Secop ES7FT.4 Compressor 1/5 HP R134a Technical Specifications and Replacements

Category: Refrigeration
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Mbsmpro.com, Compressor, ES7FT.4, 1/5 hp, Secop, Cooling, R134a, 147 W, 1.1 A, 1Ph 220-240V 50Hz, LBP, RSIR, −35°C to −10°C, Static Cooling

The **Secop ES7FT.4** represents a pinnacle of energy-optimized engineering for tropical refrigeration environments. Designed specifically for low back pressure (LBP) applications, this hermetic reciprocating compressor is a reliable workhorse for household refrigerators and small commercial freezers. Operating on **R134a** refrigerant, it balances thermal efficiency with the robust durability required for high-ambient temperature regions.

Technical Specification Table

Attribute	Details
Model	ES7FT.4 (102G4707)
Utilisation	LBP (Low Back Pressure)
Domaine	Freezing / Deep Cooling
Cooling Wattage at -23.3°C	147 Watts (CECOMAF)
Cubic Feet Capacity	Approx. 7 – 10 cu.ft
Liters Capacity	200 – 300 Liters
Kcal/h	126 kcal/h
Oil Type & Quantity	Polyolester (POE) / 180 cm³
Horsepower (HP)	1/5 HP
Refrigerant Type	R134a
Power Supply	220-240V / 50Hz / 1Ph
Cooling Capacity BTU	502 BTU/h
Motor Type	RSIR (Resistance Start – Induction Run)
Displacement	5.70 cm³
Winding Material	Copper
Pression Charge	Low Pressure Side
Capillary Recommendation	0.031″ or 0.8mm (application dependent)
Appliance Type	Domestic Fridge, Chest Freezer, Water Dispenser
Temperature Function	-35°C to -10°C
Cooling System	Static (S)
Commercial Class	Semi-Commercial / Residential
Amperage (RLA)	1.1 A
LRA (Locked Rotor Amps)	5.4 A
Type of Relay	PTC Starter
Capacitor	N/A (RSIR Configuration)
Country of Origin	Slovakia

Efficiency Metrics (COP) & Performance Data

The efficiency of the ES7FT.4 is measured by its Coefficient of Performance (COP). Below is the performance breakdown at various evaporating temperatures (Condensing Temp at +55°C).

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-35	71.6	107	0.67
-30	99.5	125	0.80
-23.3 (Standard)	**147**	**148**	**0.99**
-20	176	160	1.10
-15	228	179	1.27
-10	290	200	1.45

Comparison with Alternative Models

When comparing the **ES7FT.4** to other popular 1/5 HP units, we see distinct differences in displacement and energy draw. For instance, the **ZMC GM70AZ** offers similar wattage but often utilizes different winding resistances. The Secop ES series is specifically "Energy Optimized," meaning it prioritizes a lower amperage draw during the long run cycles typical of LBP freezing.

Professional Recommendations & Field Notice

As an expert in the field, I recommend the following for any technician installing the ES7FT.4:

1. **Vacuum Procedure:** Always achieve a vacuum of at least 500 microns. R134a and POE oil are highly hygroscopic; moisture will lead to acid formation and premature motor failure.
2. **Filter Drier:** Replace the filter drier (minimum 15g-20g XH-9) every time the system is opened.
3. **Start Components:** If the compressor fails to start in high-heat environments, ensure the PTC starter is not cracked. These units rely on a clean electrical signal to engage the start winding.

Compressor Replacements (Cross-Reference)

5 Direct Replacements (R134a)

- **Embraco:** EMT6170Z or EMY70HSC
- **Danfoss:** TLS7F
- **ZMC:** GL70AA
- **Tecumseh:** THG1365Y
- **Jiaxipera:** ND1111Y

5 Replacements (Alternative Gas – R600a)

Note: Requires complete system flushing and capillary adjustment.

- **Secop:** TLES7.5KK.3
- **Embraco:** EMX70CLC
- **ACC/Seko:** HMK80AA
- **Donper:** L76CZ1
- **Huayi:** HYE69Y

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Excerpt: The Secop ES7FT.4 is a high-efficiency 1/5 HP hermetic compressor engineered for R134a LBP applications. With a displacement of 5.70 cm³ and a cooling capacity of 147W at -23.3°C, it is an ideal choice for tropical refrigeration. This guide provides full technical data, COP metrics, and professional replacement cross-references for HVAC technicians.



1/5 hp, 102G4707, EMT6170Z, ES7FT.4, GL70AA, LBP compressor, mbsm, mbsm.pro, mbsmgroup, mbsmpro.com, ND1111Y, R134a, Refrigerator Repair, Secop, THG1365Y, TLS7F

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