ATO ATO 2hp (1.5kW) Stainless Steel Motor, Model 3-phase 208~230V

ATO 2hp (1.5kW) Stainless Steel Motor Instruction Manual

Model: 3-phase 208~230V

1. Product Overview

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your ATO 2hp (1.5kW) Stainless Steel Motor. This 3-phase motor operates at 208-230V and is designed for environments requiring high hygiene, such as meat, poultry, fish, dairy, and beverage industries.

Key Features:

- **Stainless Steel Construction:** Durable and easy to clean and sanitize enclosures, ensuring long-lasting performance in harsh industrial conditions.
- **Waterproof Rating:** IP65 protection against water, making these motors suitable for clean-in-place (CIP) washdown procedures, essential for maintaining hygiene in food processing.
- **Encapsulated Windings:** Prevents water and moisture from reaching the windings, ensuring reliable operation and longevity.
- **Energy Efficiency:** Low surface temperature and high efficiency contribute to reduced operating costs, enhancing overall cost-effectiveness and sustainability.

Figure 1: Front view of the ATO 2hp Stainless Steel Motor.

Figure 2: Side view of the ATO 2hp Stainless Steel Motor, showing the output shaft.

2. Safety Information

Read all safety instructions carefully before installing, operating, or performing maintenance on the motor. Failure to comply with these instructions may result in serious injury or equipment damage.

- **Electrical Hazard:** Ensure power is disconnected and locked out before any installation or maintenance work. Only qualified personnel should perform electrical connections.
- **Rotating Parts:** Keep hands, clothing, and tools clear of rotating parts during operation.
- **Hot Surfaces:** The motor surface may become hot during operation. Allow adequate cooling time before handling.
- **Proper Grounding:** Always ensure the motor is properly grounded according to local electrical codes.
- **Environmental Conditions:** Do not operate the motor outside its specified environmental conditions (e.g., temperature, humidity, IP rating).

3. Setup and Installation

Proper installation is crucial for the motor's performance and longevity. Refer to the technical drawings for mounting dimensions.

3.1 Component Identification

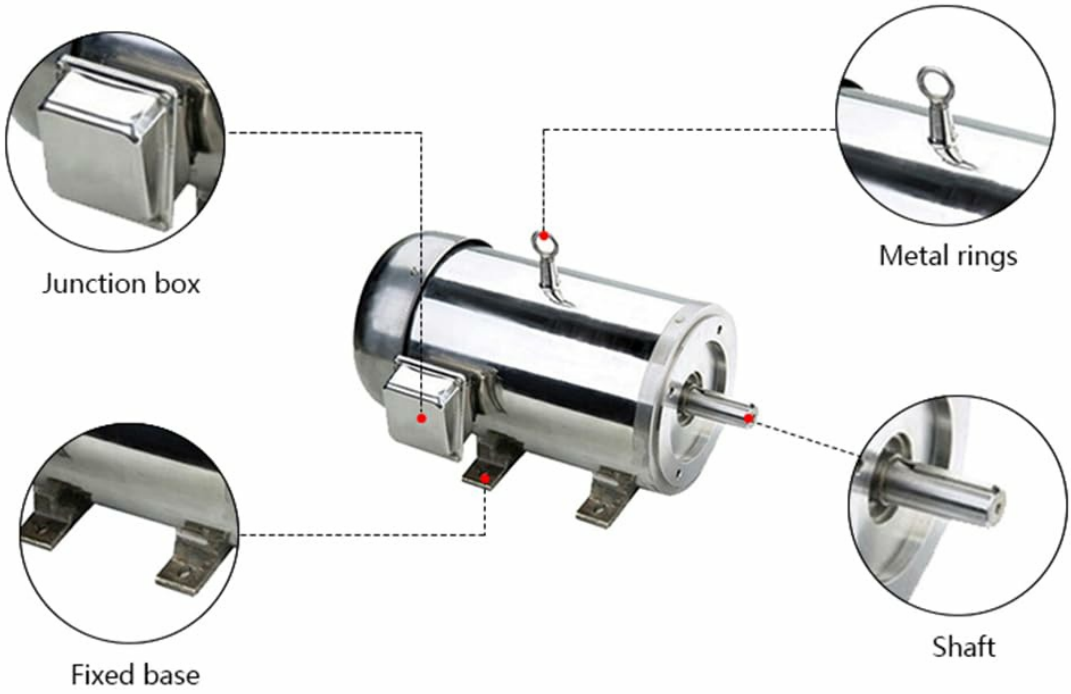

Figure 3: Key components of the ATO Stainless Steel Motor, including the junction box, metal rings for lifting, fixed base, and shaft.

