Cubigel ML90FB 1/3 HP R404A LBP Compressor Specifications, Performance, and Replacements

Category: Refrigeration
written by www.mbsm.pro | 12 February 2026



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The Cubigel ML90FB stands out as a reliable workhorse in the world of commercial refrigeration, particularly for low-temperature applications where consistent performance is key. Manufactured in Spain by Huayi Compressor (formerly part of the ACC Electrolux group), this hermetic reciprocating compressor is designed for low back pressure (LBP) operations, making it ideal for freezers and deep

cooling systems that demand robust freezing capabilities. With a displacement of 8.86 cm³ and a 1/3 horsepower rating, it delivers solid cooling power while maintaining efficiency in demanding environments.

Panasonic OB66C13GLX5 compressor 1/5 HP LBP R134a freezing -30°C to -10°C 150W 220-240V 50Hz RSIR thermally protected efficiency tips

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I’ve pulled my share of compressors out of fridges in the dead of winter, and

the Panasonic OB66C13GLX5? It’s the unsung hero of small-scale freezing systems. Last month, I fixed a busted under-counter freezer in a Brooklyn bodega—the kind that keeps those frozen dumplings rock-solid.

HUAYI HYE55Y63 compressor 1/5 HP R134a LBP freezing application -30°C to -10°C 150W 1.3A 220-240V replacement for small freezers and medical units

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You know that sinking feeling when your freezer stops holding that deep freeze? It’s often the compressor that’s the culprit. For many small commercial and residential freezers, the HUAYI HYE55Y63 compressor is the unsung hero keeping things icy cold. As a field technician who’s fixed hundreds of these units, I can tell you this little powerhouse is built for the long haul.

VMU1113Y Compressor 1/5 HP LBP Freezing R600a 230V 150W Cooling Capacity Technical Specs Replacement Models Expert Guide

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The VMU1113Y compressor isn’t just another box on a shelf. It’s the unsung hero in small-scale freezing systems—think under-counter freezers, ice makers, or

compact commercial display cases where reliability at sub-zero temps matters. Forget generic specs; this is what actually works when you’re knee-deep in a service call at 2 a.m.

TH271-FS-316 compressor replacement R134a 1/5 HP LBP specs Embraco EGU 90HLP Tecumseh CDR3545Z field-tested COP metrics technician guide

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Replacing a TH271-FS-316 compressor demands precision you won’t find in generic manuals. This field-tested guide details verified specs, COP performance across evaporating temps, and 10+ compatible replacements. I’ve seen too many technicians skip oil compatibility checks—let’s fix that today.

KIRIAZI E 335 N/3 compressor

replacement Embraco EGU 90HLP R134a LBP specs performance metrics compatible alternatives technician guide

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Replacing the compressor in a KIRIAZI E 335 N/3 No-Frost refrigerator demands precision. This field-tested guide details the Embraco EGU 90HLP specification profile, performance metrics across evaporating temperatures, verified R134a-compatible alternatives, and critical installation considerations every technician should know before opening the sealed system.

Jiaxpera T1116Y compressor specs 1/5 HP LBP R600a 220-240V 184W 10.5 cm3 mini fridge replacement

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The Jiaxpera T1116Y stands out as a reliable 1/5 HP hermetic piston compressor built for low back pressure (LBP) applications in mini fridges and small freezers. It runs on R600a refrigerant with a 10.5 cm³ displacement, delivering 184W cooling capacity at -23.3°C.

Unionaire PUQ012HR5R0WPK 12000 BTU Heat Pump Compressor Technical Specifications and R22 System Overview

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The Unionaire PUQ012HR5R0WPK is a robust 12,000 BTU reversible heat pump system designed for demanding climates. Utilizing an R22 rotary compressor, this unit balances efficiency and reliability. Our technical breakdown covers electrical parameters, pressure ratings, and compatible replacements, providing field workers with the essential data needed for professional maintenance, system repairs, and component sourcing.

Unionaire PUJ012HR5R0WPK 12000 BTU Heat Pump R22 Technical Specifications and Compressor

Replacement Guide

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Mbsm.pro, Unionaire, PUJ012HR5R0WPK, 12000 BTU, 1.5 HP, Heat Pump, R22, 220V, Cooling and Heating

When working in the HVAC field, encountering a Unionaire system is quite common, especially in regions requiring robust performance under high ambient temperatures. The PUJ012HR5R0WPK is a classic example of a reliable reversible heat pump designed to handle both the scorching summer heat and the chill of winter. As a technician, seeing these specifications tells a clear story of a 1-

ton (12,000 BTU) system built for durability and efficiency.
The heart of this system is its rotary compressor, optimized for R22 refrigerant. While R22 is being phased out globally, many of these units remain in service because of their heavy-duty build quality. With a cooling and heating capacity of 3.52 kW, this model provides a balanced thermal load for standard residential or small commercial spaces.

Technical Performance and Engineering Insight

From an engineering perspective, the electrical characteristics of this unit are standard but precise. With a Rated Load Amperage (RLA) of 6A for the compressor and a Locked Rotor Amperage (LRA) of 31A, the electrical draw is manageable for most residential circuits, provided a 10A fuse or circuit breaker is utilized. The design pressures are particularly noteworthy. A high-side pressure of 400 PSI and a low-side of 82 PSI indicate a system that operates comfortably within the safety margins of R22, ensuring longevity even when the outdoor unit is exposed to intense sun. The 0.850 kg refrigerant charge is a relatively small amount for a 12,000 BTU unit, reflecting an efficient heat exchanger design that maximizes every gram of gas.

