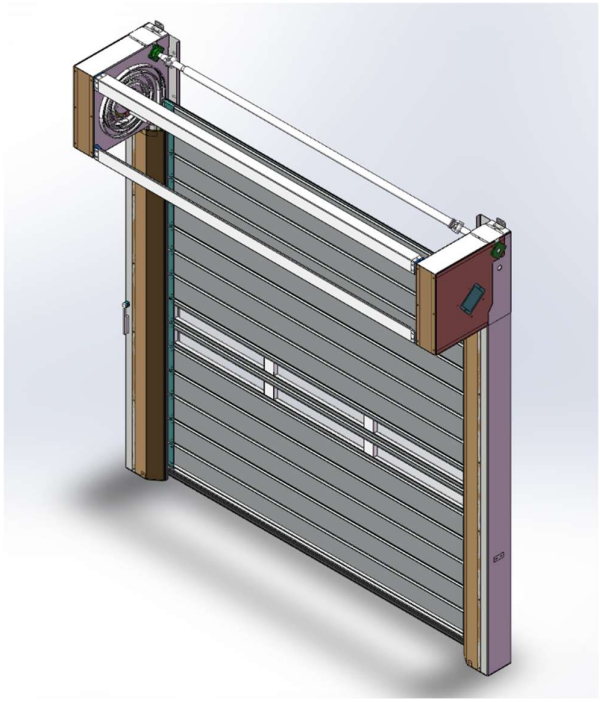
TDK DOORS

Integrity • Innovation • Energy Saving • Competitive Pricing

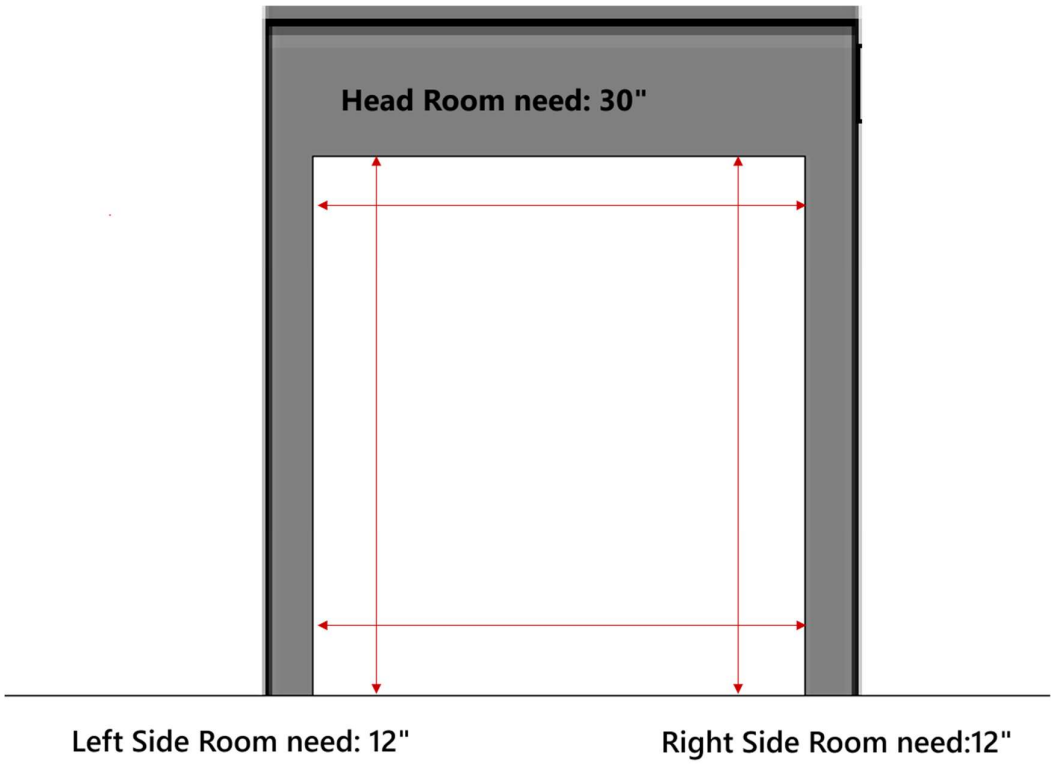
TDK HSR Rigid Spiral High Speed Doors

INSTALLATION MANUAL



Please read the user manual carefully before any operation

Opening Preparation



If there's not enough space for installation, please contact the factory

we may be able to custom-make a solution for you

Garage door installation tutorial

contents

1.Garage door composition

The garage door consists of seven parts:

1：door legs (left and right sides),

2：door panels,

3：door lintels,

4：drive shafts,

5：Crossbeams,

6：Cover panels,

7：garage door control systems.

(The one without sealing plates is shown in Figure 1. The garage door with sealing plate is shown in Figure 2 and Figure 3).

