

# APPLICATION STUDY: KLF AND COOL DRINKS

SECOP

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/50 Hz  
**Dimensions:** 785 mm × 810\* mm × 2139 mm  
**Temperature class:** Class 4 M2: 30 °C, 55 % rH

### STARTING CONFIGURATION

**Compressor:** DLE7.5CN    **Refrigerant:** R290  
**Displacement:** 7.48cm<sup>3</sup>    **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 KLF-Series compressor improves the coolers performance in all important areas.

**RESULTS:** the new KLF compared to a DLE compressor

**-7.4 %**  
Energy consumption

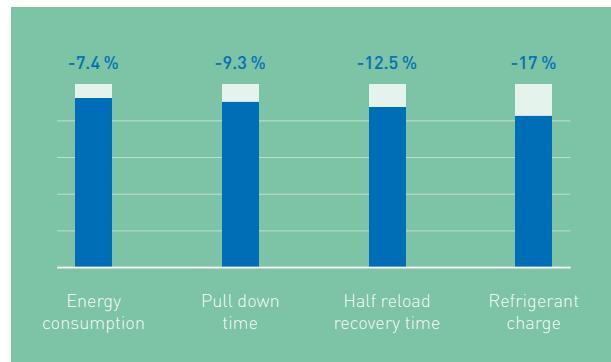
**-9.3 %**  
Pull down time

**-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

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/0WZNCDKZ>



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### ABOUT SECOP

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