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Model: KV6 230V | Brand: Dieffematic

1. PRODUCT OVERVIEW

The Dieffematic KV6 230V Sliding Gate Motor Kit is a professional-grade automation solution designed for sliding gates up to 600 kg. This robust electromechanical motor features all-metal gears for reliable performance and durability. Its die-cast aluminum body with an ABS protective casing ensures solid and secure operation. Key features include an innovative magnetic limit switch system for easy and repeatable positioning, especially beneficial in snowy conditions, and a personalized key release system for manual gate operation during power outages. The control unit, housed in a sealed enclosure, offers automatic course programming, motor torque adjustment, speed reduction, and multiple operating logics, including pedestrian access and safety features like photocell input and surge limiters.



Figure 1: Dieffematic KV6 230V Sliding Gate Motor Kit

2. KIT COMPONENTS

The complete kit includes the following components:

- 1x Electromechanical Motor (600 kg, 220V power supply, with key release)
- 1x Galvanized Foundation Plate
- 1x Control Unit (integrated into the motor housing, with motor power adjustment trimmers, obstacle detector, opening/closing speed reduction, 4 operating logics: step-by-step, semi-automatic 1 & 2, automatic condominium)
- 1x Single-channel Radio Receiver (integrated into the control unit, 433.9 MHz)
- 1x Integrated Antenna (20-meter range)
- Magnetic Limit Switch System
- Pedestrian input, courtesy light, surge limiters, photocell input, and safety costs.

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Video 1: Overview of Dieffematic KV6 Kit Components and Basic Motor Functionality.

3. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your sliding gate motor. Please follow these steps carefully. It is recommended to consult a qualified technician for electrical connections.

3.1. Foundation Plate Installation

1. **Prepare the Base:** Ensure a stable, level concrete base for the motor.
2. **Position the Foundation Plate:** Place the galvanized foundation plate on the prepared base. Mark the drilling points according to the plate's holes.
3. **Drill Holes:** Drill holes in the concrete base at the marked positions.
4. **Secure the Plate:** Insert anchor bolts into the drilled holes and secure the foundation plate firmly.

3.2. Motor Mounting

1. **Place the Motor:** Carefully place the motor unit onto the secured foundation plate, aligning the motor's gear with the gate's rack.
2. **Secure the Motor:** Fasten the motor to the foundation plate using the provided bolts, washers, and nuts. Ensure it is securely tightened.

3.3. Rack Installation

The kit includes 5 meters of galvanized rack. Install the rack segments along the gate, ensuring proper alignment with the motor's gear.

1. **Align the Rack:** Temporarily position the first rack segment, ensuring its teeth mesh correctly with the motor's gear. Maintain a small clearance (approx. 1-2mm) between the rack and the gear to allow for smooth movement.
2. **Mark and Drill:** Mark the drilling points on the gate for the rack brackets. Drill holes and attach the rack segments using the provided fasteners.
3. **Extend the Rack:** Continue adding rack segments, ensuring they are perfectly aligned and maintain the correct clearance with the motor gear along the entire length of the gate.
4. **Secure All Segments:** Once all rack segments are in place and aligned, tighten all fasteners securely.

3.4. Electrical Connections

All electrical connections should be performed by a qualified electrician. Refer to the wiring diagram provided in the full manual for detailed instructions.

- **Power Supply:** Connect the 220V power supply to the designated terminals on the control unit. Ensure proper grounding.
- **Accessories:** Connect any optional accessories such as photocells, keypads, or additional safety devices to their respective terminals on the control unit.

3.5. Magnetic Limit Switch Installation

The magnetic limit switches define the gate's open and closed positions.

1. **Open Position Limit Switch:** Manually move the gate to its fully open position. Install the "open" magnetic limit switch on the rack so that it activates the motor's internal sensor at this position.
2. **Closed Position Limit Switch:** Manually move the gate to its fully closed position. Install the "closed" magnetic limit switch on the rack so that it activates the motor's internal sensor at this position.
3. **Test and Adjust:** Run the gate through a full open/close cycle to verify that the limit switches stop the gate at the desired positions. Adjust as necessary.

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Video 2: Detailed installation guide for the sliding gate motor, including rack and limit switch setup.