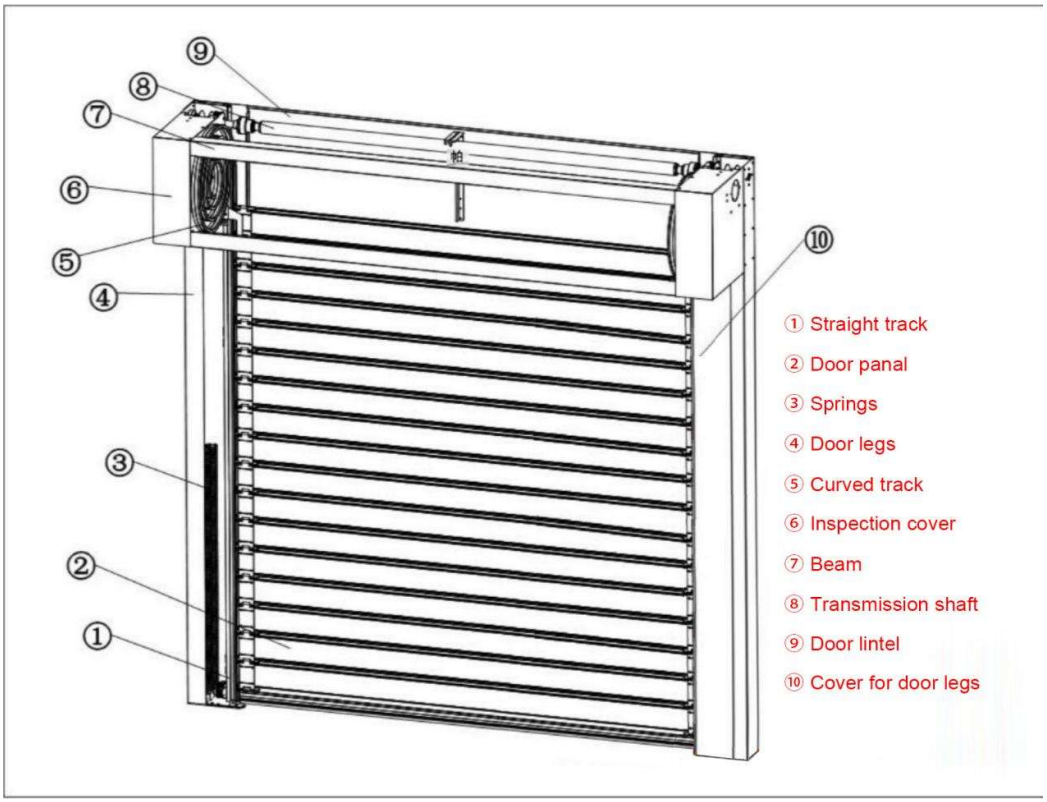


Figure 1

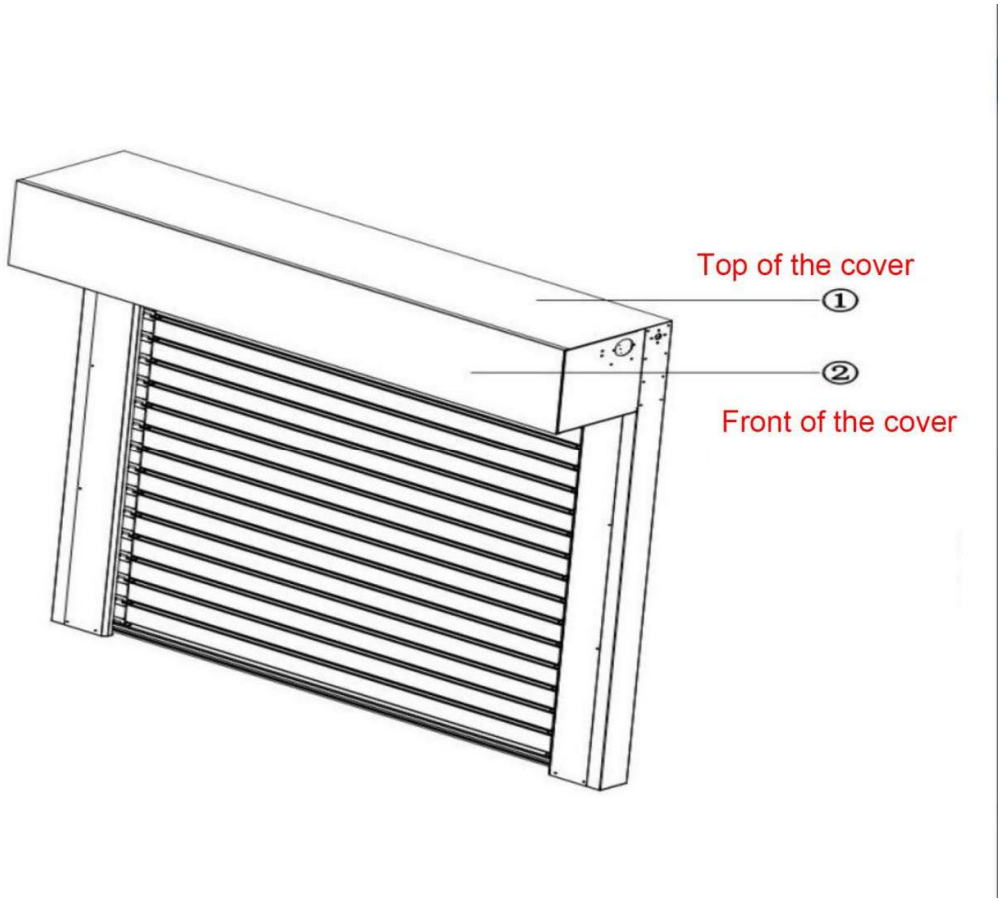


Figure 2

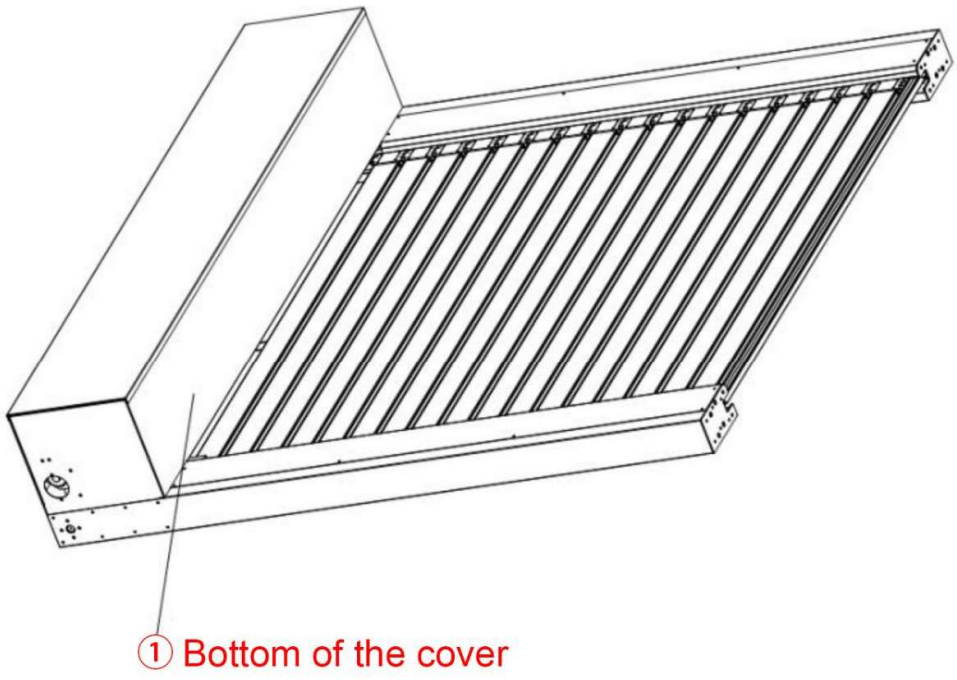


Figure 3

2. Install the required tools.

- Electric impact drill
- Angle grinder
- Wrench set (10, 13, 14, 17, 19, 22)
- Socket wrench
- Measuring tape & level
- Screwdrivers
- Ladder (with stabilizer)
- Rubber mallet
- Lubricant

- Wire cutters/strippers

3. **Installation safety precautions☆☆☆☆☆**

(1) Before installation

Wear protective gear (gloves, goggles, helmet).

✓ Inspect all tools for defects.

✓ Clear the workspace of obstacles.

(2) During installation

✓ Use safety harnesses when working above 2m.

✓ Secure the door frame with temporary supports before final fixation.

✓ Keep the emergency stop button pressed when the motor is idle.

✓ Ensure no personnel stand beneath the door during hoisting.

(3) Fter Installation**

✓ Demonstrate operation to the client.

✓ Clean the site and organize tools before leaving.

4. Installation steps

(1) Unpacking

- Check all parts against the packing list.

- Remove packaging (except door panels to prevent scratches).

(2) Pre-Installation Prep

- Measure the door opening dimensions.

- Verify the ground is level using a laser level.

(3) Install door frame 1.

There are two ways to install the door frame:

(1) Option A: Integrated Assembly (for spacious sites)

1. Align door legs parallel under the opening.

2. Adjust sync belt clamps to the same height (±3mm tolerance).

3. Insert the drive shaft into couplings.

4. Install lintel and crossbeam.

5. Secure the frame to the wall with expansion bolts.

Option B: Split Assembly (for tight spaces)

1. Mount door legs separately, ensuring vertical alignment.

2. Reattach couplings and install the drive shaft.

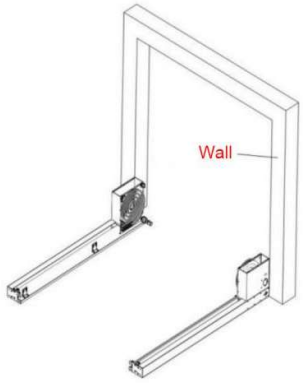


Figure 4

② Adjust the aluminum alloy clips on the timing belts in the door legs on both sides to the same height (error 3mm) as shown in Figure 5.

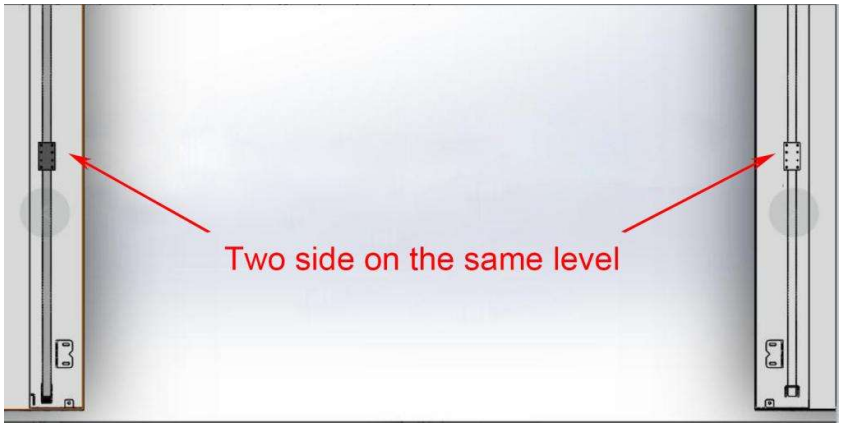


Figure 5(make sure the clips on both side are in same level)

③ Insert the transmission shaft into the couplings on both sides(make sure the aluminum alloy clips on the timing belt are always at the same height before, during and after insertion) as shown in Figure 6;

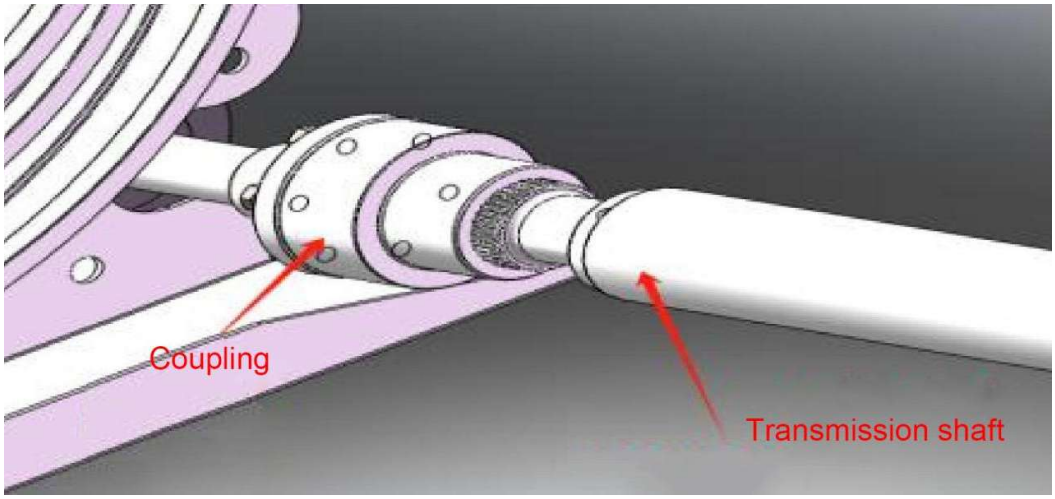


Figure 6

④ Install the door lintel, as shown in Figure 7;

