Embraco EM2Z 80HL.C compressor requires approximately 150 ml Oil

Category: Refrigeration
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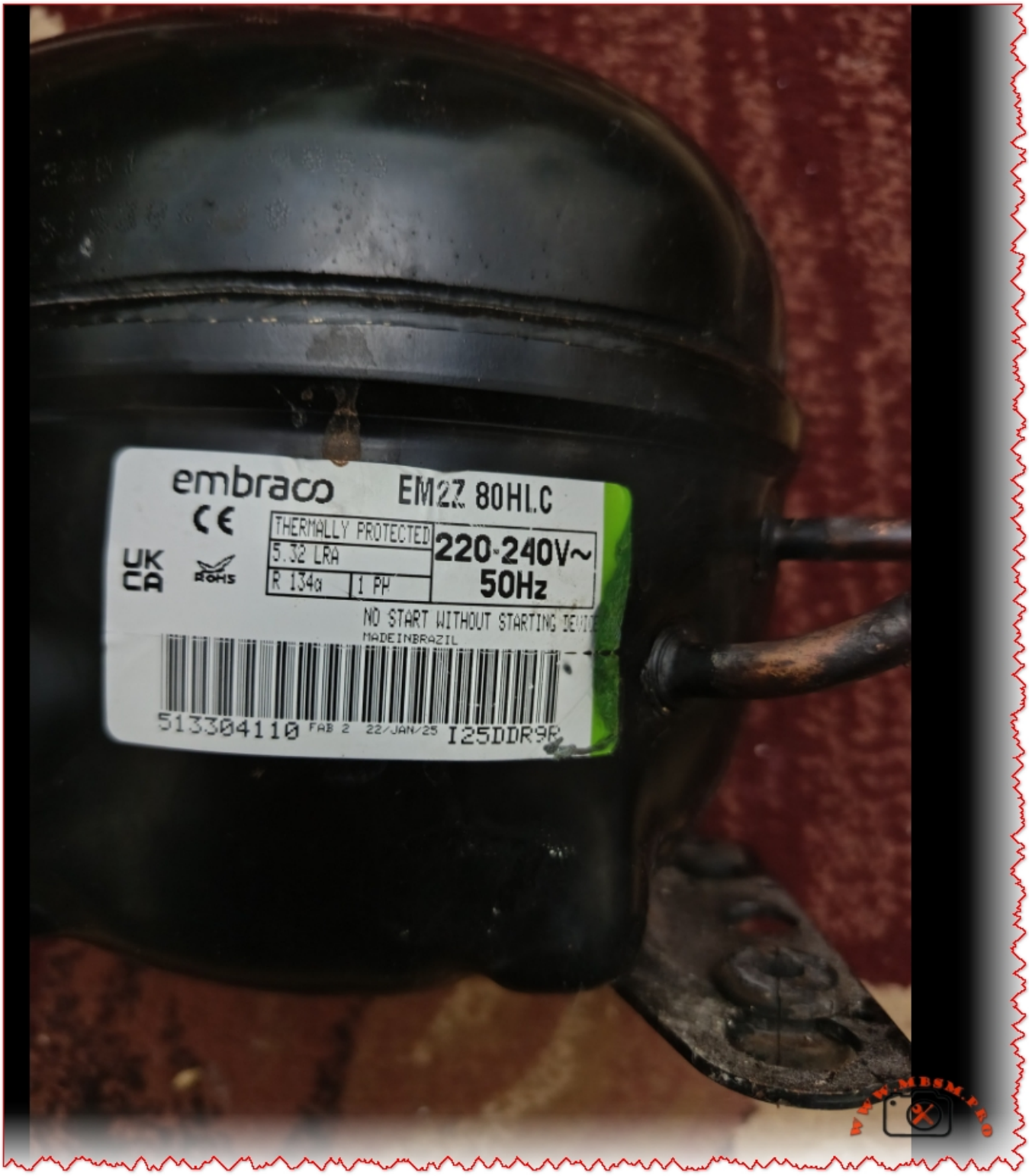
The Embraco **EM2Z 80HL.C** compressor requires approximately **150 ml (5.07 fl. oz.)** of oil. The correct oil type is **Polyolester (POE)** with a viscosity of **ISO 10**, designed for use with **R134a** refrigerant.

Mbsmpro.com, Compressor, Embraco, EM2Z 80HL.C, 1/4 hp, R134a, 220-240V, 50Hz, LBP, 150ml Oil, Made in Brazil



Focus Keyphrase:
Embraco EM2Z 80HL.C Compressor R134a

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Meta Description:
Discover detailed specifications for the Embraco EM2Z 80HL.C compressor. 1/4 HP, R134a,

220-240V 50Hz, LBP with 150ml POE oil capacity. Comprehensive technical analysis and comparisons on Mbsmpro.com.