- **Junction Box:** Houses electrical connections.
- **Metal Rings:** Used for safe lifting and positioning of the motor.
- **Fixed Base:** Provides stable mounting points for securing the motor.
- **Shaft:** The rotating output component that connects to the driven equipment.

3.2 Mounting

The motor supports B3 (foot-mounted), B5 (flange-mounted), and B14 (face-mounted) configurations. Choose the appropriate mounting type for your application.

1. Ensure the mounting surface is flat, rigid, and capable of supporting the motor's weight and operational forces.
2. Align the motor shaft with the driven equipment precisely to prevent vibration and premature wear.
3. Secure the motor using appropriate bolts and washers for the chosen mounting type (B3, B5, or B14). Tighten all fasteners to the manufacturer's recommended torque specifications.

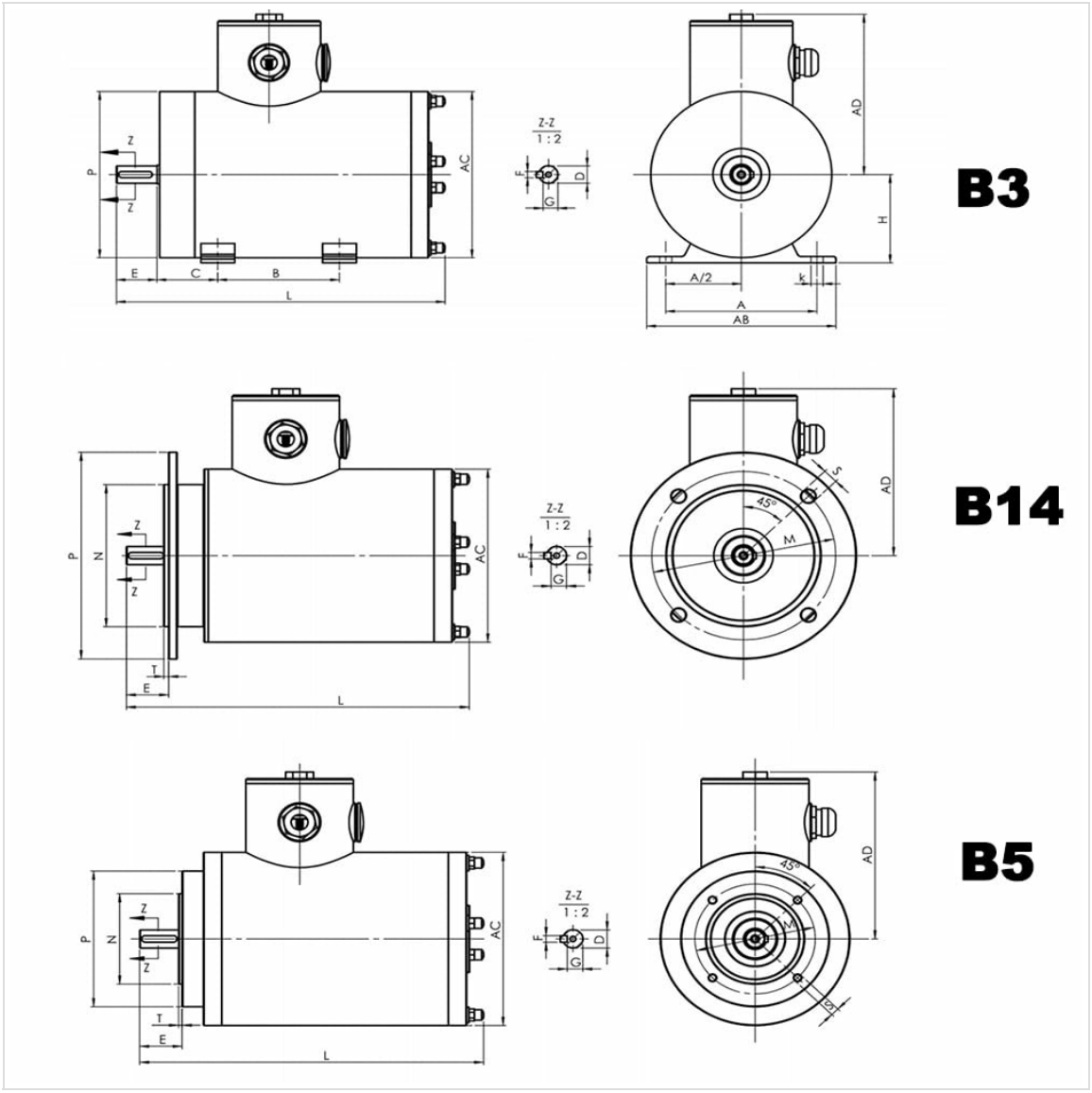

Figure 4: Technical drawings illustrating B3 (foot-mounted), B14 (face-mounted), and B5 (flange-mounted) configurations with dimensions.

