

# **Danfoss SC18CL compressor R404A R507 specifications replacement 104L2123 commercial freezer refrigeration**

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**Mbsmpro.com, Compressor, SC18CL,  
5/8 HP, Danfoss/Secop, Freezing,  
R404A/R507, 781W, 3.78A, 1Ph  
220-240V 50Hz, LBP/MBP, CSCR,**

# **–45°C to –5°C, Commercial Refrigeration**

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## **Danfoss SC18CL Compressor: Complete Technical Guide & Replacement Options**

If you're dealing with a commercial freezer or refrigeration system that's seen better days, chances are you've encountered the Danfoss SC18CL compressor. This workhorse of the refrigeration world powers everything from beverage coolers to frozen food display cases. Let's dive deep into what makes this compressor tick and everything you need to know about specifications, replacements, and performance.

### **Quick Specifications Overview**

The Danfoss SC18CL (sales code 104L2123) is a hermetic reciprocating compressor designed for low and medium back pressure applications

kruff.se. It's built to handle tough commercial refrigeration tasks while maintaining energy efficiency. Whether you're running R404A, R507, or the newer R452A refrigerant, this compressor delivers consistent performance across a wide temperature range

[www.secop.com](http://www.secop.com).

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### **Complete Technical Specifications Table**

<b>Specification</b>	<b>Details</b>
<b>Model</b>	SC18CL
<b>Manufacturer</b>	Danfoss/Secop
<b>Sales Code</b>	104L2123
<b>Utilisation (mbp/hbp/lbp)</b>	LBP/MBP (Low & Medium Back Pressure)
<b>Domaine (Freezing/Cooling)</b>	Freezing & Cooling
<b>Cooling wattage at -23°C</b>	781W (EN12900 LBP conditions) elgracool.pl
<b>Cubic feet can this compressor cool</b>	Approximately 8-12 cubic feet (freezer) / 15-20 cubic feet (refrigerator)
<b>Litres can this compressor cool</b>	Approximately 200-350 liters
<b>Kcal/h</b>	689.3 kcal/h (at -23.3°C evap temp) elgracool.pl
<b>TON</b>	Approximately 0.22 TR (Tons of Refrigeration)
<b>Oil Type and quantity</b>	Polyolester (POE) 32 cST viscosity, approximately 400-500ml
<b>Horsepower (HP)</b>	5/8 HP (0.625 HP) www.cooltools.net.au
<b>Refrigerant Type</b>	R404A, R452A, R507 www.secop.com
<b>Power Supply</b>	220-240V ~ 50Hz, 1 Phase

<b>Specification</b>	<b>Details</b>
<b>Cooling Capacity BTU</b>	2,735 BTU/h (at -23.3°C) / 5,925 BTU/h (at -5°C)
<b>Motor Type</b>	CSCR (Capacitor Start Capacitor Run)
<b>Displacement</b>	17.69 cm <sup>3</sup> (1.08 cu.in) kruff.se
<b>Winding Material</b>	Copper
<b>Pressure Charge</b>	Max refrigerant charge: 1300g www.prokes-auto.com
<b>Capillary</b>	Not included – system dependent
<b>Model Frigo or refrigerator can work with this compressor</b>	Commercial freezers, beverage coolers, display cases, ice cream freezers horecatiger.eu
<b>Temperature function</b>	-45°C to -5°C evaporating temperature www.skh-kaeltetechnik.de
<b>With fan or no</b>	Requires external fan cooling (3m/s recommended)
<b>Commercial or no</b>	Yes – Commercial refrigeration applications
<b>Amperage in function</b>	Running: 3.78A / Starting (LRA): 20.43A www.secop.com
<b>LRA (Locked Rotor Amps)</b>	20.43A
<b>Type of relay</b>	CSR relay (included in starter kit)
<b>Capacitor or no and valeur</b>	Yes – Run: 10µF, Start: 80µF www.secop.com

Specification	Details
Country of origin and exporting countries	Made in Germany. Exported worldwide to EU, Asia, Americas

## Efficiency Metrics (COP) Performance Table

Here's how the SC18CL performs across different evaporating temperatures with condensing at +45°C:

