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› ACROTOR 49TYJ Synchronous Motor Instruction Manual

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For Commercial and Household Ice Makers

1. PRODUCT OVERVIEW

The ACROTOR 49TYJ Synchronous Motor is designed as a replacement component for various commercial and household ice makers. It is compatible with models such as HZB-12/A, HZB-12/B, HZB-12/H, HZB-12/G, HZB-22BF, HZB-15, HZB-12YLR, and HZB-20YLR. This motor operates at 110V-120V, 50/60 Hz, with a rated speed of 3/3.6 R.P.M. and supports both clockwise and counter-clockwise rotation. Its compact design and high torque output ensure efficient performance in ice cube machines.



Figure 1: Front view of the 49TYJ Synchronous Motor. The label displays model number 49TYJ, voltage 110-120V, frequency 50/60Hz, rated speed 3/3.6 R.P.M., and power consumption less than 4W.

2. SAFETY INFORMATION

Before attempting any installation or replacement, ensure the ice maker is completely disconnected from the power source. Failure to do so may result in electric shock or injury. It is recommended that installation be performed by individuals with basic electrical knowledge. Always wear appropriate personal protective equipment, such as gloves and safety glasses.

- Disconnect power before servicing.
- Verify voltage and frequency compatibility (110V-120V, 50/60Hz).
- Handle components carefully to avoid damage.
- Ensure all connections are secure after installation.

3. INSTALLATION (SETUP)

The 49TYJ synchronous motor is designed for straightforward installation. However, specific steps may vary depending on your ice maker model. Always refer to your ice maker's service manual for detailed disassembly and reassembly instructions.

3.1 Tools Required

- Screwdriver set (Phillips and flathead)
- Pliers (optional, for wire connections)
- Multimeter (for testing, optional)

3.2 Replacement Procedure

1. **Power Disconnection:** Unplug the ice maker from the electrical outlet.
2. **Access Motor:** Carefully disassemble the ice maker's casing to gain access to the existing synchronous motor. This typically involves removing several screws. Note the location and orientation of all components.
3. **Disconnect Wiring:** Disconnect the two electrical wires connected to the old motor. Note their connection points.
4. **Remove Old Motor:** Unscrew or unclip the old motor from its mounting bracket. Some motors may be secured with a metal bushing or gear shaft that might require gentle persuasion to remove if rusted.
5. **Install New Motor:** Position the new ACROTOR 49TYJ motor in the mounting bracket. Secure it using the original screws or clips. Ensure the motor shaft is correctly aligned with any connected gears or mechanisms.
6. **Connect Wiring:** Connect the two electrical wires to the new motor's terminals. The 49TYJ motor supports CW/CCW rotation, so wire polarity is generally not critical for function, but ensure connections are firm and secure.
7. **Reassemble:** Carefully reassemble the ice maker's casing, ensuring all screws are tightened and no wires are pinched.



Figure 2: Side view of the 49TYJ Synchronous Motor, highlighting the motor shaft and mounting points for installation.



Figure 3: Top-down view of the 49TYJ Synchronous Motor, illustrating the electrical terminals for connection.

4. OPERATING PRINCIPLES

The 49TYJ synchronous motor is a key component in the ice-making process. It typically drives mechanisms responsible for harvesting ice cubes from the evaporator plate or for moving ice into the storage bin. Once installed, the motor operates automatically as part of the ice maker's cycle, responding to commands from the ice maker's control board. This motor is designed for continuous operation within the ice maker's normal duty cycle. Its CW/CCW capability allows it to rotate in either direction, which is often utilized in ice harvesting mechanisms to dislodge ice or move components.

5. MAINTENANCE

The ACROTOR 49TYJ Synchronous Motor is a sealed unit and requires no internal maintenance or lubrication. Its robust design ensures long-term performance. However, regular inspection of the surrounding area within the ice maker can help prevent issues.

5.1 Inspection Guidelines

- **Wiring:** Periodically check the electrical connections to the motor for any signs of corrosion, fraying, or looseness. Ensure they remain securely attached.
- **Mounting:** Verify that the motor remains firmly mounted in its position. Vibrations can sometimes loosen mounting screws over time.
- **Surrounding Area:** Keep the area around the motor clean and free from ice buildup, water leaks, or debris that could impede its operation or cause corrosion. Address any rust stains promptly, as they may indicate water leakage affecting components.

If any issues are observed during inspection, ensure the ice maker is unplugged before attempting to clean or tighten components.

6. TROUBLESHOOTING

If your ice maker is not producing ice or experiencing issues related to the ice harvesting mechanism, the synchronous motor may be a contributing factor. Here are some common troubleshooting steps:

Problem	Possible Cause	Solution
Motor not rotating / Ice not harvesting	No power to motor	Check ice maker's power supply and control board.
	Motor seized or faulty	Inspect motor for physical damage or signs of overheating. If faulty, replace the motor.
	Obstructed mechanism	Ensure no ice buildup or foreign objects are blocking the ice harvesting mechanism.
Unusual noise from motor area	Motor bearing wear	If noise persists and motor performance is affected, consider replacement.
	Motor shaft misalignment	Verify motor is correctly seated and aligned.
	Loose mounting	Tighten mounting screws.

If troubleshooting does not resolve the issue, it is likely that the motor needs to be replaced. The ease of replacement makes this a common solution for ice maker malfunctions related to the harvesting mechanism.

7. SPECIFICATIONS

Attribute	Value
Model	49TYJ
Voltage	110V-120V
Frequency	50/60 Hz
Rated Speed	3/3.6 R.P.M.
Rotation	CW/CCW (Clockwise/Counter-Clockwise)
Wattage	≤4 Watts
Dimensions (approx.)	2.76 x 2.76 x 2.76 inches

Attribute	Value
Weight (approx.)	3.21 ounces
Compatibility	HZB-12/A, HZB-12/B, HZB-12/H, HZB-12/G, HZB-22BF, HZB-15, HZB-12YLR, HZB-20YLR, and similar models.

8. WARRANTY AND SUPPORT

The manufacturer offers an unlimited return and refund service for 360 days from the date of purchase. For any queries or support needs, please contact the seller directly. Customer service typically responds within 12 hours on working days. For further assistance or technical inquiries, please refer to the contact information provided with your purchase or on the product's retail page.

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