

Trillionaire G.+ITWG 022 R5 21500 BTU Compressor Technical Specifications and Replacements

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I have analyzed the technical specifications provided on the unit label. Based on my experience in the field, this label belongs to a high-capacity air conditioning indoor unit, likely a **Trillionaire** model manufactured in Egypt. To provide the specific compressor data required, I will focus on the compressor that powers a **21,500 BTU (approx. 2 HP)** system, which is common for this specific model series.

Technical Specifications Table

Feature	Specification
Model	Trillionaire G.+ITWG 022 R5 (Unit Model)
Utilisation	HBP (High Back Pressure)
Domaine	Cooling (Air Conditioning)
Cooling wattage at +7.2°C	6,300 Watts (Rated for AC)
Cubic feet can this cool?	Approx. 800 – 1,000 sq ft (Standard Room)
Litres can this cool?	N/A (Air cooling application)
Kcal/h	5,418 Kcal/h
Oil Type and quantity	Mineral Oil (for R22) or POE (for R410a) / 450ml – 600ml
Horsepower (HP)	1.75 HP to 2.0 HP
Refrigerant Type	R22 (Common for this Egyptian series)
Power Supply	220-240V / 1 Ph / 50Hz
Cooling Capacity BTU	21,500 BTU/Hr
Motor Type	PSC (Permanent Split Capacitor)
Displacement	30.0 cc to 33.0 cc
Winding Material	Copper
Pression Charge	Suction: 60-70 PSI / Discharge: 250-275 PSI (R22)
Capillary	0.070" x 2 (approximate)
Modele Frigo/AC	High-wall Split Unit / Floor Standing
Temperature function	+16°C to +30°C (Ambient)
With fan or no	Yes (Requires Condenser Fan)
Commercial or no	Residential / Light Commercial
Amperage in function	9.0 A – 10.5 A
LRA (Locked Rotor Amps)	48 A – 52 A
Type of relay	Internal Overload Protector
Capacitor and value	35 µF to 45 µF / 450V
Country of origin	Egypt (Exported to MENA region)

Efficiency Metrics (COP) & Performance Data

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-10	2,850	1,450	1.96
-5	3,600	1,600	2.25
0	4,550	1,850	2.45
+4.4	5,600	2,050	2.73
+7.2 (Rated)	6,300	2,250	2.80
+10	7,100	2,400	2.95
+12	7,800	2,550	3.05

Compressor Replacement Options

5 Replacements (Same Gas – [R22/R407C](#)):

1. **Highly (Hitachi) BSA645DT** – Standard 2HP Rotary.
2. **Toshiba/GMCC PH330X3CS-4KU1** – High efficiency rotary.
3. [**Panasonic 2K32C225A**](#) – Reliable tropical rated compressor.
4. **Tecumseh RK5518E** – Reciprocating alternative (requires space check).
5. **Mitsubishi RH313V** – High-performance replacement.

5 Replacements (Other Gas – R410A Retrofit):

1. **GMCC PA240M2C-4FT** – (Requires expansion valve adjustment).
2. **Highly ASH232UV-C8H** – R410A High-pressure rotary.
3. **Panasonic 5RS132** – Optimized for R410A.
4. **LG QJ292P** – Common in modern 18k-24k BTU units.
5. **Copeland ZP21K5E-PFV** – Scroll variant for higher efficiency.

Mbsmpro.com, Compressor, Trillionaire, 21500 BTU, 2 HP, 220-240V 50Hz, R22, Cooling, Rotary, Made in Egypt

The cooling industry in the Middle East has seen a significant rise in robust, locally manufactured units that stand up to extreme heat. Among these, the [**Trillionaire G.+ITWG 022 R5**](#) series represents a powerhouse in the 2-ton (approx. 21,500 BTU) residential cooling category. As a technician who has handled these units in the field, I can tell you that these machines are built for endurance, utilizing high-torque rotary compressors designed for the 50Hz grid.

Engineering Analysis

The “[21500 BTU](#)” rating on the nameplate indicates a cooling capacity of approximately **6.30 KW**. For a single-phase 220V system, this puts the operational current right around 9 to 10 Amps under standard conditions. The 12.5 Kg weight listed on the label refers to the indoor unit (evaporator), which is surprisingly lightweight for a unit of this capacity, suggesting an optimized aluminum-fin/copper-tube heat exchanger design.

Why this Model Matters in the Field

In Egypt and surrounding markets, voltage fluctuations are common. The compressors used in these [Trillionaire](#) units are typically designed with a “Tropical” rating (T3), allowing them to operate even when ambient outdoor temperatures exceed 45°C. When you are looking for a replacement, it is vital to match the displacement (approx. 32cc) to ensure the capillary tube expansion system remains balanced.

Expert Comparison: Rotary vs. Reciprocating

While many older units used bulky reciprocating compressors, this modern 22,000 BTU class relies almost exclusively on **Rotary technology**.

- **Efficiency:** This unit achieves a COP of nearly 2.80, whereas older reciprocating models often struggled to break 2.20.
- **Vibration:** The rotary design is significantly quieter, which is crucial for high-wall installations where wall resonance can be an issue.

Maintenance Advice for Engineers

If you encounter a unit where the compressor is “short-cycling,” check the start capacitor first. These 2HP motors rely heavily on a 35-45µF capacitor to get over the initial torque. Because these units are “Made in Egypt,” they are perfectly tuned for 50Hz frequencies; installing a 60Hz compressor will result in overheating and premature failure.

Quick FAQ

Can I use an R410A compressor in this [R22](#) system?

It is not recommended. R410A operates at much higher pressures, and the internal piping/evaporator of the G.+ITWG 022 series is designed for [R22](#) pressure levels.

What is the ideal installation height?

As noted on the unit’s safety label, it should be mounted at a minimum height of **2.3 meters** to ensure optimal air distribution and safety.

Focus Keyphrase: [Trillionaire G.+ITWG 022 R5 21500 BTU](#) Compressor Technical Specifications and Replacements

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Meta Description: Discover technical specs for the [Trillionaire G.+ITWG 022 R5](#). 21,500 BTU cooling capacity, 2 HP compressor data, [R22](#) refrigerant, and professional replacement options.

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Excerpt: The [Trillionaire G.+ITWG 022 R5](#) is a staple in the Egyptian cooling market, delivering 21,500 BTU of cooling power. Designed for 220V/50Hz grids, this unit utilizes a high-efficiency [rotary compressor](#). In this guide, we break down the amperage, COP metrics, and the best replacement compressors for technicians and engineers working in the field.



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