Secop GTK70AT Compressor Specifications and Equivalents

Category: Refrigeration
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The SECOP GTK70AT is a cornerstone in the world of high-efficiency domestic refrigeration. Engineered in Slovakia, this compressor represents the evolution of the Kappa series, offering a robust solution for Low Back Pressure (LBP) applications. It is specifically designed to handle the demanding pull-down

requirements of modern energy-efficient refrigerators and medium-sized chest freezers using R134a refrigerant.
Technicians value the GTK70AT for its high reliability and relatively low noise profile. Unlike standard 1/5 HP units, this “Plus” model provides a slight edge in displacement, ensuring that during high-ambient temperature conditions, the cooling curve remains stable without stressing the motor windings.

Technical Data Sheet

Feature	Specification
Model	GTK70AT
Utilisation	LBP (Low Back Pressure)
Domaine	Freezing / Cooling
Cooling Wattage (-23.3°C)	195 W
Cubic Feet Capacity	10 – 14 cu.ft
Litres Capacity	280 – 400 Liters
Kcal/h	168 Kcal/h
Oil Type and Quantity	POE (Polyolester) / 180 ml
Horsepower (HP)	1/5+ HP
Refrigerant Type	R134a
Power Supply	200-240V ~ 50Hz
Cooling Capacity BTU	665 BTU/h
Motor Type	RSIR/RSCR (depending on starter kit)
Displacement	6.64 cm³
Winding Material	Copper
Pression Charge	Low side (0.5 to 1.5 psi running)
Capillary Recommendation	0.031″ or 0.036″ (Length varies by design)
Application Range	Double door fridges, Upright freezers
Temperature Range	-35°C to -10°C
Cooling Type	Static (No fan required for compressor)
Commercial Use	Light Commercial / Domestic
Amperage (RLA)	0.9 A to 1.1 A
LRA (Locked Rotor Amps)	6.1 A
Starter Type	PTC Relay
Capacitor	4µF Run Capacitor (Optional for RSCR)
Origin	Slovakia

Efficiency Metrics (COP) – Performance Data

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-30	140	115	1.22
-25	182	131	1.39
-23.3	**195**	**138**	**1.41**
-20	235	150	1.57
-15	302	171	1.77

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-10	385	195	1.97

Comparison: GTK70AT vs. Standard Series

When comparing the **GTK70AT** to the older **TLES** or **GL** series, the GTK series offers a more compact shell design which aids in reducing vibration resonance. While a standard 1/5 HP compressor like the GL70AA uses about 6.0cm³ displacement, the GTK70AT's 6.64cm³ displacement allows it to reach target temperatures 15% faster, making it ideal for "Tropical Class" appliances.

Professional Advice & Maintenance Tips

- **Oil Sensitivity:** Always use POE oil if a recharge is necessary. Never mix with mineral oil, as R134a systems will undergo wax plating and clog the capillary.
- **Filter Drier:** Always replace the filter drier when swapping a compressor. A 20g XH-9 molecular sieve is recommended for this model.
- **Vacuuming:** Ensure a vacuum of at least 500 microns to remove all moisture, as the GTK series is sensitive to internal acid formation if moisture remains.

Compressor Cross-Reference & Replacements

5 Replacements (Same Refrigerant – R134a)

1. **Embraco:** EMY70HLC / EMT6170Z
2. **Danfoss:** TLS7F
3. **Tecumseh:** THG1365YS
4. **Huayi:** HYE69YL
5. **ZMC:** GL70AA / GVY66AA

5 Replacements (Different Refrigerant – R600a/R290)

1. **Secop:** NLE7.0KK.4 (R600a)
2. **Embraco:** EMX70CLC (R600a)
3. **Jiaxipera:** NT1114Y (R600a)
4. **Secop:** DLE7.5CN (R290 – *High efficiency*)
5. **Tecumseh:** TLY7.5KK.3 (R600a)

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Slovakia.

Excerpt: The SECOP GTK70AT is a high-performance 1/5+ HP compressor designed for R134a Low Back Pressure (LBP) applications. Featuring a 6.64 cm³ displacement and 195W cooling capacity at -23.3°C, this Slovakian-made unit is a reliable choice for domestic freezers and refrigerators. This guide provides full technical specs, COP metrics, and professional replacement equivalents.



1/5 hp, Compressor Replacement, EMY70HLC, GL70AA, GTK70AT, mbsm, mbsm.pro, mbsmgroup, mbsmpro.com, R134a, refrigeration, Secop, THG1365YS, TLS7F

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