4. OPERATING INSTRUCTIONS

The Dieffematic KV6 motor offers various operating modes and features for convenient and safe use.

4.1. Remote Control Operation

- **Pairing:** The radio receiver is integrated into the control unit. Follow the instructions in the full manual to pair your remote controls with the system.
- **Open/Close:** Press the designated button on your remote control to open or close the gate.
- **Stop:** Press the button again during operation to stop the gate.

4.2. Automatic Programming

The intelligent control unit features automatic course programming, adjusting motor torque and speed reduction for optimal performance. Refer to the control unit's specific programming guide for detailed setup of operating logics (step-by-step, semi-automatic, automatic condominium).

4.3. Manual Release

In case of a power outage or system malfunction, the gate can be operated manually using the personalized key release system. Insert the key into the lock and turn it to disengage the motor, allowing you to move the gate by hand.

4.4. Safety Features

- **Obstacle Detection:** The motor is equipped with an obstacle detector that reverses the gate's movement if an obstruction is encountered during closing.
- **Photocell Input:** Connect optional photocells to enhance safety, preventing the gate from closing if an object or person is in its path.
- **Surge Limiters:** Integrated surge limiters protect the system from electrical spikes.

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Video 3: Demonstration of remote control operation and safety features like obstacle detection.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Dieffematic KV6 sliding gate motor.

- **Cleaning:** Keep the motor unit, rack, and gate tracks clean from debris, leaves, and snow.
- **Lubrication:** Periodically lubricate the gate wheels and hinges as recommended by the gate manufacturer.
- **Inspection:** Regularly inspect all components for wear and tear, loose connections, or damage. Pay close attention to the rack, motor gear, and limit switches.
- **Safety Devices:** Test photocells and obstacle detection features regularly to ensure they are functioning correctly.
- **Electrical Connections:** Ensure all electrical connections are secure and free from corrosion.

6. TROUBLESHOOTING

If you encounter issues with your gate motor, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Motor does not respond to remote control.	<ul style="list-style-type: none"> No power to the motor. Remote control battery is dead. Remote control not paired. 	<ul style="list-style-type: none"> Check power supply and circuit breaker. Replace remote control battery. Re-pair the remote control (refer to section 4.1).
Gate stops unexpectedly or reverses.	<ul style="list-style-type: none"> Obstacle detected. Limit switches incorrectly set. Photocells obstructed or misaligned. 	<ul style="list-style-type: none"> Remove any obstructions. Adjust limit switches (refer to section 3.5). Check photocell alignment and clean lenses.
Gate operates slowly or with difficulty.	<ul style="list-style-type: none"> Friction in gate mechanism. Motor torque setting too low. Debris in rack or track. 	<ul style="list-style-type: none"> Lubricate gate wheels and hinges. Adjust motor torque on the control unit. Clean rack and track.

For more complex issues, please consult the complete product manual or contact customer support.

7. SPECIFICATIONS

Feature	Specification
Model	KV6 230V
Max Gate Weight	600 kg
Power Supply	220V
Motor Type	Electromechanical, irreversible
Gear Material	All metal
Body Material	Die-cast aluminum with ABS casing
Limit Switch Type	Magnetic
Manual Release	Personalized key system
Control Unit Features	Automatic course programming, torque adjustment, speed reduction, obstacle detection, 4 operating logics (step-by-step, semi-automatic 1 & 2, automatic condominium), pedestrian input, courtesy light, surge limiters, photocell input.
Radio Receiver Frequency	433.9 MHz
Antenna Range	20 meters
Dimensions (H x L x P)	270 x 230 x 210 mm
Weight	8 kg

8. WARRANTY INFORMATION

This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. Please retain your proof of purchase for warranty claims. The warranty period typically begins from the date of purchase. For specific terms and conditions, refer to the warranty card included with your product or contact Dieffematic customer service.

9. CUSTOMER SUPPORT

For technical assistance, troubleshooting, or spare parts, please contact Dieffematic customer support. When contacting support, please have your product model number (KV6 230V) and proof of purchase ready.

- **Manufacturer:** Dieffematic
- **Website:** www.dieffematic.com (Example, actual website not provided in JSON)
- **Email:** support@dieffematic.com (Example)
- **Phone:** +39 0123 456789 (Example)