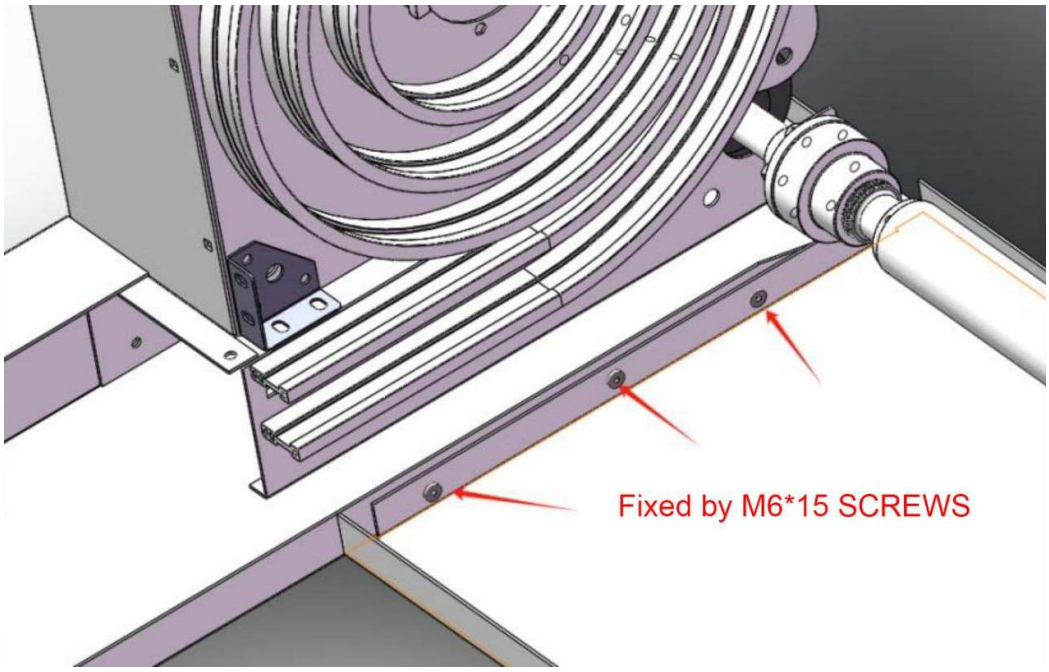


Figure 7(Secure with hexagonal stainless steel flat head bolts M6*15)

⑤ Install the cross beam, as shown in Figure 8;

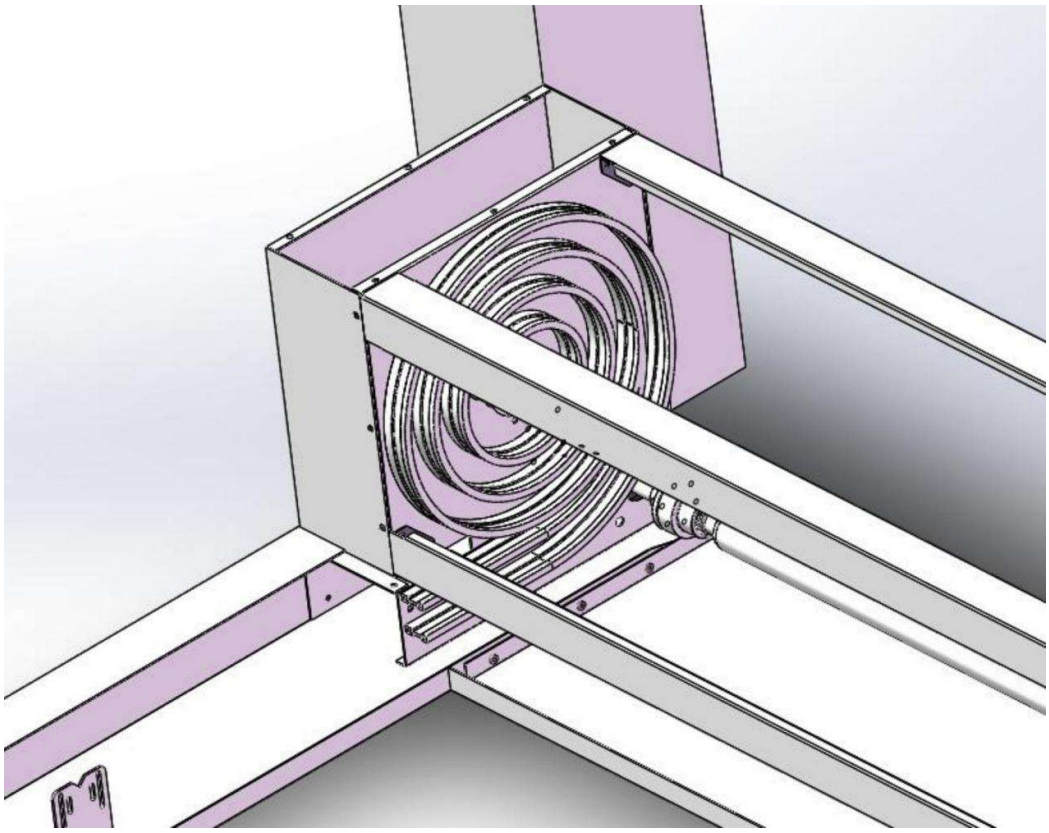


Figure 6

⑥ Install the tension spring;

1) Install the buckle at the bottom of the tension spring.

a. First insert the buckle through the wider gap in the base, as shown in Figure 9.

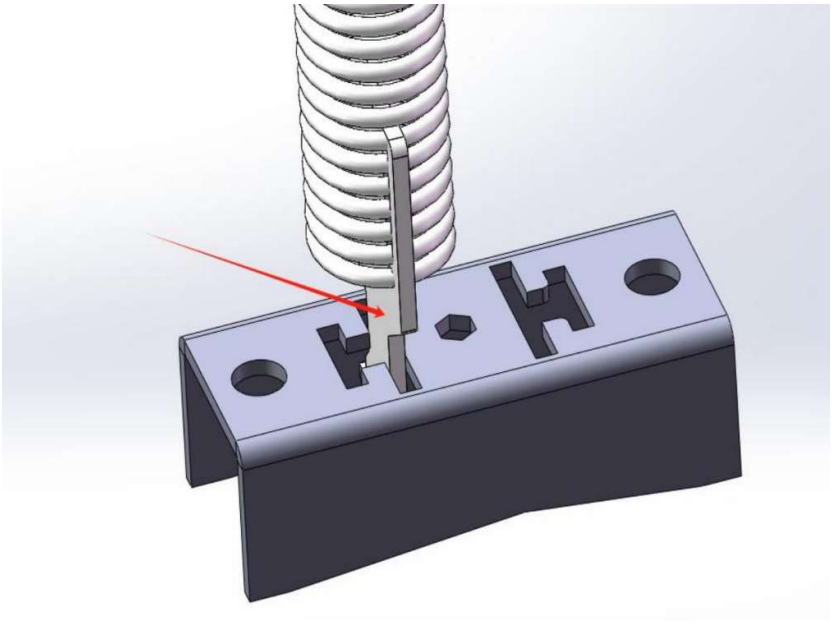
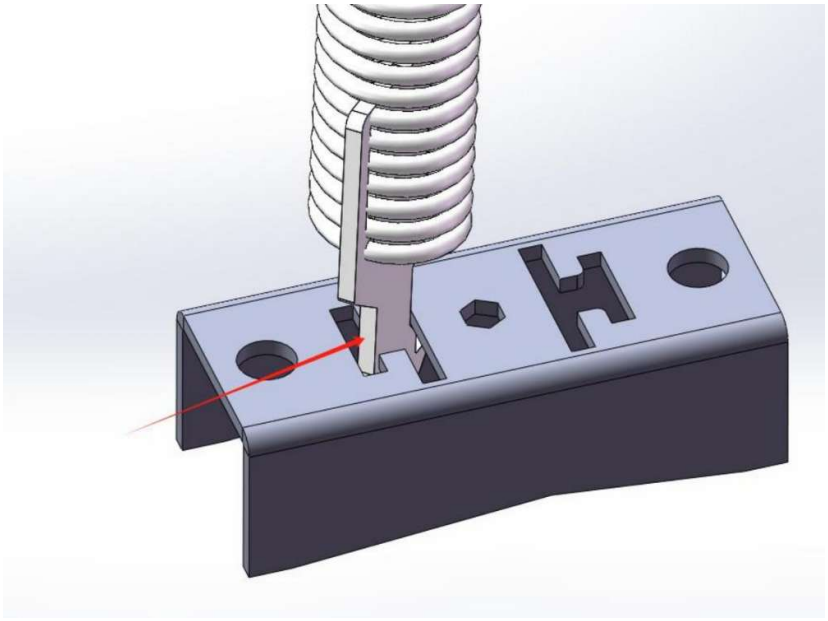


Figure 9

b. Insert the buckle diagonally from the wide gap to the narrow gap, as shown in Figure 10;



c. The buckle blocks the gap, as shown in Figure 11;

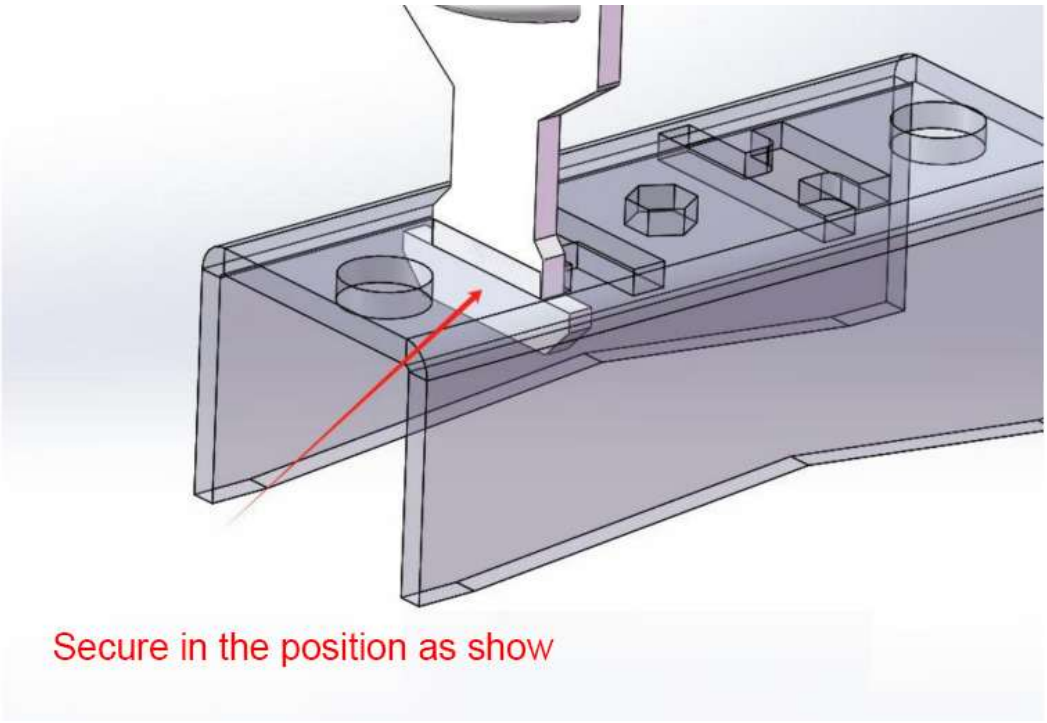


Figure 11

⑦ Fix the door frame to the wall, as shown in Figure 12. This step requires the cooperation of multiple people to stand the door frame vertically on the installation wall. The door is heavy and the installers need to remind each other to pay attention to safety.

