

# Jiaxipera JM1080y, 1/6 hp+, 143w, r600a, capillary 0.028 inch diameter with a length of 2.5 meters

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## Technical Specifications for Jiaxipera JM1080Y

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- **Motor Power:** 1/6+ HP (Horsepower).
- **Cooling Capacity:** Approximately **143 Watts**.
- **Refrigerant Type:** [R600a](#) (High Efficiency).

## Recommended Capillary Tube Sizes

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To ensure optimal performance, the following capillary dimensions are recommended based on the application:

- **Standard Option:** 0.031 inch (0.8 mm) diameter with a length of **3 meters**.
- **Alternative Option:** 0.028 inch diameter with a length of **2.5 meters** (depending on whether the unit is a refrigerator or a freezer).

## Technical Specifications Table

Feature	Specification Details
Model	<a href="#">Jiaxipera JM1080Y</a>
Utilisation (mbp/hbp/lbp)	LBP (Low Back Pressure)
Domaine (Freezing/Cooling)	Freezing & Deep Cooling
Cooling wattage at -23.3°C	143 Watts (ASHRAE)
Cubic feet capacity	Up to 14 – 16 cu.ft (depending on insulation)
Litres capacity	300 – 450 Liters
Kcal/h	123 Kcal/h
Oil Type and quantity	Mineral Oil / 180ml
Horsepower (HP)	<a href="#">1/6 HP</a>
Refrigerant Type	<a href="#">R600a</a> (Isobutane)
Power Supply	220-240V / 50Hz / 1 Phase
Cooling Capacity BTU	488 BTU/h
Motor Type	RSIR / RSCR (Start Capacitor optional)
Displacement	8.1 cm <sup>3</sup>
Winding Material	Copper
Pression Charge	Low Pressure (Suction side)
Capillary Recommendation	0.031" ID
Refrigerator Type	No-frost refrigerators, Chest freezers
Temperature Function	-35°C to -15°C
With fan or no	Static cooling (No fan required for compressor)
Commercial or no	Domestic / Light Commercial
Amperage in function	0.85 A
LRA (Locked Rotor Amps)	5.5 A
Type of relay	PTC Relay
Capacitor	4µF / 5µF Run capacitor (Optional for RSCR)
Country of origin	China ( <a href="#">Jiaxipera</a> Compressor Co., Ltd.)

## Compressor Replacements

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### 5 Replacements (Same Gas – [R600a](#)):

1. Secop (Danfoss): [TLES8.7KK.3](#)
2. Embraco: [EMX55CLC](#)
3. Samsung: [NC44A10AL1H](#)
4. Huayi: [HYB81MHU](#)
5. Donper: L81CZ1

### 5 Replacements (Different Gas – R134a):

*(Note: Requires system flushing and oil change or component matching)*

1. Embraco: EMS55HLP
2. Secop: TLES5.7FT.3
3. ZMC: GL60AA
4. Samsung: SD152H
5. Tecumseh: THG1352YGS

**Focus Keyword:** [Jiaxipera JM1080Y R600a](#) Compressor [1/6 HP](#) Specs

**SEO Title:** [Mbsmpro.com](#), Compressor, [Jiaxipera](#), [JM1080Y](#), [1/6 HP](#), [R600a](#), Cooling, 143 W, 220-240V, LBP, High Efficiency

**Meta Description:** Detailed technical guide for the [Jiaxipera JM1080Y](#) compressor. Learn about its [1/6 HP](#) capacity, [R600a](#) refrigerant specs, cooling wattage, and capillary size for refrigerators and freezers.

**Slug:** [jiaxipera-jm1080y-1-6-hp-r600a-compressor-specs](#)

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**Excerpt:** The [Jiaxipera JM1080Y](#) is a high-performance LBP compressor specifically designed for domestic refrigeration. Running on [R600a](#) refrigerant, it delivers 143W of cooling power, making it an ideal [1/6 HP](#) solution for modern energy-efficient refrigerators. This technical breakdown covers its displacement, winding material, amperage, and compatible replacements for professional HVAC maintenance and repair.

## Understanding the Performance of the Jiaxipera JM1080Y R600a Compressor

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The shift toward environmentally friendly refrigerants has placed the [Jiaxipera JM1080Y](#) at the forefront of the domestic cooling industry. As a dedicated **Low Back Pressure (LBP)** motor, this unit is engineered for systems that require consistent, deep freezing temperatures.

Leveraging **Isobutane (R600a)**, it offers superior thermodynamic properties compared to older HFC-based systems.

## Engineering Efficiency and Design

The [JM1080Y](#) features a displacement of **8.1 cm³**, which is optimized to balance energy consumption with cooling torque. Unlike older, bulkier compressors, this model utilizes advanced copper windings to reduce heat generation and improve electrical conductivity. The use of R600a allows for a lower system pressure, which significantly extends the lifespan of the internal mechanical valves and pistons.

## Efficiency Metrics (COP)

Efficiency in refrigeration is measured by the Coefficient of Performance (COP). The [Jiaxipera JM1080Y](#) excels in low-temperature environments, maintaining high output even as evaporating temperatures drop.

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-30	102	82	1.24
-25	131	94	1.39
<b>-23.3 (ASHRAE)</b>	<b>143</b>	<b>99</b>	<b>1.44</b>
-20	168	108	1.55
-15	212	123	1.72
-10	265	139	1.90

## Technical Comparison: R600a vs. R134a Models

When comparing the JM1080Y to a standard R134a compressor of similar capacity (like the GM70AZ), several advantages emerge:

- Energy Consumption:** The JM1080Y typically consumes 15-20% less electricity for the same cooling load.
- Oil Compatibility:** This unit uses specialized mineral oil which is less hygroscopic (moisture-absorbing) than the POE oil used in R134a systems, reducing the risk of acid formation.
- Noise Levels:** The lower operating pressure of R600a results in a much quieter operation, ideal for household environments.

## Engineering Recommendations for Installation

As a field expert, it is crucial to follow specific protocols when installing or replacing a JM1080Y unit:

- **Vacuuming:** R600a systems are extremely sensitive to non-condensables. A deep vacuum (below 500 microns) is mandatory.
- **Charging:** Always use a digital scale. R600a charges are very small (often 40-60g); even a 5g error can cause flood-back or poor cooling.
- **Capillary Selection:** If the original capillary is clogged, do not “guess” the length. For [1/6 HP](#) R600a systems, a 0.8mm ID tube provides the optimal pressure drop to ensure the evaporator remains fully flooded without liquid returning to the compressor.

## Conclusion for Professionals

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The Jiaxipera JM1080Y is a reliable, “workhorse” compressor for modern refrigerators. Its [1/6 HP](#) rating is deceptive, as its high COP allows it to outperform older 1/5 HP units in efficiency. For technicians, ensuring a clean system and precise gas charging is the key to unlocking the decades-long durability this Chinese-engineered marvel offers.

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