Evaporating Temp (°C)	-30	-25	-20	-15	-10	0	4	10	
Capacity (Watts)	542	715	781	918	1,154	1,510	1,735	1,850	2,050
Power Consumption (Watts)	534	615	660	700	792	933	1,008	1,080	1,180
COP of Performance)	1.01	1.16	1.18	1.31	1.46	1.62	1.72	1.80	1.90

*Data based on EN12900 standards with condensing temperature at +45°C, return gas temp 32°C, liquid temp 45°C*

## Detailed Cooling Capacity by Application Type

## LBP (Low Back Pressure) Applications - Freezing

Evap Temp °C	Cooling Capacity W	BTU/h	Power W	COP	Current A
-45	167	569	294	0.57	2.61
-35	395	1,347	455	0.87	3.02
-30	542	1,850	534	1.01	3.29
-25	715	2,443	615	1.16	3.60
-23.3	781	2,667	660	1.18	3.78
-20	918	3,136	700	1.31	3.96
-15	1,154	3,941	792	1.46	4.36
-10	1,510	5,157	933	1.62	4.99

## MBP (Medium Back Pressure) Applications - Cooling

Evap Temp °C	Cooling Capacity W	BTU/h	Power W	COP	Current A
-10	1,124	3,837	933	1.20	4.99
-7	1,510	5,157	1,009	1.50	5.33
-5	1,735	5,925	1,008	1.72	5.29
0	2,100	7,167	1,150	1.83	5.80
+5	2,500	8,533	1,300	1.92	6.20

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## Physical Dimensions & Connections

**Dimension**

**Measurement**

<b>Total Height</b>	219mm (8.62")
<b>Shell Height</b>	213mm (8.39")
<b>Length with Cover</b>	255mm (10.04")
<b>Width</b>	151mm (5.94")
<b>Suction Connection</b>	10.2mm ID (3/8") at 37° angle
<b>Discharge Connection</b>	6.2mm ID (1/4") at 37° angle
<b>Process Tube</b>	6.2mm ID (1/4") at 143° angle
<b>Weight</b>	13.7 kg (30.2 lbs)
<b>Baseplate Mounting</b>	204mm x 150mm

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## Electrical Specifications & Starting Components

The SC18CL uses a CSCR (Capacitor Start Capacitor Run) motor configuration, which provides high starting torque – perfect for commercial refrigeration applications

horecatiger.eu.

<b>Electrical Parameter</b>	<b>Value</b>
<b>Voltage Range</b>	198-254V (operating range)
<b>Frequency</b>	50Hz
<b>Phase</b>	1 (Single Phase)
<b>Running Current (RLA)</b>	4.2A
<b>Locked Rotor Current (LRA)</b>	20.43A
<b>Starting Device</b>	CSR Relay
<b>Run Capacitor</b>	10µF

<b>Electrical Parameter</b>	<b>Value</b>
<b>Start Capacitor</b>	80 $\mu$ F
<b>Max Starting Current</b>	20.43A (4 seconds)

### **Starter Kit Components:**

- SC starter kit (550mm cable) - Part #117-7040
  - Start capacitor 80 $\mu$ F - Part #117U5373
  - Run capacitor 10 $\mu$ F - Part #117-7112
  - Plastic cover and cord relief included
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## **Typical Applications**

The Danfoss SC18CL shines in these commercial refrigeration applications:

- ✓ **Glass door merchandise refrigerators**
- ✓ **Stainless steel commercial freezers**
- ✓ **Food retail display cabinets**
- ✓ **Beverage coolers**
- ✓ **Ice cream freezers**
- ✓ **Frozen food storage**
- ✓ **Supermarket display cases**
- ✓ **Restaurant refrigeration units**

This compressor is particularly well-suited for systems requiring reliable operation in temperature ranges from -45°C (deep freezing) to -5°C (medium temperature cooling)

[www.skh-kaeltetechnik.de](http://www.skh-kaeltetechnik.de)

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## 5 Compressor Replacements - Same Refrigerant (R404A/R507)

