

## Teco EP3002

# Teco EP3002 AC Electric Induction Motor User Manual

Model: EP3002

## 1. INTRODUCTION

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This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Teco EP3002 AC Electric Induction Motor. Please read this manual thoroughly before attempting to install or operate the motor. Retain this manual for future reference.

## 2. SAFETY INFORMATION

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**WARNING:** Failure to follow these safety instructions can result in serious injury, death, or property damage. Only qualified personnel should install, operate, or maintain this equipment.

- **Electrical Hazard:** Ensure all power is disconnected and locked out before performing any installation, maintenance, or inspection. This motor operates at 460 Volts, 3 Phase, which can be lethal.
- **Moving Parts:** Keep hands, clothing, and tools clear of rotating parts during operation.
- **Proper Grounding:** The motor must be properly grounded in accordance with all local and national electrical codes.
- **Overload Protection:** Install appropriate overload protection devices to prevent motor damage and ensure safe operation.
- **Lifting:** The motor weighs 2647 pounds. Use appropriate lifting equipment and techniques to prevent injury.
- **Ventilation:** Ensure adequate ventilation around the motor to prevent overheating.

## 3. PRODUCT OVERVIEW

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The Teco EP3002 is a robust 300 HP AC Electric Induction Motor designed for demanding industrial applications. It features a Totally Enclosed Fan Cooled (TEFC) enclosure, a 449TS frame, and is foot-mounted for stable installation.



Figure 1: Teco EP3002 AC Electric Induction Motor. This image displays the general appearance of the foot-mounted, TEFC motor with its shaft and cooling fins.

### Key Features:

- **High Power Output:** 300 Horsepower for heavy-duty tasks.
- **High Speed:** Operates at 3600 RPM.
- **TEFC Enclosure:** Provides protection against dust, dirt, and moisture, suitable for harsh environments.
- **449TS Frame:** Standard industrial frame size for compatibility.
- **Max-E1 Efficiency:** Designed for energy efficiency.

## 4. SETUP AND INSTALLATION

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### 4.1 Unpacking

Carefully remove the motor from its packaging. Inspect for any visible damage that may have occurred during shipping. Report any damage to the carrier immediately.

### 4.2 Mounting

The EP3002 is a foot-mounted motor. Ensure the mounting surface is level, rigid, and capable of supporting the motor's weight (2647 lbs) and operational forces. Secure the motor firmly using appropriate bolts and washers through the mounting feet. Proper alignment with the driven equipment is critical to prevent premature bearing failure and vibration.

### 4.3 Electrical Connection

**CAUTION:** Electrical connections must be performed by a licensed electrician in accordance with all applicable electrical codes.

- Verify that the supply voltage (460 Volts, 3 Phase) matches the motor's rating.
- Connect the motor leads to the power supply terminals as indicated on the motor's wiring diagram (typically found inside the terminal box cover).
- Ensure all connections are tight and secure.
- Connect the motor frame to a reliable earth ground.
- Install appropriate circuit breakers and motor overload protection.

### 4.4 Pre-Operation Checks

- Confirm all mounting bolts are tightened.
- Check that all electrical connections are secure and properly insulated.
- Verify that the motor shaft rotates freely by hand (if possible and safe to do so).
- Ensure proper ventilation around the motor.
- Confirm that the driven equipment is ready for operation.

## 5. OPERATING INSTRUCTIONS

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## 5.1 Starting the Motor

After completing all pre-operation checks, apply power to the motor through its control circuit. Observe the motor during startup for any unusual noises, vibrations, or excessive current draw. If any abnormalities are detected, immediately shut down the motor and investigate the cause.

## 5.2 Stopping the Motor

To stop the motor, disconnect power via the control circuit. Ensure the motor comes to a complete stop before any inspection or maintenance.

## 5.3 Operational Considerations

- Avoid frequent starts and stops, as this can reduce motor life.
- Operate the motor within its rated voltage and frequency limits.
- Monitor motor temperature during extended operation.

## 6. MAINTENANCE

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Regular maintenance is crucial for extending the life and ensuring the reliable operation of your Teco EP3002 motor. Always disconnect and lock out power before performing any maintenance.

### 6.1 Routine Inspection (Monthly/Quarterly)

- Check for unusual noise or vibration.
- Inspect for loose mounting bolts or electrical connections.
- Examine the motor's exterior for dirt, dust, or obstructions to ventilation.
- Check for signs of overheating (discoloration, burnt smell).

### 6.2 Lubrication

The motor bearings require periodic lubrication. Refer to the motor's nameplate or a specific lubrication schedule provided by Teco for the correct lubricant type and frequency. Over-lubrication can be as damaging as under-lubrication.

### 6.3 Cleaning

Keep the motor's exterior, especially the cooling fins and fan cover, free from dust, dirt, and debris to ensure efficient cooling. Use compressed air or a soft brush for cleaning. Avoid using water or solvents that could damage insulation.

## 7. TROUBLESHOOTING

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This section provides guidance for common issues. For complex problems, contact qualified service personnel.

Problem	Possible Cause	Solution
Motor does not start	No power supply; Blown fuse/tripped breaker; Incorrect wiring; Overload protection tripped.	Check power supply; Reset breaker/replace fuse; Verify wiring against diagram; Reset overload.
Motor overheats	Insufficient ventilation; Overload condition; High ambient temperature; Bearing failure.	Clear obstructions; Reduce load; Improve ventilation; Inspect/replace bearings.
Excessive vibration/noise	Misalignment; Loose mounting; Worn bearings; Unbalanced rotor.	Check and correct alignment; Tighten mounting bolts; Inspect/replace bearings; Consult service personnel.
Motor runs slowly	Low voltage; Overload; Single-phasing (for 3-phase motor).	Check supply voltage; Reduce load; Check for open phase in 3-phase supply.

## 8. TECHNICAL SPECIFICATIONS

Specification	Value
Model	EP3002
Horsepower (HP)	300 HP
Speed	3600 RPM
Voltage	460 Volts
Phase	3 Phase
Frame Size	449TS
Enclosure Type	TEFC (Totally Enclosed Fan Cooled)
Efficiency Class	Max-E1
Mounting Type	Footed
Item Weight	2647 Pounds
Manufacturer	TECO-Westinghouse

## 9. WARRANTY AND SUPPORT

For specific warranty information regarding your Teco EP3002 motor, please refer to the documentation provided at the time of purchase or contact Teco customer support directly. Keep your purchase receipt as proof of purchase.

For technical assistance, spare parts, or service inquiries, please contact your authorized Teco distributor or TECO-Westinghouse customer service.

