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› [Walfront](#) /

› [Walfront XD-3420 12V 30W DC Gear Motor Instruction Manual](#)

## Walfront XD-3420

# Walfront XD-3420 12V 30W DC Gear Motor Instruction Manual

## INTRODUCTION

This manual provides detailed instructions for the Walfront XD-3420 Permanent Magnet Brush DC Gear Motor. This motor is designed for various applications requiring high speed, low noise, and reliable performance. Please read this manual thoroughly before installation and operation to ensure safe and efficient use.



*Image: The Walfront XD-3420 12V 30W DC Gear Motor with its label and wiring.*

## PRODUCT FEATURES

The Walfront XD-3420 motor incorporates several design features for optimal performance:

- **Ball Bearing:** Features small friction, strong oil seal, and high bearing capacity for smooth operation.
- **Low Noise:** Operates with minimal noise, ensuring a quiet working environment.
- **High Speed:** Offers high-speed options of 3500 RPM (12V) or 7000 RPM (24V) with large torque.
- **Copper Wire Stator:** Stator windings are made of copper wire, contributing to low heat, low loss, and extended motor life.
- **CW/CCW Control:** Supports both clockwise and counter-clockwise rotation, controlled by power supply polarity.
- **Speed Adjustment:** Compatible with external DC governors for adjustable speed functionality.



#### Double Ball Bearing

Ball bearing, small friction, strong oil seal, high bearing capacity



#### Copper Wire

The stator windings of the motor are copper wire, low heat, low loss, long life, and it can realize CW/CCW by switch control (switch not included) .



#### 2200GS Magnetic Shoe

High work efficiency, low dynamic loss



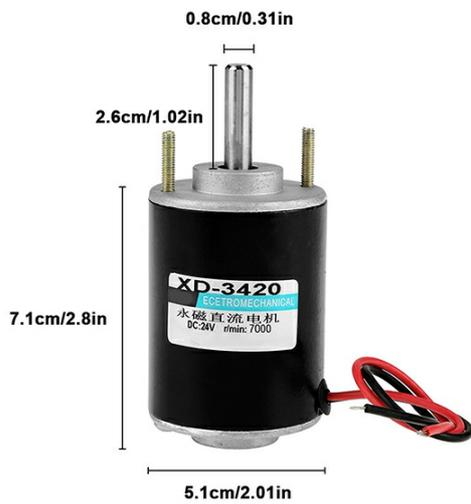
#### Low Noise Motor

It drives super smooth, almost no noise, safe to use.

*Image: Visual representation of the motor's internal components and benefits, including double ball bearings, copper wire, magnetic shoe, and low noise operation.*

## SPECIFICATIONS

| Specification            | Value                        |
|--------------------------|------------------------------|
| Product Type             | Brush DC Motor               |
| Model                    | XD-3420                      |
| Rated Power              | 30W                          |
| Rated Voltage (Optional) | 12V, 24V                     |
| Rated Speed              | 3500RPM (12V), 7000RPM (24V) |
| Current                  | 0.5 A                        |
| Output Shaft Length      | Approx. 26mm / 1.02 inches   |
| Torsion                  | 1kgf.cm (12V), 2kgf.cm (24V) |
| Weight                   | 460g                         |
| Product Dimensions       | 1.97 x 1.18 x 2.76 inches    |



| Specifications:          |                             |
|--------------------------|-----------------------------|
| Product type:            | Brush DC motor              |
| Model:                   | XD-3420                     |
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| Current:                 | 0.5 A                       |
| Output Shaft Length:     | Approx. 26mm/1.02inch       |
| Torsion:                 | 1kgf.cm(12V), 2kgf.cm(24v)  |
| Weight:                  | 460g                        |
| Package Included:        | 1 x DC Electric Motor       |

#### Note:

Please note that the new type and old type of this product will be sent randomly, and make sure you will not mind before ordering.

Image: Detailed specifications table and a diagram showing the motor's dimensions in centimeters and inches.

## SETUP & INSTALLATION

### Wiring Instructions

The motor supports both clockwise (CW) and counter-clockwise (CCW) rotation. The direction of rotation can be controlled by reversing the polarity of the power supply connected to the motor's red and black wires.

