

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

Feature	Specification
Country of Origin	Egypt ( <a href="#">ZMC</a> Production)
<b>Efficiency Metrics (COP)</b>	

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

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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

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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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