Figure 12

⑧ After the door frame is vertically erected on the wall, a level must be used to measure the verticality of the front and sides of the door. Make sure it is 90° perpendicular to the ground. Use a level to measure the horizontal height of the door legs on both sides. You must ensure that the horizontal height error of the door legs on both sides is within 3mm. During the measurement, multiple people need to hold the door frame to

ensure that it does not tip over. After the level and verticality of the door frame are measured and adjusted, use expansion bolts to fix it to the installation wall (fix it in two or more times). During the fixation period, the level and verticality need to be measured repeatedly.

(2) Split installation (split installation is suitable for on-site installation environments where the door opening and indoor height are less than 10cm lower than the door body height.

① First, disassemble the coupling on the left side as shown in Figure 13, then stand the left door leg vertically on the installation wall. Use a level to measure the verticality of the front and side of the door body. Make sure it is 90 ° perpendicular to the ground. After adjustment, use expansion bolts to fix it to the installation wall (fix it in two or more times). During the fixation period, you need to repeatedly measure the level and verticality. As shown in Figure 14.

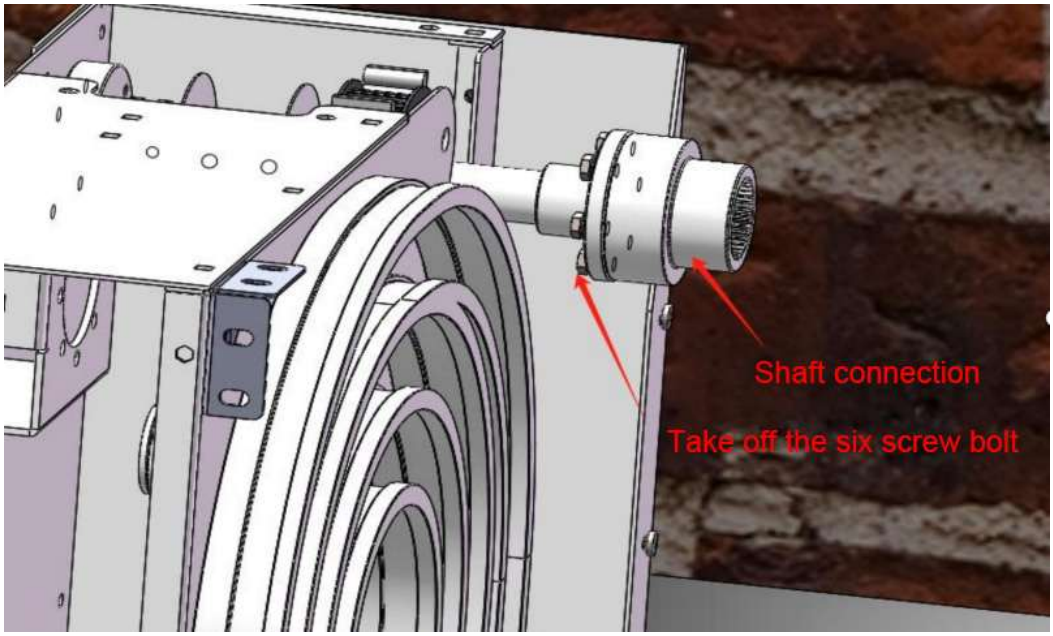


Figure 13(Coupling, take off 6 pcs of screws)

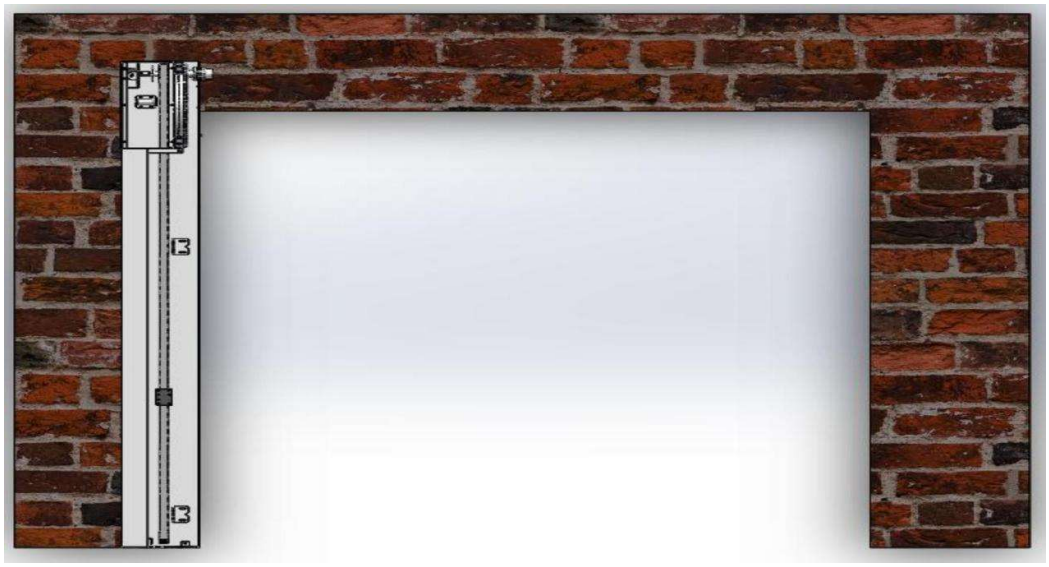


Figure 14

① Then install and fi the door leg on the other side to the mounting wall in the same way as above. After installation, as shown in Figure 15.

Figure 15

③ Install the cross beam. Since the door legs on both sides have been firmly fixed, they cannot move left or right. Therefore, the coupling on the left door leg has been removed in advance, so the coupling needs to be inserted into the left side of the roller before installing the roller, as shown in Figure 16. Then insert the right side of the roller into the right door leg coupling. Finally, find the correct position and lock the left coupling to the large shaft, as shown in Figure 17;

