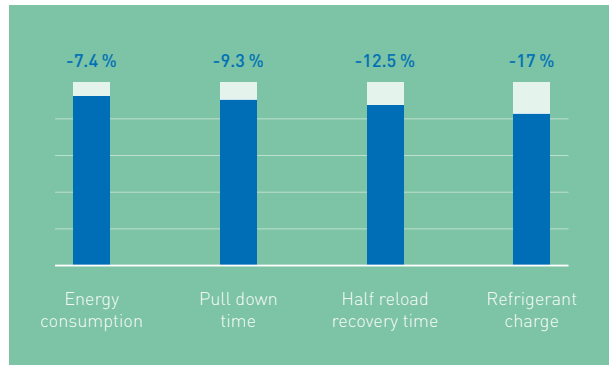
-9.3%
Pull down time

-17.0%
Refrigerant charge

THE NUMBERS

Model	DLE7.5CN	KLF7.7CND
R290 refrigerant charge (g)	94	78

Cabinet Performance	Start	Result
24h energy consumption (kWh/d)	2.96	2.74
Initial pull down time (h)	23.8	21.6
Half reload recovery time (h)	16.3	14.2



THE BENEFITS

Energy Efficient	Long Product Lifecycles	Natural Refrigerant	New Hermetic Terminal Plug	Low Noise	New Terminal Board
Optimal energy consumption	Max. robustness and reliability	R290 green refrigerant	Innovative solution for refrigerant R290	Reduced noise and vibration	Easier application assembly

TAKE AWAY

- Premium robustness**
The KL-Series features the tried and trusted quality of our K-Series optimized for light commercial applications
- Robust solution for merchandizers and food service**
Dedicated reliable design for bottle coolers, glass door merchandisers (LBP and MBP applications)
- Superior efficiency**
High COP and top efficiency for light commercial applications with low GWP refrigerant propane (R290)
- Innovative solution for flammable refrigerant propane (R290)**
Including a patented solution to increase robustness for usage with flammable refrigerant
- Easier application assembly**
New terminal board design for additional interconnections
- Reduced noise level**
Improved noise and reduced vibration, a new benchmark level for hydrocarbon refrigerants

Learn more about the KLF7.7CND here:
<https://lmy.de/OWZNCDKZ>



Try our **PRODUCT SELECTOR**

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ABOUT SECOP

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