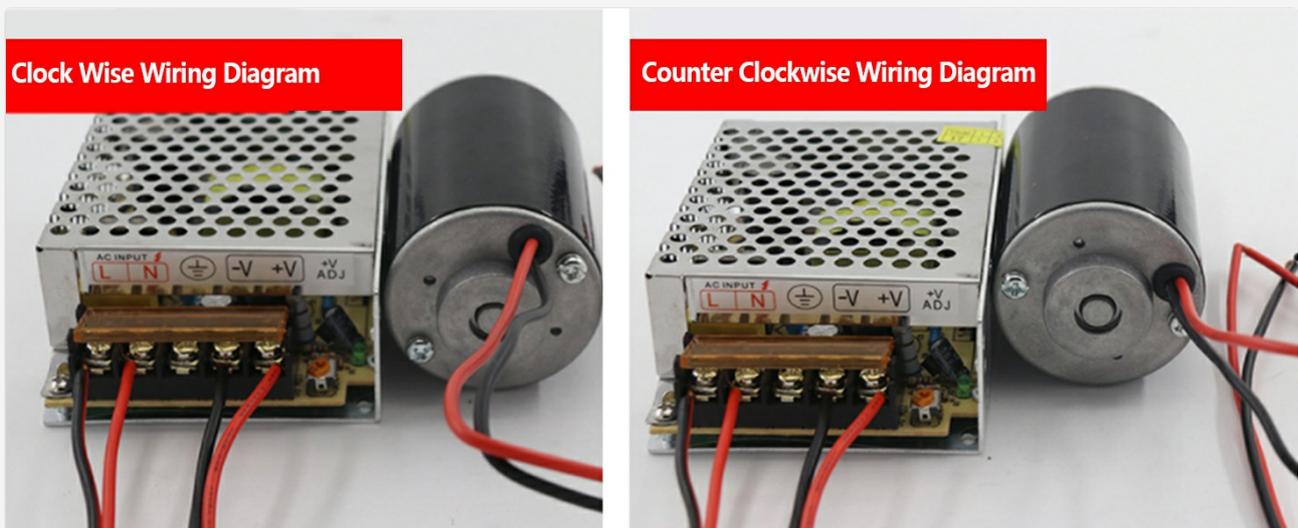


Image: Wiring diagrams illustrating connections for clockwise and counter-clockwise rotation using a power supply.

### General Connection

Connect the motor to a suitable 12V DC power source. For speed adjustment, an external DC governor is required (not included). Ensure all connections are secure and insulated to prevent short circuits.

### OPERATING INSTRUCTIONS

Once connected, apply power to the motor. The motor will operate at its rated speed (3500 RPM for 12V) unless a speed controller is used. Ensure the motor is securely mounted before operation to prevent movement or damage.

The motor is designed for smooth and quiet operation. Avoid applying excessive external force to the shaft during operation, as this can lead to premature wear or damage. Monitor the motor for any unusual sounds or excessive

heat during initial operation.

## MAINTENANCE

The Walfront XD-3420 motor is designed for long-term reliability with minimal maintenance. Adhering to these guidelines will help prolong its lifespan:

- **Cleanliness:** Keep the motor clean and free from dust, dirt, and debris. A soft, dry cloth can be used for external cleaning.
- **Ventilation:** Ensure proper ventilation around the motor to prevent overheating, especially during prolonged use or under heavy loads.
- **Connections:** Regularly check electrical connections for secure contact and signs of wear or corrosion.
- **Lubrication:** The ball bearings are sealed and generally do not require additional lubrication throughout the motor's operational life.

## TROUBLESHOOTING

### Motor Not Starting

- **Power Supply Check:** Ensure the power supply is providing the correct voltage (12V DC) and sufficient current for the motor's rated power (30W).
- **Wiring Verification:** Verify all electrical connections are secure, and the polarity is correct. Incorrect polarity will prevent operation or cause reverse rotation if not intended.
- **Obstruction Inspection:** Inspect the motor shaft and any attached components for jams or obstructions that might prevent rotation.

### Excessive Noise or Vibration

- **Mounting Security:** Ensure the motor is securely mounted to its base and not vibrating against its support structure. Loose mounting can cause noise and instability.
- **Shaft and Load Balance:** Inspect the motor shaft for any bends and ensure any attached components (e.g., pulleys, fans) are balanced and properly aligned.
- **Load Reduction:** If the motor is under heavy load, try reducing the load to see if the noise or vibration decreases. Excessive load can strain the motor.

## APPLICATIONS

This versatile DC gear motor can be utilized in a wide range of DIY projects and industrial applications due to its robust design and performance characteristics:

- Cotton candy machines
- Small cutting benches
- Grinding machines
- Medical equipment
- DIY generators
- Other mechanical equipment requiring a reliable DC motor

# APPLICATION

Widely used in cotton candy machine, small cutting bench, grinding machine and other mechanical equipment.



*Image: Visual examples of various applications where the motor can be used, such as a lawnmower, cotton candy machine, small cutting bench, and other industrial machinery.*

## IMPORTANT NOTES

Please be aware that new and old models of this product may be shipped randomly. While functionally identical, there might be minor cosmetic differences. This does not affect performance or specifications.



*Image: A side-by-side comparison showing the 'New Type' and 'Old Type' of the XD-3420 motor, highlighting potential minor cosmetic variations.*

## WARRANTY & SUPPORT

For warranty information or technical support regarding your Walfront XD-3420 DC Gear Motor, please contact Walfront customer service through their official channels or the retailer from whom the product was purchased.

**Manufacturer:** Walfront

**Date First Available:** December 13, 2017