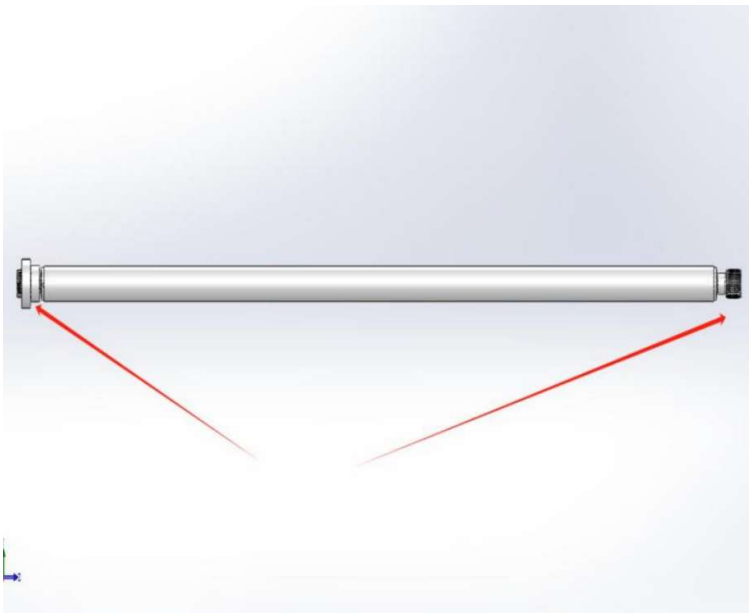


Figure 16

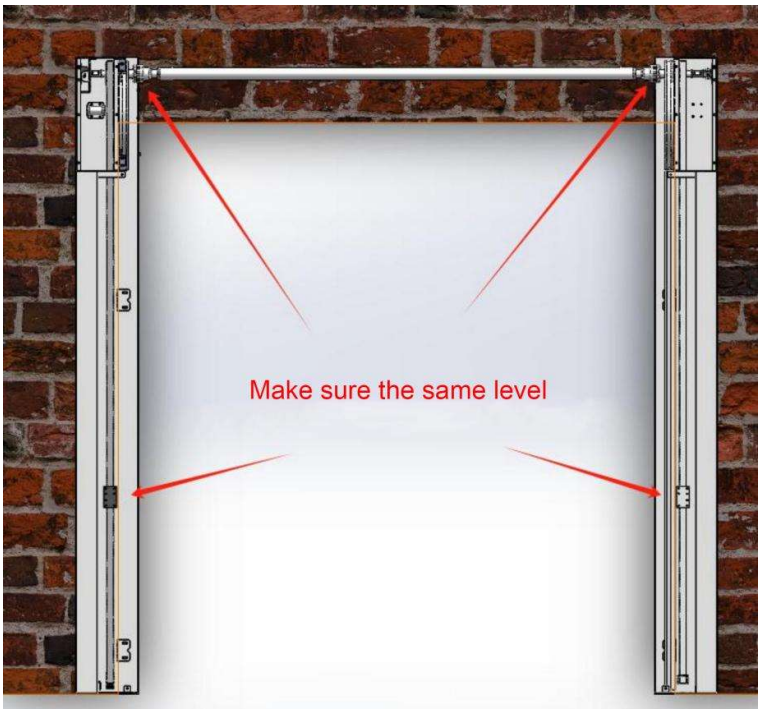
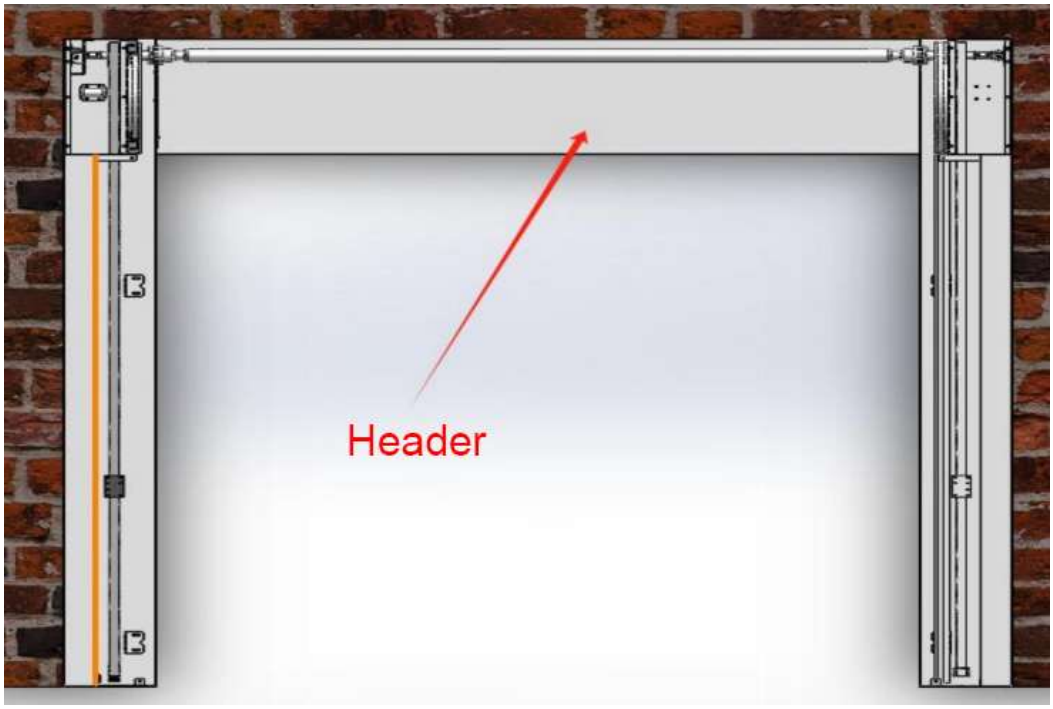


Figure 17(after the roller is installed, make sure the timing belt splints on both sides are at the same level).

④ Install the door lintel, as shown in Figure 18;



⑤ Install the cross beam, as shown in Figure 19;

Figure 19

⑥ Install the tension spring;

The installation method of the tension spring is the same as that of the integral mounting frame.

(4) Control box installation and wiring

1. If there are no special requirements, the default installation height of the control box is 1.3 meters above the ground. The installation direction shall be based on the power supply reserved at the installation site. Before lifting the door panel, the light curtain synchronization wire needs to be pulled to the door leg on the other side (without motor end) in advance.

(5) Hoisting door panels

1. During the lifting of the door panel, a dedicated person is required to hold the door panel throughout the process to prevent it from falling;

2. Clean the floor near the door to ensure that there are no pebbles, screws or other foreign objects on the floor that may scratch the door panel;

3. Before lifting the door panel, you need to prepare the following tools in advance: 4 wire ropes, 4mm internal hexagon, and 14-inch open-ended wrench;

Tighten all the remaining holes on the synchronous belt splint with screws, and lock the cloth belt splint above the synchronous belt splint, as shown in Figure 20;

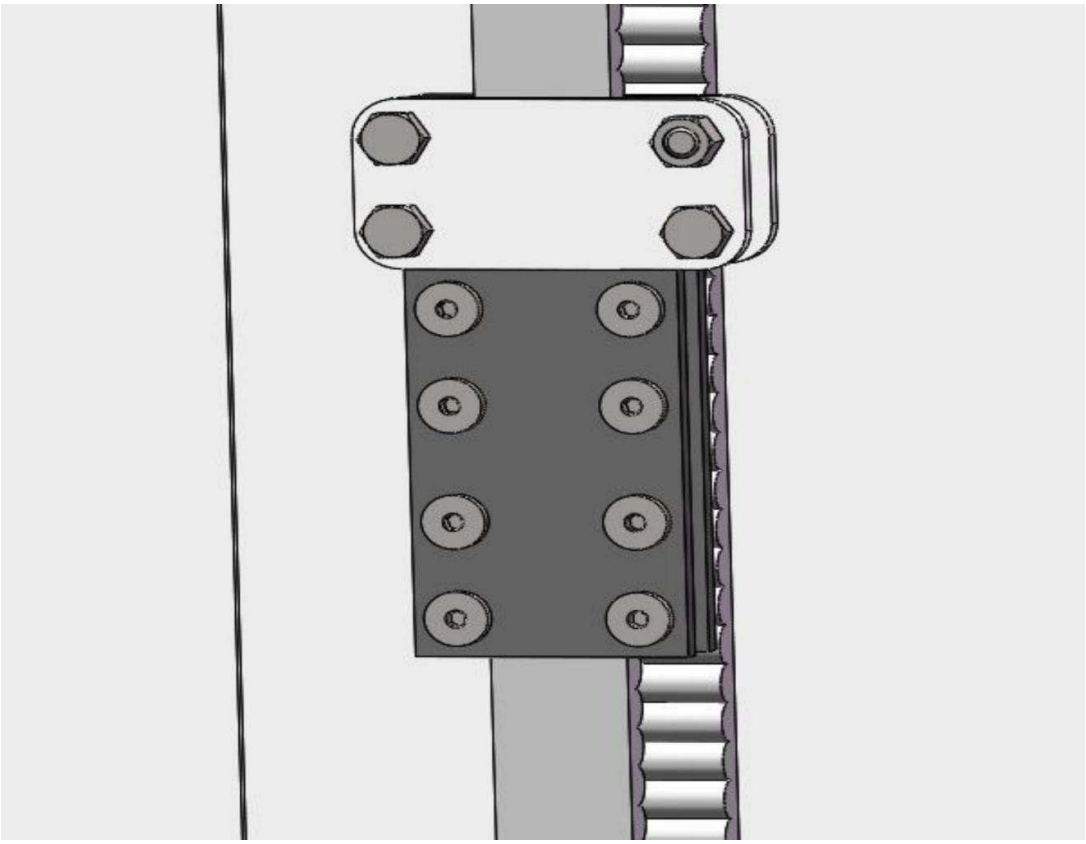


Figure 20

5. Confirm the door panel direction; (Door panel direction distinction: the direction of door panel rotation is consistent with the direction of the turbine track);

6panel needs to be placed in the center. As shown in Figure 21;

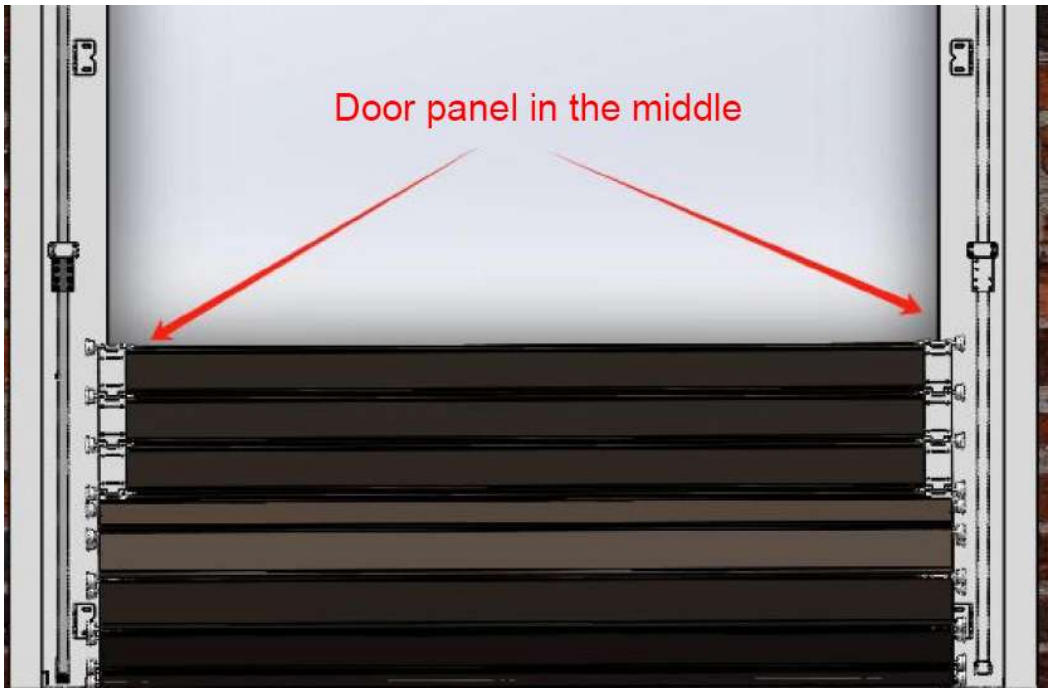


Figure 21

7. Set the control box to the stroke setting interface: Settings-6668-Stroke Settings-Open Door Settings; (The working mode of the control box on this page is inching mode, and the hoisting of the door panel is completed on this page)

8. Hang one end of the wire rope on the screw of the cloth strap plywood, and hang the other end on the second guide wheel of the door panel. This is true on both sides; as shown in Figures 22 and 23.