Excerpt:
The Embraco EM2Z 80HL.C is a robust hermetic reciprocating compressor engineered for refrigeration efficiency. Featuring a 1/4 HP motor and optimized for R134a refrigerant, this Brazilian-made unit delivers reliable Low Back Pressure (LBP) performance. This guide details its 150ml oil charge, electrical specs, and competitive advantages for technicians.

The Engineering Standard: Embraco EM2Z 80HL.C Technical Analysis

In the demanding world of commercial and domestic refrigeration, the **Embraco EM2Z 80HL.C** stands out as a reliable workhorse. Manufactured in Brazil, this hermetic reciprocating compressor is designed to meet the rigorous standards of modern cooling appliances. As refrigeration technicians seek precise data for repairs and replacements, understanding the core specifications of the EM2Z series becomes paramount for ensuring system longevity and efficiency.

This unit is specifically calibrated for **Low Back Pressure (LBP)** applications, making it an ideal choice for freezers, refrigerators, and display cabinets that require consistent temperature maintenance between **-35°C and -10°C**.

Detailed Technical Specifications

The **EM2Z 80HL.C** utilizes a high-efficiency motor configuration compatible with **220-240V at 50Hz** power sources. Its internal architecture balances displacement with energy consumption, offering a streamlined solution for 1/4 HP refrigeration circuits.

Specification Category	Technical Data
Brand	Embraco (Nidec)
Model	EM2Z 80HL.C
Refrigerant	R134a (Tetrafluoroethane)
Displacement	6.76 cm^3 (approx.)
Horsepower (HP)	1/4 HP (Light) / 1/5 HP (Heavy)
Voltage/Frequency	220-240V ~ 50Hz
Application	LBP (Low Back Pressure)
Evaporating Range	-35°C to -10°C (-31°F to 14°F)
Motor Type	RSIR / RSCR (Check Starting Device)
Locked Rotor Amps (LRA)	5.32 A
Oil Charge Quantity	**150 ml (5.07 fl. oz.)**
Oil Type	Ester (POE) ISO 10
Expansion Device	Capillary Tube
Cooling Capacity	~170 – 190 Watts (ASHRAE LBP)
Origin	Made in Brazil

Critical Lubrication Guidelines

One of the most frequent inquiries regarding the **EM2Z 80HL.C** involves its lubrication requirements. This compressor is factory-charged with **150 ml** of **Polyolester (POE) oil**.

Technicians must strictly adhere to this quantity and oil type. R134a refrigerant requires POE oil due to its chemical miscibility properties. Using mineral oil or alkylbenzene will result in system failure, as these oils do not transport correctly with HFC refrigerants, leading to oil logging in the evaporator and eventual compressor seizure. The **ISO 10 viscosity** rating ensures the lubricant remains fluid enough to return to the compressor even at low evaporating temperatures.

Comparative Market Analysis

When evaluating the **Embraco EM2Z 80HL.C**, it is useful to compare it against similar compressors in the 1/4 HP, R134a LBP category. The table below highlights how it stacks up against competitors from Secop (Danfoss) and Tecumseh.

Feature	Embraco EM2Z 80HL.C	Secop (Danfoss) TL5G	Tecumseh THG1365Y
Nominal HP	1/5+ to 1/4 HP	1/6+ to 1/5 HP	1/5 HP
Displacement	6.76 cm^3	5.08 cm^3	5.90 cm^3
Voltage	220-240V 50Hz	220-240V 50Hz	220-240V 50Hz
Efficiency (COP)	High	Standard	Standard
Motor Tech	RSIR/RSCR	RSIR/CSIR	PTCS_CR
Oil Type	POE ISO 10	POE	POE

Note: The EM2Z 80HL.C often provides a slightly higher displacement than standard "light" 1/5 HP models, bridging the gap toward a full 1/4 HP performance.

Installation and Service Best Practices

For optimal performance, the **EM2Z 80HL.C** should be installed with a clean, moisture-free system. The POE oil is highly hygroscopic (absorbs moisture), so the compressor plugs should only be removed immediately before brazing.

1. **Vacuum Deeply:** Ensure the system is evacuated to at least 500 microns to remove all moisture that could react with the POE oil.
2. **Starting Device:** This model explicitly states "No Start Without Starting Device." Ensure the original relay and overload protector (or approved replacements) are used to prevent winding damage.
3. **Condenser Airflow:** As a static or fan-cooled unit, ensure the condenser is free of dust to maintain the head pressure within design limits, preserving the relatively small 5.32 LRA motor from thermal stress.

Tags:
Mbsmgroup, Mbsm.pro, mbsmpro.com, mbsm, Embraco, EM2Z 80HL.C, Compressor Oil Capacity, R134a Compressor, Refrigerator Repair, HVAC Technician, Compressor Datasheet, POE Oil, 1/4 HP Compressor, Made in Brazil, 220V 50Hz

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