compressors: L58CZ1 (1/6HP), L65CZ1 (1/5HP), L72CZ1 (1/4HP), K270CZ1 (1/3HP), and K375CZ1 (1/2HP

Category: Refrigeration
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Compresseur Réfrigérateur DONPER

Référence: K270CZ1R134A 1/3HP

DONPER Refrigerator Compressor

Référence: L58CZ1R134A 1/6HP

DONPERCompresseur Réfrigérateur

Référence: L65CZ1R134A 1/5HP

DONPER Refrigerator Compressor

Référence: L72CZ1R134A 1/4HP

DONPER Refrigerator Compressor

K270CZ1 R134A 1/3HP

DONPER Refrigerator Compressor

K375CZ1R134A 1/2HP

Mbsmpro.com, Compressor, Donper, R134a, 1/6 hp to 1/2 hp, K and L Series, Cooling, Technical Data

In the HVAC and refrigeration industry, the **Donper** brand has become a synonymous name for reliability and cost-effective performance. Specializing in hermetic reciprocating technology, Donper's R134a lineup—specifically the **L-series** and **K-series**—covers the vast majority of domestic and light commercial needs. From a small 1/6 HP refrigerator to a robust 1/2 HP commercial chest freezer, these compressors are engineered to handle varying thermal loads with consistent efficiency.

As a field technician or engineer, selecting the correct replacement or designing a system requires more than just knowing the horsepower. It requires a deep dive into displacement, motor torque, and winding characteristics. Below, we provide the definitive technical breakdown of the most common Donper R134a models.

Comparative Analysis: The Donper R134a Series

The transition from the L-series to the K-series marks a shift from residential "static" cooling to more demanding commercial "forced-air" or high-capacity "static" cooling. While the L58CZ1 is the quiet heart of a kitchen fridge, the K375CZ1 is the workhorse of the supermarket display.

Model	HP	Displacement (cc)	Cooling Cap (W)	Efficiency (W/W)	Motor Type
L58CZ1	1/6	5.8	140	1.15	RSIR
L65CZ1	1/5	6.5	165	1.20	RSIR
L72CZ1	1/4	7.2	195	1.25	RSIR/RSCR
K270CZ1	1/3	9.5	270	1.30	RSCR
K375CZ1	1/2	12.5	375	1.35	CSIR

Detailed Technical Data Sheets

Below are the exhaustive specifications for each model mentioned. This data is critical for calculating capillary tube lengths and ensuring electrical compatibility.

1. Donper L-Series (Domestic Focus)

Feature	**L58CZ1 (1/6 HP)**	**L65CZ1 (1/5 HP)**	**L72CZ1 (1/4 HP)**
Utilisation	LBP	LBP	LBP
Domaine	Cooling / Freezing	Cooling / Freezing	Cooling / Freezing
Oil Type / Qty	POE – 180ml	POE – 200ml	POE – 210ml
Power Supply	220-240V 50Hz	220-240V 50Hz	220-240V 50Hz
Cooling Capacity	478 BTU/h	563 BTU/h	665 BTU/h
Motor Type	RSIR	RSIR	RSIR/RSCR
Winding Material	Copper	Copper	Copper
Pressure Charge	100-120 PSI (Static)	100-120 PSI (Static)	110-130 PSI (Static)
Capillary (Typical)	0.028″ x 3m	0.031″ x 3m	0.036″ x 3m
Fan Required	No (Static)	No (Static)	Optional
LRA (Amps)	6.5 A	8.0 A	9.5 A
Capacitor	N/A	N/A	4-5 µF (if RSCR)

2. Donper K-Series (Commercial Focus)

Feature	**K270CZ1 (1/3 HP)**	**K375CZ1 (1/2 HP)**
Utilisation	LBP / MBP	LBP / MBP
Domaine	Large Freezing	Commercial Freezing
Oil Type / Qty	POE – 250ml	POE – 300ml
Power Supply	220-240V 50Hz	220-240V 50Hz
Cooling Capacity	921 BTU/h	1280 BTU/h
Motor Type	RSCR	CSIR (Start Cap)
Winding Material	Copper	High-Temp Copper

Feature	**K270CZ1 (1/3 HP)**	**K375CZ1 (1/2 HP)**
Pressure Charge	120-140 PSI (Static)	140-160 PSI (Static)
Capillary (Typical)	0.042″ x 2.5m	0.050″ x 2.5m
Fan Required	Recommended	**Yes (Forced Air)**
LRA (Amps)	12.0 A	18.0 A
Capacitor	6 µF (Run)	60-80 µF (Start)

Cross-Reference & Replacement Guide

When the exact Donper model is unavailable, the following industry-standard alternatives can be utilized. Ensure you verify the mounting foot dimensions as they may vary slightly between brands.