Figure 22

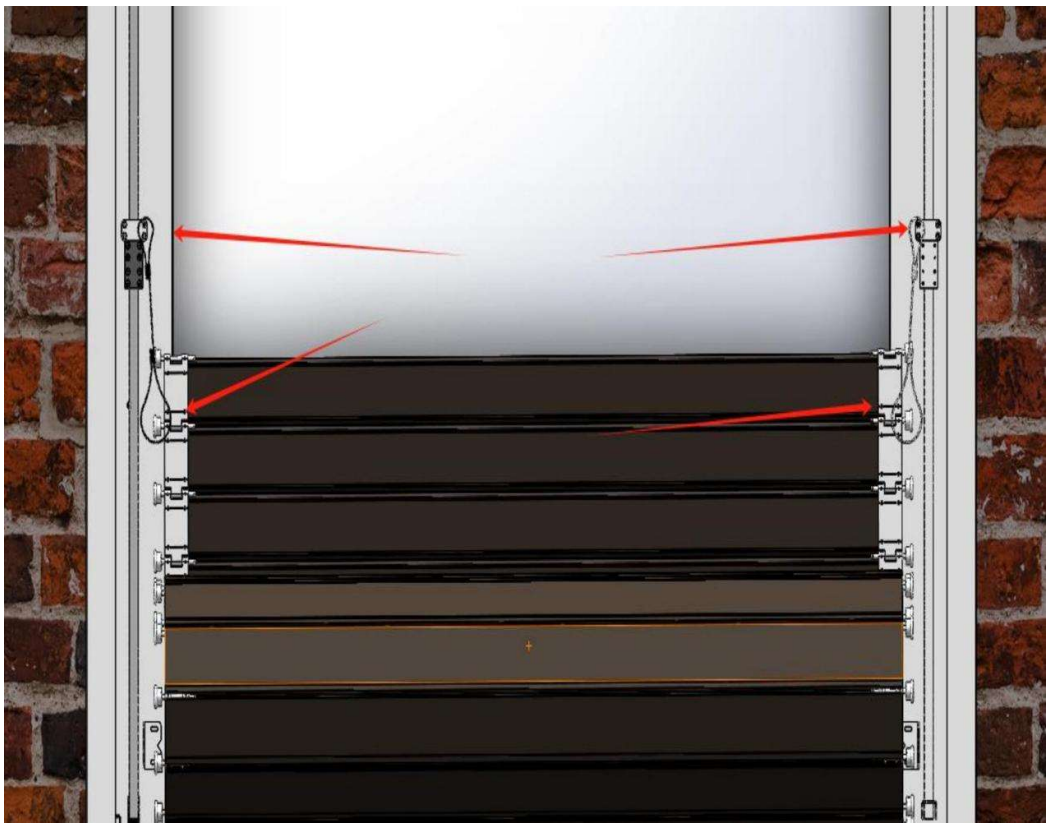


Figure 23

9. Press the door opening button of the control box (you need to keep pressing the motor to continuously run upward). At this time, while the synchronous belt runs upward, the steel wire rope pulls the door panel upward;

10. When the door panel moves up to the appropriate position, (the other wire rope can be hung on the bracket), hang one end of the other wire rope on the bracket and the other end on the door panel guide wheel. Click on the control box to close the door until the wire rope hanging on the bracket can no longer pull the door panel under force, and then remove the wire rope hanging on the cloth belt clip. As shown in Figure 24;

Figure 24

11. After the door panel is hung firmly, the motor continues to run downward. After reaching the appropriate position, continue to hang the wire rope on the cloth belt splint and door panel guide wheel, and run upward. As shown in Figure 25;

Figure 25

12. After repeating the above action 2-3 times, when the door lifting block on the bottom beam of the door panel reaches about one meter above the ground, hang the door panel on the bracket and hang it firmly. Then remove the cloth belt splint and lock the door block on the timing belt splint; as shown in Figure 26;