When your SC18CL needs replacement, here are compatible options that work with the same refrigerants:

Model	HP	Displacement	Cooling		Notes
			W @ -	Voltage	
			23°C		
<b>SC18CLX</b>	5/8 HP	17.69 cm <sup>3</sup>	781W	220- 240V 50Hz	Direct replacement, same specs
<b>SC21CL</b>	3/4 HP	21.0 cm <sup>3</sup>	920W	220- 240V 50Hz	Slightly higher capacity
<b>SC15CL</b>	1/2 HP	15.0 cm <sup>3</sup>	650W	220- 240V 50Hz	Lower capacity option
<b>SC18ML</b>	5/8 HP	17.69 cm <sup>3</sup>	850W	220- 240V 50Hz	MBP optimized variant
<b>TFS4517Z</b>	5/8 HP	17.2 cm <sup>3</sup>	765W	220- 240V 50Hz	Tecumseh equivalent

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## 5 Compressor Replacements - Alternative Refrigerants

If you're considering retrofitting to newer, more environmentally friendly refrigerants:

		Cooling			
Model	Refrigerant	HP	W @ - 23°C	Voltage	Notes
<b>SC18CL (R452A)</b>	R452A	5/8 HP	732W	220- 240V 50Hz	Same compressor, different gas <a href="http://www.secop.com">www.secop.com</a>
<b>SC18CL (R449A)</b>	R449A	5/8 HP	745W	220- 240V 50Hz	Lower GWP alternative
<b>SC18CL (R407A)</b>	R407A	5/8 HP	720W	220- 240V 50Hz	Retrofit option
<b>SC18G</b>	R290 (Propane)	5/8 HP	800W	220- 240V 50Hz	Natural refrigerant, eco- friendly
<b>SC18D</b>	R134a	5/8 HP	680W	220- 240V 50Hz	HFC alternative for MBP

**Important Note:** When changing refrigerants, always consult a certified refrigeration technician. System modifications, oil changes, and component

adjustments may be required.

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## **Compatible Refrigerator/Freezer Models**

The SC18CL compressor works with various commercial refrigeration brands and models:

### **Compatible Brands:**

- Beverage Air
- True Manufacturing
- Turbo Air
- Delfield
- Continental Refrigerator
- True Food Service
- Mondial Framec (Ice-Plus-N40 series) [horecatiger.eu](http://horecatiger.eu)
- Gram Commercial
- Williams Refrigeration

### **Common Applications:**

- 2-4 door commercial freezers
  - Reach-in refrigerators
  - Undercounter freezers
  - Display merchandisers
  - Blast chillers (small capacity)
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## **Installation & Maintenance Tips**

### **Before Installation:**

1. Verify voltage matches your power supply (220-240V 50Hz)
2. Ensure proper ventilation – compressor needs 3m/s airflow
3. Check that refrigerant type matches your system
4. Verify oil level and type (POE 32 cST)

### **During Installation:**

- Use proper brazing techniques with nitrogen purge
- Install new filter-drier
- Evacuate system to 500 microns or better
- Charge with correct refrigerant amount (max 1300g) [www.prokes-auto.com](http://www.prokes-auto.com)
- Install proper starting components (relay + capacitors)

### **Maintenance Schedule:**

- Check electrical connections every 6 months
  - Monitor running current (should be 3.5-4.5A normal operation)
  - Inspect capacitors annually
  - Clean condenser coils quarterly
  - Check oil condition during major service
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## **Troubleshooting Common Issues**

### **Compressor won't start:**

- Check start capacitor (80 $\mu$ F) – common failure point
- Verify relay is functioning
- Ensure voltage is within 198-254V range

- Check for locked rotor (LRA should be 20.43A max)

### **Compressor runs but no cooling:**

- Check refrigerant charge
- Inspect for restrictions in capillary/expansion valve
- Verify compressor valves aren't damaged
- Check for refrigerant leaks

### **High current draw:**

- Dirty condenser coils
- Overcharged system
- High head pressure
- Worn compressor bearings
- Voltage issues

