Siberia GFF57AA Compressor

Site: Mbsmpro

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Mbsmpro.com, Compressor, Siberia, GFF57AA, 1/5 hp, Cooling, R134a, 166 W, 220-240V 50Hz, LBP, RSIR, -35°C to -15°C, Freezing

Technical Specifications Table

Feature	Specification
Model	GFF57AA (Siberia / Bingfeng)
Utilization	LBP (Low Back Pressure)
Field of Application	Freezing and Deep Cooling
Oil Type and Quantity	Ester Oil (POE), 180ml – 200ml
Horsepower (HP)	1/5 HP
Refrigerant Type	R134a
Power Supply	220-240V ~ 50Hz
Cooling Capacity	166 W / 566 BTU/h (ASHRAE)
Motor Type	RSIR (Resistive Start, Inductive Run)
Displacement	5.70 cm^3
Winding Material	Copper/Aluminum Alloy (Model specific)
Charge Pressure (Low Side)	0.5 to 1.5 PSI (Running)
Capillary Tube Recommendation	0.031″ ID (approx. 2.5m – 3m based on application)
Compatible Equipment	Domestic Refrigerators, Chest Freezers, Water Dispensers

Feature	Specification
Evaporating Temperature Range	-35°C to -15°C (-31°F to 5°F)
Cooling Method	Static Cooling (No fan required for compressor body)
Commercial Classification	Residential / Light Commercial
Operating Amperage	1.1 A to 1.3 A
LRA (Locked Rotor Amps)	8.5 A
Type of Relay	PTC Start Relay
Capacitor Requirement	Usually None (RSIR); Optional 4µF-5µF for Efficiency

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Compressor Cross-Reference (Direct Replacements)

5 Replacements in the Same Gas (R134a):

1. **Embraco:** EMT56CLP
2. **Secop (Danfoss):** TLES5.7FT.3
3. **ZMC:** GLY60AA
4. **Jiaxipera:** ND1112Y
5. **Huayi:** HYE55ANL

5 Replacements in Different Gas (R600a Conversion – Requires system flush):

1. **Embraco:** EMX55CLC

2. **Secop:** TLES5.7KK.3
3. **Donper:** S65CY
4. **Siberia:** GFT57AA (R600a version)
5. **Jiaxipera:** NT1112Y

Mbsmpro.com, Compressor, GFF57AA, 1/5 hp, Siberia, Cooling, R134a, 166 W, 1.2 A, 1Ph 220-240V 50Hz, LBP, RSIR, -35°C to -15°C

In the world of domestic refrigeration, reliability is measured by the silence and efficiency of the compressor. The **Siberia GFF57AA** stands out as a high-performance hermetic reciprocating compressor specifically engineered for Low Back Pressure (LBP) applications. Manufactured by the renowned Zhejiang Bingfeng group, this unit has become a staple for technicians looking for a robust 1/5 HP solution in modern household appliances.

Engineering Mastery: The 5.7cc Displacement

The GFF57AA utilizes a 5.70 cm^3 displacement, which is the “sweet spot” for medium-sized household refrigerators and chest freezers. Unlike larger industrial units, this compressor focuses on thermal stability. In LBP environments, where evaporating temperatures drop as low as -35°C, the internal motor must manage significant pressure differentials without

overheating. The RSIR motor configuration ensures a simplified electrical setup, reducing the points of failure by eliminating the need for complex run capacitors in standard configurations.

Performance Comparison: R134a vs. R600a Alternatives

While the industry has seen a shift toward R600a (Isobutane), the R134a GFF57AA remains vital for the service and repair of millions of existing units.

- **Volumetric Efficiency:** R134a provides a higher cooling capacity per unit of displacement compared to R600a.
- **Operating Pressures:** The GFF57AA operates at higher discharge pressures than its R600a counterparts, which allows for smaller condenser footprints in compact refrigerator designs.

Electrical Schema and Terminal Logic

For the field engineer, understanding the terminal layout is essential for troubleshooting. The GFF57AA follows the standard triangular terminal configuration:

- **Common (C):** Top pin (standard orientation).
- **Start (S):** Typically the right-hand pin.
- **Main (M/Run):** Typically the left-hand pin.

Maintenance Wisdom for Technicians

To maximize the lifespan of the Siberia GFF57AA, pay close attention to the **Starting Device**. The PTC (Positive Temperature Coefficient) relay is the most common failure point. If the compressor hums but fails to start,

always check the PTC resistance before condemning the motor windings. Furthermore, since this is a static-cooled compressor, ensuring adequate airflow around the refrigerator’s rear compartment is the single best way to prevent thermal overload and oil breakdown.

Notice: Always ensure the system is vacuumed to at least 500 microns before charging with R134a to prevent moisture-related capillary blockage, a common issue in LBP systems using POE oils.

Focus Keyphrase: Siberia GFF57AA Compressor

SEO Title: Mbsmpro.com | Siberia GFF57AA 1/5 HP R134a Refrigerator Compressor Specs

Meta Description: Detailed technical guide for the Siberia GFF57AA 1/5 HP compressor. Includes cooling capacity (166W), R134a specs, replacement models, and electrical wiring data for technicians.

Slug: siberia-gff57aa-compressor-1-5-hp-r134a-specs

Tags: Mbsmgroup, Mbsm.pro, mbsmpro.com, mbsm, Siberia GFF57AA, Bingfeng Compressor, 1/5 HP Compressor, R134a LBP, EMT56CLP replacement, GLY60AA replacement, Refrigerator Repair, HVAC Engineering.

Excerpt: The Siberia GFF57AA is a high-performance 1/5 HP hermetic reciprocating compressor designed for Low Back Pressure (LBP) applications. Utilizing R134a refrigerant and a 5.7cc displacement, it provides a reliable cooling capacity of 166W. This unit is widely used in domestic freezers and refrigerators, offering a robust RSIR motor for 220-240V 50Hz electrical systems.

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