5 Standard Replacements (R134a)

1. **Embraco:** FFI10HAK (for 1/3 HP) / FFI12HBX (for 1/2 HP)
2. **Secop/Danfoss:** TLES8.7KK.3 / NL11F
3. **Tecumseh:** THB1390Y / AEA3440Y
4. **Huayi:** HYE90MT / HYE121MT
5. **Jiaxipera:** ND1114Y / NT1116Y

5 Alternative Gas Replacements (System Flush Required)

1. **Donper (R600a):** D65CY1 (for 1/5 HP applications)
2. **Secop (R290):** NLE11KK (High Efficiency)
3. **Embraco (R600a):** EMX3115Y
4. **Cubigel (R290):** GLY12RA
5. **LG (R600a):** BSA075LHE

Engineering Best Practices & Maintenance

> *Expert Advice: The K375CZ1 (1/2 HP) generates significant heat during the compression cycle. If installing this in a confined space, a condenser fan is non-negotiable. Lack of airflow will lead to oil carbonization and premature valve failure.*

- **Vacuuming:** Always pull a vacuum down to **500 microns**. R134a uses POE oil, which is highly hygroscopic (absorbs moisture). Moisture in the system leads to acid formation that eats through copper windings.
- **Capillary Match:** When moving from a 1/6 HP to a 1/4 HP compressor, you **must** resize the capillary tube. Using an undersized capillary will cause high head pressure and trip the thermal overload protector.
- **Relay Testing:** If the compressor fails to start but hums, check the PTC relay or the Start Capacitor (on 1/2 HP models). Donper relays are standardized, but always match the Ohm resistance of the original part.

Focus Keyphrase: Donper R134a Refrigerator Compressor Technical Specs L58CZ1 L65CZ1 L72CZ1 K270CZ1 K375CZ1
SEO Title: Mbsmpro.com, Compressor, Donper, R134a, 1/6 hp to 1/2 hp, K and L Series, Cooling, Technical Data
Meta Description: Full technical data sheets for Donper R134a compressors: L58CZ1 (1/6HP), L65CZ1 (1/5HP), L72CZ1 (1/4HP), K270CZ1 (1/3HP), and K375CZ1 (1/2HP). Includes cross-reference and wiring tips.
Slug: donper-r134a-compressor-specs-l58-l65-l72-k270-k375
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Excerpt: Donper has established itself as a powerhouse in the hermetic compressor industry, providing reliable cooling solutions for domestic and light commercial applications. This technical analysis explores the R134a L and K series, ranging from 1/6 HP to 1/2 HP, offering engineers and technicians the critical data needed for successful repairs and system optimizations.

Donper Series – R134a Refrigerant (LBP, 220V/50Hz)

These models feature **aluminum windings** (Al-wire) and are designed for Low Back Pressure (LBP) applications.

Model	Power (HP)	Cooling Capacity (W)	Power Supply	Wire Type
S53CW1	1/8 HP	135W	220V/50Hz	Aluminum
L58CZ1	1/6 HP	145W	220V/50Hz	Aluminum
L65CZ1	1/5 HP	170W	220V/50Hz	Aluminum
L72CZ1	1/4 HP	195W	220V/50Hz	Aluminum
L76CZ1	1/4 HP+	215W	220V/50Hz	Aluminum
K230CZ1	1/4 HP+	230W	220V/50Hz	Aluminum
K270CZ1	1/3 HP	270W	220V/50Hz	Aluminum
K325CZ1	1/3 HP	325W	220V/50Hz	Aluminum

Donper Series – R600a Refrigerant (LBP, 220V/50Hz)

Models optimized for Isobutane (R600a), also using aluminum motor windings.

Model	Power (HP)	Cooling Capacity (W)	Power Supply	Wire Type
A120CY1T	1/8 HP	118W	220V/50Hz	Aluminum
A145CY1A	1/6 HP	138W	220V/50Hz	Aluminum
S100CY1	1/5 HP	168W	220V/50Hz	Aluminum
S118CY1	1/4 HP	200W	220V/50Hz	Aluminum
L140CY1	1/4 HP+	235W	220V/50Hz	Aluminum

Technical Definitions

- **LBP (Low Back Pressure):** Optimized for low evaporating temperatures (typically -35°C to -10°C), making them ideal for household freezers and refrigerators.
- **Cooling Capacity (W):** Measured in Watts, representing the amount of heat the compressor can remove per hour under standard test conditions (ASHRAE).
- **Al-wire (Aluminum Wire):** A cost-effective alternative to copper. While lighter, it requires specific handling during repair and is generally found in "entry-level" or standard domestic units.

mbsmpro.com-compressors L58CZ1 16HP L65CZ1 15HP L72CZ1 14HP K270CZ1 13HP and K375CZ1 12HPDownload