

# Cubigel GLY21RG R134a 5/8 HP Commercial Compressor Specifications and Replacement Guide

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## **Mbsmpro.com, Compressor, GLY21RG, 5/8 hp, Cubigel, Cooling, R134a, 640 W, 3.8 A, 1Ph 200-230V 60Hz, HBP-MBP, CSR, -25°C to +10°C, Commercial Refrigeration**

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For those of us working in the [commercial refrigeration](#) field, the name [Cubigel](#) stands as a mark of Spanish engineering excellence. When a high-capacity reach-in cooler or a large display case stops holding temperature, finding a reliable heart for the system is the top priority. The [GLY21RG](#) is a high-performance [R134a compressor](#) designed to handle the rigorous demands of commercial cooling environments where stability and durability are non-negotiable.

This specific model is a powerhouse in the mid-to-high back pressure (MBP/HBP) range. Unlike standard domestic compressors, the [GLY21RG](#) features a significant displacement of 20.72 cc, allowing it to move a substantial volume of refrigerant. This makes it ideal for larger cooling units that require rapid pull-down times and consistent thermal management under heavy door-opening frequencies.

## Technical Data and Specifications

Feature	Specification
<b>Model</b>	<a href="#"><u>GLY21RG</u></a>
<b>Utilisation</b>	MBP / HBP (High Back Pressure)
<b>Domaine</b>	Cooling / <a href="#"><u>Commercial Refrigeration</u></a>
<b>Cooling wattage at -23.3°C</b>	Approx 510 Watts (LBP context)
<b>Cubic feet (Cooling Capacity)</b>	45 – 60 cu. ft. (Depending on insulation)
<b>Litres (Cooling Capacity)</b>	1200 – 1700 Liters
<b>Kcal/h</b>	1650 Kcal/h (at HBP)
<b>TON</b>	~0.55 Ton
<b>Oil Type and Quantity</b>	POE (Polyolester), 550 ml
<b>Horsepower (HP)</b>	<a href="#"><u>5/8 HP</u></a>
<b>Refrigerant Type</b>	<a href="#"><u>R134a</u></a>
<b>Power Supply</b>	200-230V / 60Hz / 1 Phase
<b>Cooling Capacity BTU</b>	6,550 BTU/h (at HBP conditions)
<b>Motor Type</b>	CSR (Capacitor Start – Capacitor Run)
<b>Displacement</b>	20.72 cc
<b>Winding Material</b>	Copper
<b>Pression Charge</b>	Low side: 15-25 psi / High side: 150-185 psi
<b>Capillary Tube Recommendation</b>	0.054" or 0.064" (Depends on length)
<b>Application Range</b>	Large Bottle Coolers, Display Cases, Prep Tables
<b>Temperature Function</b>	-25°C to +10°C
<b>With Fan or No</b>	Fan Required (Forced Air Cooling)
<b>Commercial or No</b>	Commercial Grade
<b>Amperage (RLA)</b>	3.8 A to 4.5 A
<b>LRA (Locked Rotor Amps)</b>	24 A
<b>Type of Relay</b>	Potential Relay
<b>Capacitor Value</b>	Start: 60-80 µF / Run: 15 µF

## Efficiency Metrics (COP) – Performance Analysis

Efficiency in commercial units is measured by the Coefficient of Performance (COP). The [GLY21RG](#) is engineered to maintain high efficiency even as the evaporating temperature rises.

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-25	440	480	0.92
-20	580	520	1.12
-15	750	565	1.33
-10	950	610	1.56
-5	1180	660	1.79
0	1450	715	2.03
5	1760	775	2.27
7.2	1920	805	2.38

## Comparison with Industry Standards

When comparing the [Cubigel GLY21RG](#) to competitors like Embraco or Danfoss, the primary advantage lies in its displacement-to-size ratio. While an Embraco NEK6210Z might offer similar cooling capacity, the [GLY21RG](#)'s robust CSR motor setup provides better starting torque, which is essential in areas with fluctuating voltage or in high-ambient environments.

Metric	<a href="#">Cubigel GLY21RG</a>	Embraco <a href="#">NEK6213Z</a>	Danfoss SC15G
<b>HP</b>	<a href="#">5/8 HP</a>	1/2+ HP	1/2 HP
<b>Displacement</b>	20.72 cc	12.11 cc	15.28 cc
<b>Start Torque</b>	High (CSR)	High (CSIR/CSR)	High (HST)

## Field Expert Advice and Technical Notice

**1. Proper Cooling:** This is a high-displacement [compressor](#). It generates significant heat during operation. Never operate this unit without a dedicated condenser fan motor. Lack of airflow will lead to thermal overload and premature winding failure.

**2. Capacitor Matching:** Since this unit uses a CSR (Capacitor Start – Run) motor, ensure both the start and run capacitors are within the specified microfarad ( $\mu$ F) tolerance. A weak run capacitor will cause the amperage to spike, leading to higher electricity consumption and motor

stress.

**3. Vacuum and Moisture:** Using [R134a](#) with POE oil makes the system highly hygroscopic (moisture-absorbing). Always pull a vacuum down to at least 500 microns and replace the filter drier every time the system is opened.

## Compressor Replacements

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### Top 5 Replacements (Same Refrigerant – [R134a](#)):

1. **Embraco:** [NEK6213Z](#) (High Torque)
2. **Danfoss/Secop:** [SC18G](#) / [SC21G](#)
3. **Tecumseh:** [AE4460Y](#)
4. **Bristol:** H23B15QABH
5. **Aspera:** [NE6213Z](#)

### Top 5 Replacements (Different Refrigerant – R404A/R290):

1. **Embraco:** NEK6213GK (R404A version – requires TXV adjustment)
2. **Cubigel:** NUT21LR (R290 – High efficiency alternative)
3. **Danfoss:** SC15MLX (R404A)
4. **Tecumseh:** AE4460Z (R404A)
5. **Secop:** DLE10CN (R290 – Eco-friendly replacement)

## SEO Details

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### Focus Keyphrase:

[Cubigel GLY21RG R134a 5/8 HP](#) Commercial [Compressor](#) Specifications and Replacement Guide

### SEO Title:

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### Meta Description:

Detailed technical guide for the [Cubigel GLY21RG compressor](#). Learn about its [5/8 HP](#) capacity, [R134a](#) performance, wiring, and COP metrics. Perfect for [commercial refrigeration](#) repairs and replacements.

### Slug:

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## **Excerpt:**

The Cubigel GLY21RG is a robust [5/8 HP](#) commercial [compressor](#) designed for [R134a](#) systems. Operating in the MBP/HBP range with a 20.72 cc displacement, it offers high cooling capacity for display cases and reach-in coolers. This guide explores its technical specs, efficiency metrics, and industry-standard replacements for professional [HVAC](#) technicians and field workers.

## **Q&A Space**

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### **Q: Can I use the GLY21RG in a domestic freezer?**

**A:** No, it is not recommended. The GLY21RG is an MBP/HBP [compressor](#) designed for cooling temperatures (-25°C to +10°C). Domestic freezers typically require LBP (Low Back Pressure) compressors designed to reach -30°C or lower efficiently.

### **Q: What happens if I use the wrong oil?**

**A:** R134a compressors like the GLY21RG must use POE (Polyolester) oil. Using Mineral Oil (MO) will cause the oil to fail in circulating with the refrigerant, leading to a seized pump and system blockage.



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