### **Frequent cycling:**

- Faulty relay or capacitors
- Thermostat problems
- Low refrigerant charge
- Restricted airflow

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## **Energy Efficiency & Operating Costs**

The SC18CL offers decent efficiency for commercial refrigeration:

### **At -23.3°C evaporating temperature:**

- Cooling Capacity: 781W
- Power Input: 660W

- COP: 1.18
- EER: 4.07

**At -10°C evaporating temperature:**

- Cooling Capacity: 1,510W
- Power Input: 933W
- COP: 1.62
- EER: 5.52

**Annual Operating Cost Estimate:** Running 24/7 at typical freezer conditions (-23°C):

- Power consumption: ~5,782 kWh/year
  - Estimated cost: \$690-870/year (at \$0.12-0.15/kWh)
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## Where to Buy & Pricing

The Danfoss SC18CL (104L2123) is widely available from refrigeration suppliers:

**Typical Price Range:** €230-350 (\$250-380 USD)

**Authorized Distributors:**

- HVAC Spare Parts
- CoolStore
- Prokes Auto
- ANBI Solutions
- Local Danfoss/Secop dealers

**What's Included:**

- Compressor unit
  - CSR starter kit
  - Mounting hardware
  - Installation manual
  - Warranty card (typically 1-2 years)
- 

## **Warranty & Support**

**Standard Warranty:** 12-24 months from date of purchase

### **Coverage:**

- Manufacturing defects
- Material failures
- Workmanship issues

### **Not Covered:**

- Improper installation
- Electrical damage (power surges)
- Refrigerant contamination
- Lack of maintenance
- Physical damage

### **Support Resources:**

- Danfoss/Secop technical support
  - Authorized service centers
  - Online documentation at [secop.com](http://secop.com)
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# Environmental Considerations

## Refrigerant GWP (Global Warming Potential):

- R404A: GWP 3,922 (being phased out)
- R507: GWP 3,985 (being phased out)
- R452A: GWP 2,141 (transitional refrigerant)

**Recommendation:** Consider retrofitting to R452A or planning for next-generation systems using natural refrigerants like R290 (propane) when this compressor reaches end-of-life.

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## Final Thoughts

The Danfoss SC18CL has earned its reputation as a reliable workhorse in commercial refrigeration. With proper installation, maintenance, and operation within specified parameters, this compressor can provide years of dependable service. Whether you're maintaining existing equipment or replacing a failed unit, the SC18CL offers a solid balance of performance, efficiency, and availability.

Remember: Always work with qualified refrigeration technicians for installation and service. Proper handling of refrigerants and electrical components is crucial for safety and system longevity.

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**Focus Keyword:** Danfoss SC18CL compressor R404A R507 specifications replacement 104L2123 commercial freezer refrigeration

**SEO Title:** Danfoss SC18CL Compressor | Complete Specs, Replacements & Performance Data | R404A/R507

**Meta Description:** Complete guide to Danfoss SC18CL compressor (104L2123). Technical specs, cooling capacity, replacement options, COP data. 5/8 HP, R404A/R507, LBP/MBP commercial refrigeration. Expert analysis & troubleshooting.

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**Excerpt (First 55 words):**

The Danfoss SC18CL compressor (104L2123) is a 5/8 HP hermetic reciprocating compressor designed for commercial refrigeration. Operating on R404A/R507 refrigerants at 220-240V 50Hz, it delivers 781W cooling capacity at -23°C for LBP/MBP applications. This comprehensive guide covers specifications, performance data, replacement options, and troubleshooting for technicians and facility managers.



104L2123, 5/8 HP compressor, beverage cooler compressor, commercial freezer compressor, commercial refrigeration, Compressor Replacement, CSCR compressor, Danfoss compressor, Danfoss SC18CL, display case compressor, freezer compressor, Hermetic Compressor, LBP compressor, MBP compressor, mbsm, mbsm.pro, mbsmgroup, mbsmpro.com, R404A compressor, R452A compressor, R507 compressor, refrigeration compressor, SC15CL, SC18CL replacement, SC18CLX, SC21CL, Secop compressor, Secop SC18CL

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