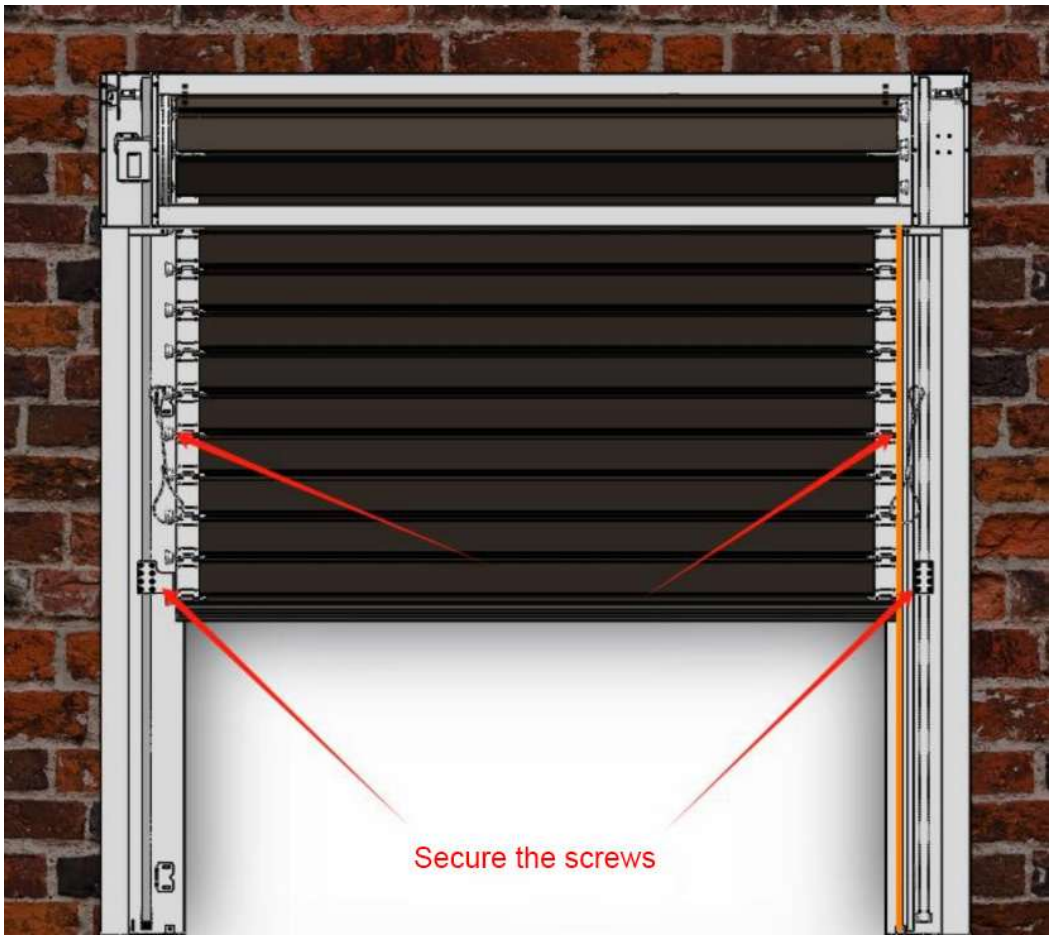


Figure 27

13. The motor runs upward until the door panel completely enters the turbine track, as shown in Figures 27 and 28;

Figure27

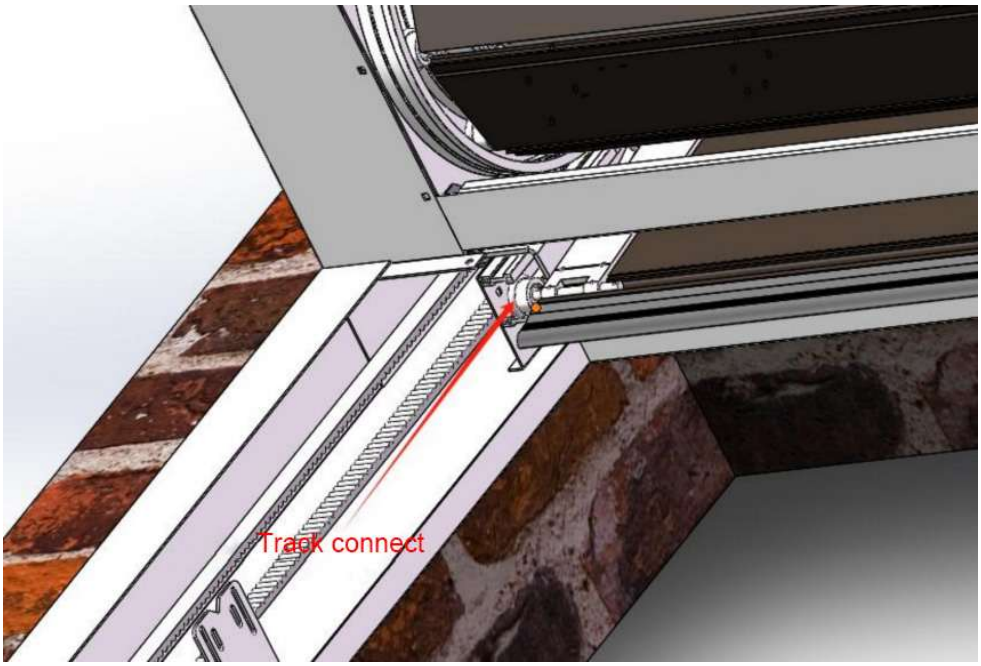


Figure 28

(6) Install straight rails

Figure 29

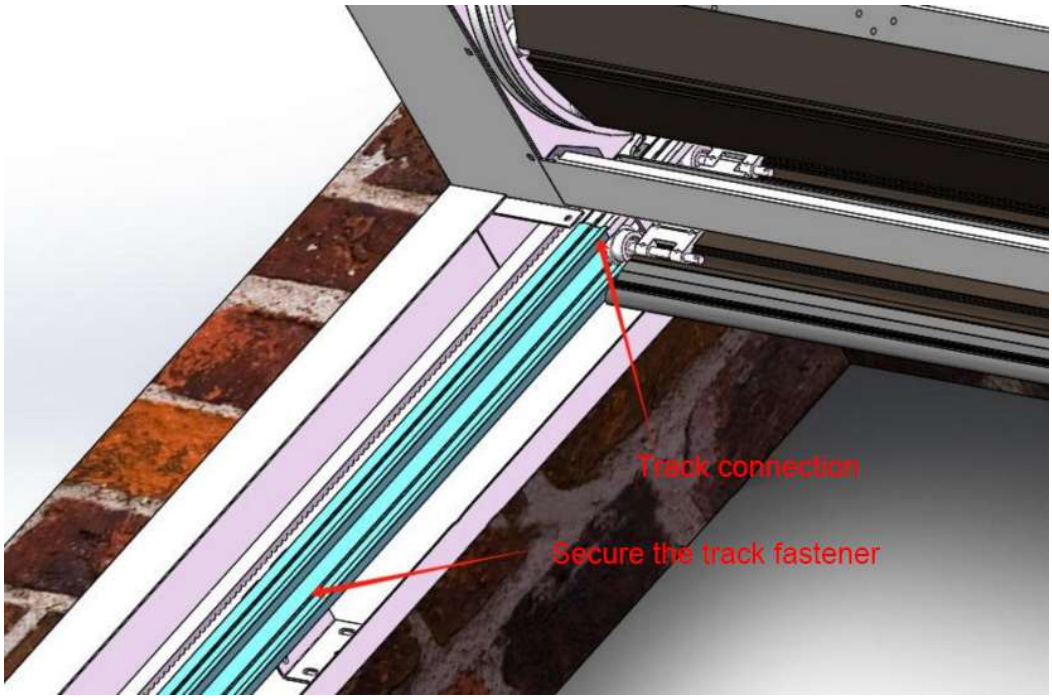


Figure 30

(7) Operation and debugging

1. Preliminarily set the door panel operating limit and observe whether there are any abnormal sounds or noises during the operation of the door panel; Note: For details on the garage door stroke setting, see Control Box Debugging - Stroke Settings;

(8) Installation of sealing plates and covers

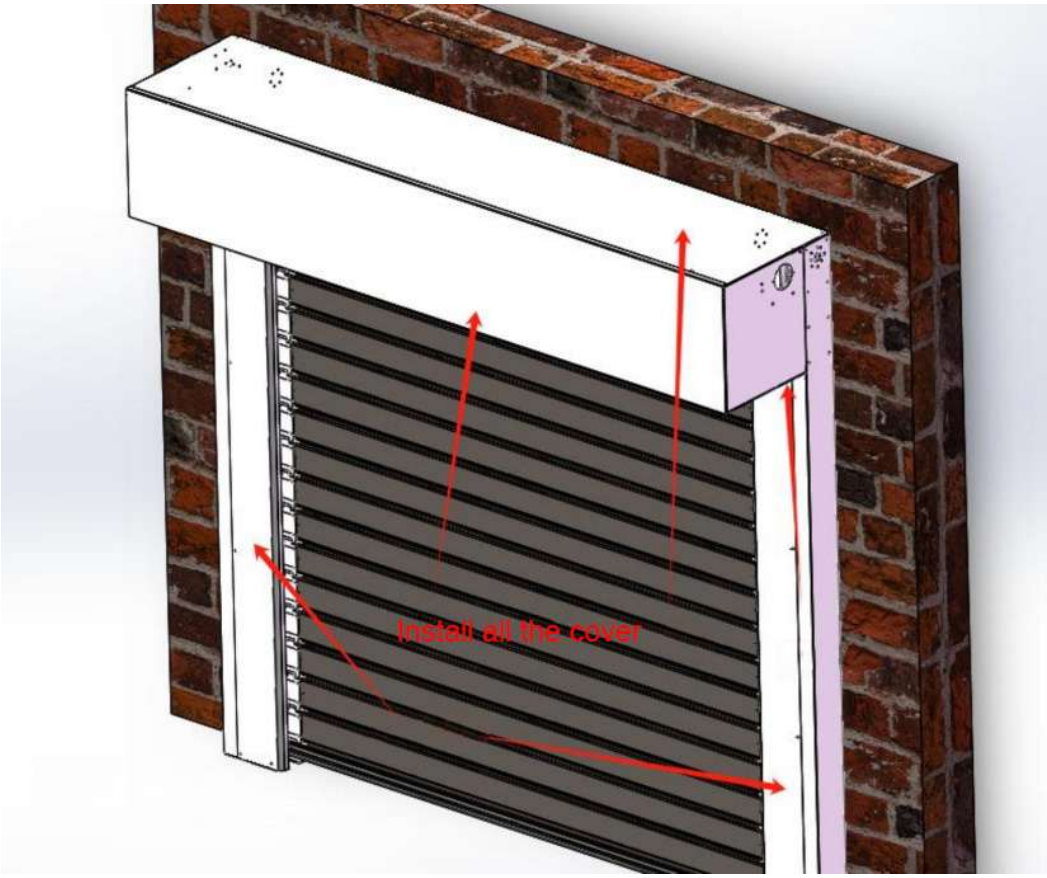


Figure 31

(9) Door gap treatment 1. Use foam glue and sealant to fill and seal the contact between the door body and the wall, as shown in Figure 32; if it is an exterior door, sealant must be sed to fill and seal the gap in the sealing plate, as shown in Figure 33;

Figure 32

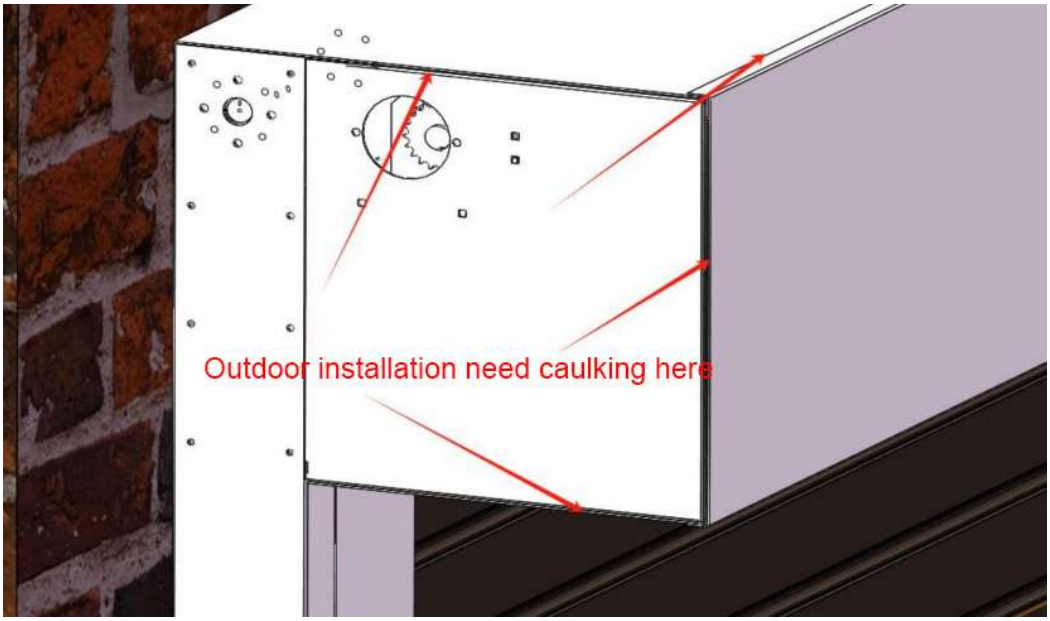


Figure 33

(10) Debugging and acceptance

1. After all parts are installed, the control system settings such as stroke, door opening and closing speed, and working mode are finally reset according to the requirements of the acceptance personnel. And explain in detail how to use each function and safety precautions to the acceptance personnel;

(11) Leaving the venue

1. All tools are organized neatly and the installation site environment is cleaned;

5. Control box debugging/setting

(1) Control box wiring instructions

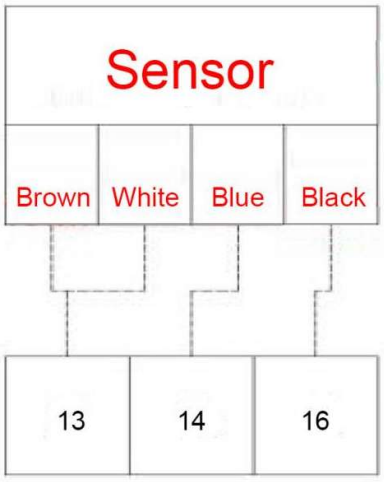
1. Light curtain line:

(1) Imported light curtain:

① The brown and white light curtain wires are the positive pole of the power supply, which can be connected to both terminals 13 and 24 of the control box;

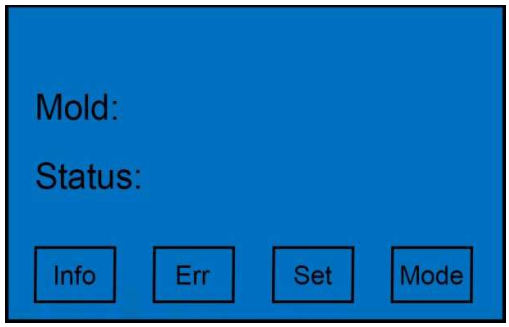
② The blue color of the light curtain wire is the negative pole of the power supply, which can be connected to the 12, 14, 19, or 25 terminals of the control box;

③ The black light curtain wire is the signal wire, which is connected to the No. 16 connection port of the control box;



(2) Garage door debugging 1. Main interface

(Status):



(3) Displays the current door control system status; normal, opening, closing, fault, emergency stop, safe 1. Safety 2. Interlock, please maintain.