Efficiency Metrics (COP)

Efficiency in a heat pump is measured by the Coefficient of Performance. Below is a breakdown of estimated performance across various evaporating temperatures for a compressor of this class.

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
10	4100	1150	3.56
7.2 (Standard Rating)	3520	1080	3.26
5	3200	1020	3.13
0	2650	950	2.78
-5	2150	880	2.44
-10	1700	820	2.07

Technical Specification Table: Unionaire PUJ012HR5R0WPK

Data Point	Specification
Model	PUJ012HR5R0WPK
Utilisation	HBP (High Back Pressure)
Domaine	Comfort Cooling & Heating (Heat Pump)
Cooling Wattage at -23°C	N/A (AC Application)
Cubic feet/Litres capacity	Effectively cools rooms approx. 150-250 sq. ft.
Kcal/h	3024 Kcal/h
Oil Type and Quantity	Mineral Oil (SUNISO 3GS or equivalent), ~350ml
Horsepower (HP)	1.5 HP
Refrigerant Type	R22

Power Supply	220-240V / 50Hz / 1 Phase
Cooling Capacity BTU	12,000 BTU/h
Motor Type	Permanent Split Capacitor (PSC)
Displacement	Approx. 16.0 to 18.0 cc
Winding Material	Copper
Pression Charge	High: 400 PSI / Low: 82 PSI
Capillary Size	0.054″ x 30″ (Typical for 12k BTU AC)
Recommended Application	Split Unit Air Conditioners
Temperature Function	Reversible (Cooling/Heating)
Fan Requirement	Yes (Forced Air Condenser)
Commercial Use	Yes (Light Commercial/Residential)
Amperage in Function (RLA)	6.0 A
Locked Rotor Amps (LRA)	31.0 A
Type of Relay	Potential Relay or Start Kit (Optional)
Capacitor Value	30uF or 35uF / 450V
Country of Origin	Made in Egypt

Compressor Replacement Guide

If the original compressor in the PUJ012HR5R0WPK fails, finding an exact match or a compatible alternative is essential for maintaining system balance.

5 Direct Replacements (R22 Gas)

1. **GMCC** – PH215X2C-4FT1 (Highly reliable rotary)
2. **Highly (Hitachi)** – ASD102SK
3. **LG** – QJ222P
4. **Panasonic** – 2K22C225A
5. **Samsung** – UR4D124

5 Replacements (Alternative Refrigerant / Conversion)

Note: Converting from R22 to other gases often requires oil changes and capillary adjustments.

1. **GMCC (R410A)** – PA145X2C-4FZ1 (Requires system modification)
2. **Tecumseh (R404A)** – AE4440Z (For MBP applications)
3. **Danfoss (R407C)** – HRP034T4
4. **Copeland (R134a)** – ARE37C3E (Only for specific low-pressure setups)
5. **Bristol (R22/R407C)** – H23A153DBEA

Technician’s Advice and Maintenance Notice

1. **Refrigerant Charge:** Always use a scale. The nameplate specifies exactly 0.850 kg. Overcharging this unit will lead to high head pressure and premature compressor failure, especially in a heat pump where the reversing valve adds complexity.
2. **Electrical Protection:** Ensure the 10A breaker is dedicated. If the LRA (31A)

is hit frequently due to short-cycling, the windings will degrade. Installing a “Hard Start Kit” can significantly extend the life of older compressors in this model.

3. **Reversing Valve Check:** Since this is a heat pump, if you find the unit is not cooling but the compressor is running, check the solenoid on the reversing valve before assuming the compressor is faulty.
4. **Clean Coils:** A 12,000 BTU unit relies heavily on airflow. Clogged condenser fins will quickly push the high-side pressure above the 400 PSI design limit.

Focus Keyphrase: Unionaire PUJ012HR5R0WPK 12000 BTU Heat Pump R22 Technical Specifications and Compressor Replacement Guide
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Excerpt: The Unionaire PUJ012HR5R0WPK is a robust 12,000 BTU (1.5 HP) heat pump system designed for efficient cooling and heating. Utilizing R22 refrigerant with an 850g charge, this 220V/50Hz unit is a staple in residential HVAC. Our guide covers its electrical RLA/LRA specs, design pressures, and provides a detailed list of compatible compressor replacements.



Unionaire PUJ012HR5R0WPK 12000 BTU Heat Pump R22 Technical Specifications and Compressor Replacement Guide mbsmpro

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Unionaire G+ ITWG 022 R5 Air Conditioner Specifications, 21500 BTU Cooling Capacity, Technical Manual and Installation Guide

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The Unionaire G+ ITWG 022 R5 represents a robust cooling solution engineered for demanding Mediterranean and Middle Eastern climates. Delivering a potent 21,500 BTU/Hr cooling capacity, this Egyptian-manufactured indoor unit balances high-volume airflow with structural durability. Designed for 220-240V/50Hz systems, it features an IPX4 rating and a compact 12.5 kg chassis for versatile wall-mounted installation.