


Secop TLES6FT.3 Compressor Technical Specifications, Cooling Capacity, and R134a Replacement Guide for Refrigeration Professionals

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Focus Keyphrase

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SEO Title

[Mbsmpro.com](#), [Compressor](#), [Secop](#), [TLES6FT.3](#), [1/6 hp](#), [R134a](#), [LBP](#), 220-240V 50Hz, Technical Data and Replacements

Meta Description

Technical deep dive into the [Secop TLES6FT.3 compressor](#). Explore cooling capacity, [1/6 HP](#) performance, [R134a](#) specs, and a comprehensive replacement guide for HVAC technicians.

Slug

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Excerpt

The [Secop TLES6FT.3](#) is a high-efficiency hermetic reciprocating [compressor](#) designed specifically for Low Back Pressure ([LBP](#)) applications. Operating on [R134a](#) refrigerant, this [1/6 HP](#) powerhouse is a staple in domestic [refrigeration](#). This guide breaks down its technical performance, electrical characteristics, and provides reliable replacement options for field workers and engineers looking for precision.

The Heart of the Cold: A Deep Dive into the Secop TLES6FT.3

In the world of professional [refrigeration](#), the [compressor](#) is the undisputed champion of the cooling cycle. Among the reliable workhorses found in modern households, the [Secop TLES6FT.3](#) stands out as a precision-engineered component. Manufactured in Slovakia, this unit is built for longevity and steady performance in Low Back Pressure ([LBP](#)) environments, such as household refrigerators and small freezers.

Understanding this [compressor](#) isn't just about reading a label; it's about knowing how it interacts with the entire thermal system. Whether you are a field technician performing a swap or an engineer designing a cooling solution, the technical nuances of the [TLES6FT.3](#) are vital.

Technical Profile: Secop TLES6FT.3

Feature	Specification
Model	TLES6FT.3 (102G 4609)
Utilization	LBP (Low Back Pressure)
Domaine	Freezing / Cooling
Horsepower (HP)	1/6 HP
Refrigerant Type	R134a
Displacement	6.00 cm ³
Cooling Capacity (-23.3°C ASHRAE)	156 Watts (Approx. 532 BTU/h)
Power Supply	220-240V / 50Hz / 1 Phase
Motor Type	RSIR/CSIR (LST/HST compatible)
Oil Type and Quantity	POE (Polyolester) / 180 ml
Winding Material	Copper
Amperage (Rated)	1.1 A
LRA (Locked Rotor Amperage)	7.5 A
Type of Relay	PTC or Current Relay
Capacitor	Optional (6 µF or 80 µF for HST)
Country of Origin	Slovakia

Efficiency Metrics (COP) and Performance Data

Efficiency in a [compressor](#) is defined by the Coefficient of Performance (COP). For the [TLES6FT.3](#), the relationship between evaporating temperature and energy consumption is crucial for maintaining energy ratings.

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-35	82	98	0.84
-30	112	114	0.98
-25	148	131	1.13
-23.3	156	138	1.14
-20	188	150	1.25
-15	240	170	1.41
-10	295	192	1.54

Note: The COP is calculated using the formula: $COP = \frac{Q_c}{P}$, where Q_c is the cooling capacity and P is the power input.

Application and Capability

This [compressor](#) is typically found in medium-sized domestic refrigerators.

- **Cooling Capacity in Liters:** It can efficiently handle cooling for units between **250 to 350 Liters**.
- **Cubic Feet:** Approximately **8.8 to 12.3 cubic feet**.
- **Capillary Tube Suggestion:** For [LBP R134a](#) systems, a capillary of **0.031 inches (0.78 mm)** with a length adjusted to the specific cabinet load is standard.

Comparison: Secop TLES6FT.3 vs. Competitors

When looking at the market, the [TLES6FT.3](#) competes directly with brands like Embraco and ACC. While it offers a very stable 6.0 cc displacement, some competitors might vary slightly in their start torque performance.

Brand	Model	HP	Displacement	Gas
Secop	TLES6FT.3	1/6 HP	6.00 cc	R134a
Embraco	EMT55HLP	1/6 HP	5.19 cc	R134a
Jiaxipera	ND1112Y	1/6 HP	5.80 cc	R134a
ACC/Seko	GVY57AA	1/6 HP	5.73 cc	R134a

Replacement Guide

If you are in the field and cannot find the exact TLES6FT.3, here are the professional-grade alternatives.

5 Direct Replacements (Same Gas: R134a)

1. [Embraco EMT55HLP](#): Very common, slightly higher efficiency.
2. [Danfoss TL5G](#): The classic predecessor, extremely durable.
3. **ACC / Cubigel GVY57AA**: A direct fit for many European cabinets.
4. [Jiaxipera ND1112Y](#): Often used in Bosch and Siemens units.
5. **Tecumseh THG1358YKS**: A robust alternative with similar mounting.

5 Indirect Replacements (Alternative Gas: R600a)

Caution: Gas conversion requires a complete system flush, different oil, and a specific R600a charging procedure.

1. [Secop TLES6.5KK.3](#): The natural R600a evolution of this frame.
2. **Embraco EMX55CLC**: High efficiency R600a model.
3. **Jiaxipera NT1113Y**: Standard R600a replacement.
4. **ACC HXK95AA**: Known for very low noise levels.
5. **Wanbao ATA72XL**: Budget-friendly R600a alternative for [1/6 HP](#) range.

Professional Advice & Field Tips

- **Oil Management:** The TLES6FT.3 uses **POE oil**. This oil is highly hygroscopic (absorbs moisture quickly). Never leave the compressor open to the atmosphere for more than 15 minutes.
- **System Cleanliness:** When replacing a burnt-out compressor, always replace the filter drier and perform a nitrogen purge to ensure no acid remains in the lines.
- **Starting Device:** This model supports both LST (Low Starting Torque) and HST (High Starting Torque). If you are working in an area with unstable voltage, adding a start capacitor (HST kit) can significantly extend the motor’s life.

Troubleshooting the TLES6FT.3

Problem	Potential Cause	Action
Compressor runs but no cold	Gas leak or partial blockage	Check high-side pressure and capillary.
Clicking sound (Thermal Protector)	Faulty relay or seized piston	Check LRA and relay resistance.
High vibration	Worn internal springs	Ensure the external rubber grommets are intact.



1/6 HP, [ACC GY57AA](#), Compressor, [Cubigel GL60AA](#), [Danfoss TL5G](#), [Embraco EMT55HLP](#), [Jiaxipera ND112Y](#), [LBP](#), [mbsm](#), [mbsm.pro](#), [mbsmgroup](#), [mbsmpro.com](#), R134a, [R600a Conversion](#), [refrigeration](#), [Secop](#), TLES6FT.3

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