

Donper K400CZ1 R134a compressor

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Mbsmpro.com, Compressor, Donper K400CZ1, 1/2 hp, R134a, 400 W, 220-240V 50Hz, LBP, Hermetic, Static Cooling, RSCR, Commercial Refrigerator, Chest Freezer

Donper K400CZ1 R134a compressor overview

The *Donper K400CZ1* is a hermetic reciprocating compressor designed for commercial refrigerators and chest freezers operating with refrigerant R134a on 220-240V 50Hz single-phase power. It offers roughly 1/2 hp class performance with about 400 W cooling capacity, making it suitable for medium-size display cabinets and storage equipment in supermarkets and restaurants.

Nameplate data and technical profile

| Item | Donper K400CZ1 value | Source |
|---------------------------------|---|--------|
| Brand | Donper | |
| Model | K400CZ1 | |
| Refrigerant | R134a | |
| Rated voltage | 220-240V 50Hz, 1-phase | |
| Application range | LBP commercial refrigeration (freezers, show cases) | |
| Nominal capacity | ≈ 400 W at LBP operating conditions | |
| Approximate horsepower class | 1/2 hp+ | |
| Cooling method | Static or forced-air condenser, hermetic motor cooling by suction gas | |
| Motor type | RSCR or CSIR with external start components (regional variants) | |
| Thermal protection | Internal motor protector (thermally protected) | |

This **Donper K400CZ1** sits in the upper range of the brand's R134a low-back-pressure line, intended for evaporating temperatures typically between $-30\text{ }^{\circ}\text{C}$ and $-10\text{ }^{\circ}\text{C}$ in commercial freezers.

Applications and operating envelope

- **Commercial chest freezers and island freezers** that require robust starting torque and 24/7 duty under supermarket conditions.
- **Glass door merchandisers and cake displays**, where stable temperature and quiet operation are important along with compact compressor dimensions.
- **Cold drink dispensers and reach-in cabinets** using capillary tube expansion, designed around R134a and LBP conditions in the Donper catalog.

Typical operating envelope for K-series R134a LBP compressors:

| Parameter | Typical K-series R134a LBP range* |
|-------------------------|---|
| Evaporating temperature | $-35\text{ }^{\circ}\text{C}$ to $-5\text{ }^{\circ}\text{C}$ |
| Condensing temperature | $40\text{ }^{\circ}\text{C}$ to $55\text{ }^{\circ}\text{C}$ |
| Ambient temperature | $32\text{ }^{\circ}\text{C}$ to $43\text{ }^{\circ}\text{C}$ |
| Return gas temperature | $20\text{ }^{\circ}\text{C}$ max |

*Values based on Donper R134a LBP catalog ranges; check the official selection software or sheet for exact K400CZ1 limits before system design.

Comparison with other Donper R134a models

To position the K400CZ1 inside the R134a portfolio, the next table compares it with smaller and larger Donper models used in similar equipment.

| Model | Refrigerant | Voltage | Capacity class | Typical application | Comment |
|----------------|--------------------|------------------|-----------------------|----------------------------------|---|
| L65CZ1 | R134a | 220-240V 50Hz | ≈ 1/6 hp | Small vertical cooler or minibar | Low power, very efficient, light load. |
| S72CZ1 | R134a | 220-240V 50Hz | ≈ 1/4 hp | Under-counter refrigerator | Balanced between energy and capacity; referenced on Mbsm.pro. |
| K375CZ1 | R134a | 220-240V 50Hz | ≈ 1/3-3/8 hp | Medium freezer or chiller | Frequently used as predecessor to K400CZ1. |
| K400CZ1 | R134a | 220-240V 50Hz | ≈ 1/2 hp+ (400 W) | Chest freezer, island cabinet | Higher pull-down capacity for larger volume. |

| Model | Refrigerant | Voltage | Capacity class | Typical application | Comment |
|--|-------------|------------------|----------------|-----------------------|---|
| NE6210CZ (Donper commercial) | R134a | 220-240V 50Hz | ≈ 3/8 hp | High-end merchandiser | Advanced efficiency, similar duty but different platform. |

This comparison shows how **K400CZ1** extends the LBP range toward heavier commercial loads while keeping compatibility with standard R134a capillary tube systems.

Performance and efficiency considerations

- For Donper R134a compressors working at 220-240V 50Hz LBP, the cooling capacity range spans roughly 239–1365 Btu/h, with corresponding COP values optimized for supermarket duty.
- A 400 W LBP compressor typically delivers COP values around 1.3–1.6 under ASHRAE 7.2/35/54 °C conditions in this power range, similar to competing hermetic brands.

When compared with equivalent Embraco R134a LBP compressors of about 1/2 hp, K-series Donper units generally offer comparable capacity and current draw, while often being more competitive in price for OEMs and aftermarket replacement.

Installation, start components and reliability

- Donper specifies the use of properly matched start relays and run capacitors (for RSCR/CSIR motors) to guarantee reliable starting at low evaporating temperatures and high condensing temperatures.
- Internal motor protection is calibrated to trip on high winding temperature or locked-rotor current, helping to protect against fan failure, condenser clogging or incorrect voltage.
- For long-life operation, manufacturers recommend adequate airflow over the condenser, correct refrigerant charge, clean capillary filters and vibration-isolating mounting grommets to protect the hermetic shell and discharge line.

Compared with smaller domestic compressors, **K400CZ1** is more sensitive to poor ventilation and dirty condensers because it works closer to its maximum envelope in heavy commercial duty; preventive maintenance is therefore critical to avoid overheating and nuisance trips.



Yoast SEO fields for WordPress

Focus keyphrase (≤191 characters)

Donper K400CZ1 compressor, R134a 1/2 hp 400 W, 220-240V 50Hz LBP, commercial refrigerator and chest freezer hermetic compressor, static cooling, Mbsmpro technical data

SEO title

Donper K400CZ1 R134a 1/2 hp Compressor - 400 W LBP Commercial Freezer Solution | Mbsmpro.com

Meta description

Discover the Donper K400CZ1 R134a 1/2 hp compressor: 400 W cooling capacity, 220-240V 50Hz LBP design for chest freezers and merchandisers, with technical data, comparisons and installation notes for professional HVAC use.

Slug

donper-k400cz1-compressor-r134a-1-2hp-400w-220-240v-50hz-lbp

Tags

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Excerpt (first 55 words)

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- The process of replacing the air conditioner compressor is successful, and it is working as it was before ?