3.3 Electrical Connection

1. Verify that the power supply voltage (208-230V, 3-phase) matches the motor's rated voltage.
2. Open the motor's junction box.
3. Connect the three-phase power lines (L1, L2, L3) to the corresponding motor terminals.
4. Connect the ground wire to the designated ground terminal.
5. Ensure all connections are secure and insulated. Close the junction box cover tightly to maintain the IP65 rating.

4. Operating Instructions

Before starting the motor, perform a final check of all connections and mounting.

1. Ensure the driven equipment is free from obstructions and ready for operation.
2. Apply power to the motor. The motor should start smoothly without excessive noise or vibration.
3. Monitor the motor during the initial run for any unusual sounds, overheating, or performance issues.
4. If the motor runs in the wrong direction, disconnect power immediately and reverse two of the three-phase power leads.
5. For continuous operation, ensure adequate ventilation around the motor to prevent overheating.

5. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your stainless steel motor.

5.1 Routine Checks

- **Visual Inspection:** Periodically check for any signs of damage, corrosion, or loose connections.
- **Noise and Vibration:** Listen for unusual noises and feel for excessive vibration, which may indicate misalignment or bearing issues.
- **Temperature:** Monitor the motor's surface temperature. Excessive heat can indicate overload or cooling issues.

5.2 Cleaning

The IP65 rating allows for washdown procedures. Use appropriate cleaning agents for stainless steel surfaces. Avoid high-pressure jets directly on seals or electrical connections, even with IP65 protection.

5.3 Lubrication

This motor features sealed bearings that are typically lubricated for life and do not require routine re-lubrication. Consult a qualified technician if bearing noise or performance issues arise.

6. Troubleshooting

This section provides solutions to common operational issues. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
Motor does not start	No power supply; Incorrect wiring; Overload; Blown fuse/tripped breaker	Check power supply; Verify wiring connections; Reduce load; Reset breaker/replace fuse
Motor runs hot	Overload; Insufficient ventilation; High ambient temperature; Bearing issues	Reduce load; Ensure proper airflow; Check ambient temperature; Inspect bearings
Excessive noise or vibration	Misalignment; Loose mounting; Worn bearings; Unbalanced load	Check alignment; Tighten mounting bolts; Inspect/replace bearings; Balance load
Motor runs in wrong direction	Incorrect phase sequence	Disconnect power and reverse any two of the three-phase power leads.

7. Specifications

Parameter	Value
Model	IEC-802
Rated power	2hp (1.5kW)
Rated voltage	208V~230V/460V
Number of pole	2P
Phase	3 phase
Cooling method	TEFC
Frequency	50/60Hz
Rated speed	2950r/min
Stainless steel	304
Protection grade	IP65
Insulation class	Class F
Protect Feature	Waterproof
Efficiency	IE 4
Weight	39kg
Certificate	CE, UL

7.1 Mounting Dimensions (mm)

Mounting type	Frame size	A	A/2	B	C	D	E	F	G	H	K	M	N	P	R	S	T	Flange Hole	Shaft Hole	AB	A
B3	125	62.5	100	50	19	40	6	15.5	-	80	-	-	144	-	-	-	-	M6	150	156	1
B14	80	-	-	-	19	40	6	15.5	-	100	80	120	0	M6	3	4	M6	-	144	135	
B5	-	-	-	-	19	40	6	15.5	-	165	130	200	0	12	3.5	4	M6	-	144	135	

8. Warranty

This ATO Stainless Steel Motor comes with a**12-month warranty** from the date of purchase. The warranty covers defects in materials and workmanship under normal use and service. It does not cover damage resulting from improper installation, misuse, unauthorized modifications, or natural wear and tear. For warranty claims, please retain your proof of purchase.

Return Policy: A refund or replacement may be available within 30 days of purchase, subject to the seller's return policy.

9. Support

For technical assistance, spare parts, or further inquiries, please contact ATO customer support through the official website or your point of purchase. When contacting support, please provide the motor model number and a detailed description of the issue.

Manufacturer: ATO

Item model number: 3-phase 208~230V