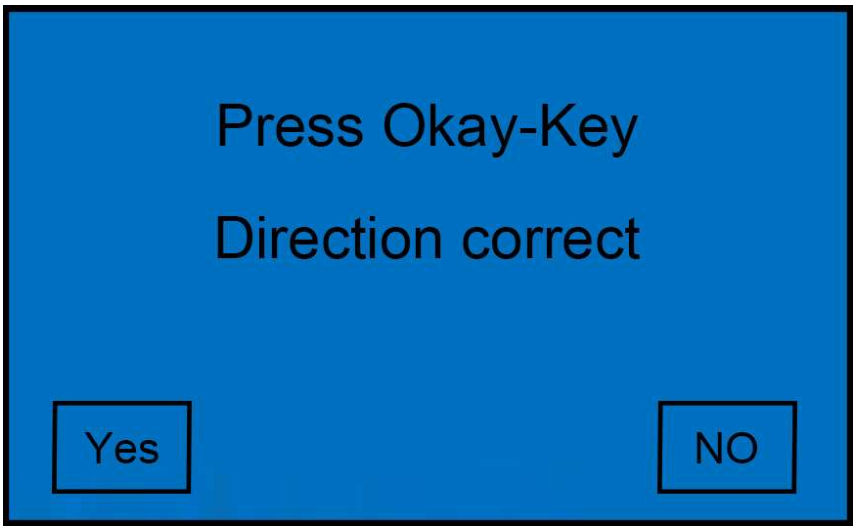
(4) (Display): You can choose to display the current output torque,current opening height, and current opening speed. Press the mode key to modify the operating mode: manual, automatic, jog.

(5) Manual mode: All signals except the automatic door opening signal are valid.

(6) Automatic mode: All signals are valid and delayed automatic door closing can be achieved.

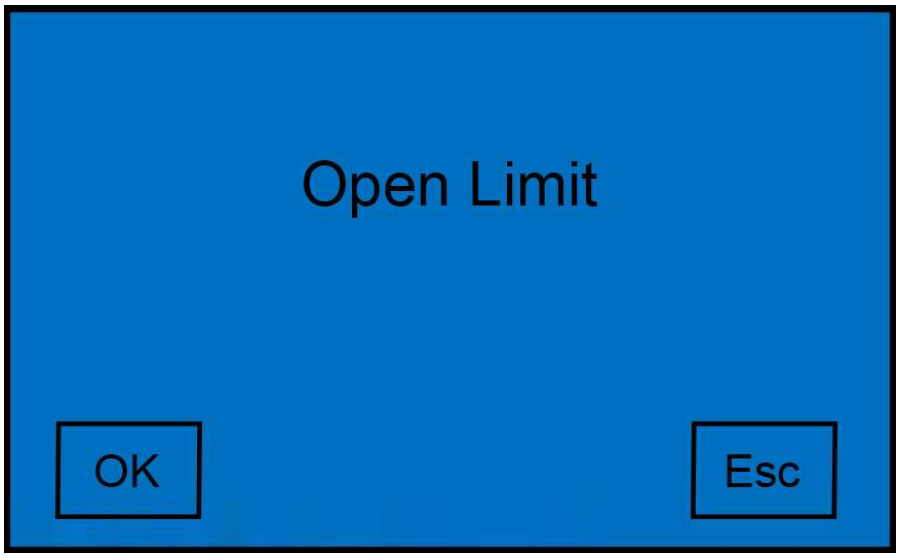
(7) Jogging mode: Only manual opening, closing, stopping and emergency stop signals are valid, and the door needs to be pressed continuously to open or close the door. It can run, and the door will stop running when the button is released.

2. Set itinerary (1) After pressing the setting button, you must first enter the password (6668); (2) Select "2 Electronic Stroke Setting" and press OK; (3) After pressing the OK key, the operation interface will.

change to: 

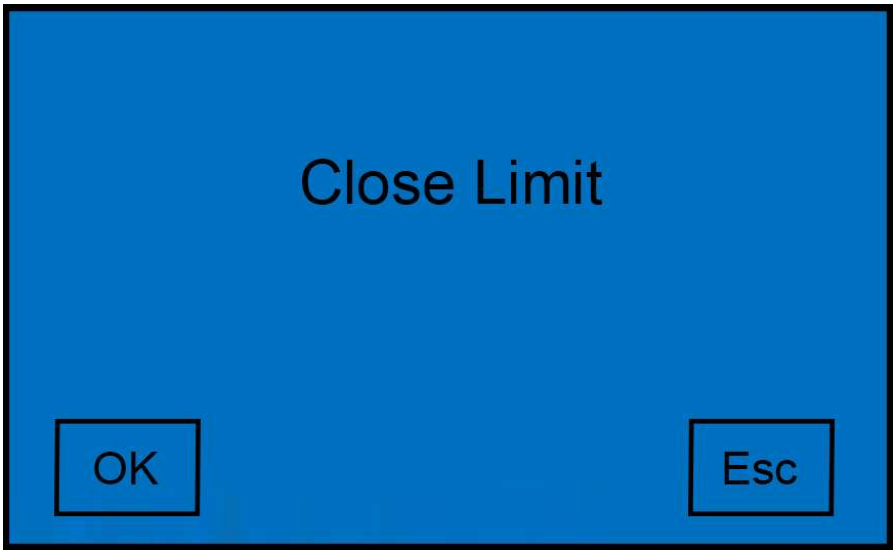
3. After the judgment is completed.

4. After pressing the OK key, the operation interface will change to:

5. 

6. Press the "↑" key to raise the door to the opening position.

7. After pressing the OK key, the operation interface will change.



to:

8. Press the "↓" key to lower the door to the closed position.

9. Press the OK key and the operation interface will change to:

10. The electronic process is now complete.

3. Set the door opening speed

(1) After pressing the set key, you must first enter the password (6668);

(2) Select "1 Parameter setting" and press OK;

(3) Select "1 Door opening speed" and press OK;

(4) Then set the door opening speed to 10-125 according to actual needs. The larger the value, the faster the door opening speed, and the smaller the value, the slower the door opening speed;

(5) Set the door closing speed;

(6) After pressing the set key, you must first enter the password (6668);

(7) Select "1 Parameter setting" and press OK;

(8) Select "2 Door closing speed" and press OK;

(9) Then set the door closing speed to 10-125 according to actual needs.The larger the value, the faster the door closing speed, and the smaller the value, the slower the door closing speed;

ERR01	Over current	Check whether the cable between the motor and the driver is damaged; restart the power supply of the equipment. If it cannot be eliminated, please contact the manufacturer for processing.
ERR03	Under Voltage	Check whether the on-site power supply voltage is unstable, too high or too low. If so, adjust the on-site power supply; if there is no problem, please contact the manufacturer for processing.
ERR04	Over Voltage	Check whether the on-site power supply voltage is unstable, too high or too low. If so, adjust the on-site power supply; if there is no problem, please contact the manufacturer for processing.
ERR05	Over Voltage	Check whether the on-site power supply voltage is unstable, too high or too low. If so, adjust the on-site power supply; if there is no problem, please contact the manufacturer for processing.
ERR06	Locked Rotor	Check whether the brake is stuck and whether there is a stuck point on the door body; if there is no problem, please contact the manufacturer for processing.
ERR07	Out Of Limit Position	Exceeding the limit position In the inching mode, return the door body to the limit position; if there is still an error in the limit, please contact the manufacturer for processing.
ERR11	EEPROM Failure	The door is too heavy and exceeds the rated power of the control system. Appropriately reduce the operating frequency or replace with a higher power device or a higher ratio reducer.

ERR13	Motor Encoder Failure	Check whether the cable between the motor and the driver is damaged and whether the plug is loose; if all the above conditions are good, contact the manufacturer for processing.
ERR23	No Limit Settings	
ERR36	Limit Distance Too Short	The number of motor rotations is less than 4 when the stroke is set.

IV. Safety precautions for garage door use

(I) Safety precautions

1. The power supply must be connected to a socket that complies with building standards, electrical specifications and corresponding power supply voltage by professionals and has good grounding;

2. Please use the remote control within the field of vision to avoid safety accidents;

3. Place the remote control where children cannot reach it;

4. Install it in a place away from fire sources, moisture, electromagnetic interference, etc. If there is no back door, a manual emergency lock needs to be installed;

5. During the opening and closing process of the garage door, it is strictly forbidden for people or vehicles to pass through or stay under the door;

6. When the remote control garage door fails and cannot be operated, you can call a professional to let the professional handle it. It is not allowed to disassemble or replace the parts by yourself to prevent greater losses;