

ZMC GL90TB Compressor Technical Specifications and R134a Replacement Guide

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Mbsmpro.com, Compressor, GL90TB, 1/4 hp, ZMC, HBP, R134a, 220-240V

Technical Specifications Table

Feature	Specification
Model	GL90TB
Utilisation	HBP (High Back Pressure)
Domaine	Cooling / Refrigeration (Commercial)
Cooling wattage at -23.3°C	Approx. 330W (LBP) / 820W (HBP @ +7.2°C)
Cubic feet capacity	12 – 18 cu.ft (Depending on insulation)
Litres capacity	350 – 500 Liters
Kcal/h	705 Kcal/h (at HBP conditions)
Oil Type and Quantity	POE / 280cc
Horsepower (HP)	1/4 HP
Refrigerant Type	R134a
Power Supply	220-240V / 50Hz / 1Ph
Cooling Capacity BTU	2800 BTU/h (HBP)
Motor Type	CSIR (Capacitor Start – Induction Run)
Displacement	8.85 cm ³
Winding Material	Copper
Pression Charge	120 – 150 psi (High side)
Capillary	0.042" or 0.050" (Based on application)
Refrigerator Model	Bottle coolers, Display cases, Water dispensers
Temperature range	-15°C to +10°C
Cooling Fan	Required (Fan Cooled)
Commercial	Yes
Amperage (RLA)	2.1 A
LRA (Locked Rotor Amps)	13.5 A
Type of Relay	Current Relay / Potential Relay
Capacitor	Start Capacitor (60-80 µF)

Feature	Specification
Country of Origin	Egypt (ZMC Production)

Efficiency Metrics (COP)

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-15	385	285	1.35
-10	480	310	1.55
-5	590	335	1.76
0	720	360	2.00
+5	870	385	2.26
+7.2	940	400	2.35
+10	1040	415	2.51

Compressor Replacements

Same Refrigerant (R134a)

- 1. Danfoss/Secop: [FR8.5G](#) / FR10G
- 2. Embraco: [NEK6210Z](#)
- 3. Tecumseh: [CAE4440Y](#)
- 4. Cubigel: GL90AA (LBP variant) or GP12TB
- 5. Huayi: HYE90YG

Different Refrigerant (R600a/R290/Other)

- 1. Embraco (R290): NEU6212U
- 2. Secop (R290): SCE15CNX
- 3. Danfoss (R12): TL5A (Legacy)
- 4. Aspera (R22): E6181GK (Requires valve adjustment)
- 5. Cubigel (R290): GX12TG

High-Performance Cooling: The ZMC GL90TB Deep Dive

The HVAC and commercial refrigeration industry relies heavily on components that can withstand constant cycling while maintaining thermal stability. The [ZMC GL90TB](#) stands as a workhorse in this category. Specifically engineered for High Back Pressure ([HBP](#)) applications, this [1/4 HP](#) unit is the “go-to” for technicians servicing commercial bottle coolers and large-scale water dispensers.

Unlike standard household compressors designed for Low Back Pressure (LBP), the [GL90TB](#) is optimized for higher evaporation temperatures. This makes it significantly more efficient at removing heat quickly from a warm environment, such as a beverage fridge in a high-traffic retail store.

Comparative Analysis: GL90TB vs. GL90AA

A common mistake in the field is confusing the [GL90TB](#) with its cousin, the **GL90AA**. While they share similar displacement, the “TB” is rated for [HBP/CBP](#), whereas the “AA” is strictly LBP.

- **Startup Torque:** The [GL90TB](#) utilizes a CSIR motor, providing the high starting torque necessary to overcome high pressures in commercial settings.
- **Thermal Load:** The [GL90TB](#) manages a thermal load nearly 40% higher than LBP units of the same size.

Engineering Insights & Maintenance

As a field expert, I recommend always ensuring that the condenser fan is functioning at peak RPM. Since this [compressor](#) is built for high-demand cooling, it generates significant heat. Lack of airflow is the number one cause of premature winding failure in the Egyptian-made [ZMC](#) units.

Expert Tip: When replacing a [GL90TB](#), always replace the start capacitor and the filter drier. A [1/4 HP HBP](#) system is sensitive to moisture; even a trace amount can lead to wax buildup in the capillary tube.

Focus Keyphrase: [ZMC GL90TB Compressor](#) Technical Specifications and [R134a](#) Replacement Guide

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Meta Description: Discover the full technical data for the [ZMC GL90TB compressor](#). [1/4 HP, R134a](#), High Back Pressure unit for [commercial cooling](#). Includes COP tables and replacement guides.

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Excerpt: The [ZMC](#) GL90TB is a high-performance [1/4 HP compressor](#) designed for High Back Pressure ([HBP](#)) commercial refrigeration. Operating on [R134a](#) with a 220-240V supply, it offers a cooling capacity of approximately 2800 BTU/h. This article provides technical specs, COP efficiency metrics, and direct replacement models for professional HVAC technicians and industrial cooling experts.



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